

Site No. DNA 18	Date: 8/22	Surveyors: KS, MS	GPS #: G082115A	Work on downslope side of line = E											
Start at ME end	Quad 44	Quad 47	Quad 48	Quad 49	Quad 50	Quad 51	Quad 52	Quad 53	Quad 54	Quad 55	Quad 56	Quad 57	Quad 58	Quad	Quad
Gravels < 1 cm	8	5	15	15	12	6	13	25	10	2	4	4	3		
Gravel 1-2 cm	11	10	18	9	19	5	7	7	15	3					
Gravel > 2-6 cm									5						
Stones 6-15 cm															
Rocks 15 cm-1 m															
Boulder > 1 m						33.9									
Bedrock															
Soil	34	61.5	32.8	80	21.1	33.9	45.1	45	17	20	22.4	26.8	41		
Sand	5	5	10	15	9	5	5	5	5	5	5	5	5		
litter	22	12	8	26	10	35	15	5	19	10	15	28	18		
Woody debris 3-8 cm					5		13								
Woody debris 8-30 cm									11						
Woody debris > 30 cm															
Scat R/B/B 1f															
Lichen XA3 PAR	13	5	14	7	17	9	5	13	34	60	53	30	33		
Lichen P/D/D/D F/D	5	5			11	11							11		
Lichen CIARDN 1f	5	5		4											
Lichen UH.1k CAUSTIB	(1)	(1.5)													
Lichen g/yen CR/2m	(5)	(1)		(5)	(2.5)								(1)		
Moss STARR			.1												
Moss															
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc						1									
Vascular Species															
Basal Veg: Bougrea	3	5		4		5	3					3	2		
U.V.D. SUDHW09			1												
LES GR1															
Canopy-shrub															
Canopy-forb															
Canopy-grass	7	13		10	3	13	8			4	3	4	4		

Forest Service Cryptogamic Habitat Study

Gps: 6 08 20 177A S: 3 784 267.1

E: 7 22+196.1

Site#: MN118

Date: 8/20

Time: 11:55

Elev: 8156 ft

Surveyors: NM

NW SE

Directions to Site: 17.30 m fr. fence

General Site observations: 50/50 Piñon Juniper, Large amount of downed wood east of travel line

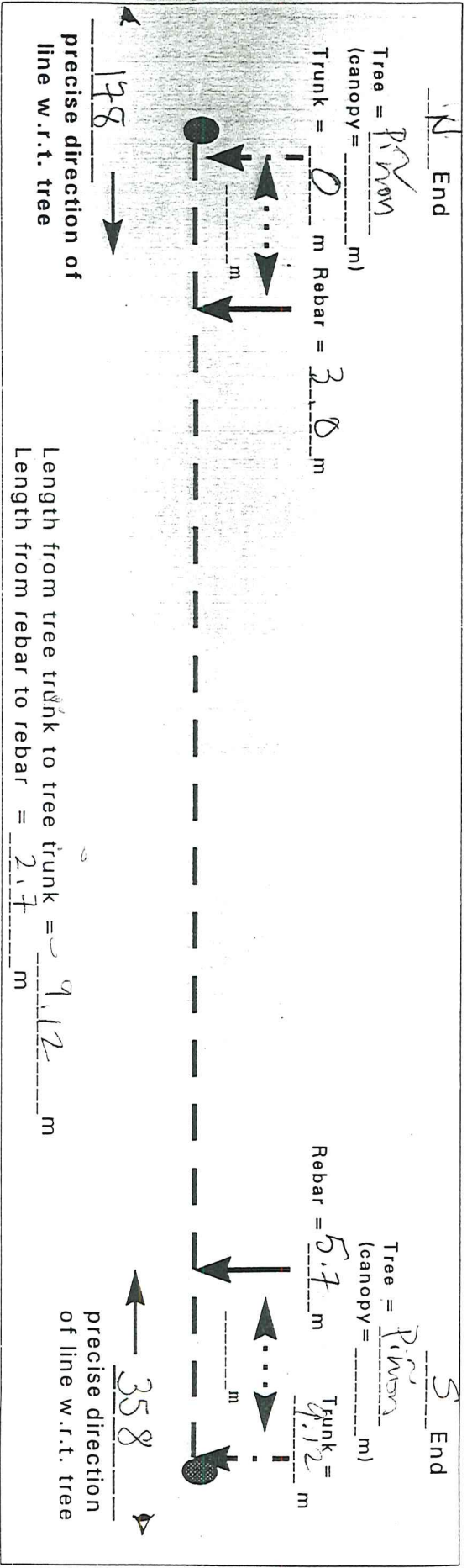
Primary Aspect: 106' Secondary Aspect: Primary slope & direction: 2° E Secondary slope and direction:

Canopy cover of site: Mid-transsect: 1.35 m from N end Open quarters facing: North: 65 South: 85 East: 89 West: 80  
 Within 1m at N end. Open quarters facing: North: 49 South: 49 East: 95 West: 74  
 Within 1m at S end. Open quarters facing: North: 77 South: 22 East: 89 West: 41

Plants (vascular and nonvascular) within 3m of transect: BOOGERA, ERUDM, XANPAR, LESAUKEKILA  
 (Indicate when there are greater than 10 individuals in vicinity - ie if particularly abundant)  
 Wild forbl (Collected) Yes

Woody debris within: 2 m of transect; in what part of transect: NW of transect / downed branch  
 Woody debris within: m of transect; in what part of transect:

Species: Piñon Tree at N end. Standing: 5.7 m away + 70 - 24 (%: right side of clinometer)  
 Species: Piñon Tree at S end. Standing: 6.12 m away + 96 - 25 (%: right side of clinometer)



Site No. MAN 16 Date: 8-20-17 Surveyors: ES, MW GPS #: G-081017A Work on downslope side of line = South

Start at	NW end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravels < 1 cm			10	5	5	10	10	10								
Gravel 1-2cm	2															
Gravel > 2-6cm	10			15	10	3	15	2								
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m																
Bedrock																
Soil	7	30	10	5	5		5									
Sand				15	50	10	20									
litter	69	354	51	30	72.5	489	10	12	649	51	3	788	5	3	824	814
Woody debris 3-8cm																
Woody debris 8-30cm																
Woody debris > 30 cm																
Scat		1				.5	1			1	1	1	1			
Lichen XMA Pat																
Lichen ANCAFry	7															
Lichen CLADONIA		.5				2										
Lichen WHITE LICHENS																
Lichen GREEN LICHENS																
LICHENS ON ROCK					(.2)											
Moss																
Moss																
Moss																
Moss																
Moss																
Moss																
Moss																
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg: Bougain	3	3	4		2											
Wild seedlings		.1					.1			3	.1	.1	.1	.1	.1	
Canopy-shrub																
Canopy-foib																
Canopy-grass	5	15	7	4	12	.1	2	.1	.1	1	.2	.1	.1	.1	3	40

PHAS 242

Site No. MAN 18	Date: 8/30	Surveyors: KS/MLW	GPS #: G082017A	Work on downslope side of line = 500m											
Start at NW end	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm	9	3	3	10	80	8	15	12	3	4	7	5	5	12	5
Gravel 1-2cm	3		3	5	80	7	2	2	4	1	10	3		2	4
Gravel > 2-6cm	4		3		8						2				3
Stones 6-15cm															
Rocks 15cm-1m															
Boulder > 1m	43.5														
Bedrock															
Soil	44	49	49	40	35	15	15	51.5	37.1	35	53	34.4	10	20	20
Sand				5	3	59	5	5				20			5
litter	40	35	35	35	12	15	34	38	45	52	18	20	73.5	43	47
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30 cm															
Scat P-Abp@IT						1						.1	.5	1	
Lichen XAN PM2	.5	5	2-15			5	1.5	.5		2		2	5	14	9
Lichen BRN PM2		4					.5								
Lichen CLADONIA			1.5												
Lichen TAN CRUSTS			(1)			(1)									
Lichen GREEN CRUSTS				(1)		(1)									
White crusts						.5			.1						
Moss GRAY CRUSTS						(1)									
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: Bougrea		10	5	6	2	5	1	3	7	10	5				11
Canopy-shrub															
Canopy-forb															
Canopy-grass	10	13	12	25	4	12	16	13	25	14	13		20		18

