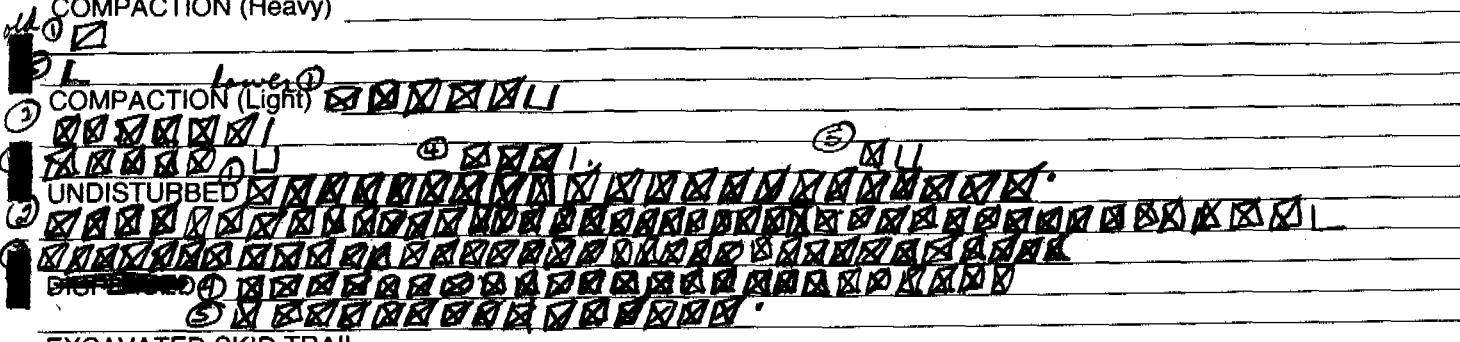


KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9.25.03 CUTTING METHOD sawhead clipper  
 OBSERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Three Rivers If tractor: dispersed dedicated  
 SALE/S.A. Upper Beaver FS Re-Ad HAZARD TREATMENT \_\_\_\_\_  
 Unit # 31 Acres \_\_\_\_\_ SILVICULTURAL TRMT SD: fine salvage w/ seed trees  
 H.T. SAF/Koosko whistlevy OPERATION PERIOD winter  
 Slope 10-30 Aspect SW  
 Location lower - mid Elevation 4400 - 4800  
 COMPACTION (Heavy) \_\_\_\_\_



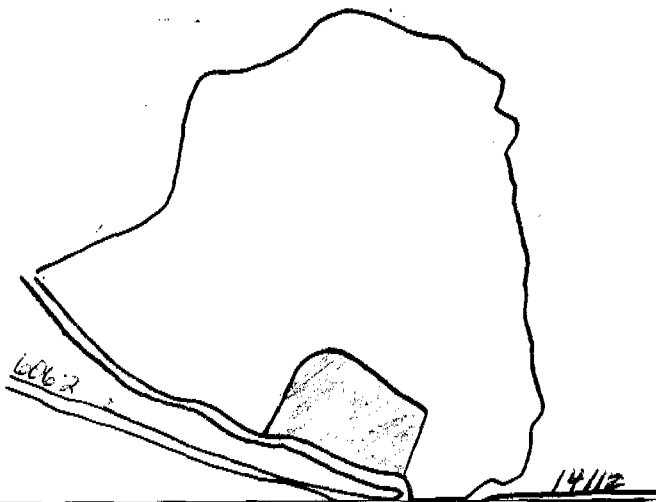
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Fair no. of 2-3 yr old WL+LPP seedlings, also some 1yr., few DF+SAF  
 Soil - volcanic ash surface. Lots of angular rock on surface (40-60%) as well as in the soil.  
 Veg - pinegrass, spirea, buffaloberry, fireweed, shiny leaf ceanothos, packstima, garden whistlevy, beargrass, kinnikinnick, elk sedge  
 Older activity in unit: several old lightly excavated trails, WL removed.  
 Very little coarse woody debris ~ 5%  
 Landing on Rd 14112 at jun. w/ 6062 - orange hardware present

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.  
 SM7 - Include within transect if within harvest unit.



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9.23.03 CUTTING METHOD sawhead clipper  
 OBSERVER KWENYEN SKIDDING METHOD RTS  
 DISTRICT Three Rivers If tractor: dispersed  dedicated   
 SALE/S.A. Upper Beaver F.S. Re-Ad HAZARD TREATMENT \_\_\_\_\_  
 Unit # 38 Acres \_\_\_\_\_ SILVICULTURAL TRMT SD, Fine Selv. j WL seed trees  
 H.T. SAF/Mefef Xete - H/Km OPERATION PERIOD winter  
 Slope 15-35 Aspect | northwky  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_  
 COMPACTION (Heavy) ① ② ③ ④

~~①~~ ~~②~~ ~~③~~ ~~④~~  
 COMPACTION (Light) ~~① ② ③ ④~~  
 UNDISTURBED ~~① ② ③ ④~~  
 DISPLACED ~~① ② ③ ④~~

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ (ROCK)  1 /

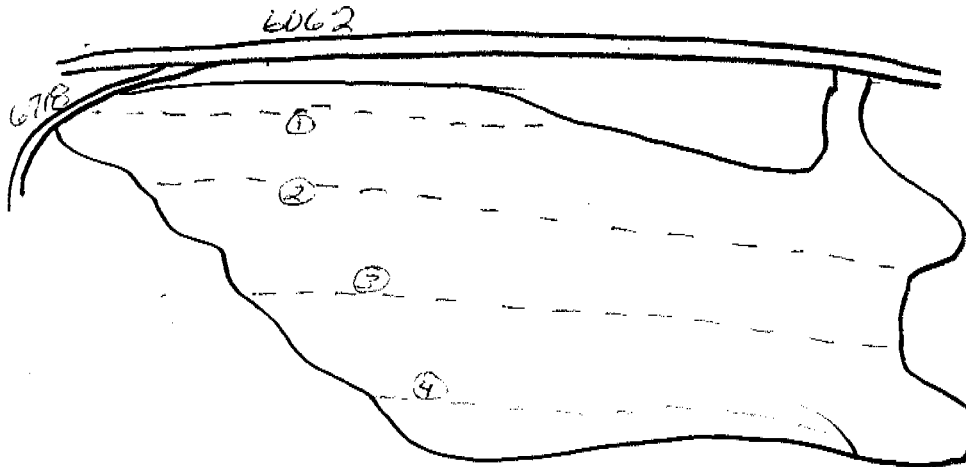
COMMENTS (Include soil, geology, organic debris, other pertinent info)

Southerly + westerly aspects - SAF/Xete; lots of angular rock on the surface.

soil material: ash overfill w/ lots of angular/subangular rock. unit rd on northern edge of unit. Unit looks very good.

Landings on Rd 6062 where unit touched rd. and on rd 6718 where unit touches it

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.







KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.26.03 CUTTING METHOD *skidder clipper*  
 OBSERVER *Kuennen* SKIDDING METHOD *RFS*  
 DISTRICT *Three Rivers* If tractor: dispersed  dedicated   
 SALE/S.A. *Upper Beaver FS Re-Ad* HAZARD TREATMENT \_\_\_\_\_  
 Unit # *6811* Acres \_\_\_\_\_ SILVICULTURAL TRMT *SD; Fine salvage; WL seed trees*  
 H.T. *WH/CWn* OPERATION PERIOD *late winter*  
 Slope \_\_\_\_\_ Aspect | *North*  
 Location *lower-mid* Elevation | \_\_\_\_\_  
 COMPACTION (Heavy)  29  
 26

COMPACTION (Light)  120  
 142  
 UNDISTURBED  155  
 134

DISPLACED \_\_\_\_\_  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*East half of unit. West half not completed*  
*Spil - glacial till; volcanic ash intermittent*  
*It was an old growth stand. - Stand comprised of WL, WRC, SAF, WH,*  
*ES, some WP*  
*New seedlings - mixture of WL, WH, ES, DF, LPP*

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.  
**SM7** - Include within transect if within harvest unit.





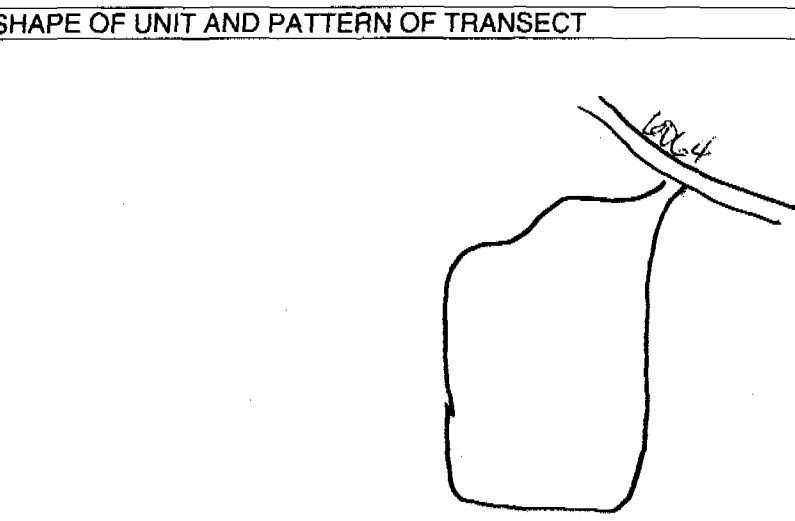
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9/23/03 CUTTING METHOD sw-head clipper  
 OBSERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Three Rivers If tractor: dispersed  dedicated   
 SALE/S.A. Upper Beaver HAZARD TREATMENT none  
 Unit # 68A Acres \_\_\_\_\_ SILVICULTURAL TRMT LTM; fire salvage; seed tree (wh)  
 H.T. w/H/Clun OPERATION PERIOD \_\_\_\_\_  
 Slope 30-35 Aspect N  
 Location \_\_\_\_\_ Elevation \_\_\_\_\_

COMPACTION (Heavy)  9  
 8  
 7  
 COMPACTION (Light)     40  
 19  
 20  
 UNDISTURBED        75  
     65  
    65  
 DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
Soil - Deep ash over till. Lot less rock than on other side of Beaver Cr.  
Unit 68A operations look very good. Two major trails the result of  
skidding from unit above.  
Waterbar very poor. Many breached by machines or will not  
drain. Need to pull some logsnags back on tracks. w/B put in w/ RTS.  
significant amt. of wh regem.



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.



**KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM**

DATE 9.23.03 CUTTING METHOD clipper  
OBSERVER Kuennen SKIDDING METHOD RTS  
DISTRICT Three Rivers If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
SALE/S.A. Burnt Beaver HAZARD TREATMENT \_\_\_\_\_  
Unit # 70A Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
H.T. OPERATION PERIOD \_\_\_\_\_  
Slope 5-35 mostly <10 Aspect I \_\_\_\_\_  
Location \_\_\_\_\_ Elevation I \_\_\_\_\_  
COMPACTION (Heavy) : 12

COMPACTION (Light)  115

UNDISTURBED  108

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK L 5

COMMENTS (Include soil, geology, organic debris, other pertinent info)

One main skid trail. Unit south of 6064. Landing just off rd.  
Some old slash stumps - may have been wood trees - high stumps

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.



KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE 9.25.03 CUTTING METHOD sawhead clipper
OBSERVER Kuennen SKIDDING METHOD RTS
DISTRICT Three Rivers If tractor: dispersed dedicated
SALE/S.A. Clay Beaver HAZARD TREATMENT
Unit # 4 Acres 25 SILVICULTURAL TRMT SD, WL seed trees
H.T. OPERATION PERIOD
Slope 410% Aspect | flat to SW
Location 3 Elevation |
COMPACTION (Heavy) 1 / 20

COMPACTION (Light) 227 392

UNDISTURBED 183 354

DISPLACED

EXCAVATED SKID TRAIL

SMZ ROCK 20

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Unit part of original Clay Beaver sale; Upper Beaverline went through, but
retained w/ Clay Beaver package. Herb mistletoe in stand.
Rock rib runs through unit. Unit lies at base of slope; lots of gravitational rock
Surface contains 30-40% angular rock.
There was some removal of large WL in the past.
Landing in middle of unit adj. to Rd 6062
Some excavator piles in flat on S end of unit. Front pocket S/Libo.
WV light to moderate.

SHAPE OF UNIT AND PATTERN OF TRANSECT

COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted...
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.



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9.25.03 CUTTING METHOD \_\_\_\_\_  
 OBSERVER Kuegner SKIDDING METHOD RTS  
 DISTRICT Three Rivers If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Clay Beaver HAZARD TREATMENT \_\_\_\_\_  
 Unit # 7 Acres 112 SILVICULTURAL TRMT SD; WL seed trees Sletterwood  
 H.T. E→SAF→WH→DF OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect | \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_

COMPACTON (Heavy) 0 8  
 COMPACTON (Light) 214  
 UNDISTURBED  
 DISPLACED  
 EXCAVATED SKID TRAIL  
 SMZ ROCK L small pond (1/10 A)

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Separates fireline; does not need to be as disturbing

Landings w/i unit  
 SHAPE OF UNIT AND PATTERN OF TRANSECT

COMPACTON (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.

COMPACTON (Light) - Any other area not included in heavy COMPACTON 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	8	2	18	1	8	1	7	2	17	4	63	1.5
	LIGHT	214	43	553	32	313	34	103	26	180	44	1443	35
	UNDISTURB	277	55	1183	67	587	65	292	72	210	52	2599	63
	TOTALS	499	100	1754	100	908	100	402	100	407	100	4105	100
	DISPLACED												
	EROSION												
	PUDDLED												
	SMZ												
	ROCK			5									
	BURN PILES												

Transect 6

5	4
80	59
50	37
135	100











KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.30.03 CUTTING METHOD sawhead skidder  
OBSERVER Kucen SKIDDING METHOD RTS  
DISTRICT Three Rivers If tractor: dispersed          dedicated L  
SALE/S.A. Kelsey Fire HAZARD TREATMENT           
Unit # 22A Acres          SILVICULTURAL TRMT SD WL seed tree  
H.T. SAF/Chen OPERATION PERIOD           
Slope 10-25 Aspect WSW  
Location med Elevation           
DISTURBANCE (Heavy) L

PAST ACTIVITY  
DISTURBANCE (Light) ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ 220

UNDISTURBED ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ 215

DISPLACED  
EXCAVATED SKID TRAIL  
SMZ/ROCK 1

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
Soil - good ash over till; a lot less surface rock.  
Western portion excavator piled  
This unit much better site than Units 22+23

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/ROCK/BURN PILE - Include within transect if within harvest unit.



**KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM**

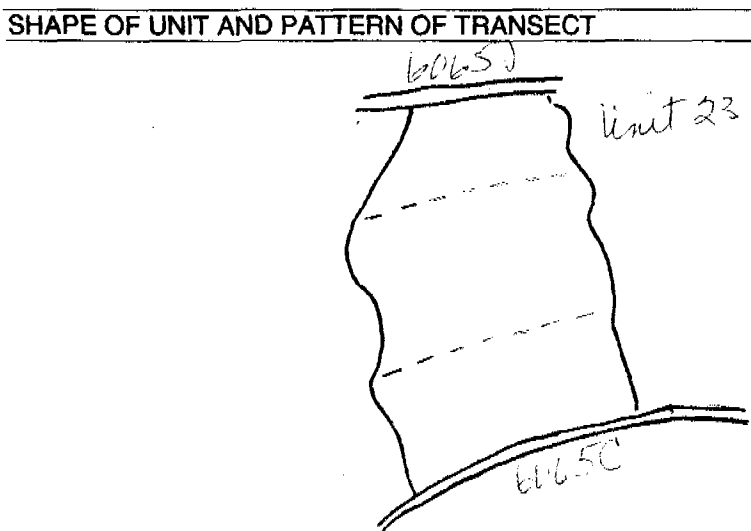
DATE 7/30/03 CUTTING METHOD sawhead digger  
 OBSERVER Kuennen SKIDDING METHOD \_\_\_\_\_  
 DISTRICT Three Rivers If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Kelsey Fire Sale HAZARD TREATMENT \_\_\_\_\_  
 Unit # 23 Acres \_\_\_\_\_ SILVICULTURAL TRMT SD; WL seed trees  
 H.T. SAF/Kete OPERATION PERIOD \_\_\_\_\_  
 Slope 15-40 Aspect | SW  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_  
 DISTURBANCE(Heavy)  8

lower  10  
 PAST ACTIVITY  
upper DISTURBANCE (Light)  56  
lower  65

upper UNDISTURBED  100  
lower  100

DISPLACED \_\_\_\_\_  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK  8

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
water displaced small skid trails  
Planted seedling survival moderate



**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/ROCK/BURN PILE** - Include within transect if within harvest unit.





KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 7.30.03 CUTTING METHOD Sawhead clipper  
 OBSERVER Kuennen SKIDDING METHOD RTs  
 DISTRICT Three Rivers If tractor: dispersed                      dedicated L  
 SALE/S.A. Kelsey Fire Sale HAZARD TREATMENT                       
 Unit # 24 Acres                      SILVICULTURAL TRMT SD  
 H.T.                      OPERATION PERIOD                       
 Slope                      Aspect NW → N  
 Location musl Elevation                     

① DISTURBANCE (Heavy) : 12 / 100 & / 100 / 47

PAST ACTIVITY

DISTURBANCE (Light) : 102

②                      113

③                      97

④                      267

① UNDISTURBED                      183

②                      235

③                      196

④                      485

DISPLACED                     

EXCAVATED SKID TRAIL                     

SMZ/ROCK  8

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

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/ROCK/BURN PILE** - Include within transect if within harvest unit.

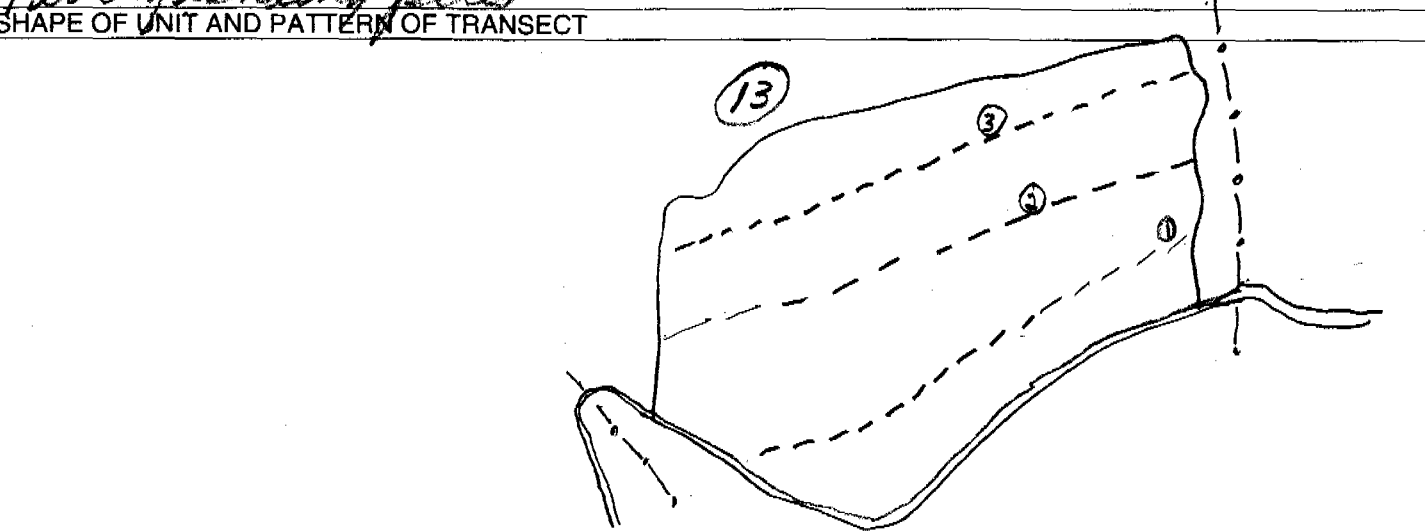


**KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM**

DATE June 11, 2003 CUTTING METHOD clipper  
 OBSERVER Ruennen SKIDDING METHOD RTS  
 DISTRICT Libby Farmer If tractor: dispersed dedicated X  
 SALE/S.A. Treasure Stewardship HAZARD TREATMENT WTY  
 Unit # 13 Acres Farmer SILVICULTURAL TRMT LTM - shelterwood  
 H.T. DF/Vaca → DF/Syal OPERATION PERIOD May - June '03  
 Slope 5-20 DF/Caw Aspect S → SE  
 Location lower Elevation 42 33 31  
 COMPACTION (Heavy) 12 3 3 33 25  
 Past 12 3 3  
 COMPACTION (Light) 305  
301  
 UNDISTURBED 10 18 85 315

DISPLACED 10 10 10  
 EXCAVATED SKID TRAIL  
 SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
Several Abgr & Laoc  
Soil material older glacial till (323) lots of rounded rock.  
No volcanic ash layers.  
Lots of past activity; old mining road; some clyde shields  
evidence in NE corner  
Ditch line eroded right into protected stream course,  
dumped  
Two big landing piles



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.	%
DISPLACED	18	5	6	1	3	1					27	2
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												
HEAVY	42	12.6	33	9	25	6					100	8.1
LIGHT	305	82.7	301	73	375	77					981	77
UNDISTURB	10	2.7	78	19	85	17					173	14
TOTALS	369	100	413		488	100					1270	100

KOOTENAI NATIONAL FOREST
SOIL DISTURBANCE MONITORING FORM

DATE 10-01-03 CUTTING METHOD Feller buncher
OBSERVER L. Kuennen, J. Gubel SKIDDING METHOD Tractor
DISTRICT Cabinet If tractor: dispersed dedicated [check]
SALE/S.A. Emma Haines HAZARD TREATMENT
Unit # 45A Acres SILVICULTURAL TRMT /
H.T. OPERATION PERIOD
Slope 30-40% Aspect N
Location Elevation
DISTURBANCE (Heavy) [checkboxes]

PAST ACTIVITY [checkboxes]
DISTURBANCE (Light) [checkboxes]

UNDISTURBED [checkboxes]

DISPLACED [checkboxes]
EXCAVATED SKID TRAIL
SMZ/ROCK

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

Old roadway dissects unit

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/ROCK/BURN PILE - 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		16								16	3.5
	LIGHT		134								134	29
	UNDISTURB		307								307	66
	PAST ACTIVITY		5								5	1
	<b>TOTALS</b>		457								457	100
	DISPLACED		5								5	1
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											

$$\begin{array}{r}
 457 \overline{) 21.00} \\
 \underline{1328} \\
 2720
 \end{array}$$

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 14, 2003  
OBSERVER Kuennen  
DISTRICT Rexford  
SALE Still Creek  
Unit No. \_\_\_\_\_

CUTTING METHOD \_\_\_\_\_  
SKIDDING METHOD \_\_\_\_\_  
HAZARD ABATEMENT \_\_\_\_\_  
SILVICULTURAL \_\_\_\_\_  
OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*Participated in spring burn of unit*

Shape of Unit and Pattern of Transect

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 15, 2003  
OBSERVER Kuennen  
DISTRICT Rexford  
SALE Gut Creek  
Unit No. \_\_\_\_\_

CUTTING METHOD \_\_\_\_\_  
SKIDDING METHOD \_\_\_\_\_  
HAZARD ABATEMENT \_\_\_\_\_  
SILVICULTURAL \_\_\_\_\_  
OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*Participated in spring burn of unit*

Shape of Unit and Pattern of Transect



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 15, 2003  
OBSERVER Kuennin  
DISTRICT Rexford  
SALE Bear Trap  
Unit No. \_\_\_\_\_

CUTTING METHOD \_\_\_\_\_  
SKIDDING METHOD \_\_\_\_\_  
HAZARD ABATEMENT \_\_\_\_\_  
SILVICULTURAL \_\_\_\_\_  
OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*Participated in spring burn of unit*

Shape of Unit and Pattern of Transect

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 28, 2003 CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen/Crawford SKIDDING METHOD \_\_\_\_\_

DISTRICT Libby HAZARD ABATEMENT \_\_\_\_\_

SALE North McSwede SILVICULTURAL \_\_\_\_\_

Unit No. 23

22

73

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*A soil resource review with the sale administrator*

Shape of Unit and Pattern of Transect

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 29, 2003

CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen

SKIDDING METHOD cable

DISTRICT Libby

HAZARD ABATEMENT BB spring 03

SALE Deer Marl  
Unit No. \_\_\_\_\_

SILVICULTURAL \_\_\_\_\_

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Part of a spring 2003 planting review.  
Unit had been pushed w/ a lot couple of days as some  
stumps were still smoking.  
Planting crew had just finished!  
Discontinuous ash over combined glacial till/residual  
soil moisture good, but not above field capacity.  
CWD - on lower side for h.t.

