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|---------------------------|--|---|------------------------------|-------------------------|---|---|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 1 (Between ASPs 296 & 320) | SLOPE AND ASPECT 3° E | LAND USE Cereal | Av Rainfall: 985 mm ATO: 1571 day °C FC Days: 202 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Bullers Hill Gravel |
| JOB NO. 17.99 | | DATE 14/4/99 | GRID REFERENCE SX85887020 | DESCRIBED BY PB & GN | | PSD SAMPLES TAKEN Topsoil 0-25cm :MCL (S39:Z40:C21%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 23 | MCL | 7.5YR4/2 | 20% HR(V) | 0 | 0 | - | - | - | - | CFVF | - | Abrupt Smooth |
| 2 | 55 | HCL | 7.5YR5/3 | 20%HR(V) | FDFO 10YR5/6 | 0 | MDCSAB | FR | M | G | CFVF | - | Gradual Smooth |
| 3 | 65 | HCL | 7.5YR6/4 | 15%HR(V) | COFO 10YR5/6 | 0 | WKCSAB | FM | M | G | FFVF | | Clear Smooth |
| 4 | 85 | C | 5YR6/4 (7.5YR7/3) | 15%HR(V) | MDMO 2.5YR5/6 | 0 | MASSIVE | VM | P | P | FVF | | |

Profile Gleyed From: 55cm
Slowly Permeable Horizon From: 65cm
Wetness Class: III
Wetness Grade: 3a

Available Water Wheat: 114 mm
Potatoes: 95 mm
Moisture Deficit Wheat: 101 mm
Potatoes: 93 mm
Moisture Balance Wheat: +13 mm
Potatoes: +2 mm
Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3a
Main Limiting Factor(s): Wetness

Remarks:

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|---------------------------|--|-----------------------------------|------------------------------|---------------------------|---|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 2 (Nr ASP 371) | SLOPE AND ASPECT 2° NW | LAND USE LE1 Grassland | Av Rainfall: 990 mm ATO: 1565 day °C FC Days: 203 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Bullers Hill Gravel |
| JOB NO. 17.99 | | DATE 14/4/99 | GRID REFERENCE SX85956982 | DESCRIBED BY PB & GN | | PSD SAMPLES TAKEN Topsoil 0-25cm :CSL (S72:Z21:C7%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 23 | CSL | 10YR3/1 | 5%>2cm(S+V) 27%<2cm(S+D) 32% HR | 0 | 0 | - | - | - | - | MVF | - | Sharp Smooth |
| 2 | 40 | LCS | 10YR7/1 10YR6/2 | 15%>2cm(S+V) 27%<2cm(S+D) 42%HR | 7.5YR5/8 FDFO | 0 | Too Stony | Too Stony | (M) | P | 0 | - | Clear Wavy |
| 3 | 55 | SC/SCL | 10YR6/2 | 10%>2cm(S+V) 24%<2cm(S+D) 34%HR | 7.5YR5/8 MDFO | 0 | Too Stony | Too Stony | (M) | P | 0 | - | Gradual Smooth |
| 4 | 90+ | SCL | 5YR4/6 7.5YR7/2,8/2 | 10%>2cm(S+V) 24%<2cm(S+D) 34%HR | 7.5YR5/6 CDFO (in patches) | 0 | Too Stony | Too Stony | (M) | P | | | |

Profile Gleyed From: 40cm

Slowly Permeable Horizon From: No SPL

Wetness Class: III

Wetness Grade: 3a

Available Water Wheat: 48 mm

Potatoes: 50 mm

Moisture Deficit Wheat: 98 mm

Potatoes: 89 mm

Moisture Balance Wheat: -50 mm

Potatoes: -39 mm

Droughtiness Grade: 3b (Calculated to 55 cm)

Final ALC Grade: 3b

Main Limiting Factor(s):

Remarks:

H2 shows extensive humus staining
H2 is extremely tightly packed - assumed poor pores
Between H2 + H3 is a discontinuous iron pan.