Forest Service Cryptogamic Habitat Study  
 Gps: 608201779 S: 3784267.1

Site#: MAN118  
 E: 722496.1

Date: 6/20  
 Time: 11:55

Elev: 8156 ft

Surveyors: NM

NW SE

Directions to Site: 17.70 m fr. lower

General Site observations: 50/50 Pinon Juniper, large amount of downed wood east of transect line

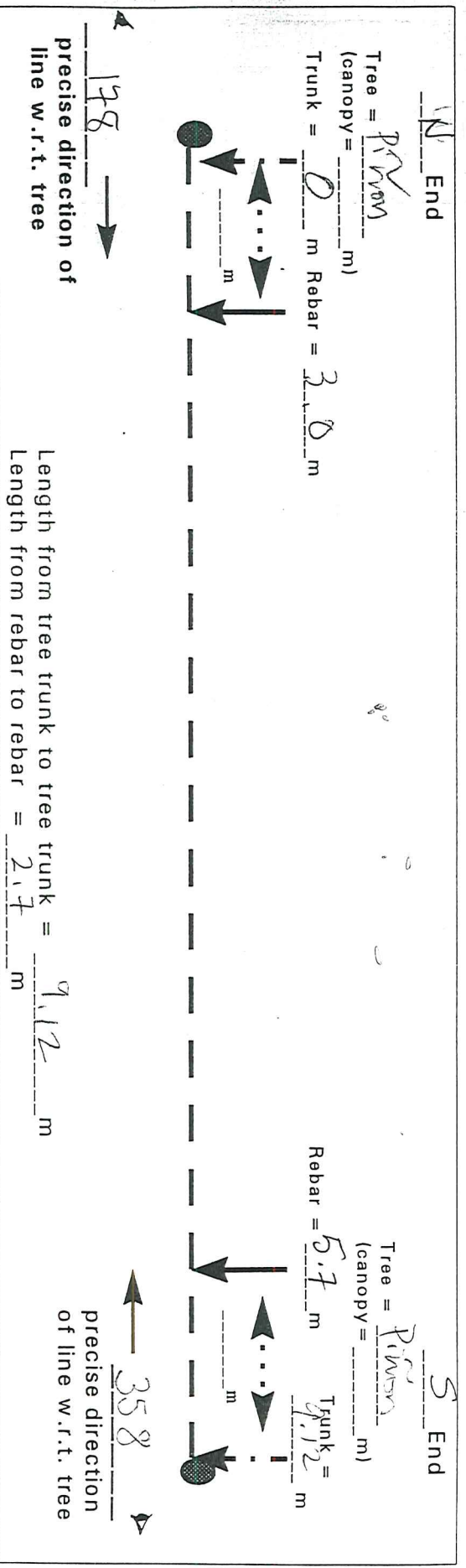
Primary Aspect: 106' Secondary Aspect: Primary slope & direction: 2° E Secondary slope and direction:

Canopy cover of site: Mid-transect: 1.35 m from N end Open quarters facing: North: 65 South: 85 East: 89 West: 80  
 Within 1m at N end. Open quarters facing: North: 49 South: 49 East: 45 West: 74  
 Within 1m at S end. Open quarters facing: North: 77 South: 22 East: 89 West: 41

Plants (vascular and nonvascular) within 3m of transect: BOJGERA, ERUBM, XANPAR, LESAUERKELIA  
 (Indicate when there are greater than 10 individuals in vicinity - ie if particularly abundant)  
 (wild forbi collected) Des

Woody debris within: 2 m of transect; in what part of transect: NW of transect / downed branches  
 Woody debris within: m of transect; in what part of transect:

Species: Pinon Tree at N end. Standing: 5.7 m away + 70 - 24 (%; right side of clinometer)  
 Species: Down Tree at S end. Standing: 6.12 m away + 46 - 25 (%; right side of clinometer)



Site No. MKN 8 Date: 6-20-17 Surveyors: RSJ, MWJ GPS #: G-082017A Work on downslope side of line = South

Start at NW end

Quads: 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

Gravels < 1 cm

Gravel 1-2 cm

Gravel > 2-6 cm

Stones 6-15 cm

Rocks 15 cm-1 m

Boulder > 1 m

Bedrock

Soil

Sand

litter

Woody debris 3-8 cm

Woody debris 8-30 cm

Woody debris > 30 cm

Scat BLP

Lichen XMA Par

Lichen Grueva Fr

Lichen Chadonia

Lichen White Lichen

Lichen offenens rock

lichen rock

Moss

Moss

Moss

Moss

Moss

Liverwort

Algae

Nostoc

Vascular Species

Basal veg: Bougra  
Wind seedlings

Photo 2 of 2

	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravels < 1 cm		10	5	5	10	10									
Gravel 1-2 cm	2		15	10	3	15									
Gravel > 2-6 cm	10														
Stones 6-15 cm															
Rocks 15 cm-1 m															
Boulder > 1 m															
Bedrock															
Soil	7	30	10	5		5									
Sand															
litter	69	55.1	15	5.0	10	20	10	12	5	3	5	3			
Woody debris 3-8 cm			5.1	30	72.5	48.9	72.5	69.8	81	78.8	87.4	81.4			
Woody debris 8-30 cm															
Woody debris > 30 cm															
Scat <u>BLP</u>		1			.5	1			1	1	1				
Lichen <u>XMA</u> Par															
Lichen <u>Grueva</u> Fr	7				2										
Lichen <u>Chadonia</u>		.5													
Lichen <u>White</u> Lichen															
Lichen <u>offenens</u> rock				(.22)											
<u>lichen</u> rock								(.2)							
Moss															
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: <u>Bougra</u>	3	3	4		2		3	1		1	2	2	15		
<u>Wind seedlings</u>		.1				.1		.1		.1	.1	.1			
Canopy-shrub															
Canopy-forb															
Canopy-grass	5	1.5	7	4	12	.1	7	.1	1	.2	.1	.4	3	40	

Site No. MM118 Date: 8/20 Surveyors: KS/MLW GPS #: G082017A Work on downslope side of line = South.

Start at / MW end	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm	9	3	3	10	20	8	15	12	3	4	7	5	10	12	5
Gravel 1-2 cm	2		3	5	80	7	2	2	4	1	10	3		2	4
Gravel > 2-6 cm	4		3		8						2				3
Stones 6-15 cm															
Rocks 15cm-1m															
Boulder > 1m	43.5								38.9						
Bedrock															
Soil	(44)	49	47	40	25	15	15		(39.5)	35	53	36.4	10	20	20
Sand				5	3	54	5	3	51.5			20		1	5
litter	40	35	35	35	12	15	94	28	45	52	18	20	73.5	43	(52)
Woody debris 3-8cm															47
Woody debris 8-30cm															
Woody debris > 30 cm															
Scat						1									
P. ALGOLIT															
Lichen XAN PM	.5	5	2.5			5	1.5			2				14	9
Lichen EPOW PV		4					.5	.5							
Lichen CLADONIA			1.5												
Lichen TAN QUARDOS			(1)												
Lichen GREEN GRAS TOS				(1)											
Lichen GREEN GRAS TOS						(1)									
Moss GRAN QUARDOS						.5									
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: Bougrea		6	5	6	2	5	1	3	7	6	5		11		7
Canopy-shrub															
Canopy-forb															
Canopy-grass	10	13	12	25	8	12	16	13	25	14	13		20		18

Directions to Site: 20.3 m for fence

General Site observations: Lowest tree west side of fence (NW) 1/2 Brown gum tree

Primary Aspect: 22° Secondary Aspect: \_\_\_\_\_ Primary slope & direction: 1° Secondary slope and direction: \_\_\_\_\_

Canopy cover of site: \_\_\_\_\_  
 Mid-transect: 2.7 m from NW end Open quarters facing: \_\_\_\_\_  
 Within 1m at NW end. Open quarters facing: North: 96 South: 73 East: 96 West: 46  
 Within 1m at SE end. Open quarters facing: North: 74 South: 80 East: 96 West: 76  
 Within 1m at SE end. Open quarters facing: North: 95 South: 60 East: 52 West: 67

Plants (vascular and nonvascular) within 3m of transect:  
 (Indicate when there are greater than 10 individuals in vicinity - ie if particularly abundant)  
RODORHA / ERYTHRA / PILEA / LEVERA / LUPID FORB (collected)  
XANTHOPHYLLA / ASTRAGALUS / RORIP / GREEN PAK  
Berberis sp.  
Small RNA 1?