Shape of Unit and Pattern of Transect

05/29/2003

Libby - Prospect Parmenter

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 29, 2003

CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen

SKIDDING METHOD \_\_\_\_\_

DISTRICT Libby

HAZARD ABATEMENT BB ~~\_\_\_\_\_~~

SALE Prospect Parmenter  
Unit No. \_\_\_\_\_

SILVICULTURAL \_\_\_\_\_

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Part of a Spring 2003 planting review.

Deep volcanic ash over glacial till.

Shape of Unit and Pattern of Transect

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 29, 2003

CUTTING METHOD \_\_\_\_\_

OBSERVER Kucenas

SKIDDING METHOD \_\_\_\_\_

DISTRICT Libby

HAZARD ABATEMENT \_\_\_\_\_

SALE North McSwede  
Unit No. \_\_\_\_\_

SILVICULTURAL \_\_\_\_\_

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

*Part of a spring planting review*

*No volcanic ash. Glacial Till.*

Shape of Unit and Pattern of Transect

06/20/2003

Rexford - Gold FDR Salvage

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE June 20, 2003 CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen/Kibroy SKIDDING METHOD \_\_\_\_\_

DISTRICT Rexford HAZARD ABATEMENT \_\_\_\_\_

SALE Gold FDR Salvage SILVICULTURAL \_\_\_\_\_  
Unit No. 222 C

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Shape of Unit and Pattern of Transect

07/10/2003

Three Rivers - Black Yoak

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE July 10, 2003

CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen

SKIDDING METHOD \_\_\_\_\_

DISTRICT Three Rivers

HAZARD ABATEMENT \_\_\_\_\_

SALE Black Yoak  
Unit No. 15  
25

SILVICULTURAL \_\_\_\_\_

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*Part of an EIS monitoring review  
Unit part of 2000 Roderick Butte Fire area.*

Shape of Unit and Pattern of Transect

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE July 10, 2003

CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen

SKIDDING METHOD \_\_\_\_\_

DISTRICT Three Rivers

HAZARD ABATEMENT \_\_\_\_\_

SALE Kelsey Fire Salvage

SILVICULTURAL \_\_\_\_\_

Unit No. 2A  
2B

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*Part of an EIS monitoring review  
Unit part of*

Shape of Unit and Pattern of Transect



09/12/2002

Rexford - Parsnip Lodgepole

Unit 9 13002137

# KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

## REXFORD RANGER DISTRICT 9/12/02

13002137

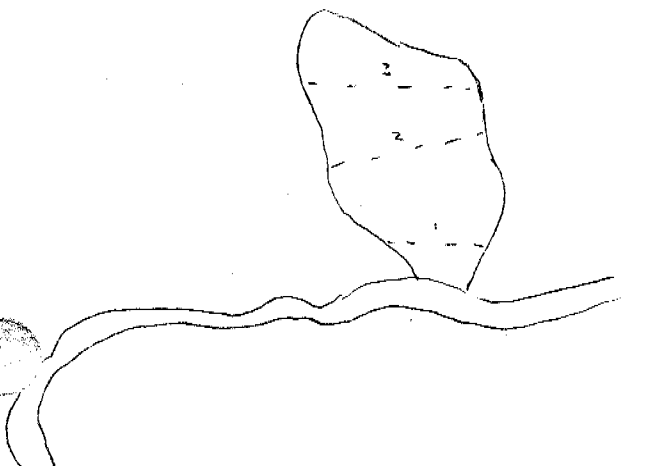
Sale: Parship LP Unit: 9 Acres: 9 Date: 9-12-02  
Observers: Kindel, Furniss, Henion Date of Harvest: 2001

Silvicultural Treatment: Seed tree w/reserves Cutting Method: chipper/hand  
Skidding Method: Tractor Dispersed?  Dedicated?   
Season of Operation: Summer Fuels Treatment: Understory burn

Unit Location (Rd. #, etc.): Rd 4874 T33 R30 S1 & R29 S6 Drainage: Parship  
Habitat Type: \_\_\_\_\_ Slope: 40% Aspect: S

DESCRIPTION	TRANSECT POINTS	TOTALS	TOTAL	%
<b>HEAVY DISTURBANCE</b>	1. <input checked="" type="checkbox"/> .	1. 11	37	9
	2. <input checked="" type="checkbox"/> :	2. 12		
	3. <input checked="" type="checkbox"/> ::	3. 14		
	4.	4.		
<b>LIGHT DISTURBANCE</b>	1. <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> X	1. 86	371	89
	2. <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	2. 108		
	3. <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> X	3. 177		
	4.	4.		
<b>UNDISTURBED</b>	1. .	1. 1	10	2
	2. ::	2. 3		
	3. X	3. 6		
	4.	4.		
<b>SMZ/BEDROCK</b>	1.	1. <del>418</del>	418	0
	2.	2.		
	3.	3.		
	4.	4.		

\*see note

UNIT SHAPE & TRANSECT PATTERNS:	ADDITIONAL COMMENTS:
1 N 	<p>Disturbance higher than expected due to being a narrow unit and having an excavated (rehabbed) skid trail. Very little of the heavy disturbance was compaction due to rocky soils. The majority of heavy disturbance was displacement (excavated trail) with a little pile burn damage. Because the soil and water standards consider rehabbed trails as not being disturbed, this survey overestimates the soil damage as compared to the 15% standard.</p>





KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.26.02 CUTTING METHOD digger/hand  
OBSERVER Kuennen/Kindel/Tres SKIDDING METHOD RTS  
DISTRICT Rexford If tractor: dispersed            dedicated X  
SALE/S.A. Upper Boulder HAZARD TREATMENT underburn/BB fall 2002  
Unit # 811 Acres 39 SILVICULTURAL TRMT LTM  
H.T. SAF/AST/Vasc OPERATION PERIOD Sept - Oct  
Slope 10-30 Aspect South  
Location upper 45 Elevation 5400-5600  
COMPACTION (Heavy)           

PAST ACTIVITY  
COMPACTION (Light)           

UNDISTURBED           

DISPLACED           

EXCAVATED SKID TRAIL           

SMZ/ROCK           

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

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/ROCK/BURN PILE - 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	30	6	15	4	17	8	46	7	6	6		
	LIGHT	245	50	169	50	76	34	364	53	50	46		
	UNDISTURB	205	42	138	41	127	56	280	40	50	46		
	PAST ACTIVITY	8	2	17	5	5	2	2	41	3	2		
	TOTALS	488	100	337	100	225	100	692	100	109	100		
	DISPLACED	5	1	3	1	3	1	-	-	-	-		
	EROSION												
	PUDDLED												
	SMZ					70	31						
	ROCK												
	BURN PILES												

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	40	6								154	6
	LIGHT	360	50								1262	49
	UNDISTURB	300	42								1100	43
	PAST ACTIVITY	12	2								47	2
	TOTALS	712	100								2563	100
	DISPLACED	-	-								9	41
	EROSION											
	PUDDLED											
	SMZ										70	3
	ROCK											
	BURN PILES											

Combining current + past detrimental disturbance equals a total of 8% for this activity area!







32006064  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 7.26.02 CUTTING METHOD clipper  
 OBSERVER Kuennen/Gott SKIDDING METHOD RTS  
 DISTRICT Fortine If tractor: dispersed dedicated  
 SALE/S.A. Timber Lake HAZARD TREATMENT understory burn spring '02  
 Unit # 1 Acres 38 SILVICULTURAL TRMT CTM Improvement  
 H.T. 25D OPERATION PERIOD summer '01  
 Slope 5-~~25~~35 Aspect I  
 Location lower 1 2 Elevation I 3 1  
 \*COMPACTION (Heavy) (~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~)

PAST ACTIVITY  
 \*COMPACTION (Light) (~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~)

\*UNDISTURBED (~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~)

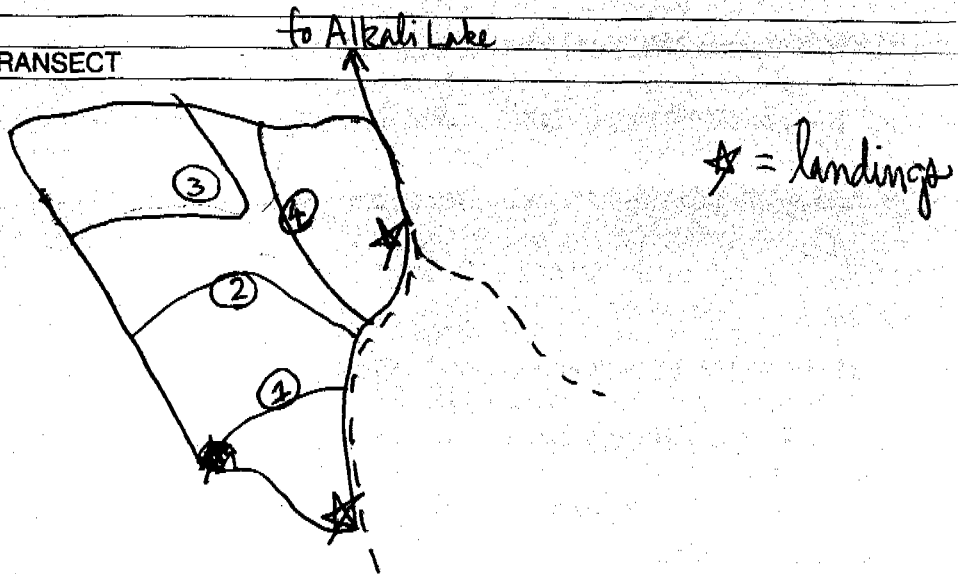
\*DISPLACED (~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~)

EXCAVATED SKID TRAIL (~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~ : ~~XXXXXX~~)

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
Doser line fireline - unacceptably wide, displaced soil.  
Topography influenced skid pattern - transects 1 to skids.  
Clipper tracks, esp on slopes caused some cutting & displacement. Worst during ops?

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/ROCK/BURN PII F - Include within transect if within harvest unit







# 32002056

## KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE <u>Aug. 1, 2002</u>	CUTTING METHOD <u>sawhead clipper</u>
OBSERVER <u>K. Jensen</u>	SKIDDING METHOD <u>cat</u>
DISTRICT <u>Fortune</u>	If tractor: dispersed _____ dedicated <u>X</u>
SALE/S.A. <u>Thirsty Lake</u>	HAZARD TREATMENT <u>Entire tree yard, no fire line</u>
Unit # <u>24</u> Acres <u>5</u>	SILVICULTURAL TRMT <u>LTM SW Seed/Reserve</u>
H.T. <u>DF/Caru</u>	OPERATION PERIOD <u>summer '02</u>
Slope <u>25-40+</u>	Aspect   <u>NE</u>
Location <u>mid</u>	Elevation   <u>3920 - 4040</u>
COMPACTION (Heavy) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

PAST ACTIVITY  ?  
 COMPACTION (Light)          89

UNDISTURBED       85

DISPLACED   20

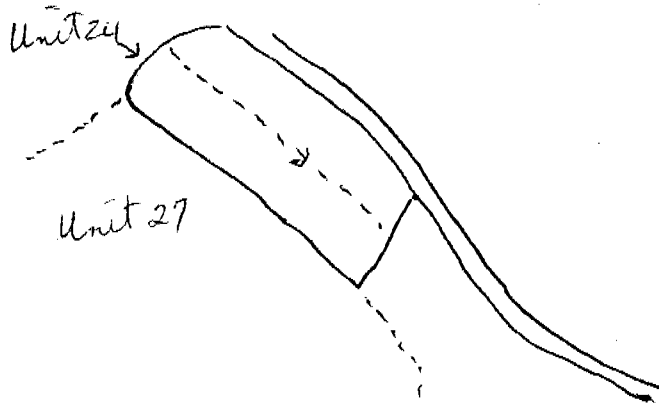
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

*Soil - calcareous glacial till - uploess, for amount of detrimental disturbance/displacement for size of unit.*

**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/ROCK/BIURN PII F - 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.	%
Disturbance	HEAVY	17	9									17	9
	LIGHT	89	45									89	45
	UNDISTURB	85	43									85	43
	PAST ACTIVITY	27	3									7	3
	TOTALS	198	100									198	100
	DISPLACED	20	10									20	10
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
BURN PILES													

Combining current + past detrimental disturbances equals a total of 12% for this activity area.







KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 7.26.02 CUTTING METHOD clipper  
 OBSERVER Ruennen/Cott SKIDDING METHOD RTS  
 DISTRICT Fortine If tractor: dispersed dedicated   
 SALE/S.A. Roberts Mt. HAZARD TREATMENT understory burn spring '02  
 Unit # 5+10 Acres 23, 7 SILVICULTURAL TRMT 5-LTM, 10-CTM  
 H.T. 312 OPERATION PERIOD summer '01  
 Slope 2-8 Aspect E  
 Location lower Elevation 3200

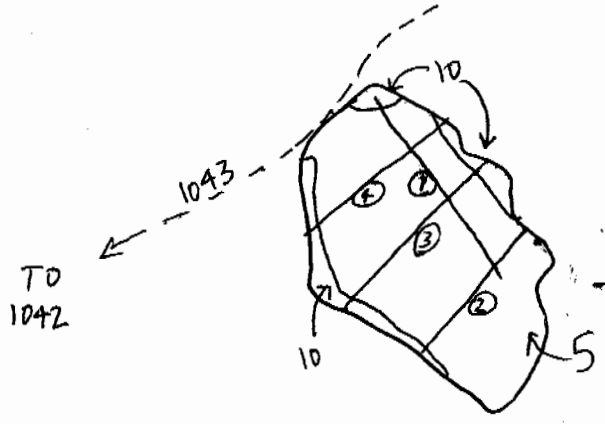
COMPACTION (Heavy) I 58 60 34 33 III 33  
 PAST ACTIVITY  
 COMPACTION (Light) II 10 184 114 III 106  
 UNDISTURBED I 103 III 103

DISPLACED :  
 EXCAVATED SKID TRAIL  
 SMZ/ROCK

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
 • Unit has been burned - when? Looks like broadcast burn - spring '01.  
 • Transect 2 is more varied / better representation of unit (<sup>2-9</sup> closed skid trails and undisturbed areas)  
 • Evidence of cattle use, but not recent (not this season).  
 • Sawieel tail throughout unit w/a few concentrated patches.  
 • Some deep rutting, suggests operation on wet/moist soils.  
 • Very old stumps in E strip of Unit 10 -> this survey did not recognize any impacts due to past activities but old stumps = past operations have occurred.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Calcareous glacial fill w/out loss.



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/ROCK/BLURN PII F - Include within transect if within harvest unit













Foust

44004132

08/07/2002  
Three Rivers - Shimmering Grouse  
Unit 13  
44004132

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 8.7.02 CUTTING METHOD clipper  
OBSERVER Knuenen SKIDDING METHOD RTS  
DISTRICT Three Rivers If tractor: dispersed dedicated X  
SALE/S.A. Shimmering Grouse HAZARD TREATMENT yard tops  
Unit # 13 Acres 0 SILVICULTURAL TRMT SD Improvements  
H.T. GE/Clan (570) OPERATION PERIOD May/ Jun '02  
Slope 5-40 Aspect I SE  
Location lower Elevation I 2500

COMPACTION (Heavy)     31  
  18

PAST ACTIVITY  
COMPACTION (Light)                         138  
                        151

UNDISTURBED                         171  
                        191

DISPLACED    5

EXCAVATED SKID TRAIL  
SMZ/ROCK

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
Unit comprised of terrace top & terrace face.  
Logging looks pretty good. Machine that came in later (I would guess to place the water bars) was when soil was very wet.  
It created lots of displacement, compression & compaction.  
Terrace face very gravelly.  
One landing in SW corner of unit served for both units 13+14.

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/ROCK/BLI/BI/E - Include within transect if within harvest unit



Forest

44004147

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 8.7.02  
OBSERVER Kuennen  
DISTRICT Three Rivers  
SALE/S.A. Shimmering Grouse/  
Unit # 14 Acres 10  
H.T. WH/Clun  
Slope 0-5  
Location lower  
CUTTING METHOD clipper  
SKIDDING METHOD BTE  
If tractor: dispersed dedicated X  
HAZARD TREATMENT cut b/c. piling  
SILVICULTURAL TRMT SD CC w/ reserve  
OPERATION PERIOD May/Jun'02  
Aspect | flat  
Elevation | 2400  
COMPACTION (Heavy) [X]

PAST ACTIVITY [X]  
COMPACTION (Light) [X]

UNDISTURBED [X]

DISPLACED [X]

EXCAVATED SKID TRAIL  
SMZ/ROCK

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
The logging occurred when the soils were wet. Portions of the unit had old activity, hard to distinguish/separate from current activity. Clipper operator put himself in places he did not need to go. This caused some displacement/detriment that did not need to be. Left on the luxury - look like seed face only the larch are fairly small. a few pp

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/ROCK/BLI RN PII F - 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	20	28	11	16	9	9	13	14	15	11		
	LIGHT	30	42	31	44	45	45.5	38	41	52	39		
	UNDISTURB	20	28	27	39	45	45.5	37	40	68	50		
	PAST ACTIVITY	2	2	1	1	-	-	4	5	-	-		
	<b>TOTALS</b>	<b>72</b>	<b>100</b>	<b>70</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>92</b>	<b>100</b>	<b>135</b>	<b>100</b>		
	DISPLACED	2	2	2	3	5	5	5	5	3	2		
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

07/02

SMZ/ROCK/BURN PILE - 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	4	4									72	12
	LIGHT	71	64									267	47
	UNDISTURB	35	32									232	40
	PAST ACTIVITY	-	-									7	1
	<b>TOTALS</b>	<b>110</b>	<b>100</b>									<b>578</b>	
	DISPLACED	2	2										
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining current + past detrimental disturbances







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	4	15	4							30	4
	LIGHT	197	56	198	54							395	55
	UNDISTURB	128	37	143	39							271	38
b	PAST ACTIVITY	10	3	10	3							20	3
	<b>TOTALS</b>	<b>350</b>	<b>100</b>	<b>366</b>	<b>100</b>							<b>716</b>	<b>100</b>
	DISPLACED	8	2	5	1							13	2
	EROSION												
	PUDDLED												
	SMZ												
	ROCK	10	3	20	5							30	4
	BURN PILES												

Combining current + past sedimental disturbance equals 7% for this activity area.





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	31	5	10	4	3	2	6	4	38	8	88	5
	LIGHT	347	57	140	55	70	47	85	55	282	60	924	56
	UNDISTURB	229	37	105	41	77	51	64	41	150	32	625	38
b	PAST ACTIVITY	4	1	—	—	—	—	—	—	—	—	4	<1
	TOTALS	611	100	255	100	150	100	155	100	470	100	1641	
	DISPLACED	8	1	7	3	5	3	5	3	12	3	37	2
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining Current + past detrimental disturbance equals 6.5% for this activity 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	10	5	5	3	12	7	11	5			38	5
	LIGHT	95	45	92	60	95	53	138	59			420	54
	UNDISTURB	102	49	53	35	67	37	88	36			310	39
b	PAST ACTIVITY	3	1	3	2	6	3	6	2			18	2
	<b>TOTALS</b>	210	100	153	100	180	100	243	100			786	100
	DISPLACED	10	5	3	2	15	8	15	6			43	5
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining current and past detrimental disturbance equals 7% for this activity area.

10/23/2002

Libby - North McSwede

Unit 44

52904142

52904142  
**KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM**

DATE 10/23/02 CUTTING METHOD clipper  
 OBSERVER Ruennen SKIDDING METHOD RTS-grapple  
 DISTRICT Libby If tractor: dispersed            dedicated ✓  
 SALE/S.A. N. McSwede / Crawford HAZARD TREATMENT lop + scatter  
 Unit # 44 Acres 11 SILVICULTURAL TRMT LTM SW Seed/reserve  
 H.T. DF/ACW → DF/Caru → DF/10' OPERATION PERIOD summer '02 Jul  
 Slope broken 10' 85 Aspect | west  
 Location mid Elevation | 3650 - 3900'  
 COMPACTION (Heavy)

PAST ACTIVITY 5 / L/F  
 COMPACTION (Light)           98 /           83 |           110  
Disturbance  
 UNDISTURBED     42 /      48 |      55

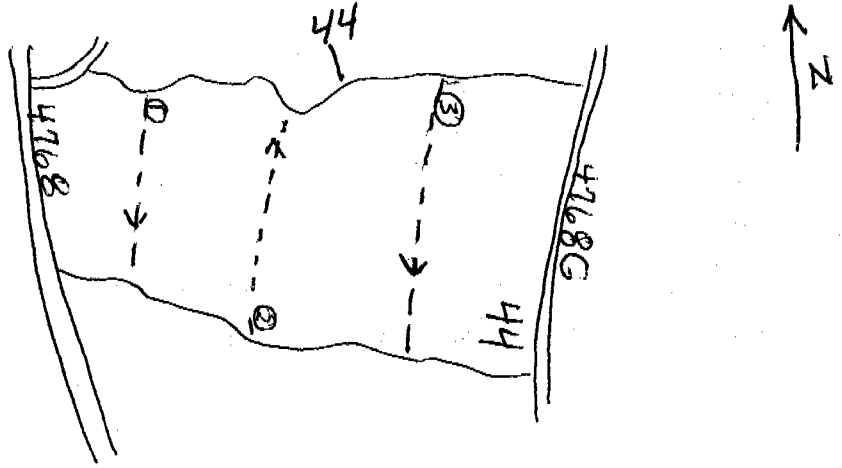
DISPLACED 5 / L /

EXCAVATED SKID TRAIL           

SMZ/ROCK           

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
North portion of unit had old activity (Clyde Shidder). Soil - deep till w/ high rock content (323), No volcanic ash. Silvicultural treatment is LTM and is more like a seed tree. Left PP, DF, + wk if they were present. Old stumps throughout unit. Very little compaction + displacement.

**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/ROCK/BIURN PII E - 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 i b	HEAVY	10	7	8	6	8	4					26	6
	LIGHT	78	58	83	58	110	62					271	59
	UNDISTURB	42	31	48	33	55	31					145	32
	PAST ACTIVITY	5	4	5	3	5	3					15	3
	<b>TOTALS</b>	135	100	144	100	178	100					457	100
	DISPLACED	5	4	4	3	8	4					17	4
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining current and past detrimental disturbance equals 9% for this activity area.









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	3	2	3	2							6	2
	LIGHT	90	59	72	48							162	53
	UNDISTURB	60	39	73	49							133	44
b	PAST ACTIVITY	0	0	2	1							2	1
	<b>TOTALS</b>	153	100	150	100							303	100
	DISPLACED	8	5	0	0							8	3
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining current and past detrimental disturbance equals 3% for this activity area.





