

SURVEY TITLE:

SITE LOCATION:

Profile No.	Paired with	Map Sheet No.	Eastings			Northings			Described By	Profile Date	Photo Taken	No. of Layers
0 0 0	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 Jan Jul 0 0	profile (1)		
1 1 1	1 1 1	1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 Feb Aug 1 1	site (2)		
2 2 2	2 2 2	2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 2 2 2 2	2 Mar Sep 2 2	both profile & site (3)	(1)	
3 3 3	3 3 3	3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 Apr Oct 3 3	Nature(s) of Exposure	(2)	
4 4 4	4 4 4	4 4 4 4	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4 May Nov 4 4	auger (1)	(3)	
5 5 5	5 5 5	5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 Jun Dec 5 5	pit (2)	(4)	
6 6 6	6 6 6	6 6 6 6	6 6 6 6 6	6 6 6 6 6	6 6 6 6 6	6 6 6 6 6	6 6 6 6 6	6 6 6 6 6	6	batter (3)	(5)	
7 7 7	7 7 7	7 7 7 7	7 7 7 7 7	7 7 7 7 7	7 7 7 7 7	7 7 7 7 7	7 7 7 7 7	7 7 7 7 7	7	gully (4)	(6)	
8 8 8	8 8 8	8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8 8 8 8 8	8	core sample (5)		
9 9 9	9 9 9	9 9 9 9	9 9 9 9 9	9 9 9 9 9	9 9 9 9 9	9 9 9 9 9	9 9 9 9 9	9 9 9 9 9	9	other (6)		

