

1992 Sale

122-03-090

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

08/18/1998
Rexford - Sutton Creek
Unit 12
12203090

DATE 8.18.98 CUTTING METHOD clippers
OPERATOR Kusner & Kindel SKIDDING METHOD RTS
DISTRICT Rexford Centerville If tractor: dispersed dedicated
SALE/S.A. Sutton Creek P.C. HAZARD TREATMENT BB w/ scattered piles along edges
Unit # 19 Acres 35 SILVICULTURAL TRMT SP
H.T. SAF Map -> SAF Vase on OPERATION PERIOD summer '97
Slope 25-35 southern side; SAF Clam on north side

Location Sutton Creek 5150 - 5400 352
COMPACTION (Heavy) lower: 33
mid: 32

upper: 16
COMPACTION (Light) lower: 172
middle: 182

UNDISTURBED upper: 180
lower: 152
middle: 114

DISPLACED upper: 107
lower: 17
middle: 9

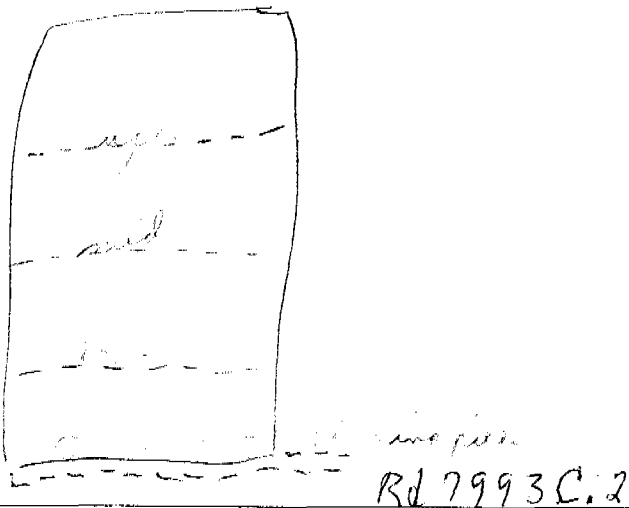
EXCAVATED SKID TRAIL erosion: lower: 6; mid: 5; upper: 2

SMZ/ROCK Burn pile: lower only - 7

COMMENTS Lots of 1 + 2yr WL seedlings; also LPP.
Lots of windthrow of WL seed trees on northern portion of unit
Slash moved away from WL seed trees, less top soil moved
than in Unit 13.
A lot of overland flow on lower part of unit, w/ scattered erosion.
Landing piles on lower edge of unit acted as flow deflectors &
sediment collectors.

CWD is adequate

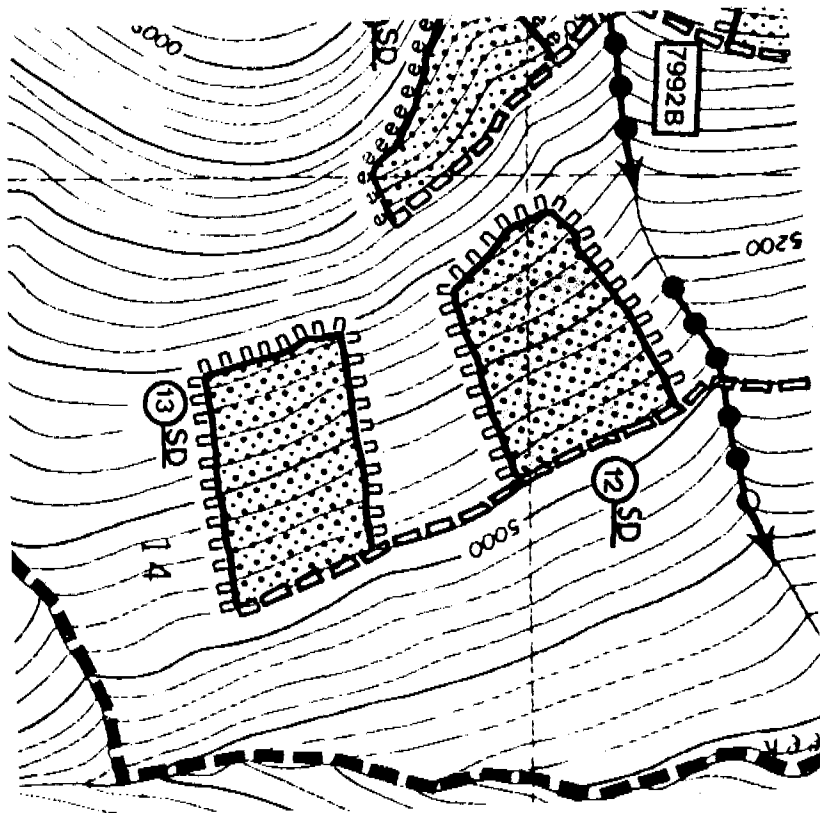
SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
UNDISTURBED - No signs of any machinery or skidding activity.
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.
SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

		<i>lower</i>		<i>middle</i>		<i>upper</i>				TOTAL		
Disturbance	Transect	1		2		3		4		5		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	
HEAVY	33	9	32	10	16	5					81	8
LIGHT	172	48	182	55	180	59					534	54
UNDISTURB	152	43	114	35	107	35					373	38
TOTALS	357	100	328	100	303	100					988	100
DISPLACED	17	5	9	3	9	3					35	3.5
EROSION	6	1.5	5	1.5	2	1					13	1
PUDDLED	0	0	0	0	0	0					0	0
SMZ	0	0	0	0	0	0					0	0
ROCK	0	0	0	0	0	0					0	0
BURN PILES	7	2	0	0	0	0					7	<1



1992
 KOOTENAI NATIONAL FOREST
 SOIL DISTURBANCE MONITORING FORM

122-03-091

DATE 8.18.98 CUTTING METHOD clipper
 OBSERVER Kuennen & Kindel SKIDDING METHOD RTS
 STRICT Rexford Canfield If tractor: dispersed dedicated
 SALE/S.A. Sutton Cr. P.C. HAZARD TREATMENT BB w/ scattered burn piles along edge.
 Unit # 13 Acres 35 SILVICULTURAL TRMT SD
 H.T. SAF Mese - SAF Vase OPERATION PERIOD summer '92

Slope _____
 Location Sutton Creek
 COMPACTION (Heavy) lower: 24
middle: 15
upper: 3

COMPACTION (Light) lower: 111
middle: 165
upper: 130

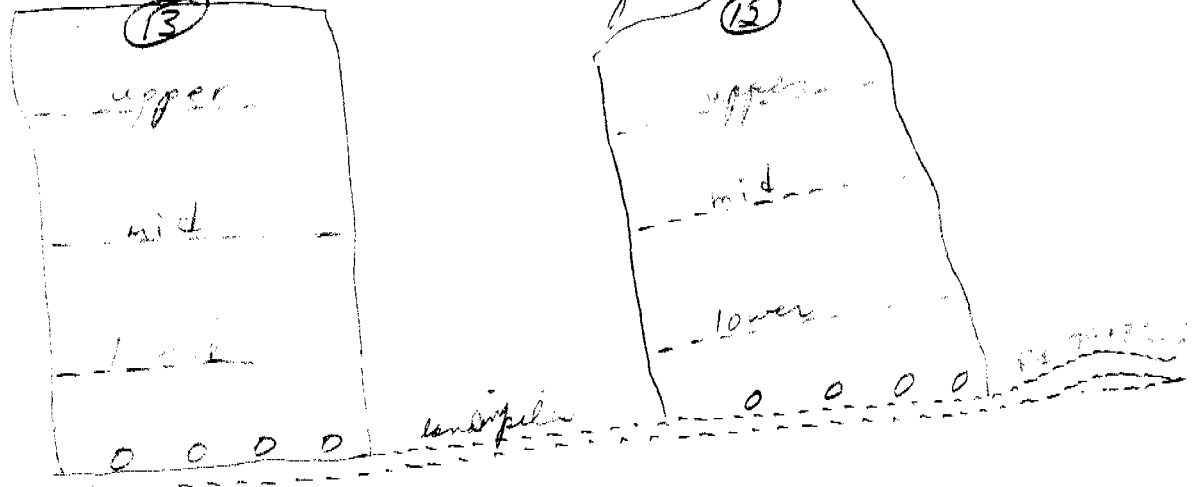
UNDISTURBED lower: 144
middle: 102
upper: 158

DISPLACED lower: 31
middle: 8 upper: 5
 EXCAVATED SKID TRAIL
Erosion: lower mid - 0 upper - 0
 SMZ/ROCK Burn Pile: lower - 7; middle: 4; upper - 1

COMMENTS
Lots of overland flow in lower 1/4 of unit, especially noticeable on skid trails.
Aspen & Picea planted. Lots of WL & DF material.
Lots of tree tipping (old LPP) reflected in surface rock (L10 sp).

* Three SMZ areas that should have been created.
Waterbars in only one of the major trails! One of the trails showing some erosion. Waterbars on firelines but extended enough
Alpic hic ash is not continuous, but is on much of unit - 6-10" thick. Slash pulled from around WL seed trees.

SHAPE OF UNIT AND PATTERN OF TRANSECT CWD is adequate

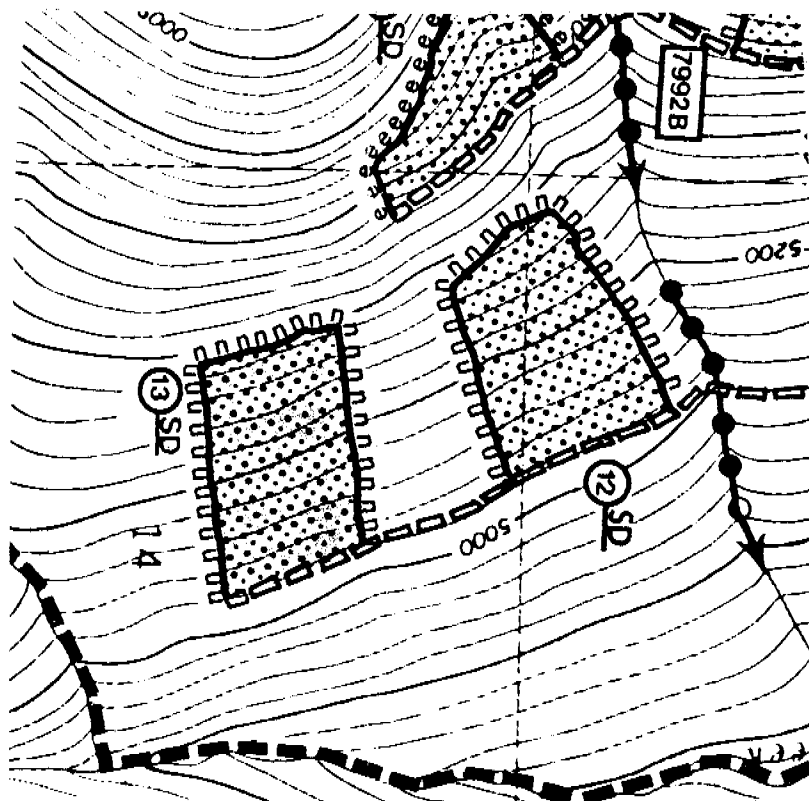


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SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

