



Soil Profile Report

SITE DETAILS

| | |
|---------------------------|--|
| Site Location: | Wondalga 1: 25000 map sheet - 50 m north of farm gate. |
| Profile Details: | Soil Landscapes of the Tumut 1:100 000 Sheet Survey (1000965), Profile 268, collected from a batter by Mr Brian Jenkins on 13 November, 2002 |
| Map Reference: | MGA Grid Reference: Zone 55, 604518E, 6072157N. 8527 TUMUT (1:100000) map sheet. |
| Physiography: | hillslope under unknown on other lithology and used for orchards/vineyards. Slope 8.0% (measured), local relief low (30-90 m). Surface condition is hard set, profile is mod. well drained, erosion hazard is moderate, and no salting evident |
| Vegetation/Land Use: | rainfed cultivation at the site, used for orchards/vineyards, with orchards/vineyards in the general area |
| Surface Condition: | hard set when described, expected to be hard set when dry, ground cover is 100% |
| Erosion/Land Degradation: | moderate, erosion at site is none |
| Soil Hydrology: | profile is moderately permeable and mod. well drained, no free water, run on is moderate and runoff is moderate |
| Soil Type: | Red Ferrosol; (ASC 2nd Edition), Krasnozem (GSG), Gn3.11 (PPF) |
| Base of observation: | layer continues |
| Profile Field Notes: | Geology - meta gabbro |

SOIL DESCRIPTION

Layer 0

0.00 - 0.00 m

Coarse Fragments: very few (< 2%), as parent material, fine gravel (2-6 mm), gravel (6-20 mm),

Layer 1

Horizon: A1

0.00 - 0.25 m

Texture: fine sandy loam

Colour: dark reddish brown (5YR 3/4) [moist] with no recorded mottles

Structure: moderate pedality (polyhedral, 10 - 20 mm, also polyhedral, 2 - 5 mm, fabric is rough-faced peds)

Coarse Fragments: few (2-10%), as parent material, fine gravel (2-6 mm),

Pans: not evident

Segregations: not evident,

Roots: abundant (>100/10x10cm) (Root size <1 mm), abundant (>100/10x10cm) (Root size 1-2 mm),
Soil fauna: Activity is nil
Cracks/Macropores: Cracks are nil, macropores are nil
Moisture/Consistence: moderately moist, non-sticky, disruptive test result was moderately weak force, shearing test result was crumbly,
Field chemical tests: Field pH is 6.0 (Raupach),

Layer 2

Horizon: AB

0.25 - 0.40 m Texture: fine sandy clay loam
Colour: dark red (dark reddish brown) (2.5YR 3/6) [moist] with no recorded mottles
Structure: strong pedality (polyhedral, 10 - 20 mm, fabric is smooth-faced peds)
Coarse Fragments: few (2-10%), as parent material, fine gravel (2-6 mm),
Pans: not evident
Segregations: not evident,
Soil fauna: Activity is nil
Cracks/Macropores: Cracks are nil, macropores are nil
Moisture/Consistence: dry, slightly sticky, disruptive test result was moderately weak force, shearing test result was crumbly,
Field chemical tests: Field pH is 6.0 (Raupach),

Layer 3

Horizon: B2

0.40 - 1.05 m Texture: fine sandy clay loam
Colour: red (reddish brown) (2.5YR 4/6) [moist] with no recorded mottles
Structure: strong pedality (polyhedral, 10 - 20 mm, fabric is smooth-faced peds)
Coarse Fragments: few (2-10%), as parent material, fine gravel (2-6 mm), gravel (6-20 mm),
Pans: not evident
Segregations: not evident,
Soil fauna: Activity is nil
Cracks/Macropores: Cracks are nil, macropores are nil
Moisture/Consistence: dry, slightly sticky, disruptive test result was moderately weak force, shearing test result was crumbly,
Field chemical tests: Field pH is 6.0 (Raupach),

