

PROJECT: Sheep Creek  
SITE\_NAME: Lower Stud Horse

Date: 6/24/02

PLOT\_ID: 02SF006

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 184

UTM\_N: 5170552  
UTM\_E: 518592

NAD 27

COMMENTS:

Plot samples a fan between two forks of Stud Horse creek.

MANY ROOTS DEPTH (cm):	2
COMMON ROOTS DEPTH (cm):	15 +/- 0.79
A HORIZON DEPTH (cm):	24 +/- 1.43
BARE GROUND %:	+/- 1.56
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	257.47 +/- 12.74
Average Infiltration Rate	3622 +/- 246

Lewis and Clark National Forest  
Sheep Creek Project Area  
Site Data Sheets  
2002

025706

USDA - Forest 64  
**Sheep Ck. Range Project Area**  
**SOIL DESCRIPTION**  
 (Reference FSI 2509.18)  
**STUDHORSE ALLOTMENT**

1. Map Unit Symbol: 52  
 2. Family or Series: Pacific Arroyos mixed  
 3. Date: 6-24-02  
 4. By: Farley  
 5. Photo. No.:  
 6. Stop No.:  
 7. USGS Quad:  
 8. Location: Sec. 29 T. 11N R. 9E

9. Area: Studhorse Ck  
 10. Forest: L & C NF  
 11. Ranger District: White Sulphur R.D.  
 12. State: MT  
 13. County: Meagher

14. Parent Material: Alluvium  
 15. Bedrock Name: Soft Platy Shales  
 16. Elevation:  
 17. Erosion: a. Kind: -b. Class:

18. Landform: Stream Terrace - Valley Bottom  
 19. Slope: a. % 2-4 b. Shape: c. Length: d. Aspect:  
 20. Drainage Class:  
 21. Surface Stone and Rock: a. GR: b. CB: c. ST: d. BY:

22. Potential Natural Vegetation:  
 23. Annual Precipitation:  
 24. Measured Soil Temperature:  
 25. Water Table (Depth):

HORI-ZON DE-SIGNA-TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC-TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-50	10YR 3/2	10YR 5/2	N/A	CL	2f gr	Fr	SS	SP	N/A	GR - N/A	2 v f, f			G	
AB	50-86	10YR 2/2	10YR 5/2	N/A	CL	1 m SBK to 1 fgr	SH	SS	SP	N/A	GR - N/A	1 v f, f			G	
cluvial BA	86/105	7.5YR 3/2	7.5YR 5/2	N/A	CL	1 m SBK 1 fgr	SH	SS	SP	N/A	GR - N/A	1 f			G	
charred BE1	105-128	7.5YR 3/2	7.5YR 5/2	N/A	CL	2 m SBK 2 fgr	H	SS	P	few thin ped faces	GR - T	1 f			G	
BE2	128-135	10YR 2/3	10YR 5/3	N/A	CL	2 m SBK	H	SS	P	common thin ped faces	GR - 5	1 f			C	
BW	135-146	10YR 3/2	10YR 6/3	2.5YR 5/3	CL	1 f SBK	H	SS	P	N/A	GR - 40	✓			N/A	
H2O + ash BC	146-170+	10YR 4/3	variable	gray soil w/ gravel		sand-clay loam soil					GR - 40					
											GR -					
											CB -					
											ST -					
											GR -					
											CB -					
											ST -					

26. Partial Soil Control Section  
 a. Depth:  
 b. Average Clay %:  
 c. Average Rock Fragment Content:  
 27. Depth to Lithic or Paralithic Contact:

28. Diagnostic Horizons  
 a. Surface: M1016  
 b. Subsurface: Argic  
 29. Moist Control Section Depth:

SLOPE: ~5-10%  
 ASPECT: 4°  
 STUD HORSE LOWER

UTM:  
 051859Z, 517055Z

NAD 27  
 ZONE 12

3-29

02SF006

INFIL TEST: Infiltration

Plot Name 02SF006 Date 6/24/02 Recorders VA/TV

Plot Code

Test 1. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	12 × 2000	8 × 2000	6 × 2000	8 × 2000	6 × 2000	6 × 2000
	24000 ml	17200 ml	16000 ml	16000 ml	12000 ml	12000 ml

Test 2. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
<del>2:30</del> 2:00	9:30	12:30	17:30	22:30	27:30	32:30
	30000 ml	19400 ml	15000 ml	14000 ml	14000 ml	14000 ml

Test 3. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	11:30	12:30	17:30	22:30	27:30	32:30
	48000 ml	25000 ml	23000 ml	24000 ml	20000 ml	16000 ml

Soil Moisture Scale by Touch:      + 400

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: 6/21/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF006
Crew: V/TV/EF		Map Unit #:			Site Name:	
		Land Type:			Description:	
TRANSECT	Pt #	Depth Measures	Root Abundance			"A" Horizon
			>100	10-100	<10	
1	1	4cm	22cm			Texture weak fine granular
		9cm				
		17cm	8cm	18cm	20cm	
	2	4cm	21cm			Structure CLAY LOAM
		8cm				
	3	13cm	6cm	17cm	20cm	Color
		2cm	15cm	22cm	32cm	
		6cm	18cm	28cm		
	4	11cm	6cm	11cm	30cm	wet: 10YR 5/2
		4cm	22cm	30cm		
		11cm	26cm	37cm		
	5	17cm	0cm	18cm	30cm	dry:
		3cm	16cm	30cm		
		7cm	22cm			
			11cm	7cm	13cm	28cm
2 LAST PT. NEAREST DIPPER 629	1	4cm				Texture <del>weak</del> CLAY LOAM
		7cm				
		11cm	0cm	11cm	17cm	
	2	6cm	13cm	24cm		Structure weak fine granular
		9cm	16cm			
	3		1cm	9cm	23cm	Color
		6cm	21			
		12cm	25			
	4	15cm	0cm	17cm	26cm	wet: 10YR 2/2
		4	19			
		9	21			
	5	12	1cm	10cm	20	dry:
		6cm				
		9cm				
			0cm	5cm	9cm	
3	1	12	29			Texture LOESS 25mm
		15				
		19	0cm	19cm	29cm	
	2	5	20			Structure LF GRANULAR
		13	26			
	3	17	0cm	20cm	28cm	Color
		5	22			
		9	26			
	4	15	0cm	27cm	26cm	wet: 10YR 2/2
		5	22			
		8				
	5	16	0cm	22cm	30cm	dry:
		6cm	23cm			
		11cm				
			17cm	0cm	23cm	28cm

PROJECT: Sheep Creek  
SITE\_NAME: Lower Miller Gulch

Date: 6/25/02

PLOT\_ID: 02SF007

EXAMINERS:  
Archer/Vangemert

SLOPE: 5  
ASPECT: 84

UTM\_N: 5173521  
UTM\_E: 506040

NAD 27

COMMENTS:  
Plot samples fan between two forks of Miller Gulch.

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	11 +/- 0.38
A HORIZON DEPTH (cm):	20 +/- 0.67
BARE GROUND %:	9 +/- 1.22
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	264.70 +/- 33.90
Average Infiltration Rate	596 +/- 100

USDA - Forest 84 NEWLAND CRK. ALLOTMENT		SOIL DESCRIPTION (Reference Form 2509.18)		MILLER GULCH LOWER		02SF007	
1. Map Unit Symbol 23	2. Family or Series Pachic Argicryolls? fine-loamy carbonatic?	3. Date 6/25/02	4. By W/TJ	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. 13 T. 11N R. 6E
9. Area Miller Gulch	10. Forest L&C NF	11. Ranger District White Sulphur RD		12. State MT	13. County Meagher		
14. Parent Material Alluvium	15. Bedrock Name Shale - Limestone	16. Elevation		17. Erosion: a. Kind _____ b. Class _____			
18. Landform Valley Bottom - Stream Floodplain	19. Slope: a. % $5-10$ b. Shape _____ c. Length _____ d. Aspect $26A$		20. Drainage Class		21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____		
22. Potential Natural Vegetation		23. Annual Precipitation		24. Measured Soil Temperature		25. Water Table (Depth)	

HORI- ZON DE- SIGNA- TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)	
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)				
A <sub>1</sub>	0-16cm	10YR 3/2			SL	1F LL		L								GRADUAL	
A <sub>B</sub> A <sub>2</sub>	16-55	10YR 3/2			SIL	1M SBL P 2M GR		L								GRAD	
B	55- 120	10YR 3/2		?	SIL	1C SBL		L		?				?		GRAD	
BC	120+	10YR 3/3		?	SILL	MASSIVE		M		?				?			
26. Partial Soil Control Section		a. Depth:		b. Average Clay %:		c. Average Rock Fragment Content:		27. Depth to Lithic or Paralithic Contact:									
28. Diagnostic Horizons		a. Surface: Mollie				b. Subsurface: Argillic?				29. Moist Control Section Depth:							

MILLER GULCH LOWER

02SF007

UTM: 0506040

5173521  
3-29 NAD-27  
ZONE 12

INFIL TEST: Infiltration

Plot Name 02SF007

Date 6/25/02

Recorders VA/TV

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	11:30	12:30	17:30	22:30	27:30
						32:30

4000 ml 1900 ml 1720 ml 1600 ml 1900 ml 1600 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
<del>2:30</del>	7:30	12:30	17:30	22:30	27:30	32:30
		14	19	24	29	34

11700 ml 5340 ml 5400 ml 5500 ml 5380 ml 4940 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30
		18	21	26	31	36

3400 ml 1080 ml 1220 ml 1140 ml 1120 ml 1040 ml

Soil Moisture Scale by Touch:

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

# MILLER GULCH LOWER

0 6.7 13 19.3

T1: 0, 6, 12, 18  
T2: 0, 6, 12, 18  
T3: 0, 6, 12, 18

Date: 6/25/12		Rooting Depth & Abundance/Texture, Structure, & Color					02SF007
Crew: ARCHER VANBEMERT		Map Unit #:			Site Name:		
TRANSECT		Land Type:			Description:		
Pt #	Depth Measures	Root Abundance			"A" Horizon		
		>100	10-100	<10			
1	1	5				Texture	SILT LOAM
		15					
	2	5				Structure	1 F GRANULAR
		10	0	10cm	32cm		
	3	4		x		Color	wet: 10YR 3/2
		11		x			
	4	16	0	16cm	x	dry:	2/10
		9		x			
	5	4	2cm	14cm		dry:	2/10
		14	0	9cm	14cm		
2	1	8				Texture:	SILT LOAM
		14					
		19	10cm	9cm	19cm		
	2					Structure	1 F GR
			0	6cm	19cm		
	3					Color	wet: 10YR 3/2
			0	11cm	16cm		
	4					dry:	3/10
			2cm	11cm	21cm		
	5					dry:	3/10
		0	11cm	14cm			
3	1	3	15			Texture	LOAM
		7					
	2	12	1cm	12cm	15cm	Structure	1 F GR
		5	20				
	3	10				Color	wet: 10YR 3/2
		15	0cm	10cm	20cm		
	4	13				dry:	0/10
		17					
	5	20	0cm	13cm	20cm	dry:	0/10
		12					
6	16				dry:	0/10	
	20	0cm	14cm	20cm			
7	5	17cm	25cm		dry:	0/10	
	9	19cm					
8	12	5cm	12cm	22cm	dry:	0/10	

GRAND COVER

1/10

1/10

2/10

0/10

1/10

3/10

0/10

1/10

0/10

0/10

420 WHI  
730  
1230 1730 2230 2730 3230



PROJECT: Sheep Creek  
SITE\_NAME: Lower Copper Creek

Date: 6/25/02

PLOT\_ID: 02SF008

EXAMINERS:  
Archer/Vangemert

SLOPE: 5  
ASPECT: 310

UTM\_N: 5175891  
UTM\_E: 503765

NAD 27

COMMENTS:

Plot samples valley bottom of Copper Creek. Vegetation showed much grazing with abundant annuals such as dandelion and geranium.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	10 +/- 0.13
A HORIZON DEPTH (cm):	28 +/- 1.25
BARE GROUND %:	3 +/- 1.77
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	243.17 +/- 25.82
Average Infiltration Rate	337 +/- 12

DO NOT USE WATER TABLE

USDA - Forest #4

SOIL DESCRIPTION  
(Reference FST 2509.18)

Copper Crk Lower 025F008

1. Map Unit Symbol  
2. Family or Series *fine-loamy, mixed  
Panic Amphimollic*  
3. Date *6/25/82*  
4. By  
5. Photo. No.  
6. Stop No.  
7. USGS Quad  
8. Location: Sec. \_\_\_\_ T. \_\_\_\_ R. \_\_\_\_  
9. Area *Copper Creek*  
10. Forest  
11. Ranger District  
12. State  
13. County  
14. Parent Material  
15. Bedrock Name  
16. Elevation  
17. Erosion: a. Kind \_\_\_\_ b. Class \_\_\_\_  
18. Landform *Valley Bottom*  
19. Slope: a. % *5-10* b. Shape \_\_\_\_ c. Length \_\_\_\_ d. Aspect *SW*  
20. Drainage Class  
21. Surface Stone and Rock a. GR \_\_\_\_ b. CB \_\_\_\_ c. ST \_\_\_\_ d. BY \_\_\_\_  
22. Potential Natural Vegetation  
23. Annual Precipitation  
24. Measured Soil Temperature  
25. Water Table (Depth)

HORIZON DESIGNATION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A <sub>1</sub>	0-20	10YR 3/1		—	SIL 10	1 MP/L → 1 FP/L		L			—	GR -				GLAD
A <sub>2</sub>	20-72	10YR 3/1			SIL 10	2 M SBK		M				GR -				GLAD
	72-105	10			L 10			M				GR -				ABRUPT
	105-2	5YR 4/1			CL 25			M				GR - 5				
												CB -				
												ST -				
												GR -				
												CB -				
												ST -				
												GR -				
												CB -				
												ST -				
												GR -				
												CB -				
												ST -				

26. Partial Soil Control Section  
a. Depth: \_\_\_\_ b. Average Clay %: \_\_\_\_ c. Average Rock Fragment Content: \_\_\_\_  
27. Depth to Lithic or Paralitlic Contact: \_\_\_\_  
28. Diagnostic Horizons  
a. Surface: *Mollic* b. Subsurface: *Argillic*  
29. Moist Control Section Depth: \_\_\_\_

GPS  
503765  
5175891

Copper Creek | Lower

INFIL\_TEST: Infiltration

Plot Name 025F008

Date 6/25/02

Recorders VAN GEMERT

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	3240 ml	1560 ml	1300 ml	1420 ml	1380 ml	1460 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	9:30	17:30	19:30	27:30	29:30	37:30
	3000 ml	2000 ml	1820 ml	1820 ml	1820 ml	1780 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	11:30	16:30	21:30	26:30	31:30	36:30
	2980 ml	1500 ml	1640 ml	1500 ml	1600 ml	1580 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