lower middle upper

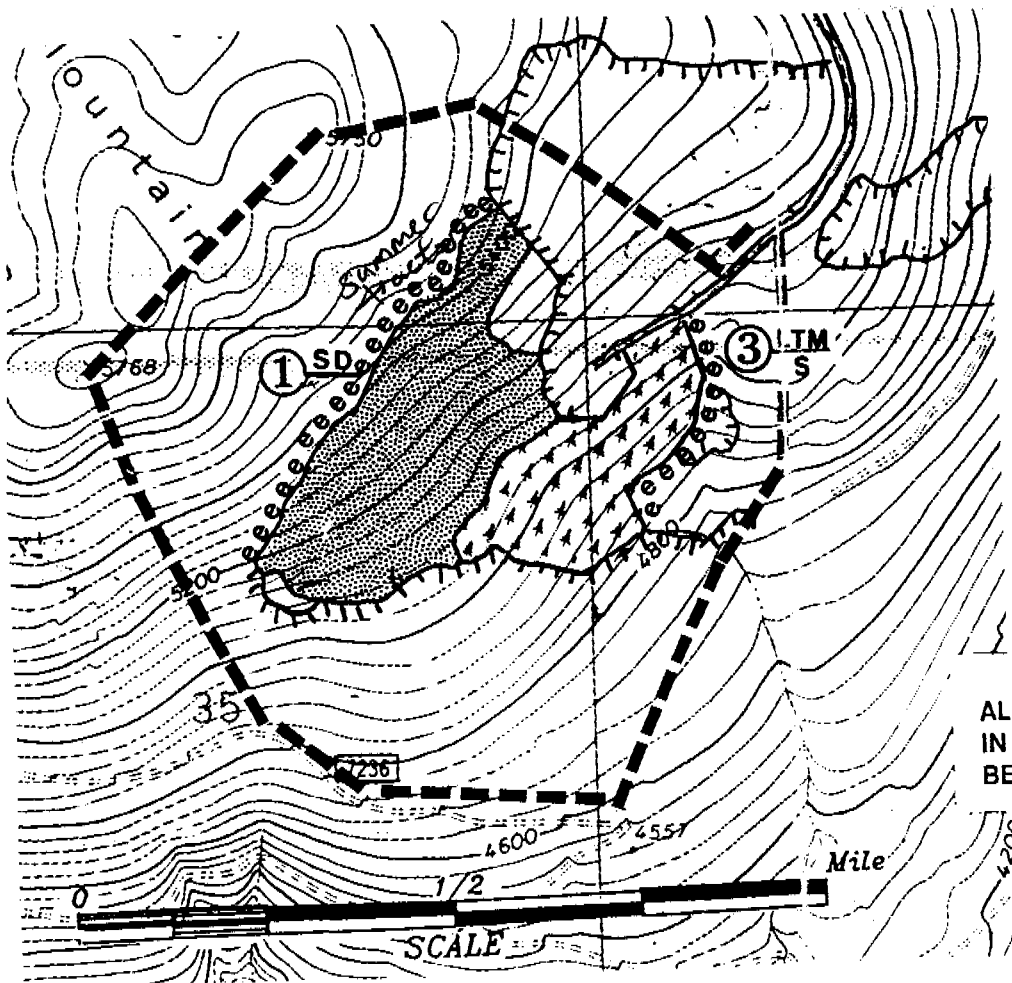
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	24	9	15	5	3	1					42	5
	LIGHT	111	40	165	59	130	45					406	48
	UNDISTURB	144	51	102	36	158	54					404	47
	TOTALS	279	100	282	100	291	100					852	100
	DISPLACED	31	11	8	3	5	2					44	5
	EROSION	6	2	0	0	0	0					6	1
	PUDDLED	0	0	0	0	0	0					0	0
	SMZ	0	0	0	0	0	0					0	0
	ROCK	0	0	0	0	0	0					0	0
	BURN PILES	7	2.5	4	1	1	-					12	1



TRANSECT SUMMARY FORM

lower middle upper

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED	8	1	6	1	0	0					14	1
EROSION	2	4.5	0	0	0	0					2	4.5
PUDDLED	0	0	0	0	0	0					0	0
SMZ	0	0	0	0	0	0					0	0
ROCK	6	41	4	41	2	1					12	41
BURN PILES	0	0	0	0	0	0					0	0
HEAVY	31	4.2%	24	3.5%	2	1.2%					57	4%
LIGHT	489	65.7%	449	66.2%	96	56.5%					1034	65.9%
UNDISTURB	224	30.1%	205	30.2%	72	42.4%					501	31%
TOTALS	744	100	678	100	170	100					1592	100



1996 Sale

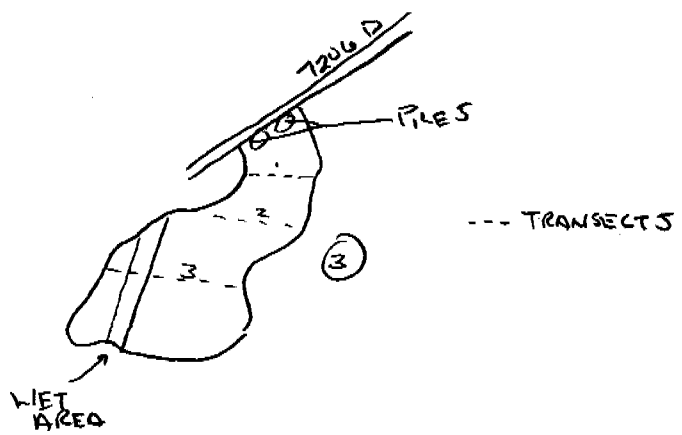
KOOTENAI NATIONAL FOREST
 SOIL DISTURBANCE MONITORING FORM

DATE 9/25/98 CUTTING METHOD CLIPPER
 OPERATOR K. KINDEL SKIDDING METHOD SKYLINE?? RTS
 DISTRICT D-1 Burke If tractor: dispersed _____ dedicated _____
 SALE/S.A. UPPER SCALP FIRE SALVAGE HAZARD TREATMENT _____
 Unit # 3 Acres 33 SILVICULTURAL TRMT LEAVE TREE MARK
 H.T. SEE NOTES SAF/Vacc OPERATION PERIOD WINTER LOG
 Slope SOUTH EAST ASPECT Elev: 4850-5100
 Location 7206 D OFF BOULDER / SULLIVAN CUTOFF

COMPACTION (Heavy) 2
3
2
 COMPACTION (Light) 129
120
167
 UNDISTURBED 20
36
35
 DISPLACED 115/5
 EXCAVATED SKID TRAIL _____
 SMZ (ROCK) 5 ON 3rd TRANSECT

COMMENTS SUBALPINE FIR, PINE GRASS, ALDER, DWARF HUCKLEBERRY, KINNICKINICK;
LANDINGS LOGIC GOOD, NO PROBLEMS WITH PILES, PILES ARE ON LOWER (FILL SLOPE)
SIDE OF 7206 D ROAD; WINTER LOGGED; NO REAL EVIDENT CLIPPER COMPACTION; THIS
UNIT HAS ALREADY BEEN BURNED AND IS WELL GROWN OVER; FIRELINES HAVE BEEN
REPAIRED & SEEDED; ~ 50% OF H₂O BARS ARE FUNCTIONAL BUT FIRELINES ARE
GROWN OVER ENOUGH AS NOT TO BE A PROBLEM; LITTLE OR NO ASH LAYER; THICK
ROOT LAYER ON TOP (1"); SOME TREE TIPPING RESULTING IN SOIL DISPLACEMENT (ISOLATED);
PLENTY OF 3" + WOODY DEBRIS; THERE IS A WET AREA BELOW THE REGEN UNIT
THAT SHOULD HAVE BEEN AN SMZ; UNIT HAS ALREADY BEEN PLANTED.

