Devon Structure Plan: South Hams
Land at Blackpool
Agricultural Land Classification

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DEVON STRUCTURE PLAN: SOUTH HAMS
LAND AT BLACKPOOL, BRIXTON

AGRICULTURAL LAND CLASSIFICATION

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AGRICULTURAL LAND CLASSIFICATION SURVEY

SUMMARY

The semi-detailed survey was carried out by ADAS on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. The fieldwork at Blackpool was completed in November 1994 at a scale of 1:10,000. Data on climate, soils, geology and from previous Agricultural Land Classification (ALC) Surveys was used and is presented in the report. The distribution of grades is shown on the accompanying ALC map and summarised below. Information is correct at this scale but could be misleading if enlarged.

Distribution of ALC grades: Blackpool

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
3a	30.1	5.6	6.9	
3b	357.9	66.5	82.4	
4	46.1	8.6	10.6	
5	0.5	0.1	0.1	
Urban	31.5	5.8	0.0	
Non Agricultural	14.8	2.8	0.0	
Agricultural Buildings	4.7	0.9	0.0	
Not surveyed	52.1	9.7	0.0	
TOTAL	537.9	100.0	100.0	(434.6 ha)

The majority of the site has been graded as Subgrade 3b. These soils tend to be well drained clay loams over clay with weathered slate in the subsoils and have a moderate workability limitation. A few areas suffer from wetness problems and are mapped as Grade 4. Other areas of Subgrade 3b and Grade 4 have gradient limitations. The two areas of Subgrade 3a only account for 5% of the site. They have well drained lighter clay loams in the north and are below a Field Capacity Days boundary in the south and still have a moderate workability limitation. There are two areas which were not surveyed as access was not granted. However, it is expected that these areas would also be Subgrade 3b.

1. INTRODUCTION

A semi-detailed Agricultural Land Classification (ALC) Survey was carried out in November 1994 at Blackpool on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. The fieldwork covering 538 ha of land was conducted by ADAS at a scale of 1:10,000 with approximately one boring per 2 hectares of agricultural land. A total of 211 auger borings were examined and 7 soil profile pits used to assess subsoil conditions.

The published provisional one inch to the mile ALC map of this area (MAFF 1973) shows the grades of the site at a reconnaissance scale. Most of the site is shown as Grade 3 land, with a couple of areas of Grade 2 land to the south of Sherford Cottages and to the north-west of East Sherford Cross. Areas of Grade 4 land are shown in the valleys at West Sherford, Efford, Silver Bridge Lake and the electrical sub-station. Tuxton Wood and Ball's Wood are shown as non-agricultural land.

The area was also surveyed in 1975 at a scale of 1:50,000 and in 1989 at a scale of 1:5000 at Tuxton Farm and 1:10,000 to the north of the A38. These showed the land to be a mixture of Subgrades 3a and 3b, with steeper land of Grade 4.

The recent survey supersedes these maps having been carried out at a more detailed level and using the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The grading takes account of the top 120 cm of the soil profile. A description of the grades used in the ALC system can be found in Appendix 2.

2. CLIMATE

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to a lower grade despite other favourable conditions.

Estimates of climatic variables were interpolated from the published agricultural climate dataset (Meteorological Office 1989). The parameters used for assessing overall climate are accumulated temperature, a measure of the relative warmth of a locality, and average annual rainfall, a measure of overall wetness. The results shown in Table 1 indicate there is an overall climatic limitation which restricts the land to Grade 2 except in the valleys at West Sherford and Silver Bridge Lake.

Table 1: Climatic Interpolations: Blackpool

Grid Reference		SX 549535	SX 559545	SX 562556
Altitude (m)		30	65	110
Accumulated Temperature (day °)		1592	1551	1499
Average Annual Rainfall (mm)		1113	1205	1311
Overall Climatic Grade		1	2	2
Field Capacity Days		220	234	251
Moisture deficit (mm):	Wheat	95	86	74
	Potatoes	86	73	59

Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat and potatoes are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in later sections.

