

DEVON COUNTY STRUCTURE PLAN: PLYMOUTH AREA
LANGAGE SITE

SOIL PIT DESCRIPTIONS

Pit No 1

Crest top location, with no evidence of local climatic factors.
Overall climatic limitation restricts potential of the site to 3A.

Topsoil: 0-22
Heavy Clay Loam (very dry soil); Clay content = 35%
10YR54 when moist; 10YR64 when dry
Approx 5% stone (2 mm-2 cm) and 5% >2 cm (visual estimate);
the stone is shillet, occurring in its characteristic thin
weathered layers.
Evidence of rusty root mottling.

Subsoil: 22-42 cm
difficult to assess texture of the soil matrix because of
the high percentage of stone, but it is believed to be a
Heavy Clay Loam
Approx 50% stone (2 mm-2 cm); shillet.

Impenetrable + 42 cm

This soil pit is typical of the soils found throughout much of the site. When augering, the surface layers can only be penetrated to a depth in the 3B range (ie 20-30 cm) and typically 25-28 cm. Simply from the range of auger boring depths it would therefore appear that there is an active soil depth limitation restricting the site to 3B. However, on opening up a profile by means of pick-axe a further 10 cm of soil with stone is revealed. The stone contents in this layer are approximately 50% (>2 cm) and are therefore less than the critical cut-off of 70% when a horizon is more realistically to be treated as 'rock'. Technically, therefore, there may appear to be adequate soil depth to satisfy the 3A criteria, but it is felt that this transitional layer of soil and fragmented rock "cannot be penetrated satisfactorily by cultivation implements" (p. 12 Revised Guidance). This effect of shallowness maintains the 3B limitation and limits the range and consistency of cropping to "moderate quality agricultural land" (p. 3, Revised Guidance)

ALC grade also = 3B on Workability.

Pit No 2

Topsoil: 0-25 cm
Heavy Clay Loam; Clay content = 35%
10YR64 for dry soil; 10YR54/44 when moist
Slight evience of surface mottling
1% stone >2 cm (stoniness assessment); approximately 5%
stone 2 mm - 2 cm (visual)

Subsoil: 25 - approximately 35 cm
Difficult to assess texture because of high stone content
(at least HCL): approximately 50% shillet >2 mm
very few roots penetrating into this zone; none found below
35 cm

Impenetrable: 35 cm (weathered shillet; >70%; rock)

See note for Pit No 1 on Soil Depth: 3B
Wetness Class I and HCL: 3B
Overall Climatic Limitation: 3A
Droughtiness: 3A

ALC = 3B

Soil Pit No 3

Topsoil: 0-28 cm
Heavy Clay Loam; Clay content = 31%
10YR63 (pale, when dry; 10YR54 when moist)
Slight surface mottling and rusty roots
Approx 5% stone (2 mm-2 cm)

Subsoil: 28-41 cm
Heavy Clay Loam (at least)
7.5YR56
Up to 50% stone (>2 mm); shillet
Few roots in this layer; none below 41 cm.

Impenetrable: 41 cm
>70% shillet; finely layered

See note for Pit No 1 on Soil Depth: 3B
Wetness Class I and HCL: 3B
Overall Climatic Limitation: 3A
Droughtiness: 3A

ALC Grade = 3B

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