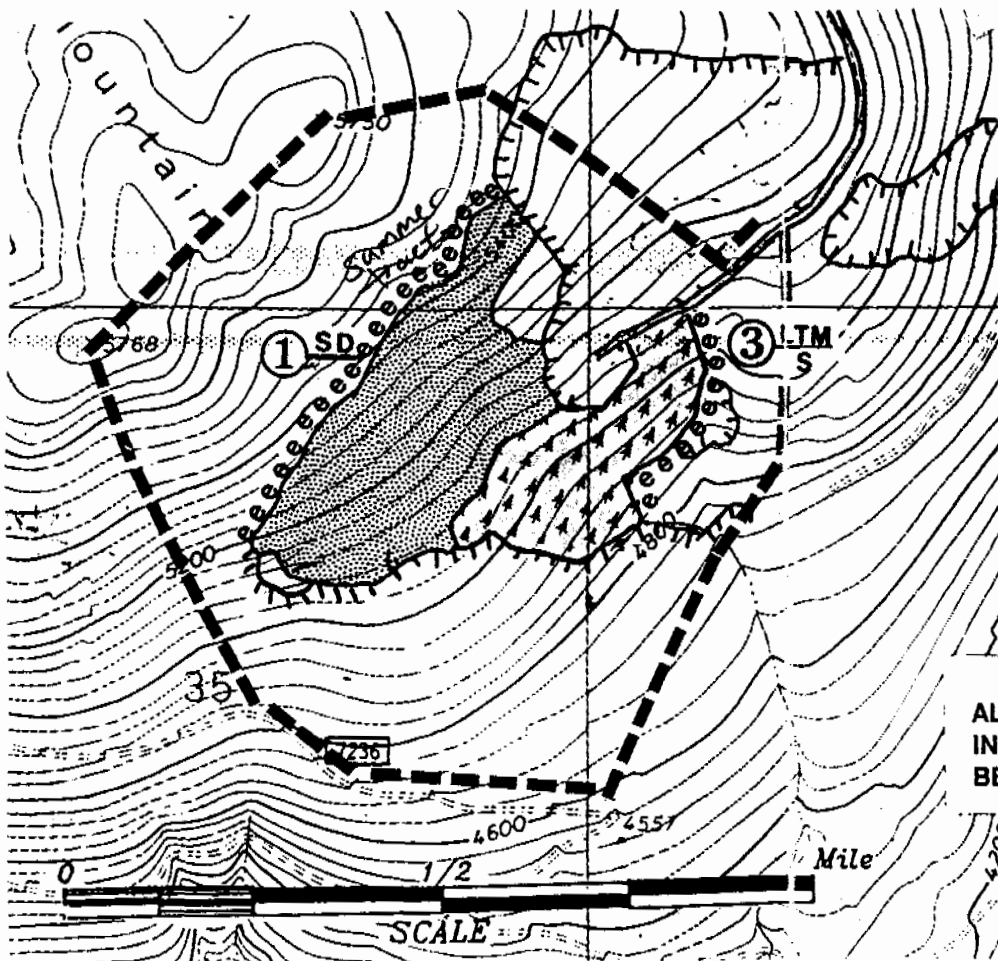
SHAPE OF UNIT AND PATTERN OF TRANSECT



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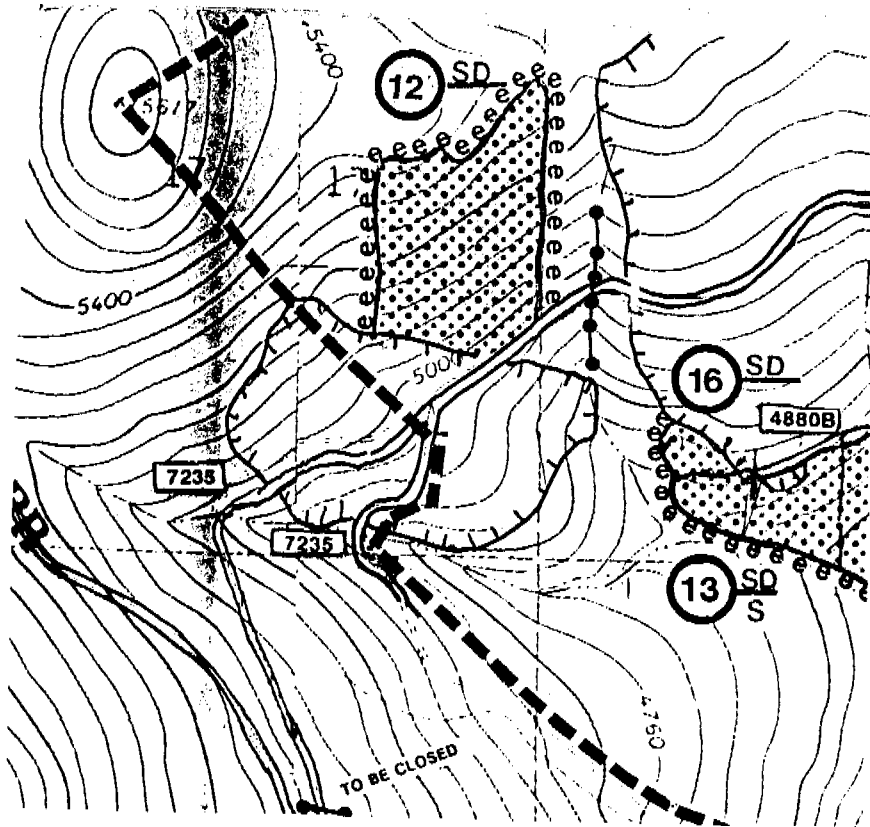
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	2	1.3%	3	1.9%	2	0.9%					7	1%
	LIGHT	129	85.4%	120	75.5%	167	81.9%					416	81%
	UNDISTURB	20	13.2%	36	22.6%	35	17.2%					91	18%
	TOTALS	151	100	159	100	204	100					514	100
	DISPLACED	1	41	5	3	5	2					11	2
	EROSION	0	0	0	0	0	0					0	0
	PUDDLED	0	0	0	0	0	0					0	0
	SMZ	0	0	0	0	0	0					0	0
	ROCK	0	0	0	0	5	2					5	1
	BURN PILES	0	0	0	0	0	0					0	0



TRANSECT SUMMARY FORM

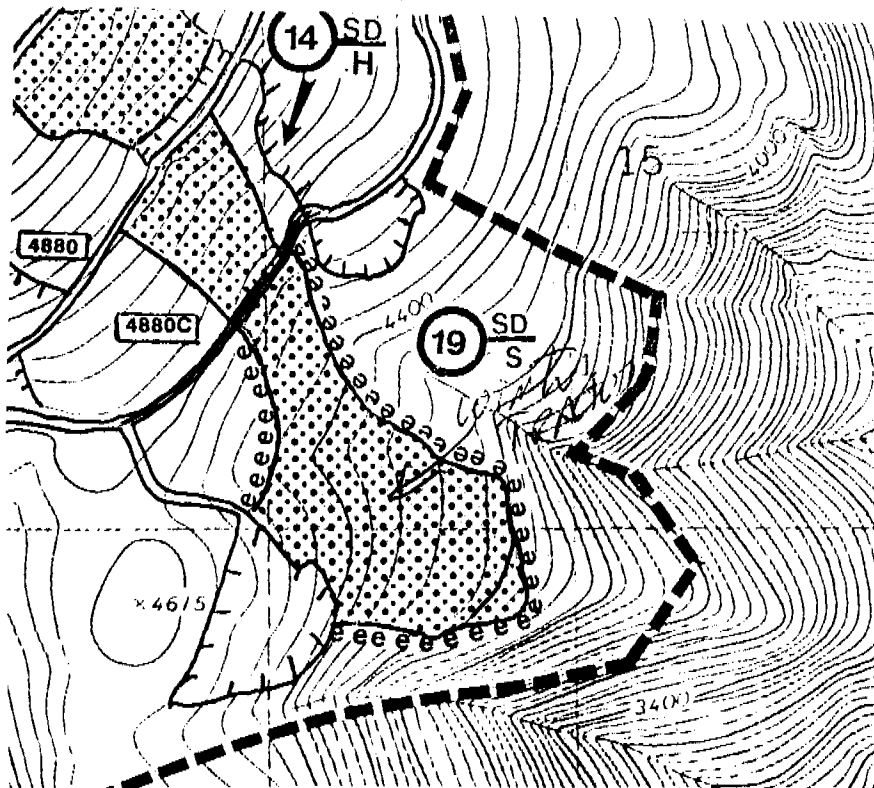
lower *mid* *upper*

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	39	12.3%	27	5.6%	25	5.1%					91	7.1%
	LIGHT	249	78.5%	430	89.8%	443	90%					1122	87.1%
	UNDISTURB	29	9.1%	22	4.6%	24	4.9%					75	5.8%
	TOTALS	317		479		492						1288	
	DISPLACED	19	6	19	3	21	4					59	4.5
	EROSION	10	3	4	1	2	1					16	1
	PUDDLED	19	6	16	3	12	2					47	4
	SMZ	0	0	0	0	0	0					0	0
	ROCK	2	1	0	0	7	1					9	1
	BURN PILES	0	0	0	0	0	0					0	0



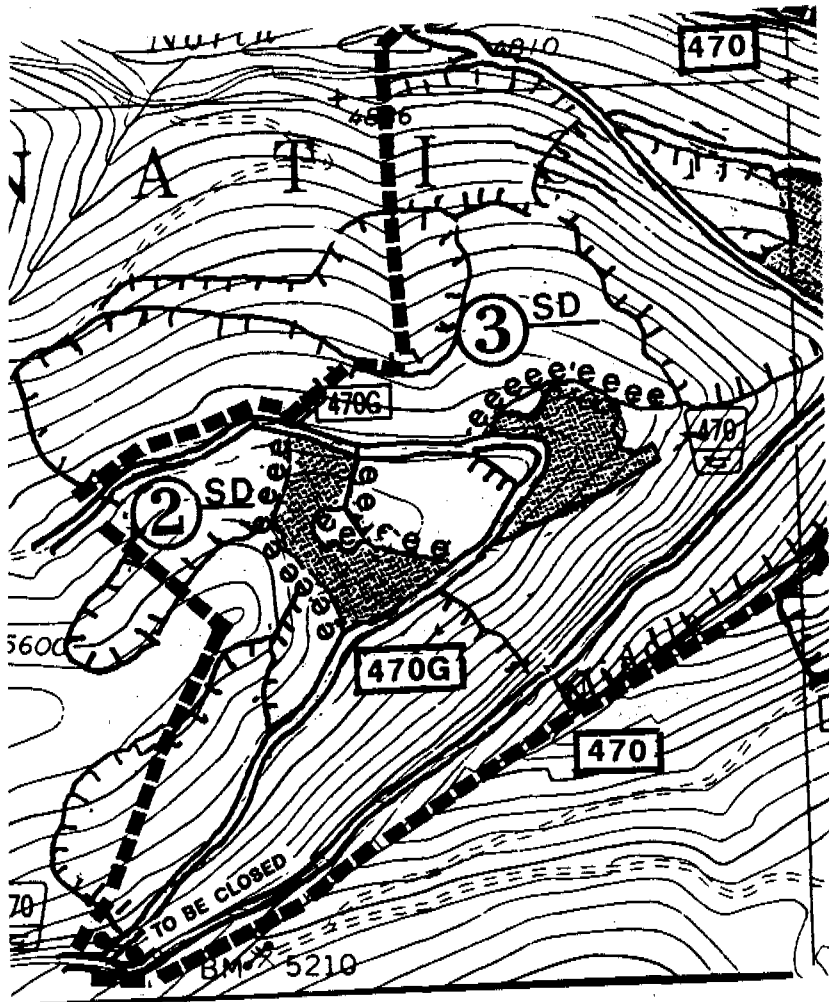
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	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED	7	2	4	4.1							11	1
EROSION	0	0	0	0							0	0
PUDDLED	0	0	0	0							0	0
SMZ	0	0	0	0							0	0
ROCK	0	0	1	4.5							1	4.1
BURN PILES	0	0	0	0							0	0
HEAVY	8	2.2%	15	2.2%							23	2.2%
LIGHT	294	80.5%	532	77.8%							826	78.7%
UNDISTURB	63	17.3%	137	20%							200	19.1%
TOTALS	365	100	684	100							1049	100



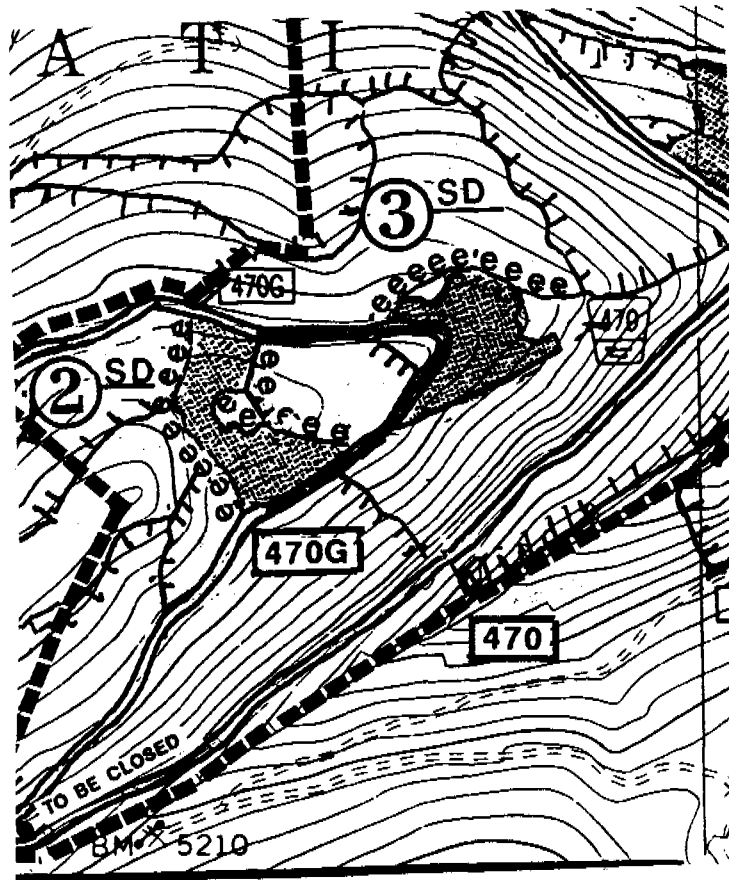
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	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED	2	1	2	1	4	5	3	2			11	2
EROSION	0	0	0	0	0	0	0	0			0	0
PUDDLED	0	0	0	0	0	0	0	0			0	0
SMZ	0	0	0	0	0	0	0	0			0	0
ROCK	0	0	0	0	0	0	0	0			0	0
BURN PILES	0	0	0	0	0	0	0	0			0	0
HEAVY	4	2.1%	4	2.5%	3	3.4%	4	2.8%			15	2.6%
LIGHT	163	85.3%	136	83.4%	58	66.7%	119	82.1%			476	81.2%
UNDISTURB	24	12.6%	23	14.1%	26	29.9%	22	15.2%			95	16.2%
TOTALS	191		163		87		145				586	



