8FCS 4554

1/92

TRURO LOCAL PLAN: VILLAGES
AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY

1. INTRODUCTION

Land around eleven villages in the Truro area was graded under the Agricultural Land Classification (ALC) System in January 1992. The survey work was carried out as part of MAFF's statutory role in response to the revision of the Truro Local Plan.

The fieldwork was carried out by the Resource Planning Group (South West Region) at a scale of 1:10,000 (approximately one sample point every hectare). The information is accurate at the scale shown but any enlargement would be misleading. This survey supercedes previous surveys carried out in the area at 1" being at a more detailed level and carried out under the Revised Guidelines and criteria for grading the quality of agricultural land (MAFF 1988).

The ALC provides 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 the appendix.

The villages are treated separately. The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying ALC maps.

Table 1 Distribution of ALC Grades: Tregony

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	8.6	41.9	56.6
3b	2.9	14.3	19.3
4	2.2	10.9	14.8
5	1.4	6.9	9.3
Non Agric	2.8	13.7	----
Urban	2.5	12.3	100% (15.1 ha)
TOTAL	20.4	100%	

Table 2 Distribution of ALC grades: Grampound Road

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	21.6	73.2	81.5
3b	4.9	16.6	18.5
Non Agric	2.0	6.8	----
Urban	0.7	2.4	100% (26.5 ha)
Farm Bdgs	0.3	1.0	
TOTAL	29.5	100%	

Table 3 Distribution of ALC grades: Playing Place

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	21.1	63.5	74.4
3a	0.8	2.2	2.6
3b	4.2	12.5	14.7
4	1.9	6.0	7.0
5	0.4	1.1	1.3
Non Agric	4.0	12.0	----
Urban	0.9	5.8	100% (28.4 ha)
TOTAL	33.3	100%	

Table 4 Distribution of ALC grades: Feock

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	19.4	63.8	87.8
3b	1.8	5.9	8.1
4	0.9	3.0	4.1
Non Agric	5.3	17.4	----
Urban	3.0	9.9	100% (22.1 ha)
TOTAL	30.4	100%	

Table 5 Distribution of ALC grades: Penpol and Point

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	33.5	60.0	76.6
3a	0.4	0.7	0.9
3b	8.2	14.7	18.8
4	1.6	2.9	3.7
Non Agric	9.0	16.1	----
Urban	3.1	5.6	100% (43.7 ha)
TOTAL	55.8	100%	

Table 6 Distribution of ALC grades: Carnon Downs

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	35.7	64.6	88.8
3b	4.5	8.1	11.2
Non Agric	10.8	19.5	----
Urban	3.7	6.7	100% (40.2 ha)
Farm Bdgs	0.6	1.1	
TOTAL	55.3	100%	

Table 7 Distribution of ALC grades: Probus

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	23.6	47.5	60.1
3b	7.6	19.6	24.8
4	6.8	11.9	15.1
Non Agric	7.0	14.7	----
Urban	2.9	6.1	100% (38.0 ha)
Farm Bdgs	0.1	0.2	
TOTAL	48.0	100%	

Table 8 Distribution of ALC grades: Perranarworthal

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	26.3	58.4	72.1
3a	1.6	3.6	4.4
3b	8.6	19.1	23.5
Non Agric	4.4	9.8	----
Urban	3.9	8.7	100% (36.5 ha)
Farm Bdgs	0.2	0.4	
TOTAL	45.0	100%	

Table 9 Distribution of ALC grades: Threemilestone

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3a	17.6	66.4	85.4
3b	3.0	11.3	14.6
Non Agric	3.2	12.1	----
Urban	2.7	10.2	100% (20.6 ha)
TOTAL	26.5	100%	

Table 10 Distribution of ALC grades: Perranwell Station

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	21.2	67.7	77.6
3a	0.6	1.9	2.2
3b	5.5	17.6	20.2
Non Agric	0.9	2.9	----
Urban	2.8	8.9	100% (27.3 ha)
Farm Bdgs	0.3	1.0	
TOTAL	31.3	100%	