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|---------------------------|--|---------------------------------|------------------------------|--|-------------------------|--|--|--|--|--|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 3 (NrASP395) | SLOPE AND ASPECT 4° NW | | LAND USE Ploughed | | Av Rainfall: 1058 mm ATO: 1509 day °C | | PARENT MATERIAL Gurrington Slate | | | |
| JOB NO. 17.99 | | DATE 15/4/99 | GRID REFERENCE SX85366976 | | DESCRIBED BY PB & GN | | FC Days: 210 Climatic Grade: 1 Exposure Grade: 1 | | PSD SAMPLES TAKEN Topsoil 0-25cm:C (S29:Z31:C40%) | | | |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|-------------|---------------------------|------------|---|
| 1 | 22 | C | 5YR4/3 | 10%HR(V) | 0 | 0 | - | - | - | - | FF,VF | - | Clear Smooth |
| 2 | 40 | C | 2.5YR4/3 | 5%HR(V) | 0 | 0 | MDCSAB | FM | M | G (but low) | FVF | - | Clear Smooth |
| 3 | 64 | C | 2.5YR4/4 | 5%ZR(V) | CDFP 7.5YR7/3 | C | WKCP | VM | P | P | FVF | - | Clear Smooth |
| 4 | 85+ | C | 2.5YR5/4 (7.5YR73) | 10%ZR(V) | MDMP 7.5YR7/3 5YR5/6 CDMO | C | Massive | VM | P | P | 0 | | |

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|--------------------------------------|-----------------------|------------------------|----------------------------------|
| Profile Gleyed From: 40cm | Available Water | Wheat: 121 mm | Final ALC Grade: 4 |
| Slowly Permeable Horizon From: 40 cm | | Potatoes: 100 mm | |
| Wetness Class: III | Moisture Deficit | Wheat: 101 mm | Main Limiting Factor(s): Wetness |
| Wetness Grade: 4 | | Potatoes: 93 mm | |
| | Moisture Balance | Wheat: +20 mm | Remarks: |
| | | Potatoes: +7 mm | |
| | Droughtiness Grade: 2 | (Calculated to 120 cm) | |

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|---------------------------|--|--------------------------------|------------------------------|-------------------------|--|---|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 4 (ASP 366) | SLOPE AND ASPECT 6° NW | LAND USE PGR | Av Rainfall: 1013 mm ATO: 1549 day °C FC Days: 206 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Gurrington Slate |
| JOB NO. 17.99 | | DATE 15/4/99 | GRID REFERENCE SX85176983 | DESCRIBED BY PB & GN | | PSD SAMPLES TAKEN Topsoil 0-25cm:HCL / MCL (S33:Z40:C27%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 15 | HCL/MCL | 5YR4/3,4/4 | 5%HR(V) | 0 | 0 | - | - | - | - | MVF | - | Abrupt? |
| 2 | 38 | HCL | 2.5YR4/3 | 4%HR(V) | 0 | 0 | MDCSAB breaking to MDMGR | FR | M | G | CVF | - | Gradual Smooth |
| 3 | 60 | HCL | 2.5YR4/3 | 4%HR(V) | 0 | 0 | MDCSAB | FM | M | G | FVF | - | Gradual Smooth |
| 4 | 86+ | C | 2.5YR4/4 | 4%HR(V) | 0 | 0 | WKCSAB | FM | M | G | FVF | - | - |

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|---------------------------------------|-----------------------|------------------------|--------------------------------------|
| Profile Gleyed From: Not gleyed | Available Water | Wheat: 137 mm | Final ALC Grade: 3a/2 |
| Slowly Permeable Horizon From: No SPL | | Potatoes: 112 mm | |
| Wetness Class: I | Moisture Deficit | Wheat: 101 mm | Main Limiting Factor(s): Workability |
| Wetness Grade: 3a/2 | | Potatoes: 93 mm | |
| | Moisture Balance | Wheat: +36 mm | Remarks: |
| | | Potatoes: +19 mm | |
| | Droughtiness Grade: 1 | (Calculated to 120 cm) | |

