



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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