09/25/2002  
Libby - Barron Jack Salvage  
Unit 3B

55302038 - 35A      55302051 - 43A

55302038  
55302051

### KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE	9, 25. 02	CUTTING METHOD	clippers
OBSERVER	Juennen/ Crawford / Wagner	SKIDDING METHOD	RTS
DISTRICT	Libby / Salvage	If tractor:	dispersed _____ dedicated <input checked="" type="checkbox"/>
SALE/S.A.	Barron Jack / Crawford	HAZARD TREATMENT	
Unit #	3B	Acres	351443
H.T.	SAF / Mele (531)	SILVICULTURAL TRMT	SD dead + down H-PP
Slope	25°	OPERATION PERIOD	Aug / Sept. '02
Location	upper	Aspect	NE - SE
COMPACTION (Heavy)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 31	Elevation	4500 - 4600

**PAST ACTIVITY**

COMPACTION (Light)                       176

UNDISTURBED                  169

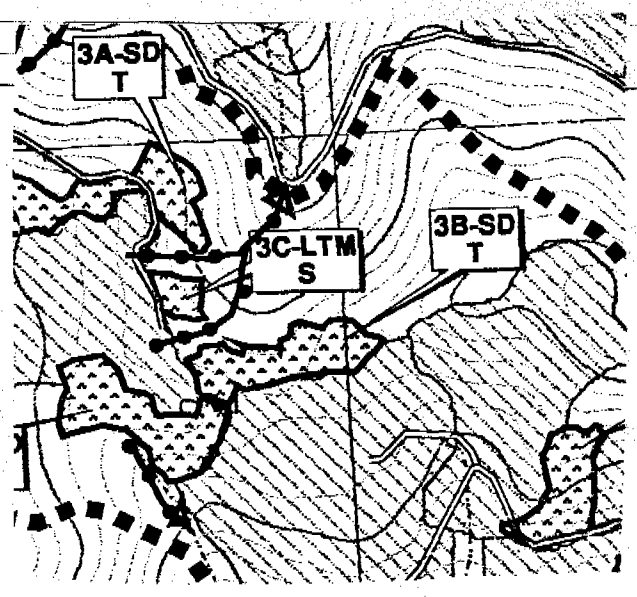
DISPLACED  5

EXCAVATED SKID TRAIL

SMZ/ROCK  1

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road, drainage, other pertinent info)  
*There was a concern that too much displacement was occurring. Impacts could have been less, but generally were not too bad.*

**SHAPE OF UNIT AND PATTERN OF TRANSECT**

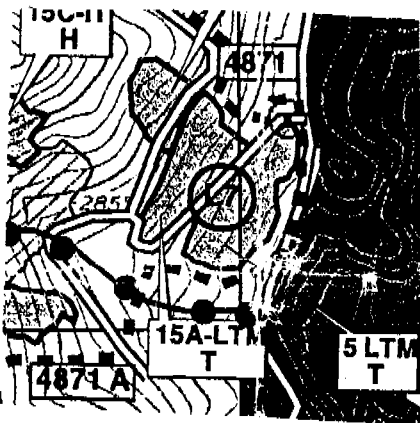


**COMPACTION (Heavy)** - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
**COMPACTION (Light)** - Any other area not included in 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/ROCK/DURN DILE** - 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.	%
Disturbance	HEAVY <i>new/old</i>	4/13	9/9								24/13	9
	LIGHT	3/9	5/4								20/5	54
	UNDISTURB	13/5	3/7								15/5	37
	<b>TOTALS</b>	30/8	100								30/8	100
	DISPLACED	15	4								15	4
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											

Concerning current and past detrimental disturbance equals 9 for this activity area.



55101025  
**KOOTENAI NATIONAL FOREST**  
**SOIL DISTURBANCE MONITORING FORM**

DATE 10-25-02 CUTTING METHOD Saw head clipper  
 OBSERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Libby If tractor: dispersed \_\_\_\_\_ dedicated   
 SALE/S.A. Alexander/Farmer HAZARD TREATMENT \_\_\_\_\_  
 Unit # 7 Acres 9 SILVICULTURAL TRMT LTM Improvements  
 H.T. DF/Phma - DF/Cage - DF OPERATION PERIOD Jul 02  
 Slope 10-20 Lib Aspect W4E  
 Location mid Elevation 3600-3700  
 COMPACTION (Heavy)

Dist m

PAST ACTIVITY  10  13  3  
 COMPACTION (Light)                24  
 2            100

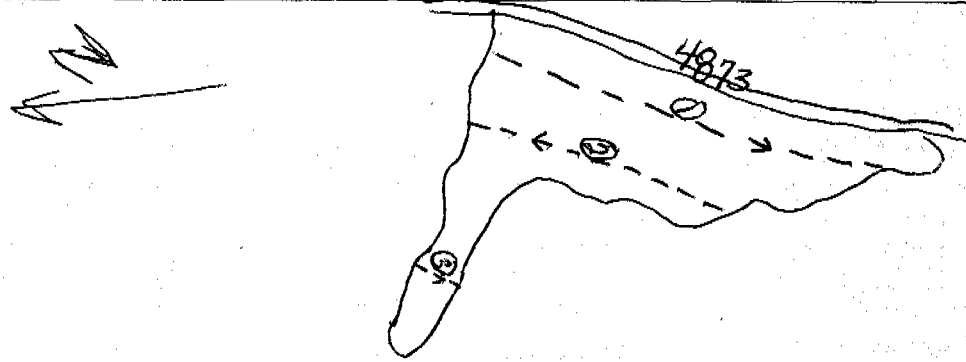
UNDISTURBED                 178 13  
 2            90

DISPLACED  17  8  3

EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
 Unit was logged before - stumps very old. WL/DF/PP marked for leave. Some of  
 the old trails were used & some were not.  
 The portion of the old excavated trail w/i the unit was  
 put to bed.

SHAPE OF UNIT AND PATTERN OF TRANSECT

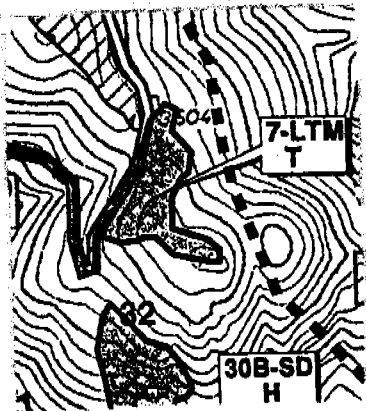


COMPACTION (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
 COMPACTION (Light) - Any other area not included in heavy 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/ROCK/BURN PILE - 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	19	6	7	3	2	5					28	5
	LIGHT	124	37	100	48	24	57					248	42
	UNDISTURB	178	53	90	43	13	31					281	48
	PAST ACTIVITY	13	4	13	6	3	7					29	5
	<b>TOTALS</b>	<b>334</b>	<b>100</b>	<b>210</b>	<b>100</b>	<b>42</b>	<b>100</b>					<b>586</b>	<b>100</b>
	DISPLACED	17	5	8	4	3	7					28	5
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES												

Combining current and past detrimental disturbance equals 10% for this activity area.





10/25/2002  
Libby - Alexander Salvage  
Unit 15A  
55104079

55104079  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 10.25.02 CUTTING METHOD sawhead clipper  
OBSERVER Kuennin SKIDDING METHOD RTS  
DISTRICT Libby by If tractor: dispersed dedicated  
SALE/S.A. Alexander / Farmer HAZARD TREATMENT understory burn  
Unit # 15A Acres 3 SILVICULTURAL TRMT LTM SW Seed / reserve  
H.T. DF / Phma -> DF / Syal OPERATION PERIOD Jul '02  
Slope 15-40 Aspect SE  
Location lower 121 3 Elevation 3400  
COMPACTION (Heavy)  121 3

PAST ACTIVITY L 5 1 2  
COMPACTION (Light)                     140  
                   83

UNDISTURBED                     150  
                   127

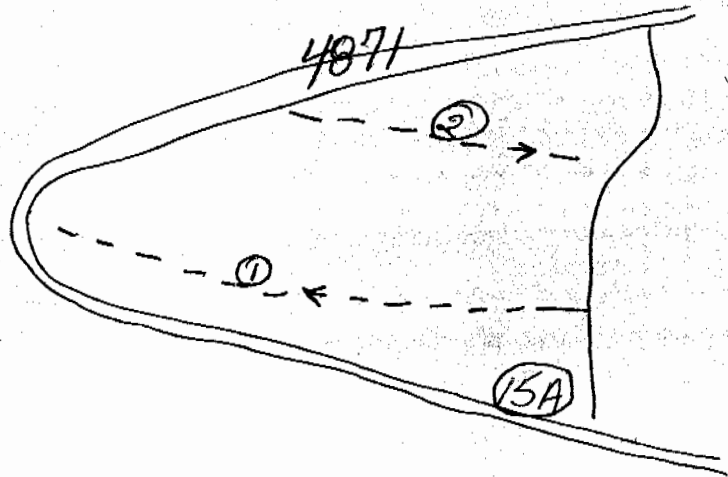
DISPLACED   29

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
Unit was logged before ~ 35 years ago. Clear cut / merrind, no volcanic ash surface. 15% surface rock. Looselike 1324  
Low amount of volume / A removed. Dense reprod areas resulting from last entry.  
A lot of brushwood present on roads. Probably a lot was scattered into harvest units. Already evidence of SKW leaving road and moving up hill.  
Waterbars generally ~~not~~ taken attempts, but coarseness of soil material will minimize or eliminate any overland flow

SHAPE OF UNIT AND PATTERN OF TRANSECT

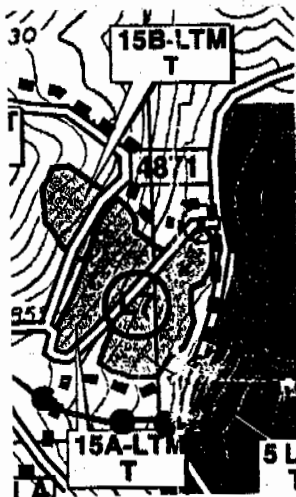


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COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.  
UNDISTURBED - No signs of any machinery or skidding activity.  
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.  
SMZ/ROCK/BLI RN PII E - Include within transect if within harvest unit

TRANSECT SUMMARY FORM

		<i>lower</i>		<i>upper</i>		Transect 3		Transect 4		Transect 5		TOTALS	
		Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
		Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D	HEAVY	12	4	3	1							15	3
s	LIGHT	140	45	83	39							223	43
t	UNDISTURB	150	49	127	59							277	53
u	PAST	5	2	2	1							7	1
r	ACTIVITY												
b	TOTALS	307	100	215	100							522	100
	DISPLACED	20	6	-	-							20	4
	EROSION												
	PUDDLED												
	SMZ												
	ROCK	2	1	-	-							2	0
	BURN PILES												

Combining current and past detrimental disturbance equals a total of 4% for this activity area.



55104080  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 10, 25, 02 CUTTING METHOD saw head clipper  
OBSERVER Kuennen SKIDDING METHOD RTS  
DISTRICT Libby If tractor: dispersed dedicated  
SALE/S.A. Alexander / Farmer HAZARD TREATMENT Ecosystem burn  
Unit # 15B Acres 4 SILVICULTURAL TRMT LTM / Improvements  
H.T. DF/Phma OPERATION PERIOD summer '02 Jul '02  
Slope 15-25 Aspect | SE  
Location lower Elevation | 3400 - 3500  
COMPACTION (Heavy) L 5

PAST ACTIVITY

COMPACTION (Light)        80  
       68

UNDISTURBED        15  
       47

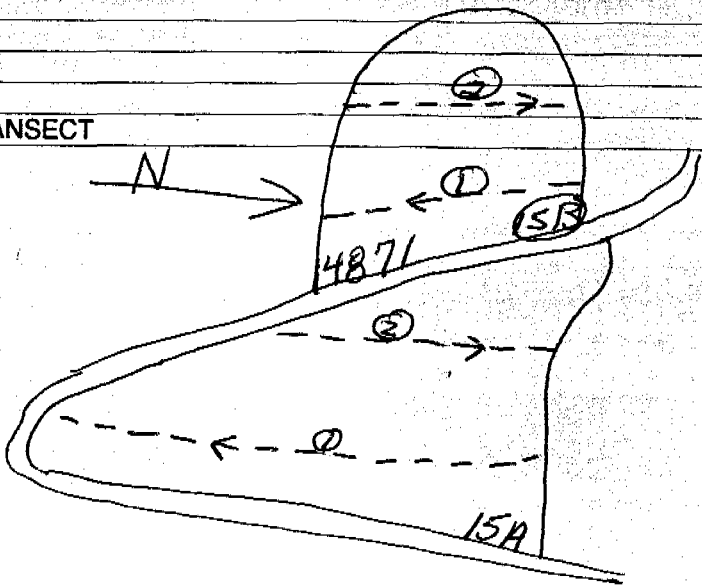
DISPLACED 1

EXCAVATED SKID TRAIL

SMZ/ROCK L 51

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)  
Glacial debris soils - no volcanic ash surface. Several scattered, small rock outcrops. Helena Formation. LT 324  
Upper end of second skid trail from north side of unit poorly located. This is in a drain w/ no place to drain water from waterbars which are mostly 1/2 way - straight across slope w/ no outlet.  
Does not appear operator has a good handle on waterbars and/or poor machine for the job.

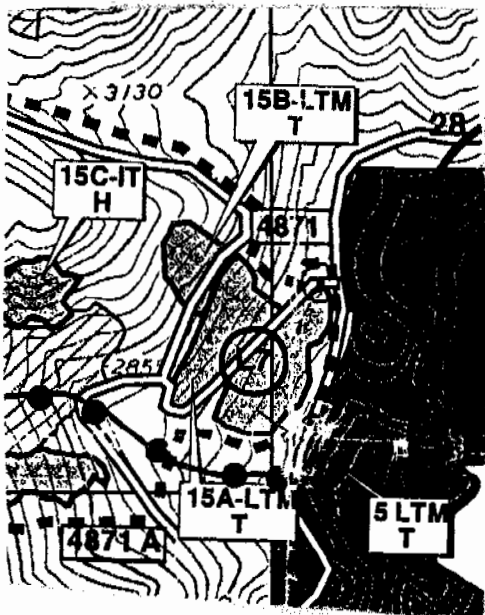
SHAPE OF UNIT AND PATTERN OF TRANSECT



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/ROCK/BURN PII F - 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.	%
Disi	HEAVY	7	4	5	4						12	4
st	LIGHT	80	50	68	57						148	53
ur	UNDISTURB	75	46	47	39						122	43
b	PAST ACTIVITY	—		—							—	
	<b>TOTALS</b>	162	100	120	100						282	100
	DISPLACED	3	2	0	0						3	1
	EROSION											
	PUDDLED											
	SMZ											
	ROCK	5	3	1	0						6	2
	BURN PILES											



06/18/2002  
Fortine - Roberts-Mnt  
Unit 6  
32204093

32204093  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE June 18, 2002  
OBSERVER Kuennen/Gott  
DISTRICT Fortine  
SALE Roberts Mnt  
Unit No. 6 13A.

CUTTING METHOD clipper  
SKIDDING METHOD RTS  
HAZARD TREATMENT WTY - burn landings  
SILVICULTURAL TREATMENT Improvements <sup>CTM</sup> SD-LP-D  
OPERATION PERIOD summer '00

H.T. - 250      As - NE  
Ele - 3200  
COMPACTION (Heavy)

Walk-Through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS

gentle slopes

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.

32204094  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE June 18, 2002

CUTTING METHOD chipper

OBSERVER Quenney/Gott

SKIDDING METHOD PTS

DISTRICT Fortune

HAZARD ABATEMENT WTY - burning landings

SALE Roberts Mnt  
Unit No. 7 55A

SILVICULTURAL CTM Improvements SD-LP-D

OPERATION PERIOD Summer '00

HT-312 E1-3400 As-SW slope 15-25

COMPACTION (Heavy) Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Part of range review Cattle use noted along paths/trails leading to openings where grazing can occur. Can see cattle use along northwest corner of Homes Lake, but it is difficult to separate that use from the human impacts seen - wheel ruts, footprints, etc.

Shape of Unit and Pattern of Transect

32007012  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE June 18, 2002  
OBSERVER Kuennen/Cott  
DISTRICT Fortine  
SALE Roberts Mountain  
Unit No. 2 33A

CUTTING METHOD clipper  
SKIDDING METHOD RTS  
HAZARD TREATMENT WTY - burn landings  
SILVICULTURAL TREATMENT Improvement <sup>CTM</sup> SD-LP-D  
OPERATION PERIOD Summer '98

HT-312, Slope-5-10%, Ele-3300, AS-

COMPACTION(Heavy) Walk-Through

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS cattle use seen along skidtrail in the form of paths.

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.

34607032

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 15, 2002

CUTTING METHOD clipper

OBSERVER Ruennen

SKIDDING METHOD RTS

DISTRICT Fortine

HAZARD TREATMENT no burn

SALE West Sunday  
Unit No. 34

SILVICULTURAL TREATMENT LTM

SAF/Mepe

31 Acres

OPERATION PERIOD winter

COMPACTION(Heavy) walk-through

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS

Part of reforestation review  
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.



32701052

DATE May 15, 2002

CUTTING METHOD chipper

OBSERVER Kuennen

SKIDDING METHOD RS

DISTRICT Fortine

HAZARD TREATMENT understory burn spring '01

SALE Murphy  
Unit No. 6

SILVICULTURAL TREATMENT (shelterwood) SW seed

OPERATION PERIOD winter '98

Acre

DF

H.T.-291 Slope-25-40% Ele-3900 As-SW

COMPACTION(Heavy) Walk-Through

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Planted to PP There was some secondary  
scarification

Part of reforestation review  
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.

44601324/4602217

44601324/44602217

05/29/2002  
Three Rivers - Callahan  
Unit 29D

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5/29/2002

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD Tractor

DISTRICT Three Rivers

HAZARD TREATMENT understory burn spring '02

SALE Callahan (10+11)  
Unit No. 29D 21 Acres

SILVICULTURAL TREATMENT LTA SW seed/preserve

WH/Clean 3200 - 3400 etc.  
5-30% slope NE

OPERATION PERIOD summer '01  
Walk-through

COMPACTION(Heavy)

COMPACTION(Light)

UNDISTURBED

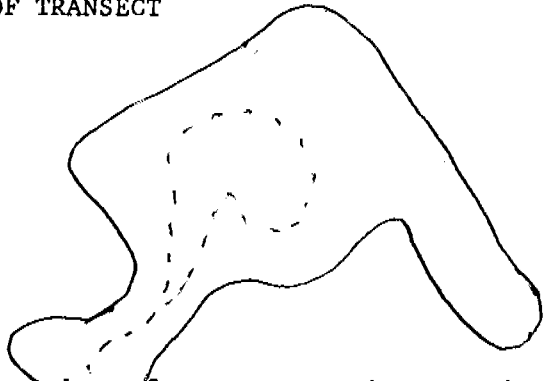
DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Planted WL + PP  
Caliche fill over good ash  
Mostly ridgetop, but dropping off to NE + S

Part of a representation review  
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.

05/29/2002

Three Rivers - Fowler Thinning Restock #1

Unit 4 & 15

42705103 / 42702116

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5/29/2002

CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen

SKIDDING METHOD \_\_\_\_\_

DISTRICT Three Rivers

HAZARD TREATMENT \_\_\_\_\_

SALE Fowler Thinning restock #1  
Unit No. \_\_\_\_\_ 19 Acres  
(4+15)

SILVICULTURAL TREATMENT \_\_\_\_\_

WRC/Clay  
W aspect 4100 etc.  
COMPACTION (Heavy)

OPERATION PERIOD  
15-30% slope  
Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

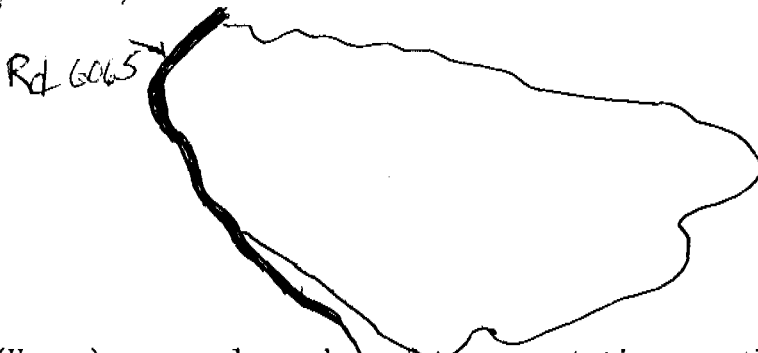
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Unit was logged years ago 1979. 2000 Fowler Fire backed  
through regrowth and killed some of the regrowth.  
Stand was pre-commercially thinned in 1999.  
Assess that loger piling occurred following the 1979 logging.  
Detrimental impacts noted.  
Planted Wb (40), DF (40) + PP (20)  
Grosses resprouting after fire - 12" scalps.

Part of a re-vegetation review  
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.

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DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

42504132 (30A) / 42504136 (36A) / 42505115 (16)

DATE 5/29/2002

CUTTING METHOD chippers

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Three Rivers

HAZARD TREATMENT scattered grapple piles

SALE Fish Fry Fire Salvage  
Unit No. 66B 82 Acres

SILVICULTURAL TREATMENT Fire Salvage Sanitation Sale

WH/Clan  
30-45% slope 4200-4400 etc.  
COMPACTION (Heavy)

OPERATION PERIOD winter '96  
N+W aspects  
Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Salvage occurred in the winter. Very few skid trails. Soil + water impacts very low. WL not killed by fire where left. Many WL naturalks were seen. New seedlings looked very good. Long term soil productivity not impacted. Dead LP was removed in 1990, burned in 1994. WL, ES, WP planted about equally.

Part of a reforestation review  
SHAPE OF UNIT AND PATTERN OF TRANSECT

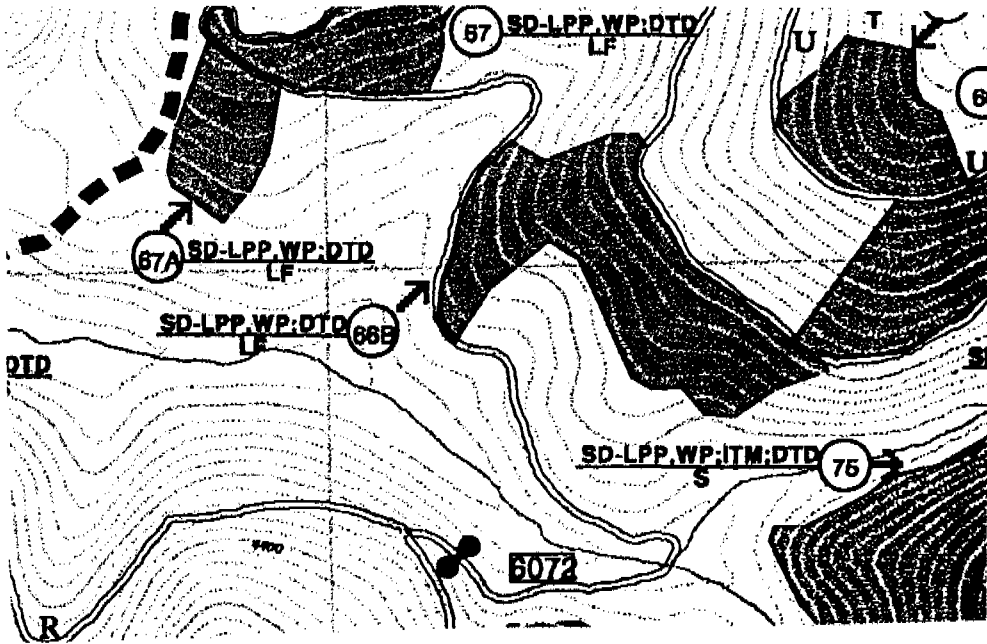
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SMZ - include within transect if within harvest unit.