Layer 4

Horizon: B3

1.05 - 1.30 m Texture: fine sandy clay loam
Colour: red (reddish brown) (2.5YR 4/6) [moist] with no recorded mottles
Structure: moderate pedality (10 - 20 mm, fabric is smooth-faced peds)
Coarse Fragments: common (10-20%), as parent material, strongly weathered, fine gravel (2-6 mm), gravel (6-20 mm), coarse gravel (20-60 mm)
Pans: not evident
Segregations: not evident,
Soil fauna: Activity is nil
Cracks/Macropores: Cracks are nil, macropores are nil

Moisture/Consistence: dry, slightly sticky, disruptive test result was moderately weak force, shearing test result was crumbly,

Field chemical tests: Field pH is 6.0 (Raupach),

LABORATORY TESTS

Sample Code: WEL/02/2/265(1) Upper bound: 0.00 Lower bound: 0.25

| Name | Value | Unit of measure |
|--|--------------|------------------------|
| 15F1_CA [Exchangeable Ca - 0.01M (AgTU)+, no pretreatment] | 6.3 | cmol/kg |
| 15F1_K [Exchangeable K - 0.01M (AgTU)+, no pretreatment] | 0.5 | cmol/kg |
| 15F1_MG [Exchangeable Mg - 0.01M (AgTU)+, no pretreatment] | 3 | cmol/kg |
| 15F1_NA [Exchangeable Na - 0.01M (AgTU)+, no pretreatment] | 0.1 | cmol/kg |
| 15F2_AL [Exchangeable Al - 0.01 M AgTU+] | 0 | cmol/kg |
| 15F3_CEC [Cation exchange capacity - 0.01 M AgTU+] | 9.6 | cmol/kg |
| 2B1 [As received moisture content] | 3.23 | % |
| 3A1 [EC of 1:5 soil/water extract] | 0.07 | dS/m |
| 4A1 [pH of 1:5 soil/water suspension] | 5.6 | pH |
| 4B1 [pH of 1:5 soil/0.01M CaCl ₂ extract - direct, no stir] | 4.9 | pH |
| 504.02_FC [Field Capacity, SWC pressure plate] | 38.6 | |
| 504.02_PWP [Permanent Wilt Point, SWC pressure plate] | 15.8 | |
| 505.99 [Water repellence field method] | 0 | |
| 513.98 [Emerson aggregate test SCS method] | 8 | |
| 514.99 [Dispersion percentage] | 3 | % |
| 515.01 [Dry aggregate distribution] | 60 | |
| 516.01_CL [Non-dispersed PSA clay] | 8 | % |
| 516.01_CS [Non-dispersed PSA coarse sand] | 19 | % |
| 516.01_FS [Non-dispersed PSA fine sand] | 50 | % |
| 516.01_GR [Non-dispersed PSA gravel] | 0 | % |
| 516.01_SI [Non-dispersed PSA silt] | 23 | % |
| 517.99_CL [PSA clay - hydrometer] | 21 | % |
| 517.99_CS [PSA coarse sand - hydrometer] | 8 | % |
| 517.99_FS [PSA fine sand - hydrometer] | 42 | % |
| 517.99_GR [PSA gravel - hydrometer] | 0 | % |
| 517.99_SI [PSA silt - hydrometer] | 29 | % |
| 518.99 [Volume expansion] | 18 | |
| 550.02 [Unified Soil Classification System (field)] | OL | |
| 6A1 [Organic carbon - Walkley & Black] | 3.98 | % |
| 9E1 [Fluoride-extractable P (Bray 1-P) - manual colour] | 4 | mg/kg |
| 9I1 [Phosphate sorption index] | 547 | |

Sample Code: WEL/02/2/266(1) Upper bound: 0.25 Lower bound: 0.40

| Name | Value | Unit of measure |
|--|--------------|------------------------|
| 15F1_CA [Exchangeable Ca - 0.01M (AgTU)+, no pretreatment] | 4 | cmol/kg |