Location on 1:100 000 Map	TOPOGRAPHY	LITHOLOGY	Locational Accuracy			Identification Method
	Plan Curvature Divergent (1) Parallel (2) Convergent (3)	Choose up to three for each Solum P.M. Substrate (1) not identified (2) unconsolidated (3) gravel (4) sand (5) silt (6) clay (7) organic material (8) alluvium (9) colluvium (10) lacustrine (11) aeolian (12) marine (13) calcareous sand (14) fill (15) mud (16) till (17) sedimentary (18) shale (19) siltstone/mudstone (20) sandstone-quartz (21) sandstone-lithic (22) conglomerate	1:250,000 (3) 1:25,000 (6)	1:100,000 (4) GPS (14)	1:50,000 (5) Survey (15)	personal assessment (1) geology map (2) both assessment & map (3)
Geology Map Code	Aspect (N) (NW) (NE) (SW) (SE) (S)	Substrate (1) limestone (2) tuff (3) breccia (4) greywacke (5) arkose (6) dolomite (7) calcare (8) aeolianite (9) chert (10) jasper (11) metamorphic (12) gneiss (13) schist/phyllite (14) slate (15) hornfels (16) quartzite (17) greenstone (18) amphibolite (19) marble (20) igneous (21) coarse-acidic (22) coarse-intermediate	Solum P.M. Substrate (23) coarse-basic (24) fine-acidic (25) fine-intermediate (26) fine-basic (27) serpentinite (28) gabbro (29) dolerite (30) diorite (31) syenite (32) granodiorite (33) adamellite (34) granite (35) aplite (36) quartz porphyry (37) basalt (38) andesite (39) trachyte (40) rhyolite (41) obsidian (42) scoria (43) ash (44) agglomerate (45) other		Rock Outcrop nil (1) <2% (2) 2 - 10% (3) 10 - 20% (4) 20 - 50% (5) >50% (6)	
Soil Map Code	Slope Percent (0) (0) (1) (1) (1) (2) (2) (3) (3) (4) (4) (5) (5)	Substrate (18) sedimentary (19) shale (20) siltstone/mudstone (21) sandstone-quartz (22) sandstone-lithic (23) conglomerate			Substrate Strength weak (1) moderately strong (2) strong (3)	
Site Morphology flat (5) crest (6) hillock (7) ridge (8) upper slope (9) midslope (10) simple slope (11) lower slope (12) open depression (13) closed depression (14)	Position in Landform Element Upper (1) Mid (2) Lower (3)	LAND USE (1) national/state parks (2) timber/scrub/unused (3) logged/native forest (4) hardwood plantation (5) softwood plantation (6) volun./native pasture (7) improved pasture (8) cropping (9) orchard/vineyard (10) vegetables/flowers (11) urban (12) industrial (13) quarry/mining (14) other	HYDROLOGY Site Exposure Run-on Run-off (1) none (1) (2) above soil (2) (3) below soil (3) (4) moderate (4) (5) high (4) (5) very high (5)	Spacing of discontinuities >3m solid, virtually unjointed (S) 1 - 3m massive, few joints (M) 300mm - 1m blocky, moderately jointed (B) 50 - 300mm fractured, intensely jointed (F) <50mm crushed or shattered (C)	Weathering & Alteration ferruginised (1) kaolinised (2) silicified (3) calcified (4) fresh rock (5) faintly weathered rock (6) slightly weathered rock (7) mod. weathered rock (8) highly weathered rock (9) structured saprolite (10) massive saprolite (11) other (12)	
Slope Morphology waxing (1) waning (2) maximal (3) minimal (4)	Vegetation Community unknown (1) rainforest (2) wet sclerophyll forest (3) dry sclerophyll forest (4) woodland grass u'storey (5) woodland shrub u'storey (6) tall shrubland (7) low shrubland (8) heath (9) grassland/herbland (10) swamp complex (11) littoral complex (12) no vegetation (13)	PROFILE ADDENDUM (A) (A) (A) (A) (0) (0) (B) (B) (B) (B) (1) (1) (C) (C) (C) (C) (2) (2) (D) (D) (D) (D) (3) (3) (E) (E) (E) (E) (4) (4) (F) (F) (F) (F) (5) (5) (G) (G) (G) (G) (6) (6) (H) (H) (H) (H) (7) (7) (I) (I) (I) (I) (8) (8) (J) (J) (J) (J) (9) (9)	Profile Drainage very poorly drained (1) poorly drained (2) imperfectly drained (3) mod. well drained (4) well drained (5) rapidly drained (6)	Growth Forms - Choose up to 4 tree (1) tree mallee (2) shrub (3) mallee shrub (4) heath shrub (5) chenopod shrub (6) hummock grass (7) tussock grass (8) sod grass (9) sedge (10) rush (11) forb (12) fern/cycad (13) moss (14) lichen (15) liverwort (16) vine (17)	Current Condition(s) gravelly (1) cracked (2) self-mulched (3) loose (4) soft (5) firm (6) hardset (7) surface crust (8) trampled (9) poached (10) recently cultivated (11) water repellent (12) other disturbance (13)	
Landform Element (Choose only one) alcove (43) lake (55) backplain (31) landslide (20) bank (25) levee (8) bar (6) lunette (13) beach (26) maar (53) beach ridge (7) mound (15) bench (19) ox-bow (57) berm (29) pan/playa (56) blow-out (59) pediment (22) channel bench (33) pit (60) cirque (50) plain (30) cliff (5) prior stream (9) cone (3) rock flat (34) crater (51) rock platform (35) cut face (28) scald (36) cut-over surface (39) scarp (18) dam (16) scree (24) drainage depression (41) scroll (10) dune (11) sink hole/doline (52) embankment (14) stream channel (46) estuary (44) streambed (45) fan (27) summit surface (2) fill top (40) swale (47) flood-out (32) swamp (58) footslope (21) talus (23) foredune (12) tidal creek (48) gully (42) tidal flat (37) hillcrest (1) tor (4) hillslope (17) trench (49) lagoon (54) valley flat (38)	SALINITY no salting evident (1) salting evident (2) strongly evident (3)	EROSION HAZARD slight (1) moderate (2) high (3) very high (4) extreme (5)	Soil Erodibility 1 2 3 4 5 6 low (1) (1) (1) (1) (1) (1) moderate (2) (2) (2) (2) (2) (2) high (3) (3) (3) (3) (3) (3)	Upper Stratum Height < 0.25m (1) 0.25 - < 0.5m (2) 0.5 - < 1m (3) 1 - < 3m (4) 3 - < 6m (5) 6 - < 12m (6) 12 - < 20m (7) 20 - < 35m (8) > 35m (9)	Site Disturbance(s) natural disturbance (1) no effect, disturbance (2) limited clearing (3) extensive clearing (4) cleared, no cultivation (5) occasional cultivation (6) rainfed cultivation (7) irrigated cultivation (8) highly disturbed (9)	
GROUND COVER % (1) (1) (1) (2) (2) (3) (3) (4) (4) (5) (5) (6) (6) (7) (7) (8) (8) (9) (9)						
SITE FIELD NOTES						

NSW SOIL DATA SYSTEM

CRA OBSERVATIONS CARD

Example only do not use to record data

DO NOT WRITE IN THIS AREA

Grid of empty boxes for writing.

