

1	LAYER STATUS		
	Lower	Horizon	Suffix (2)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	2 (A D) 1 1 3 (B F) 2 2 4 (C O) 3 3 AB P AC R BC	b k t c m w d n x e p y f q z i r ? g s h Impeding 1

2	LAYER STATUS		
	Lower	Horizon	Suffix (2)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	2 (A D) 1 1 3 (B F) 2 2 4 (C O) 3 3 AB P AC R BC	b k t c m w d n x e p y f q z i r ? g s h Impeding 1

3	LAYER STATUS		
	Lower	Horizon	Suffix (2)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	2 (A D) 1 1 3 (B F) 2 2 4 (C O) 3 3 AB P AC R BC	b k t c m w d n x e p y f q z i r ? g s h Impeding 1

4	LAYER STATUS		
	Lower	Horizon	Suffix (2)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	2 (A D) 1 1 3 (B F) 2 2 4 (C O) 3 3 AB P AC R BC	b k t c m w d n x e p y f q z i r ? g s h Impeding 1

5	LAYER STATUS		
	Lower	Horizon	Suffix (2)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	2 (A D) 1 1 3 (B F) 2 2 4 (C O) 3 3 AB P AC R BC	b k t c m w d n x e p y f q z i r ? g s h Impeding 1

SUBSTRATE	Upper	Base of Observation (1)
	0 0 • 0 0 1 1 • 1 1 2 2 • 2 2 3 3 • 3 3 4 4 • 4 4 5 5 • 5 5 6 6 • 6 6 7 7 • 7 7 8 8 • 8 8 9 9 • 9 9	layer continues (1) soil continues (2) equipment refusal (3) bedrock reached (4)

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

SAMPLE TAKEN (3)					
	1	2	3	4	5
bulked	6	6	6	6	6
disturbed	3	3	3	3	3
unspecified	2	2	2	2	2
undisturbed	4	4	4	4	4
none	1	1	1	1	1

COLOUR (Munsell, 1994)			
Moist Munsell	Dry Munsell	General (1+1)	
2.5 R 8G 1.7 0	2.5 R 8G 1.7 0	black (1)	
5 YR 8 2 1	5 YR 8 2 1	red (2)	
7.5 Y PB 2.5 2	7.5 Y PB 2.5 2	orange (3)	
10 N P 3 3	10 N P 3 3	yellow (4)	
6Y 8P 4 4	6Y 8P 4 4	brown (5)	
6 5 5	6 5 5	pale (6)	
6 6 6	6 6 6	grey (7)	
7 7 7	7 7 7	gley (8)	
8 8 8	8 8 8	light (1)	
		dark (2)	

Moist Munsell	Dry Munsell	General (1+1)	
2.5 R 8G 1.7 0	2.5 R 8G 1.7 0	black (1)	
5 YR 8 2 1	5 YR 8 2 1	red (2)	
7.5 Y PB 2.5 2	7.5 Y PB 2.5 2	orange (3)	
10 N P 3 3	10 N P 3 3	yellow (4)	
6Y 8P 4 4	6Y 8P 4 4	brown (5)	
6 5 5	6 5 5	pale (6)	
6 6 6	6 6 6	grey (7)	
7 7 7	7 7 7	gley (8)	
8 8 8	8 8 8	light (1)	
		dark (2)	

Moist Munsell	Dry Munsell	General (1+1)	
2.5 R 8G 1.7 0	2.5 R 8G 1.7 0	black (1)	
5 YR 8 2 1	5 YR 8 2 1	red (2)	
7.5 Y PB 2.5 2	7.5 Y PB 2.5 2	orange (3)	
10 N P 3 3	10 N P 3 3	yellow (4)	
6Y 8P 4 4	6Y 8P 4 4	brown (5)	
6 5 5	6 5 5	pale (6)	
6 6 6	6 6 6	grey (7)	
7 7 7	7 7 7	gley (8)	
8 8 8	8 8 8	light (1)	
		dark (2)	

Moist Munsell	Dry Munsell	General (1+1)	
2.5 R 8G 1.7 0	2.5 R 8G 1.7 0	black (1)	
5 YR 8 2 1	5 YR 8 2 1	red (2)	
7.5 Y PB 2.5 2	7.5 Y PB 2.5 2	orange (3)	
10 N P 3 3	10 N P 3 3	yellow (4)	
6Y 8P 4 4	6Y 8P 4 4	brown (5)	
6 5 5	6 5 5	pale (6)	
6 6 6	6 6 6	grey (7)	
7 7 7	7 7 7	gley (8)	
8 8 8	8 8 8	light (1)	
		dark (2)	