42304154

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE July 31, 2002

CUTTING METHOD clipper-sawhead

OBSERVER Ruennen

SKIDDING METHOD RTS

DISTRICT Three Rivers

HAZARD TREATMENT pickpot burn

SALE Wood Rat

SILVICULTURAL TREATMENT ITM, SD-LP

Unit No. 26A (2) 24 Acres

OPERATION PERIOD Jan-Feb. 2000

WH/Clean 26B (3) 3450-3650  
SSW

Walk-Through

COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

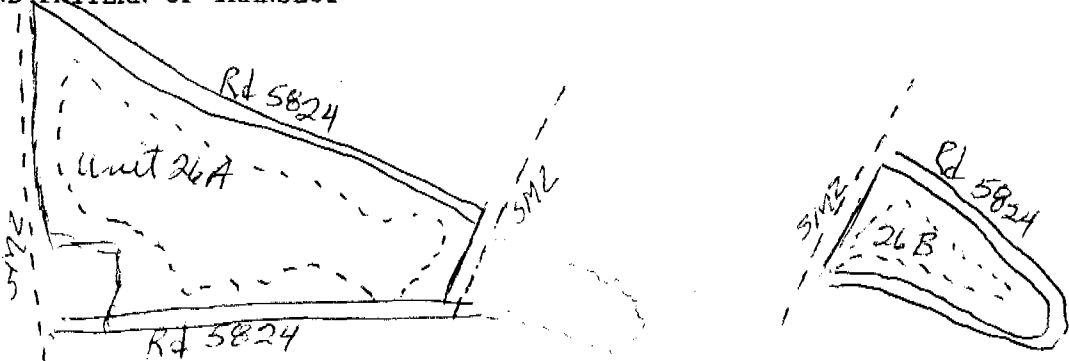
EXCAVATED SKID TRAIL

SMZ 2 SMZ one between units, one on <sup>west</sup> side of unit 26A

COMMENTS On road leading to unit - good things done road surface and ditch drainage. More roller culverts were installed, blind drain used in crossing small/wet area. Surface drainage could have been better.

From soil + water stand point unit looks good. Good fireline - Excavator amount of soil material moved could have been less. Maintained a good SMZ.

Part of State BMP audit  
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.

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DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

31-71703137

33-71703137

50-71703137

08/06/2002

Three Rivers - Garver Proposal

Unit 31, 33, 50

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Aug 6, 2002 CUTTING METHOD \_\_\_\_\_  
 OBSERVER Ryerson / Newga SKIDDING METHOD \_\_\_\_\_  
 DISTRICT Three Rivers If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Garver Proposal HAZARD TREATMENT \_\_\_\_\_  
 Unit # \_\_\_\_\_ Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect I \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation I \_\_\_\_\_  
 DISTURBANCE (Heavy) \_\_\_\_\_

PAST ACTIVITY \_\_\_\_\_  
 DISTURBANCE (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

Unit 31 (Lap Creek) - some excavated trails exist throughout; estimated to be 4-6% detrimental disturbance present. Orange hawhooved also noted on closed road leading to unit.  
Unit 33 (French Creek) - No previous activity. H.T. - WH/Clun. Unit lies on small ridge with the sides dropping off to wetter sites. Volcanic ash 8-12" over fill. Low rock content in ash.  
Unit 50 (Hensley Hill) - lies adjacent to Hensley Hill Rd 5892. Overland skidding has occurred in the area previously. Knapweed scattering up hillside, especially along old trails.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 31: H.T. - DF/Libo → S/Libo. Reuse old trails as much as possible. Provide some drainage in several places on access road. Spray orange hawhooved on access road prior to use. 10 acres; E aspect; intermediate harvest; planned winter tractor  
Unit 33: H.T. - WH/Clun. Recommend winter operation. H.T. indicates that soils will not meet 18% moisture. Ash w/o rock easily disturbed. 20 acres; S aspect; regeneration harvest; planned tractor.  
Unit 50: H.T. - DF/Arw → DF/Syl. Reuse old trails. Spray area prior to operation. 13 acres; S aspect; intermediate harvest; planned tractor

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**COMPACTION (Light)** - Any other area not included in heavy COMPACTION or UNDISTURBED.

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**SMZ/ROCK/BURN PILE** - Include within transect if within harvest unit.





46-41703151 46-41703151

47-41703151 47-41703151

08/06/2002

Three Rivers - Garver Proposal

Unit 46 & 47

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Aug 6, 2002 CUTTING METHOD \_\_\_\_\_  
 OBSERVER Kuesner / Newgard SKIDDING METHOD \_\_\_\_\_  
 DISTRICT Three Rivers If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Garver proposal HAZARD TREATMENT \_\_\_\_\_  
 Unit # 46 & 47 Acres 23 & 11 SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. DF / Carw OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect | \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_  
 DISTURBANCE(Heavy) \_\_\_\_\_

PAST ACTIVITY  
DISTURBANCE (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

*These proposed units have each had 1-2 acres on the west & east ends salvaged. LF was the species. The trees were either standing dead or lying on the ground. The landscape is rocky. The upper part has 10-25% slope that drops over an old fence-line down to a flat adjacent to the Yak Highway. Some detrimental disturbance occurred with the salvage. These existing trails as well as the landing should be reused. Spotted knapweed is present and should be sprayed before operations. Clean all equipment before entry.*

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 46: 23 acres; SE aspect; intermediate harvest; planned tractor. 41703151

Unit 47: 11 acres; SE aspect; intermediate harvest; planned tractor. 41703151

**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.

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**DISPLACED** - Any place soil has been mounded by machinery, also include in heavy or light compaction.

**SMZ/ROCK/BURN PILE** - Include within transect if within harvest unit.



**KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM**

DATE 9/23/02  
 SERVER Kuennen/Newgard  
 DISTRICT Three Rivers  
 SALE/S.A. Garver Proposal  
 Unit # \_\_\_\_\_ Acres \_\_\_\_\_  
 H.T. \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect | \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_  
 COMPACTION (Heavy) \_\_\_\_\_  
 COMPACTION (Light) \_\_\_\_\_  
 UNDISTURBED \_\_\_\_\_  
 DISPLACED \_\_\_\_\_  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

**COMMENTS (Include soil, geology, organic debris, other pertinent info)**

Field trip to review proposed Garver units: Visited units 18, 19, 23, 25, 34, 3.  
 Not one of the units have previously been entered.  
 Not a lot of discussion was associated w/ Unit 34. The unit is generally  
 fairly flat, but contains a terrace-edge like feature that will make  
 access somewhat difficult from the existing road. The H.T. is WH/  
 Clun w/ occasional wet areas. The soil had 8-14" of volcanic ash  
 over a gravelly subsoil. The site has a good organic mat. Hazard  
 abatement could be a problem. The splash and wet habitat type  
 could lead to significant detrimental soil disturbance.

**SHAPE OF UNIT AND PATTERN OF TRANSECT**

- 18B: 15 acres; 42201111; S aspect; regen; planned heli.
- 19C: 10 acres; 42201118; S aspect; intermediate harvest; planned heli.
- 23: 52 acres; 42201112/42201110; S aspect; intermediate harvest;  
 planned skyline
- 25: 13 acres; 42201115; S aspect; intermediate harvest; planned tractor
- 34: 50 acres; 41901161; NE aspect; intermediate harvest; planned heli.
- 3: 129 acres; 41901158; NE aspect; intermediate harvest; planned tractor

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 SMZ - Include within transect if within harvest unit.



73102045

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 23, 2002

CUTTING METHOD hand

OBSERVER Suominen

SKIDDING METHOD wired cable + tractor

DISTRICT Cabinet

HAZARD TREATMENT BB spring 2001

SALE Burnt Lion  
Unit No (16A)

SILVICULTURAL TREATMENT CC w/ reserves

- 37 acres

OPERATION PERIOD Jul/Aug '00

COMPACTION(Heavy) Walk-through

COMPACTION(Light)

UNDISTURBED

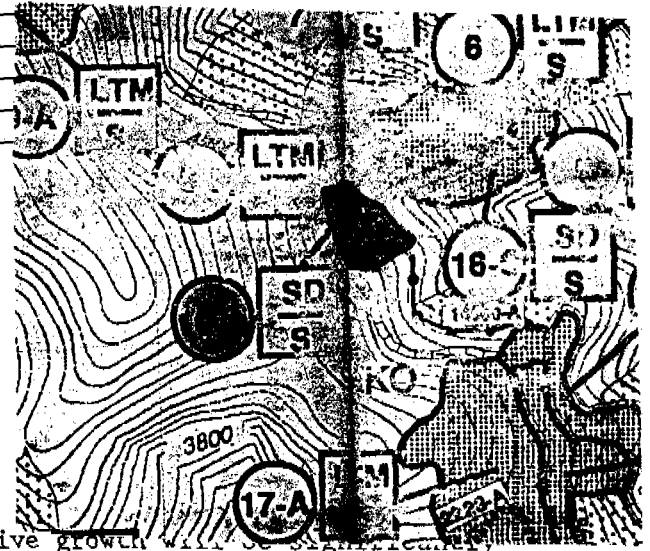
DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS For a spring burn this was fairly hot. Killed a lot of DF overstory. Burn removed many of the pine of organics. CWB is light. Too much fuel. Planted PP + WL + WP

Part of reforestation review  
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.

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SMZ - include within transect if within harvest unit.

71301006

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE May 23, 2002

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD Tractor

DISTRICT Cabinet

HAZARD TREATMENT Excavator pile w/ scalps

SALE Smeads Rice

SILVICULTURAL TREATMENT Seed tree w/ reserves

Unit No. 6A 33 Acres

OPERATION PERIOD winter logged Jan '00

WH/Clun

COMPACTION(Heavy) Walk-through

COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Planted WP + WH. Lots of root rot in harvested stand. Fair number of rock in soil w/ some outcrops. Tough planting in some areas.

Part of reforestation review  
SHAPE OF UNIT AND PATTERN OF TRANSECT

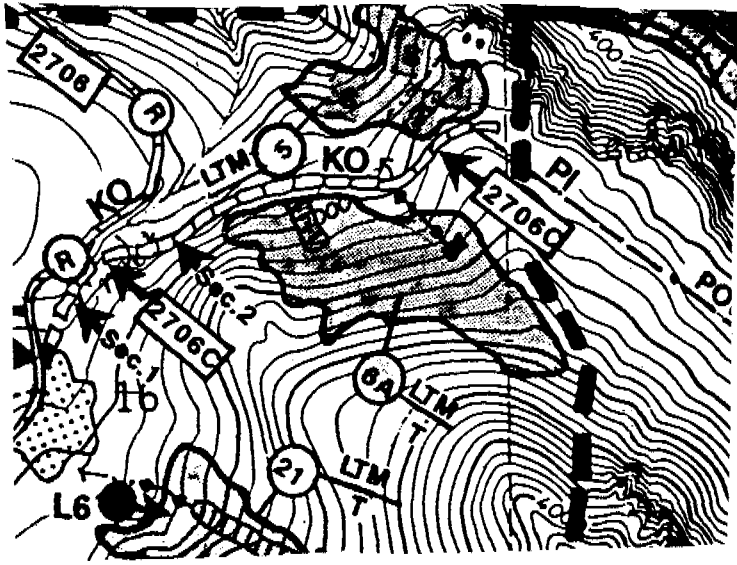
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08/08/2001  
Cabinet - Burnt Lion  
Unit 2A  
73101003

73101003  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

Just  
20A?

DATE 8/30  
OBSERVER Krenner / Castillo  
DISTRICT  
SALE/S.A. Burnt Lion  
Unit # 20A Acres 38  
H.T. Hagar / Clun  
Slope Broken 25-30% Aspect 1 E-SE  
Location lower 15  
Elevation 4220 - 4350  
CUTTING METHOD Clipper (Timco)  
SKIDDING METHOD RTS  
If tractor: dispersed dedicated  
HAZARD TREATMENT BB - spring 02  
SILVICULTURAL TRMT CC w/ Reserve  
OPERATION PERIOD Jan - Feb '00  
COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Start N 47° 42.335 4230 Stop N 47° 42.333  
W 115° 33.795 W 115° 33.454

Stop N 47° 42.389 Stop  
W 115° 33.687

Pass 1 Pass 2

SHAPE OF UNIT AND PATTERN OF TRANSECT

Trail Put to Bed -

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.  
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SMZ - Include within transect if within harvest unit.





08/07/2001  
Cabinet - Burnt Lion  
Unit 22  
73101004/73101007

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

73101004/73101007

DATE 8/7/01 CUTTING METHOD *Tractor*  
OBSERVER *Ruggen / Costello* SKIDDING METHOD *Tractor*  
DISTRICT *Cabinet* If tractor: dispersed  dedicated   
SALE/S.A. *Burnt Lion* *Dave Clay* HAZARD TREATMENT *whole tree yard, piles burned up*  
Unit # *22* Acres *168* SILVICULTURAL TRMT *shelterwood*  
H.T. *GF* *SAF* OPERATION PERIOD *Aug. 1999*  
Slope *5-35* Aspect *N 4 E*  
Location *upper* Elevation *4250-4500*  
COMPACTION (Heavy) *|||||* 45

COMPACTION (Light) *|||||* 204

UNDISTURBED *|||||* 221

DISPLACED *|||||* 10

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*Upper half was excavator piled + scarified. Some jackpot burning below.*

SHAPE OF UNIT AND PATTERN OF TRANSECT

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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	45	10	49	12	41	6	51	8	47	10	233	9
	LIGHT	204	43	190	47	298	47	330	49	236	50	1258	47
	UNDISTURB	221	47	168	41	294	47	290	43	192	40	1165	44
	TOTALS	470	100	407	100	633	100	671	100	475	100	2656	100
	DISPLACED	10	2	17	4	9	1	20	3	22	5	78	3
	EROSION												
	PUDDLED												
	SMZ												
	ROCK												
	BURN PILES	0	0	0	0	18	3	4	1	14	3	36	1

**KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM**

DATE 8/7/01 CUTTING METHOD \_\_\_\_\_  
 OBSERVER \_\_\_\_\_ SKIDDING METHOD \_\_\_\_\_  
 DISTRICT \_\_\_\_\_ If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. \_\_\_\_\_ HAZARD TREATMENT \_\_\_\_\_  
 Unit # 22 Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect I \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation I \_\_\_\_\_

COMPACTION (Heavy) ||||||| - 49

COMPACTION (Light) ||||||| - 190

UNDISTURBED ||||||| - 168

DISPLACED ||||||| - 17

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SHAPE OF UNIT AND PATTERN OF TRANSECT  
 \_\_\_\_\_

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**KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM**

DATE 8/7/01 CUTTING METHOD \_\_\_\_\_  
 OBSERVER \_\_\_\_\_ SKIDDING METHOD \_\_\_\_\_  
 DISTRICT \_\_\_\_\_ If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. \_\_\_\_\_ HAZARD TREATMENT \_\_\_\_\_  
 Unit # 22 Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect I \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation I \_\_\_\_\_  
 COMPACTION (Heavy) ~~|||||~~ || 47

COMPACTION (Light) ~~|||||~~ || 298  
 UNDISTURBED ~~|||||~~ || 294  
 DISPLACED ~~|||||~~ 9

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK ~~|||||~~ 16  
 Burn pile

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Start - N 47° 42.937 4284  
 W 115° 35.532

Stop - N 47° 42.643 4341  
 W 115° 35.390

SHAPE OF UNIT AND PATTERN OF TRANSECT \_\_\_\_\_

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**SMZ** - Include within transect if within harvest unit.

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 8/7/01 CUTTING METHOD \_\_\_\_\_  
OBSERVER \_\_\_\_\_ SKIDDING METHOD \_\_\_\_\_  
DISTRICT \_\_\_\_\_ If tractor:  dispersed  dedicated \_\_\_\_\_  
SALE/S.A. \_\_\_\_\_ HAZARD TREATMENT \_\_\_\_\_  
Unit # 22 Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
Slope \_\_\_\_\_ Aspect I \_\_\_\_\_  
Location \_\_\_\_\_ Elevation I \_\_\_\_\_  
COMPACTION (Heavy) [Handwritten symbols] 51

COMPACTION (Light) [Handwritten symbols]  
UNDISTURBED [Handwritten symbols] 330  
DISPLACED [Handwritten symbols] 20

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK [Handwritten symbols] 4

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
Start N 47° 42.680 4385 excavator pile + scalp. Scalping on  
W 115° 35.525 NW part mostly absent.  
Stop N 47° 42.920 4457  
W 115° 35.912

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.  
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**KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM**

DATE 8/7/01 CUTTING METHOD \_\_\_\_\_  
 OBSERVER \_\_\_\_\_ SKIDDING METHOD \_\_\_\_\_  
 DISTRICT \_\_\_\_\_ If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. \_\_\_\_\_ HAZARD TREATMENT \_\_\_\_\_  
 Unit # \_\_\_\_\_ Acres 168 SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect I \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation I \_\_\_\_\_  
 COMPACTION (Heavy) ~~|||||~~ || 47

COMPACTION (Light) ~~|||||~~ || 236

UNDISTURBED ~~|||||~~ || 192

DISPLACED ~~|||||~~ || 22

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK ~~|||||~~ || 14  
 Bound Pk \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Start N 47° 42.912  
 W 115° 35.768

*84 shelterwood.  
84 thinning*

Crossed temp road @ start of transect

Step N 47° 42.730  
 W 115° 35.460 4402

**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.

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 8/8/01 CUTTING METHOD clipper - Timco  
 SERVER Kuennen/Castillo SKIDDING METHOD Tractor  
 DISTRICT Cabinet If tractor: dispersed dedicated  
 SALE/S.A. Burnt Lion HAZARD TREATMENT BB - w/ excavated fireline  
 Unit # 27A Acres 78 SILVICULTURAL TRMT Seed Tree CC w/ reserves  
 H.T. 530 OPERATION PERIOD Winter w/ snow roads  
 Slope 45-50 Aspect E  
 Location Dixie Peak mid Elevation 4000-4700  
 COMPACTION (Heavy) |||||

COMPACTION (Light) |||||

UNDISTURBED |||||

DISPLACED |||||

EXCAVATED SKID TRAIL

SMZ/ROCK |||||  
 Recon. Road

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
 Start N 47° 39.963 Start N 47° 39.779 4380  
W 115° 40.205 W 115° 40.385  
 Stop N 47° 39.694 Stop N 47° 39.698 4467  
W 115° 40.284 W 115° 40.384

SHAPE OF UNIT AND PATTERN OF TRANSECT

- Old excavated skid trail - |||||

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.

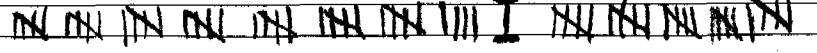


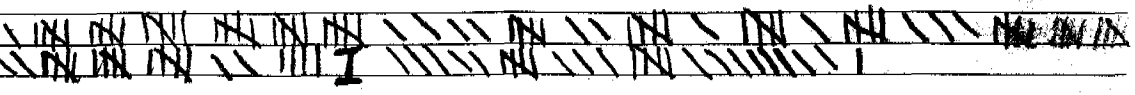


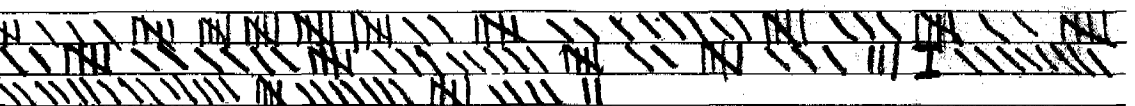
27-A

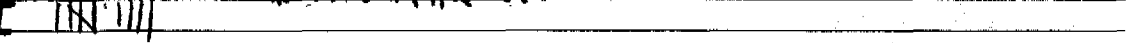
### KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE \_\_\_\_\_ CUTTING METHOD \_\_\_\_\_  
 OBSERVER \_\_\_\_\_ SKIDDING METHOD \_\_\_\_\_  
 DISTRICT \_\_\_\_\_ If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. \_\_\_\_\_ HAZARD TREATMENT \_\_\_\_\_  
 Unit # \_\_\_\_\_ Acres \_\_\_\_\_ SILVICULTURAL TRMT \_\_\_\_\_  
 H.T. \_\_\_\_\_ OPERATION PERIOD \_\_\_\_\_  
 Slope \_\_\_\_\_ Aspect | \_\_\_\_\_  
 Location \_\_\_\_\_ Elevation | \_\_\_\_\_

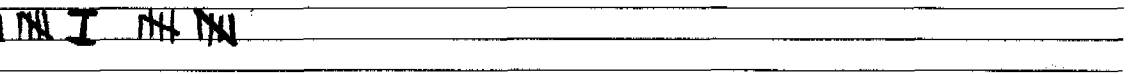
COMPACTION (Heavy) *Pass 3* 

COMPACTION (Light) 

UNDISTURBED 

DISPLACED 

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK *Recon. Road* 

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Start	N 47° 39.676	4550	Start	N 47° 40.048	4350
	W 115° 40.512			W 115° 40.417	
Stop	N 47° 39.990	4500	Stop	N 47° 39.874	4240
	W 115° 40.468			W 115° 40.337	

*Pass 3*

*Pass 4*

#### SHAPE OF UNIT AND PATTERN OF TRANSECT

*Old excavated skid trail - IIII I IIIII*

**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.



12902108  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9-5-01 CUTTING METHOD clipper  
OBSERVER Kuennen SKIDDING METHOD Tractor  
DISTRICT Rexford HAZARD TREATMENT BB-Fall 1999;  
SALE Lost-Soul-Salvage SILVICULTURAL TREATMENT SD  
Unit No. 3 31A

watershed: E. Branch Big Cr. OPERATION PERIOD winter 98-99  
H.T: SAF/Clun/Mep → SAF/Luhi Ele: 5000-5300' Aspect: North  
COMPACTION(Heavy)

COMPACTION(Light) Walk through

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS See Lost Soul #4 discussion.

Burns look good! Plenty of CWD subsequent to burn.  
From soil + water standpoint both Unit 3 + 4 look good.

Part of Rexford District BMP review

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.

12902107  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9-5-01 CUTTING METHOD clipper  
OBSERVER Kuennen SKIDDING METHOD Tractor  
DISTRICT Rexford HAZARD TREATMENT BB-Fall 2000  
SALE Lost-Soul-Salvage SILVICULTURAL TREATMENT SD  
Unit No. 4 55A  
H.T: SAF/Clun/Mefe -> SAF/Luki OPERATION PERIOD winter 99-00  
Elev: 5400-5750' Aspect: North

COMPACTION(Heavy) \_\_\_\_\_  
Walk through  
COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

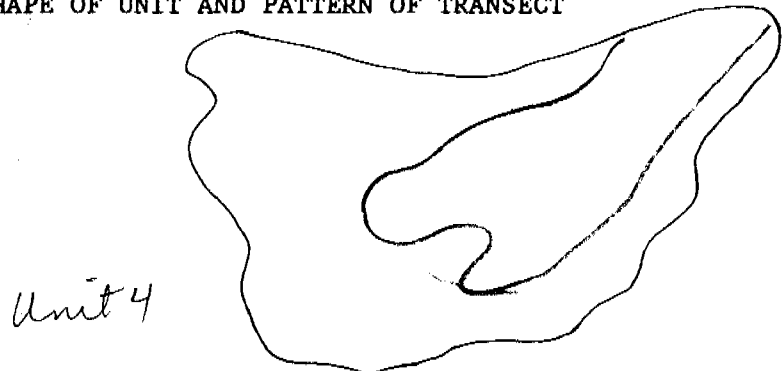
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Roads used for access 333, 4814, 6245  
Flappers used for surface drainage - many installed incorrectly.  
Some ditch/scour has occurred. Area is very moist-  
compacted till. Very few defined drainages - lots of surface  
water, esp. during spring runoff. Some pipes need cleaning.  
Older pipes have no sherd; newer ones do.  
See Unit 3  
Part of Rexford District BMP review.

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.

10/30/2001  
Fortine - Sinclair Salvage  
Unit 2  
31604073

31604073

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 10/30/01 CUTTING METHOD hand  
OBSERVER Kuennen SKIDDING METHOD RTS  
DISTRICT Fortine If tractor: dispersed        dedicated         
SALE/S.A. Sinclair Salvage Re-Ad HAZARD TREATMENT         
Unit # 2 Acres 22 SILVICULTURAL TRMT L T M  
H.T. DF/LibD OPERATION PERIOD         
Slope 5-25 Aspect SW  
Location lower Elevation 3650-3900  
COMPACTION (Heavy)       

*Walk through*

COMPACTION (Light)       

UNDISTURBED       

DISPLACED       

EXCAVATED SKID TRAIL       

SMZ/ROCK       

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
*CWD adequate. Some windthrow has occurred. Waterbars  
in main skid trail just adequate.*

*Part of a Kootenai Cat. Ex. Review*

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.



