



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

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

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

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

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

TOP OF SUBSTRATE	Upper	Base of Observation	
	0 0 • 0 0	layer continues	1
	1 1 • 1 1	soil continues	2
	2 2 • 2 2	equipment refusal	3
	3 3 • 3 3	bedrock reached	4
	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 BOUNDARY					
Distinctiveness	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					
smooth	1	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					
	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			
Moist Munsell	Dry Munsell		
2.5 R 6G 17 0	2.5 R 6G 17 0		
5 YR 8 2 1	5 YR 8 2 1		
7.5 Y 10 2 2	7.5 Y 10 2 2		
10 N 5 3 3	10 N 5 3 3		
GY 8 4 4	GY 8 4 4		
G 5 5	G 5 5		
6 6	6 6		
7 7	7 7		
8 8	8 8		

Moist Munsell	Dry Munsell		
2.5 R 6G 17 0	2.5 R 6G 17 0		
5 YR 8 2 1	5 YR 8 2 1		
7.5 Y 10 2 2	7.5 Y 10 2 2		
10 N 5 3 3	10 N 5 3 3		
GY 8 4 4	GY 8 4 4		
G 5 5	G 5 5		
6 6	6 6		
7 7	7 7		
8 8	8 8		

Moist Munsell	Dry Munsell		
2.5 R 6G 17 0	2.5 R 6G 17 0		
5 YR 8 2 1	5 YR 8 2 1		
7.5 Y 10 2 2	7.5 Y 10 2 2		
10 N 5 3 3	10 N 5 3 3		
GY 8 4 4	GY 8 4 4		
G 5 5	G 5 5		
6 6	6 6		
7 7	7 7		
8 8	8 8		

Moist Munsell	Dry Munsell		
2.5 R 6G 17 0	2.5 R 6G 17 0		
5 YR 8 2 1	5 YR 8 2 1		
7.5 Y 10 2 2	7.5 Y 10 2 2		
10 N 5 3 3	10 N 5 3 3		
GY 8 4 4	GY 8 4 4		
G 5 5	G 5 5		
6 6	6 6		
7 7	7 7		
8 8	8 8		

CHEMICAL TESTS					
pH Testing Method					
Raupach		1 test strip			
pH meter		2			
pH					
1	2	3	4	5	
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	
2 2	2 2	2 2	2 2	2 2	
3 3	3 3	3 3	3 3	3 3	
4 4	4 4	4 4	4 4	4 4	
5 5	5 5	5 5	5 5	5 5	
6 6	6 6	6 6	6 6	6 6	
7 7	7 7	7 7	7 7	7 7	
8 8	8 8	8 8	8 8	8 8	
9 9	9 9	9 9	9 9	9 9	
AgNO <sub>3</sub>					
no precipitate		1 1 1 1 1			
light precipitate		2 2 2 2 2			
conspic. white precip.		3 3 3 3 3			
HCl					
no effervescence		1 1 1 1 1			
audible/slight efferv.		2 2 2 2 2			
strong effervescence		5 5 5 5 5			
H <sub>2</sub> O <sub>2</sub>					
no effervescence		1 1 1 1 1			
effervescence		2 2 2 2 2			

MOTTLES										
Dominant					Colour	Sub-dominant				
1	2	3	4	5		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	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	red	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	orange	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	yellow	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	brown	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	pale	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	grey	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	gley	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8	8 8 • 8 8
Contrast										
1 1 • 1 1					faint	1 1 • 1 1				
2 2 • 2 2					distinct	2 2 • 2 2				
3 3 • 3 3					prominent	3 3 • 3 3				
Abundance										
1 1 • 1 1					0%	1 1 • 1 1				
2 2 • 2 2					<2%	2 2 • 2 2				
3 3 • 3 3					2 - 10%	3 3 • 3 3				
4 4 • 4 4					10 - 20%	4 4 • 4 4				
5 5 • 5 5					20 - 50%	5 5 • 5 5				
TEXTURE										
Texture Grade		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	2	3	4	5				
coarse		1	1	1	1	1				
fine		2	2	2	2	2				
Clay Fraction		1	2	3	4	5				
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	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										
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										
continuous		1	1	1	1	1				
discontinuous		2	2	2	2	2				
broken		3	3	3	3	3				
Pan Structure										
massive		1	1	1	1	1				
vesicular		2	2	2	2	2				
concretionary		3	3	3	3	3				
nodular		4	4	4	4	4				
platy		5	5	5	5	5				
vermicular		6	6	6	6	6				