Moist Munsell	Dry Munsell	General (1+1)	
2.5 R 8G 1.7 0	2.5 R 8G 1.7 0	black (1)	
5 YR 8 2 1	5 YR 8 2 1	red (2)	
7.5 Y PB 2.5 2	7.5 Y PB 2.5 2	orange (3)	
10 N P 3 3	10 N P 3 3	yellow (4)	
6Y 8P 4 4	6Y 8P 4 4	brown (5)	
6 5 5	6 5 5	pale (6)	
6 6 6	6 6 6	grey (7)	
7 7 7	7 7 7	gley (8)	
8 8 8	8 8 8	light (1)	
		dark (2)	

CHEMICAL TESTS					
pH Testing Method (1)					
Raupach (1)		test strip (3)		pH meter (2)	
pH (1 per layer)					
1	2	3	4	5	
0 • 0	0 • 0	0 • 0	0 • 0	0 • 0	0 • 0
1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1
2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2
3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3
4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4
5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5
6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	6 6 • 6 6
7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	7 7 • 7 7
8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8
9 9 • 9 9	9 9 • 9 9	9 9 • 9 9	9 9 • 9 9	9 9 • 9 9	9 9 • 9 9
AgNO ₃ (1)					
no precipitate		1 1 1 1 1		1 1 1 1 1	
light precipitate		2 2 2 2 2		2 2 2 2 2	
consp. white precip.		3 3 3 3 3		3 3 3 3 3	
HCl (1)					
no effervescence		1 1 1 1 1		1 1 1 1 1	
audible/slight efferv.		2 2 2 2 2		2 2 2 2 2	
strong effervescence		3 3 3 3 3		3 3 3 3 3	
H ₂ O ₂ (1)					
no effervescence		1 1 1 1 1		1 1 1 1 1	
effervescence		2 2 2 2 2		2 2 2 2 2	

MOTTLES										
Dominant (1)					Sub-dominant (1)					
1	2	3	4	5	Colour			1 2 3 4 5		
1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	dark			1 1 • 1 1		
2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	red			2 2 • 2 2		
3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	orange			3 3 • 3 3		
4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	yellow			4 4 • 4 4		
5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	brown			5 5 • 5 5		
6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	6 6 • 6 6	pale			6 6 • 6 6		
7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	7 7 • 7 7	grey			7 7 • 7 7		
8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	gley			8 8 • 8 8		

Contrast										
1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	faint			1 1 • 1 1		
2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	2 2 • 2 2	distinct			2 2 • 2 2		
3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	prominent			3 3 • 3 3		

Abundance										
1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	1 1 • 1 1	0%			1 1 • 1 1		
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		
3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	3 3 • 3 3	2 - 10%			3 3 • 3 3		
4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	4 4 • 4 4	10 - 20%			4 4 • 4 4		
5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	5 5 • 5 5	20 - 50%			5 5 • 5 5		

TEXTURE					
Texture Grade (1)	1	2	3	4	5
sand	1	1	1	1	1
loamy sand	2	2	2	2	2
clayey sand	3	3	3	3	3
sandy loam	4	4	4	4	4
loam	5	5	5	5	5
silty loam	6	6	6	6	6
sandy clay loam	7	7	7	7	7
clay loam	8	8	8	8	8
clay loam sandy	9	9	9	9	9
silty clay loam	10	10	10	10	10
sandy clay	11	11	11	11	11
silty clay	12	12	12	12	12
clay	13	13	13	13	13
fibric peat	14	14	14	14	14
hemic peat	15	15	15	15	15
sapric peat	16	16	16	16	16

Sand Fraction (1)					
coarse	1	1	1	1	1
fine	2	2	2	2	2

Clay Fraction (1)					
light	1	1	1	1	1
light medium	2	2	2	2	2
medium	3	3	3	3	3
medium heavy	4	4	4	4	4
heavy	5	5	5	5	5

PANS					
Pan Type (1)	1	2	3	4	5
not evident	1	1	1	1	1
calcrete	2	2	2	2	2
silcrete	3	3	3	3	3
earthy pan	4	4	4	4	4
duripan	5	5	5	5	5
fragipan	6	6	6	6	6
densipan	7	7	7	7	7
red-brown hardpan	8	8	8	8	8
thin ironpan	9	9	9	9	9
ferricrete	10	10	10	10	10
alcrete	11	11	11	11	11
manganiferous	12	12	12	12	12
ortstein	13	13	13	13	13
organic pan	14	14	14	14	14
cultivated	15	15	15	15	15
other	16	16	16	16	16

Pan Cementation (1)					
uncemented	1	1	1	1	1
weakly cemented	2	2	2	2	2
moderately cemented	3	3	3	3	3
strongly cemented	4	4	4	4	4
very strongly cemented	5	5	5	5	5