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|---------------------------|--|--------------------------------|------------------------------|-------------------------|---|---|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 5 (ASP 457) | SLOPE AND ASPECT 5° SE | LAND USE Ploughed | Av Rainfall: 1051mm ATO: 1514 day °C FC Days: 212 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Gurrington Slate |
| JOB NO. 17.99 | | DATE 28/4/99 | GRID REFERENCE SX85766940 | DESCRIBED BY PB & GN | | PSD SAMPLES TAKEN Topsoil 0-25cm:HCL / MCL (S34:Z38:C28%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------------|---------------------------|------------|---|
| 1 | 29 | HCL | 7.5YR4/3-5YR4/3 | 10%HR(V) | 0 | 0 | - | - | - | - | FVF | - | Smooth Clear |
| 2 | 80 | C | 2.5YR4/4 (2.5YR54) | 10%MSST(V) * | 0 | common* | MDCSAB breaking to MDMSAB | FR | M | G | none | - | Gradual Smooth |
| 3 | 110+ | C | 2.5YR4/4 (2.5YR5/4) | 20%MSST(V) * | 0 | common | MDCSAB breaking to MDVCG | FR | M | P (borderline) | | - | |

Profile Gleyed From: Not gleyed

Slowly Permeable Horizon From: No SPL

Wetness Class: I

Wetness Grade: 3a

Available Water Wheat: 128 mm

Potatoes: 108 mm

Moisture Deficit Wheat: 101 mm

Potatoes: 93 mm

Moisture Balance Wheat: +27 mm

Potatoes: +15 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Wk

Remarks:

* Associated with black 'Sandstone' stones Probed to 120cm. Water at 80cm pit filled to 100 cm with water.

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|---------------------------|--|-----------------------------------|------------------------------|-------------------------|--|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 6 (Nr ASP 450) | SLOPE AND ASPECT 0° | LAND USE PGR | Av Rainfall: 1091 mm ATO: 1486 day °C | PARENT MATERIAL Ugbrooke Sandstone | |
| JOB NO. 17.99 | | DATE 15/4/99 | GRID REFERENCE SX84766937 | DESCRIBED BY PB & GN | FC Days: 218 Climatic Grade: 2 Exposure Grade: 1 | PSD SAMPLES TAKEN Topsoil 0-25cm: HCL/ C (S25:Z40:C35%) | |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 30 | HCL | 75YR4/3 | 10%HR(VIS) | 0 | 0 | | - | - | G | MF, VF | - | Gradual Smooth |
| 2 | 40 | C | 10YR6/4 | 30%HR(VIS) | FDMO 10YR5/6 | Few | WKCSAB | FR | M | G | CVF | - | Gradual Smooth |
| 3 | 55 | C | 10YR6/3 | 20%HR(VIS) | CDMO 10YR5/8 | Common | WKCSAB | FM | P | P | FVF | - | Gradual Smooth |
| 4 | 80 | C | 10YR7/3 | 2%HR(VIS) | MDMO 10YR5/8 | Common | WKCP R | FM | P | P | FVF | | |

Profile Gleyed From: 40cm
 Slowly Permeable Horizon From: 40 cm
 Wetness Class: III
 Wetness Grade: 3b

Available Water Wheat: 124 mm
 Potatoes: 102 mm
 Moisture Deficit Wheat: 86 mm
 Potatoes: 73 mm
 Moisture Balance Wheat: +38 mm
 Potatoes: +29 mm
 Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): We

Remarks:

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|---------------------------|--|--------------------------------|------------------------------|-------------------------|---|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 7 (ASP 403) | SLOPE AND ASPECT 5° E | LAND USE PLO | Av Rainfall: 993 mm ATO: 1560 day °C FC Days: 203 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Bullers Hill Gravel |
| JOB NO. 17.99 | | DATE 29/4/99 | GRID REFERENCE SX86466968 | DESCRIBED BY PB & GN | | PSD SAMPLES TAKEN Topsoil 0-25cm: MSZL (S44:Z42:C14%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 26 | MSZL | 7.5YR3/2 | 20%HR(VIS) | 0 | 0 | | - | - | | CF, VF | - | Gradual Smooth |
| 2 | 45 | MCL | 7.5YR4/4 | 30%HR(VIS) | 0 | 0 | WKCSAB | FR | M | G | C F, VF | - | Clear Smooth |
| 3 | 55 | C | 10YR6/4 | 20%HR(VIS) | CDFO 7.5YR5/6 | 0 | WKCSAB | FM | P | G | FVF | - | Clear Smooth |
| 4 | 82+ | C | 7.5YR6/4 | 20%HR(VIS) | MDMO 5YR5/6 | Few | WKCP R | VM | P | P | FVF | - | |

Profile Gleyed From: 45cm
 Slowly Permeable Horizon From: 55 cm
 Wetness Class: III
 Wetness Grade: 3a

Available Water Wheat: 105 mm
 Potatoes: 86 mm
 Moisture Deficit Wheat: 101 mm
 Potatoes: 93 mm
 Moisture Balance Wheat: +4 mm
 Potatoes: -7 mm
 Droughtiness Grade: 3a (Calculated to 120 cm)

Final ALC Grade: 3a
 Main Limiting Factor(s): We, Dr

Remarks:

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|---------------------------|--|---------------------------------|------------------------------|--------------------|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 8 (Asp 38/3) | SLOPE AND ASPECT 4° SE | LAND USE PGR | Av Rainfall: 1548 mm ATO: 1070 day °C FC Days: 215 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Gurrington slate |
| JOB NO. 17.99 | | DATE 10/5/99 | GRID REFERENCE 5X83197253 | DESCRIBED BY PB | | PSD SAMPLES TAKEN Topsoil 0-25cm: ZC (S16:Z47:C37%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|-----------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 23 | ZC | 7.5YR4/2 | 10%ZR (V) | 0 | 0 | - | - | - | - | MF, VF | - | Clear smooth |
| 2 | 45 | C | 7.5YR5/2 | 10%ZR (V) | 0 | 0 | MDCSAB | FR | M | G | CF, VF | - | Clear smooth |
| 3 | 55 | C | 10YR5/2 | 20%ZR (V) | CDFO 10YR5/6 | F (staining) | WKCSAB | FR | M | G (low) | FVF | - | Gradual smooth |
| 4 | 80+ | C | 5YR5/2 | 90%ZR (V) | CDFO 10YR5/6 Mainly in patches | Z (staining) | Too stony | - | (M) | G | 0 | - | |

Profile Gleyed From: 45cm

Slowly Permeable
Horizon From: No SPL

Wetness Class: II

Wetness Grade: 3b

Available Water Wheat: 107mm

Potatoes: 100 mm

Moisture Deficit Wheat: 101mm

Potatoes: 93mm

Moisture Balance Wheat: +6mm

Potatoes: +7mm

Droughtiness Grade: 2 (Calculated to 100 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): We