Table 11 Distribution of ALC grades: Devoran

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	5.4	58.1	65.1
3b	2.9	31.2	34.9
Non Agric	0.3	3.2	----
Urban	0.7	7.5	100% (8.3 ha)
TOTAL	9.3	100%	

It can be seen from Tables 1-11 and Table 12 below that there is significant amounts of "best and most versatile" land around the villages surveyed. All the villages have some poorer quality land around them although in many cases it is only a small area on steep slopes. Probus offers the largest area of lower quality land. Probus, Grampound Road and Threemilestone represent the villages with Subgrade 3A land but even so the majority is still best and most versatile.

Table 12 Summary of Land Surveyed

Village	Area of Best and Most Versatile Land ha	Area of Grades 3b, 4 and 5	Total Agricultural Land
Tregony	8.6	6.5	15.1
Grampound Road	21.6	4.9	26.5
Playing Place	21.9	6.5	28.4
Feock	19.4	2.7	22.1
Penpol and Point	33.9	9.8	43.7
Carnon Downs	35.7	4.5	40.2
Probus	23.6	14.4	38.0
Perranarworthal	27.9	8.6	36.5
Threemilestone	17.6	3.0	20.6
Perranwell Station	21.8	5.5	27.3
Devoran	5.4	2.9	8.3
	237.4 ha	69.3	306.7

2. TREGONY

2.1 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 lower grades despite other favourable conditions.

To assess any overall climatic limitation, estimates of important climatic variables were obtained for the site by interpolation from the 5 km grid Met Office/MAFF Database (Met Office/MAFF/SSLRC 1989). The parameters used for assessing 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 13 reveal that there is no climatic limitation across the survey area. No local climatic limitations such as exposure were observed. Climatic data on Field Capacity Days (FCD) and Moisture Deficits for Wheat (MDW) and Potatoes (MDP) are also shown. This data is used in assessing the soil wetness and droughtiness limitations referred to in later sections.

Table 13 Climatic Interpolations: Tregony

Grid Reference	SW927454	SW924447
Height (m)	60	5
Accumulated Temperature (° Days)	1575	1639
Average Annual Rainfall (mm)	1119	1064
Overall Climatic Grade	1	1
Field Capacity (Days)	219	210
Moisture Deficit, Wheat (mm)	89	99
Potatoes (mm)	79	91

2.2 Relief

The survey area has sloping land over the majority of the area. These slopes are steepest to the south and south east. The slopes have varying aspects in this well developed river valley landscape. The altitude rises from 5 m to 75 m.

2.3 Geology and Soils

The survey area is underlain by slates and grits of the Portscatho series as shown on BGS Sheets 353/354.

The soils generally follow a typical pattern over the survey area with medium clay loams lying above slatey heavy clay loams to depth. The parent rock has weathered to varying degrees and this is reflected in the stone percentages at depth.

2.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the Introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but an enlargement would be misleading. A total of 10 borings and 1 soil pit were examined around Tregony.

Grade 2

The parts of the survey area unrestricted by limiting gradients (ie with gradients of 7° or less) have been classified as Grade 2. These areas have well drained soils with slate stones. The stone percentage is approximately 5% to 70 cm increasing to about 30% below this. This does not impose a significant restriction on available water to crops. The soils can be assigned to Wetness Class I having no evidence of wetness. The main limitation affecting these soils is the workability, ie the acceptable timing of cultivations and grazing when damage to the soil structure will not occur. Structurally damaged soils will have a reduced drainage

capacity. Typical profiles have medium clay loam topsoils overlying medium clay loams changing to heavy clay loams where the stone content rises.

Subgrade 3B

In the valley bottom the soils are wetter. There is evidence of wetness in the form of gleying and slowly permeable layers from a depth of 20 cm. The soils are therefore assigned to Wetness Class IV. With medium silty clay loam topsoils and the prevailing FCD value, the soils are graded as Subgrade 3B. The subsoils are heavy clay loams. The remaining areas of 3B are limited by slope. The gradients are over 7° but no greater than 11°.