# COPPER CREEK LOWER

02SF008

Date: 6/25/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF008
Crew:		Map Unit #:		Site Name:		
		Land Type:		Description: <i>T: HIR TEXTURE &amp; FOR DISTINGUISHING A HORIZ.</i>		
TRANSECT	Pt #	Depth Measures	Root Abundance			"A" Horizon
			>100	10-100	<10	
1	1					Texture <i>SIL</i>
			0	6cm		<i>← 0-20 3/2, 20+ 2/2</i>
	2					Structure <i>1 F PL</i>
			0	7cm		<i>32+</i>
	3					Color
	4					wet: <i>10YR 3/2</i>
		<i>SHADY WATER</i>	0	3cm		<i>27</i>
	5					dry:
				5		<i>20</i>
2	1					Texture <i>SIL</i>
			0	8cm		<i>← 0-20 3/2</i>
						<i>20+ 2/2</i>
	2					Structure <i>1 F PL</i>
			0	8cm		<i>35+</i>
	3					Color
			2	9cm		<i>26+</i>
	4					wet: <i>10YR 2/2</i>
			0	20cm		<i>25+</i>
	5					dry:
			0	20cm		<i>25+</i>
3	1					Texture
			0	13		<i>← 20- 3/2</i>
						<i>&gt;20- 2/2</i>
	2					Structure <i>1 F PL</i>
			0	9		<i>32+</i>
	3					Color
			0	9		<i>25+</i>
	4					wet:
			0	9		<i>25+</i>
	5					dry:
			0	10		

0/10

0/10

0/10

0/10

0/10

1/10

1/10

0/10

1/10

0/10

PROJECT: Sheep Creek  
SITE\_NAME: Upper Cox Comb

Date: 6/25/02

PLOT\_ID: 02SF009

EXAMINERS:  
Archer/Vangemert

SLOPE: 5  
ASPECT: 350

UTM\_N: 5175348  
UTM\_E: 503180

NAD 27

COMMENTS:

Plot samples broad ridge at headwaters of Copper Creek.

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	15 +/- 0.39
A HORIZON DEPTH (cm):	30 +/- 1.21
BARE GROUND %:	28 +/- 1.56
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	195.50 +/- 13.93
Average Infiltration Rate	108 +/- 9

025F09

COPPER CRK. ALLOTMENT

(Reference FStt 2509.18)

1. Map Unit Symbol (12)	2. Family or Series fine loamy Ustic Argicryolls carbonatic	3. Date 6-26-02	4. By Farley	5. Photo No. 025F009	6. Stop No.	7. USGS Quad	8. Location: Sec. 10 T. 11N R. 6E
9. Area OFF FORD 881 NE Copper Crk. Allotment	10. Forest L & C NF	11. Ranger District White Sulphur 30			12. State MT	13. County Missoula	
14. Parent Material Residual CALCAREOUS SHALE (Limestone)		15. Bedrock Name		16. Elevation ~6100'	17. Erosion: a. Kind _____ b. Class _____		
18. Landform Broad Convex Ridgetop		19. Slope: a. % 2-4 b. Shape _____ c. Length _____ d. Aspect _____		20. Drainage Class WD	21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____		
22. Potential Natural Vegetation Lifeform = grassland				23. Annual Precipitation	24. Measured Soil Temperature		25. Water Table (Depth) N/A

HORI- ZON DE- SIGNA- TION (a)	DEPTH (cm) (b)	COLOR (c)			TEXTURE (d) %	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-3	10YR 3/2		N/A	Silt LOAM 18	1VF GR	FR	SO	PS PO	N/A	GR-0 CB-0 ST-0	3VF,F	2VF 1F	?		GS
AB	3-20	10YR 2/2		N/A	Silt LOAM 22	1FSBK TO 1FGR	FR	SO	PS	1 THIN on PROFACES	GR-0 CB-0 ST-0	2VF,F	2VF 1F	?		GS
Bc	20-37	10YR 3/3		N/A	Silt CLAY LOAM 33	2MSBK	H	SS	P	2 THIN on PROFACES	GR-0 CB-0 ST-0	1VF,F	1VF 1F	?		CS
Bek1	37-52	10YR 5/4	10YR 7/2	N/A	Silty CLAY LOAM 36	2MSBK	VH	S	P	2 THIN on PROFACES	GR-10 CB-0 ST-0	1F	1VF F	E	Finely Disseminated Calc.	CS
Bek2	52-70	10YR 6/3	10YR 8/1	N/A	Silty CLAY LOAM 36	1MSBK	VH	VS	VP	1 THIN on PROFACES	GR-10 CB-0 ST-0	1F	1VF 1F	VE		CS
Bek3	70-93	10YR 6/3		N/A	Silty CLAY LOAM 36	1MSBK	VH	VS	VP	2 THIN on PROFACES	GR-10 CB-0 ST-0	1F	1VF 1F	VE		CS
Bek4	93-109	10YR 6/4		N/A	Silty CLAY LOAM 39	1FSBK TO 1FABK	VH	S	VP	2 THIN on PROFACES	GR-15 CB-0 ST-0	N/A	1VF 1F	VE		CS
	109+	Weathered Limestone		PARENT MATERIAL							GR- CB- ST- GR- CB- ST-					

Finely disseminated masses of CaCO3

26. Partial Soil Control Section	a. Depth:	b. Average Clay %: ~36	c. Average Rock Fragment Content: ~10	27. Depth to Lithic or Paralitlic Contact:
28. Diagnostic Horizons	a. Surface: Mollie	b. Subsurface: Argillie	29. Moist Control Section Depth:	

Cox Comb UPPER

SLOPE: 0-5%

ASPECT: 170

UTM: 503180, 5175348 NAD 27  
3-29 Zone 12

INFIL\_TEST: Infiltration

Plot Name 025F009

Date 6/25/02

Recorders VA / TV

Plot Code

Test 1. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

1040 ml 740 ml 700 ml 620 ml 680 ml 740 ml

Test 2. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	<del>14</del> :30	19:30	<del>22</del> :30 24	29:30	<del>34</del> :30

900 ml 440 ml 640 ml 640 ml 620 ml 640 ml

Test 3. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	<del>16</del> :30	<del>17</del> :30 21	<del>22</del> :30 26	29:30 31	<del>36</del> :30

~~720~~ ml 400 ml 200 ml 280 ml 280 ml 300 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

SHEEP CREEK : COX COMB UPPER

02SF009

Date: 6/26/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF	
Crew: A/SF/TU		Map Unit #:		Site Name: COX COMB			
		Land Type:		Description:			
TRANSECT	Pt #	Depth Measures	Root Abundance			"A" Horizon	
			>100	10-100	<10		
1	1					Texture LOAM	
			11	12			25
	2						Structure 1 VF GR
			11	10		27	
	3						Color
			3	23	24		
	4						wet: 107R 3/2
			17	13	25		
	5						dry:
			1	17	76		
2	1					Texture	
	2						Structure
	3						Color
	4						wet:
	5						dry:
3	1					Texture	
	2						Structure
	3						Color
	4						wet:
	5						dry:

0/10  
2/10  
2/10



0/6.5/13/19.5  
 3/10/20  
 2/10/20

Date: 6/25/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF009	
Crew: Aecher VAN GEMERT		Map Unit #:	Site Name: COXcomb RIDGE			Description: UPPER	
TRANSECT	Pt #	Depth Measures	Root Abundance			"A" Horizon	Texture
			>100	10-100	<10		
1	1	4	19	31	41	42cm	Silt LOAM
		9	25	36			
		14	0cm	10cm			
	2	6	25			20cm	ZF GR
		11					
		16	5cm	18cm			
	3	5	23			33cm	Color wet: 10YR 3/2
		11	29				
		18	3cm	22cm			
	4	6	22			30cm	dry:
		10					
		15	0cm	15cm			
	5	5	24			28cm	
		13					
		16	0cm	13cm			
2	1	6	23			27cm	Silt LOAM
		11	27				
		16	1cm	15cm			
	2	6	25			27cm	ZF GR
		12	27				
		17	0cm	6cm			
	3	6	21cm	36		38cm	Color wet: 10YR 3/2
		13	33				
		18	1cm	13cm			
	4	5				34cm	dry:
		9					
			2cm	20			
	5					37	
			2cm	12			
3	1					Texture	
	2						Structure
	3						Color wet:
	4						dry:
	5						

Gravel  
Cover

2/10

5/10

4/10

4/10

4/10

4/10

3/10

2/10

2/10

PROJECT: Sheep Creek  
SITE\_NAME: Lower Pistol Creek

Date: 6/26/02

PLOT\_ID: 02SF010

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 189

UTM\_N: 5175049  
UTM\_E: 513325  
NAD 27

COMMENTS:  
Plot samples valley bottom of Pistol Creek.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	11 +/- 0.34
A HORIZON DEPTH (cm):	17 +/- 0.79
BARE GROUND %:	17 +/- 0.74
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	239.87 +/- 26.64
Average Infiltration Rate	2119 +/- 326

SOIL DESCRIPTION

(Reference FSt 2509.18)

02SF 0

GREEN MTN. ALLOT.

fine-loamy

1. Map Unit Symbol  
66

2. Family or Series  
Pachic Argicryolls  
carbonatic

3. Date  
6-26-02

4. By  
Farley

5. Photo. No.

6. Stop No.

7. USGS Quad

8. Location:  
Sec. 10 T. 11N R. 7E

9. Area  
Pistol Creek

10. Forest  
L&C NF

11. Ranger District  
White Sulphur RD

12. State  
MT

13. County  
Meagher

14. Parent Material  
alluvium-colluvium  
calcareous shale - limestone

15. Bedrock Name

16. Elevation  
N 5640'

17. Erosion:  
a. Kind \_\_\_\_\_ b. Class \_\_\_\_\_

18. Landform  
stream top surface  
toeslope - valley bottom

19. Slope:  
a. % 4-6 b. Shape \_\_\_\_\_ c. Length \_\_\_\_\_ d. Aspect \_\_\_\_\_

20. Drainage Class  
WD

21. Surface Stone and Rock  
a. GR \_\_\_\_\_ b. CB \_\_\_\_\_ c. ST \_\_\_\_\_ d. BY \_\_\_\_\_

22. Potential Natural Vegetation  
Lifeform - grassland

23. Annual Precipitation

24. Measured Soil Temperature

25. Water Table (Depth)

HORIZON DESIGNATION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)	
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)				
A	0-19	10YR 2/2	10YR 4/2	NA	Silt Loam 24	2F	Fr	So	Po	N/A	GR-1	2vf,f	2vf,f	SE?		GS	
AB1	19-35	10YR 2/2	10YR 4/2	NA	Silty Clay Loam 29	1m SBK to 1fg	SH	SS	PS	1 Thin Red Faces	GR-2	1vf,f	2vf, 1f	SE?		GS	
Btk1	35-82	10YR 8/2	10YR 4/2	NA	Silty Clay Loam 31	2m SBK	MH	S	P	1 Thin Red Faces	GR-5	1f	1vf,f	SE?	Finely Disseminated Masses of	GS	
Btk2	82-99	10YR 3/3	10YR 5/2	NA	Silty clay loam 34	2m ABK	VH	VS	VP	2 Thin ped faces	GR-8	1f	1vf,f	VE	CaCO3	GS	
Btk3	99-129	10YR 4/2	10YR 6/2	NA	Silty clay loam 36	2m ABK	VH	VS	VP	2 Thin ped faces	GR-15	1f	1vf,f	VE		GS	
	129+	Highly weathered parent material →															

26. Partial Soil Control Section  
 a. Depth: \_\_\_\_\_  
 b. Average Clay %: ~33  
 c. Average Rock Fragment Content: ~10  
 27. Depth to Lithic or Paralithic Contact: > 129 cm

28. Diagnostic Horizons  
 a. Surface: Mollis  
 b. Subsurface: Argillis  
 29. Moist Control Section Depth: \_\_\_\_\_

15  
19  
25  
31  
35  
49  
63  
82  
85  
100  
126  
129

PISTOL CRK LOWER

UTM:  
513525,  
5175049  
3-29 NAD 27  
ZONE 12

SLOPE 4-96  
ASPECT: 90

INFIL\_TEST: Infiltration

Plot Name 02SF010

Date 6/26/02

Recorders VANBEMERT

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	18,000 ml	7700 ml	6560 ml	5540 ml	5160 ml	4580 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
<del>2:00</del>	9:30	12:30	17:30	22:30	27:30	32:30
	12,600 ml	6300 ml	4180 ml	5660 ml	5380 ml	4700 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30
	36,960 ml	24,640 ml	19,100 ml	16,980 ml	15,720 ml	13,500 ml
	18	12	9	8	7	6

Soil Moisture Scale by Touch:

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: 6/26/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF010	
Crew: JA/TV/CF		Map Unit #:		Site Name: PISTOL CRK LOWER			
		Land Type: VALLEY BOTTOM		Description: ~ VIA STRUCTURE => M SEK			
TRANSECT	Pt #	Depth Measures	Root Abundance		"A" Horizon		
			>100	10-100	<10		
1	1					Texture	
			0	13		20	SIL
	2						Structure
			0	13		17	1 F GR
	3						Color
			0	13		20	
	4						wet:
			0	8		12	10 YR 2/2
	5						dry:
			0	12		20	
2	1					Texture	
			0	10		17	SIL
	2						Structure
			0	10		15	1 VF GR
	3						Color
			0	7		17	
	4						wet:
			1	5		12	10 YR 3/2
	5						dry:
			0	12		20	
3	1					Texture	
			0	15		19	
	2						Structure
			0	12		16	1 F GR
	3						Color
			0	12		18	
	4						wet:
			3	15		20	10 YR 3/2
	5						dry:
			0	8		14	

1/10  
2/10  
4/10  
1/10

0/10  
1/10  
2/10

2/10  
3/10  
1/10

SIZE OF  
900 TUBE  
  
11 &  
E/SIDE CRK

NEXT TO  
ROTTEN  
LOG

PROJECT: Sheep Creek  
SITE\_NAME: Lower Allen Gulch

Date: 6/26/02

PLOT\_ID: 02SF011

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 42

UTM\_N: 5178314  
UTM\_E: 515372

NAD 27

COMMENTS:

Plot samples valley bottom. Bare ground estimates seem high, though much gopher activity. Vegetation had high amounts of annuals including dandelion. Phleum was very common.