10/30/2001  
Fortine - Sinclair Salvage  
Unit 1  
31604074

31604074

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

E 10/30/01  
SERVER Rupprecht CUTTING METHOD and  
DISTRICT Fortune SKIDDING METHOD RTS  
SALE/S.A. Sinclair Salvage If tractor: dispersed dedicated  
Unit # 1 Acres 36 HAZARD TREATMENT Understory burn 1998 spring  
H.T. SILVICULTURAL TRMT CTM  
Slope 10-20 Aspect SW  
Location lower Elevation 3400 - 3900  
COMPACTION (Heavy)

Walk Through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
CWD adequate.

Part of a Kootenai Cat. Ex. Review

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.





70702060

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 10/31/01 CUTTING METHOD clipper  
 OPERATOR Kulonen SKIDDING METHOD tractor  
 DISTRICT Cabinet Salvage If tractor: dispersed dedicated  
 SALE/S.A. Bull Liber STS HAZARD TREATMENT BB fall '01  
 Unit # 2 Acres 20 SILVICULTURAL TRMT LTM/T CC w/ Reserves  
 H.T. GF/Clun - DF/Phma OPERATION PERIOD summer '01  
 Slope 5-15 Aspect southeast  
 Location lower Elevation 2300-2500  
 COMPACTION (Heavy) \_\_\_\_\_

*walk-through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*Old trail coming off power line corridor used for access. Trail  
 cut to bed through unit. Recontouring by rough  
 Part of a Cat. Ex. review for Kootenai*

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.



70702062

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 10/31/01  
OBSERVER K. Simpson CUTTING METHOD chipper  
DISTRICT Cabinet Salvage SKIDDING METHOD tractor  
SALE/S.A. Bull Liber SSTS HAZARD TREATMENT BB fall '01  
Unit # 3 Acres 12 SILVICULTURAL TRMT SD/T  
H.T. GF/Chun - DF/Phind OPERATION PERIOD Summer 2001  
Slope 5-20 Aspect southeast  
Location lower Elevation 2300-2360

COMPACTION (Heavy) \_\_\_\_\_  
Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Excavator line put around unit. Line excessive on steep  
incline on west slope. Unit BB earlier this fall. Marginal burn  
did not reduce full hazard. From soil & water standpoint unit  
looks good. Sufficient CWD.

Old trail coming off power line corridor used for access. Trail  
put to bed. Small flatment of side hill construction originally.  
Recontouring okay - very rough

Part of a Cat. Ex. review for Koot.

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.



104 03180  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE May 19, 2000 CUTTING METHOD clipper  
RESERVER Kuennen/Reichert SKIDDING METHOD Tractor  
DISTRICT Rexford If tractor: dispersed  dedicated   
SALE/S.A. Upper Face Pest Control HAZARD TREATMENT BB - Fall 1998  
Unit # 3 Acres 100 SILVICULTURAL TREATMENT Seed Tree (SD)  
H.T. SAF/Libo -> ABLA/Vaso OPERATION PERIOD Sept/Oct 1996  
Slope 20-35% SE aspect E/d: 5000' mid slope  
COMPACTION (Heavy) LT: 352

COMPACTION (Light) Closed 9.97

UNDISTURBED Walk-through

DISPLACED Sec 74 12 T36 R28+29

EXCAVATED SKID TRAIL

SMZ/ROCK

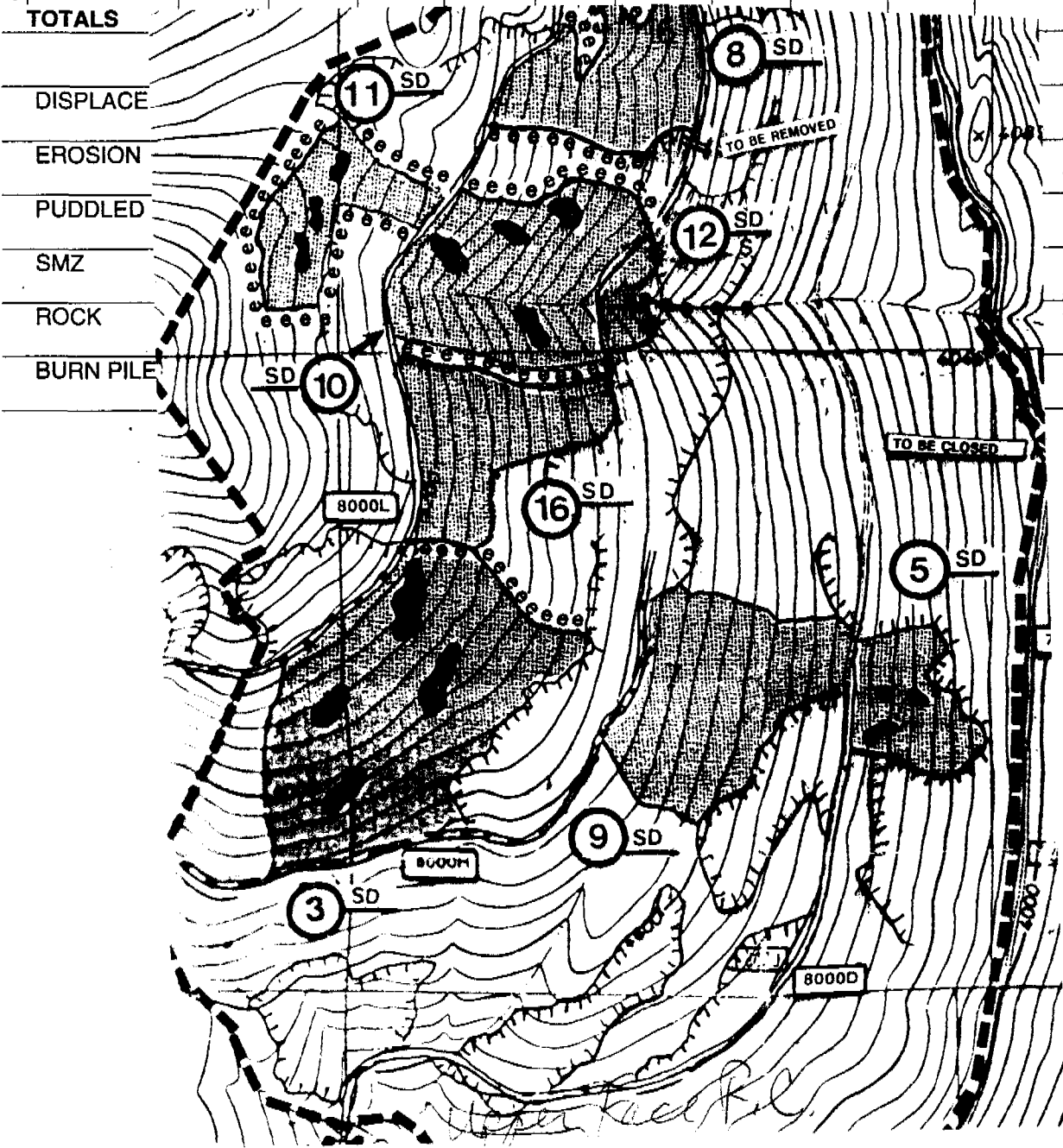
COMMENTS This walk-through was part of a planting review. The area is very moist as reflected by the water on site and the water that flowed down the skid trails, no erosion. The amount of surface organics was light. Burn probably a little too hot. Rock content is high and there is a surface ash deposit. They left all WL + DF 12" + larger. Started logging 9.16.96, finished 10.30.96. From soil + water standpoint unit looks good.

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.  
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**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.

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												



05/19/2000  
Rexford - Burro Face  
Unit 10  
10605204

10605204  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE May 19, 2000 CUTTING METHOD Clipper  
OPERATOR Ruemeny/Leicher SKIDDING METHOD Skylines  
DISTRICT Rexford SALVAGE  tractor: dispersed  dedicated   
SALE/S.A. Burro Face Post Control HAZARD TREATMENT BB Fall 1999  
Unit # 10 Acres 17 SILVICULTURAL TREATMENT CC w/ reserves  
H.T. Able/Alsi OPERATION PERIOD \_\_\_\_\_  
Slope 10-40% Southerly (SE to E) Elev: 5300' mid slope  
COMPACTION (Heavy) LT: 352

COMPACTION (Light) \_\_\_\_\_ Walk-through Closed 9.24.98

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS This walk-through was part of a planting review. The area has a good ash cap.

The BB was fairly cool, lots of surface organics left including WD.

They took all the lodgepole and left all WL + DF. From soil & water stand point unit looks very good.

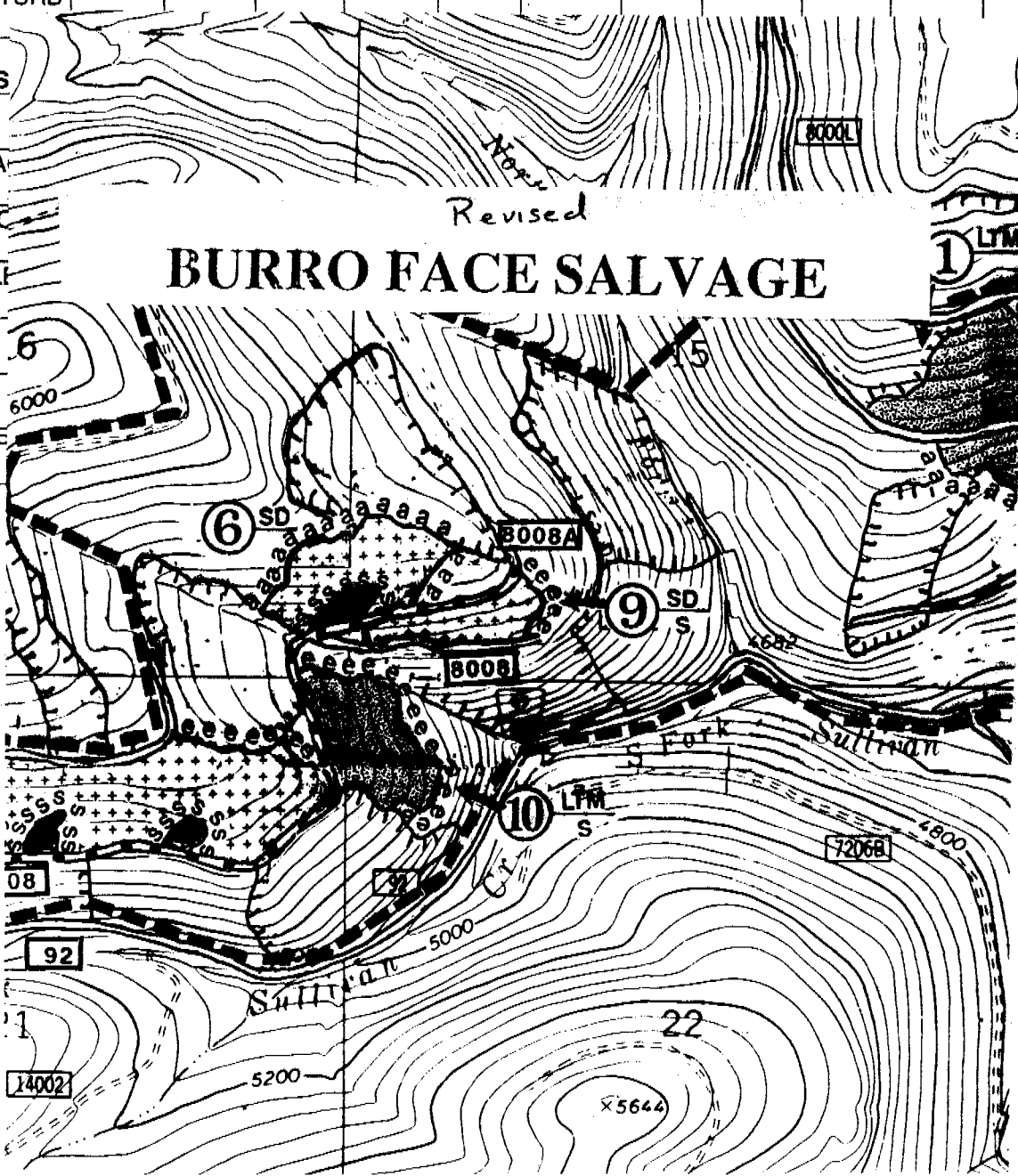
SHAPE OF UNIT AND PATTERN OF TRANSECT

**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.  
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**DISPLACED** - Any place soil has been mounded by machinery, also include in heavy or light compaction.



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												
DISPLA												
EROSION												
PUDDLE												
SMZ												
ROCK												
BURN F												



BURRO FACE SALVAGE

12/07/2000  
Rexford - Upper Pinkham  
Unit 5  
12002014/12002031

120-02-014/120-02-031  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 12.7.2000 CUTTING METHOD clipper  
SERVER Kuennen / Emery SKIDDING METHOD RTS  
DISTRICT Rexford If tractor: dispersed \_\_\_\_\_ dedicated X  
SALE/S.A. Upper Pinkham / Emery HAZARD TREATMENT \_\_\_\_\_  
Unit # 511 Acres 110 SILVICULTURAL TREATMENT CC (SD) Shelterwood  
H.T. SAE 531 OPERATION PERIOD Nov/Dec 2000  
Slope 10-35% Ele: 5000-5550'  
COMPACTION (Heavy) Aspect: West LT: 355

COMPACTION (Light) Walk through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK This is an ongoing operation. The unit is 80% completed.

COMMENTS 6-12" snow ground not frozen, even under trails. Very dry, Trails dusty, Soil dry enough so it is not freezing. From soil + water stand point unit looks very good. Short excavated trail (will be put to bed) extends to the west from central skid trail. Excavator fuel break, leave all WL greater than 16", whole tree yarding

SHAPE OF UNIT AND PATTERN OF TRANSECT

Stand 120-02-014	stand 120-02-031
H.T. = 531	H.T. = 732
A = 27	A = 78
Ele = 5500	Ele = 5400
Sl = 18	Sl = 23

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.  
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### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											

05/18/2000  
Fortine - White Creek  
Unit 5  
35502086

355 02086  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE May 18, 2000 CUTTING METHOD clipper  
OBSERVER Kubonen/Reichert SKIDDING METHOD RTS  
DISTRICT Fortine If tractor: dispersed dedicated  
SALE/S.A. White Creek HAZARD TREATMENT spring BB years 1996  
Unit # 5 Acres 37 SILVICULTURAL TREATMENT Seed tree  
H.T. SAF/Clun OPERATION PERIOD Summer 1995 Jul/Aug  
Slope 25-35 West Elev: 4000  
COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) Walk-through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS This walk-through was part of a planting review. The unit was initially BB for natural regen. Natural regen poor. A log machine was used in summer of 1999 to scarify planting spots. From the soil & water standpoint the site looks good. Compaction minimal & the scalps are small. Biggest problem w/ the scalp is digging into the till & removing the nutrient rich surface material. Ash cap mostly absent except for flat area.

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.  
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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.



05/18/2000  
Fortine - Skillet Basin  
Unit 1  
35504095

35504095  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE May 18, 2000 CUTTING METHOD clipper  
SERVER Kuennen / Reichert SKIDDING METHOD RT3  
DISTRICT Fortine If tractor: dispersed  dedicated   
SALE/S.A. Skillet Basin HAZARD TREATMENT underburn spring 1996  
Unit # 1 Acres 31 SILVICULTURAL TREATMENT shelterwood / seed tree  
H.T. SAF / Clun OPERATION PERIOD summer 1995 Aug/Sept  
Slope 15-25 West Ele: 5200'  
COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED Walk-through

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS This walk-through was part of a spring planting review from the soil + water standpoint the unit looks good.

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.



05/18/2000  
Fortine - Skillet Basin  
Unit 2  
35505081

355 05 081

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE May 18, 2000 CUTTING METHOD clipper  
SERVER Kuengler/Reichert SKIDDING METHOD RTS  
DISTRICT Fortine If tractor: dispersed                      dedicated X  
SALE/S.A. Skillet Basin HAZARD TREATMENT BB spring 1996, hemo 1999  
Unit # 3 Acres 42 SILVICULTURAL TREATMENT Slaterwood  
H.T. DF/Caru OPERATION PERIOD summer 1995  
Slope 25-35 South Elev: 5000  
COMPACTION (Heavy)                     

COMPACTION (Light)                     

UNDISTURBED Walk-through

DISPLACED                     

EXCAVATED SKID TRAIL                     

SMZ/ROCK                     

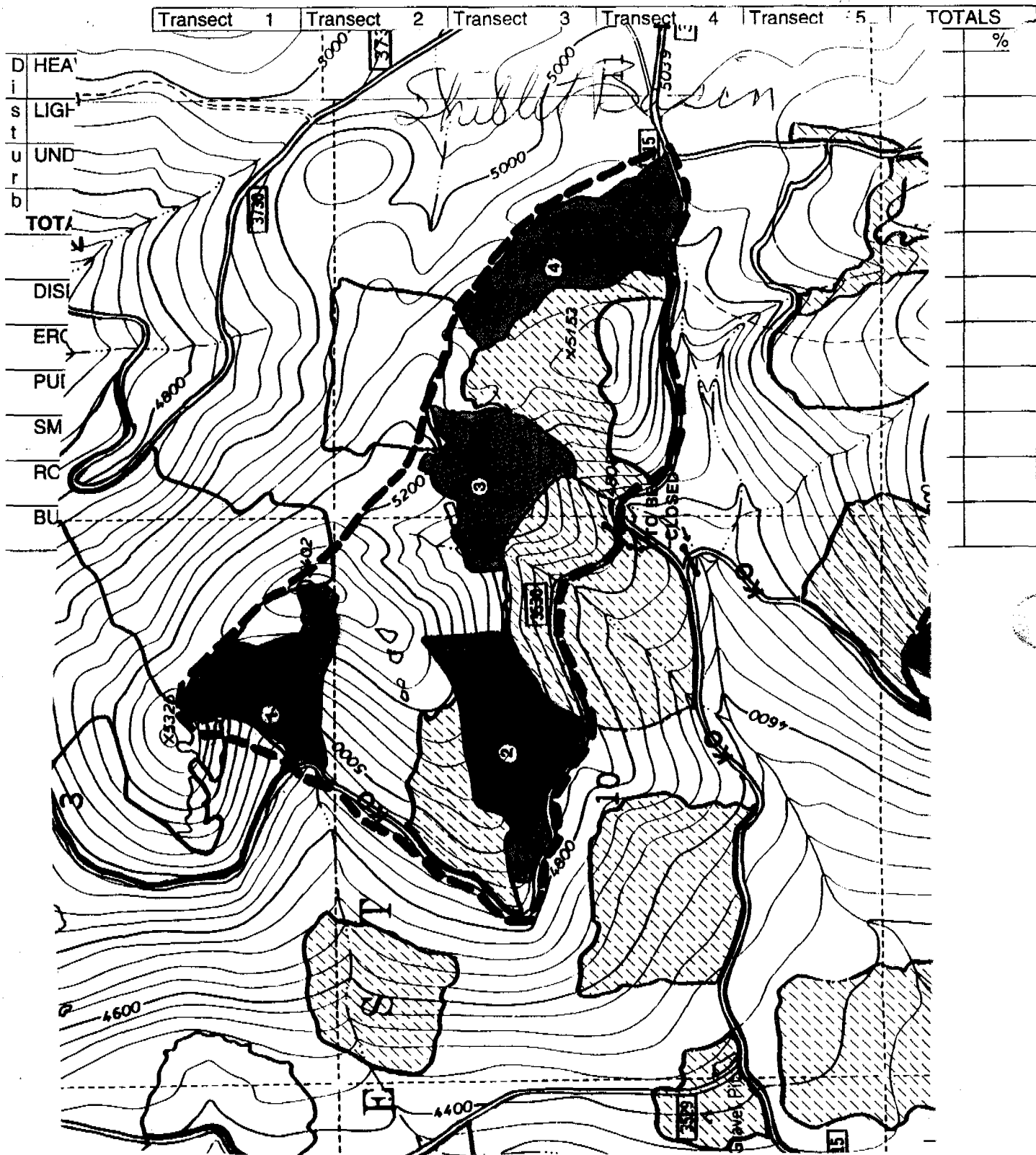
COMMENTS This walk-through was part of a spring planting review. The site had originally been BB for hazard abatement / site prep. Naturalists were slow to come so the hemo was used for site prep. The unit tended to be on a ridge nose, no ash present, high rock content. From the soil + water standpoint the unit looked good.

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











560 06 023

Boundary Mtn - Salvage

03/09/1999  
 Libby - Boundary Mtn Salvage  
 Unit 19  
 56006023

RTS  
 winter

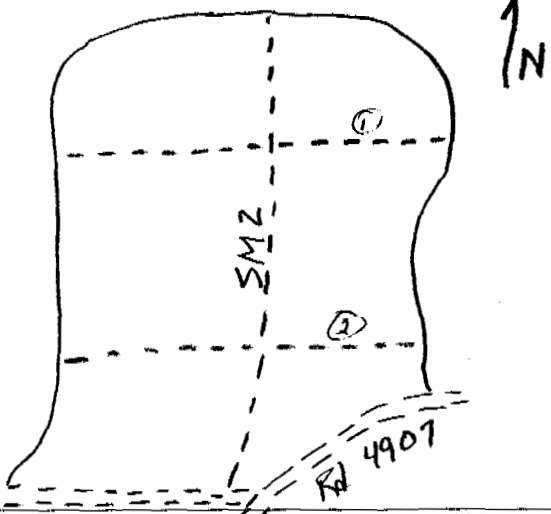
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE May 9, 1999 CUTTING METHOD clipper  
 OBSERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Libby Crowford If tractor: dispersed  dedicated   
 SALE/S.A. Boundary Mtn Salv HAZARD TREATMENT not forested yet  
 Unit # 19 Acres 32 SILVICULTURAL TRMT SD-LP  
 H.T. DF/Lib OPERATION PERIOD Jan-Mar. 1999  
 Slope 45-25 Ele: 3000-3200' Aspect: north  
 Location Lower slope

COMPACTION (Heavy)	<u>Lower</u>	<u>upper</u>	<u>2</u>
			<u>4</u>
COMPACTION (Light)	<u>lower</u> <input checked="" type="checkbox"/>	<u>upper</u> <input checked="" type="checkbox"/>	<u>50</u>
			<u>50</u>
UNDISTURBED	<u>lower</u> <input checked="" type="checkbox"/>	<u>upper</u> <input checked="" type="checkbox"/>	<u>80</u>
			<u>70</u>
DISPLACED	<u>lower</u> <input type="checkbox"/>	<u>upper</u> <input type="checkbox"/>	
EXCAVATED SKID TRAIL			
SMZ/ROCK	<u>lower</u> <input checked="" type="checkbox"/>	<u>upper</u> <input checked="" type="checkbox"/>	<u>20</u>
			<u>18</u>

COMMENTS  
Up hill yarding. Removing deck + down LP. Unit mostly done - weather warming. Unit looks very good.