| | | |
|--|------|---------|
| 15F1_K [Exchangeable K - 0.01M (AgTU)+, no pretreatment] | 0.5 | cmol/kg |
| 15F1_MG [Exchangeable Mg - 0.01M (AgTU)+, no pretreatment] | 4.2 | cmol/kg |
| 15F1_NA [Exchangeable Na - 0.01M (AgTU)+, no pretreatment] | 0.3 | cmol/kg |
| 15F2_AL [Exchangeable Al - 0.01 M AgTU+] | 0.2 | cmol/kg |
| 15F3_CEC [Cation exchange capacity - 0.01 M AgTU+] | 10.7 | cmol/kg |
| 2B1 [As received moisture content] | 4.95 | % |
| 3A1 [EC of 1:5 soil/water extract] | 0.05 | dS/m |
| 4A1 [pH of 1:5 soil/water suspension] | 5.4 | pH |
| 4B1 [pH of 1:5 soil/0.01M CaCl2 extract - direct, no stir] | 4.6 | pH |
| 504.02_FC [Field Capacity, SWC pressure plate] | 39.5 | |
| 504.02_PWP [Permanent Wilt Point, SWC pressure plate] | 19.5 | |
| 505.99 [Water repellence field method] | 0 | |
| 513.98 [Emerson aggregate test SCS method] | 6 | |
| 514.99 [Dispersion percentage] | 3 | % |
| 515.01 [Dry aggregate distribution] | 53 | |
| 516.01_CL [Non-dispersed PSA clay] | 0 | % |
| 516.01_CS [Non-dispersed PSA coarse sand] | 18 | % |
| 516.01_FS [Non-dispersed PSA fine sand] | 54 | % |
| 516.01_GR [Non-dispersed PSA gravel] | 0 | % |
| 516.01_SI [Non-dispersed PSA silt] | 28 | % |
| 517.99_CL [PSA clay - hydrometer] | 59 | % |
| 517.99_CS [PSA coarse sand - hydrometer] | 5 | % |
| 517.99_FS [PSA fine sand - hydrometer] | 18 | % |
| 517.99_GR [PSA gravel - hydrometer] | 0 | % |
| 517.99_SI [PSA silt - hydrometer] | 18 | % |
| 518.99 [Volume expansion] | 19 | |
| 550.02 [Unified Soil Classification System (field)] | CL | |
| 6A1 [Organic carbon - Walkley & Black] | 1.12 | % |
| 9E1 [Fluoride-extractable P (Bray 1-P) - manual colour] | 0 | mg/kg |
| 9I1 [Phosphate sorption index] | 827 | |

Sample Code: WEL/02/2/267(1) Upper bound: 0.40 Lower bound: 1.05

| Name | Value | Unit of measure |
|--|--------------|------------------------|
| 15F1_CA [Exchangeable Ca - 0.01M (AgTU)+, no pretreatment] | 2.3 | cmol/kg |
| 15F1_K [Exchangeable K - 0.01M (AgTU)+, no pretreatment] | 0.1 | cmol/kg |
| 15F1_MG [Exchangeable Mg - 0.01M (AgTU)+, no pretreatment] | 3.8 | cmol/kg |
| 15F1_NA [Exchangeable Na - 0.01M (AgTU)+, no pretreatment] | 0.3 | cmol/kg |
| 15F2_AL [Exchangeable Al - 0.01 M AgTU+] | 3.7 | cmol/kg |
| 15F3_CEC [Cation exchange capacity - 0.01 M AgTU+] | 10.7 | cmol/kg |
| 2B1 [As received moisture content] | 5.06 | % |
| 3A1 [EC of 1:5 soil/water extract] | 0.03 | dS/m |
| 4A1 [pH of 1:5 soil/water suspension] | 5.4 | pH |