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	11 +/- 0.21
A HORIZON DEPTH (cm):	29 +/- 0.65
BARE GROUND %:	57 +/- 2.67
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	251.87 +/- 18.22
Average Infiltration Rate	1692 +/- 185

0251 111

**GREEN MOUNTAIN ALLOTMENT**

1. Map Unit Symbol: 14C  
 2. Family or Series: Pachia Argicryolls, fine-loamy, carbonatic  
 3. Date: 6-26-02  
 4. By: Farley  
 5. Photo. No.:  
 6. Stop No.:  
 7. USGS Quad:  
 8. Location: Sec. 36 T. 12 N. R. 7 E  
 9. Area: Allen Gulch  
 10. Forest: L&C NF  
 11. Ranger District: White Sulphur RD  
 12. State: VT  
 13. County: Montpelier  
 14. Parent Material: alluvium - fill?  
 15. Bedrock Name: calcareous shale - limestone  
 16. Elevation: N 5850  
 17. Erosion: a. Kind: b. Class:  
 18. Landform: Alluvial Fan - Stream Terrace  
 19. Slope: a. % 3-5 b. Shape: c. Length: d. Aspect:  
 20. Drainage Class: WD  
 21. Surface Stone and Rock: a. GR: b. CB: c. ST: d. BY:  
 22. Potential Natural Vegetation:  
 23. Annual Precipitation:  
 24. Measured Soil Temperature:  
 25. Water Table (Depth): > 124 cm

HORI-ZON DE-SIGNA-TION (a)	CM DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC-TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Clans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-8	10YR 2/2	10YR 4/2	NA	CL 29	2fg	S <sub>o</sub> Fr	SS	PS	NA	GR-7 CB- ST-	2vf 2f	2vf 2f	SE?		G S
AB	9-48				CL 33	2M SBK 2mg	MH	S	P	1 Thin Red Faces	GR-2 CB- ST-	1vf 1f 1M	1vf 1f	SE?		G S
Bt	49-70				CL 35	2M SBK	VH	VS	VP	2 Thin Red Faces	GR-10 CB- ST-	1f	1vf	SE?		G S
Btk1	70-120				CL 38		VH	VS	VP		GR-15 CB- ST-	NA	1vf	E		C S
Btk2	120-124	10YR 3/2	10YR 5/2		CL 39		VH	VS	VP		GR-15 CB- ST-	NA	1vf	VE	Finely Dispersed CaCO <sub>3</sub>	A S
	124+	large cobb		pebbles			exc				GR- CB- ST- GR- CB- ST- GR- CB- ST-					

26. Partial Soil Control Section: a. Depth: b. Average Clay %: c. Average Rock Fragment Content: 27. Depth to Lithic or Paralitlic Contact: > 124 cm

28. Diagnostic Horizons: a. Surface: Mollis b. Subsurface: Argilla 29. Moist Control Section Depth:

# Allen Gulch Lower

025F011

UTM: 515372, 517834  
 ZONE 12, NAD 27  
 Slope: 5% @ 222

3-29

INFIL\_TEST: Infiltration

Plot Name 025F011 Date 6/26/02 Recorders VH/TV/SF

Plot Code

Test 1. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

16200 ml 6000 ml 6000 ml 6000 ml 6800 ml 6540 ml  
111+200 111 111 111 111+800 111+540

Test 2. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

26700 ml 13500 ml 12520 ml 12400 ml 11300 ml 9000 ml  
13x2000+700 6x200+1300 6x200+520 6x200+400 5x200+1300 4x2000  
+1000

Test 3. Site Moisture 3 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

16000 ml 5900 ml 4140 ml 4680 ml 4000 ml 4400 ml  
11111 (?) 11+1900 11+140 11+680 11 11+400

Soil Moisture Scale by Touch:

: 1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.



Date: 6/26/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF011		
Crew: Acker and Ernest F. A. G. by		Map Unit #:		Site Name: Jumper Creek				
TRANSECT		Land Type:		Description: Allen Gulch Lower				
	Pt #	Depth Measures	Root Abundance		"A" Horizon			
			>100	10-100	<10			
1	1	6	25			Texture CLAY LOAM	2/10	
		11						
	2	19	0cm	11cm		50cm	Structure 3 F GR	5/10
			1cm	12cm		49cm		
	3						Color	7/10
			2cm	12cm		35		
	4						wet: 10 YR 3/2	7/10
			0cm	15cm		37		
	5						dry:	7/10
			2cm	11		31		
2	1					Texture Silty CLAY LOAM	5/10	
			0	15				24
	2						Structure 3 F GR	8/10
			1	16		17		
	3						Color	6/10
			1	12		23		
	4						wet: 10 YR 3/2	6/10
			0	10		22		
	5						dry: Rocks	6/10
			0	11		20		
3	2					Texture Silty CLAY LOAM	5/10	
			0	10				24
	3						Structure 2 F GR	8/10
			0	6		32		
	4						Color	4/10
			1	9		16		
	5						wet: 10 YR 3/2	4/10
			2	12		32		
	1						dry:	4/10
			1	10		26		

BRN  
SPR

PROJECT: Sheep Creek  
SITE\_NAME: Upper Stud Horse

Date: 6/27/02

PLOT\_ID: 02SF012

EXAMINERS:  
Archer/Vangemert

SLOPE: 0  
ASPECT: 0

UTM\_N: 5170804  
UTM\_E: 516130

NAD 27

COMMENTS:

Plot samples upper grassland, with many water depressions. Area was much better ecologically than other sites since abundant *F. scabrella* and low annual forbs.

MANY ROOTS DEPTH (cm):	2
COMMON ROOTS DEPTH (cm):	11 +/- 0.45
A HORIZON DEPTH (cm):	13 +/- 0.51
BARE GROUND %:	2 +/- 0.55
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	216.00 +/- 18.50
Average Infiltration Rate	213 +/- 46

CANECORE 0 400

USDA - Forest SA

**SOIL DESCRIPTION**  
(Reference FS 2509.18)

STND HORSE WAPR 023501

1. Map Unit Symbol	2. Family or Series fine-loamy, mixed Ustic Acrisols	3. Date 6/27/02	4. By VA	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. _____ T. _____ R. _____
9. Area	10. Forest L & C N.F.	11. Ranger District			12. State	13. County	
14. Parent Material	15. Bedrock Name	16. Elevation	17. Erosion: a. Kind _____ b. Class _____				
18. Landform	19. Slope: a. % 0-2 b. Shape _____ c. Length _____ d. Aspect _____		20. Drainage Class WB	21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____			
22. Potential Natural Vegetation			23. Annual Precipitation	24. Measured Soil Temperature	25. Water Table (Depth)		

HORIZON DESIGNATION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)												
		Mohr (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)															
		(1)	(2)	(3)			(1)	(2)	(3)																			
A	0-5	10YR 8/2		—	SIL	1 VF GL										GR CB ST	3 VF 3 F	3 VF/P	NA	NA	GR SMOOTH							
AB	5-15	10YR 8/2		—	SIL	1 F SSK TO 2 F GL																GR SM						
AC	15-32	10YR 8/2		—	SICL	2 M SSK TO 2 F SSK	VH		VP	Common Thin												GR CB ST	1 VF 1 F	1 VF/F	NA	NA	GR SM	
AD	32-60	7.5YR 4/4		—	CL	1 M SSK	VH		VP	Common Thin												GR CB ST	1 F	1 VF/F	NA	NA	GR SM	
BE	60-80+	7.5YR 5/4		—	CL	MASSIVE	VH		VP	Few Thin												GR-20 CB ST	—					
																						GR CB ST						
																						GR CB ST						
																						GR CB ST						
																						GR CB ST						

FESSCA  
HIGH ECO

26. Partical Size Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27.
28. Diagnostic Horizons	a. Surface: M... ..	b. Subsurface: A... ..		29.

# STUD HORSE UPPER

02SF012

Date: 6/27/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF012
Crew: F/TU		Map Unit #:		Site Name:		
		Land Type:		Description: Baked and structure texture L.P. 75cm		
TRANSECT	Pt #	Depth Measures	Root Abundance		"A" Horizon	
			>100	10-100		
1	1				15	Texture SIL
			3	13	25	
	2					Structure 1 F GR
			1	8	12	
	3					Color
			3	12	15	
	4					wet: 10 YR 2/2
			1	13	13	
	5					dry:
			0	9	8	
2	1				13	Texture SIL
			4	12	13	
	2					Structure 1 VF GR
			2	12	15	
	3					Color
			4	10	14	
	4					wet: 10 YR 2/1
			2	10	12	
	5					dry:
			0	10	14	
3	1				15	Texture SIL
			5	12	15	
	2					Structure 1 VF GR
			6	12	15	
	3					Color
			2	10	13	
	4					wet: 10 YR 2/2
			2	13	13	
	5					dry:
			2	7	10	

0/0  
0/0  
0/0  
0/0

0/0  
0/0  
0/0

0/0  
0/0  
2/0

02SF012

# STUD HORSE UPPER

3-29

INFIL\_TEST: Infiltration

Plot Name 02SFD12

Date 6/27/02

Recorders VanBemmel

Plot Code

GPS  
516130  
5170804

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	4820 ml	2480 ml	2220 ml	2300 ml	1800 ml	1900 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
<del>2:00</del>	9:30	17:30	19:30	27:30	29:30	37:30
	1540 ml	600 ml	480 ml	520 ml	580 ml	520 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
<del>6:00</del>	7:30	12:30	17:30	22:30	27:30	32:30
	520 ml	240 ml	200 ml	240 ml	200 ml	200 ml

Soil Moisture Scale by Touch:

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

PROJECT: Sheep Creek  
SITE\_NAME: Lower Jumpin Creek

Date: 7/1/02

PLOT\_ID: 02SF013

EXAMINERS:  
Archer/Vangemert

SLOPE: 5  
ASPECT: 212

UTM\_N: 5182363  
UTM\_E: 517301

NAD 27

COMMENTS:

Site was logged some time ago. Vegetation is mostly herbaceous now, though some PINCON recruitment. Willows have released from old grazing pressure. Stream banks are also filling in. No recent cattle grazing evident.

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	9 +/- 0.27
A HORIZON DEPTH (cm):	12 +/- 0.64
BARE GROUND %:	31 +/- 0.88
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	263.30 +/- 12.80
Average Infiltration Rate	665 +/- 91

SOIL DESCRIPTION

(Reference FStt 2509.18)

025F0.5

1. Map Unit Symbol:   
 2. Family or Series: *fine-grained mixed Typic Cryosols*   
 3. Date: *7/1/02* 4. By: *VK* 5. Photo. No. 6. Stop No. 7. USGS Quad 8. Location: Sec. T. R.   
 9. Area: *Jumping Ck.* 10. Forest: *LAC N.F.* 11. Ranger District 12. State 13. County   
 14. Parent Material 15. Bedrock Name 16. Elevation 17. Erosion: a. Kind b. Class   
 18. Landform: *Valley Bottom* 19. Slope: a. % b. Shape c. Length d. Aspect   
 20. Drainage Class: *P* 21. Surface Stone and Rock: a. GR b. CB c. ST d. BY   
 22. Potential Natural Vegetation 23. Annual Precipitation 24. Measured Soil Temperature 25. Water Table (Depth): *10cm*

HORI- ZON DE- SIGNA- TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)	
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)				
<i>1</i>	<i>0-8</i>	<i>10TR 2/1</i>			<i>SICL 28</i>	<i>1F SBK TO 2F GR</i>		<i>FR</i>	<i>S</i>			<i>GR-0</i>	<i>3 VF</i>	<i>3 VF</i>	<i>NA</i>	<i>NA</i>	<i>AIRPORT WAVY</i>
<i>1B</i>	<i>8-22</i>	<i>10TR 4/2</i>		<i>7.5YR 6/6</i>	<i>SICL 30</i>	<i>2F SBK TO 1F GR</i>		<i>FI</i>	<i>VS</i>			<i>GR-0</i>	<i>2 VF</i>	<i>2 VF</i>	<i>NA</i>	<i>NA</i>	<i>GRASS WAVY</i>
<i>1C</i>	<i>22-40</i>	<i>10TR 4/3</i>		<i>7.5YR 6/6</i>	<i>SICL 30</i>	<i>2M SBK</i>		<i>FI</i>	<i>VS</i>			<i>GR-0</i>	<i>1 F</i>	<i>1 F</i>	<i>NA</i>	<i>NA</i>	<i>GRASS WAVY</i>
<i>1D</i>	<i>40-60</i>	<i>5Y 6/2 4/1</i>		<i>7.5YR 5/6</i>	<i>SICL 28</i>	<i>2M SBK</i>		<i>FI</i>	<i>S</i>			<i>GR-0</i>	<i>1 F</i>	<i>1 F</i>	<i>NA</i>	<i>NA</i>	<i>GRASS WAVY</i>
<i>1E</i>	<i>60-80</i>	<i>5Y 6/2 4/1</i>		<i>7.5YR 5/6</i>	<i>SICL 30</i>	<i>2M SBK</i>		<i>FI</i>	<i>VS</i>			<i>GR-0</i>			<i>NA</i>	<i>NA</i>	<i>AIR- WAVY</i>
<i>1F</i>	<i>80-87+</i>	<i>5Y 6/1</i>			<i>SICL 30</i>	<i>1M SBK</i>		<i>FI</i>	<i>VS</i>			<i>GR-20%</i>			<i>NA</i>	<i>NA</i>	

26. Partial Soil Control Section: a. Depth: b. Average Clay %: c. Average Rock Fragment Content: 27. Depth to Lithic or Paralititic Contact:   
 28. Diagnostic Horizons: a. Surface: *MOLIC* b. Subsurface: *CLAYEY SANDY LOAM* 29. Moist Control Section Depth:

SLOPE: 3-5%  
ASPECT: 32°

UTM = 517301,  
5182363  
NAD 27, ZONE 12  
3-29

JUNIPER CREEK LOWER

INFIL TEST: Infiltration

Plot Name 025F013 Date 7/1/02 Recorders VA / TV

Plot Code

Test 1. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover 70 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	<u>3100</u> ml	<u>1380</u> ml	<u>1580</u> ml	<u>1280</u> ml	<u>1580</u> ml	<u>1060</u> ml

Test 2. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover 90 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
<del>2:30</del>	7:30	<del>12:30</del>	<del>17:30</del>	<del>22:30</del>	<del>27:30</del>	<del>32:30</del>
	<u>12880</u> ml	<u>4940</u> ml	<u>4740</u> ml	<u>5400</u> ml	<u>4600</u> ml	<u>4680</u> ml
	11+880	11+940	11+740	11+1400	11+600	11+680

Test 3. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover 80 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
9:00	7:30	12:30	17:30	22:30	27:30	32:30
	<u>6000</u> ml	<u>2900</u> ml	<u>3020</u> ml	<u>2800</u> ml	<u>2620</u> ml	<u>2600</u> ml
	11	1+900	1+1020	1+800	1+620	1+600

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.