Grades 4 and 5

The remaining areas are limited to Grades 4 and 5 by the slopes which restrict the safe use of some machinery and thus reduces the potential range of crops that can be grown.

3. GRAMPOUND ROAD

3.1 Climate

Climatic interpolations as described previously were carried out for Grampound Road. The results are shown in Table 14. The results reveal that there is a climatic limitation above 80 m where the area can be classified no better than Grade 2. No local climatic limitations were observed.

Table 14 Climatic Interpolations: Grampound Road

Grid Reference	SW915502	SW918508
Height (m)	80	95
Accumulated Temperature (° Days)	1550	1533
Average Annual Rainfall (mm)	1152	1174
Overall Climatic Grade	1/2	2
Field Capacity (Days)	226	229
Moisture Deficit, Wheat (mm)	86	83
Potatoes (mm)	74	70

3.2 Relief

The survey area generally slopes down to the railway line which runs through the middle of the village. The lowest part of the survey area is at 75 m rising to 100 m.

3.3 Geology and Soils

The survey area is underlain by Grampound grit as shown on BGS Sheet 347.

The soils are uniform across the site with medium clay loam topsoils with 2% quartz stones. The subsoils have 20% slate in a heavy clay loam soil matrix. Below 70 cm these change to clays.

3.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 24 borings and 1 pit were examined around Grampound Road.

Subgrade 3A

The majority of the survey area has been classified as Subgrade 3A on the basis of a workability limitation. The soils have no drainage problem and can be assigned to Wetness Class I. With medium clay loam topsoils and the FCD value for the area, the soils can be graded no higher than Subgrade 3A. This workability limitation is the result of restrictions imposed by climate on the soil, restricting the timing of cultivations and grazing without causing damage to the soil structure such damage could impede free drainage of the soil.

Subgrade 3B

The two areas of 3B land are graded as such because of limiting gradients. The gradients restrict the versatility of the land because not all machinery could be used on them safely.

4. PLAYING PLACE

4.1 Climate

Climatic interpolations as described previously were carried out for Playing Place. The results are shown in Table 15. The results reveal that there is no climatic limitation across the survey area. No local climatic limitations such as exposure were observed in the survey area.

Table 15 Climatic Interpolations: Playing Place

Grid Reference	SW813412	SW814415
Height (m)	90	70
Accumulated Temperature (° Days)	1546	1568
Average Annual Rainfall (mm)	1095	1070
Overall Climatic Grade	1	1
Field Capacity (Days)	214	210
Moisture Deficit, Wheat (mm)	90	94
Potatoes (mm)	78	83

4.2 Relief

The survey area undulates rising from 50 m to 90 m. There are both south east and north east facing slopes.

4.3 Geology and Soils

The survey area is underlain by sandstone and slates of the Portscatho series.

The soils across the survey area are all similar with medium clay loams lying over heavy clay loams. Topsoil quartz stones of around 2% give way to slate stones of around 40% in the subsoil.

4.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 24 borings and 1 pit were examined around Playing Place.

Grade 2

The majority of the survey area has been classified as Grade 2. These soils have only a workability limitation. There is no evidence of wetness and the stones present (around 2% in the topsoil and 40% in the subsoil) do not impose a greater restriction than the limitation imposed by the medium clay loam topsoil and FCD level of 210 days. This combination means that for part of the year it is not possible to get on the soil without damaging it. This restricts the range of crops that can be grown.

Subgrade 3A

There is a small area of 3A land at the southern end of the village. Here there is evidence of wetness in the form of gleying from 45 cm. The soils are therefore assigned to Wetness Class II and with medium clay loam topsoils, Subgrade 3A.

Grades 3B, 4 and 5

A small area of Subgrade 3 is classified as such from a more severe wetness problem than the 3A. Here there is gleying evident in the topsoil and a slowly permeable layer below 40 cm. Falling into Wetness Class IV the soil is limited to 3B.