Remarks:

| | | | | | | |
|---------------------------|--|-----------------------------------|------------------------------|-------------------------|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 9 (Asp230/229) | SLOPE AND ASPECT 0° | LAND USE PGR | Av Rainfall: 1055 mm ATO: 1537 day °C FC Days: 213 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Tuff / Limestone |
| JOB NO. 17.99 | | DATE 13/5/99 | GRID REFERENCE 5X83587068 | DESCRIBED BY PB + GN | | PSD SAMPLES TAKEN Topsoil 0-25cm : HCL (S29:Z42:C29%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|--|---|-----------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 28 | HCL | 5YR4/4 | 1%HR>2cm (s+v) 9%HR<2cm (s+d) 10% HR | 0 | 0 | - | - | - | - | MF, VF | - | Clear smooth |
| 2 | 55 | C | 5YR4/4 | 1%HR>2 cm (s+v) 9%HR<2% (s+d) 10% HR | 0 | 0 | MDCSAB breaking to MDMGR | FR | M | G | CF, VF | - | Gradual smooth |
| 3 | 75 | C | 5YR5/4 | 40% SLST(v)* | 5YR5/6 C within stones | F within stones | MKMAB determined by stones | FR | M | G | FVF | - | Gradual smooth |
| 4 | 104 | C | 5YR5/4 | 70%SLST (v)* | 5YR5/6 C within stones | F within stones | Too stony | - | (M) | G | none | - | |

Profile Gleyed From: Not Gleyed
Slowly Permeable Horizon From: No SPL
Wetness Class: I
Wetness Grade: 3a

Available Water Wheat: 113mm
Potatoes: 102 mm
Moisture Deficit Wheat: 101mm
Potatoes: 93mm
Moisture Balance Wheat: +12mm
Potatoes: +9mm
Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Wk

Remarks: H3/H4 intermediate stone assessment:
20% > 2 cm (s+v)
38% < 2 cm (s+d)
58% SLST

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|---------------------------|--|---------------------------------|------------------------------|-------------------------|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 10 (Asp 230) | SLOPE AND ASPECT 0° | LAND USE PGR | Av Rainfall: 1052 mm ATO: 1537 day °C | PARENT MATERIAL Tuff / limestone |
| JOB NO. 17.99 | | DATE 13/5/99 | GRID REFERENCE SX83687068 | DESCRIBED BY PB & GN | FC Days: 212 Climatic Grade: 1 Exposure Grade: 1 | PSD SAMPLES TAKEN TS (Asp 230) 0- 25cm: HCL (S26:Z42:C32%) |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 25 | HCL | 2.5YR4/6 | 5% HR (V) | 0 | 0 | - | - | - | - | MF, VF | - | Gradual smooth |
| 2 | 55 | C | 2.5YR4/6 | 10%HR (V) | 0 | 0 | MDCSAB | FR | M | G | CF, VF | - | Gradual smooth |
| 3 | 90+ | C | 2.5YR4/4 | 5%HR (V) | 0 | 0 | WKCSAB | FR | M | G | FF, VF | - | - |

Profile Gleyed From: Not Gleyed

Slowly Permeable Horizon From: No SPL

Wetness Class: I

Wetness Grade: 3a

Available Water Wheat: 132mm

Potatoes: 109 mm

Moisture Deficit Wheat: 101mm

Potatoes: 93mm

Moisture Balance Wheat: +31mm

Potatoes: +16mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Wk

Remarks:

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|---------------------------|--|---------------------------------|------------------------------|-------------------------|--|---|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 11 (Asp 251) | SLOPE AND ASPECT 4° NW | LAND USE PGR | Av Rainfall: 1056 mm ATO: 1520 day °C FC Days: 213 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Chercombe Bridge Limestone |
| JOB NO. 17.99 | | DATE 13/5/99 | GRID REFERENCE SX84207053 | DESCRIBED BY PB + GN | | PSD SAMPLES TAKEN 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 15 | HCL | 5YR3/4 | 20%HR(V) | 0 | 0 | - | - | - | - | MF, VF | - | Clear Wavy |
| 2 | 25 | C | 5YR3/4 | 60%HR(V) | 0 | 0 | Too stony | FR | (M) | G | MVF | - | Clear Wavy |
| 3 | * | Rock | | 90%HR(V) | | | | | | | | | |

Profile Gleyed From: Not Gleyed

Slowly Permeable Horizon From: No SPL

Wetness Class: I

Wetness Grade: 3a

Available Water Wheat: 32 mm

Potatoes: 33 mm

Moisture Deficit Wheat: 89mm

Potatoes: 78mm

Moisture Balance Wheat: -57mm

Potatoes: -45mm

Droughtiness Grade: 4 (Calculated to 70 cm)

Final ALC Grade: 4

Main Limiting Factor(s): SD, DR

Remarks:
H3 rootable but depth not determined as pit dug to 25cm depth.