SITE HAS HISTORIC LOGGING, THOUGH MOSTLY  
HERBACIOUS NOW. WILLOWS HAVE RELEGED  
FROM OLD PRESSURE. STREAM BANKS ARE  
FILLING IN ALSO. NO RECENT GRAZING EVIDENCE  
FOUND.

06.5 13 145  
 10 20  
 10 20

Date: 7/1/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF013	
Crew: Archer		Map Unit #:		Site Name: Jumpin Creek		Ground Corr.	
VanBemert		Land Type:		Description: old CLAYCUT TURMA MEADOW CREEK BED			
TRANSECT	Pt #	Depth Measures	Root Abundance			"A" Horizon	
			>100	10-100	<10		
1	1	7				Texture silty CLAY LOAM	1/10
		12	2cm	10cm	12		
	2	12				Structure 3 GR	3/10
		14	2cm	6cm	14		
	3						
	4	9	2	10		Color	
5	17	3	10		wet:	10YR 2/1	
	11				dry:		
			0	9			4/10
2	1	15				Texture Silty CLAY LOAM	3/10
			2	11	15		
	2					Structure 2 GR	2/10
			2	11	11		
	3						
	4			1	10	Color	
5			0	8	wet:	10YR 2/1	
					dry:		
			0	10			2/10
3	1					Texture SILT LOAM	3/10
			0	10	10		
	2					Structure 2 F GR	2/10
			1	12	12		
	3						
				0	12	Color	
5	Surface H2O		0	3	wet:	10YR 3/1	
					dry:		
			1	6			8/10

PROJECT: Sheep Creek  
SITE\_NAME: Williams Park

Date: 7/2/02

PLOT\_ID: 02SF014

EXAMINERS:  
Archer/Vangemert

SLOPE: 5  
ASPECT: 180

UTM\_N: 5194090  
UTM\_E: 503581

NAD 27

COMMENTS:

Upland park is roughly 50 acres and is headwaters to Eagle creek.  
Many eroded bowls evident. Vegetation is in moderate condition with good native grass cover, and lower annual abundance. Some signs of cattle grazing.

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	11 +/- 0.28
A HORIZON DEPTH (cm):	14 +/- 0.42
BARE GROUND %:	22 +/- 0.51
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	211.67 +/- 6.09
Average Infiltration Rate	89 +/- 13

1. Map Unit Symbol:   
 2. Family or Series: *fine sandy, mixed*   
 3. Date: *7/2/02* 4. By:   
 5. Photo. No.: *025F014* 6. Stop No.:   
 7. USGS Quad:   
 8. Location: Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_   
 9. Area: *Eagle Lake headwaters* 10. Forest: *Lewis & Clark National* 11. Ranger District:   
 12. State: *MT* 13. County:   
 14. Parent Material:   
 15. Bedrock Name:   
 16. Elevation:   
 17. Erosion: a. Kind \_\_\_\_\_ b. Class \_\_\_\_\_   
 18. Landform: *glaciated upland in soil* 19. Slope: a. % \_\_\_\_\_ b. Shape \_\_\_\_\_ c. Length \_\_\_\_\_ d. Aspect \_\_\_\_\_   
 20. Drainage Class:   
 21. Surface Stone and Rock: a. GR \_\_\_\_\_ b. CB \_\_\_\_\_ c. ST \_\_\_\_\_ d. BY \_\_\_\_\_   
 22. Potential Natural Vegetation:   
 23. Annual Precipitation:   
 24. Measured Soil Temperature:   
 25. Water Table (Depth):

HORIZON DESIGNATION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-12	10 YR 3/2		N/A	Silt loam 10	1 VF GR	FR LO	LD FR	SO	N/A	GR-0 CB-0 ST-0	3 VF 2 F 1 M		N/A	GS	
AB	12-22	10 YR 3/3		N/A	Silt loam 20	2 M SBK 2 FG	FR SH	SH FR	S	ZN	GR-5 CB-0 ST-0	3 VF 3 F 1 M		N/A	GS	
BC	22-42+	10 YR 4/4		N/A	Silt clay loam 30	1 M SBK	VFT VH	VFI VS	ZN		GR-20 CB-0 ST-0	1 M 1 F		N/A		
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					

26. Partial Soil Control Section:   
 a. Depth: \_\_\_\_\_ b. Average Clay %: \_\_\_\_\_ c. Average Rock Fragment Content: \_\_\_\_\_   
 27. Depth to Lithic or Paralic Contact: \_\_\_\_\_   
 28. Diagnostic Horizons: *mollic*   
 a. Surface: \_\_\_\_\_ b. Subsurface: \_\_\_\_\_   
 29. Moist Control Section Depth: \_\_\_\_\_

WILLIAMS  
WILSON PARK

Date:		Rooting Depth & Abundance/Texture, Structure, & Color					02SF01A
Crew:		Map Unit #:			Site Name:		
		Land Type:			Description: <i>BASED ON STRUCTURE AND COLOR</i>		
TRANSECT	Pt #	Depth Measures	Root Abundance		"A" Horizon		
			>100	10-100	<10		
1	1					Texture	
			3	10		16	SIL
	2					Structure	
			9	10		14	1 VF GR
	3					Color	
			0	14		14	10YR 3/2
4	<i>4" ROCK</i>					wet: <i>→</i>	
			0	12		12	
5						dry:	
		1	14		14		
2	1					Texture	
			2	11		15	SIL
	2					Structure	
			2	11		11	1 VF GR
	3					Color	
			2	10		14	
4						wet: <i>10 YR 3/2</i>	
		2	14		14		
5						dry:	
		0	10		18		
3	1					Texture	
			2	11		15	SIL
	2					Structure	
			2	13		17	1 VF GR
	3					Color	
			0	11		11	
4						wet: <i>10 YR 3/2</i>	
		2	10		15		
5	<i>4" ROCK</i>					dry:	
			0	9		13	

DATE  
10/10/15

4/10  
2/10  
3/10  
1/10

1/10  
4/10  
2/10

2/10  
0/10  
1/10

COS

025F014  
~~329~~

ST 503581  
TM 5194090  
NAD 27

INFIL TEST: Infiltration

Plot Name Williams PARK Date 7/2/02

Recorders VAN GOMERT

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	1820 ml	700 ml	420 ml	440 ml	460 ml	480 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	9:30	14:30	19:30	24:30	29:30	34:30
	940 ml	300 ml	240 ml	220 ml	180 ml	160 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	11:30	16:30	21:30	26:30	31:30	36:30
	1400 ml	440 ml	280 ml	260 ml	340 ml	280 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Williams Park

50 ACRES

- Upland Park
- Strange erosional sink bowls (Disturbance)
- ⊕ Negative ~~shape~~ condition
- signs of cattle & grazing
- Heads to \_\_\_\_\_ eagle CKS.

PROJECT: Sheep Creek  
SITE\_NAME: Cabin Creek Upland

Date: 7/2/02

PLOT\_ID: 02SF015

EXAMINERS:  
Archer/Vangemert

SLOPE: 8  
ASPECT: 136

UTM\_N: 5188848  
UTM\_E: 501872

NAD 27

COMMENTS:

Plot is around 150 meters from creek on hillslope shelf. Cows are here with bull bellows. Plot is placed in aspen glade. Transects bisect adjacent gully. Upland vegetation is in moderate condition, though the creek is beaten. Channel is straight and downcut, and has low willow cover. Water appears very turbid.

MANY ROOTS DEPTH (cm): 0  
COMMON ROOTS DEPTH (cm): 7 +/- 0.12  
A HORIZON DEPTH (cm): 12 +/- 0.73  
BARE GROUND %: 64 +/- 0.77  
DUFF DEPTH (cm): +/-

DISTURBANCE LEVEL: Soils are cool!  
Bulk Density Ave Wt 278.63 +/- 26.49  
Average Infiltration Rate 374 +/- 79



1. Map Unit Symbol:   
 2. Family or Series: *Ustic Haplocryolls*  
 3. Date: *7/2/02* 4. By: *JK* 5. Photo. No. 6. Stop No. 7. USGS Quad 8. Location: Sec. \_\_\_\_ T. \_\_\_\_ R. \_\_\_\_  
 9. Area: *Cabin Crk.* 10. Forest: *L & C N.F.* 11. Ranger District 12. State 13. County  
 14. Parent Material 15. Bedrock Name 16. Elevation 17. Erosion: a. Kind b. Class  
 18. Landform: *lower 1/2 hillslope* 19. Slope: a. % b. Shape c. Length d. Aspect  
 20. Drainage Class: *P* 21. Surface Stone and Rock: a. GR b. CB c. ST d. BY  
 22. Potential Natural Vegetation 23. Annual Precipitation 24. Measured Soil Temperature 25. Water Table (Depth)

HORI-ZON DE-SIGNA-TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %	STRUC-TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-9	107R 2/2			SCL 35	2 m GR	H	F1	VS	—	GR - CB - ST -	2 VF 2 F 1 m	3 VF 2 F			WELL SMOOTH
AB	9-14	107R 2/2			SCL 35	1 m PL TO 1 m GR	VH	VF1	VS	2N	GR - CB - ST -	2 F 1 m	1 VF 2 F			GRASS SM
B1	14-25	104R 2/2			SCL 40	1 m SBK TO MASSIVE	VH	VF1	VS	2N	GR - CB - ST -	1 F 1 m	2 F			GRASS SM
B2	25-42	104R 2/2			SCL 40	1 m SBK TO MASSIVE	VH	VF1	VS	2N	GR - CB - ST -	1 m	2 F			
											GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					

26. Partial Soil Control Section: a. Depth: b. Average Clay %: c. Average Rock Fragment Content: 27. Depth to Lithic or Paralitlic Contact:  
 28. Diagnostic Horizons: a. Surface: *ochric (too hard for profile)* b. Subsurface: *argillic* 29. Moist Control Section Depth:

SLOPE:  
5-10% C  
3/6°

UTM:  
501872,  
5188848

3-29 NAD-2  
DUNE 12

INFIL\_TEST: Infiltration

Plot Name 225015 Date 7/2/02 Recorders VP/TV

Plot Code

Test 1. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	<u>8520 ml</u>	<u>3420 ml</u>	<u>3710 ml</u>	<u>2400 ml</u>	<u>1340 ml</u>	<u>2000 ml</u>
	<u>111+520</u>	<u>1+1420</u>	<u>1+1710</u>	<u>1+400</u>	<u>1340</u>	<u>2000</u>

SMALL LEAK

Test 2. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:30	9:30	12:30	17:30	22:30	27:30	32:30
	<u>8380 ml</u>	<u>820 ml</u>	<u>540 ml</u>	<u>580 ml</u>	<u>580 ml</u>	<u>540 ml</u>
	<u>111+380</u>					

Test 3. Site Moisture 3 Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30
	<u>2920 ml</u>	<u>180 ml</u>	<u>1020 ml</u>	<u>800 ml</u>	<u>880 ml</u>	<u>620 ml</u>
	<u>1+920</u>					

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

CABIN CREEK UPLAND: PLOT ~ 150m FROM  
CREEK. Cows HERE w/ NICE BULL. PLOT IN  
ASPEN GLADE w/ TRANSECTS BISSECTING  
ADJACENT GULLY. UPLAND VEGETATION IN  
MODERATE CONDITIONS, THOUGH CREEK IS  
BEATEN. CHANNEL IS STRAIGHT & DOWNCUT  
w/ NOT MANY SNIPES. WATER HAS HIGH  
TURBIDITY

Date: 7/2/02		Rooting Depth & Abundance/Texture, Structure, & Color					02SF015
Crew: VAN LOMBERT		Map Unit #:	Site Name: CARIN CREEK				
TRANSECT		Land Type:	Description: UP Hill FROM @ R. GK STREAM				
Pt #	Depth Measures	Root Abundance			"A" Horizon	Texture	
		>100	10-100	<10			
1	1						
	2	0	10		15	Texture	~20% CL Silt LOAM
	3	0	8		10	Structure	2-3 GR
	4	0	1		15	Color	
	5	0	5		15	wet:	10YR 2/1
		1	7		14	dry:	
2	1					Texture	~5-10% CL Silt LOAM
	2	1	9		16	Structure	1 VF GR
	3	0	6		13	Color	ROCK
	4	0	6		7	wet:	10YR 2/1
	5	0	8		9	dry:	
		0	9		14		
3	1					Texture	~10-15% CL Silt LOAM
	2	1	7		10	Structure	1 F GR
	3	0	9		11	Color	
	4	0	8		9	wet:	10YR 3/1
	5	0	0		8	dry:	
		1	7		14		

5C

10/10

4/10

6/10

6/10

7/10

7/10

6/10

9/10

7/10

2/10

PROJECT: Sheep Creek  
SITE\_NAME: Indian Creek

Date: 7/2/02

PLOT\_ID: 02SF016

EXAMINERS:  
Archer/Vangemert

SLOPE: 3  
ASPECT: 150

UTM\_N: 5186460  
UTM\_E: 504891

NAD 27

COMMENTS:

Area is a large alluvial plain with major and minor channels bisecting.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	9 +/- 0.00
A HORIZON DEPTH (cm):	14 +/- 0.58
BARE GROUND %:	7 +/- 0.92
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	275.93 +/- 7.02
Average Infiltration Rate	736 +/- 65

1. Map Unit Symbol:   
 2. Family or Series: loamy mixed  
Typic Ustochrept  
 3. Date: 7/2/62 4. By: VA/TVG 5. Photo. No. 6. Stop No. 7. USGS Quad 8. Location: Sec. T. R.  
 9. Area: Indian Creek 10. Forest: Lewis & Clark National 11. Ranger District 12. State: MT 13. Country  
 14. Parent Material: (?) 15. Bedrock Name 16. Elevation 17. Erosion: a. Kind b. Class  
 18. Landform: Alluvial Plain - Valley bottom 19. Slope: a. % b. Shape c. Length d. Aspect ? 20. Drainage Class ? 21. Surface Stone and Rock: a. GR b. CB c. ST d. BY  
 22. Potential Natural Vegetation 23. Annual Precipitation 24. Measured Soil Temperature 25. Water Table (Depth) ?