The remaining parts of the survey area are so graded because of limiting gradients. As the gradients increase then the range of machinery that can be used safely is reduced. This therefore restricts the range of crops that can be grown. Slopes over 18° are Grade 5, those over 11° are Grade 4 and for slopes with gradients over 7° they are Subgrade 3B.

5. FEOCK

5.1 Climate

Climatic interpolations as described previously were carried out for Feock. The results are shown in Table 16. They reveal that there is no climatic limitation across the survey area. No local climatic limitations were noted.

Table 16 Climatic Interpolations: Feock

Grid Reference	SW817379	SW821387
Height (m)	20	60
Accumulated Temperature (° Days)	1627	1581
Average Annual Rainfall (mm)	989	1041
Overall Climatic Grade	1	1
Field Capacity (Days)	198	205
Moisture Deficit, Wheat (mm)	104	96
Potatoes (mm)	95	86

5.2 Relief

The survey area slopes towards the coast to the south and east. Elsewhere is generally gently undulating. The area rises from sea level in the south to 60 m in the north.

5.3 Geology and Soils

The survey area is underlain by sandstone and slate of the Portscatho series as shown on BGS Sheet 352.

The soils across the survey area are uniform in textures, heavy clay loams in the upper subsoil, medium clay loams in the topsoil and clays at depth. The stone content increases with depth.

5.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the Introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 30 borings and 1 soil pit were examined around Feock.

Grade 2

The majority of the survey area has been classified as Grade 2. The soils are well drained with no evidence of wetness. The stone contents in the soil increasing from 2% in the topsoil (quartz stones) to 40% in the lower subsoil (slate) do not impose a significant restriction on the available water for crops. Despite being eligible for Wetness Class I the soils can be graded no better than Grade 2 because of the FCD level and topsoil texture. A workability limitation is said to exist, ie the opportunities for access onto the soil without causing structural damage are reduced.

Grade 3B and 4

The remaining agricultural land has restricting gradients. They reduce the types of machinery that can be safely used and the risk of soil erosion after cultivation is increased.

6. PENPOL AND POINT

6.1 Climate

Climatic interpolations as described previously were carried out around Penpol and Point. The results are shown in Table 17 and reveal that there is no climatic limitation in the survey area. No local climatic limitations were observed.

Table 17 Climatic Interpolations Penpol and Point

Grid Reference	SW816381	SW804391
Height (m)	15	50
Accumulated Temperature (° Days)	1632	1592
Average Annual Rainfall (mm)	981	1036
Overall Climatic Grade	1	1
Field Capacity (Days)	197	205
Moisture Deficit, Wheat (mm)	105	98
Potatoes (mm)	97	88

6.2 Relief

The survey area slopes towards the creek. The slopes tend to be gentle except in the western part of the survey area. The area rises from water level to 60 m.

6.3 Geology and Soils

The survey area is underlain by slate and sandstone of the Mylor series as shown on BGS Sheet 352.

The soils are similar across the area being clay loams. They are lighter in the topsoil and heavier below. The stone content increases with depth.

6.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the Introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 21 borings and 1 soil pit were examined.

Grade 2

The majority of the survey area has been classified as Grade 2. These soils are free draining with no evidence of wetness. They are assigned to Wetness Class I. The stone content of 5% to 60 cm and 25% below does not restrict the water available to crops significantly. Both the topsoil and upper subsoil are medium clay loams which lie above stonier heavy clay loam. It is the opportunities for working or grazing the land that are reduced by the prevailing FCD and soil textures and so the versatility of the soil is reduced. The extent of the restriction limits the soils to Grade 2.

Subgrade 3A

There is a small area of slightly wet land near to Trolver Farm. There is evidence of gleying and an SPL in clay below 55 cm. The soil falls in Wetness Class III and hence 3A with medium clay loam topsoils.