Pan Continuity (1)					
continuous	1	1	1	1	1
discontinuous	2	2	2	2	2
broken	3	3	3	3	3

Pan Structure (1)					
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1
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fine gravel
coarse gravel
cobble
stones


STRUCTURE									
Grade of Pedality	1	2	3	4	5 (1 per layer)				
single-grained	①	①	①	①	①				
massive	②	②	②	②	②				
weak pedality	③	③	③	③	③				
moderate pedality	④	④	④	④	④				
strong pedality	⑤	⑤	⑤	⑤	⑤				
Ped Shape									
Dominant (1 each per layer)			Sub-dominant						
1	2	3	4	5	1	2	3	4	5
①	①	①	①	①	platy	①	①	①	①
②	②	②	②	②	lenticular	②	②	②	②
③	③	③	③	③	prismatic	③	③	③	③
④	④	④	④	④	columnar	④	④	④	④
⑤	⑤	⑤	⑤	⑤	angular blocky	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	sub-ang. blocky	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	polyhedral	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	granular	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	crumb	⑨	⑨	⑨	⑨
⑩	⑩	⑩	⑩	⑩	round	⑩	⑩	⑩	⑩
Ped Size									
Dominant (1 each per layer)			Sub-dominant						
1	2	3	4	5	1	2	3	4	5
①	①	①	①	①	<1 mm	①	①	①	①
②	②	②	②	②	1 - 2 mm	②	②	②	②
③	③	③	③	③	2 - 5 mm	③	③	③	③
④	④	④	④	④	5 - 10 mm	④	④	④	④
⑤	⑤	⑤	⑤	⑤	10 - 20 mm	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	20 - 50 mm	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	50 - 100 mm	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	100 - 200 mm	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	200 - 500 mm	⑨	⑨	⑨	⑨
⑩	⑩	⑩	⑩	⑩	> 500 mm	⑩	⑩	⑩	⑩

FABRIC					
(1 per layer)	1	2	3	4	5
sandy	①	①	①	①	①
earthy	②	②	②	②	②
rough-faced peds	③	③	③	③	③
smooth-faced peds	④	④	④	④	④


COARSE FRAGMENTS										
Fragment Type (2)	Surface	1	2	3	4	5				
not evident	①	①	①	①	①	①				
not identified	②	②	②	②	②	②				
as substrate	③	③	③	③	③	③				
as rock outcrop	④	④	④	④	④	④				
as parent material	⑤	⑤	⑤	⑤	⑤	⑤				
quartz	⑥	⑥	⑥	⑥	⑥	⑥				
feldspar	⑦	⑦	⑦	⑦	⑦	⑦				
silcrete	⑧	⑧	⑧	⑧	⑧	⑧				
ironstone	⑨	⑨	⑨	⑨	⑨	⑨				
bauxite	⑩	⑩	⑩	⑩	⑩	⑩				
shells	⑪	⑪	⑪	⑪	⑪	⑪				
charcoal	⑫	⑫	⑫	⑫	⑫	⑫				
pumice	⑬	⑬	⑬	⑬	⑬	⑬				
opalised wood	⑭	⑭	⑭	⑭	⑭	⑭				
other	⑮	⑮	⑮	⑮	⑮	⑮				

PED COATING					
Coating Amount (1)	1	2	3	4	5
none	①	①	①	①	①
few (<10%)	②	②	②	②	②
common (10-50%)	③	③	③	③	③
many (>50%)	④	④	④	④	④


Platy




Prismatic



Angular blocky



Polyhedral



CONSISTENCE										
Disruptive Test					Texture Modifier (1)					
loose	①	①	①	①	①	①	①	①	①	①
very weak force	②	②	②	②	②	②	②	②	②	②
mod. weak force	③	③	③	③	③	③	③	③	③	③
mod. firm force	④	④	④	④	④	④	④	④	④	④
very firm force	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
mod. strong force	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥
Shearing Test (1 per layer)					Stickiness (1 per layer)					
no change	①	①	①	①	①	①	①	①	①	①
brittle	②	②	②	②	②	②	②	②	②	②
crumbly	③	③	③	③	③	③	③	③	③	③
labile	④	④	④	④	④	④	④	④	④	④
plastic	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤

Fragment Amount (1 per type)										
	1	2	3	4	5					
none	①	①	①	①	①					
very few (<2%)	②	②	②	②	②					
few (2-10%)	③	③	③	③	③					
common (10-20%)	④	④	④	④	④					
many (20-50%)	⑤	⑤	⑤	⑤	⑤					
abundant (50-90%)	⑥	⑥	⑥	⑥	⑥					
very abundant (>90%)	⑦	⑦	⑦	⑦	⑦					