HORI-ZON DE-SIGNA-TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC-TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-11	10YR 2/2		N/A	SILT LOAM 9	1VF GR	LD	LD	SO	N/A	GR-0 CB-0 ST-0	2VF 1F 1M	3VF 2F			C S
AB	11-24	10YR 2/2		N/A	SILT LOAM 9	1F SBK TO 1FG	SO	FR	SO	N/A	GR-5 CB-0 ST-0	1VF 1F	3VF 2F 2M			A S
2Bw	24-46	10YR 2/2		2.5YR 4/6	SILT LOAM 15	1M SBK TO 1MG	SO	FR	SS	N/A	GR-40 CB-15 ST-0	2VF 1F 1M	2F 1M			C S
3Bg	46-70	N4/ Dark gray		2.5YR 4/6 (many)	SILT LOAM 20	MASSIVE	H	FF	SS	N/A	GR-10 CB-0 ST-0	1F	1F			A S
4C	70-88+	7.5YR 4/2		2.5YR 4/6	LOAMY SAND 10	Single grains	LD	LD	SO	N/A	GR-30 CB-0 ST-0	0	2M			
											GR- CB- ST- GR- CB- ST- GR- CB- ST- GR- CB- ST-					

26. Partial Soil Control Section: a. Depth: b. Average Clay %: c. Average Rock Fragment Content: 27. Depth to Lithic or Paralithic Contact:  
 28. Diagnostic Horizons: a. Surface: b. Subsurface: cambic 29. Moist Control Section Depth:

025F016  
3-29

G P S

INFIL\_TEST: Infiltration

Plot Name INDIAN CRK, Date 7/2/02

Recorders VAN GEMERT

LT 504891 Plot Code

TM 5186460 Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	8820 ml	4820 ml	4200 ml	4100 ml	4020 ml	3640 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:00	7:30	17:30	19:30	27:30	29:30	37:30
	5100 ml	2600 ml	2000 ml	2000 ml	2000 ml	1440 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
4:00	7:30	12:30	17:30	22:30	27:30	32:30
	10,000 ml	4740 ml	4000 ml	4000 ml	3600 ml	3200 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

# INDIAN CREEK LOWER

Date:		Rooting Depth & Abundance/Texture, Structure, & Color					02SF016	
Crew:		Map Unit #:			Site Name:			
TRANSECT		Land Type:			Description:			
Pt #	Depth Measures	Root Abundance			"A" Horizon			
		>100	10-100	<10				
1	1					Texture S/L		
			0	10	15			
	2						Structure 1 F GR	
			0	7	13			
	3						Color	
			0	8	8		wet: 10YR 2/1	
							dry:	
	4							
			0	9	15			
	5							
			0	8	14			
2	1					Texture S/L		
			0	8	12			
	2 GRAVEL						Structure 1 F GR	
			0	6	13			
	3						Color	
			0	12	14		wet: 10YR 2/2	
							dry:	
	4							
			0	8	12			
	5							
			0	6	9			
3	1					Texture S/L		
			0	8	14			
	2						Structure 1 F GR	
			0	9	18			
	3						Color	
			0	14	22		wet: 10YR 2/2	
							dry:	
	4							
			0	10	17			
	5							
			0	6	18			

Grass increases making A horizon shallower

0/10  
1/10  
2/10  
3/10

0/10  
2/10  
0/10  
1/10

0/10  
5/10  
1/10



PROJECT: Sheep Creek  
SITE\_NAME: Sheep Creek

Date: 7/3/02

PLOT\_ID: 02SF017

EXAMINERS:  
Archer/Vangemert

SLOPE: 12  
ASPECT: 226

UTM\_N: 5185055  
UTM\_E: 505721

NAD 27

COMMENTS:

Plot is 100 ft down from Allan Park Road intersection with main Sheep Creek Road, and is located on the west side of the gulch. Vegetation seems moderate ecologically with high weed occurrence, though production is high. Area is generally a grassland park with aspen glades nearby. Adjacent gulch drains to Sheep Creek.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	7 +/- 0.07
A HORIZON DEPTH (cm):	14 +/- 0.65
BARE GROUND %:	50 +/- 0.49
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	243.55 +/- 12.25
Average Infiltration Rate	567 +/- 47

SOIL DESCRIPTION

(Reference to 2509.18)

SHEEP CRK

POST 17

1. Map Unit Symbol	2. Family or Series <i>fine-loamy, mixed Ustic Andosols</i>	3. Date <i>7/3/02</i>	4. By <i>VA</i>	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. _____ T. _____ R. _____
9. Area <i>Indian Crk divide</i>	10. Forest	11. Ranger District		12. State	13. County		
14. Parent Material <i>Glacial till (?)</i>	15. Bedrock Name	16. Elevation	17. Erosion: a. Kind _____ b. Class _____				
18. Landform	19. Slope: a. % _____ b. Shape _____ c. Length _____ d. Aspect _____		20. Drainage Class	21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____			
22. Potential Natural Vegetation		23. Annual Precipitation		24. Measured Soil Temperature		25. Water Table (Depth)	

HORIZON DESIGNATION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-13	10YR 2/2			SL	ZFGR	SD	FR	SS		GR-15 CB- ST-	2 VF 2 F 1 m	2 VF 2 F			CLEAR SMOOTH
AB	13-32	10YR 2/2			SL	ZFGR TO 1FGR	SH	FR	S		GR-20 CB-5 ST-	1 VF 1 F 1 m	1 VF 2 F			CL WAVY
B <sub>1</sub>	32-42	10YR 5/2			SIL	1 MSX	H	F1	VS	1 N	GR-20 CB- ST-	1 F 1 m	1 VF 2 F			CL WAVY
B <sub>2</sub>	42-52	10YR 6/2			CL	MASSIVE	SH	F1	VS	2 N	GR-40 CB- ST-	1 m	1 F 1 m			CL WAVY
B <sub>3</sub>	52-83+	10YR 5/4			CLAY	MASSIVE	VH	VF1	VS	2 N	GR-20 CB- ST-		1 F 1 m			
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27. Depth to Lithic or Paralitric Contact:
28. Diagnostic Horizons	a. Surface:	b. Subsurface:		29. Moist Control Section Depth:

SHEEP CREEK

SLOPE: 10-15%  
ASPECT: 46°

UTM:  
505721,  
5185055  
3-29  
12T  
NAD 27

INFIL\_TEST: Infiltration

Plot Name 02SF017

Date 7/3/02

Recorders VA / +V

Plot Code

Test 1. Site Moisture 2 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

4500 ml 2900 ml 2200 ml 2400 ml 2200 ml 2200 ml  
11+500 1+900 1+200 1+400 1+200 1+200

Test 2. Site Moisture 2 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:30	7:30	12:30	17:30	22:30	27:30	32:30

8000 ml 4400 ml 3740 ml 3480 ml 3760 ml 3080 ml  
1111 11+400 1+1740 1+1480 1+1760 1+1080

Test 3. Site Moisture 2 Microtopography     

Residual Cover      % Species 1      Species 2     

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30

4040 ml 2300 ml 2040 ml 1660 ml 2000 ml 1640 ml  
11+40 1+300 1+40 1

Soil Moisture Scale by Touch:

: 1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes) ; Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

PLOT IS 100 FT DOWN FROM ALLAN PARK ROAD INTERSECTION,  
LOCATED ON WEST SIDE OF GULCH. THE SITE IS  
CURRENTLY GRAZED. VEGETATION SEEN MODERATE  
WITH A HIGH OCCURRENCE OF WEEDS, THOUGH GROWTH  
IS HIGH. AREA IS GRASSLAND PARK W/ ASPEN  
GROVES. ADJACENT GULCH DRAINS TO SHEEP CREEK.

GPS

112T E. 505721  
UTM N. 5135055

Date: 7/3/02		Rooting Depth & Abundance/Texture, Structure, & Color				02SF017
Crew: VAN GEMERT		Map Unit #:	Site Name: Sheep Creek			
TRANSECT		Land Type:	Description:			
Pt #	Depth Measures	Root Abundance			"A" Horizon	
		>100	10-100	<10		
1	1					Texture SILT LOAM
		0	9		15	
	2					Structure 1 VF GR
		0	9		13	
	3					
	0	9		15	Color	
	4					wet: 10 YR 2/1
		0	6		14	
	5					dry:
		0	8		11	
2	1					Texture SILT LOAM
		0	10		18	
	2					Structure 1 VF GR
		0	6		11	
	3					
	0	10		13	Color	
	4					wet: 10 YR 2/1
		0	9		14	
	5					dry:
		1	11		13	
3	1					Texture SILT LOAM
		0	7		16	
	2					Structure 1 F GR
		0	5		15	
	3					
	0	6		12	Color	
	4					wet: 10 YR 2/2
		0	3		12	
	5					dry:
		0	3		14	

GC

4/10

8/10

4/10

2/10

5/10

4/10

7/10

5/10

5/10

6/10

PROJECT: Sheep Creek  
SITE\_NAME: Black Butte

Date: 7/8/02

PLOT\_ID: 02SF018

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 142

UTM\_N: 5179984  
UTM\_E: 503214

NAD 27

COMMENTS:

Upslope from drainage towards black butte. Sampling done at toeslope, just up from riparian area. 02SF019 is companion plot on other side of creek. Site is very productie with abundant forbs and grasses. Vegetation has high amount of grazing increaser species including Geranium spp., Potentilla spp. and Lupinus spp. Photo taken

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	10 +/- 0.20
A HORIZON DEPTH (cm):	14 +/- 0.94
BARE GROUND %:	13 +/- 1.19
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	271.67 +/- 18.15
Average Infiltration Rate	1428 +/- 118

landscape sculpted by glacial ice cap

USDA - Forest #

SOIL DESCRIPTION

(Reference FS-2509.18)

1. Map Unit Symbol	2. Family or Series pachic argicustolls	3. Date 7-8-02	4. By Farley	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. 27 T. R.
9. Area Black Butte - volcanic plug	10. Forest Lewis & Clark	11. Ranger District White Sulphur		12. State MT	13. County Meagher		
14. Parent Material alluvium - volcanic residuum - sedimentary	15. Bedrock Name alluvial volcanic calcareous shale - limestone		16. Elevation ~ 5600'	17. Erosion: a. Kind _____ b. Class _____			
18. Landform toeslope below Black Butte	19. Slope: a. % 4-8 b. Shape Linear. Length _____ d. Aspect _____		20. Drainage Class WD		21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____		
22. Potential Natural Vegetation Life-form = grassland → "grazing indicator" species present potentilla, geranium, mustard, etc.		23. Annual Precipitation		24. Measured Soil Temperature		25. Water Table (Depth) unobserved	

HORI- ZON DE- SIGNA- TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
	0 - 30	10YR 2/2		NA	h	1 f g <sup>r</sup>	SH	SO PS	PS	NA	GR - 1 CB - ST -	2 vt, f 10 cm ↓	3 vt, f	E		G S
	30 - 47	10YR 2/2			CL	2 M SBR	SH	SS	P	few thin ped faces	GR - 2 CB - ST -	1 vt, f	2 vt, f	E		G S
	47 - 70	10YR 2/2			CL	2 M SBR	SH	SS	P	few thin ped faces	GR - 15 CB - ST -	1 vt, f	2 vt, f	E		C S
	70 - 82	10YR 2/2			CL	2 M SBR	SH	SS	P	few thin ped faces	GR - 5 CB - ST -	1 f	2 vt, f	EV	finely dissam. CaCO <sub>3</sub>	A S
	82 - 98	10YR 3/2			CL	1 f SBR to loose	H	S	P	few thin ped faces	GR - 5 CB - ST -	1 f	2 vt, f	EV	finely dissam. CaCO <sub>3</sub>	A S
	98	slightly-weathered bedrock									GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					
											GR - CB - ST -					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %: 28%	c. Average Rock Fragment Content: 10%	27. Depth to Lithic or Paralithic Contact:
28. Diagnostic Horizons	a. Surface: Mollis	b. Subsurface: "light" argillic		29. Moist Control Section Depth:

## SITE OVERVIEW

Site Name: BLACK BUTTE Plot ID: 02SF018

GPS: Zone 12 T UTM: 503214, 5179984  
NAD-27 (easting) (northing)

Slope: ~ 4%	Aspect: 620
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### Notes:

UPSLOPE FROM DRAINAGE TOWARDS BLACK BUTTE. 02SF019 IS COMPANION PLOT ON OTHER SIDE OF CREEK. SITE IS VERY PRODUCTIVE w/ ABUNDANT FORBS & GRASSES. VEGETATION HAS HIGH AMOUNT OF GRAZING <sup>INCREASED</sup> SPECIES INCLUDING GERANIUM, POTENTILLA & LUPINUS. SAMPLING DONE @ TOESLOPE, JUST UP FROM RIPARIAN AREA. PHOTO @ 128°



Date: 7/8/02		Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover					
Crew: V/T/SF		Site Name: BLACK BUTTE			Plot ID: 02SF018		
TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance		"A" Horizon	Description:	10 POINT GROUND COVER
			Many >100	Common 10-100			
1	1					Texture SIL	10 POINT GROUND COVER
			0	10	10		
	2					Structure 2 F GR	0/10 1/10
			0	16	22		
	3					Color	0/10 0/10
			0	16	23		
4					wet:	10 YR 2/2	
		0	12	18			
5	ROCK				dry:		
			3	5	3		
2	1					Texture SIL	0/10 1/10 3/10 GORNER
			0	6	11		
	2					Structure 1 VF GR	
			0	10	13		
	3	GORNER				Color	
				0	5		
4					wet:	10 YR 2/2	
		0	8	12			
5					dry:		
		0	13	15			
3	1					Texture SIL	0/10 1/10 7/10 GORNER
			0	12	12		
	2	GORNER				Structure 2 M GR	
				0	7		
	3					Color	
			0	10	13		
4					wet:	10 YR 2/2	
		0	9	14			
5	GORNER				dry:		
			0	13	18		

## INFIL TEST: Infiltration

Plot Name 025F018

Date 7/8/02

Recorders VAN GEMERT

## Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

<del>16,760</del> ml	7620 ml	7820 ml	6805 ml	6320 ml	6000 ml	
<del>    </del>						

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:30	7:30	12:30	17:30	22:30	27:30	32:30

<del>10,980</del> ml	6000 ml	4800 ml	2600 ml	2780 ml	4360 ml	
<del>    </del>						

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30

<del>12,000</del> ml	11200 ml	8900 ml	7800 ml	10400 ml	8600 ml	
<del>    </del>						

Soil Moisture Scale by Touch:

; 1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

## Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

## Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

## Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

RACHEL CARL  
Silent Spring

PROJECT: Sheep Creek  
SITE\_NAME: ~~Black Butte~~ ~~Nelan Crk.~~  
Nelan Creek

Date: 7/8/02

PLOT\_ID: 02SF019

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 12  
ASPECT: 282

UTM\_N: 5173897  
UTM\_E: 511129

NAD 27

COMMENTS:

Site is on hillslope about 100 meters east of highway. Vegetation is in good condition with Poa spp., Juncus spp., and FESSCA. However, TAXOFF, Lupinus spp and Geranium spp. Are also common. Some shrub encroachment evident from ARTTRI and POTFRU. Photo taken at 202 degrees.