| | | |
|--|------|-------|
| 4B1 [pH of 1:5 soil/0.01M CaCl ₂ extract - direct, no stir] | 4.5 | pH |
| 504.02_FC [Field Capacity, SWC pressure plate] | 37.4 | |
| 504.02_PWP [Permanent Wilt Point, SWC pressure plate] | 21.4 | |
| 505.99 [Water repellence field method] | 0 | |
| 513.98 [Emerson aggregate test SCS method] | 6 | |
| 514.99 [Dispersion percentage] | 0 | % |
| 515.01 [Dry aggregate distribution] | 71 | |
| 516.01_CL [Non-dispersed PSA clay] | 1 | % |
| 516.01_CS [Non-dispersed PSA coarse sand] | 37 | % |
| 516.01_FS [Non-dispersed PSA fine sand] | 57 | % |
| 516.01_GR [Non-dispersed PSA gravel] | 0 | % |
| 516.01_SI [Non-dispersed PSA silt] | 5 | % |
| 517.99_CL [PSA clay - hydrometer] | 62 | % |
| 517.99_CS [PSA coarse sand - hydrometer] | 5 | % |
| 517.99_FS [PSA fine sand - hydrometer] | 16 | % |
| 517.99_GR [PSA gravel - hydrometer] | 0 | % |
| 517.99_SI [PSA silt - hydrometer] | 17 | % |
| 518.99 [Volume expansion] | 20 | |
| 550.02 [Unified Soil Classification System (field)] | CL | |
| 6A1 [Organic carbon - Walkley & Black] | 0.45 | % |
| 9E1 [Fluoride-extractable P (Bray 1-P) - manual colour] | 0 | mg/kg |
| 9I1 [Phosphate sorption index] | 834 | |

Sample Code: WEL/02/2/268(1) Upper bound: 1.05 Lower bound: 1.30

| Name | Value | Unit of measure |
|--|--------------|------------------------|
| 15F1_CA [Exchangeable Ca - 0.01M (AgTU)+, no pretreatment] | 2 | cmol/kg |
| 15F1_K [Exchangeable K - 0.01M (AgTU)+, no pretreatment] | 0.1 | cmol/kg |
| 15F1_MG [Exchangeable Mg - 0.01M (AgTU)+, no pretreatment] | 3.7 | cmol/kg |
| 15F1_NA [Exchangeable Na - 0.01M (AgTU)+, no pretreatment] | 0.3 | cmol/kg |
| 15F2_AL [Exchangeable Al - 0.01 M AgTU+] | 2.1 | cmol/kg |
| 15F3_CEC [Cation exchange capacity - 0.01 M AgTU+] | 15.6 | cmol/kg |
| 2B1 [As received moisture content] | 5.34 | % |
| 3A1 [EC of 1:5 soil/water extract] | 0.03 | dS/m |
| 4A1 [pH of 1:5 soil/water suspension] | 5.4 | pH |
| 4B1 [pH of 1:5 soil/0.01M CaCl ₂ extract - direct, no stir] | 4.5 | pH |
| 504.02_FC [Field Capacity, SWC pressure plate] | 37.3 | |
| 504.02_PWP [Permanent Wilt Point, SWC pressure plate] | 24.2 | |
| 505.99 [Water repellence field method] | 0 | |
| 513.98 [Emerson aggregate test SCS method] | 6 | |
| 514.99 [Dispersion percentage] | 0 | % |
| 515.01 [Dry aggregate distribution] | 82 | |
| 516.01_CL [Non-dispersed PSA clay] | 1 | % |

| | | |
|---|------|-------|
| 516.01_CS [Non-dispersed PSA coarse sand] | 56 | % |
| 516.01_FS [Non-dispersed PSA fine sand] | 42 | % |
| 516.01_GR [Non-dispersed PSA gravel] | 0 | % |
| 516.01_SI [Non-dispersed PSA silt] | 1 | % |
| 517.99_CL [PSA clay - hydrometer] | 68 | % |
| 517.99_CS [PSA coarse sand - hydrometer] | 3 | % |
| 517.99_FS [PSA fine sand - hydrometer] | 14 | % |
| 517.99_GR [PSA gravel - hydrometer] | 0 | % |
| 517.99_SI [PSA silt - hydrometer] | 15 | % |
| 518.99 [Volume expansion] | 19 | |
| 550.02 [Unified Soil Classification System (field)] | CL | |
| 6A1 [Organic carbon - Walkley & Black] | 0.25 | % |
| 9E1 [Fluoride-extractable P (Bray 1-P) - manual colour] | 0 | mg/kg |
| 9I1 [Phosphate sorption index] | 838 | |

For information on laboratory test data and units of measure, please see: [Soil survey standard test methods](#)

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