3. RELIEF AND LANDCOVER

The site occupies a gently undulating area with the occasional steeper slope. There are valleys in the southern part of the site at West Sherford and Silver Bridge Lake. At the time of the survey the land was under cereals, pasture and ley grass.

4. GEOLOGY AND SOILS

The geology of the site is shown on the published 1:50,000 scale drift geology map, sheet 349, Institute of Geological Science 1974.

The main underlying geology of the site is slate from the Upper and Middle Devonian Eras. There are areas of igneous schalstiens and tuffs which are mainly concentrated in the southern part of the site. Patches of diabase are found near Hareston, and limestone and river gravel can be found at West Sherford. The valley bottoms throughout the site are underlain by alluvium.

The soils were mapped by the Soil Survey of England and Wales in 1983 at a reconnaissance scale of 1:250,000.

This showed that the site consists of three main soil types. In the northern part of the site to the north-west of Tuxton Farm the soils belong to the Denbigh 1 Association and are described as being well drained fine loamy and fine silty soils over rock. Some similar soils have slowly permeable subsoils and slight seasonal waterlogging. Shallow soils and some bare rock may also occur locally. The centre of the site from the A38 to East Sherford contains soils from the Denbigh 2 Association which are described as being well drained fine loamy soils over slate or slate rubble, with some fine loamy soils variably affected by groundwater. The southern part of the site has soils from the Trusham Association. These are described as being well drained fine loamy soils over deeply weathered rock, with local areas of shallow soils, steep slopes and bare rock. There is a small area of soils belonging to the Nordach Association around Sherford Kilns which are described as being well drained fine silty over clayey soils and are either stoneless or contain chert. Shallow silty soils over limestone occur in places.

The soils found during the recent survey were similar to the Denbigh 1 and Denbigh 2 Associations. They were well drained clay loams over clay subsoils containing weathered slate. In places the soils were quite shallow with the weathered slate starting at 40 cm. On the flatter areas near Hareston Cottages and Butlas Farm the clay subsoils were slowly permeable and the soils suffer from poor drainage.

5. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades is shown in Table 2 and on the accompanying ALC map. This information could be misleading if shown at a larger scale.

Table 2: Distribution of ALC grades: Blackpool

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
3a	30.1	5.6	6.9	
3b	357.9	66.5	82.4	
4	46.1	8.6	10.6	
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Subgrade 3a

There are two types of profile within this grade. The areas to the north of Wiverton House and around East Sherford Cross contain well drained clay loams over clay with negligible amounts of weathered slate in the subsoil. They were assessed as Wetness Class I (see Appendix 3) and have medium clay loam topsoils giving a moderate workability limitation.

The area around West Sherford has very similar soils but with heavy clay loam topsoils. These profiles are mapped as Subgrade 3a because of the lower FCD value (less than 225) in the valley.

Subgrade 3b

These profiles cover the majority of the site and tend to be well drained clay loams over clays with negligible stone contents of weathered slate in the subsoil. They were assessed as Wetness Class I, except for a small area in between Sherford Cottages and Higher Hareston where the soils have a slight wetness problem and were assessed as Wetness Class II. The profiles have heavy clay loam topsoils and have moderate workability and wetness limitations.

A small area of land near West Sherford has an overall moderate gradient limitation where the variety of agricultural machinery which can be safely used is reduced.

Grade 4

There are four areas of land which have a severe wetness limitation. They are at Hareston Cottages, to the west of Butlas Farm, to the north of the A38 and to the north-west of Gentian Hill. The subsoils have slowly permeable layers in them and the profiles were assessed as Wetness Classes III and IV depending on the depth to the slowly permeable layer. All of the topsoils are heavy clay loams.

The other areas are where the gradient or micro-relief cause a severe limitation on the types of agricultural machinery which can be safely used.