MANY ROOTS DEPTH (cm):	2
COMMON ROOTS DEPTH (cm):	10 +/- 0.43
A HORIZON DEPTH (cm):	11 +/- 0.72
BARE GROUND %:	36 +/- 0.82
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	258.13 +/- 4.23
Average Infiltration Rate	255 +/- 28

landscape sculpted by local glacial ice cap

USDA - Forest 84

**SOIL DESCRIPTION**

(Reference Form 2509.18)

1. Map Unit Symbol	2. Family or Series Ustic Argicryolls	3. Date 7-8-02	4. By Farley	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. <u>16T. 11N</u> R. <u>7E</u>
9. Area Newlay Ck - 1/4 mi south	10. Forest Lewis & Clark NF	11. Ranger District White Sulphur		12. State MT	13. County Meagher		
14. Parent Material (non-calcareous?) residual - sedimentary	15. Bedrock Name non-calcareous? Siltstone - shale	16. Elevation ~ 5440	17. Erosion: none - observed a. Kind _____ b. Class _____				
18. Landform toeslope - swale	19. Slope: a. % _____ b. Shape <u>concave</u> c. Length _____ d. Aspect _____	20. Drainage Class WD	21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____				
22. Potential Natural Vegetation Lifeform = grassland →	23. Annual Precipitation	24. Measured Soil Temperature		25. Water Table (Depth) unobserved			

HORI-ZON DE-SIGNA-TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUC-TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-7	10YR 2/2		NA	SIL	2 v f	S	S	P	NA	GR-1	3 v f, f	3 v f, f			C
					18	g					CB-					S
AB	7-14	10YR 2/2			L	1 m DBK to 2 v f gr	S	S	P	Few Thin Ped Faces	GR-2	2 v f, f	2 v f, f			C
					21						CB-					S
BE1	14-30	10YR 3/2			L	2 m SBK	S	S	P	Common Thin Ped Faces	GR-2	1 v f, f	1 v f, f			C
					27						CB-					S
BE2	30-37	10YR 4/3			CL	2 m SBK	H	S	P	Common Thin Ped Faces	GR-2	1 f	1 v f, f			A
					30						CB-					S
R	37+	Slightly weathered bedrock									GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27. Depth to Lithic or Paralithic Contact:
28. Diagnostic Horizons	a. Surface: Mollic	b. Subsurface: argillic		29. Moist Control Section Depth:

## SITE OVERVIEW

Site Name: \_\_\_\_\_ Plot ID: 02SF019

GPS: Zone 12 T UTM: 511129, 5173897  
NAD-27 (easting) (northing)

Slope: <u>10-15%</u>	Aspect: <u>92</u>
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### Notes:

SITE IS ON HILLSLOPE ~ 100 m EAST OF HWY.  
VEGETATION IS IN GOOD CONDITION w/ POK 9.  
Juncus + FESCUE BUNCHGRASS. Low to moderate  
TAXOFF COVERAGE, w/ INCREASED LUPINUS + GERANIUM.  
Some sparse encroachment of SLICE + POT FERN.  
PHOTO TAKEN @ 202°.

02SF019

3-29

INFIL\_TEST: Infiltration

Plot Name 023

Date 7/8/02

Recorders JA/TV/SF

Plot Code 02SF019

Test 1. Site Moisture 3 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

2280 ml 940 ml 640 ml 620 ml 680 ml 800 ml  
 1 + 280

Test 2. Site Moisture 3 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:30	7:30	12:30	17:30	22:30	27:30	32:30

3600 ml 1940 ml 2000 ml 1820 ml 1860 ml 1700 ml  
 1 + 1600

Test 3. Site Moisture 3 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30

1520 ml ml 920 ml 900 ml 1020 ml 880 ml  
 16 21 26 31 36

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes) ; Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: 7/8/02 Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover

Crew: VAN GEMERT  
FARLEY

Site Name:

Plot ID: 025F019

TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance		Description:		10 POINT GROUND COVER
			Many >100	Common 10-100	"A" Horizon		
1	1				STR	Texture SILT LOAM 10% dry	4/10
			4	8	STR		
	2				STR	Structure 2 F GR	3/10
			3	8	STR		
	3				STR	Color	5/10
			0	10	STR		
	4				STR	wet: 10 YR 3/1	5/10
			0	13	STR		
	5				STR	dry:	5/10
			2	13	STR		
2	1				STR	Texture SILT LOAM	4/10
			4	10	STR		
	2				STR	Structure 2 F GR	4/10
			0	9	STR		
	3				STR	Color	6/10
			4	10	STR		
	4				STR	wet: 10 YR 2/2	5/10
			4	10	STR		
	5				STR	dry:	5/10
			0	8	STR		
3	1				STR	Texture SILT LOAM	0/10
			3	9	STR		
	2				STR	Structure 2 VF GR	2/10
			1	7	STR		
	3				STR	Color	3/10
			2	7	STR		
	4				STR	wet: 10 YR 3/2	3/10
			1	9	STR		
	5				STR	dry:	GROUND COVER
			0	8	STR		

PROJECT: Sheep Creek  
SITE\_NAME: Daisy Spring

Date: 7/9/02

PLOT\_ID: 02SF020

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 32  
ASPECT: 223

UTM\_N: 5204891  
UTM\_E: 490764

NAD 27

COMMENTS:

Site is spring area which is main source of water for livestock. Area has extensive rutting, down 1-2 ft. High compaction evident around spring. Spring is on hillslope. Vegetation is weedy annuals near the spring (trough) grading back to grasses at roughly 20 ft.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	5 +/- 0.00
A HORIZON DEPTH (cm):	21 +/- 0.81
BARE GROUND %:	+/- 1.29
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	428.70 +/- 15.98
Average Infiltration Rate	108 +/- 26



Bald Hills Allotment

SOIL DESCRIPTION  
(Reference to 2509.1B)

Plot No. 025F00

1. Map Unit Symbol	2. Family or Series fine-loamy, mixed Pachic Argicryolls	3. Date 7-9-02	4. By Farley	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. _____ T. _____ R. _____
9. Area-Tender-foot drainage Daisy Spring - near trough	10. Forest Lewis & Clark NF	11. Ranger District White Sulphur		12. State MT	13. County Meagher		
14. Parent Material residuum - colluvium	15. Bedrock Name fine-grained sandstone argillite	16. Elevation N 6040		17. Erosion: a. Kind _____ b. Class _____			
18. Landform headwater swale	19. Slope: a. % 15-20 b. Shape <u>hammocky</u> c. Length _____ d. Aspect _____		20. Drainage Class WD		21. Surface Stone and Rock a. GR <u>12</u> b. CB <u>1</u> c. ST <u>2</u> d. BY _____		
22. Potential Natural Vegetation "grazing increaser" species present liferform = grassland → i.e. yellow, petiolella, clover, larkspur...			23. Annual Precipitation		24. Measured Soil Temperature		25. Water Table (Depth)

HORI- ZON DE- SIGNA- TION (a)	CM DEPTH (b)	COLOR (c)			TEXTURE (d) [MC]	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Molst (1)	Dry (2)	Mottling (3)			Dry (1)	Molst (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
	6-10	10YR 3/2	10YR 5/2	NA	VFSL [18]	2 m SBK to 2 f <del>SBK</del> PL	SH	SO	PO	NA	GR-12 CB- ST-	2 v f, f	1 v f, f	NA	compacted layers	C S
	10-29	10YR 3/2	10YR 5/2	NA	VFSL [19]	2 f SBK to 2 f ABK	SH	SS	PS	NA	GR-12 CB- ST-	1 v f, f	1 v f, f			C S
	29-45	10YR 4/2	10YR 5/2	NA	VFSCL [20]	2 m SBK	SH	SS	PS	few thin ped faces	GR-15 CB- ST-	1 v f, f	1 v f, f			C S
	45-80	10YR 4/2	10YR 6/2	NA	VFSCL [20]	2 m SBK	SH	SS	PS	few thin ped faces	GR-15 CB- ST-	1 f	1 v f, f			C S
	80-108	10YR 4/2	10YR 6/2	NA	VFSCL [21]	2 m SBK	SH	SS	PS	few thin ped faces	GR-18 CB- ST-	1 f	1 v f, f			C S
	108-115	10YR 4/2	10YR 6/2	NA	VFSCL [25]	2 m SBK	H	S	P	common thin ped faces	GR-18 CB- ST-	1 f	1 v f, f	↓		A S
	115+	Weathered argillite									GR- CB- ST- GR- CB- ST- GR- CB- ST-					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27. Depth to Lithic or Paralithic Contact:
28. Diagnostic Horizons	a. Surface: Mollic	b. Subsurface: "light" argillite		29. Moist Control Section Depth:

GPS

0490764  
5204891

DAISY SPRING 3-29

open  
30-35%  
sect:  
43 E

INFIL\_TEST: Infiltration

Plot Name 02SF020

Date 7/9/02

Recorders VANBEMBERT

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	800 ml	260 ml	220 ml	240 ml	200 ml	220 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:00	9:30	14:30	19:30	24:30	29:30	34:30
	2800 ml	1200 ml	1140 ml	1160 ml	1040 ml	1100 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	11:30	16:30	21:30	26:30	31:30	36:30
	0 ml	120 ml	160 ml	160 ml	0 ml	80 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: 7/9/02		Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover					
Crew: JA/TV/SE		Site Name: DASH GAP		Plot ID: 022000			
TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance		"A" Horizon	Description: A horizon depth to bottom of PL layer	10 POINT GROUND COVER
			Many >100	Common 10-100			
1	1					Texture L	1/10 9/10 7/10 5/10
			0	4	18		
	2					Structure 1 F PL	
			0	5	20		
	3					Color	
			0	0	30		
4					wet: 10 YR 4/2		
		0	0	24			
5					dry:		
		0	2	30			
2	1					Texture VF SANDY LOAM	2/10 0/10 2/10
			0	5	20		
	2					Structure 1 F SBK TO 1 F PL	
			0	9	16		
	3					Color	
			0	6	22		
4					wet: 10 YR 3/2		
		0	5	21			
5					dry:		
		0	4	19			
3	1					Texture VF SANDY CLAY LOAM	2/10 1/10 2/10
			0	3	22		
	2					Structure 2 F GR	
			0	5	21		
	3	TRAIL				Color	
				0	3		
4					wet: 10 YR 4/2		
		0	9	15			
5					dry:		
		0	11	11			

GROUND COVER

PROJECT: Sheep Creek  
SITE\_NAME: Talus Park

Date: 7/9/02

PLOT\_ID: 02SF021

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 25  
ASPECT: 240

UTM\_N: 5204366  
UTM\_E: 491073

NAD 27

COMMENTS:

Site is a linear feature 15-20 meters wide and following the slope.  
About 10 cm down are talus, igneous rocks. Rock appears as  
Andesitic porphyry (fine grained matrix with coarser isolated within).  
Only one bulk density sample was taken due to rockiness. Soil color is  
10YR2/1 for top horizon. Plot has mixed forb, grass and carex  
vegetation. Vegetation is in moderate to good condition.

MANY ROOTS DEPTH (cm):  
COMMON ROOTS DEPTH (cm): +/-  
A HORIZON DEPTH (cm): +/-  
BARE GROUND %: +/-  
DUFF DEPTH (cm): +/-

DISTURBANCE LEVEL: Soils are cool!  
Bulk Density Ave Wt 335.30 +/-  
Average Infiltration Rate +/-

## SITE OVERVIEW

Site Name: TALUS PARK Plot ID: 02SF021

GPS: Zone 12 T UTM: 491073, 5204366  
NAD-27 (easting) (northing)

Slope: <u>25%</u>	Aspect:
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### Notes:

MIXED FORS, GRASS & CAREX VEGETATION.  
SITE IS A LINEAR FEATURE 15-20 m WIDE  
& FOLLOWING SLOPE. 10cm DOWN HIT  
ROCKS. VOLCANIC PARENT MATERIAL BELOW.  
1 BULK DENSITY SAMPLE TAKEN. SOIL  
COLOR IS 10YR 2/1 @ TOP. VEGETATION  
IS MODERATE TO GOOD CONDITION.

ANDESITIC PORPHYRY (FINE GRAINED MATRIX  
w/ COARSER ISOLATED)  
w/n

PROJECT: Sheep Creek  
SITE\_NAME: Lower Daisy Creek

Date: 7/9/02

PLOT\_ID: 02SF022

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 15  
ASPECT: 154

UTM\_N: 5204310  
UTM\_E: 490650

NAD 27

COMMENTS:

Plot is roughly 20 ft above stream on the footslope transition to toeslope. Vegetation is mix of forb and grass with high cover of clover, dandelion, Potentilla spp., yarrow, timothy, geranium, and Poa

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	6 +/- 0.00
A HORIZON DEPTH (cm):	12 +/- 1.01
BARE GROUND %:	24 +/- 0.63
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	364.53 +/- 12.24
Average Infiltration Rate	+/-

Bald Hills Allotment

SOIL DESCRIPTION  
(Reference to 2509.18)

Plot No. 025F022

1. Map Unit Symbol	2. Family or Series fine-loamy, mixed Pachic Argicryolls	3. Date 7-9-02	4. By Farley	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. ___ T. ___ R. ___
9. Area Daisy Creek headwaters	10. Forest Lewis & Clark NF	11. Ranger District White Sulphur		12. State MT	13. County Mangler		
14. Parent Material residuum colluvium-alluvium	15. Bedrock Name andesitic porphyry	16. Elevation ~5760	17. Erosion: None observed a. Kind _____ b. Class _____				
18. Landform footslope-toeslope	19. Slope: a. % 15 b. Shape convex to concave c. Length _____ d. Aspect _____	20. Drainage Class WD	21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____				
22. Potential Natural Vegetation life-form = grassland	23. Annual Precipitation		24. Measured Soil Temperature		25. Water Table (Depth) Not Observed		

HORI- ZON DE- SIGNA- TION (e)	CM DEPTH (d)	COLOR (c)			TEXTURE (d) %	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER- CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Clans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-10	10YR 2/2		N/A	L 27	2fSBK to 2mgr	SH	SS	PS	few thin ped faces	GR-5 CB- ST-	2vf,f 1m	2vf,f 1m	NA		C S
AB	10-28				CL 30	2mSBK to 2mgr	MH	SS	P	common thin ped faces	GR-5 CB- ST-	1vf,f	2vf,f			C S
Bt1	28-45				CL 32	2m SBK	MH	SS	P	common thin ped faces	GR-5 CB- ST-	1vf,f	1vf,f			C S
Bt2	45-62	10YR 4/3			SCL 33	2m SBK	H	S	P		GR-10 CB- ST-	1f	1vf,f			C S
Bt3	62-74	10YR 4/3			SCL 33	2m SBK	H	S	P		GR-10 CB- ST-	1f	1vf,f			A S
	74+	Weathered andesitic porphyry bedrock									GR- CB- ST- GR- CB- ST- GR- CB- ST-					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27. Depth to Lithic or Paralithic Contact:
28. Diagnostic Horizons	a. Surface: mollic	b. Subsurface: argillic	29. Moist Control Section Depth:	

## SITE OVERVIEW

Site Name: Phlox Creek Lower Plot ID: 02SF012

GPS: Zone 12 T UTM: 490650, 5204310  
NAD-27 (easting) (northing)

Slope: 15%	Aspect: 74°
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### Notes:

Key descriptors:

(1) Elevation ABOVE STREAM: 20 ft

(2) Transition from FOOTSLOPE TO  
TRESHORE.