LAYER STATUS:

LAYER FIELD NOTES / DISTINGUISHING FEATURES / SOIL MATERIAL NAME

1	Lower	Horizon	Colour	Permeab.	1
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	
	1 1 1 1	3 B F 2 2	red 2		
	2 2 2 2	4 C O 3 3	orange 3	slow 2	
	3 3 3 3	AB P	yellow 4		
	4 4 4 4	AC R	brown 5	mod 3	
	5 5 5 5	BC	pale 6		
	6 6 6 6	Suffix	grey 7	rapid 4	
	7 7 7 7	b c d e f	gley 8		
	8 8 8 8	g h i k m n p q			
9 9 9 9	r s t w x y z ?				

2	Lower	Horizon	Colour	Permeab.	3
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	
	1 1 1 1	3 B F 2 2	red 2		
	2 2 2 2	4 C O 3 3	orange 3	slow 2	
	3 3 3 3	AB P	yellow 4		
	4 4 4 4	AC R	brown 5	mod 3	
	5 5 5 5	BC	pale 6		
	6 6 6 6	Suffix	grey 7	rapid 4	
	7 7 7 7	b c d e f	gley 8		
	8 8 8 8	g h i k m n p q			
9 9 9 9	r s t w x y z ?				

3	Lower	Horizon	Colour	Permeab.	4
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	
	1 1 1 1	3 B F 2 2	red 2		
	2 2 2 2	4 C O 3 3	orange 3	slow 2	
	3 3 3 3	AB P	yellow 4		
	4 4 4 4	AC R	brown 5	mod 3	
	5 5 5 5	BC	pale 6		
	6 6 6 6	Suffix	grey 7	rapid 4	
	7 7 7 7	b c d e f	gley 8		
	8 8 8 8	g h i k m n p q			
9 9 9 9	r s t w x y z ?				

4	Lower	Horizon	Colour	Permeab.	5
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	
	1 1 1 1	3 B F 2 2	red 2		
	2 2 2 2	4 C O 3 3	orange 3	slow 2	
	3 3 3 3	AB P	yellow 4		
	4 4 4 4	AC R	brown 5	mod 3	
	5 5 5 5	BC	pale 6		
	6 6 6 6	Suffix	grey 7	rapid 4	
	7 7 7 7	b c d e f	gley 8		
	8 8 8 8	g h i k m n p q			
9 9 9 9	r s t w x y z ?				

5	Lower	Horizon	Colour	Permeab.	MOTTLES	FIELD TEXTURE	STRUCTURE
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	1 2 3 4 5 6	Texture Grade 1 2 3 4 5 6	Grade of Pedality 1 2 3 4 5 6
	1 1 1 1	3 B F 2 2	red 2		1 1 1 1 1 1	sand 1 1 1 1 1 1	single-grained 1 1 1 1 1 1
	2 2 2 2	4 C O 3 3	orange 3	slow 2	2 2 2 2 2 2	loamy sand 2 2 2 2 2 2	massive 2 2 2 2 2 2
	3 3 3 3	AB P	yellow 4		3 3 3 3 3 3	clayey sand 3 3 3 3 3 3	weak pedality 3 3 3 3 3 3
	4 4 4 4	AC R	brown 5	mod 3	4 4 4 4 4 4	sandy loam 4 4 4 4 4 4	moderate pedality 4 4 4 4 4 4
	5 5 5 5	BC	pale 6		5 5 5 5 5 5	loam 5 5 5 5 5 5	strong pedality 5 5 5 5 5 5
	6 6 6 6	Suffix	grey 7	rapid 4	6 6 6 6 6 6	loam 6 6 6 6 6 6	
	7 7 7 7	b c d e f	gley 8		7 7 7 7 7 7	silty loam 7 7 7 7 7 7	Dominant Ped Shape
	8 8 8 8	g h i k m n p q			8 8 8 8 8 8	sandy clay loam 8 8 8 8 8 8	1 2 3 4 5 6
9 9 9 9	r s t w x y z ?			9 9 9 9 9 9	clay loam 9 9 9 9 9 9	platy 1 1 1 1 1 1	