Grade 5

The small area of Grade 5 land is where the gradient causes a very severe limitation of the type of agricultural machinery which can be safely used.

Other Land

Areas of housing and roads are shown as urban. Copses and areas of woodland are mapped as non-agricultural land. Agricultural buildings are so marked. Two areas at Battisford and Efford Farms were not surveyed because access was not granted. It is unlikely that much of this land, if any, will be "best and most versatile".

Resource Planning Team
Taunton Statutory Unit
December 1994

APPENDIX 1

REFERENCES

INSTITUTE OF GEOLOGICAL SCIENCES (1974) Drift Edition, Sheet 349, Ivybridge, 1:50,000.

MAFF (1973) Agricultural Land Classification Map, Sheet 187, Provisional 1:63,360 scale.

MAFF (1988) *Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for* grading the quality of agricultural land), Alnwick.

METEOROLOGICAL OFFICE (1989) Climatological Data for Agricultural Land Classification.

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5, Soils of South West England, 1:250,000 scale.

APPENDIX 2

DESCRIPTION OF GRADES AND SUBGRADES

Grade 1 - excellent quality agricultural land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly include top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 - very good quality agricultural land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

Grade 3 - good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a - good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b - moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 - poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yields of which are variable. In most climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 - very poor quality agricultural land

Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Descriptions of other land categories used on ALC maps

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private park land, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg polythene tunnels erected for lambing) may be ignored.

Open water

Includes lakes, ponds and rivers as map scale permits.

Land not surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above landcover types, eg buildings in large grounds, and where may be shown separately. Otherwise, the most extensive cover type will usually be shown.

Source: MAFF (1988) Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for Grading the Quality of Agricultural Land), Alnwick.

APPENDIX 3

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

The soil profile is not wet within 70 cm depth for more than 30 days in most years.

Wetness Class II

The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.

Wetness Class III

The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.

Wetness Class IV

The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.

Wetness Class V

The soil profile is wet within 40 cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40 cm depth for more than 335 days in most years.

Notes: The number of days specified is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years.

Source: Hodgson, J M (in preparation), Soil Survey Field Handbook (revised edition).

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 1	1° North-west	PGR	Av Rainfall: 1205 mm ATO: 1551 day °C	Mid-Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 234 Climatic Grade: 2	SOIL SAMPLE REFERENCES
87/94	9/11/94	SX554543 (ASP 111)	H Lloyd-Jones/N A Done	Exposure Grade: 1	RPT/HLJ/90

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	40	HCL	10YR43	3% ZR (Vis)	-	-	-	-	-	G	CF+VF	-	Abrupt/ wavy
2	75+	HCL	10R52	60% ZR (Vis)	FDOM 10YR66 (between stones)	-	(Determined by stone) WMPL	Friable	M	V good fissures	Few VF	-	-

Profile Gleyed From: N/A

Depth to Slowly Permeable Horizon: N/A

Wetness Class: I

Wetness Grade: 3b

VP336-15

Available Water Wheat: 131 mm

Potatoes: 104 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 45 mm

Potatoes: 31 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Workability

Remarks:

Pit dug to 75 cm. H2 is bedrock.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 2	3° North	PGR	Av Rainfall: 1205 mm ATO: 1551 day °C	Mid-Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 234 Climatic Grade: 2	SOIL SAMPLE REFERENCES
87/94	9/11/94	SX554532 (ASP 249)	H Lloyd-Jones/N A Done	Exposure Grade: 1	None

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	25	HCL	10YR43	8% Total ZR (Vis)	None	None	-	-	-	-	MF+VF	-	Abrupt wavy
2	40	HCL	10YR44	50% ZR Total (Vis)	None	None	Determined by stones	-	M (assumed)	Good fissures	CF+VF	-	Clear irregular
3	60+	C (Pockets in strata)	2.5Y62	60% ZR Total (Vis)	CDFO 10YR68	None	Determined by stones	-	M (assumed)	Good fissures	FVF	-	-

Profile Gleyed From: 40 cm (below 40 cm)

Depth to Slowly Permeable Horizon: N/A

Wetness Class: II

Wetness Grade: 3b

VP336-15

Available Water Wheat: 116 mm

Potatoes: 93 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: +30 mm

Potatoes: +22 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

Stone is much more solid than 1P (H2 coarse platy, friable).