VEGETATION IS MIX OF FORBS & GRASS,  
w/ much CLOVER, DANDELION, POTENTILLA spp,  
TARROW, PHLEUM, GERANIUM, & PEA PASTENSIS.



Date: 02/09/02 Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover

Crew: JA/TV/SF Site Name: DASY CRK LOWER Plot ID: 025022

Root Abundance Description: TEXTURE IS ZELKIN FINE A HOR.

TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance			"A" Horizon	Description	10 POINT GROUND COVER
			Many >100	Common 10-100				
1	1						Texture 1 m SBK TO 1 m GR	10 POINT GROUND COVER
			0	10	10			
	2						Structure CUTY 20cm	0/10 1/10 2/10
			0	5	11			
	3						Color	
			0	7	11			
4						wet:	107R 2/2	
		0	9	13				
5						dry:		
		0	9	14				
2	1						Texture	
	2						Structure	
	3						Color	
4						wet:		
5						dry:		
3	1						Texture CUTY ~ 25" LC	1/10 3/10 2/10 1/10
			0	10	10			
	2						Structure 1 m SBK TO 2 m GR	
			0	7	14			
	3						Color	
			0	11	11			
4						wet:	107R 2/2	
		0	12	12				
5						dry:	GROUND COVER	
		0	10	16				

Date: 7/9/02		Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover						
Crew: VAN GEMERT		Site Name: DIST C&T LEVEL			Plot ID: 02SF022			
TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance		Description:			
			Many >100	Common 10-100	"A" Horizon			
1	1					Texture	10 POINT GROUND COVER	
	2					Structure		
	3					Color		
						wet:		
	4							
	5					dry:		
2	1				STR	Texture	18% L 40% SA 5/10	
			0	2	18	LOAM		
	2					STR	Structure	5/10
			0	4	9	2 m GR		
	3					CR	Color	4/10
			0	4	12	wet:		
	4					Color	10% 2/2	
			0	1	12			
	5					STR/Chs	dry:	
			0	2	10			
3	1					Texture		
	2					Structure		
	3					Color		
						wet:		
	4							
	5					dry:		
							GROUND COVER	

PROJECT: Sheep Creek  
SITE\_NAME: Robertson

Date: 7/10/02

PLOT\_ID: 02SF023

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 282

UTM\_N: 5210632  
UTM\_E: 486121

NAD 27

COMMENTS:

Site is on goatslope break just above gulch. Area is in moderate ecological condition (Kaleen Monson) with lack of annuals, good production, no bare ground. However, a abundance of PHLPRA, POAPRA, POTGRA, POTFRU, LUPINE, and GERSTI lowers the site potential. Some Stipa spp occurs. The landform is flat to convex with underlying limestone bedrock. Photos taken north and south.

MANY ROOTS DEPTH (cm):	0
COMMON ROOTS DEPTH (cm):	8 +/- 0.00
A HORIZON DEPTH (cm):	16 +/- 0.38
BARE GROUND %:	22 +/- 1.01
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	292.03 +/- 11.33
Average Infiltration Rate	360 +/- 87

**SOIL DESCRIPTION**

(Reference F. 2509.18)

1. Map Unit Symbol	2. Family or Series <i>fine-textured, dark-colored Pachic Argosols</i>	3. Date 7-10-02	4. By Farley	5. Photo. No.	6. Stop No.	7. USGS Quad	8. Location: Sec. _____ T. _____ R. _____
9. Area Robertson Spring Deep Crk. Park	10. Forest L&C	11. Ranger District White Sulphur			12. State MT	13. County	
14. Parent Material Residual		15. Bedrock Name Limestone		16. Elevation ~4840'	17. Erosion: a. Kind _____ b. Class _____		
18. Landform glacially rounded - Upland Plateau		19. Slope: a. % 2-4 b. Shape _____ c. Length _____ d. Aspect _____			20. Drainage Class		21. Surface Stone and Rock a. GR _____ b. CB _____ c. ST _____ d. BY _____
22. Potential Natural Vegetation grazing increases species → geranium grassyland - cinquefoil, iris, yarrow, timothy				23. Annual Precipitation		24. Measured Soil Temperature	25. Water Table (Depth)

HORI- ZON DE- SIGNA- TION (a)	DEPTH (b)	COLOR (c)			TEXTURE (d) %	STRUC- TURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
		(1)	(2)	(3)			(1)	(2)	(3)	(1)	(2)	(3)	(4)			
A	0 - 12	10YR 2/2		NA	SiL 14	2MSBK to 2mgr	SH	SD	PO	NA	GR-T	2vf,f	2vf,f			C S
AB	12 - 32	10YR 2/2			SiL 19	2Co ABK to 2mgr	H	SS	PS	common thin red faces	GR-T	1vf,f	1vf,f			C S
BE1	32 - 48	10YR 3/2			SiCL 32	2M SBK	MH	VS	P	common mod. red faces	GR-T	1f	1vf			C S
BE2	48 - 52	10YR 3/3			SiCL 36	2M SBK	VH	VS	VP	↓	GR-15	1f	1vf			A S
	52 +	Moderately weathered bedrock									GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					
											GR-					
											CB-					
											ST-					

26. Partial Soil Control Section	a. Depth:	b. Average Clay %:	c. Average Rock Fragment Content:	27. Depth to Lithic or Paralithic Contact:
28. Diagnostic Horizons	a. Surface: mollic	b. Subsurface: argillic		29. Moist Control Section Depth:

# SITE OVERVIEW

7/10/02

Site Name: ROBERTSON Plot ID: 025F023

GPS: Zone 12T UTM: 0486121, 5210632  
 NAD-27 (easting) (northing)

Slope: <u>2-5%</u>	Aspect: <u>102</u>
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Notes:

SITE ON FOOTSLOPE BREAK JUST ABOVE GULCH. AREA IS IN MODERATE ECOLOGICAL CONDITION (KAREN M.) w/ LACK OF ANIMALS, GOOD PRODUCTION (NO BARE GROUND), THOUGH DOMINATED BY TIMOTHY, POTGRA, POTGRA, LUPINE, & GERST (SILKY GERANIUM). SOME STIPA SPP. ↖ POTGRA.

LANDFORM IS FLAT TO CONVE w/ UNDERLYING LIMESTONE. PHOTO'S TAKEN @ N & S.

ROBERTSON

3-29

INFIL TEST: Infiltration

Plot Name 02SF023

Date 7/10/02

Recorders A/TV/KF

Plot Code

Test 1. Site Moisture 2 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30

ml 1340 ml 960 ml 700 ml 780 ml 620 ml

1+100

Test 2. Site Moisture 2 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
2:30	7:30	12:30	17:30	22:30	27:30	32:30
	9	14	17	24	29	34

ml ml ml 1720 ml 1720 ml 1540 ml

1+1+740 1+1280 1+400

Test 3. Site Moisture 2 Microtopography

Residual Cover % Species 1 Species 2

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30
	11	16	21	26	31	36

ml 1220 ml 700 ml 820 ml 720 ml 600 ml

1+1040

Soil Moisture Scale by Touch:

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: 7/10/02		Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover					
Crew: VAN GEMER		Site Name: ROBERTSON			Plot ID: 02SF023		
		Root Abundance		Description: upland Park			
TRANSECT #	POINT SAMPLE	Depth Measures	Many >100	Common 10-100	"A" Horizon		
1	1				SILT/DF Color STR	Texture SILT - 8% CL SILT LOAM	10 POINT GROUND COVER
			0	4	13		
	2				STR	Structure 1M GR 1F GR	
			0	11	19		
	3				STR	Color	
		0	10	19			
4				STR	wet: 10YR 3/1		
		0	8	19			
5				STR/GR	dry:		
		0	8	14			
2	1				STR	Texture SILT 9-10% CL SILT LOAM	10 POINT GROUND COVER
			0	9	12		
	2				PACK	Structure 2F GR	
			0	8	18		
	3				STR	Color	
		0	10	19			
4				STR	wet: 10YR 2/1		
		0	7	11			
5				STR/CL	dry:		
		0	6	19			
3	1				TXT	Texture SILT 19% CL LOAM	10 POINT GROUND COVER
			0	10	12		
	2				TXT	Structure 2F GR	
			0	8	18		
	3				TXT	Color	
		0	8	10			
4				TXT	wet: 10YR 2/2		
		0	8	12			
5				TXT	dry:		
		0	6	13			

PROJECT: Sheep Creek  
SITE\_NAME: Deep Creek Park II

Date: 7/10/02

PLOT\_ID: 02SF024

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 3  
ASPECT: 148

UTM\_N: 5210090  
UTM\_E: 485151

NAD 27

COMMENTS:

Previous plot should be Robertson. The ecological status is the lower end of HIGH. Good species diversity exists, but the presence of POAPRA, high LUPINE, and PHLPRA cover lowers status. The landscape is a saddle, convex in nature, and with limestone bedrock. To the west of the saddle, the drainage is a stringer of Deep Creek. To the east, the valley drains past Robertson site, 02SF023.

MANY ROOTS DEPTH (cm):	2
COMMON ROOTS DEPTH (cm):	7 +/- 0.24
A HORIZON DEPTH (cm):	7 +/- 0.29
BARE GROUND %:	7 +/- 0.25
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	248.55 +/- 6.75
Average Infiltration Rate	120 +/- 18



1. Map Unit Symbol \_\_\_\_\_ 2. Family or Series *fine-loamy, carbonatic*  
*Ustic Argicollis* 3. Date *7-10-02* 4. By *Farley* 5. Photo. No. \_\_\_\_\_ 6. Stop No. \_\_\_\_\_ 7. USGS Quad \_\_\_\_\_ 8. Location: Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_

9. Area *Deep Lk. Park - ridgeline* 10. Forest *L & L* 11. Ranger District *White Sulphur* 12. State *MT* 13. County \_\_\_\_\_

14. Parent Material *residuum* 15. Bedrock Name *limestone* 16. Elevation *N 5120'* 17. Erosion: a. Kind \_\_\_\_\_ b. Class \_\_\_\_\_

18. Landform *glacially rounded upland plateau* 19. Slope: a. % *1-3* b. Shape *gently convex* c. Length \_\_\_\_\_ d. Aspect \_\_\_\_\_ 20. Drainage Class *W0* 21. Surface Stone and Rock a. GR \_\_\_\_\_ b. CB \_\_\_\_\_ c. ST \_\_\_\_\_ d. BY \_\_\_\_\_

22. Potential Natural Vegetation *grassland* 23. Annual Precipitation \_\_\_\_\_ 24. Measured Soil Temperature \_\_\_\_\_ 25. Water Table (Depth) \_\_\_\_\_

HORIZON DESIGNATION (a)	CM DEPTH (b)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Clasts (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-6	10YR 2/1		NA	Sil [11]	1vf gr	SH	SO	PO	NA	GR-T CB- ST-1	3vf, f top-2cm 2vf, f	2vf			C S
AB	6-27	10YR 2/2			SicL [28]	3M ABK- (vertical orientation) 3M [3M]PH	SS	PS	PS	Common nod. ped faces	GR-T CB- ST-	2vf, f 1f	2vf 1f			C S
Bt1	27-35	10YR 4/3			Sic [40]	3M SBK	VH	VS	VP	common thin ped faces	GR-T CB- ST-	1vf, f	1vf, f			C S
Bt2	35-72	10YR 4/3			Sic [40]	3M SBK	VH	VS	VP	Common thin ped faces	GR-T CB- ST-	1f	1f			A S
	72+	rock									GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					
											GR- CB- ST-					

26. Partial Soil Column Section a. Depth: \_\_\_\_\_ b. Average Clay %: \_\_\_\_\_ c. Average Rock Fragment Content: \_\_\_\_\_ 27. Depth to Lithic or Paralititic Contact: \_\_\_\_\_

28. Diagnostic Horizons a. Surface: *mollic* b. Subsurface: *argillic* 29. Moist Control Section Depth: \_\_\_\_\_

## SITE OVERVIEW

Site Name: DEEP CRK PARK II Plot ID: 02SF024

GPS: Zone 12 T UTM: 485151, 5210090  
NAD-27 (easting) (northing)

Slope: <u>2-5%</u>	Aspect: <u>68°</u>
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### Notes:

PREVIOUS PLOT SHOULD BE ROBERTSON.  
THE ECOLOGICAL STATUS IS LOWER END  
OF HIGH. GOOD SPECIES DIVERSITY, BUT  
w/ POAERA & ↑ LUPINE COVER, ALSO SOME PELLITA.

LANDSCAPE IS A SADDLE, CONVEX. BEDROCK  
IS LIMESTONE. WEST: THE DRAINAGE IS  
A STRINGER OF DEEP CRK. EAST: THE  
VALLEY DRAINS PAST 02SF023, ROBERTSON.