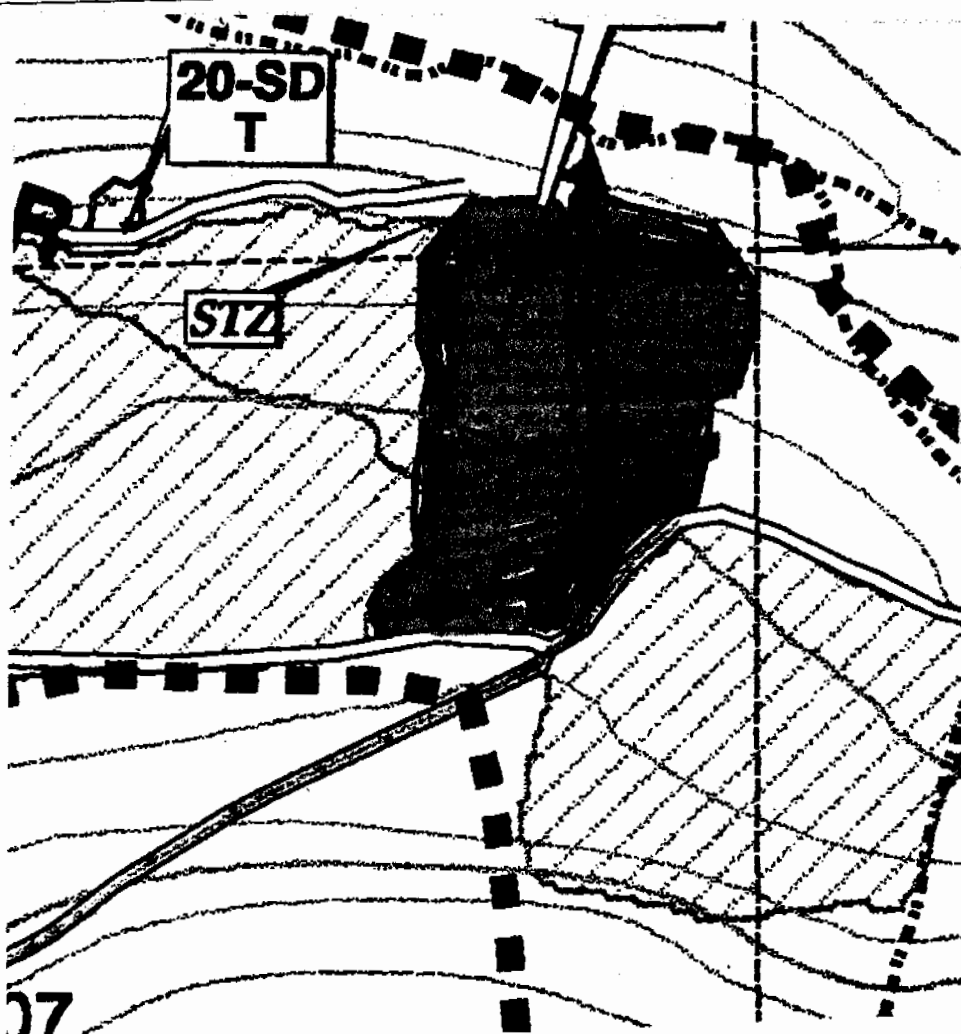
SHAPE OF UNIT AND PATTERN OF TRANSECT



**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.

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	2	1	4	3						6	2
	LIGHT	50	38	50	40						100	39
	UNDISTURB	80	61	70	57						150	59
	<b>TOTALS</b>	132	100	124	100						256	100
	DISPLACED	0	0	0	0						0	0
	EROSION	0	0	0	0						0	0
	PUDDLED	0	0	0	0						0	0
	SMZ	20	15	18	15						38	15
	ROCK	0	0	0	0						0	0
	BURN PILES	0	0	0	0						0	0



Unit 19  
LF





TRANSECT SUMMARY FORM

	<i>lower</i> Transect 1		<i>middle</i> Transect 2		<i>upper</i> Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	20	7	15	5	6	4					41	6
	LIGHT	205	71	206	72	120	72					531	72
	UNDISTURB	62	22	64	23	40	24					166	22
	<b>TOTALS</b>	<b>287</b>	<b>100</b>	<b>285</b>	<b>100</b>	<b>166</b>	<b>100</b>					<b>738</b>	<b>100</b>
	DISPLACED	83	29	71	25	50	30					204	28
	EROSION	0	0	0	0	0	0					0	0
	PUDDLED	0	0	0	0	0	0					0	0
	<del>SMZ</del> leave patch	70	24	45	16	24	14					139	19
	ROCK	0	0	0	0	0	0					0	0
	BURN PILES	0	0	0	0	0	0					0	0



55405106

08/09/1999  
Libby - Bristow Creek Salvage  
Unit 11C  
55405106

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Aug. 9, 1999 CUTTING METHOD Clipper  
OBSERVER Kuennen SKIDDING METHOD stumps processed / forwarder to road  
DISTRICT Libby If tractor: dispersed / dedicated   
SALE/S.A. Bristow Cr. Salv. HAZARD TREATMENT scattered excavator piles (not burned yet)  
Unit # 11C Acres 26 SILVICULTURAL TRMT SD (seed tree w/ leave islands)  
H.T. SAF/Libo-SAF/chr OPERATION PERIOD early summer 1998  
Slope 25-35% Aspect 150°-180° Elevation: 4200-4600  
Location middle

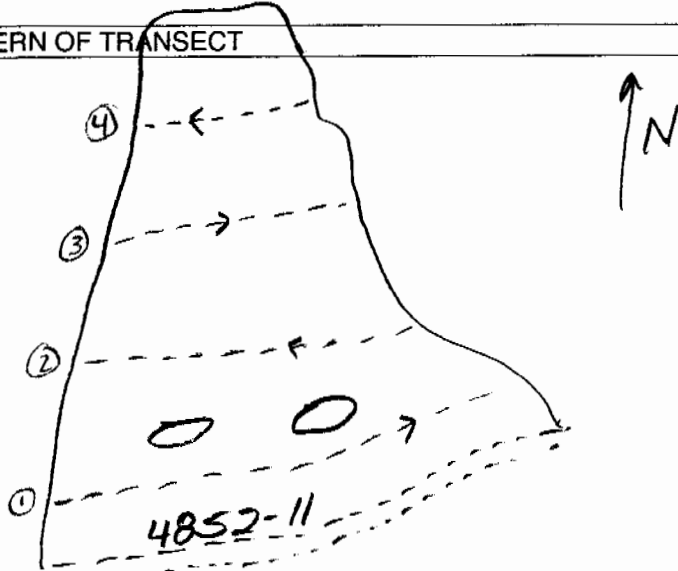
①	COMPACTED (Heavy) <input checked="" type="checkbox"/>	① 1	① 13
②	<input checked="" type="checkbox"/>		③ 6 ④ 3
③	<input checked="" type="checkbox"/>		③ 10
④	COMPACTED (Light) <input checked="" type="checkbox"/>		① 224
⑤	<input checked="" type="checkbox"/>	④ <input checked="" type="checkbox"/>	③ 50 ④ 47
⑥	<input checked="" type="checkbox"/>		② 145
⑦	UNDISTURBED <input checked="" type="checkbox"/>		① 38
⑧	<input checked="" type="checkbox"/>	④ <input checked="" type="checkbox"/>	③ 17 ④ 20
⑨	<input checked="" type="checkbox"/>		② 49
⑩	DISPLACED <input checked="" type="checkbox"/>	④ <input checked="" type="checkbox"/>	① 60
⑪	<input checked="" type="checkbox"/>	④ <input checked="" type="checkbox"/>	③ 20 ④ 15
	EXCAVATED SKID TRAIL		② 47

SMZ/ROCK

COMMENTS Lots of 3" plus left. Stand mostly LPP-- removed all except for several leave islands. Bohrock, Lavalli-- good quantity. Some ash present, generally quite mixed. Lots of angular rock in the surface soil. 5% surface rock. Ash mostly absent. Some excavator piling for hazard treatment. Unit was composed mostly of LPP.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 11C



**COMPACTED (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.

**COMPACTED (Light)** - Any other area not included in heavy COMPACTED or UNDISTURBED.

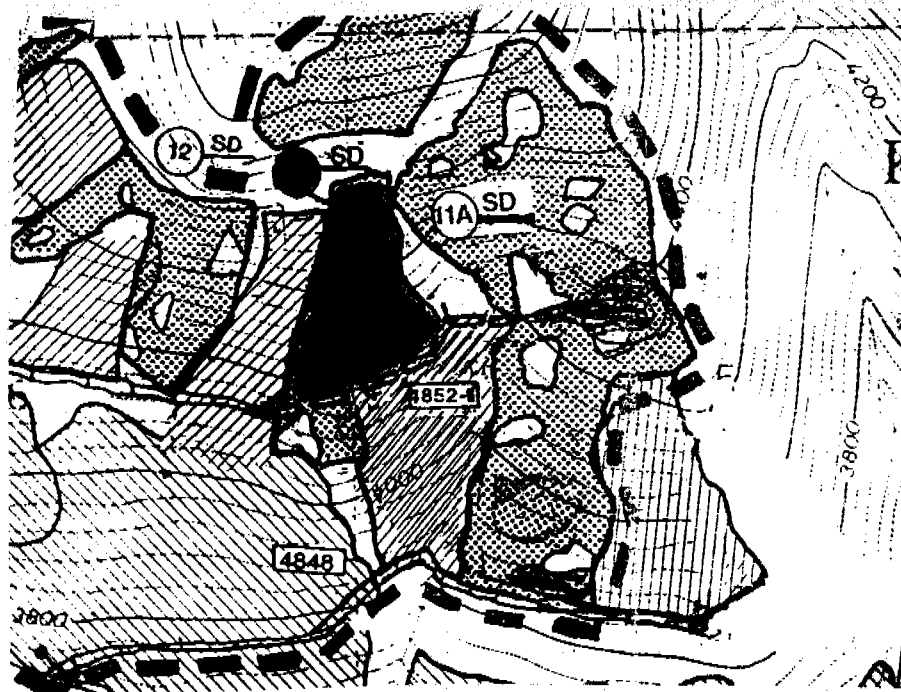
**UNDISTURBED** - No signs of any machinery or skidding activity.

**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	13	5	10	5	6	8	3	4			32	5
	LIGHT	224	81	145	71	50	68	47	67			466	75
	UNDISTURB	38	14	49	24	17	24	20	29			124	20
	<b>TOTALS</b>	<b>275</b>	<b>100</b>	<b>204</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>70</b>	<b>100</b>			<b>622</b>	<b>100</b>
	DISPLACED	60	22	47	23	20	27	15	21			142	23
	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



52101195

09/30/1999  
Libby - Prospect Parmentor  
Unit 46 52101195

Cable

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.30.99 CUTTING METHOD hand, small area clipped  
 OBSERVER Kuennen SKIDDING METHOD cable  
 DISTRICT Libby If tractor: dispersed dedicated   
 SALE/S.A. Prospect-Parmentor/Crowfoot HAZARD TREATMENT To be BB, not done yet  
 Unit # 46 Acres 11 SILVICULTURAL TRMT LTM  
 H.T. GF/ Xete/ Pachistima OPERATION PERIOD July 1999  
 Slope 40-60% (50) Aspect: ESE  
 Location mid slope Ele: 4100-4400  
 COMPACTION (Heavy) \_\_\_\_\_ 0

COMPACTION (Light)    \_\_\_\_\_ 40

UNDISTURBED                    \_\_\_\_\_ 240

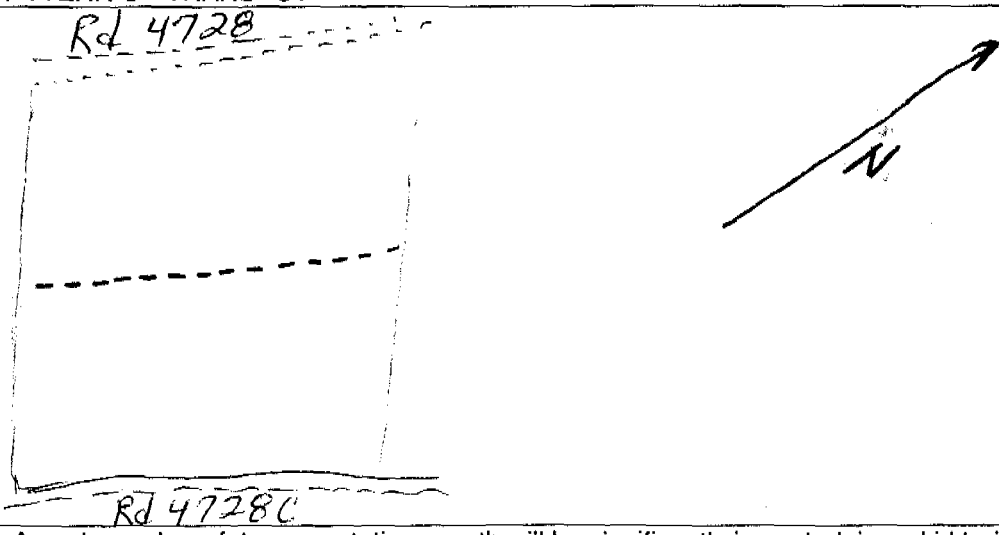
DISPLACED  \_\_\_\_\_ 8

EXCAVATED SKID TRAIL  \_\_\_\_\_

SMZ/ROCK  \_\_\_\_\_

COMMENTS Excavator fireline - width of bucket, w/b putting volcanic ash mixed in soil. On scraped slopes - lots of angular rock 50-70%; also deep till deposits. Cable corridors, some depressions created in several corridors. Several apparent "kettles" in northern part of unit.

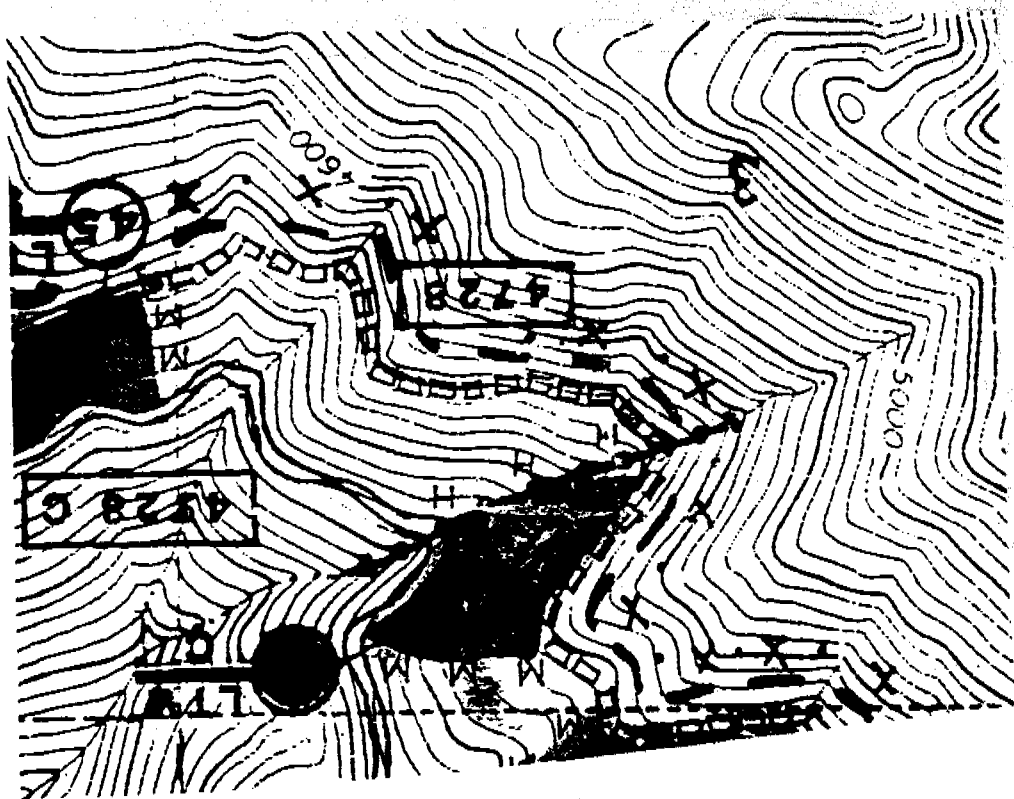
SHAPE OF UNIT AND PATTERN OF TRANSECT



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**COMPACTION (Light)** - Any other area not included in heavy COMPACTION or UNDISTURBED.  
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### TRANSECT SUMMARY FORM

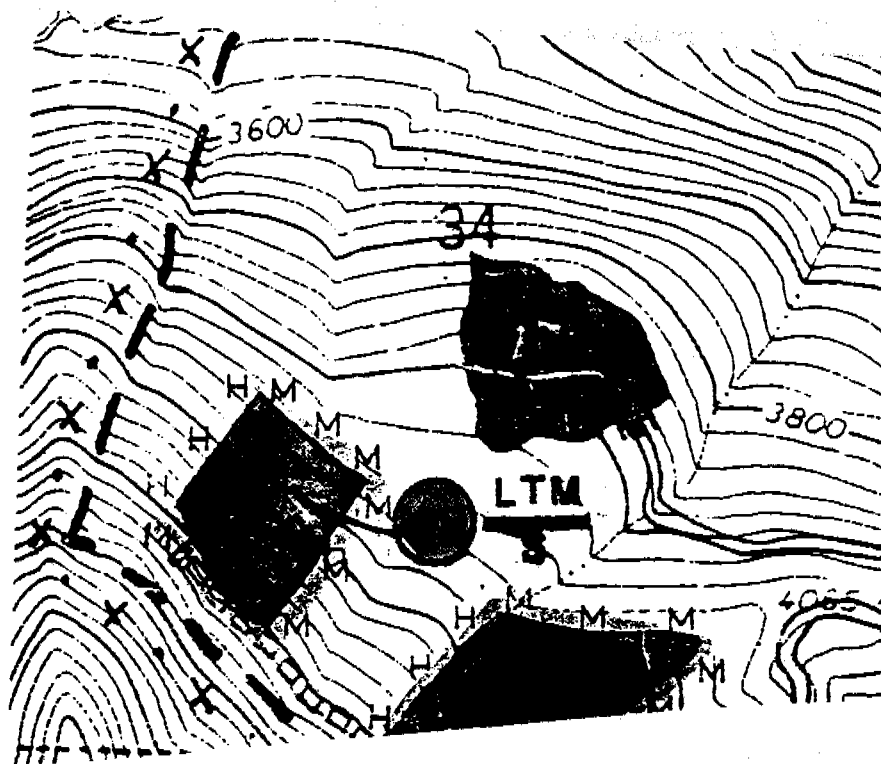
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	0	0									
	LIGHT	40	14									
	UNDISTURB	240	86									
	<b>TOTALS</b>	<b>280</b>	<b>100</b>									
	DISPLACED	8	3									
	EROSION	0	0									
	PUDDLED	0	0									
	SMZ	0	0									
	ROCK	0	0									
	BURN PILES	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	5	2									
	LIGHT	20	10									
	UNDISTURB	185	88									
	TOTALS	210	100									
	DISPLACED	8	4									
	EROSION	0	0									
	PUDDLED	0	0									
	SMZ	0	0									
	ROCK	0	0									
	BURN PILES	0	0									



55903017

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

10/05/1999  
Libby - Cripplehorse Salvage  
Unit 4A  
55903017

DATE 10-5-99

CUTTING METHOD Clipper-feller buncher

OBSERVER Kuennen

SKIDDING METHOD RTS Delicately, some crawler

DISTRICT Libby

HAZARD TREATMENT whole tree yard - left as is

SALE Cripplehorse Salvage <sup>Farmer</sup>  
Unit/No. 4A Acres: 13

SILVICULTURAL TREATMENT SD/remove dead + down

Slope: 10-30% Elevation: 5500-5700  
Aspect: ESE Locations: upper slope H.T.: DF/Kam  
COMPACTION(Heavy): \_\_\_\_\_

OPERATION PERIOD NOV. 1998

COMPACTION(Light)     \_\_\_\_\_ 50

UNDISTURBED     \_\_\_\_\_ 58

DISPLACED 0

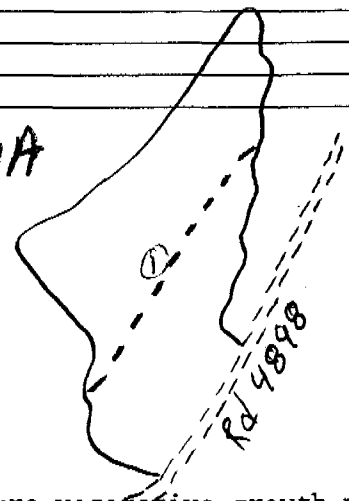
EXCAVATED SKID TRAIL 0

SMZ 0

COMMENTS Operations look good.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 4A



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.

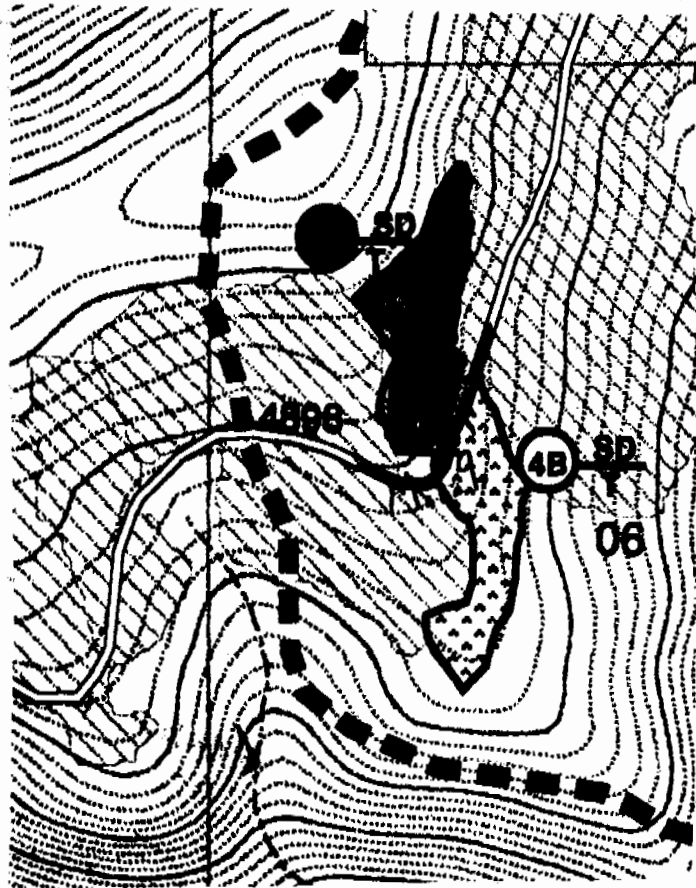
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

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	2	2								2	2
	LIGHT	50	45								50	45
	UNDISTURB	58	53								58	53
	<b>TOTALS</b>	<b>110</b>	<b>100</b>								<b>110</b>	<b>100</b>
	DISPLACED	0	0								0	0
	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



55903039

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

10/05/1999  
Libby - Cripplehorse Salvage  
Unit 5  
55903039

DATE 10.5.99

CUTTING METHOD clipper pre-bunched w/ excavator

OBSERVER Kuennen

SKIDDING METHOD RTS, some dozer

DISTRICT Libby

HAZARD TREATMENT whole tree yard - left as is

SALE Cripplehorse Salvage  
Unit/No. 5 Acres: 36 A.

SILVICULTURAL TREATMENT SD/removed dead + down.

Aspect: WSW upper slope

OPERATION PERIOD NOV. 1998

Elevation: 5500-5800 H.T.: SAF/Vasc -> DF/Caru (near R.O.) Slope: 25-40

COMPACTION (Heavy)   18

COMPACTION (Light)        73

UNDISTURBED             140

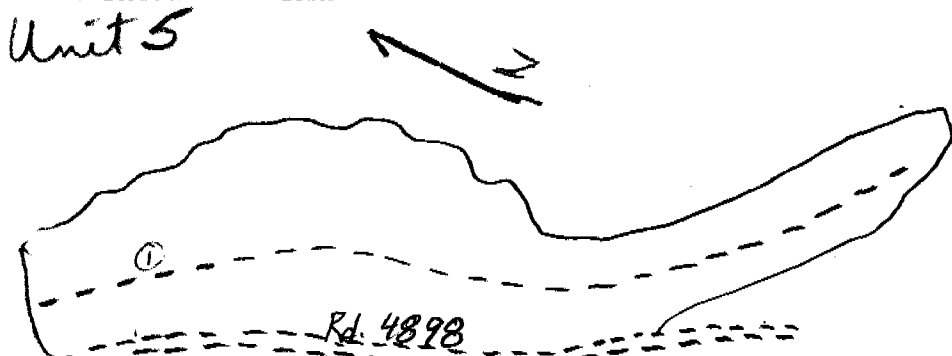
DISPLACED   Erosion! 18/3

EXCAVATED SKID TRAIL

SMZ

COMMENTS Salvage of standing + down LPP amongst SAF regen w/ WL 4ES in the overstory. Ledge rock exposed throughout unit. 8-12" ash present mixed w/ lots of surface rocks. Area had been salvaged previously (don't see any past disturbance). Appears operation occurred when soils wet. Land form broken + bench. Salvage of dead + down LPP. Appears that some salvage of LPP had occurred ~10 years ago. Did not see any impacts from that operation.