sharp  
abrupt  
clear  
gradual  
diffuse

Example only  
do not use to record data

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
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13  
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26  
27  
28  
29  
30

fine gravel  
coarse gravel  
cobble  
stones

### STRUCTURE

Grade of Pedality	1	2	3	4	5
single-grained	①	②	③	④	⑤
massive	②	③	④	⑤	⑥
weak pedality	③	④	⑤	⑥	⑦
moderate pedality	④	⑤	⑥	⑦	⑧
strong pedality	⑤	⑥	⑦	⑧	⑨

### FABRIC

	1	2	3	4	5
sandy	①	②	③	④	⑤
earthy	②	③	④	⑤	⑥
rough-faced peds	③	④	⑤	⑥	⑦
smooth-faced peds	④	⑤	⑥	⑦	⑧

### COARSE FRAGMENTS

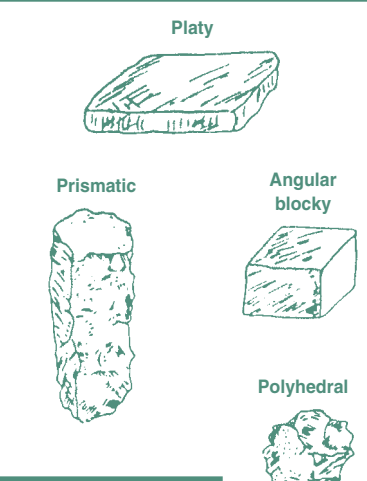
Fragment Type	Surface	1	2	3	4	5
not evident	①	②	③	④	⑤	⑥
not identified	②	③	④	⑤	⑥	⑦
as substrate	③	④	⑤	⑥	⑦	⑧
as rock outcrop	④	⑤	⑥	⑦	⑧	⑨
as parent material	⑤	⑥	⑦	⑧	⑨	⑩
quartz	⑥	⑦	⑧	⑨	⑩	⑪
feldspar	⑦	⑧	⑨	⑩	⑪	⑫
silcrete	⑧	⑨	⑩	⑪	⑫	⑬
ironstone	⑨	⑩	⑪	⑫	⑬	⑭
bauxite	⑩	⑪	⑫	⑬	⑭	⑮
shells	⑪	⑫	⑬	⑭	⑮	⑯
charcoal	⑫	⑬	⑭	⑮	⑯	⑰
pumice	⑬	⑭	⑮	⑯	⑰	⑱
opalised wood	⑭	⑮	⑯	⑰	⑱	⑲
other	⑮	⑯	⑰	⑱	⑲	⑲

### Ped Shape

Dominant	1	2	3	4	5	1 only	Sub-dominant	1	2	3	4	5
	①	②	③	④	⑤	platy		①	②	③	④	⑤
	②	③	④	⑤	⑥	lenticular		②	③	④	⑤	⑥
	③	④	⑤	⑥	⑦	prismatic		③	④	⑤	⑥	⑦
	④	⑤	⑥	⑦	⑧	columnar		④	⑤	⑥	⑦	⑧
	⑤	⑥	⑦	⑧	⑨	angular blocky		⑤	⑥	⑦	⑧	⑨
	⑥	⑦	⑧	⑨	⑩	sub-ang. blocky		⑥	⑦	⑧	⑨	⑩
	⑦	⑧	⑨	⑩	⑪	polyhedral		⑦	⑧	⑨	⑩	⑪
	⑧	⑨	⑩	⑪	⑫	granular		⑧	⑨	⑩	⑪	⑫
	⑨	⑩	⑪	⑫	⑬	crumb		⑨	⑩	⑪	⑫	⑬
	⑩	⑪	⑫	⑬	⑭	round		⑩	⑪	⑫	⑬	⑭

### PED COATING

Coating Amount	1	2	3	4	5
none	①	②	③	④	⑤
few (<10%)	②	③	④	⑤	⑥
common (10-50%)	③	④	⑤	⑥	⑦
many (>50%)	④	⑤	⑥	⑦	⑧