6	Lower	Horizon	Colour	Permeab.	FRAGMENT AMOUNT	FIELD TEXTURE	STRUCTURE
	0 0 0 0	2 A D 1 1	dark 1	v.slow 1	0 1	Texture Grade 1 2 3 4 5 6	Grade of Pedality 1 2 3 4 5 6
	1 1 1 1	3 B F 2 2	red 2		<2% 2	loamy sand 2 2 2 2 2 2	single-grained 2 2 2 2 2 2
	2 2 2 2	4 C O 3 3	orange 3	slow 2	2 - 10% 3	clayey sand 3 3 3 3 3 3	massive 3 3 3 3 3 3
	3 3 3 3	AB P	yellow 4		10 - 20% 4	sandy loam 4 4 4 4 4 4	weak pedality 4 4 4 4 4 4
	4 4 4 4	AC R	brown 5	mod 3	20 - 50% 5	loam 5 5 5 5 5 5	moderate pedality 5 5 5 5 5 5
	5 5 5 5	BC	pale 6		0 1	loam 6 6 6 6 6 6	strong pedality 6 6 6 6 6 6
	6 6 6 6	Suffix	grey 7	rapid 4	<2% 2	silty loam 7 7 7 7 7 7	
	7 7 7 7	b c d e f	gley 8		2 - 5% 3	sandy clay loam 8 8 8 8 8 8	Dominant Ped Shape
	8 8 8 8	g h i k m n p q			5 - 10% 3.5	clay loam 9 9 9 9 9 9	1 2 3 4 5 6
9 9 9 9	r s t w x y z ?			10 - 15% 4	clay loam sandy 10 10 10 10 10 10	platy 1 1 1 1 1 1	

SUBSTRATE	Lower	Base of Observation	EFFECTIVE ROOTING DEPTH (M)	SOIL WATER STATUS	FIELD TEXTURE	STRUCTURE
	0 0 0 0	layer continues 1	0 0 0 0	1 2 3 4 5 6	Texture Grade 1 2 3 4 5 6	Grade of Pedality 1 2 3 4 5 6
	1 1 1 1	soil continues 2	1 1 1 1	dry 1 1 1 1 1 1	coarse 1 1 1 1 1 1	single-grained 2 2 2 2 2 2
	2 2 2 2	equipment refusal 3	2 2 2 2	mod. moist 2 2 2 2 2 2	fine 2 2 2 2 2 2	massive 3 3 3 3 3 3
	3 3 3 3	bedrock reached 4	3 3 3 3	moist 3 3 3 3 3 3	Clay Fraction	weak pedality 4 4 4 4 4 4
	4 4 4 4		4 4 4 4	wet 4 4 4 4 4 4	light 1 1 1 1 1 1	moderate pedality 5 5 5 5 5 5
	5 5 5 5		5 5 5 5		light medium 2 2 2 2 2 2	strong pedality 6 6 6 6 6 6
	6 6 6 6		6 6 6 6		medium 3 3 3 3 3 3	
	7 7 7 7		7 7 7 7		medium heavy 4 4 4 4 4 4	Dominant Ped Size
	8 8 8 8		8 8 8 8		heavy 5 5 5 5 5 5	1 2 3 4 5 6
9 9 9 9		9 9 9 9		Organic Fraction	<2mm 1 1 1 1 1 1	

Example only
do not use to record data

Aust Class	G.S.G.
O	A
	B B
	C C
SO	D D
	E E E
GG	G G G
	H H H
	K K K
SG	L L
	M M
	P P P
FAMILY	R R
	S S S
	T Z
	W
	X
	Y
C	affinity with