Woody debris within: at NW rebar m of transect; in what part of transect: and NW part of trunk  
 Woody debris within: at SE rebar m of transect; in what part of transect: and SW of rebar part of fallen tree

Species: 1 woman Tree at NW end. Standing: 0.2 m away + 15 (%; right side of clinometer)  
1 woman Tree at SE end. Standing: 8.8 m away + 78 (%; right side of clinometer)

NW End 5.4 SE End



Tree = 9.10 m (canopy = 9.10 m) Rebar = 8.9 m  
 Tree = 8.1 m (canopy = 8.1 m) Rebar = 3.4 m  
 Length from tree trunk to tree trunk = 9.60 m  
 Length from rebar to rebar = 5.4 m  
 precise direction of line w.r.t. tree 154'  
 precise direction of line w.r.t. tree 338'



Start at	SE	end	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm			3	27	8	15	30	7	15	8	3	10	4	10	5	7	5
Gravel 1-2cm			10			15	5			3	2	9					12
Gravel > 2-6cm			4			8	8		2		40	5					10
Stones 6-15cm																	
Rocks 15cm-1m																	
Boulder > 1m																	
Bedrock																	
Soil			8	22	24.5	41.9	27.9	10	25.9	9	18.5	27.5				58.5	
Sand			3	3	5	5			10	10	10	30.5	44.9	37	39	56.5	37.4
Woody debris 3-8cm			75	60	30	58	15	67.8	38	26.9	52	35	32	35	40	25	30
Woody debris 8-30cm																	
Woody debris > 30 cm																	
Scat							1.5	1									
Lichen <i>Provenza</i>						.5	.1	.5									
Lichen <i>Urbeyera</i>								3	4								
Lichen <i>Pedicularis</i>								.1									
Lichen <i>whit wood wool</i>							(1)										
Lichen <i>green wood wool</i>						(5)	(1)			(1)							
Moss <i>Orange (small)</i>										(1)							
Moss										(1)							
Moss										(1)							
Moss <i>stun</i>			1				.1										
Liverwort																	
Algae																	
Nostoc																	
Vascular Species																	
Basal veg: <i>Bougera</i>				11			3	5	5	6	9	4	10	9	4	4	7
Wood <i>padding</i>								1									
Stem																	
Canopy-shrub																	
Canopy-forb																	
Canopy-grass			4	20	3	12	6	3+15 14	21	14	19	10	30	30	27	30	30

Site No. KNA #19

Date: 8-22-17

Surveyors: KS

Work on downslope side of line =

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Start at	end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravels < 1 cm		1	4	2	4	3	15	2	9	10	10	20	10	12	12	4
Gravel 1-2cm		2	21		3	3	10	3	2	4	13	10	19	5	10	
Gravel > 2-6cm					1		2				3		22			
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m		35.2								61.5			14.9		40.9	
Bedrock																
Soil		36.4	25	35	18	27.8	42.9	54.5	40.9	62.5	27.8	22	14.9	42	40.8	57.9
Sand		5	15			15	3	3		10		16	11.7			15
Litter		45	51	52		35	2.0	28	40	10	25	32	3	35	25	28
Woody debris 3-8cm																
Woody debris 8-30cm																
Woody debris > 30 cm																
Scat		1														
Lichen RML		1.5														
Lichen Granuliferum		.1			.5	.1	1	3	3	7	.1		1		.1	
Lichen Ulex																
Lichen white crust rock																
Lichen crust rock																
Moss blue green crust rock																
Moss																
Moss																
Moss																
Moss silver moss																.1
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg: Bougainvillea		9	13	11	7	8	4	6	5	6	11	10		4	10	3
Small seedlings							.1	.5	.1	.5						
Canopy-shrub																
Canopy-forb		1					.5	3	.1	4						
Canopy-grass		2.0	3.5	2.8	3.5		1.0	1.0	2.0	1.4	2.3	2.8		2.5	2.5	9

Start at	end	Quad 31	Quad 32	Quad 33	Quad 34	Quad 35	Quad 36	Quad 37	Quad 38	Quad 39	Quad 40	Quad 41	Quad 42	Quad 43	Quad 44	Quad 45
Gravels < 1 cm		4	5	14	9	9	11	1	13	3	2	15	10	12	23	35
Gravel 1-2cm		8	7	10	10	7	2	2	9	4	5	7	5	7	27	10
Gravel > 2-6cm									5	5		5	5		4	2
Stones 6-15cm																
Rocks 15cm-1m					55.5	62.9			37						42.5	
Boulder > 1m																
Bedrock																
Soil		33	40.9	53	55.9	62.9	72	44.3	60	44	15	26.4	29.8	55.8	48	19.5
Sand		20	10	12					80	5	20	4	5	10	15	3
litter		25	30	3	10	12	10	38	8	28	40	28	40	10	3	30
Woody debris 3-8cm											46.5					
Woody debris 8-30cm																
Woody debris > 30 cm																
Scat			1.5		1					1			1	1.5		
Lichen <i>Paraspongia</i>		1				8	2	3	3	3			1	1.7		
Lichen <i>white oak</i>			1.5						2							1.5
Lichen <i>Peltigera</i>						1										
Lichen <i>Delicatula</i>						1										
Lichen <i>golden sand</i>					1.5				(3)					(1.1)	(1.1)	(1.1)
Lichen <i>white oak</i>									(2)					(1.1)	(1.1)	(1.1)
Moss <i>orange</i>														(1.1)	(1.2)	(1.2)
Moss <i>orange</i>																
Moss																
Moss																
Liverwort																
Algae <i>green</i>					1											
Nostoc																
Vascular Species																
Basal veg: <i>Bougainvillea</i>		9	9		7		3	11	2	7	15	12	10	3		
<i>Wind pollinating</i>			1					1.2								
<i>San Joaquin</i>									1		1.5	1.5				
<i>L430</i>																
Canopy-shrub																
Canopy-forest								1.5	8		3	3				
Canopy-grass		30	8	6	28	4	8	29	12	23	30	22	30	5		2

Start at	end	Quad 46	Quad 47	Quad 48	Quad 49	Quad 50	Quad 51	Quad 52	Quad 53	Quad 54	Quad 55	Quad 56	Quad 57	Quad 58	Quad 59	Quad 60
Gravels < 1 cm		5	5	21	27	20	31	40	16	5						
Gravel 1-2cm		4	1	12	15	4	15	5	3							
Gravel > 2-6cm				2	10		2		5							
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m																
Bedrock																
Soil		25	51.4	12	7	20	40	32.8	31	15						
Sand		5	20	40	22.5	28.0	5	12	3	5						
litter		44.2	19	7	5	23	7	10	45	(43)						
Woody debris 3-8cm				6	10											
Woody debris 8-30cm																
Woody debris > 30 cm													23			
Seat		.5														
Lichen <i>Colima</i>		1														
Lichen <i>Peltigera</i>			1							.1						
Lichen <i>Verrucaria</i>					.5											
Lichen																
Lichen gray crust rock						(.2)				(.5)						
Lichen green crust rock							(.2)									
Moss white crust rock							(.5)									
Moss																
Moss																
Moss																
Moss star		.3	.5							.1						
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg: Bougain		15	4		3	4			3							
Wood peckling			.1													
Canopy-shrub																
Canopy-forb																
Canopy-grass		35	12	2	10	6		2	7	1						