GPS

025F024

185151  
5210090

INFIL\_TEST: Infiltration

Plot Name Deep Creek

Date 7/10

Recorders VAN SEMMET

Plot Code \_\_\_\_\_

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	<u>2380 ml</u>	<u>740 ml</u>	<u>560 ml</u>	<u>480 ml</u>	<u>320 ml</u>	<u>500 ml</u>

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
<del>2:00</del>	<u>9:30</u>	<u>17:30</u>	<u>19:30</u>	<u>27:30</u>	<u>29:30</u>	<u>37:30</u>
	<u>2180 ml</u>	<u>180 ml</u>	<u>440 ml</u>	<u>280 ml</u>	<u>340 ml</u>	<u>240 ml</u>

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial Fill	Start Value	10 min Value	15 min Value	20 min Value	25 min Value	30 min Value
<del>5:00</del>	<u>11:30</u>	<u>16:30</u>	<u>21:30</u>	<u>26:30</u>	<u>31:30</u>	<u>36:30</u>
	<u>1520 ml</u>	<u>680 ml</u>	<u>520 ml</u>	<u>500 ml</u>	<u>580 ml</u>	<u>460 ml</u>

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

Date: \_\_\_\_\_ Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover

Crew: *VA/TV/SF* Site Name: *DEEP CRYK PARK II* Plot ID: *0251024*

TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance			Description:	
			Many >100	Common 10-100	"A" Horizon		

1	1					Texture <i>SIL</i>	10 POINT GROUND COVER
			<i>0.5</i>	<i>7</i>	<i>7</i>		
	2					Structure <i>1 VF 6</i>	<i>0/10</i> <i>2/10</i> <i>0/10</i> <i>1/10</i>
			<i>3</i>	<i>6</i>	<i>6</i>		
	3					Color	
			<i>2.5</i>	<i>7</i>	<i>7</i>		
	4					wet:	<i>10 YR 2/1</i>
			<i>3.5</i>	<i>4</i>	<i>7</i>		
	5					dry:	
			<i>2</i>	<i>6</i>	<i>6</i>		

2	1					Texture <i>SIL</i>	<i>0/10</i> <i>0/10</i> <i>3/10</i>
			<i>3</i>	<i>7</i>	<i>7</i>		
	2					Structure <i>1 VF 6R</i>	
			<i>2</i>	<i>7</i>	<i>7</i>		
	3					Color	
			<i>2</i>	<i>9</i>	<i>7</i>		
	4					wet:	<i>10 YR 2/1</i>
			<i>4</i>	<i>8</i>	<i>8</i>		
	5					dry:	
			<i>2.5</i>	<i>8</i>	<i>8</i>		

3	1					Texture <i>SIL</i>	<i>0/10</i> <i>1/10</i> <i>0/10</i>
			<i>2</i>	<i>8</i>	<i>8</i>		
	2					Structure <i>1 VF 6R</i>	
			<i>2</i>	<i>9</i>	<i>9</i>		
	3 <i>GOALER</i>					Color	
			<i>0</i>	<i>7</i>	<i>7</i>		
	4					wet:	<i>10 YR 2/1</i>
			<i>2</i>	<i>9</i>	<i>9</i>		
	5 <i>Rock</i>					dry:	GROUND COVER
			<i>2.5</i>	<i>7</i>	<i>7</i>		

PROJECT: Sheep Creek  
SITE\_NAME: Newland Creek Allotment

Date: 7/11/02

PLOT\_ID: 02SF025

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 5  
ASPECT: 174

UTM\_N: 5172490  
UTM\_E: 507059

NAD 27

COMMENTS:

Site is in section 19 in Newland Creek Allotment. It is uphill of the saddle in a small park adjacent to Miller drainage. Ecologic condition seems moderate with good diversity of forb and grass species. Shrubs are few with burn evidence from skeleton sage wood. Lupine and sunflower are very common. Also, FESIDA, Melica spp., KOEMAC, STIPA, and POAPRA are common. The site landscape is a broad, convex ridge, up from a saddle. At the saddle are many salt blocks, with adjacent beaten areas including much bare ground. Photos taken

MANY ROOTS DEPTH (cm):	1
COMMON ROOTS DEPTH (cm):	10 +/- 0.22
A HORIZON DEPTH (cm):	12 +/- 0.48
BARE GROUND %:	22 +/- 0.56
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	238.57 +/- 19.22
Average Infiltration Rate	161 +/- 14

1. Map Unit Symbol **2. Family or Series** fine-loamy, mixed  
Pachis Argicryolls

3. Date 7-11-02 4. By Farley 5. Photo. No. 6. Stop No. 7. USGS Quad 8. Location: Sec. 19 T. R.

9. Area Newlin crk. Allot. 10. Forest Lewis & Clark NF 11. Ranger District White Sulphur 12. State MT 13. County Meagher

14. Parent Material residuum 15. Bedrock Name (non-calcareous?) sedimentary - shale 16. Elevation ~6080 17. Erosion: none evident a. Kind b. Class

18. Landform Ridgetop - saddle 19. Slope: a. % 2-4 b. Shape c. Length d. Aspect 20. Drainage Class WD 21. Surface Stone and Rock a. GR b. CB c. ST d. BY

22. Potential Natural Vegetation burned (x) sagebrush skeletons 23. Annual Precipitation 24. Measured Soil Temperature 25. Water Table (Depth) unobserved

HORIZON DESIGNATION (e)	CM DEPTH (d)	COLOR (c)			TEXTURE (d) %C	STRUCTURE (e)	CONSISTENCE (f)			SPECIAL FEATURES (g)				EFFER. CLASS (h)	FIELD pH (i)	BOUNDARY (j)
		Moist (1)	Dry (2)	Mottling (3)			Dry (1)	Moist (2)	Wet (3)	Cutans (1)	% of Rock Fragments (2)	Roots (3)	Pores (4)			
A	0-12	10YR 3/2		NA	L	2f GA					None	GR-5 CB- ST- 0-3 cm 3vf, f 3-12=2vf, f	3vf, f			C S
AB	12-23	10YR 3/3			L	3M ABK to SBK					common thin ped faces	GR-10 CB- ST-	1vf, f	2vf, f		C S
B <sub>cl</sub>	23-40	10YR 3/3			CL	3M SBK						GR-10 CB- ST-	1f, m	1vf, f		C S
B <sub>cl</sub>	40-62	10YR 3/3			CL	3M SBK						GR-10 CB- ST-	1f, m	1vf, f		C S
B <sub>cl</sub>	62-98	10YR 4/3		N	CL	3M SBK						GR-10 CB- ST-	1m	1f		A S
R	98+	Rock										GR- CB- ST- GR- CB- ST- GR- CB- ST-				

26. Partial Soil Control Section a. Depth: b. Average Clay %: c. Average Rock Fragment Content: 27. Depth to Lithic or Paralitlic Contact:

28. Diagnostic Horizons a. Surface: mollic b. Subsurface: argillic 29. Moist Control Section Depth:

## SITE OVERVIEW

Site Name: SEC-19 in Newlands Crk Allotment Plot ID: 025F025

GPS: Zone 12 T UTM: 507059, 5172490  
NAD-27 (easting) (northing)

Slope: 5%	Aspect: 35A
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### Notes:

SITE IS UPHILL OF SADDLE IN SMALL PARK ADJACENT TO MILLER DRAINAGE. ECOLOGIC CONDITION SEEMS MODERATE w/ GOOD DIVERSITY OF FORB & GRASS SPECIES. SHRUBS FEW w/ BURN EVIDENCE FROM SKELETON SAGE WOOD. LUPINE & HETEROSTACHYS (SUNFLOWER) VERY COMMON. FESIDA, MELICK, KOELEERIA & STIPA ALSO COMMON w/ SOME POA. PRA.

LANDSCAPE IS BROAD RIDGE, CONVEX, UP FROM SADDLE. SADDLE HAS SALT BLOCKS, w/ BELTED DOWN AREAS ADJACENT. BARE SOIL EXISTS @ THIS AREA, BUT COVER INCREASES TO 100% OUT OF SADDLE. PHOTOS @ 20° & 200°

## INFIL TEST: Infiltration

Plot Name 025025Date 7/11/02Recorders VJ/TV/SF

## Plot Code

Test 1. Site Moisture 2 Microtopography \_\_\_\_\_Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
		<u>720</u> ml	<u>740</u> ml	<u>580</u> ml	<u>580</u> ml	<u>510</u> ml

Test 2. Site Moisture 2 Microtopography \_\_\_\_\_Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
<del>2:30</del>	9:30	<del>12:30</del> 14	<del>17:30</del> 19	<del>22:30</del> 24	<del>27:30</del> 29	<del>32:30</del> 34
		<u>1660</u> ml	<u>760</u> ml	<u>580</u> ml	<u>580</u> ml	<u>440</u> ml

Test 3. Site Moisture 2 Microtopography \_\_\_\_\_Residual Cover 100 % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
<del>5:00</del>	7:30	<del>12:30</del> 16	<del>17:30</del> 21	<del>22:30</del> 26	<del>27:30</del> 31	<del>32:30</del> 36
		<u>2000</u> ml	<u>1270</u> ml	<u>920</u> ml	<u>840</u> ml	<u>820</u> ml

## Soil Moisture Scale by Touch:

:1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

## Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

## Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

## Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.



Date: 7/11/02      Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover

Crew: VAN GEMERT

Site Name:

Plot ID: 02SF025

TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance		"A" Horizon	Description:		10 POINT GROUND COVER
			Many >100	Common 10-100		Texture	Color	
1	1				TXT	SILT LOAM	8% CI 3% SA	10 POINT GROUND COVER
			1	13	13			
	2					TXT/CL	Structure 1VF GR	1/10
			1	10	10			
	3					TXT	Color	0/10
			0	12	12			
4					TXT	wet: 10YR 2/2	2/10	
		0	11	11				
5						dry:	2/10	
		1	13	13				
2	1				TXT	SILT LOAM	11% CI	4/10
			1	10	14			
	2					CLR/TXT	Structure 1F GR	0/10
			0	9	9			
	3					TXT	Color	3/10
			0	14	14			
4					TXT	wet: 10YR 2/2	4/10	
		0	10	10				
5					TXT	dry:	4/10	
		0	8	8				
3	1				TXT/CL	LOAM	13% CI	1/10
			1	9	9			
	2					CLR/TXT	Structure 1F GR	1/10
			0	9	11			
	3					CLR	Color	1/10
			0	10	11			
4					TXT	wet: 10YR 3/2	6/10	
		3	8	14				
5						dry:	GROUND COVER	
		0	10	15				

PROJECT: Sheep Creek  
SITE\_NAME: Lake

Date: 7/11/02

PLOT\_ID: 02SF026

EXAMINERS:  
Farley/Archer/Vangemert

SLOPE: 2  
ASPECT: 185

UTM\_N: 5169662  
UTM\_E: 514648

NAD 27

COMMENTS:

Ecologically, site is high given the high cover of FESSCA and low coverage of diminutive forbs. Lupine and others are much less here than at other plots. Recent burn activity evident with charcoal on top layer and skeletal sage stems. The soil has a massive lower layer, which seemed compacted. However, roots accessed through this layer, lower than top A horizon. This site seems similar to upper Stud Horse (02SF012) from a vegetative perspective.

MANY ROOTS DEPTH (cm):	2
COMMON ROOTS DEPTH (cm):	10 +/- 0.27
A HORIZON DEPTH (cm):	8 +/- 1.10
BARE GROUND %:	6 +/- 0.71
DUFF DEPTH (cm):	+/-

DISTURBANCE LEVEL:	Soils are cool!
Bulk Density Ave Wt	284.47 +/- 6.71
Average Infiltration Rate	351 +/- 26

## SITE OVERVIEW

Site Name: LAKE Date: 7/11/02 Plot ID: 025F026

GPS: Zone 12 T UTM: 514648, 5169667  
NAD-27 (easting) (northing)

Slope: <u>0-5%</u>	Aspect: <u>5°</u>
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### Notes:

ECOLOGICALLY, SITE IS HIGH FID-CONDITION w/ ↑ FESSLA & DIMINUTIVE FORKS. FEW WILPINE & OTHERS COMPARED TO OTHER SITES. RECENT BURN ACTIVITY EVIDENT w/ CHARCOAL ON TOP LAYER & SKELETAL STAGE STEMS.

THE DID HAVE A HARDER, LOWER LAYER WHICH SEEMED COMPACTED. HOWEVER, ROOTS REACHED LOWER THAN "A" HORIZON. SITE IS VERY SIMILAR TO UPPER STUD HORSE FROM THE VEGETATIVE PERSPECTIVE.

LANDSCAPE IS A BROAD RIDGE.

GPS

025F02G  
~~3-29~~

5114648  
5169662

INFIL TEST: Infiltration

Plot Name LAKE

Date 7/11/02

Recorders VAN BOMERT

Plot Code

Test 1. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
0:00	7:30	12:30	17:30	22:30	27:30	32:30
	4220 ml	2260 ml	2000 ml	1600 ml	2200 ml	1600 ml

Test 2. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
2:30	7:30	12:30	17:30	22:30	27:30	32:30
	2660 ml	1220 ml	1280 ml	1080 ml	1040 ml	1140 ml

Test 3. Site Moisture \_\_\_\_\_ Microtopography \_\_\_\_\_

Residual Cover \_\_\_\_\_ % Species 1 \_\_\_\_\_ Species 2 \_\_\_\_\_

Initial	Start	10 min	15 min	20 min	25 min	30 min
Fill	Value	Value	Value	Value	Value	Value
5:00	7:30	12:30	17:30	22:30	27:30	32:30
	4380 ml	2000 ml	1625 ml	1700 ml	1640 ml	1580 ml

Soil Moisture Scale by Touch:

1 = Warm dry; 2 = Cool dry; 3 = Moist; 4 = Wet; 5 = Wet sponge

Microtopography Features:

Coppice Dune = c, Interspace = i (space between coppice dunes); Desert pavement = p (gravel up to 3"), Hummocks = h, or None = n (if no feature present)

Residue Cover:

Percent of ground covered by standing live and down organic material within small cylinder.

Species 1 and 2:

Plant Species Alpha Code: Species with 1st and 2nd highest % basal cover within small cylinder or note if litter.

slope:  
0-5%

spect  
NSE

Date: 7/11/02 Rooting Depth & Abundance/ Texture, Structure, & Color/ Ground Cover

Crew: VF/TV/SF Site Name: Plot ID: 025F026

TRANSECT #	POINT SAMPLE	Depth Measures	Root Abundance			Description:	10 POINT GROUND COVER
			Many >100	Common 10-100	"A" Horizon		
1	1					Texture L ↑ VF SAND	0/10 2/10 2/10 1/10
			3	14	7		
	2					Structure 1 VF GR	
			2	12	8		
	3					Color	
			0	5	8		
	4					wet: 10 YR 2/2	
			3	13	10		
	5					dry:	
			6	12	6		
2	1				Texture L	1/10 0/10 0/10	
			2	8			8
	2					Structure 1 VF GR	
			2	8	6		
	3					Color	
			2	12	5		
	4					wet: 7.5 YR 3/2	
			1	11	6		
	5 GOTHEC					dry:	
			0	0	4		
3	1				Texture L	0/10 0/10 0/10	
			3	11			7
	2					Structure 1 VF GR	
			2	8	8		
	3					Color	
			2	10	2		
	4					wet: 10 YR 2/2	
			3	14	9		
	5					dry:	
			3	13	16		

GROUND COVER