LAYER BOUNDARY						
Distinctiveness	1	2	3	4	5	6
not evident	1	1	1	1	1	1
sharp (<5 mm)	2	2	2	2	2	2
abrupt (5-20 mm)	3	3	3	3	3	3
clear (20-50 mm)	4	4	4	4	4	4
gradual (50-100 mm)	5	5	5	5	5	5
diffuse (>100 mm)	6	6	6	6	6	6
Shape	1	2	3	4	5	6
smooth	1	1	1	1	1	1
wavy	2	2	2	2	2	2
irregular	3	3	3	3	3	3
tongued	4	4	4	4	4	4
broken	5	5	5	5	5	5

FRAGMENT AMOUNT						
Abundance	1	2	3	4	5	6
0%	1	1	1	1	1	1
<2%	2	2	2	2	2	2
2 - 10%	3	3	3	3	3	3
10 - 20%	4	4	4	4	4	4
20 - 50%	5	5	5	5	5	5
0 1	20 - 35%	5				
<2% 2	35 - 50%	5.5				
2 - 5% 3	50 - 75%	6				
5 - 10% 3.5	75 - 90%	6.5				
10 - 15% 4	> 90%	7				
15 - 20% 4.5						

SOIL WATER STATUS						
1	2	3	4	5	6	
dry 1 1 1 1 1 1						
mod. moist 2 2 2 2 2 2						
moist 3 3 3 3 3 3						
wet 4 4 4 4 4 4						
SAMPLE TAKEN						
1	2	3	4	5	6	
disturbed 3 3 3 3 3 3						
undisturbed 4 4 4 4 4 4						
bulked 6 6 6 6 6 6						
bulk density 7 7 7 7 7 7						

FIELD TEXTURE						
Texture Grade	1	2	3	4	5	6
sand 1 1 1 1 1 1						
loamy sand 2 2 2 2 2 2						
clayey sand 3 3 3 3 3 3						
sandy loam 4 4 4 4 4 4						
loam 5 5 5 5 5 5						
silty loam 6 6 6 6 6 6						
sandy clay loam 7 7 7 7 7 7						
clay loam 8 8 8 8 8 8						
clay loam sandy 9 9 9 9 9 9						
silty clay loam 10 10 10 10 10 10						
sandy clay 11 11 11 11 11 11						
silty clay 12 12 12 12 12 12						
clay 13 13 13 13 13 13						
fibric peat 14 14 14 14 14 14						
hemic peat 15 15 15 15 15 15						
sapric peat 16 16 16 16 16 16						
sandy peat 17 17 17 17 17 17						
loamy peat 18 18 18 18 18 18						
clayey peat 19 19 19 19 19 19						
granular peat 20 20 20 20 20 20						

STRUCTURE						
Grade of Pedality	1	2	3	4	5	6
single-grained 1 1 1 1 1 1						
massive 2 2 2 2 2 2						
weak pedality 3 3 3 3 3 3						
moderate pedality 4 4 4 4 4 4						
strong pedality 5 5 5 5 5 5						
Dominant Ped Shape						
1	2	3	4	5	6	
platy 1 1 1 1 1 1						
lenticular 2 2 2 2 2 2						
prismatic 3 3 3 3 3 3						
columnar 4 4 4 4 4 4						
angular blocky 5 5 5 5 5 5						
sub-ang. blocky 6 6 6 6 6 6						
polyhedral 7 7 7 7 7 7						
granular 8 8 8 8 8 8						
crumb 9 9 9 9 9 9						
round 10 10 10 10 10 10						
Dominant Ped Size						
1	2	3	4	5	6	
<2mm 1 1 1 1 1 1						
2 - 5mm 2 2 2 2 2 2						
5 - 10mm 3 3 3 3 3 3						
10 - 20mm 4 4 4 4 4 4						
20 - 50mm 5 5 5 5 5 5						
50 - 100mm 6 6 6 6 6 6						
100 - 200mm 7 7 7 7 7 7						
200 - 500mm 8 8 8 8 8 8						
>500mm 9 9 9 9 9 9						
FABRIC						
1	2	3	4	5	6	
sandy 1 1 1 1 1 1						
earthy 2 2 2 2 2 2						
rough-faced peds 3 3 3 3 3 3						
smooth-faced peds 4 4 4 4 4 4						