Start at EW end PAGE 2 OF 3

	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravels < 1 cm	25		4	30	3	5	9	5		25	5	25	40	12	15
Gravel 1-2cm	25	15		35	17	10		12		10	12	7	30	20	12
Gravel > 2-6cm	12	3													
Stones 6-15cm															
Rocks 15cm-1m															
Boulder > 1m															
Bedrock															
Soil	19.5	25	27.9	18.3	63.3	47	31	38	13	25	24	20	10	37	20
Sand	5	15	10	16	7	12	50	38	20	25	30	30	15	20	24.9
Litter	5	35	15	3	8	25	10	5	7	13	25	10	5	1	12
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30 cm															
Scat			1												
Lichen <i>Parm. sru</i>	8		1	2	15									4	5
Lichen <i>Yan Par</i>	1.5			1.5										2	1
Lichen <i>green crust (rock)</i>															
Lichen <i>black crust (rock)</i>															
Lichen <i>white crust (rock)</i>				(11)					(1)	(13)					
Moss															
Moss															
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: <i>Bougra</i>		7				5		2		2	4	2		4	10
Wald Seedling															1
Resq															
Canopy-shrub															
Canopy-forb															
Canopy-grass	2	12	17		13	10	2	5	10	4	6	3	5	10	1

Start at SW end	Quad 31	Quad 32	Quad 33	Quad 34	Quad 35	Quad 36	Quad 37	Quad 38	Quad 39	Quad 40	Quad 41	Quad 42	Quad 43	Quad	Quad
Gravel < 1 cm	3	7	10	30	12	18	12	28	30	15	20	4	20		
Gravel 1-2cm		4	20	11	15	10	25	15	18	20	20	4	4		
Gravel > 2-6cm					16	2	5	15		24	10		13		
Stones 6-15cm															
Rocks 15cm-1m	20						33								
Boulder > 1m															
Bedrock															
Soil	(36)	24.9	10	10.4	31.9	24	(43)	20.9	(31)	28.5	35.8	47.9	40.9		
Sand			10	7	19	10	10	10	6	10	4	6	20		
Litter	34	44	(14)	8		18	3	3	6						
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30cm															
Scat															
RABBIT															
o RANGE GRASS		1													
Lichen XAN PAR	25	11	25	21	.1	8	(11)	2	9	2	4	1	1		
Lichen XAN PAR	3			1.5		12	(11)								
Lichen WHITE GRASS		(.5)	(3)		(.5)	(11)	(11)	(11)		(11)			(11)		
Lichen GRASS GRASS			(11)			(11)	(11)			(6)					
Moss (MADONIA)										.5					
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: Bougrea	15	11	1	2	6	10		.1			.1	10	.1		
LES GR		2													
VNIID SEGD		.1	.1	.1									.1		
Canopy-shrub															
Canopy-forb		9.5	.2	5									.1		
Canopy-grass	30	16	15	1	20	20	8	2	10	10	1	30	3		





Start at (SW) end	Quad	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm															
Gravel 1-2cm				3	5		2	4	4	10	20	7	15	8	8
Gravel > 2-6cm					5			8	4	6	7	7	15	7	2
Stones 6-15cm				10	40										
Rocks 15cm-1m	70	100	90												
Boulder > 1m															
Bedrock															
Soil	12.9		7	59	29.8	37	56	59.9	59	64	43	50	64	66	70.5
Sand	4			10	7	15	10	10	20	15	7	8	10	15	5
litter	13		1	12	10	20	30	15	10	5	2	5	10	2	10
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30 cm															
Scat				1							1				1
Lichen <i>M. xanthoparva</i>	(60)	(88)	(37)2	4	1			1		(3)	(5)	(3)	(1)1		.5
Lichen <i>Hydrocoleum</i>	(4)	(2)	(1)												
Lichen <i>Blauia</i>	(3)	(2)	(1)								(3)	(1)			
Lichen <i>glaucocincta</i>	(5)	(8)	(3)		3						(10)	(2)			(1)
Lichen <i>proton frua</i>				1											
Lichen <i>Chadonia</i>															
Moss <i>green</i>								(1)	(5)		(2)			(1)	
Moss <i>pruniventre</i>															
Moss <i>white</i>															
Moss <i>gray-rude</i>	(4)	(7)	(3)												
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: <i>Bouyera</i>						3	2								3
<i>V. squarrosa</i>	1				1										
<i>ovoid mollis</i>								.1							
<i>white redline</i>															
Canopy-shrub															
Canopy-forb	1														
Canopy-grass	2			1	4	7	6	15			3	4	8		8





Start at 800 end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 50	Quad 51	Quad 52	Quad 53	Quad 54	Quad 55	Quad 56	Quad 57	Quad 58	Quad 59	Quad 60
Gravels < 1 cm	3	9	3	1	2	3	7	3	3	5	12	3	30	30	
Gravel 1-2cm	7	9	5	2	3	5	5	12	12	12	10	5	6	6	
Gravel > 2-6cm		5	2	10	3	12	30	7	10	12	40	2	5	4	
Stones 6-15cm	40	6													
Rocks 15cm-1m															
Boulder > 1m															
Bedrock															
Soil	31.5	66	53	15	36.8	5	31	41	37.9	35.8	12	10	12	10	
Sand	5	5	10	49	35	34	20	20	10	20	58.9	70.9	80.4	31.9	
litter	10	12	17	12	10	3	7	12	25	7	10	12	15	7	
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30 cm															
Scat															
Lichen hirsutum						1			.5						
Lichen cf CWD PD	(2,5)			8			(.5)			(.2)					
Lichen Green prunre	(5)						(8)	(7)							
Lichen Yellow wood	(1)														
Lichen Black wood (2,5)															
Green wood															
Moss Gray wood				(.3)	(3)				(.2)	(3)	(3)	(1)			
Moss brown wood						(1)	(1)	(1)	(1)						
Moss															
Moss					.2				.1						
Moss <i>ster</i>															
Liverwort															
Algae															
Nostoc			1												
Vascular Species															
Basal veg: Bougrea	3	2	3	3	3		2	1.5			3				
PKJ KM		2													
wind seedling										.1	.1	.1			
Canopy-shrub															
Canopy-forb		12													
Canopy-grass	9	14	20	5	5		5			.5	.1	4			5

Forest Service Cryptogamic Habitat Study  
 Gps: 608 22 18 N 85 33 84 230.19 W Site#: MAN20 Date: 8-22 Surveyors: NM  
 E: 7 2546.15 Time: \_\_\_\_\_ Elev: 8166 ft