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 3	2° North	PGR	Av Rainfall: 1205 mm ATO: 1551 day °C	Igneous Tuffs etc
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 234 Climatic Grade: 2	SOIL SAMPLE REFERENCES
87/94	11/11/94	SX562533 (ASP240)	H Lloyd-Jones/P Barnett	Exposure Grade: 1	RPT/HLJ/91

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size, Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	24	HCL	0.5YR44	5% >2cm (Vis) 17% <2cm (S+D) 22% HR Total	None	None	-	-	-	-	MF+VF	-	Clear smooth
2	38	HCL (heavier than t/s)	0.5YR44	10% >2cm (Vis) 32% <2cm HR (S+D) 42% Total HR	None	None	WMSAB	Friable	G	Good	CF+VF	-	Clear smooth
3	72	C	2.5YR44	20% HR >2cm (Vis) 35% HR<2cm (S+D) 55% HR Total	None	Few	Too stony	-	M (assumed)	Good	FVF	-	Clear smooth
4	85+	C	0.5YR53	55% HR Total (Vis)	CFFO (0.5YR56)	Few	Too stony	-	M (assumed)	Good	FVF	-	-

Profile Gleyed From: 72

Depth to Slowly Permeable Horizon: N/A

Wetness Class: I

Wetness Grade: 3b

VP336-15

Available Water Wheat: 88 mm

Potatoes: 77 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 2 mm

Potatoes: 4 mm

Droughtiness Grade: 3a (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

Gleying in surrounding borings is higher up.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 4	6° South	FLW	Av Rainfall: 1205 mm ATO: 1551 day °C FC Days: 234 Climatic Grade: 2 Exposure Grade: 1	Mid-Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
87/94	10/11/94	SX563529 (ASP 268)	P Barnett/H Lloyd-Jones		RPT/PB/179

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	24	HCL	10YR43	2% >2cm 22% <2cm 24% ZR (S+D)	None	None	-	-	-	G	MF,VF	-	Ab wavy
2	45	ZC	10YR54	60% ZR (Vis)	None	None	Det by stones	-	M (assumed)	G (fissures)	CVF	-	Grad wavy
3	120	ZR	10YR51	99% ZR (Vis)	None	None	-	-	M (assumed)	-	FVF	-	-

Profile Gleyed From: Not gleyed

Depth to Slowly Permeable Horizon: N/A

Wetness Class: I

Wetness Grade: 3b

VP336-15

Available Water Wheat: 100 mm

Potatoes: 81 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 14 mm

Potatoes: 8 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Workability

Remarks:

Horizon 3 bedrock.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 5	3° West	PGR	Av Rainfall: 1205 mm ATO: 1551 day °C	Mid-Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 234 Climatic Grade: 2 Exposure Grade: 1	SOIL SAMPLE REFERENCES
87/94	10/11/94	SX567541 (ASP 139/157)	P Barnett/H Lloyd-Jones		RPT/PB/178

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	24	C	10YR53	1% HR (Vis)	None	None	-	-	-	G	MF,VF	-	Clear wavy
2	38	ZC	2.5Y63	1% HR (Vis)	CDFOM 10YR56	None	MCSAB	Fr	M	P	CF, VF	-	Clear wavy
3	70	ZC	2.5Y71	10% ZR (soft, rotten)	MDMOM 10YR58	M	WCPr breaking to WCSAB (determined by shale fragments)	FM	P	P	FVF	-	Grad wavy
4	85+	ZC	2.5Y71	20% ZR (soft, rotten)	MDMOM 10YR58	None	Very weak (det'd by stones)	Fr	M (assumed)	G (fissures)	None	-	-