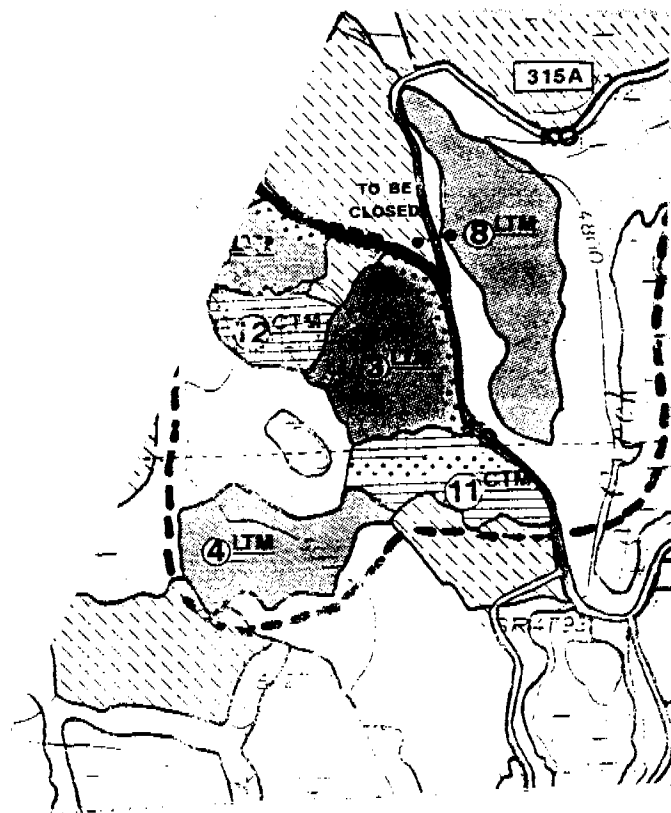
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	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
Disi	HEAVY	27	6.3%	20	5.8%							47	6.1%
st	LIGHT	376	87.2%	315	91.3%							691	89%
ur	UNDISTURB	28	6.5%	10	2.9%							38	4.9%
b	TOTALS	431		345								776	
	DISPLACED	11	3	9	3							20	3
	EROSION	0	0	0	0							0	0
	PUDDLED	0	0	0	0							0	0
	SMZ	0	0	0	0							0	0
	ROCK	0	0	0	0							0	0
	BURN PILES	0	0	0	0							0	0



TRANSECT SUMMARY FORM

	<i>lower</i> Transect 1		<i>upper</i> Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	5	2	5	2							10	2
LIGHT	80	25	80	23							160	24
UNDISTURB	230	73	260	75							490	74
TOTALS	315	100	345	100							660	100
DISPLACED	3	1	0	0							3	1
EROSION	4	1	0	0							4	1
PUDDLED	0	0	0	0							0	0
SMZ	0	0	0	0							0	0
ROCK	0	0	0	0							0	0
BURN PILES	0	0	0	0							0	0



KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE July 29 1998 CUTTING METHOD hand t. feller buncher
OBSERVER Ruennen SKIDDING METHOD RTS
DISTRICT Fortine If tractor: dispersed dedicated
SALE/S.A. West Sunday HAZARD TREATMENT BB (cool) - twice later ^{entry}
Unit # 5 Acres 39 SILVICULTURAL TRMT seed tree - shelterwood
H.T. SAF/Libo -> SAF/Clun OPERATION PERIOD winter over deep snow Jan-Feb '98
Slope 5-40, one area 55% Sigeh formation
Location lower slope
COMPACTION (Heavy) Lower 6
upper 3

COMPACTION (Light) Lower 106
upper 92

UNDISTURBED Lower 388
upper 366

DISPLACED _____

EXCAVATED SKID TRAIL _____

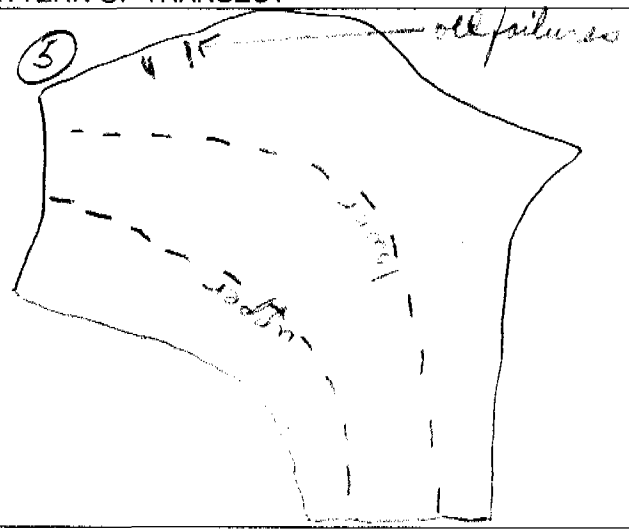
SMZ/ROCK _____

COMMENTS BB was cool - covered more than 95% of area but much of duff layer still intact

Two areas on steep area appear to be old failures. sh. mostly absent

Good short term + long term organics present

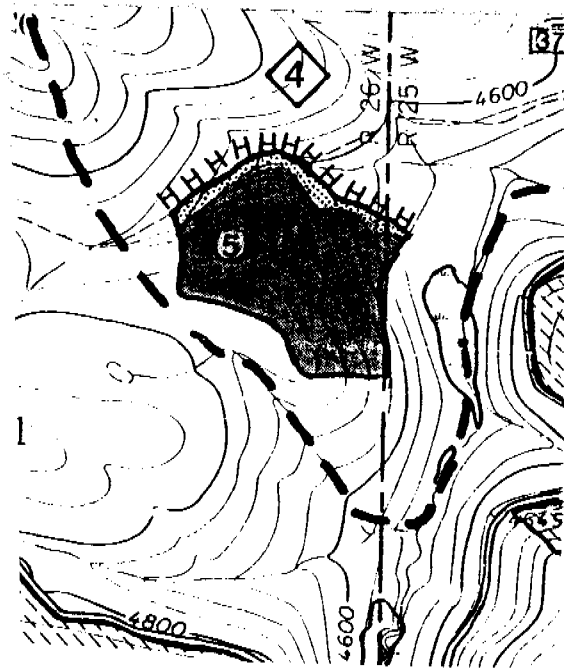
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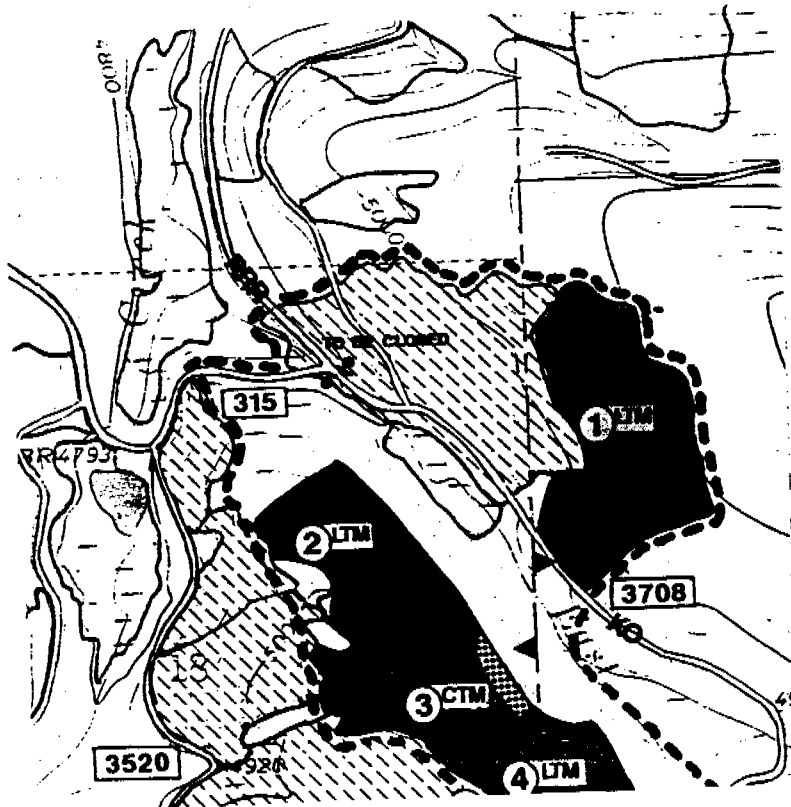
	<i>lower</i> Transect 1		<i>upper</i> Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	6	1	3	1						9	1
	LIGHT	106	21	92	20						198	21
	UNDISTURB	388	78	366	79						754	78
	TOTALS	500	100	461	100						961	100
	DISPLACED	0	0	0	0						0	0
	EROSION	0	0	0	0						0	0
	PUDDLED	0	0	0	0						0	0
	SMZ	0	0	0	0						0	0
	ROCK	0	0	0	0						0	0
	BURN PILES	0	0	0	0						0	0



TRANSECT SUMMARY FORM

lower middle upper

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	22	11	28	10	26	6					76	9
LIGHT	120	61	185	68	240	60					545	62
UNDISTURB	56	28	58	22	136	34					250	29
TOTALS	198	100	271	100	402	100					871	100
<i>Excavated</i>	4	2	0	0	7	2					11	1
DISPLACED	15	8	4	1	10	2					29	3
EROSION	3	1	0	0	0	0					3	4.5
PUDDLED	0	0	0	0	0	0					0	0
SMZ	0	0	0	0	0	0					0	0
ROCK	0	0	0	0	5	1					5	41
BURN PILES	0	0	0	0	0	0					0	0



TRANSECT SUMMARY FORM

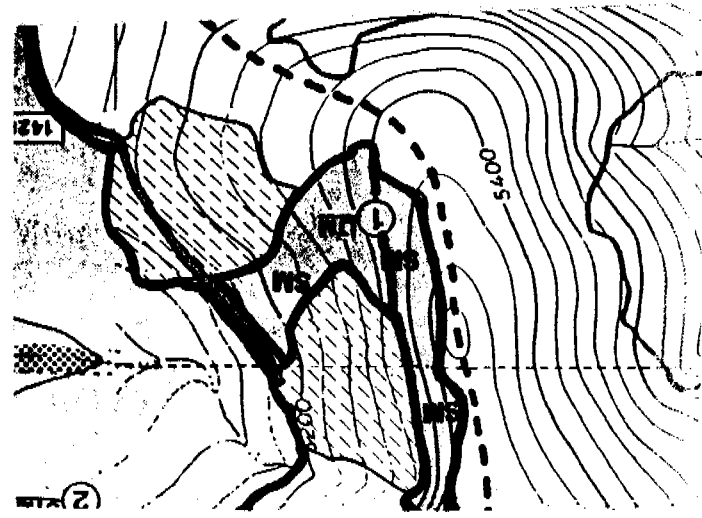
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	28		39		29						96	
	LIGHT	130		191		195						516	
	UNDISTURB	52		42		123						217	
	TOTALS											800	
	DISPLACED	14		10		7						31	
	EROSION	3		0		0						3	
	RIDDLED S.D.H.	5		0		7						12	
	SMZ												
	ROCK												
	BURN PILES												

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 829 \overline{) 965} \\
 \underline{829} \\
 131
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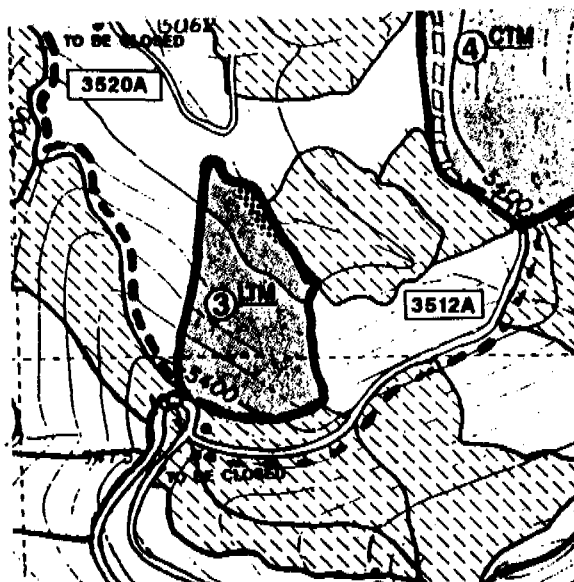
TRANSECT SUMMARY FORM