Directions to Site: 20.7 m fr. fence

General Site observations: 50/50 pine / juniper

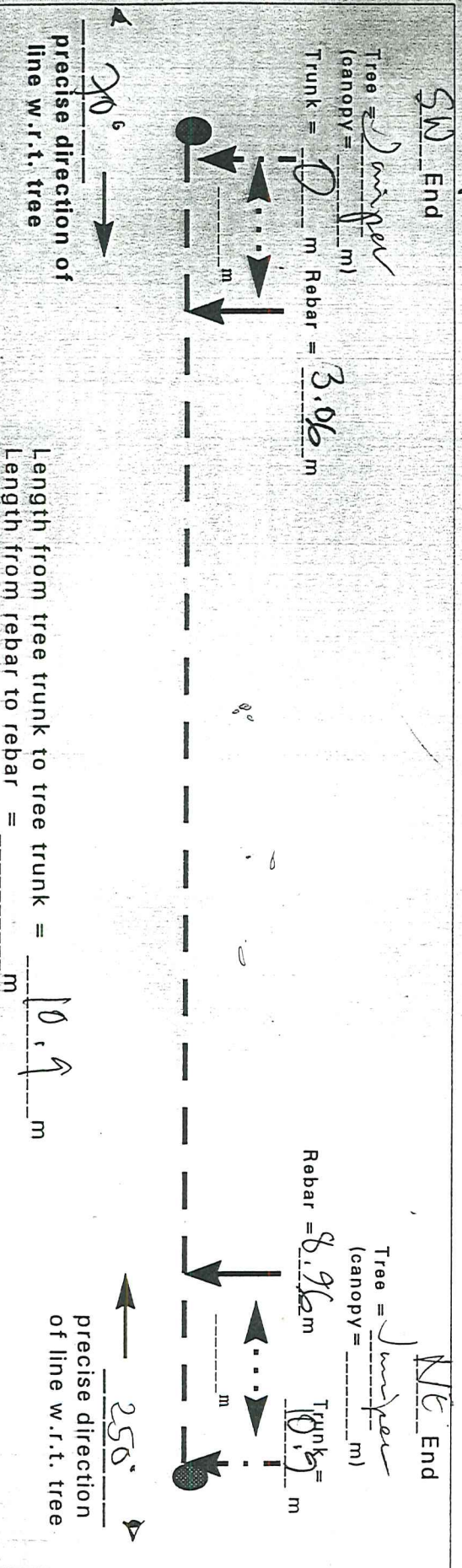
Primary Aspect: 21° Secondary Aspect: \_\_\_\_\_ Primary slope & direction: 1° E Secondary slope and direction: \_\_\_\_\_

Canopy cover of site: \_\_\_\_\_  
 Mid-transsect: 5-90 m from SW end Open quarters facing: North: 76 South: 86 East: 93 West: 56  
 Within 1m at SW end. Open quarters facing: North: 81 South: 65 East: 95 West: 47  
 Within 1m at NE end. Open quarters facing: North: 39 South: 74 East: 80 West: 69

Plants (vascular and nonvascular) within 3m of transect:  
 (Indicate when there are greater than 10 individuals in vicinity - ie if particularly abundant)  
SIT HYS DES  
VOID 3 petal purple flower (collected site MAN 19)  
BODIGRA / EKL (AM) BETHINOCERUS / LESOUWERUA

Woody debris within: 5 m of transect; in what part of transect: ~~SW~~ S of SW rebar scattered debris  
 Woody debris within: \_\_\_\_\_ m of transect; in what part of transect: \_\_\_\_\_

Species: Juniper Tree at SW end. Standing: 75 m away +46 (%; right side of clinometer)  
 Species: Juniper Tree at NE end. Standing: \_\_\_\_\_ m away +26 - 22 (%; right side of clinometer)



	Start at SW end	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm		35	45	50	18	5	3	4	5	20	35	35	45	35	20	
Gravel 1-2cm		10	10	8												
Gravel > 2-6cm																
Stones 6-15cm																
Rocks 15cm-1m																
Boulders 1m			22.9													
Bedrock																
Soil		12	<del>33.9</del>	14	11.5	1	20	3	5	43.9	20.9	9	33.3	<del>32.0</del>	41.9	45.9
Sand										4	4	4	10	7		
litter																
Woody debris 3-8cm																
Woody debris 8-30cm																
Woody debris > 30 cm																
Seal		1	1													
Lichen O. REGN PMA			(1.5)	(2)												
Lichen WH. K. CRUK.																
Lichen O. REGN CRUK.		(1)	(1)	(1)									(1)			
Lichen O. REGN CRUK.		(1.5)	(1)										(1)			
Lichen BROWN PMA			.1	1				.5	.5	1	.1	.5	.5	.5		
Lichen CRIPPAVIA										1			1			
Moss SAA		.5														
Moss					.5											
Moss						.1		.1	.1	3	.1	.5	.1	.1		.1
Moss																
Moss																
Moss																
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg: Bougrea		3	1	4	10	4	2	3	4	3	2		2		3	5
LES CARL										.1						
UNID seedling																
Canopy-shrub																
Canopy-forb																
Canopy-grass		12		10	30	10	4	7	10	1	4	18	5	5	4	4

	Start at <u>SW</u> end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravels < 1 cm		3	7	19.9	5	1										
Gravel 1-2cm		6	3	8.0	5	3										
Gravel > 2-6cm		4	4	10	3	3										
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m																
Bedrock																
Soil																
Sand																
Litter																
Woody debris 3-8cm																
Woody debris 8-30cm																
Woody debris > 30 cm																
Scal																
Lichen wet swatch																
Lichen from frw																
Lichen black swatch																
Lichen green swatch																
Lichen yellow swatch																
Lichen grey swatch																
Moss green swatch																
Moss brown swatch																
Moss																
Moss																
Moss																
Moss																
Moss																
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg. Bougain																
EPUSAM																
Wink redline																
Canopy-shrub																
Canopy-forb																
Canopy-grass																

12 11 11 11 12 11 11 11 11 11 11 11 11 11 11 11 11

3 30



Start at 5m	end	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant
Gravels < 1 cm	27	40	35	80	55	40	20	20	20	45	60	35	45	65	35	30			
Gravel 1-2cm	30	21.9	9	9	5	60	4	3	5	15	8	4	4	4	2				
Gravel > 2-6cm	4	10	6		10														
Stones 6-15cm	5																		
Rocks 15cm-1m																			
Boulder > 1m																			
Bedrock							42.8												
Soil	12	20	45.9	56	24.9	32	42.9	19.9	23.9	15	52	45	4	4	6				
Sand	5	3	5	2	1	5	4	50	3	5	5	3							
Litter	7	5	5	3	5	10	20	50	20	5	5	3							
Woody debris 3-8cm																			
Woody debris 8-30cm																			
Woody debris > 30 cm																			
Seal																			
Lichen <i>anuroswob</i> (1.5)			(1)		(1)		(1.1)				(1)	(1)	(1)	(1)	(1)	(1)			(1)
Lichen <i>leucoswob</i> (1.2)			(1.1)		(1)														
Lichen <i>lyell swob</i> (1.5)			(1.1)		(3)		(1.5)												
Lichen <i>placanswob</i>			(0.5)		(1)														
Lichen <i>yellow swob</i>					(1)														
Lichen <i>phenon swob</i>					(1)														
Moss						5	.1	.1	.1	(2)									
Moss																			
Moss																			
Moss																			
Moss																			
Moss																			
Liverwort																			
Liverwort																			
Algae																			
Nostoc																			
Vascular Species																			
Basal Veg. Bougrea								3	3										
WMS pedline		.1	.1	.1	.1		.1	.1	.1										
Canopy-shrub																			
Canopy-forb																			
Canopy-grass	3	.1	.1		.1	20	.1	7	.1	1									

- 16.5 ft/m





Start at	end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravel < 1 cm		2	20	15	15	12	7	5	8	2	10	10	7	12	5	
Gravel 1-2cm		1	40	20	12	30	11	3	1	1	7	14				
Gravel > 2-6cm																
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m																
Bedrock																
Soil		15	33	45.5	51.5	19	5	11	23	15.5	27	25	31.5	31	33	18.1
Sand																
litter																
Woody debris 3-8cm				12	(15)	25	(18)	14	(19)	15	(25)	(10)	30	18	(38)	(14)
Woody debris 8-30cm					13		27.9		10		24.8	20.5			48.5	13.9
Woody debris > 30 cm		40														
Scat							1	1		.5				2		
Lichen		3	5	4	2	10	25	50	40	45	12	5	15	13	8	45
Lichen		1	1	1.5	2.5	1	1.5	11	7	3	1		1	1.5	.5	1.5
Lichen					(2)						.1					
Lichen					(1)											
Lichen					(1.5)	(.5)	0.5			.5	.1	.5	.5	(1.5)	1.5	1.5
Moss																
Moss							1.1			.5						1.5
Moss																
Moss																
Liverwort															.5	.5
Algae																
Nostoc														1		
Vascular Species																
Basal veg: Bougrea		1	1	2	4	3	11	5	3	7	8	7	9	5	10	8
Canopy-shrub																
Canopy-fohb																
Canopy-grass		12	4	4	8	10	25	10	6	3	20	12	15	15	1	22

