

Wheal Busy, Chacewater, CornwallSOIL PIT DESCRIPTIONSPit No 1

- Topsoil : 0-18
Medium Clay Loam (towards HCL)
10YR42
2% hard stone <2 cm
few distinct ochreous mottles
- Subsoil 1 : 18-32
Heavy Clay Loam
10YR42/52
5% hard stone >2 mm
No evidence of wetness
Some ochreous weathering colours
- Subsoil 2 : 32-61
Clay
7.4YR64 and 10YR66 (strong weathering colours)
5% hard stone > 2 mm
No evidence of wetness
Fine to Medium Angular Blocky; Moderately Developed;
Friable (ie Average Subsoil Structural Conditions)
Porosity good (> 0.5%, >0.5 mm)
Roots evident to 58 cm, but stop at this depth
- + 61 cm : Compacted soil and less weathered rock (high percentage). Could not be penetrated below this depth.

The AP calculation is stopped at 58 cm

AP Wheat = 87 mm MD Wheat = 85 mm MB Wheat = + 2 mm

Grade according to droughtiness = 3A

Pit No 2

Topsoil : 0-28 cm
Medium Clay Loam (towards HCL); HCL at base of horizon
10YR42
cdó & gm
Stone-free

Subsoil : 28-65+ cm
Clay, freshly weathered
5Y71
Common ochreous colours (possible mottling or weathering)
5-10% hard quartz stones (>2 cm)
Roots penetrate easily
Coarse platy structure; moderately developed; friable to firm (ie
Poor structural conditions)
Porosity good (>0.5%, >0.5 mm)

Wetness Class = 3

ALC Grade = 3A (for WC3, MCL topsoil and 223 FC Days)

Pit No 3

Topsoil : 0- 15/19 cm
Heavy Clay Loam
10YR43
2-5% hard stone >2 cm; sieve
Few rusty roots

Subsoil : 19-60+ cm
Clay
7.5YR56 (an ochreous colour but no clear evidence of wetness;
weathering colour)
10-15% hard stone >2 mm; visual
Structure below 35 cm is difficult to assess because of the
intimate mix of stone and soil; towards Coarse-Medium Sub-angular
Blocky, Weakly developed, Friable.

(ie borderline good to moderate structure)
porosity and root penetration good.

Into 5YR44 from 48 cm with more small stones and less weathered, more
compact soil matrix. No roots evident below 55 cm.

Pit dug to 60 cm; not able to auger below through stones.
No SPL assumed in top 80 cm.

AP Wheat = 78 mm MD Wheat = 82 mm MB Wheat = - 4 mm (Taking the worst scenario
root penetration below 55cm)

Evident exposure risk limits the site to no better than 3A (ie not suitable for the
demanding horticultural crops).

ALC Grade = 3A

Pit No 4

Stoniness Assessment : Stone 2-6 cm = 8% (hard quartz)

Topsoil : 0-16 cm
Heavy Clay Loam
10YR64 (Pale)
Rusty Roots and cdom
Approx 10% stone 2 mm- 2 cm

Subsoil 1 : 16-30 cm
Clay
5YR64/74
Approx 25% hard stone >2 mm; visual
porosity good; few roots in this zone
No clear evidence of wetness

Subsoil 2 : 30-45 cm
Clay
7.4YR66
Approx 50% hard stone >2 mm; visual
No clear evidence of wetness
Difficult to assess structure with this high stone content.
Non SPL but perhaps Average conditions (the soil matrix is compact
and roots appear to stop at 45 cm).

The soil is gleyed <40 cm; WC III and HCL = 3B
Evident exposure risk limits the site to no better than 3A (ie not suitable for the
more demanding horticultural crops).

AP Wheat = 59 mm (taking the worst position of no root penetration below 45 cm)
= - 23 cm (borderline 3B/3A on drought)

ALC = 3B