		<i>lower</i>		<i>middle</i>		<i>upper</i>		<i>upper 2</i>		TOTALS			
		Transect 1		Transect 2		Transect 3		Transect 4		Transect 5			
		Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%		
Disturbance	HEAVY	6	4	24	6	2	1	40	11			72	6
	LIGHT	116	88	255	71	113	43	303	85			787	71
	UNDISTURB	10	8	82	23	145	56	13	4			250	23
	TOTALS	132	100	361	100	260	100	356	100			1109	100
	DISPLACED	2	1	30	8	10	4	16	4			58	5
EROSION <i>excavated trail</i>	0	0	10	3	0	0	0	0			10	1	
PUDDLED	0	0	0	0	0	0	0	0			0	0	
SMZ	0	0	0	0	0	0	0	0			0	0	
ROCK	0	0	0	0	0	0	0	0			0	0	
BURN PILES	0	0	0	0	0	0	0	0			0	0	



TRANSECT SUMMARY FORM

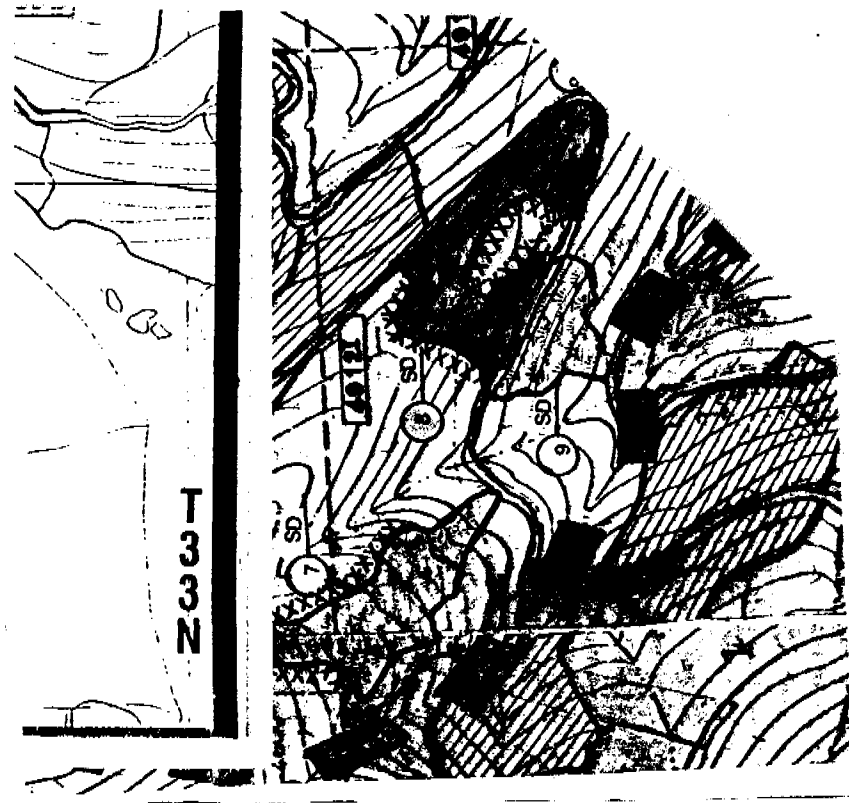
	<i>upper</i> Transect 1		<i>lower</i> Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	2	1	0	0						2	4.5
	LIGHT	161	57	131	46						292	52
	UNDISTURB	118	42	152	54						270	48
	TOTALS	281	100	283	100						564	100
	DISPLACED	6	2	4	1						10	2
	EROSION	0	0	0	0						0	0
	PUDDLED	0	0	0	0						0	0
	SMZ	0	0	0	0						0	0
	ROCK	0	0	0	0						0	0
	BURN PILES	0	0	0	0						0	0



TRANSECT SUMMARY FORM

lower *upper*

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	7	3	8	4						15	4
	LIGHT	110	53	120	61						230	57
	UNDISTURB	90	44	70	35						160	39
	TOTALS	207	100	198	100						405	100
	DISPLACED	10	5	5	3						15	4
	EROSION	0	0	0	0						0	0
	PUDDLED	0	0	0	0						0	0
	SMZ	0	0	0	0						0	0
	ROCK	0	0	0	0						0	0
	BURN PILES	0	0	0	0						0	0



06/12/1998
Libby - West Dry Sweep Salvage
Unit 9
57905017

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

~~579 05 029~~ 4
~~579 05 029~~ 8
57905017 12

DATE June 12, 1998 CUTTING METHOD clipper
OPERATOR Ruennen SKIDDING METHOD RTS
DISTRICT Libby If tractor: dispersed ✓ dedicated ✓
SALE/S.A. West Dry Sweep McBride HAZARD TREATMENT N/A
Unit # 812 Acres 12 SILVICULTURAL TRMT Remove down LPP
H.T. DF/Libby - ES/C/un OPERATION PERIOD _____
Slope 15-30
Location West Dry Fork
COMPACTION (Heavy) L 15

COMPACTION (Light) XXXXXXXXXXXX 110

UNDISTURBED XXXXXXXXXXXX 140

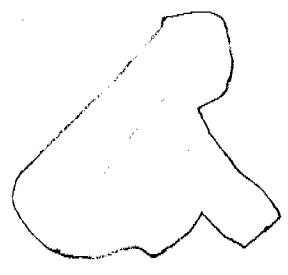
DISPLACED _____ 0

EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS _____

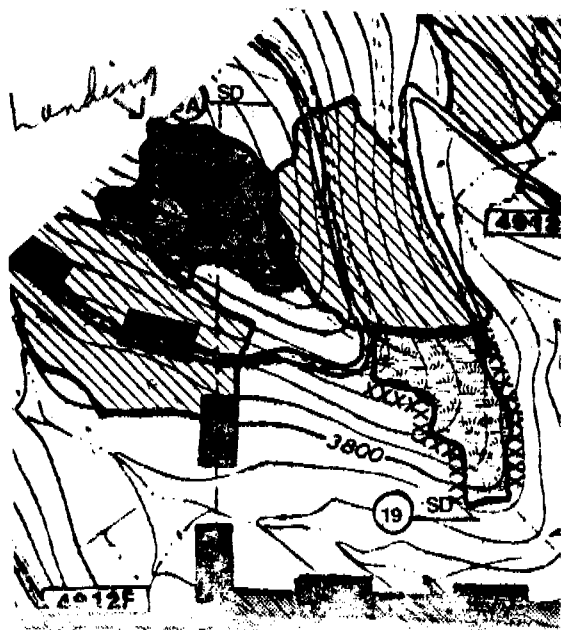
SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
UNDISTURBED - No signs of any machinery or skidding activity.
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.
SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

	<i>top</i> Transect 1		<i>mid</i> Transect 2		<i>lower</i> Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	7	4	8	3	5	2					20	3
	LIGHT	110	59	160	60	170	69					440	63
	UNDISTURB	70	37	100	37	70	29					240	34
	TOTALS	187	100	268	100	245	100					700	100
	DISPLACED	4	2	3	1	4	2					11	2
	EROSION	0	0	0	0	0	0					0	0
	PUDDLED	0	0	0	0	0	0					0	0
	SMZ	0	0	0	0	0	0					0	0
	ROCK	0	0	0	0	0	0					0	0
	BURN PILES	0	0	0	0	0	0					0	0



KOOTENAI NATIONAL FOREST
 SOIL DISTURBANCE MONITORING FORM

DATE June 3 1998 CUTTING METHOD clipper (Finco)
 OBSERVER Ruennen SKIDDING METHOD DF/RTs & cat
 DISTRICT Libby Crawford If tractor: dispersed current dedicated
 SALE/S.A. Sheldon Interface HAZARD TREATMENT _____
 Unit # 4 Acres 65 SILVICULTURAL TREATMENT remove pine
 H.T. Douglas-fir/white pine OPERATION PERIOD Mar 97/98
 Slope 43% - Unit 4, Unit 5 - short slope 55% off of higher terrace.
 COMPACTION (Heavy) Unit 4 ① 23 ② 16 ③ 11
Unit 5 (along easterly face) ② 15 ③ 50

COMPACTION (Light) Unit 4 ① 104 ② 109 ③ 120

Unit 5 (along easterly face) ② 123 ③ 148
 UNDISTURBED Unit 4 ① 46 ② 33 ③ 45

Unit 5 (along easterly face) ② 173 ③ 101
 DISPLACED Unit 4 5 3 1 2

Unit 5 (along easterly face) - 18
 EXCAVATED SKID TRAIL/old rd 6 1 4 1 4 1 2

SMZ/ROCK Past activity Unit 4 ① 190 ② 208 ③ 215 613
Unit 5 ② 148

COMMENTS whole tree yarded, stroke delimeter at landing scattered @ F in walkway toward western edge. Old rd near 4/5 boundary. Portions of Unit 4 on SE fringe is DF/Carex. Easterly face of Unit 5 is DF/Libo remainder DF/Carex - DF/Drum. "higher terrace" seems to be composed of two deeply weathered residual rock points w/ sandy silt/clay filling in between them.

SHAPE OF UNIT AND PATTERN OF TRANSECT

1169, 234 m



Along transect ① 190 points were observed to be from past activities, transect ③ 208, and transect ④ 215. Obviously not all were considered detrimental

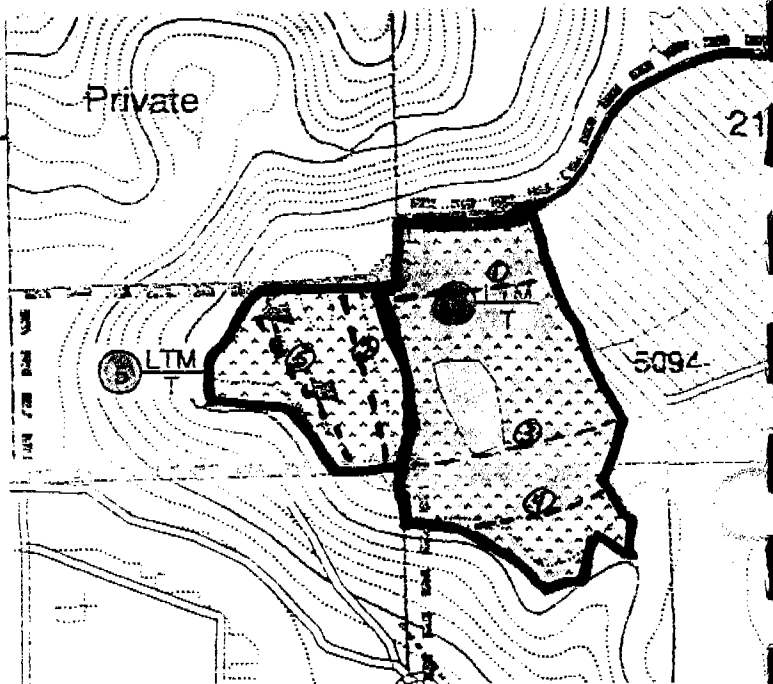
COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
 COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
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 SMZ - Include within transect if within harvest unit.