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|---------------------------|--|---------------------------------|------------------------------|-------------------------|--|--|--|------------------------------------|--|--|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 12 (Asp 386) | SLOPE AND ASPECT 2° N | LAND USE CER | | Av Rainfall: 1040 mm ATO: 1474 day °C FC Days: 209 Climatic Grade: 1 Exposure Grade: 1 | | PARENT MATERIAL Upper Greensand | | | | |
| JOB NO. 17.99 | | DATE 13/5/99 | GRID REFERENCE SX88686984 | DESCRIBED BY PB + GN | | PSD SAMPLES TAKEN Topsoil 0-25cm:MCL (S42:Z38:C20%) | | | | | | |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 24 | MCL | 7.5YR4/2 | 25%HR(V) | 0 | 0 | - | - | - | - | MF,VF | - | Sharp Smooth |
| 2 | 46 | C | 7.5YR6/5,4 | 50%HR(V) | FDFO 7.5YR5/6 FDMP 7.5YR7/4 | 0 | WKMSAB | FM | M | G (low) | CVF | - | Gradual Smooth |
| 3 | 85+ | C | 5YR5/8 | 15%HR(V) | 0 | 0 | WKCSAB | FM | M | G (low) | FVF | | |

| | | | |
|---------------------------------------|-----------------------|------------------------|--|
| Profile Gleyed From: Not Gleyed | Available Water | Wheat: 105 mm | Final ALC Grade: 2 Main Limiting Factor(s): Workability |
| Slowly Permeable Horizon From: No SPL | | Potatoes: 85 mm | |
| Wetness Class: I | Moisture Deficit | Wheat: 89mm | |
| Wetness Grade: 2 | | Potatoes: 78mm | |
| | Moisture Balance | Wheat: +16mm | |
| | | Potatoes: +7mm | |
| | Droughtiness Grade: 2 | (Calculated to 120 cm) | Remarks: H2 Borderline gleyed. |

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|---------------------------|--|---------------------------------|------------------------------|--|--------------------|--|--|--|--|--|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 13 (ASP 148) | SLOPE AND ASPECT 3° S | | LAND USE Cereal | | Av Rainfall: 1543 mm ATO: 1045 day °C | | PARENT MATERIAL Limestone Head | | | |
| JOB NO. 17.99 | | DATE 19/5/99 | GRID REFERENCE SX84127145 | | DESCRIBED BY PW | | FC Days: 211 Climatic Grade: 1 Exposure Grade: 1 | | PSD SAMPLES TAKEN Topsoil 0-25cm :C/ZC (S19:Z45:C36%) | | | |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 24 | C | 10YR4/3 | 10% HR(V) | FDFO | F | - | - | - | - | CF | - | Sharp Smooth |
| 2 | 90+ | C | 10YR6/1,6/3 | 10%ZR,HR(V) | CDFO 10YR5/8 | C | MDCPR | FM | P | P | FVF | - | |

Profile Gleyed From: 24cm
 Slowly Permeable Horizon From: 24cm
 Wetness Class: IV
 Wetness Grade: 4

Available Water Wheat: 121 mm
 Potatoes: 99 mm
 Moisture Deficit Wheat: 101 mm
 Potatoes: 93 mm
 Moisture Balance Wheat: +20 mm
 Potatoes: +6 mm
 Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 4
 Main Limiting Factor(s): Wetness