Grades 3B and 4

The remaining area has limiting slopes. The gradients present, exceeding 11° for Grade 4 and 7° for Subgrade 3B, restrict the range of machinery that can be safely used and the risk of soil erosion after cultivation is increased. The range of crops that can be grown is reduced as a result.

7. CARNON DOWNS

7.1 Climate

Climatic interpolations as described previously were carried out for Carnon Downs. The results shown in Table 18 reveal that there is no overall climatic limitation in the survey area. No local climatic limitations were observed.

Table 18 Climatic Interpolations: Carnon Downs

Grid Reference	SW802401	SW803407
Height (m)	75	100
Accumulated Temperature (° Days)	1564	1535
Average Annual Rainfall (mm)	1073	1110
Overall Climatic Grade	1	1
Field Capacity (Days)	210	216
Moisture Deficit, Wheat (mm)	93	87
Potatoes (mm)	81	75

7.2 Relief

Carnon Downs is in an undulating area, the land surveyed rising from 50 m to 100 m. The highest land is to the east of the village.

7.3 Geology and Soils

The survey area is underlain by sandstone and slate, mainly of the Mylor series but also the Falmouth series, as indicated on the BGS Sheet 352.

The soils in the survey area are clay loams, lighter at the top of the profile becoming heavier and stonier with depth.

7.4 Agricultural Land Classification

Grade 2

The majority of the survey area has been classified as Grade 2. The soils show no evidence of wetness being free draining and can be assigned to Wetness Class I. Although slate content increased to 70% by 65 cm this does not restrict available

water for crops to a greater limitation than other factors. The topsoil, medium clay loams impose a restriction on the versatility of the land. This texture in conjunction with the climatic situation reduces the number of days in the year when access onto the land can be made without the possibility of damage to the soil. Typical profiles in the survey area have medium clay loams to 50 cm with less than 10% stone content. Below 50 cm heavy clay loams of pale colours have increasing stone contents.

Subgrade 3B

There are three small areas where the slopes exceed 7°. This limits the land to Subgrade 3B on the basis of the type of machinery that can be safely used.

8. PROBUS

8.1 Climate

Climatic interpolations as described previously were carried out for Probus. The results are shown in Table 19. They reveal that there is a climatic limitation over part of the survey area. Land over 85 m is restricted to Grade 2 at best. No local climatic limitations were noted.

Table 19 Climatic Limitations: Probus

Grid Reference	SW902472	SW892475	SW903474
Height (m)	90	30	85
Accumulated Temperature (° Days)	1541	1609	1546
Average Annual Rainfall (mm)	1153	1086	1148
Overall Climatic Grade	2	1	1/2
Field Capacity (Days)	224	214	223
Moisture Deficit, Wheat (mm)	84	96	85
Potatoes (mm)	73	87	73

8.2 Relief

The survey area falls on either side of a ridge rising to 90 m. The lowest part is in the south west at 20 m. The slopes face north/north east and south west along the east west ridge.

8.3 Geology and Soils

The survey area is underlain by Grampound grit which comprises of sandstone and slates, as shown on the BGS Sheet 352.

The heavy clay loams become heavier with depth. The profiles have minimal stone contents throughout.

8.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in the Introduction and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 32 borings and 2 pits were examined.

Subgrade 3A

The Subgrade 3A soils are free draining with few stones. The topsoil texture, heavy clay loams in conjunction with the prevailing FCD values (see Table 19) restrict the versatility of the soil. The windows of opportunity to cultivate and graze with livestock are reduced. Attempting to increase the time on the land will damage the soil structure which can lead to impaired drainage. A typical profile has heavy clay loams to depth with slate stone contents increasing with depth to no greater than 10%. Soil colours change from 10YR44 in the topsoil to 10YR46 down the profile.

Subgrade 3B

Some of the survey area has slopes over 7° and these are downgraded to Subgrade 3B. Increased gradients restrict the versatility of the land because not all machinery can be used safely.