### Ped Size

Dominant	1	2	3	4	5	1 only	Sub-dominant	1	2	3	4	5
	①	②	③	④	⑤	<1 mm		①	②	③	④	⑤
	②	③	④	⑤	⑥	1 - 2 mm		②	③	④	⑤	⑥
	③	④	⑤	⑥	⑦	2 - 5 mm		③	④	⑤	⑥	⑦
	④	⑤	⑥	⑦	⑧	5 - 10 mm		④	⑤	⑥	⑦	⑧
	⑤	⑥	⑦	⑧	⑨	10 - 20 mm		⑤	⑥	⑦	⑧	⑨
	⑥	⑦	⑧	⑨	⑩	20 - 50 mm		⑥	⑦	⑧	⑨	⑩
	⑦	⑧	⑨	⑩	⑪	50 - 100 mm		⑦	⑧	⑨	⑩	⑪
	⑧	⑨	⑩	⑪	⑫	100 - 200 mm		⑧	⑨	⑩	⑪	⑫
	⑨	⑩	⑪	⑫	⑬	200 - 500 mm		⑨	⑩	⑪	⑫	⑬
	⑩	⑪	⑫	⑬	⑭	> 500 mm		⑩	⑪	⑫	⑬	⑭

### CONSISTENCE

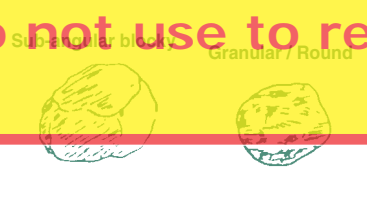
Disruptive Test	1	2	3	4	5	Texture Modifier	1	2	3	4	5
loose	①	②	③	④	⑤	decrease $\geq$ 1 grade	①	②	③	④	⑤
very weak force	②	③	④	⑤	⑥	no change	②	③	④	⑤	⑥
mod. weak force	③	④	⑤	⑥	⑦	increase $\leq$ - 2 grades	③	④	⑤	⑥	⑦
mod. firm force	④	⑤	⑥	⑦	⑧	increase $\geq$ 2 grades	④	⑤	⑥	⑦	⑧
very firm force	⑤	⑥	⑦	⑧	⑨						
mod. strong force	⑥	⑦	⑧	⑨	⑩						

Shearing Test	1	2	3	4	5	Stickiness	1	2	3	4	5
no change	①	②	③	④	⑤	non-sticky	①	②	③	④	⑤
brittle	②	③	④	⑤	⑥	slightly sticky	②	③	④	⑤	⑥
crumbly	③	④	⑤	⑥	⑦	moderately sticky	③	④	⑤	⑥	⑦
labile	④	⑤	⑥	⑦	⑧	very sticky	④	⑤	⑥	⑦	⑧
plastic	⑤	⑥	⑦	⑧	⑨						

### CRACKS & MACROPORES

Crack Width	Amount	1	2	3	4	5
<5 mm	none	①	②	③	④	⑤
	evident	②	③	④	⑤	⑥
5-10 mm	none	①	②	③	④	⑤
	evident	②	③	④	⑤	⑥
10-20 mm	none	①	②	③	④	⑤
	evident	②	③	④	⑤	⑥
>50 mm	none	①	②	③	④	⑤
	evident	②	③	④	⑤	⑥



### Fragment Amount

	1	2	3	4	5
none	①	②	③	④	⑤
very few (<2%)	②	③	④	⑤	⑥
few (2-10%)	③	④	⑤	⑥	⑦
common (10-20%)	④	⑤	⑥	⑦	⑧
many (20-50%)	⑤	⑥	⑦	⑧	⑨
abundant (50-90%)	⑥	⑦	⑧	⑨	⑩
very abundant (>90%)	⑦	⑧	⑨	⑩	⑪

### Fragment Distribution

	1	2	3	4	5
stratified	①	②	③	④	⑤
dispersed	②	③	④	⑤	⑥

### Fragment Orientation

	1	2	3	4	5
reoriented	①	②	③	④	⑤
undisturbed	②	③	④	⑤	⑥

### Fragment Weathering

	1	2	3	4	5
non-weathered	①	②	③	④	⑤
weakly weathered	②	③	④	⑤	⑥
strongly weathered	③	④	⑤	⑥	⑦