Unit 4

TRANSECT SUMMARY FORM

	①		③		④		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Displacement	23	7	16	5	28	7					67	6
Light	271	80	301	86	307	81					879	82
Undisturbed	46	13	33	9	45	12					124	12
TOTALS	340	100	350	100	380	100					1070	100
DISPLACED	5	3	3	2	2	1					10	2
EROSION	0	0	0	0	0	0					0	0
PUDDLED	0	0	0	0	6	0					0	0
SMZ	0	0	0	0	0	0					0	0
ROCK	0	0	0	0	0	0					0	0
BURN PILES	0	0	0	0	0	0					0	0

23	16	28
104	109	120
+167	+192	+187
<u>271</u>	<u>301</u>	<u>307</u>
46	33	45
190	208	215
-23	-16	-28
<u>167</u>	<u>192</u>	<u>187</u>



KOOTENAI NATIONAL FOREST
 SOIL DISTURBANCE MONITORING FORM

DATE June 3, 1998 CUTTING METHOD chipper
 OPERATOR Kuennen SKIDDING METHOD RTS + Cat
 DISTRICT Libby If tractor: dispersed dedicated
 SALE/S.A. Sheldon Interface HAZARD TREATMENT _____
 Unit # 5 Acres 29 SILVICULTURAL TREATMENT remove pine
 H.T. DF/Libo → DF/Camb OPERATION PERIOD winter 97-98
 Slope _____
 COMPACTION (Heavy) ② 15 ③ 10

COMPACTION (Light) ② 123 ③ 148

UNDISTURBED ② 173 ③ 101

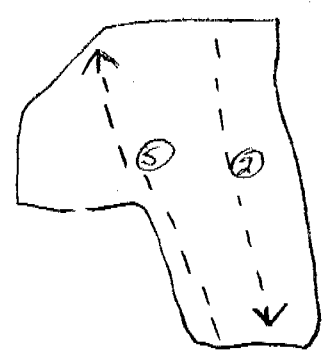
DISPLACED ② 18 ③ 2

EXCAVATED SKID TRAIL _____

SMZ/ROCK Past Activity ② 0 ③ 148

COMMENTS
Easterly face of Unit has 35-50% slope. Trails were excavated as they
came down the face. Poor operation. This face also has DF/Libo
H.T. w/ DF/Camb → DF/Arund on remainder. Higher "ferage" seems
to be composed of two deeply weathered residual rock points
w/ sandy material filling in between them.

SHAPE OF UNIT AND PATTERN OF TRANSECT



954.250 m.

COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
UNDISTURBED - No signs of any machinery or skidding activity.
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.

Unit 5

②

⑤

TRANSECT SUMMARY FORM

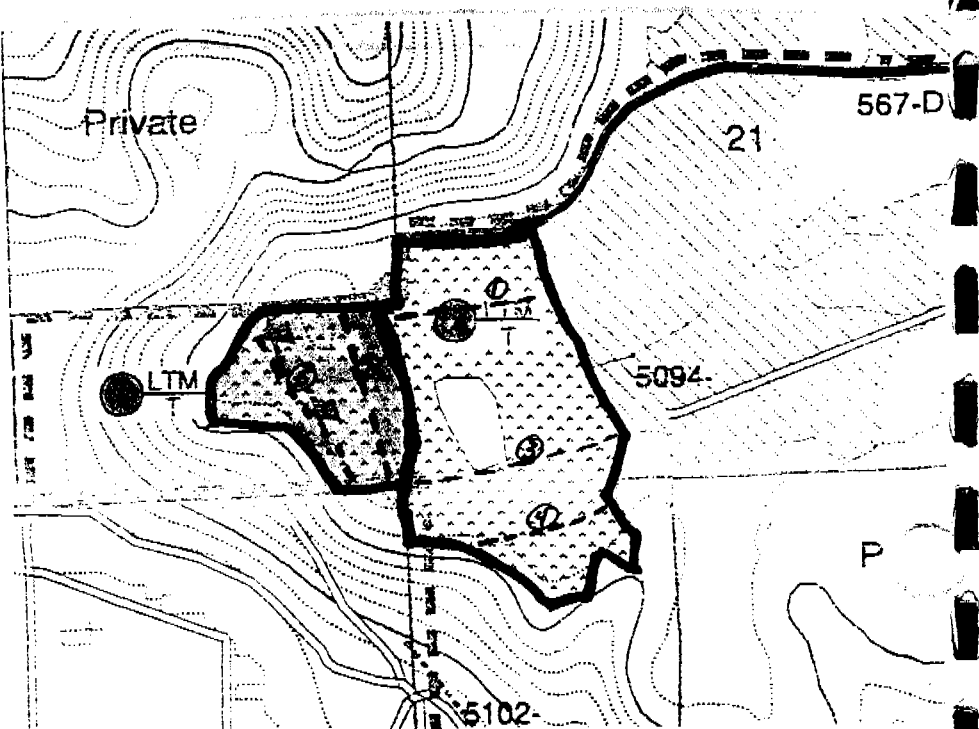
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	15	5	10	3							25	3
LIGHT	123	39	286	72							409	58
UNDISTURB	173	56	101	25							274	39
TOTALS	311	100	397	100							708	100
DISPLACED	18	6	2	1							20	4
EROSION	0	0	0	0							0	0
PUDDLED	0	0	0	0							0	0
SMZ	0	0	0	0							0	0
ROCK	0	0	0	0							0	0
BURN PILES	0	0	0	0							0	0

10
 148
 +136

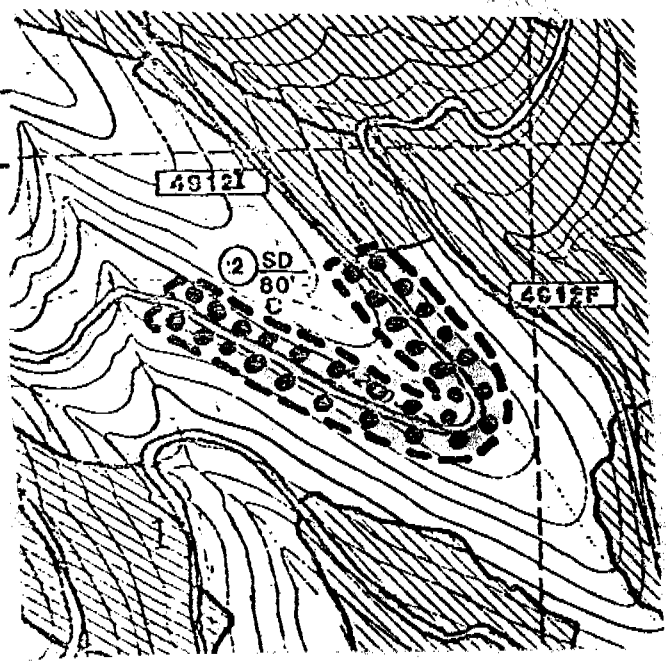
 286

101
 148
 -10

 138

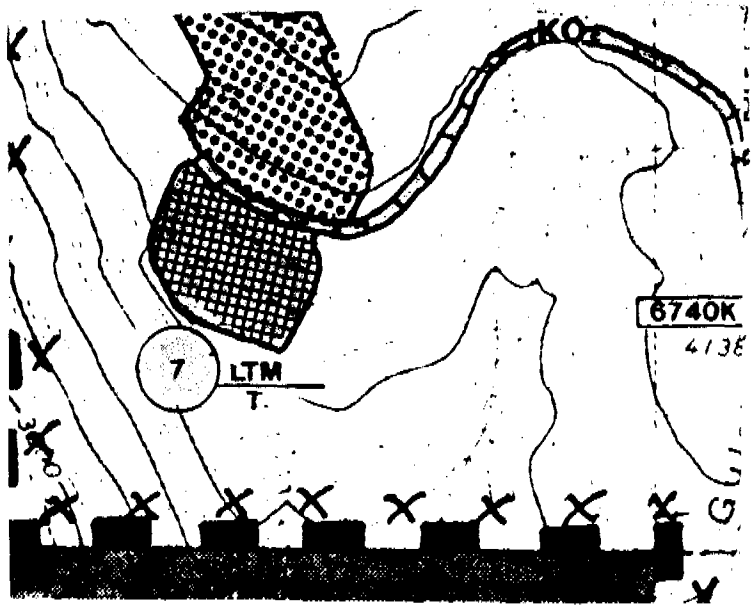


	Pts	Pct.
Heavy	14	5
Light	109	42
Undist.	140	53
Total	263	100



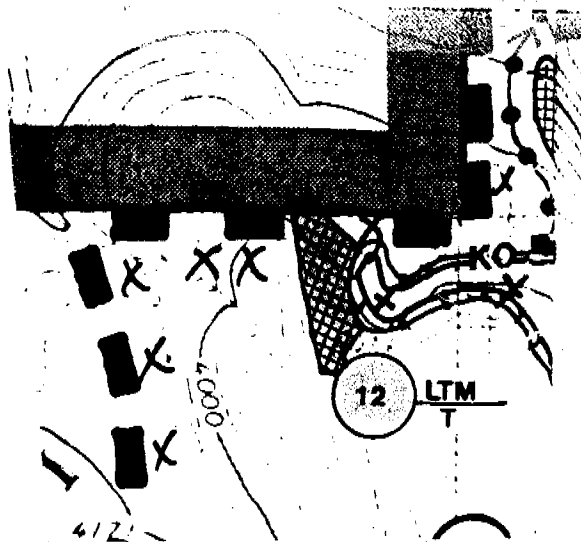
TRANSECT SUMMARY FORM

	<i>upper</i> Transect 1		<i>lower</i> Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	11	5	23	8							34	7
LIGHT	141	61	190	63							331	62
UNDISTURB	79	34	87	29							166	31
TOTALS	231	100	300	100							531	100
DISPLACED	100	43	130	43							230	43
EROSION	0	0	0	0							0	0
PUDDLED	0	0	0	0							0	0
SMZ	0	0	0	0							0	0
ROCK	0	0	0	0							0	0
BURN PILES	0	0	0	0							0	0



TRANSECT SUMMARY FORM

		Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
		Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Disturbance	HEAVY	7	3	5	1							12	2
	LIGHT	100	45	130	46							230	45
	UNDISTURB	115	52	150	53							265	53
	TOTALS	222	100	285	100							507	100
	DISPLACED	20	9	8	3							28	6
EROSION	0	0	0	0							0	0	
PUDDLED	0	0	0	0							0	0	
SMZ	0	0	0	0							0	0	
ROCK	0	0	0	0							0	0	
BURN PILES	0	0	0	0							0	0	