Grade 4

Some of the lower lying land shows evidence of wetness. Here the heavy clay loams are gleyed often from the surface and always before 40 cm depth. Slowly permeable layers (SPL) are evident in the profile restricting the free drainage of the soil. These SPLs start before 58 cm so the soils must be put into Wetness Class IV. The soils can therefore be graded no better than Grade 4 in the prevailing climatic conditions. The soils have stone contents no greater than 10%.

9. PERRANARWORTHAL

9.1 Climate

Climatic interpolations as described in Section 2.1 were carried out for Perranarworthal. The results shown in Table 20 reveal that there is no climatic limitation across the survey area. If no other limitations exist then the land could be Grade 1.

Table 20 Climatic Limitations: Perranarworthal

Grid Reference	SW777394	SW768388
Height (m)	15	45
Accumulated Temperature (° Days)	1633	1599
Average Annual Rainfall (mm)	1047	1120
Overall Climatic Grade	1	1
Field Capacity (Days)	208	220
Moisture Deficit, Wheat (mm)	101	93
Potatoes (mm)	92	83

9.2 Relief

Perranarworthal survey area lies on either side of a small ridge. The land faces south and north. The lowest land can be found on both the northern and southern extremes of the area whilst it rises to its highest point along the ridge.

9.3 Geology and Soils

The survey area is underlain by slate and sandstones of the Mylor series as shown on BGS Sheet Number 352.

The soils across the survey area are medium clay loams becoming heavier with depth. The soils are only slightly stoney.

9.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Section 1 and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 26 borings and 1 pit were examined.

Grade 2

The majority of the survey area has been classified as Grade 2. These free draining soils show no evidence of wetness and are thus placed in Wetness Class I. With medium clay loam topsoils they are eligible for Grade 2. The soils have low slate rock contents which do not restrict the available water for crop growth. The grading reflects the restriction on workability imposed by the local climatic conditions (see Table 20) and the topsoil textures. The profile has increasingly heavy soils with depth.

Subgrade 3A

There are two small areas where there is slight evidence of wetness in the form of gleying. This does not appear in the profile until below 40 cm so the soils can be assigned to Wetness Class II with similar textures to the Grade 2 soils, these soils are classified as Subgrade 3A.

Subgrade 3B

The majority of the Subgrade 3B areas have steeper slopes over 7° where the use of machinery is restricted for safety reasons. Two areas of 3B north of the Recreation Ground show more severe evidence of wetness than the 3A soils. Here gleying can be seen in the top 40 cm and a slowly permeable layer is evident at 55 cm. These soils are placed in Wetness Class IV and with medium clay loam topsoils can be graded no better than 3B.

10. THREEMILESTONE

10.1 Climate

Climatic interpolations as described in Section 2.1 were carried out for Threemilestone. The results shown in Table 21 reveal that there is a climatic boundary at 90 m. Above this height the land can be graded no better than Grade 2, but below the land could be Grade 1 if there are no other limitations.

Table 21 Climatic Interpolations: Threemilestone

Grid Reference	SW778443	SW784444	SW785446
Height (m)	80	103	90
Accumulated Temperature (° Days)	1556	1530	1545
Average Annual Rainfall (mm)	1120	1136	1122
Overall Climatic Grade	1	2	1/2
Field Capacity (Days)	218	220	218
Moisture Deficit, Wheat (mm)	89	86	88
Potatoes (mm)	77	74	76

10.2 Relief

The land in the survey area is undulating from 75 m to 100 m.

10.3 Geology and Soils

The survey area is underlain by sandstone and slate of the Falmouth series.

The soils surveyed are clay loams with medium topsoils and heavy subsoils. The stone contents increase to about 50% with depth.

10.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Section 1, and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 17 borings and 1 soil pit were examined.