Profile Gleyed From: 24 cm

Depth to Slowly Permeable Horizon: 38 cm

Wetness Class: 4

Wetness Grade: 4

VP336-15

Available Water Wheat: 126 mm

Potatoes: 98 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 40 mm

Potatoes: 25 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 5

Main Limiting Factor(s): Wetness

Remarks:

Grade 4 map unit.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 6	3° South	Ley	Av Rainfall: 1205 mm ATO: 1551 day °C FC Days: 234 Climatic Grade: 2 Exposure Grade: 1	Upper Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
87/94	17/11/94	SX562549 (ASP 41)	N A Done		RPT/NAD/165

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	25	HCL	10YR43	5% ZR (Vis)	None	None	-	-	-	G	Many F+VF	-	Gradual/ smooth
2	80	HCL	10YR44	20% ZR (Vis est)	None	None	WC+MSAB	Friable	M	G	Common F+VF	-	Clear/ smooth
3	90+	C	10YR46	30% ZR (Vis)	None	Few	WCSAB	Friable	M	G	None	-	-

Profile Gleyed From: N/A

Depth to Slowly Permeable Horizon: N/A

Wetness Class: I

Wetness Grade: 3b

VP336-15

Available Water Wheat: 135 mm

Potatoes: 109 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 49 mm

Potatoes: 36 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Workability

Remarks:

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Blackpool	Pit 7	0°	Ley	Av Rainfall: 1205 mm ATO: 1551 day °C	Upper Devonian Slate
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 234 Climatic Grade: 2	SOIL SAMPLE REFERENCES
87/94	14/11/94	SX558549 (ASP 44)	N A Done	Exposure Grade: 1	RPT/NAD/166

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	30	HCL	10YR44	5% ZR (Vis)	None	None	-	-	-	G	Many F+VF	-	Clear/ smooth
2	65	HCL	75YR44	10% ZR (Vis)	None	None	WCSAB	Friable	M	G	Common F+VF	-	Clear/ smooth
3	80+	HCL	10YR64	25% ZR (Vis)	cdom 10YR68 (variable gleying)	None	WCSAB	Friable	M	G	Few fine	-	-

Profile Gleyed From: 65

Depth to Slowly Permeable Horizon: N/A

Wetness Class: II

Wetness Grade: 3b

VP336-15

Available Water Wheat: 145 mm

Potatoes: 113 mm

Moisture Deficit Wheat: 86 mm

Potatoes: 73 mm

Moisture Balance Wheat: 59 mm

Potatoes: 40 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

SOIL PLASTICITY RECORDING SHEET

ANNEX 2

SITE DATA

Grid Ref	SX55, SW, SE, NE		Site Name	Blackpool			LPA	Devon County	
AAR	1205	ATO	1551	FCD	234	MD (wheat)	86	MD (potatoes)	73

SOIL PIT DATA

	PIT ONE SX554543 SOIL SERIES Denbigh 2			PIT TWO SX554532 SOIL SERIES Trusham			PIT THREE SX562533 SOIL SERIES Trusham		
DEPTH	TEXTURE	PLASTIC Y/N	COMMENTS	TEXTURE	PLASTIC Y/N	COMMENTS	TEXTURE	PLASTIC Y/N	COMMENTS
10 cm	HCL	N		HCL	N	No ball	HCL	N	
20 cm	HCL	N		HCL	N	"	HCL	N	
30 cm	HCL	N		HCL	N	"	HCL	N	
40 cm	-	N	Parent material	HCL	N	"	C	N	
50 cm	-	N	"	C	N	"	C	N	
60 cm	-	N	"	C	N	"	C	N	

NB Lots of poaching elsewhere where the soils would be plastic.