Work on downslope side of line =   

Page 2 of 4

Start at	end	Quad 31	Quad 32	Quad 33	Quad 34	Quad 35	Quad 36	Quad 37	Quad 38	Quad 39	Quad 40	Quad 41	Quad 42	Quad 43	Quad 44	Quad 45
Gravels < 1 cm		1	1	12	12	2.3	4	4	2	3	3	15	13	10	15	15
Gravel 1-2cm			2	4	5	12	1	1	2	3	13	4	1	5	2	21
Gravel > 2-6cm							2	2	1	2	3	2	3	5	5	5
Stones 6-15cm																
Rocks 15cm-1m																
Boulder > 1m																
Bedrock																
Soil	34	42	35	20	24	4	12	16	21.9	10	12	31	20	29	29	30
Sand		10	5	20	10	20	5	5	5	3	10	5	10	18	10	10
litter	28	(35)	13	14	18	(20)	15	30	20	30	25	(35)	12	20	20	10
Woody debris 3-8cm																
Woody debris 8-30cm			25			19.9										
Woody debris > 30 cm																
Scat																
Lichen XANTHOPAR	13	8	20	15	(5)			1.5						33	7	13
Lichen PARAPHIA FR	1		3	1	1	2.5	0.5	2.5	30	20	15	20	5	3	2	
Lichen PARAPHIA	.5	2	1	5	.5	1	.5									
Lichen GYPSASSURUS			(1)		(2)	.1										
Lichen GYPSASSURUS			(.5)		(.5)											
Lichen GYPSASSURUS			(.5)		(.5)											
Moss STYLA	15					(.5)										
Moss POLYTRICHUM										2						
Moss																
Moss																
Moss																
Liverwort																
Algae																
Nostoc	3															
Vascular Species																
Basal veg: Bougrea	16	5	4	6	5	12	.5	1.5	10	10	10	8	9	4		
Asplenium?																
U.M.D 56 G.P.L.M.A																
Canopy-shrub																
Canopy-forb																
Canopy-grass	25	10	8	15	9	15	2	12	18	20	20	16	11	14		

WORK on downslope side of line =

11/11/11 11:00 AM

Start at	NE	end	Quad 44	Quad 47	Quad 48	Quad 49	Quad 50	Quad 51	Quad 52	Quad 53	Quad 54	Quad 55	Quad 56	Quad 57	Quad 58	Quad	Work on downslope side of line =
Gravel < 1 cm	8	5	15	15	9	12	14	6	13	25	10	2	4	4	3		
Gravel 1-2cm	11	10	18	9	19		5		7	15	5						
Gravel > 2-6cm																	
Stones 6-15cm																	
Rocks 15cm-1m																	
Boulder > 1m																	
Bedrock								33.9									
Soil	34	61.5	32.8	20	21.1	(32.9)	45.1	45	17	20	22.4	26.8	(41)	38.8			
Sand	5	5	10	15	9	3	5	5	5	5	5	5	6	3			
litter	22	12	8	30	10	35	15	13	5	(19)	10	15	28	18			
Woody debris 3-8cm																	
Woody debris 8-30cm																	
Woody debris > 30 cm																	
Scat																	
Lichen XAD PVE	13	5	14	7	17	9	5	13	39	60	53	30	33				
Lichen REDONIA FRID	5	5			11	11											
Lichen CLADONIA K	5	5															
Lichen UNIK COUSIN	(11)	(1.5)															
Lichen GYMN G (DZP)	(.5)	(1)		(5)	(2.5)									(1)			
Moss STPERM																	
Moss																	
Moss																	
Moss																	
Moss																	
Liverwort																	
Algae																	
Nostoc																	
Vascular Species																	
Basal veg: Bougra	3	5		4		5	3							3	2		
Urtica dioica																	
LES GR1																	
Canopy-shrub																	
Canopy-forb																	
Canopy-grass	1	13		10	3	13	8	4			16	4	4	4			

Forest Service Cryptogamic Habitat Study  
 Gps: G082116 A S: 3784298.3 E: 722508.0  
 Site#: RNA #19  
 Date: 8.21  
 Time: 10:20  
 Elev: 8058 ft  
 Surveyors: ML

Directions to Site: D.3 m fr fence

General Site observations: downed log west side of gnom (NW) 1/2 River-gummen

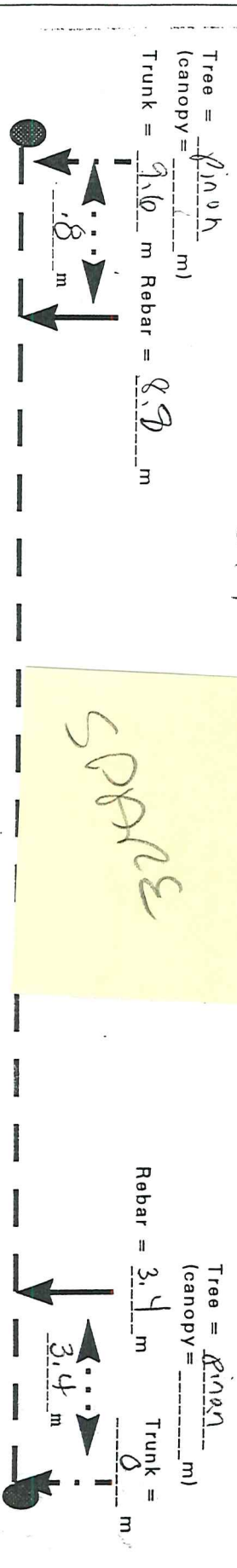
Primary Aspect: 22° Secondary Aspect: \_\_\_\_\_  
 Primary slope & direction: 1° Secondary slope and direction: \_\_\_\_\_

Canopy cover of site: \_\_\_\_\_  
 Mid-transsect: 2.7m from NW end Open quarters facing: North: 96 South: 73 East: 96 West: 46  
 Within 1m at NW end. Open quarters facing: North: 74 South: 80 East: 96 West: 76  
 Within 1m at SE end. Open quarters facing: North: 95 South: 60 East: 52 West: 67

Plants (vascular and nonvascular) within 3m of transect:  
 (Indicate when there are greater than 10 individuals in vicinity - ie if particularly abundant)  
RODORHA/ERIDM/ERIEA/LEVERA/UNID FORB (collected)  
XAN DRY/ASTRAGALUS/ROCK/GREEN PAK  
Berberis sp  
Wood AND 19

Woody debris within: at NW rebar m of transect; in what part of transect: and SW of rebar part of trunk  
 Woody debris within: at SE rebar m of transect; in what part of transect: and SW of rebar part of trunk  
 Species: Pinon Tree at 0.25 m NW end. Standing: 6.2 m away + 15 %; right side of clinometer  
 Species: Pinon Tree at 8.8 m SE end. Standing: 8.8 m away + 15 %; right side of clinometer

NW End 5.4 SE End



precise direction of line w.r.t. tree 154°  
 Length from tree trunk to tree trunk = 9.00 m  
 Length from rebar to rebar = 5.4 m  
 precise direction of line w.r.t. tree, 338°