Subgrade 3A

The majority of the survey area has been classified as Subgrade 3A. These soils, though free draining and without restrictions on available water can be graded no better than 3A. This is because the topsoil texture, heavy clay loams in conjunction with the FCD value for the area, restrict the acceptable timing of cultivations and grazing. To work the land at other times increases the risk of damaging soil structure which can restrict drainage. The stone content of these soils increase with depth, which in a soil pit showed contents of 2% in the top 27 cm, 30% to 50 cm and 42% below.

Subgrade 3B

The remaining part of the survey area has been downgraded on the basis of gradient. These slopes over 7° impose a limitation of the types of machinery that can be safely used and thus reduce the versatility of the land.

11. PERRANWELL STATION

11.1 Climate

Climate interpolations as described in Section 1 were carried out for Perranwell Station. The results shown in Table 22

reveal that there is no climatic limitation across the survey area. No local climatic limitations such as exposure were noted.

Table 22 Climatic Interpolations: Perranwell Station

Grid Reference	SW771401	SW776396
Height (m)	75	25
Accumulated Temperature (° Days)	1565	1621
Average Annual Rainfall (mm)	1156	1066
Overall Climatic Grade	1	1
Field Capacity (Days)	225	211
Moisture Deficit, Wheat (mm)	88	99
Potatoes (mm)	76	89

11.2 Relief

Most of the survey area is gently sloping towards the south although below Mellingey Farm it is steeper. The lowest land is at 10 m below that farm, the highest at Coldwind in the north rising to 85 m.

11.3 Geology and Soils

Perranwell Station is underlain by slate and sandstones of the Mylor series as shown on BGS Sheet Number 352.

The soils are clay loams across the survey area often getting heavier with depth from medium clay loam topsoils into heavy clay loam subsoils. Stone contents vary.

11.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Section 1 and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 21 borings and 2 soil pits were examined.

Grade 2

The majority of the survey area has been classified as Grade 2. These soils show no evidence of wetness and the stone contents sometimes rising to 50% in the subsoils assist water to drain freely through the soil. The stone contents often low do not impose a significant restriction to water available to crops. The topsoil texture, medium clay loam, in conjunction with the prevailing climate impose the greatest limitation in these soils. Despite being Wetness Class I the soils can be graded no better than Grade 2.

Subgrade 3B

All the areas of Subgrade 3B are assigned to this grade on the basis of gradients. The increased gradients, over 7°, impose restrictions on the type of machinery that can be safely used and this limit the type of cultivation possible.

12. DEVORAN

12.1 Climate

Climatic interpolations as described in Section 2.1 were carried out for Devoran. The results are shown in Table 23 and they show that there is no climatic limitation in this survey area.

Table 23 Climatic Interpolations: Devoran

Grid Reference	SW795395	SW798391
Height (m)	35	20
Accumulated Temperature (° Days)	1609	1627
Average Annual Rainfall (mm)	1018	999
Overall Climatic Grade	1	1
Field Capacity (Days)	203	200
Moisture Deficit, Wheat (mm)	100	103
Potatoes (mm)	91	95

12.2 Relief

The survey area is on sloping land facing south west rising from 15 m at the southern end to 40 m in the west.

12.3 Geology and Soils

The area is underlain by slate and sandstone of the Mylor series with some alluvium in the river valley as shown on BGS Sheet 352.

The soils are medium clay loams with low stone percentages that aid free draining of water through the profile.

12.4 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Section 1 and shown on the accompanying ALC map. The information is accurate at the scale shown but any enlargement would be misleading. A total of 4 borings were examined in the survey area.

Grade 2

The majority of the survey area has been classified as Grade 2. The main limitation here is workability, ie the topsoil texture, medium clay loam, and the prevailing FCD value for the village area combine to restrict the time when access can be made on to the soil without causing structural damage. The extent of the limitation is not severe so the soils can be assigned to Grade 2. Stone contents in these soils are low and do not impose a restriction on available water for crops.

Subgrade 3B

To the south of the survey area near to Narabo Farm the gradient of the slopes increase to impose a greater limitation than that of workability. These slopes are over 7° and

restrict the safe use of some machinery. This reduces the versatility of the land and so it is downgraded.