Remarks:

| | | | | | | | | | | | | |
|---------------------------|--|----------------------------------|------------------------------|--|--------------------|--|---|--|-------------------------------------|--|--|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 14 (NrASP127) | SLOPE AND ASPECT 3° E | | LAND USE PGR | | Av Rainfall: 973 mm ATO: 1559 day °C FC Days: 199 Climatic Grade: 1 Exposure Grade: 1 | | PARENT MATERIAL Watcombe Breccia | | | |
| JOB NO. 17.99 | | DATE 25/5/99 | GRID REFERENCE SX87887175 | | DESCRIBED BY PB | | PSD SAMPLES TAKEN Topsoil 0-25cm: MCL/SCL (S50:Z29:C21%) | | | | | |

| 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|--|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 25 | MCL | 5YR4/3 | 2%>2 cm (S+V) 18%<2 cm (S+D) 20%HR | 0 | 0 | - | - | - | - | MVF | - | Gradual Smooth |
| 2 | 53 | MCL | 5YR4/4 | 1%>2 cm (S+V) 9%<2cm (S+D) 10%HR | 0 | 0 | MDFSAB | FR | G | G | MVF | - | Clear Smooth |
| 3 | 85 | MCL | 5YR4/6 | 25%HR(V) | 0 | 0 | MDM,FSAB | FR | G | G | CVF | - | Gradual Smooth |
| 4 | 108+ | MSL | 2.5YR4/4 | 1%>2cm (S+V) 27%<2cm (S+D) 28%HR | FDFO 10YR5/6 | F | WKMSAB | FR | G | G | FVF | - | - |

Profile Gleyed From: Not gleyed

Slowly Permeable Horizon From: No SPL

Wetness Class: I

Wetness Grade: 2

Available Water Wheat: 155 mm

Potatoes: 117 mm

Moisture Deficit Wheat: 101 mm

Potatoes: 93 mm

Moisture Balance Wheat: +54 mm

Potatoes: +24 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 2

Main Limiting Factor(s): Workability

Remarks:

| | | | | | | |
|---------------------------|--|--------------------------------|------------------------------|--------------------|---|-----------------------------|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 15 (ASP 13) | SLOPE AND ASPECT 0° | LAND USE PGR | Av Rainfall: 961 mm ATO: 1604 day °C FC Days: 197 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Alluvium |
| JOB NO. 17.99 | | DATE 26/5/99 | GRID REFERENCE SX85597291 | DESCRIBED BY PB | | PSD SAMPLES TAKEN 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 | Porosity | Roots: Abundance and Size | Calcareous | Horizon Boundary: Distinctness and form |
|-------------|-----------------------|---------|---------------------------|---|---|--------------|---|-------------|----------------------|----------|---------------------------|------------|---|
| 1 | 10 | C | 10YR5/2 | 1%HR(V) | CRRC | 0 | - | - | - | - | MF, VF | - | Clear Smooth |
| 2 | 26 | C | 10YR5/2 | 0 | CDFO 10YR5/6 | 0 | MDCPR | FM | P | P | CVF | - | Clear Smooth |
| 3 | 50+ | C | 2.5YR6/2 | 0 | MDMO 10YR5/8 | 0 | MDCPR | FM | P | P (low) | CF, VF* | - | |

Profile Gleyed From: 0 cm
Slowly Permeable Horizon From: 10 cm
Wetness Class: IV
Wetness Grade: 4

Available Water Wheat: 118 mm
Potatoes: 95 mm
Moisture Deficit Wheat: 101 mm
Potatoes: 93 mm
Moisture Balance Wheat: +17 mm
Potatoes: +2 mm
Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 4
Main Limiting Factor(s): Wetness