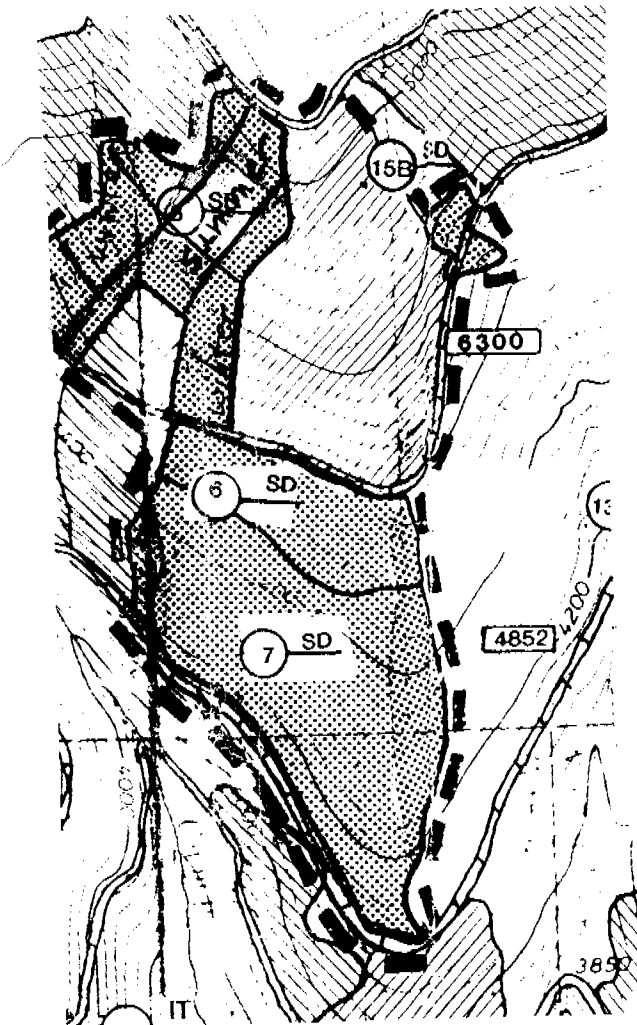


October 1969 October 1969 October 1969 October 1969

TRANSECT SUMMARY FORM

lower *middle* *upper* *total*

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED	8/2	5/1	16/10	8/4	5/8	7/4			29	7	20	3
EROSION	84/120	57/70	116/155	61/69	40/140	53/61			240	58	415	67
PUDDLED	55/50	38/29	60/60	31/27	30/80	40/35			145	35	190	30
SMZ	147/172	100	192/225	100	75/228	100			414	100	625	100
ROCK												
BURN PILES												



KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE Sept 22, 1998 CUTTING METHOD chipper
OBSERVER Kuennen SKIDDING METHOD RTS
DISTRICT Libby McBride If tractor: dispersed dedicated
SALE/S.A. Bristow Salvage HAZARD TREATMENT _____
Unit # 6 Acres 24 SILVICULTURAL TRMT SD w/ WL & DF seed trees
H.T. SAF/Libo OPERATION PERIOD summer 1998
Slope 10-30% Ele: 4500-4600' LT: 352
Location Camp Cr.
COMPACTION (Heavy) middle 12

COMPACTION (Light) middle 386

UNDISTURBED middle 185

DISPLACED middle L 5

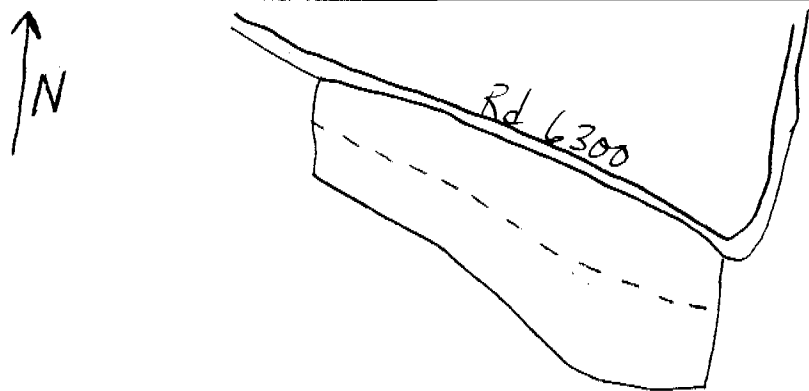
EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS Similar number of stems/A as Unit 7 but overall size much smaller. Have definitely changed to SAF/Libo. Libo and Xete dominant understory. WL, LPP, SAF, DF ES.
One very definite dedicated trail going from NW corner of Unit 6 to SE corner of Unit 6. Lots of slash placed on trail.
adverse skidded

Lots of surface organics except for major skid trails
Plenty of CWD & SOs

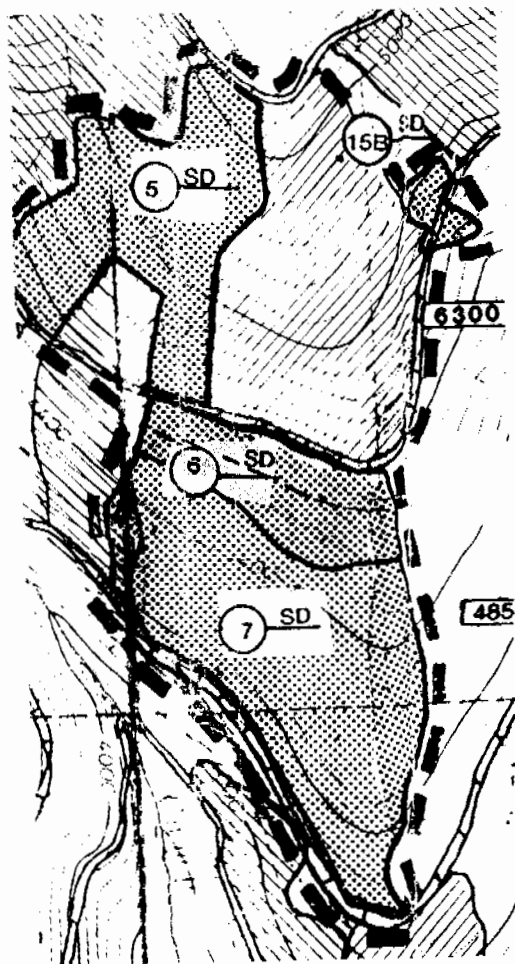
CWD = coarse woody debris SO = surface organics
SHAPE OF UNIT AND PATTERN OF TRANSECT



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SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	12	2								12	2
	LIGHT	386	66								386	66
	UNDISTURB	185	32								185	32
	TOTALS	583	100								583	100
	DISPLACED	5	1								5	1
	EROSION	0	0								0	0
	PUDDLED	0	0								0	0
	SMZ	0	0								0	0
	ROCK	0	0								0	0
	BURN PILES	0	0								0	0



KOOTENAI NATIONAL FOREST
 SOIL DISTURBANCE MONITORING FORM

DATE Sept. 22, 1998 CUTTING METHOD clipper
 OBSERVER Kyennan SKIDDING METHOD RTS
 TRACT Libby McBride If tractor: dispersed dedicated
 SALE/S.A. Bristow Cr. Salvage HAZARD TREATMENT none yet
 Unit # 7 Acres 91 SILVICULTURAL TRMT SD mostly lurch w/ some DF
 H.T. GF/Chun - ~~Thp/Chun~~ Eho OPERATING PERIOD summer 1998 seed trees
 Slope 10-35% Bedrock: Ravalli LT: 352 Elk: 4100-4500'
 Location Camp Cr. - lower 1/3rd
 COMPACTION (Heavy) lower 16
upper 26

COMPACTION (Light) lower - 507
upper 640

UNDISTURBED lower - 216
upper 209

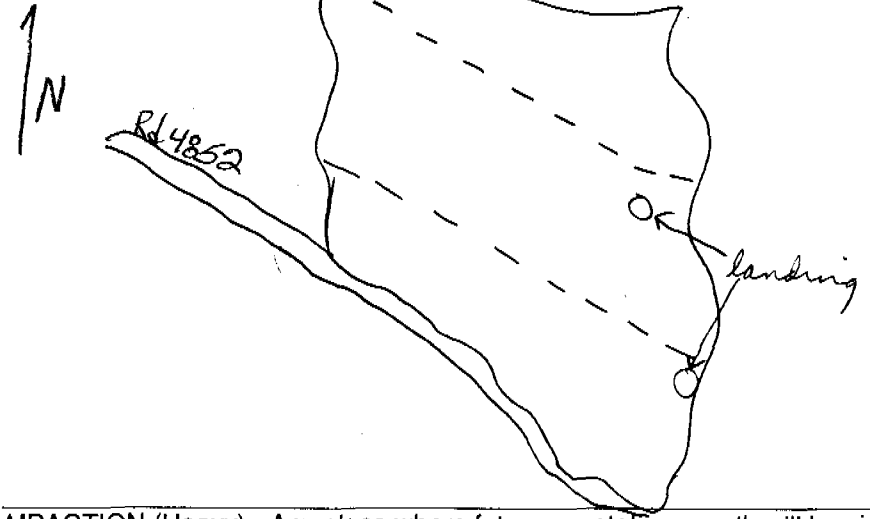
DISPLACED lower 10
upper 8

EXCAVATED SKID/TRAIL

SMZ/ROCK :: 4
 :: 4

COMMENTS Fireline from alignment to W used as skid trail.
Lots of large, angular rock in till. Some bedrock exposed
Veg: - O, Chun, Libby, some Xete, Pines, Larch, Pines, Pice, Abies, V. l., Tshc, Abies
Main skid tracks every 60-80' w/ some in between. Water bars placed on main trails -
probably did not yield them. Lots of 3" + CWD walked over; also plenty SO.
soil - Ash over till.
Landing on east edge of unit: soils below fairly compacted around
landing - could have been ripped some
Topography - rolling w/ gentler hnds to the east
The further up the hill the less WRC + WH, the more SAF

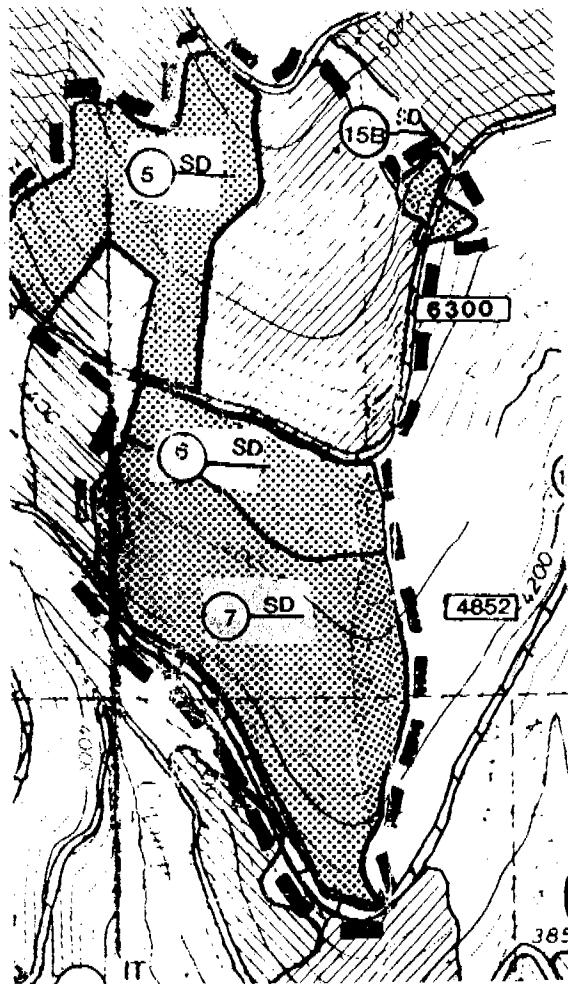
SHAPE OF UNIT AND PATTERN OF TRANSECT



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SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

	<i>lower</i> Transect 1		<i>upper</i> Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	16	2	26	3							42	3
LIGHT	507	69	640	73							1147	71
UNDISTURB	216	29	209	24							425	26
TOTALS	739	100	875	100							1614	100
DISPLACED	10	1	8	1							18	1
EROSION	0	0	0	0							0	0
PUDDLED	0	0	0	0							0	0
SMZ	0	0	0	0							0	0
ROCK	4	.5	4	.5							8	.5
BURN PILES	0	0	0	0							0	0