SHAPE OF UNIT AND PATTERN OF TRANSECT



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UNDISTURBED - no signs of any machinery or skidding activity.

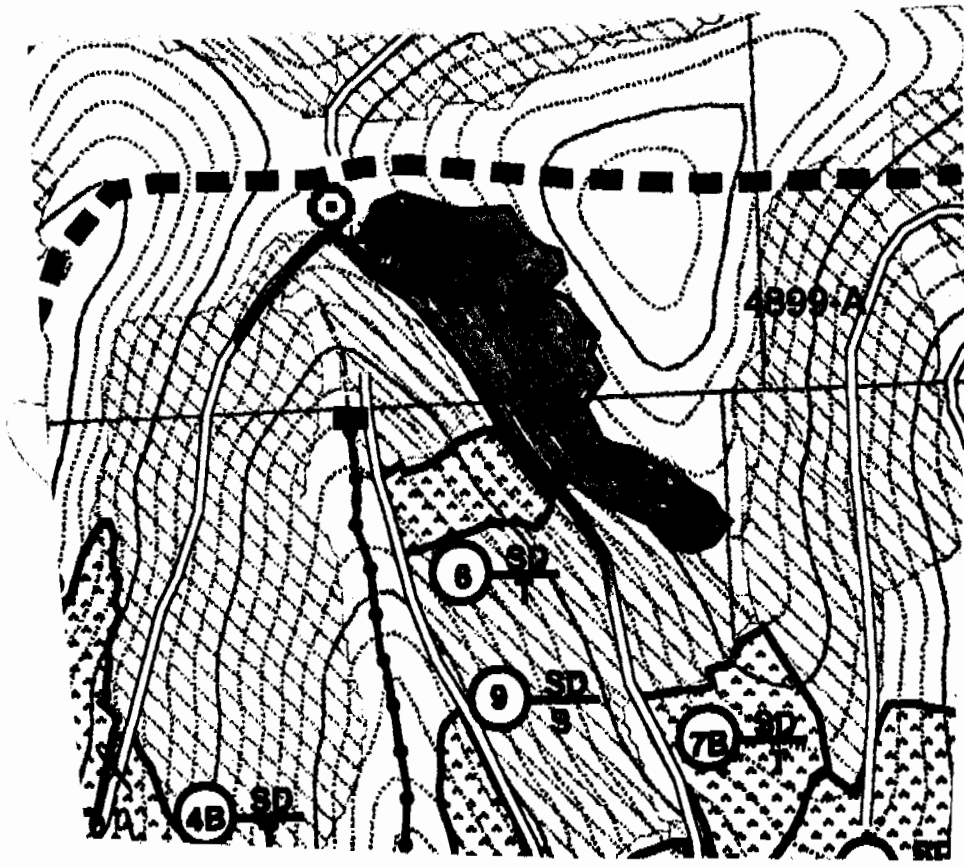
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

TRANSECT SUMMARY FORM

"old"

	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	18	8							0	0	18	8
	LIGHT	73	32							0	0	73	32
	UNDISTURB	140	60							0	0	140	60
	<b>TOTALS</b>	<b>231</b>	<b>100</b>							<b>0</b>	<b>0</b>	<b>231</b>	<b>100</b>
	DISPLACED	18	8									18	8
	EROSION	3	1									3	1
	PUDDLED	0	0									0	0
	SMZ	0	0									0	0
	ROCK	0	0									0	0
	BURN PILES	0	0									0	0



58001018

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

10/05/1999  
Libby - Weigel Creek Salvage  
Unit 9  
58001018

DATE 10.5.99

CUTTING METHOD hand - blow down area

OBSERVER Kuenen

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD TREATMENT Generator piles + burned

SALE Weigel Salvage Farmer.  
Unit No. 9 Acres: 8

SILVICULTURAL TREATMENT SD

Aspect: NE slope: 2-10  
Elev.: 5050-5100' Location: upper slope

OPERATION PERIOD Sept. 1998

H.T.: SAF/WL + ES

lower COMPACTATION (Heavy)    30

upper  13

lower COMPACTATION (Light)              130

upper     81

lower UNDISTURBED   18

upper   32

DISPLACED   19

② U 7

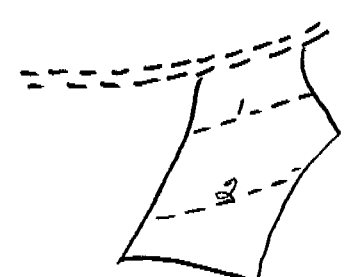
EXCAVATED SKID TRAIL NA

SMZ Piles  L 16

COMMENTS Deep ash over very dense till. Area is very wet. Overstory in adjacent stands is WL + ES. Mostly SAF reproducing, 3-4" duff, CWD low light. Soil near saturation. Good charcoal layer at soil surface. Lots of tree tips. Lots of natural displacement due to wind throw. Lots of logging - area wet year round. Logging. Some of the detrimental is associated w/ pile areas adjacent to the unit.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 9

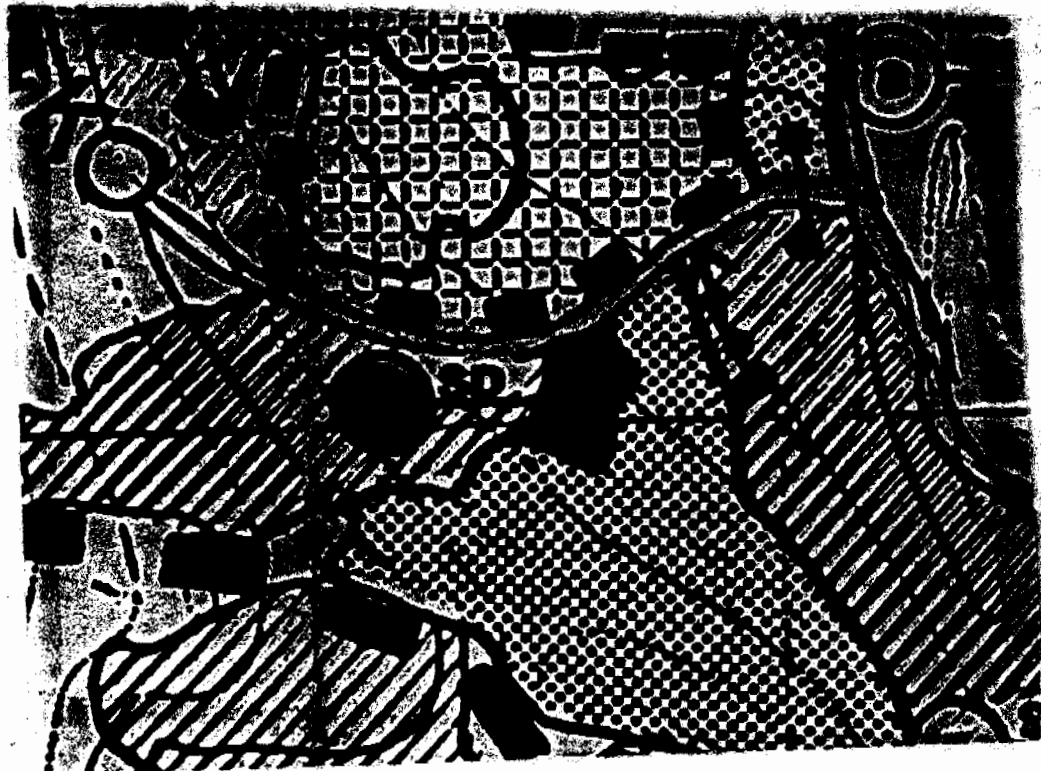


- COMPACTATION (Heavy) - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
- COMPACTATION (Light) - any other area not included in heavy COMPACTATION 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

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	30	17	13	10						43	14
	LIGHT	130	73	81	64						211	69
	UNDISTURB	18	10	32	26						50	17
b	TOTALS	178	100	126	100						304	100
	DISPLACED	19	11	7	6						26	9
	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	16	9	0	0						16	5



58001026

10/05/1999  
Libby - Jet A Helicopter Salvage  
Unit 7  
58001026

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 10.5.99

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD Helicopter

DISTRICT Libby Farmer

HAZARD TREATMENT BB - Fall 99; excavator line w/ throw back

SALE Jet A Helicopter Salvage  
Unit No. 7

SILVICULTURAL TREATMENT SD

Acres 8

OPERATION PERIOD Sept. 1997

Habitat Type SAF/Chun/Mate  
Slope: upper 10-20; lower 25

Elevation: 5050 - 5150  
Aspect: westerly

COMPACTON (Heavy) Trans. 1 0

Trans. 2 0

Trans. 3 33

COMPACTON (Light) Trans. 1 25

Trans. 2 25

Trans. 3 202

UNDISTURBED Trans. 1 154

Trans. 2 154

Trans. 3 0

DISPLACED 0

EXCAVATED SKID TRAIL NA

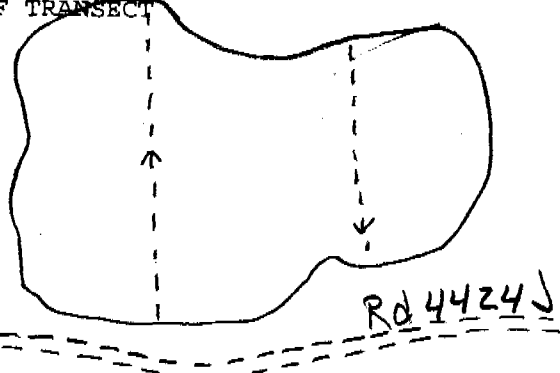
SMZ NA

COMMENTS Excavator peline w/ throw back. Sale because of wind throw. BB looks very good lots of LWD. Displacement has occurred as a result of wind throw. Salvage of dead + down LPP.

BB occurred about a week before transecting. Very good burn; needles + twigs removed w/ light charring of O2 (duff) horizon.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 7



COMPACTON (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.

COMPACTON (Light) - any other area not included in heavy COMPACTON or UNDISTURBED.

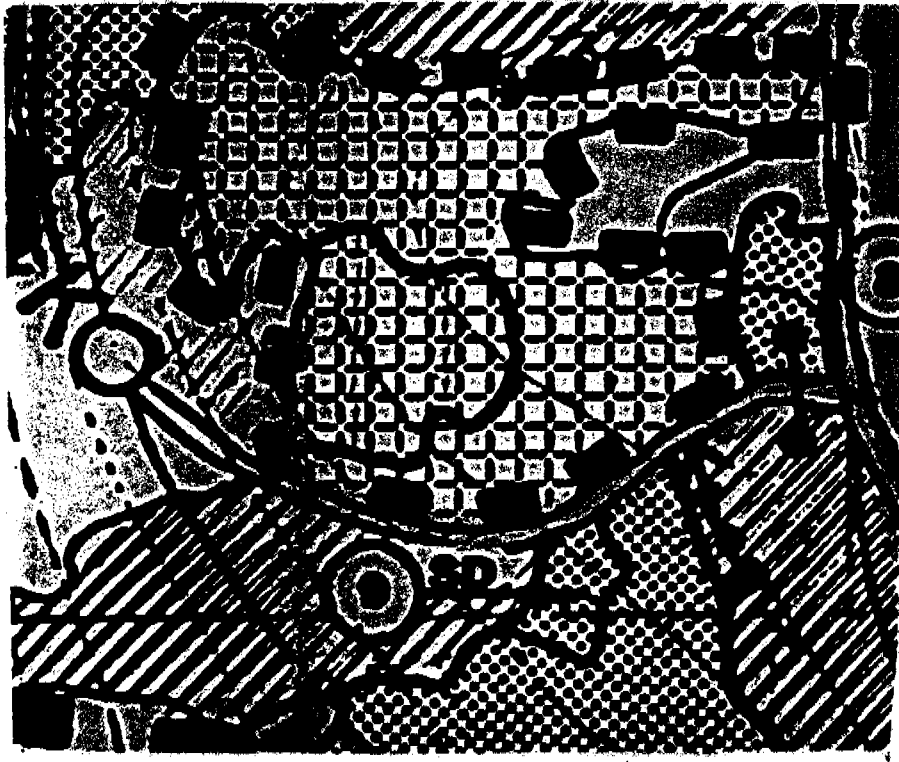
UNDISTURBED - no signs of any machinery or skidding activity.

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 2</i> Transect 2		<i>upper 1</i> Transect 3		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D HEAVY	0	0	0	0							0	0
s LIGHT	25	14	33	14							58	14
u UNDISTURB	154	86	202	86							356	86
r												
b												
TOTALS	179	100	235	100							414	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

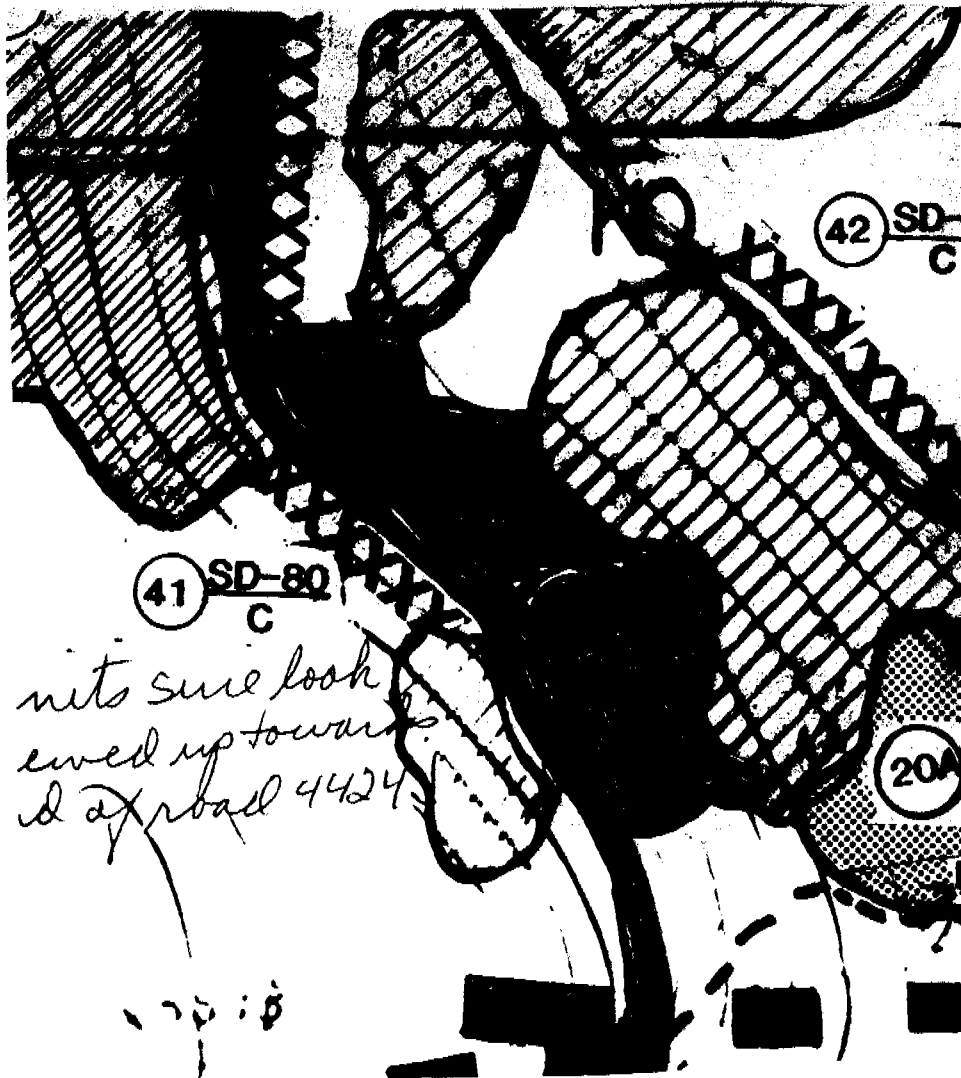






TRANSECT SUMMARY FORM

	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	13	2								13	2
	LIGHT	144	27								144	27
	UNDISTURB	380	71								380	71
	<b>TOTALS</b>	<b>537</b>	<b>100</b>								<b>537</b>	<b>100</b>
	DISPLACED	0	0								0	0
	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



55701091

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

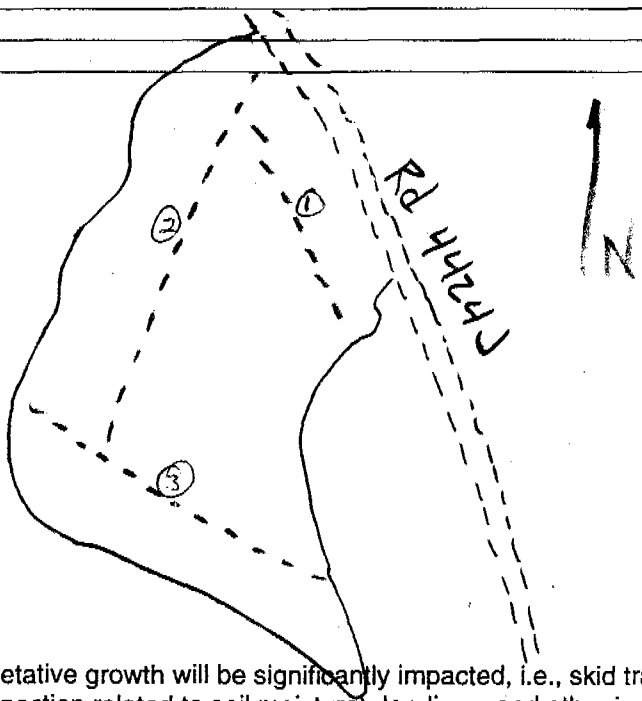
DATE 10.5.99 CUTTING METHOD clipper  
 OPERATOR Kuennen SKIDDING METHOD Crawler tractor  
 DISTRICT Libby McBride If tractor: dispersed dedicated  
 SALE/S.A. Upper Fivemile Salvage HAZARD TREATMENT BB Fall 1999 Excavator line w/thrower  
 Unit # 297 Acres 6 SILVICULTURAL TREATMENT SD/LPP  
 H.T. SAF/Vacc - Libo OPERATION PERIOD August 1997  
 Slope 5-15 w/ several rock bluffs Location: ridge top Aspect: ENE  
 COMPACTION (Heavy) L

COMPACTION (Light)	<input checked="" type="checkbox"/>	4
Middle	<input checked="" type="checkbox"/>	6
DISPLACED	<input checked="" type="checkbox"/>	3
UNDISTURBED	<input checked="" type="checkbox"/>	30
	<input checked="" type="checkbox"/>	40
	<input checked="" type="checkbox"/>	40
	<input checked="" type="checkbox"/>	170
	<input checked="" type="checkbox"/>	160
	<input checked="" type="checkbox"/>	110
	<input checked="" type="checkbox"/>	5
EXCAVATED SKID TRAIL	<input type="checkbox"/>	8/13
SMZ/ROCK	<input type="checkbox"/>	

COMMENTS 8-12" ash over till w/ occasional residual. Area underlain by  
bedrock. 7-10 T of CWD. Landings about 1/2 ft at end of road

B prior to transecting; looks very good - removal of needles  
w/ps w/ churning of O2. Sufficient CWD left.

SHAPE OF UNIT AND PATTERN OF TRANSECT

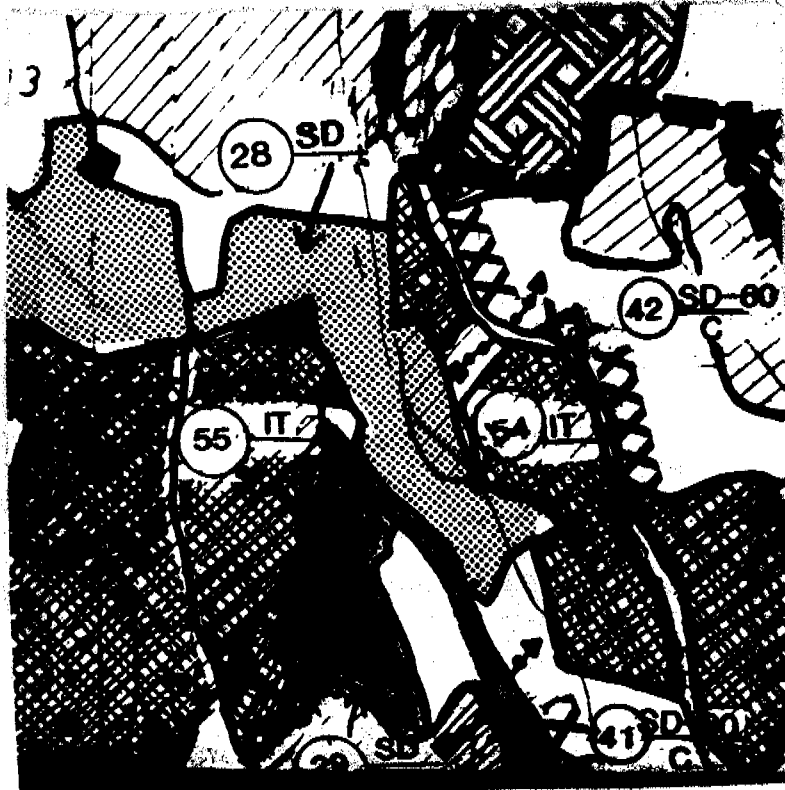


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 COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.  
 UNDISTURBED - No signs of any machinery or skidding activity.  
 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.