Remarks: H3 roots mainly ex ped

| | | | | | | |
|---------------------------|--|-----------------------------------|--------------------------------|-------------------------|---|--|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 16 (Nr ASP 32) | SLOPE AND ASPECT 4° N | LAND USE PGR (Track) | Av Rainfall: 969 mm ATO: 1593 day °C FC Days: 198 Climatic Grade: 1 Exposure Grade: 1 | PARENT MATERIAL Bovey Sands |
| JOB NO. 17.99 | | DATE 27.5.99 | GRID REFERENCE SX 8535 7272 | DESCRIBED BY PB | | PSD SAMPLES TAKEN TS 0-25 cm: CSL (S67:Z18:C15%) |

| 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 | CSL | 10YR4/2 | 10% HR (v) | 0 | 0 | - | - | - | - | MF,VF | - | Clear Smooth |
| 2 | 42 | SCL | 10YR4/3,5/4 | 5% HR (v) | 0 | 0 | WKCAB | FR | M | G | CF,VF | - | Clear Wavy |
| 3 | 55 | SC | 2.5Y6/3 | 0 | CDMO | 0 | WKCPR | FM | P | G(low) | FVF | - | Grad Wavy |
| 4 | 73+ | SC | 2.5Y7/3 | 0 | MDMO 10YR66 | 0 | M | FM | P | P | FVF | - | |

Profile Gleyed From: 42 cm
Slowly Permeable Horizon From: 55 cm
Wetness Class: III
Wetness Grade: 3a

Available Water Wheat: 129 mm
Potatoes: 99 mm
Moisture Deficit Wheat: 101 mm
Potatoes: 93 mm
Moisture Balance Wheat: +28 mm
Potatoes: +6 mm
Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3a
Main Limiting Factor(s): We

Remarks:

| | | | | | | |
|---------------------------|--|------------------------------------|-------------------------------|--------------------|--|---|
| SITE NAME Newton Abbot | | PROFILE NO. Pit 17 (Nr ASP 443) | SLOPE AND ASPECT 6 ° NW | LAND USE PGR | Av Rainfall: 1035 mm ATO: 1491 day °C | PARENT MATERIAL Upper Greensand |
| JOB NO. 17.99 | | DATE 27.5.99 | GRID REFERENCE SX 88276957 | DESCRIBED BY PB | FC Days: 208 Climatic Grade: 1 Exposure Grade: 1 | PSD SAMPLES TAKEN TS 0-25 cm: CSL/CSZL (S50: Z38: C12%) |

| 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 | 13 | CSL | 10YR3/1 | 10%HR (v) | 0 | 0 | - | - | - | - | MVF | - | Abrupt Smooth |
| 2 | 22 | CSL | 10YR3/1 | 12% > 2 cm (s+v) 30% < 2 cm (s+d) 42% HR | 0 | 0 | MDFSAB | FR | G | G | MVF | - | Abrupt Smooth |
| 3 | 48 | MCL | 7.5YR5/8 10YR3/1 (Topsoil mixing) | 12% > cm (s+v) 32% < 2 cm (s+d) 44% HR | 0 | 0 | MDM,FSAB | FR | G | G | CVF | - | Clear Wavy |
| 4 | 85+ | MCL | 5YR5/8 | 24% > 2 cm (s+v) 27% < 2 cm (s+d) 51% HR | 0 | 0 | WKCSAB | FR | M | G | FVF | - | |

Profile Gleyed From: Not gleyed*

Slowly Permeable
Horizon From: No SPL

Wetness Class: I

Wetness Grade: 1

Available Water Wheat: 99 mm

Potatoes: 79 mm

Moisture Deficit Wheat: 91 mm

Potatoes: 80 mm

Moisture Balance Wheat: +8 mm

Potatoes: -1 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 2 (BL 3a)

Main Limiting Factor(s): Dr, Topsoil stoniness

Remarks: Pit dug to 85 cm, probed to 105 cm.
An undeveloped peaty ironpan profile, with bleached sand grains and grey colours in H1 and iron deposition in H2 and H3, but not gleyed to ALC definition of gleying.