Gravels < 1 cm

Gravel 1-2cm

Gravel > 2-6cm

Stones 6-15cm

Rocks 15cm-1m

Boulder > 1m

Bedrock

Soil

Sand

litter

Woody debris 3-8cm

Woody debris 8-30cm

Woody debris > 30 cm

Scat

Lichen *Provenza*

Lichen *Myurocladia*

Lichen *Padaria*

Lichen *white crust*

Lichen *Sporewood*

Moss *lock*

Moss *Orange*

Moss

Moss

Moss

Liverwort

Algae

Nostoc

Vascular Species

Basal veg: *Bougrea*

Wood *pod*

Stem

Canopy-shrub

Canopy-forest

Canopy-grass

Page 1 of 4

Work on downslope side of line =

	Quad 1	Quad 2	Quad 3	Quad 4	Quad 5	Quad 6	Quad 7	Quad 8	Quad 9	Quad 10	Quad 11	Quad 12	Quad 13	Quad 14	Quad 15
Gravels < 1 cm		3	27	15	30	7	15	8	3	3	10	4	10	7	15
Gravel 1-2cm	11		8	15	5			3	3	5	4	5	2	2	12
Gravel > 2-6cm				8	8		2								10
Stones 6-15cm								40							
Rocks 15cm-1m															
Boulder > 1m															
Bedrock															58.5
Soil	8	22	29.5	41.9	37.9	10	25.9	9	18.5	27.5					
Sand	3	3	5				10	10	10	30.9	49.9	37	39	56.9	37.4
litter	75	60	36	55	15	67.8	38	26.9	52	35	32	35	40	25	30
Woody debris 3-8cm															
Woody debris 8-30cm				35											
Woody debris > 30 cm															
Scat					15	1									
Lichen <i>Provenza</i>			.5	.1	.5	3	4	1	.5	7	.1				1
Lichen <i>Myurocladia</i>						.1				2.5			2		2.5
Lichen <i>Padaria</i>				(5)	(1)			(1)		(1)					1.5
Lichen <i>white crust</i>					(1)			(1)							
Lichen <i>Sporewood</i>					(1)			(1)							
Moss <i>lock</i>															
Moss <i>Orange</i>															
Moss															
Moss															
Moss		1			1										
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: <i>Bougrea</i>		11			3	5	5	6	9	4	10	9	4	4	7
Wood <i>pod</i>						1	1	1							
Stem						1									
Canopy-shrub															
Canopy-forest															
Canopy-grass	4	20	3	12	6	34.5	21	14	18	10	30	30	20	30	30







Start at	end	Quad 46	Quad 47	Quad 48	Quad 49	Quad 50	Quad 51	Quad 52	Quad 53	Quad 54	Quad 55	Quad 56	Quad 57	Quad 58	Quad 59	Quad 60	Quad 61	Quad 62	Quad 63	Quad 64
Gravels < 1 cm		5	5	21	27	20	31	40	40	328	31	15								
Gravel 1-2cm		4	1	12	15	4	15	5	10	3	3	5								
Gravel > 2-6cm				2	10		2													
Stones 6-15cm																				
Rocks 15cm-1m																				
Boulder > 1m																				
Bedrock																				
Soil		25	51.4	12	7	20	40	328	31	15										
Sand		5	20	40	225	28.4	5	12	3	5										
litter		44.2	17	7	5	23	7	10	45	163										
Woody debris 3-8cm				6	10															
Woody debris 8-30cm																				
Woody debris > 30 cm																				
Scat		.5																		
Lichen <i>Colima</i>		1																		
Lichen <i>Peltigera</i>			1																	
Lichen <i>Xylozia</i>					.5			.1												
Lichen																				
Lichen gray crust		10k																		
Lichen green crust		10k																		
Moss- white crust		10k																		
Moss																				
Moss																				
Moss star		.3	.5																	
Liverwort																				
Algae																				
Nostoc																				
Vascular Species																				
Basal veg: Bougrea		.15	4		3	4			3											
<i>Mundopodium</i>			.11																	
Canopy-shrub																				
Canopy-forb																				
Canopy-grass		.35	.12	2	10	0		2	7	1										

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Work on downslope side of line =

DATE: 6-2-11 QUADRANTS: 1-11

GRS #:



Start at (SW) end	Quad 16	Quad 17	Quad 18	Quad 19	Quad 20	Quad 21	Quad 22	Quad 23	Quad 24	Quad 25	Quad 26	Quad 27	Quad 28	Quad 29	Quad 30
Gravel < 1 cm	25	15	4	30	3	5	9	5	25	25	5	25	40	12	15
Gravel 1-2cm	25	15	4	30	3	5	9	5	25	25	5	25	40	12	15
Gravel > 2-6cm	12	3	38	35	17	6	12	12	30	10	12	7	30	20	12
Stones 6-15cm															
Rocks 15cm-1m															
Boulder > 1m															
Bedrock															
Soil	19.5	25	27.9	18.3	63.3	47	31	38	13	25	24	20	10	37	20
Sand	5	15	10	10	7	12	50	38	20	25	30	30	15	20	24.9
litter	5	35	15	3	8	25	10	5	7	13	25	10	5	1	12
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30 cm															
Seal			1												
Lichen Bryum sp	8		1	2	1.5									4	5
Lichen Van Ar	1.5			1.5	.1									2	5
Lichen hyper crust (rock)															
Lichen black crust (rock)															
Lichen white crust (rock)				(11)											
Moss															
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: Bougrea		7	3			5		2	5	2	4	2		4	10
Wild Seedlings															
Lesq															
Canopy-shrub															
Canopy-forest															
Canopy-grass	2	12	7		3	10	2	5	10	4	5	3	5	10	30

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Plate 3 of 3

Start at S/N	end	Quad 31	Quad 32	Quad 33	Quad 34	Quad 35	Quad 36	Quad 37	Quad 38	Quad 39	Quad 40	Quad 41	Quad 42	Quad 43	Quad
Gravel < 1cm		3	2	10	30	12	18	12	28	30	15	20	4	20	
Gravel 1-2cm			4	30	14	15	10	25	15	18	20	20	2	4	
Gravel > 2-6cm						16	2	5	15	2	24	10		13	
Stones 6-15cm															
Rocks 15cm-1m															
Boulder > 1m		150						335							
Bedrock										22					
Soil		36	24.9	10	10.4	21.9	24	43	20.9	31	28.5	35.8	47.9	40.9	
Sand										15	10	4		20	
litter		34	44	10	8	19	8	10	3	6		6	35		
Woody debris 3-8cm															
Woody debris 8-30cm															
Woody debris > 30cm															
Scat	RAEPT														
	ORANGE GRASS		1												
Lichen	XAN PAR	25	11	25	21		8	(1)	2	9	2	4	1	1	
Lichen	BROWN REC	3			1.5	.1		12							
Lichen	White warts		(5)	(3)		(5)		(1)	(1)		(1)			(1)	
Lichen	GREEN GRASS						(1)				(1)				
Lichen	BLACK CRUST						(1)								
	GRASS GRASS							(1)							
Moss	ORANGE GRASS										.5				
Moss															
Moss															
Moss															
Moss															
Liverwort															
Algae															
Nostoc															
Vascular Species															
Basal veg: Bougrea		15	11	1	2	4	10		.1				10	.1	
LES GR			2												
VNIID SEED			.1	.1	.1										
Canopy-shrub															
Canopy-forb			4.5	.2	5										
Canopy-grass		30	10	15	7	20	20	8	2	10	10	1	30	3	

Forest Service Cryptogamic Habitat Study  
 Gps: G0821 W3 S: 3784339.4 E: 722541.7 Site#: RNA 20  
 Directions to Site: 38.65 m fr. fence Time: 11:55 Date: 8-21 Surveyors: ML  
 General Site observations: 50/50 Pinn/Jumper Elev: 7821 ft

Primary Aspect: 165 Secondary Aspect: \_\_\_\_\_ Primary slope & direction: 10 Secondary slope and direction: \_\_\_\_\_

Canopy cover of site: \_\_\_\_\_  
 Mid-transsect: 32 m from NE end Open quarters facing: North: 96 South: 96 East: 96 West: 96  
 Within 1m at NE end. Open quarters facing: North: 76 South: 79 East: 58 West: 96  
 Within 1m at SW end. Open quarters facing: North: 98 South: 96 East: 85 West: 96

Plants (vascular and nonvascular) within 3m of transect:  
 (Indicate when there are greater than 10 individuals in vicinity - if particularly abundant)  
BOUGREA / ERICOM (abundant) / ERICIA / XAN PAR  
LESOUEREA / PIPLO / YCOPAC / GRASS / PINN PAR  
ERIV MOSS / PIPLO / YCOPAC / BARKIA DIS / SIT THYS  
with 3 rebar poles (collected RNA-19) und. vel. sp.