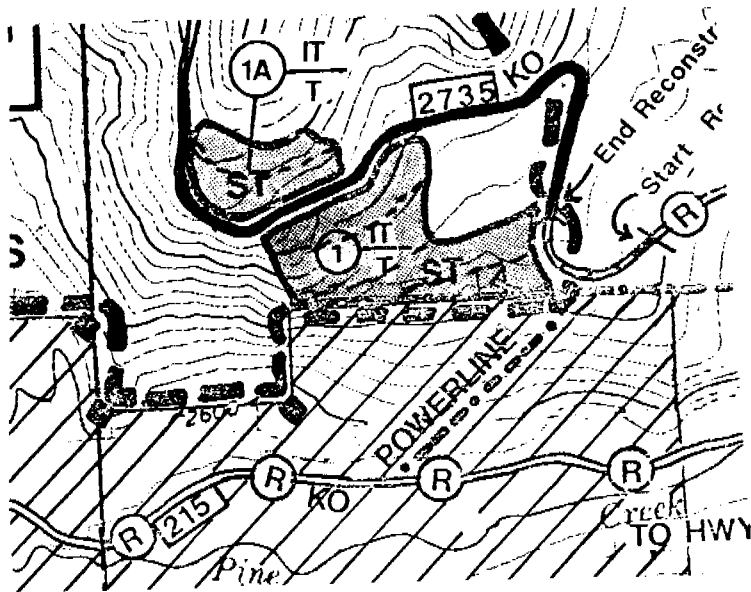
current operations

TRANSECT SUMMARY FORM

old impact along Trans. 1

old impact along Trans. 2

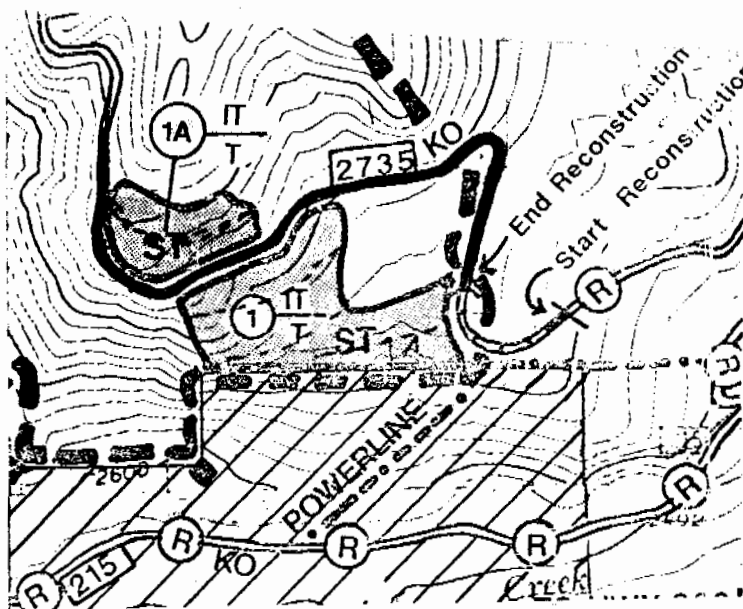
	Transect 1		Transect 2		Transect 3		Transect #1		Transect #2		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b												
HEAVY	2	41	3	1	2	2	10	2	5	2	22	3
LIGHT	168	41	92	45	43	45	41	10	32	16	376	53
UNDISTURB	187	46	72	35	50	53					309	44
TOTALS	357		167		95	100	51		37		707	100
	408		204									
DISPLACED	2	.5	3	1.5	4	4	0	0	0	0	9	1
EROSION	0	0	0	0	0	0	0	0	0	0	0	0
PUDDLED	0	0	0	0	0	0	0	0	0	0	0	0
SMZ	0	0	0	0	0	0	0	0	0	0	0	0
ROCK	0	0	0	0	0	0	0	0	0	0	0	0
BURN PILES	0	0	0	0	0	0	0	0	0	0	0	0



TRANSECT SUMMARY FORM

Recent Old

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Disi	HEAVY	4	1	6	2						10	3
s	LIGHT	86	26	42	13						138	42
ur	UNDISTURB	184	55	0	0						184	55
b	TOTALS	274	100	48	1						332	100
		322										
	DISPLACED	5	3	0	0						5	1.5
	EROSION	0	0	0	0						0	0
	PUDDLED	0	0	0	0						0	0
	SMZ	0	0	0	0						0	0
	ROCK	0	0	0	0						0	0
	BURN PILES	0	0	0	0						0	0



10/23/1998

Rexford - Lower Scalp Fire Salvage

Unit 5

10704088

107-07-002

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE 10.1.98 CUTTING METHOD Hand
 OBSERVER Kuennen SKIDDING METHOD Skylone
 DISTRICT Raffard If tractor: dispersed dedicated
 SALE/S.A. Lower Scalp Fire Salvage HAZARD TREATMENT Jackpot (spring '98)
 Unit # 5 Acres 15 SILVICULTURAL TRMT LTM
 H.T. OPERATION PERIOD winter 96/97
 Slope 35-45% Aspect: S LT: 301
 Location Lower Boulder below Scalp Mnt.
 COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Looks very similar to Unit 8 of Lower Scalp. Operations same period. Lots of old excavated trails on hillside. Percent of impact would be very similar to that found in Unit 8. Culvert Rd. 7236 is causing small gullying

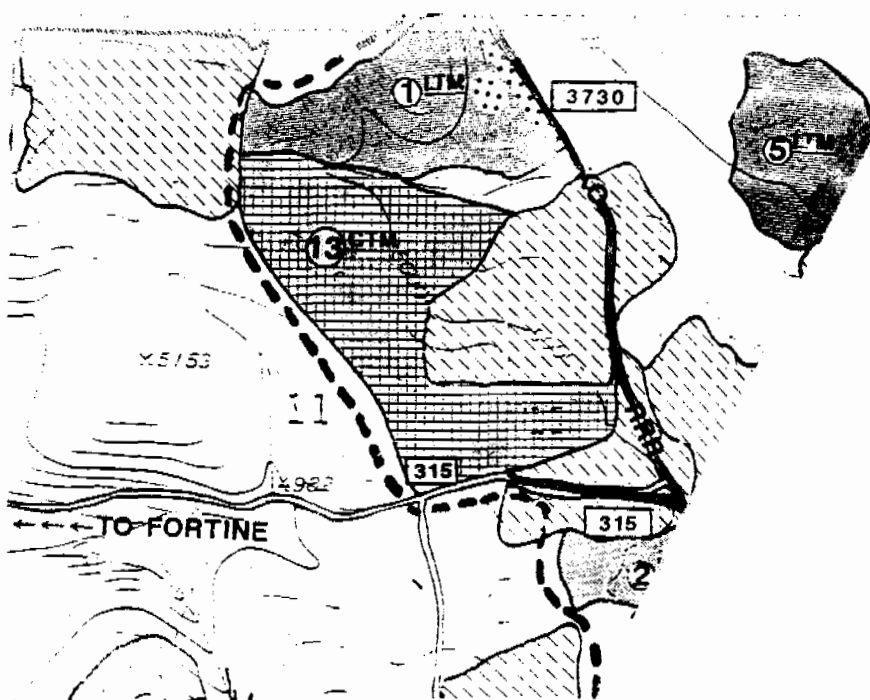
Unit 8 was monitored July 22, 1997. It is exactly the same as Unit 5. Previously logged w/ excavated trails horizontal across the hillside. Salvage operation occurred on snow with the skidding perpendicular to the old trails. Cannot see any impacts from current operations.

SHAPE OF UNIT AND PATTERN OF TRANSECT

COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
 COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
 UNDISTURBED - No signs of any machinery or skidding activity.
 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.
 SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY											
	LIGHT											
	UNDISTURB											
	TOTALS											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



① ~~347-03-055~~ 38
② 347-04-013 98

W. over Through
KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.98 CUTTING METHOD Hand - Excavator pile
SERVER Ruennen/Kindel SKIDDING METHOD RTS
DISTRICT If tractor: dispersed dedicated
SALE/S.A. Trebro South HAZARD TREATMENT
Unit # 142 Acres 38 & 98 SILVICULTURAL TRMT LTM & CTM-UR
H.T. DF/Cow some OPERATION PERIOD Unit 1 fall + winter
Slope 5-135 Very broken Unit 2 late winter/spring
Location
COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Unit 1: The topography is broken with a gentler upper & lower slope and steeper in the middle. Most of the upper part of the unit was skidded down one trail. The soil on the trail was removed. The trail has become a depression that is now funneling water & causing erosion.

Unit 2: Much less volume removed so not nearly as many trans per trail.
Temp. road to both units closed.

SHAPE OF UNIT AND PATTERN OF TRANSECT

COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.
UNDISTURBED - No signs of any machinery or skidding activity.
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.
SMZ - Include within transect if within harvest unit.

45505177 - 38A

06/02/1998
Three Rivers - China Basin Salvage
Unit 23
45505177

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE DATA FORM

DATE 6/2/98

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD skipline

DISTRICT Three Rivers Salvage

HAZARD ABATEMENT _____

SALE China Basin t.b.
Unit No. 23

SILVICULTURAL ST final cut

HT-571 El-4600, Hs-5
Slope-51

OPERATION PERIOD Jul/Aug '97

COMPACTION(Heavy) _____

COMPACTION (Light) _____

~~Worked on~~

UNDISTURBED _____

DISPLACED _____

EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS

Part of spring planting review
Cable operation - looks very good, plenty of CWD

Shape of Unit and Pattern of Transect

57904009-64

~~579~~ 57904018 - 15A

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE DATA FORM

06/25/1998
Libby - Dry Pocks Salvage
- Unit 8 57904009/57904018

DATE 6.25.98

CUTTING METHOD clipper

OBSERVER Kuennen / Crawford

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD ABATEMENT _____

SALE Dry Pocks Salvage
Unit No. 8

SILVICULTURAL sanitation salvage

HT 282/323 El 4000-4200
AS-SW

OPERATION PERIOD Jul/Aug '02
slope 25

COMPACTION (Heavy) _____

Walk-through

COMPACTION (Light) _____

UNDISTURBED _____

DISPLACED _____

EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS _____

Shape of Unit and Pattern of Transect

57907022-21

57907027-3

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE DATA FORM

06/25/1998
Libby - Dry Pocks Salvage
Unit 12
57907022/57907027

DATE 6/25/98

CUTTING METHOD _____

OBSERVER Kuennen/Cresford

SKIDDING METHOD _____

DISTRICT Libby

HAZARD ABATEMENT _____

SALE Dry Pocks Salvage
Unit No. 12

SILVICULTURAL sanitation salv/sw seed/reserve

HT. 292/591 cle-4300 As-Sw

OPERATION PERIOD Jul/Aug '02

COMPACTION(Heavy) slope 15-25

COMPACTION (Light) _____

Walk Through

UNDISTURBED _____

DISPLACED _____

EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS _____

Shape of Unit and Pattern of Transect

56403044 -33A

56403047 -5A

KOOTENAI NATIONAL FOREST 06/25/1998
SOIL DISTURBANCE DATA FORM Libby - Done Creek Salvage
Unit 38 56403044/56403047

DATE 6/25/98

CUTTING METHOD processor

OBSERVER Kuennen/Crawford

SKIDDING METHOD forwarder

DISTRICT Libby

HAZARD ABATEMENT _____

SALE Done Ck. Salvage
Unit No. 38

SILVICULTURAL san. selv / cc w/preserve

OPERATION PERIOD Jun/Jul '98

COMPACTION(Heavy) _____

COMPACTION (Light) _____

Walk Through

UNDISTURBED _____

DISPLACED _____

EXCAVATED SKID TRAIL _____

SMZ/ROCK _____

COMMENTS _____

Shape of Unit and Pattern of Transect