Fragment Distribution (1 per type)										
	1	2	3	4	5					
stratified	①	①	①	①	①					
dispersed	②	②	②	②	②					


Fragment Orientation (1 per type)										
	1	2	3	4	5					
reoriented	①	①	①	①	①					
undisturbed	②	②	②	②	②					

Fragment Weathering (1 per type)										
	1	2	3	4	5					
non-weathered	①	①	①	①	①					
weakly weathered	②	②	②	②	②					
strongly weathered	③	③	③	③	③					


Fragment Shape (1 per type)										
	1	2	3	4	5					
rounded	①	①	①	①	①					
rounded tabular	②	②	②	②	②					
rounded platy	③	③	③	③	③					
sub-rounded	④	④	④	④	④					
sub-rounded tabular	⑤	⑤	⑤	⑤	⑤					
sub-rounded platy	⑥	⑥	⑥	⑥	⑥					
sub-angular	⑦	⑦	⑦	⑦	⑦					
sub-angular tabular	⑧	⑧	⑧	⑧	⑧					
sub-angular platy	⑨	⑨	⑨	⑨	⑨					
angular	⑩	⑩	⑩	⑩	⑩					
angular tabular	⑪	⑪	⑪	⑪	⑪					
angular platy	⑫	⑫	⑫	⑫	⑫					

CRACKS & MACROPORES							
Crack Width (1 per size)	Amount	1	2	3	4	5	
<5 mm	none	①	①	①	①	①	
	evident	②	②	②	②	②	
5-10 mm	none	①	①	①	①	①	
	evident	②	②	②	②	②	
10-20 mm	none	①	①	①	①	①	
	evident	②	②	②	②	②	
20-50 mm	none	①	①	①	①	①	
	evident	②	②	②	②	②	
>50 mm	none	①	①	①	①	①	
	evident	②	②	②	②	②	
Macropore (1 per size)		Amount	1	2	3	4	5
<1 mm	none	①	①	①	①	①	
	few (<1/10 x10 mm)	②	②	②	②	②	
	common (1-5/10 x10 mm)	③	③	③	③	③	
	many (>5/10 x10 mm)	④	④	④	④	④	
1-2 mm	none	①	①	①	①	①	
	few (<1/10 x10 mm)	②	②	②	②	②	
	common (1-5/10 x10 mm)	③	③	③	③	③	
	many (>5/10 x10 mm)	④	④	④	④	④	
2-5 mm	none	①	①	①	①	①	
	few (<1/10 x10 mm)	②	②	②	②	②	
	common (1-5/10 x10 mm)	③	③	③	③	③	
	many (>5/10 x10 mm)	④	④	④	④	④	
>5 mm	none	①	①	①	①	①	
	few (<1/10 x10 mm)	②	②	②	②	②	
	common (1-5/10 x10 mm)	③	③	③	③	③	
	many (>5/10 x10 mm)	④	④	④	④	④	

Sub-angular blocky



Granular / Round



Fragment Size (1 per type)										
	1	2	3	4	5					
fine gravel (2-6 mm)	①	①	①	①	①					
gravel (6-20 mm)	②	②	②	②	②					
coarse gravel (20-60 mm)	③	③	③	③	③					
cobbles (60-200 mm)	④	④	④	④	④					
stones (200-600 mm)	⑤	⑤	⑤	⑤	⑤					
boulders (>600 mm)	⑥	⑥	⑥	⑥	⑥					

SOIL WATER STATUS					
(1 per layer)	1	2	3	4	5
dry	①	①	①	①	①
moderately moist	②	②	②	②	②
moist	③	③	③	③	③
wet	④	④	④	④	④

SEGREGATIONS					
Segregation Type (2)	1	2	3	4	5
not evident	①	①	①	①	①
calcareous	②	②	②	②	②
gypseous	③	③	③	③	③
manganiferous	④	④	④	④	④
ferruginous	⑤	⑤	⑤	⑤	⑤
ferromanganiferous	⑥	⑥	⑥	⑥	⑥
organic	⑦	⑦	⑦	⑦	⑦
not identified	⑧	⑧	⑧	⑧	⑧
other	⑨	⑨	⑨	⑨	⑨

ERODIBILITY TESTS					
(1 per layer)	1	2	3	4	5
no change	①	①	①	①	①
aggregates slake	②	②	②	②	②
aggregates disperse	③	③	③	③	③
worked bolus disperses	④	④	④	④	④

Segregation Amount (1 per type)					
	1	2	3	4	5
none	①	①	①	①	①
very few (<2%)	②	②	②	②	②
few (2-10%)	③	③	③	③	③
common (10-20%)	④	④	④	④	④
many (20-50%)	⑤	⑤	⑤	⑤	⑤
abundant (>50%)	⑥	⑥			