### Fragment Shape

Choose up to three

	1	2	3	4	5
rounded	①	②	③	④	⑤
rounded tabular	②	③	④	⑤	⑥
rounded platy	③	④	⑤	⑥	⑦
sub-rounded	④	⑤	⑥	⑦	⑧
sub-rounded tabular	⑤	⑥	⑦	⑧	⑨
sub-rounded platy	⑥	⑦	⑧	⑨	⑩
sub-angular	⑦	⑧	⑨	⑩	⑪
sub-angular tabular	⑧	⑨	⑩	⑪	⑫
sub-angular platy	⑨	⑩	⑪	⑫	⑬
angular	⑩	⑪	⑫	⑬	⑭
angular tabular	⑪	⑫	⑬	⑭	⑮
angular platy	⑫	⑬	⑭	⑮	⑯

### Fragment Size

Choose up to three

	1	2	3	4	5
fine gravel (2-6 mm)	①	②	③	④	⑤
gravel (6-20 mm)	②	③	④	⑤	⑥
coarse gravel (20-60 mm)	③	④	⑤	⑥	⑦
cobbles (60-200 mm)	④	⑤	⑥	⑦	⑧
stones (200-600 mm)	⑤	⑥	⑦	⑧	⑨
boulders (>600 mm)	⑥	⑦	⑧	⑨	⑩

### SOIL WATER STATUS

	1	2	3	4	5
dry	①	②	③	④	⑤
moderately moist	②	③	④	⑤	⑥
moist	③	④	⑤	⑥	⑦
wet	④	⑤	⑥	⑦	⑧

### SEGREGATIONS

Segregation Type	1	2	3	4	5
not evident	①	②	③	④	⑤
calcareous	②	③	④	⑤	⑥
gypseous	③	④	⑤	⑥	⑦
manganiferous	④	⑤	⑥	⑦	⑧
ferruginous	⑤	⑥	⑦	⑧	⑨
ferromanganiferous	⑥	⑦	⑧	⑨	⑩
organic	⑦	⑧	⑨	⑩	⑪
not identified	⑧	⑨	⑩	⑪	⑫
other	⑨	⑩	⑪	⑫	⑬

### ERODIBILITY TESTS

1 only	1	2	3	4	5
no change	①	②	③	④	⑤
aggregates slake	②	③	④	⑤	⑥
aggregates disperse	③	④	⑤	⑥	⑦
worked bolus disperses	④	⑤	⑥	⑦	⑧

### Segregation Amount

	1	2	3	4	5
none	①	②	③	④	⑤
very few (<2%)	②	③	④	⑤	⑥
few (2-10%)	③	④	⑤	⑥	⑦
common (10-20%)	④	⑤	⑥	⑦	⑧
many (20-50%)	⑤	⑥	⑦	⑧	⑨
abundant (>50%)	⑥	⑦	⑧	⑨	⑩

### MACROPORE

Amount	1	2	3	4	5
<1 mm	①	②	③	④	⑤
few (<1/10 x10 mm)	②	③	④	⑤	⑥
common (1-5/10 x10 mm)	③	④	⑤	⑥	⑦
many (>5/10 x10 mm)	④	⑤	⑥	⑦	⑧
1-2 mm	①	②	③	④	⑤
few (<1/10 x10 mm)	②	③	④	⑤	⑥
common (1-5/10 x10 mm)	③	④	⑤	⑥	⑦
many (>5/10 x10 mm)	④	⑤	⑥	⑦	⑧
2-5 mm	①	②	③	④	⑤
few (<1/10 x10 mm)	②	③	④	⑤	⑥
common (1-5/10 x10 mm)	③	④	⑤	⑥	⑦
many (>5/10 x10 mm)	④	⑤	⑥	⑦	⑧
>5 mm	①	②	③	④	⑤
few (<1/10 x10 mm)	②	③	④	⑤	⑥
common (1-5/10 x10 mm)	③	④	⑤	⑥	⑦
many (>5/10 x10 mm)	④	⑤	⑥	⑦	⑧

### SOIL ERODIBILITY

	1	2	3	4	5
low	①	②	③	④	⑤
moderate	②	③	④	⑤	⑥
high	③	④	⑤	⑥	⑦</