Woody debris within: of SW rebar m of transect; in what part of transect: and SE part of a fallen tree (uprooted, propped up)  
 Woody debris within: 8 m of transect; in what part of transect: SW part of a fallen tree (uprooted and propped up)

Species: Jumper Tree at NE end. Standing: 8.4 m away + 30 - 18 (%; right side of cilhometer)  
 Species: Pinn Tree at SW end. Standing: 6.9 m away + 7 - 22 (%; right side of cilhometer)

NE End 7.9 SW End



precise direction of line w.r.t. tree 120°  
 Length from tree trunk to tree trunk = \_\_\_\_\_ m  
 Length from rebar to rebar = \_\_\_\_\_ m

Start at	end	Quadr 16	Quadr 17	Quadr 18	Quadr 19	Quadr 50	Quadr 51	Quadr 52	Quadr 53	Quadr 54	Quadr 55	Quadr 56	Quadr 57	Quadr 58	Quadr 59	Quadr 60
Gravel < 1 cm		3	2	3	2	2	3	7	3	3	5	12	3	20	80	
Gravel 1-2 cm		7	9	5	2	3	2	5	15	12	12	10	5	6	6	
Gravel > 2-6 cm			5	2	10		12	30	7	10		4	2	5	4	
Stones 6-15 cm		40	6								20	10				
Rocks 15 cm-1 m																
Boulder > 1 m																
Bedrock																
Soil		31.5	66	53	15	36.8	5	81	41	37.9	35.8	12	10	12	10	
Sand		5	5	10	49	3.5	74	20	20	10	20	38.9	70.9	30.4	31.9	
litter		10	12	17	12	20	3	7	12	25	7	10	12	15	17	
Woody debris 3-8 cm																
Woody debris 8-30 cm																
Woody debris > 30 cm																
Scat																
Lichen brown fr							1									
Lichen w/ cmyd	(2,5)							(.5)								
Lichen green ps	(5)							(8)	(7)							
Lichen yellow	(1)															
Lichen black	(2,5)							(1)	(2)							
green water				(3)	(3)					(2)						
Moss gray	(2)						(1)	(1)	(1)							
Moss brown	(2)															
Moss																
Moss	skin					2				.1						
Liverwort																
Algae																
Nostoc																
Vascular Species																
Basal veg: Bougra		3	2	3	3	3			2	1.5			3	5		
PKJ DM			2													
Wind seedling											.1	.1	.1			
Canopy-shrub																
Canopy-forb			12													
Canopy-grass		7	4	20	5	5			5		5	3	1	4		5







Start at	End	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Quadrant	Page	Box
Gravel < 1 cm		Quad 31	Quad 32	Quad 33	Quad 34	Quad 35	Quad 36	Quad 37	Quad 38	Quad 39	Quad 40	Quad 41	Quad 42	Quad 43	Quad 44	Quad 45						
Gravel 1-2cm			4	5	10	3	15	18	3	10	7	2	2	5	10	5	15					
Gravel > 2-6cm																						
Stones 6-15cm																						
Rocks 15cm-1m	99	60																				
Boulder > 1m																						
Bedrock																						
Soil	1	13	53.5	30	43	39.9	35	10	30	40	12	40	15	40	15	40	15	40	15	40	15	40
Sand		4	6	8	5	15	10	30	40	12	40	15	40	15	40	15	40	15	40	15	40	15
Litter		15	20	25	15	15	10	30	40	12	40	15	40	15	40	15	40	15	40	15	40	15
Woody debris 3-8cm																						
Woody debris 8-30cm																						
Woody debris > 30 cm																						
Scat																						
Lichen open/low	(90)	(40)	(1)	(15)	(20)	(7)	1	(1)	(2)	(4)	(1.5)											
Lichenspruce/cedar	(1)	(1)																				
Lichen von cumbis	(3)	(1)			(1)	(1.5)																
Lichen Klappertouffe	(1)	4	0.5	2	1	1	1	1	1	4	0.5											
Lichen Gladmilch																						
Moss horn moss																						
Moss Salina																						
Moss Sclerophyta																						
Moss etrusk cumbis																						
Moss Kaur moss																						
Moss spm																						
Liverwort																						
Algae																						
Nostoc																						
Vascular Species																						
Basal veg: Bougrea		3	8	7	5	1	9	7	4	10	1	10	2	4	3							
ERABELA																						
LESOVENWALD																						
Canopy-shrub																						
Canopy-forb		5																				
Canopy-grass	3	5	15	15	6	4	20	15	10	40	10	30	6	10	10							

Work on downslope side of line =

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**Forest Service Cryptogamic Habitat Study**

Gps: \_\_\_\_\_ S: \_\_\_\_\_ E: \_\_\_\_\_ Site#: \_\_\_\_\_ Date: \_\_\_\_\_ Surveyors: \_\_\_\_\_

Directions to Site: \_\_\_\_\_

General Site observations: \_\_\_\_\_

Primary Aspect: \_\_\_\_\_ Secondary Aspect: \_\_\_\_\_ Primary slope & direction: \_\_\_\_\_ Secondary slope and direction: \_\_\_\_\_

Canopy cover of site: \_\_\_\_\_

Mid-transect: \_\_\_\_\_ m from \_\_\_\_\_ end Open quarters facing: North: \_\_\_\_\_ South: \_\_\_\_\_ East: \_\_\_\_\_ West: \_\_\_\_\_

Within 1m at \_\_\_\_\_ end. Open quarters facing: North: \_\_\_\_\_ South: \_\_\_\_\_ East: \_\_\_\_\_ West: \_\_\_\_\_

Within 1m at \_\_\_\_\_ end. Open quarters facing: North: \_\_\_\_\_ South: \_\_\_\_\_ East: \_\_\_\_\_ West: \_\_\_\_\_

**Plants (vascular and nonvascular) within 3m of transect:**

*(Indicate when there are greater than 10 Individuals in vicinity- ie if particularly abundant)*

**Woody debris within:** \_\_\_\_\_ m of transect; in what part of transect: \_\_\_\_\_  
 Woody debris within: \_\_\_\_\_ m of transect; in what part of transect: \_\_\_\_\_

**Species:** \_\_\_\_\_ Tree at \_\_\_\_\_ end. Standing: \_\_\_\_\_ m away + \_\_\_\_\_ - \_\_\_\_\_ (%; right side of clinometer)  
 Species: \_\_\_\_\_ Tree at \_\_\_\_\_ end. Standing: \_\_\_\_\_ m away + \_\_\_\_\_ - \_\_\_\_\_ (%; right side of clinometer)

\_\_\_\_\_ End \_\_\_\_\_ End

Tree = \_\_\_\_\_ Tree = \_\_\_\_\_

Trunk = \_\_\_\_\_ m Rebar = \_\_\_\_\_ m Rebar = \_\_\_\_\_ m Trunk = \_\_\_\_\_ m



precise direction of line w.r.t. tree  
 Length from tree trunk to tree trunk = \_\_\_\_\_ m  
 Length from rebar to rebar = \_\_\_\_\_ m