TRANSECT SUMMARY FORM

Lower<sup>(1)</sup> Middle<sup>(2)</sup> Upper<sup>(3)</sup>

	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	3	2	6	3	4	2					13	2
	LIGHT	40	26	40	19	30	15					110	20
	UNDISTURB	110	72	160	78	170	83					440	78
	<b>TOTALS</b>	<b>153</b>	<b>100</b>	<b>206</b>	<b>100</b>	<b>204</b>	<b>100</b>					<b>563</b>	<b>100</b>
	DISPLACED	13	8	8	4	5	2					26	5
	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



704 06 24

# Fork Fork

07/02/1999  
Libby - Fork Fork Salvage  
Unit 1  
70406024

## KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE July 2, 1999 CUTTING METHOD clipper  
 OBSERVER R. Nelson SKIDDING METHOD RTS  
 DISTRICT Cabinet If tractor: dispersed            dedicated X  
 SALE/S.A. Fork Fork Salvage Hill HAZARD TREATMENT BB - not done yet  
 Unit # 1 Acres 36 SILVICULTURAL TRMT LTM  
 H.T. w/# RC/Clun OPERATION PERIOD Early summer May-June  
 Slope 0-140% Elev: 2500 - 2700 Aspect: southwest  
 Location valley bottom

COMPACTED (Heavy)  17  
 10

COMPACTED (Light)  190  
 170

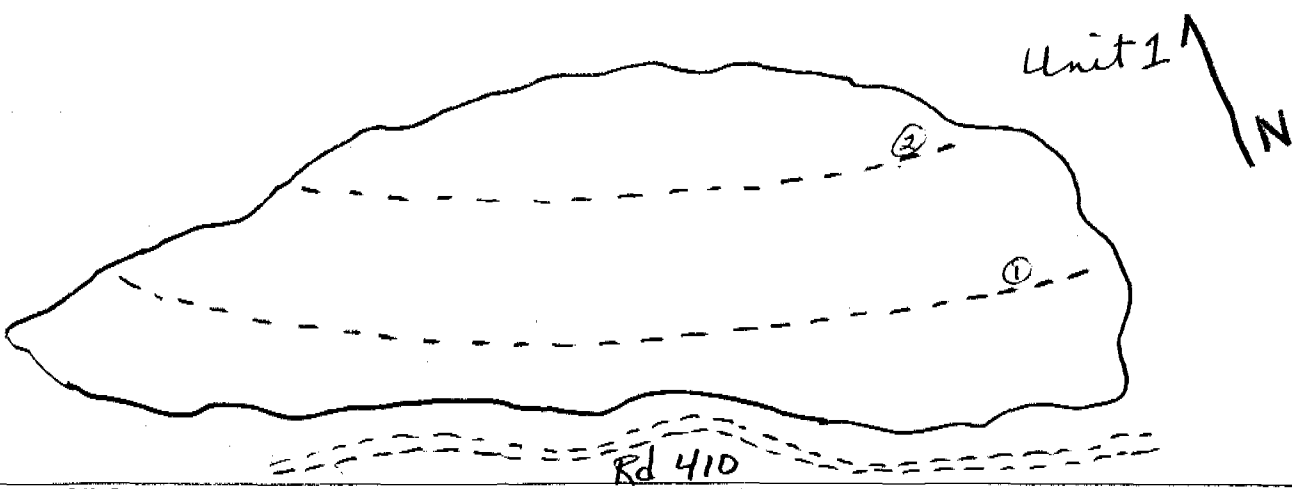
UNDISTURBED  190  
 180

DISPLACED  5  
 7

EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS  
The unit generally looks good. The layout of the unit provided a need for an excavated trail along S edge of unit

### SHAPE OF UNIT AND PATTERN OF TRANSECT



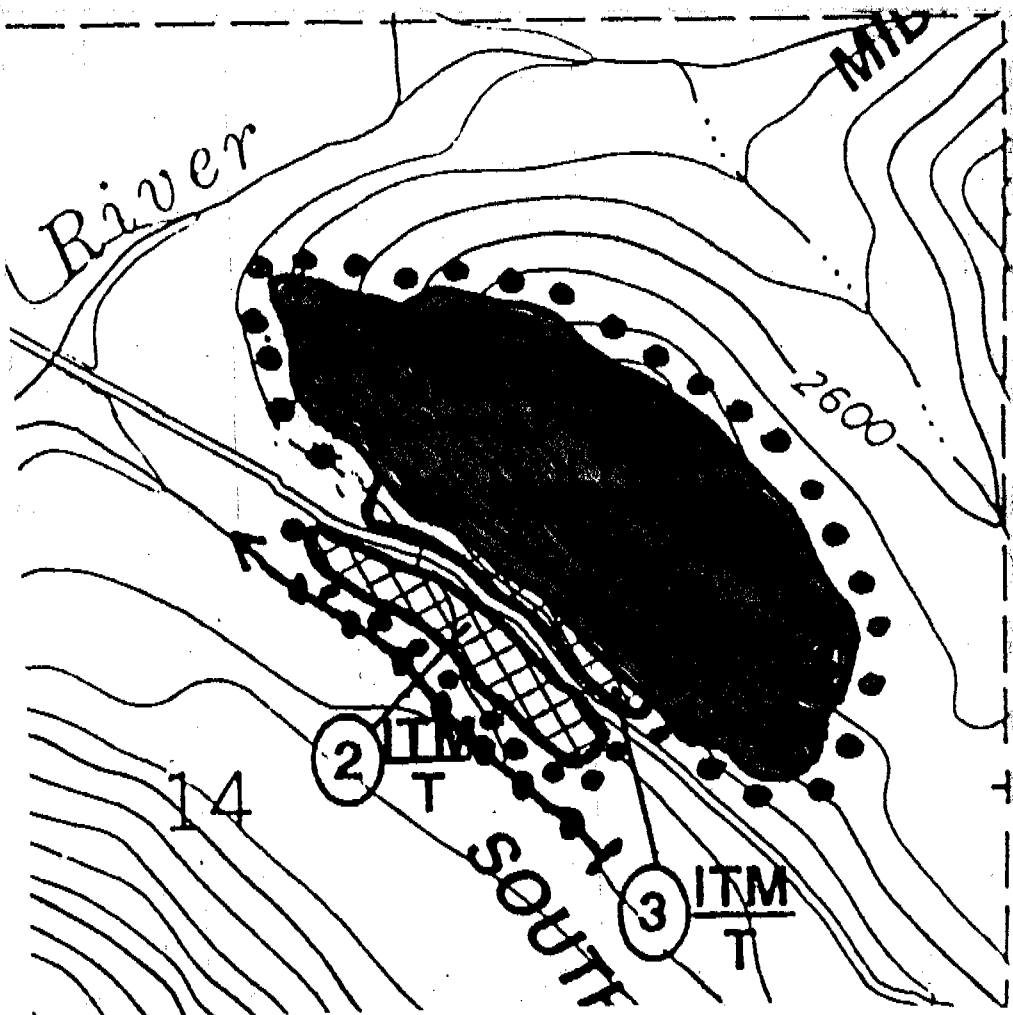
COMPACTED (Heavy) - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
 COMPACTED (Light) - Any other area not included in heavy COMPACTED 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

*lower south*

*upper north*

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Disturbance	HEAVY	17	4	10	3						27	4.5
	LIGHT	190	48	170	47						360	47.5
	UNDISTURB	190	48	180	50						370	49
<b>TOTALS</b>		397	100	360	100						757	100
DISPLACED		5	1	7	2						12	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



704 08 03

Berray Mtn. Helicopter Re-ad

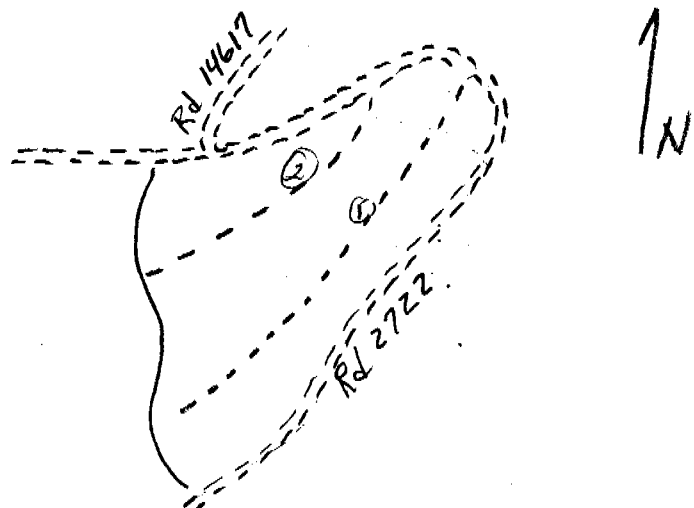
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

07/22/1999  
Libby - Berray Mountain  
Unit 2 70408003

DATE 7/22/99 CUTTING METHOD hand  
 OBSERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Cabinet If tractor: dispersed dedicated   
 SALE/S.A. Berray Mt. (Hill) HAZARD TREATMENT not treated yet  
 Unit # 2 Acres 8 SILVICULTURAL TRMT seed tree  
 H.T. WH/Chen (bottom), DE/Phon (hillside) OPERATION PERIOD July 1999  
 Slope L5-30 Ele: 2400-2500'  
 Location slope bottom  
 COMPACTION (Heavy) lower  16 Old: lower  9  
upper  7 upper  5  
 COMPACTION (Light) lower         100  
upper    40  
 UNDISTURBED lower    40  
upper     60  
 DISPLACED lower  12  
upper  6  
 EXCAVATED SKID TRAIL lower  9  
upper  5  
 SMZ/ROCK

COMMENTS  
 There are old skid trails w/ the unit. These old trails show no signs of erosion + do not need any waterbars. NE portion of unit has 15-20 percent of cobbles + stones on the surface. Landing areas in southern part of unit needs some ripping.  
 10% of the detrimental disturbance observed over 60% is from past logging activities.

SHAPE OF UNIT AND PATTERN OF TRANSECT



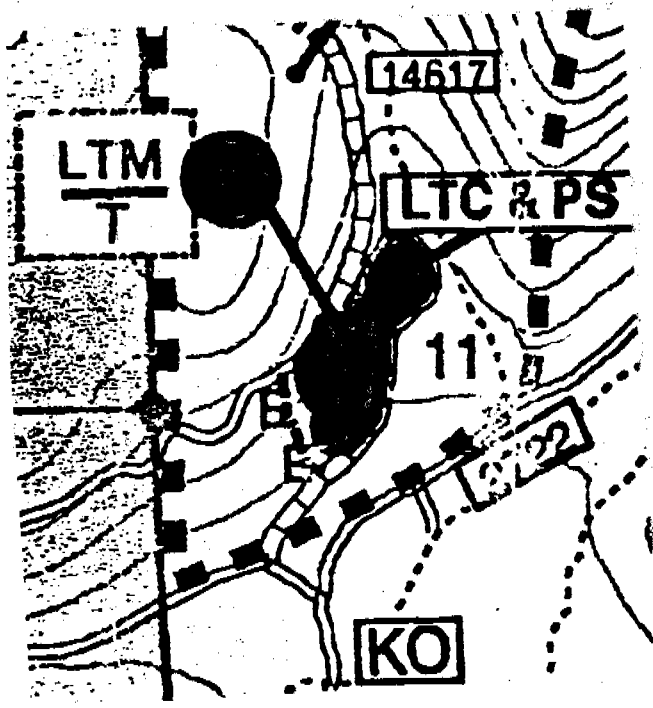
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 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.  
 SMZ - Include within transect if within harvest unit

TRANSECT SUMMARY FORM

*lower* *upper* *lower* *upper*  
*old trail* *old trail*

	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	16	10	7	6			9	6	5	5	23	9
	LIGHT	100	64	40	37							140	53
	UNDISTURB	40	26	60	56							100	38
	<b>TOTALS</b>	<b>156</b>	<b>100</b>	<b>107</b>	<b>100</b>							<b>263</b>	<b>100</b>
	DISPLACED	12	8	6	6							18	9
	<del>EROSION</del>	9	6	5	5							14	5
	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

*excavated trail*



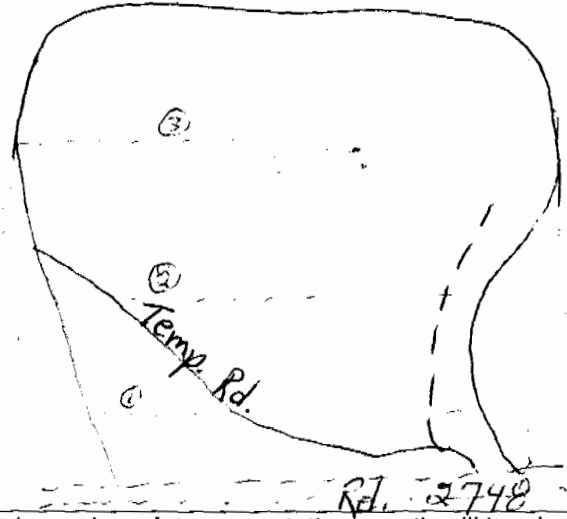
713 04 062

Smeads-Rice  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9.29.99 CUTTING METHOD clipper + hand  
 SERVER Kuennen SKIDDING METHOD RTS  
 DISTRICT Cabinet If tractor: dispersed  dedicated   
 SALE/S.A. Smeads Rice HAZARD TREATMENT not treated yet  
 Unit # 62 Acres 12 SILVICULTURAL TRMT IT  
 H.T. GF/goldthread - WRC OPERATION PERIOD Sept. 1999  
 Slope 25-40 Aspect: East  
 Location mid slope Ele: 2750 - 3050'  
 COMPACTION (Heavy) upper:  10  
 middle:  8  
 lower:  10  
 COMPACTION (Light) upper:  10.5  
 middle:  10.2  
 lower:  10.3  
 UNDISTURBED upper:  12.4  
 middle:  90  
 lower:  70  
 DISPLACED upper:  13  
 middle:  18 20  
 lower:   
 EXCAVATED SKID TRAIL middle:  8  
 lower:  12  
 SMZ/ROCK \_\_\_\_\_

COMMENTS Excavated trail put to bed. 6-10" volcanic ash over residual.

SHAPE OF UNIT AND PATTERN OF TRANSECT



unit 62

Rd. 2748

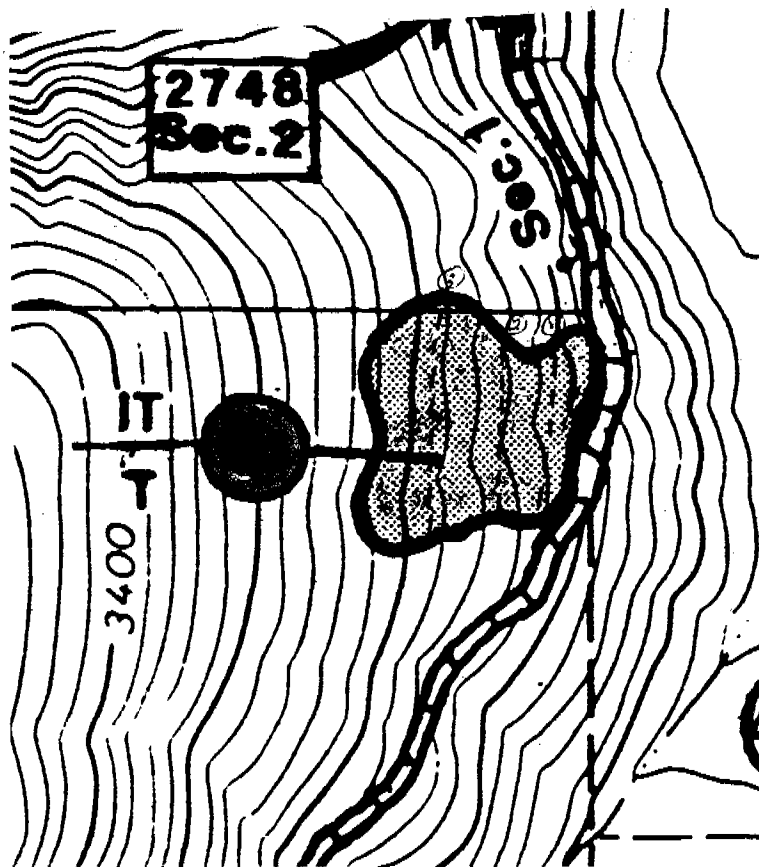
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 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.  
 - if within harvest unit.



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	10	6	8	4	10	4					28	4.5
	LIGHT	103	56	102	51	105	44					310	50
	UNDISTURB	70	38	90	45	124	52					284	45.5
	<b>TOTALS</b>	183	100	200	100	239	100					622	100
	DISPLACED	20	11	18	9	13	5					51	8
	<del>EXPOSED</del> <i>Excavated</i> PUDDLED	12	7	8	4	0	0					20	3
	SMZ	0	0	0	0	0	0						
	ROCK	0	0	0	0	0	0						
	BURN PILES	0	0	0	0	0	0						



713 04 067 Smeads-Rice

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

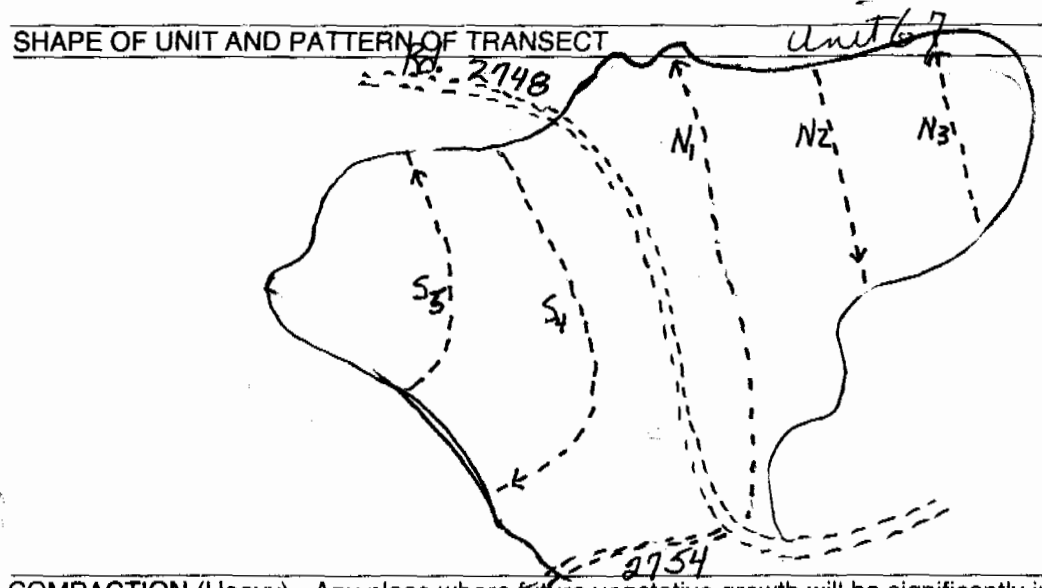
DATE 9/29/99 CUTTING METHOD clipper  
 OBSERVER Kulennen SKIDDING METHOD RT3  
 DISTRICT Cabinet If tractor: dispersed dedicated  
 SALE/S.A. Smeads-Rice Hill HAZARD TREATMENT not treated yet  
 Unit # 67 Acres 20 SILVICULTURAL TRMT LTM  
 H.T. DF/Phma → GF- OPERATION PERIOD Sept. 1999  
 Slope north-25-15; south-15-40 Aspect: North of Rd - Easterly, southerly, westerly  
 Location mid slope Elevation: 3250-3500' South of Rd - northerly

Category	Sub-category	Count
COMPACTION (Heavy)	N1	19
	N2	8
	N3	11
	S4	21
	S5	13
COMPACTION (Light)	N1	240
	N2	101
	N3	150
	S4	160
	S5	127
UNDISTURBED	N1	28
	N2	23
	N3	30
	S4	50
	S5	30
DISPLACED	N1	9
	N2	10
	N3	3
	S4	30
	S5	20
EXCAVATED SKID TRAIL		0

SMZ/ROCK 0

COMMENTS  
 12 Transect 1 parallel road to the north - very gentle slope (<10), deep ash, WRC/Libo/Kete  
 13 Transect 2 across where unit narrows, ash less deep, 25-15% slope  
 14 Transect across upper part of north side, good ash, 2-10% slope GF/Penny/Kete  
 15 1/2 Rd to the south, 25-40% slope, a lot more displacement  
 16 upper part of slope south, 2-20% slope, ash not as deep as north, angular rock closer to surface.

Lots of organic debris on gd., Very little 7.5" debris, adequate 3-5" CWD

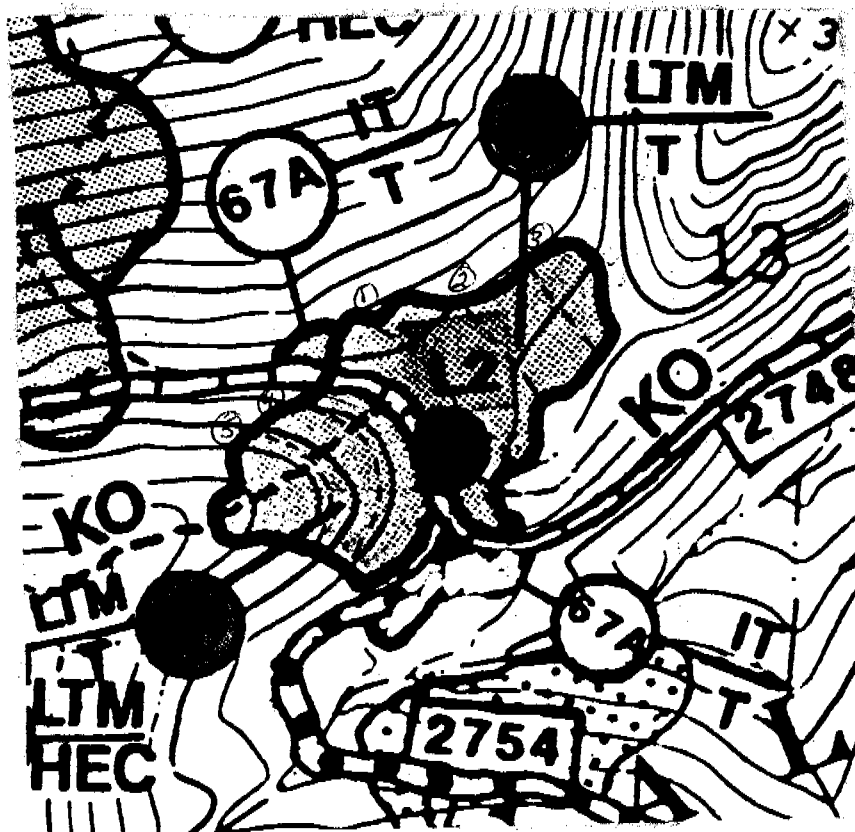


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 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.

TRANSECT SUMMARY FORM

N1 N2 N3 N4 N5

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED	9	3	10	8	3	1	30	13	20	12	72	7
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
HEAVY	19	7	8	6	11	6	21	9	13	8	72	7
LIGHT	240	83	101	77	150	78	160	69	127	75	778	77
UNDISTURB	28	10	23	17	30	16	50	22	30	17	161	16
TOTALS	287	100	132	100	191	100	231	100	170	100	1011	100



13101111

~~Wash Through~~

07/28/1999  
Rexford - Middle Fork Pest Control  
Unit 6  
13101111  
RTS

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

TE 7/28/99  
 SERVER Kuennen  
 DISTRICT Rexford  
 SALE/S.A. Middle Fork P.C.  
 Unit # 6 Acres 32  
 H.T. SAF/Vasc  
 Slope 10-35 SSW  
 Location upper slope  
 COMPACTON (Heavy) 6-8" ash Ravalli quartzite

CUTTING METHOD hand  
 SKIDDING METHOD RTS  
 If tractor: dispersed dedicated

HAZARD TREATMENT BB: fall '97  
 SILVICULTURAL TRMT seed tree SD  
 OPERATION PERIOD summer 1992

COMPACTON (Light)

UNDISTURBED

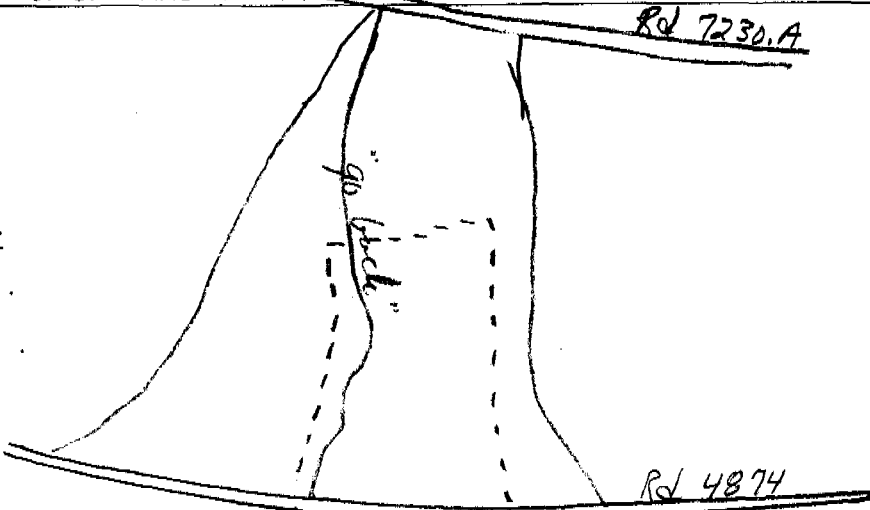
DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Lots of surface rock -- upwards of 50% in upper part of unit.  
 Firelines look good -- built by excavator. Water bars used -- there had been water running in the firelines not all the water bars would have carried water far enough to keep from coming back onto firelines.  
 Only real obvious trail is the "go back". Displacement occurred water was carried in wheel tracks -- there could have been more water bars. The yarding tracks were very hard to detect. They could be picked up because of noxious weeds found on unit.  
 13" + CWP very minimal. Unit probably burned too hot since there are no surface organics (fines) left.

SHAPE OF UNIT AND PATTERN OF TRANSECT

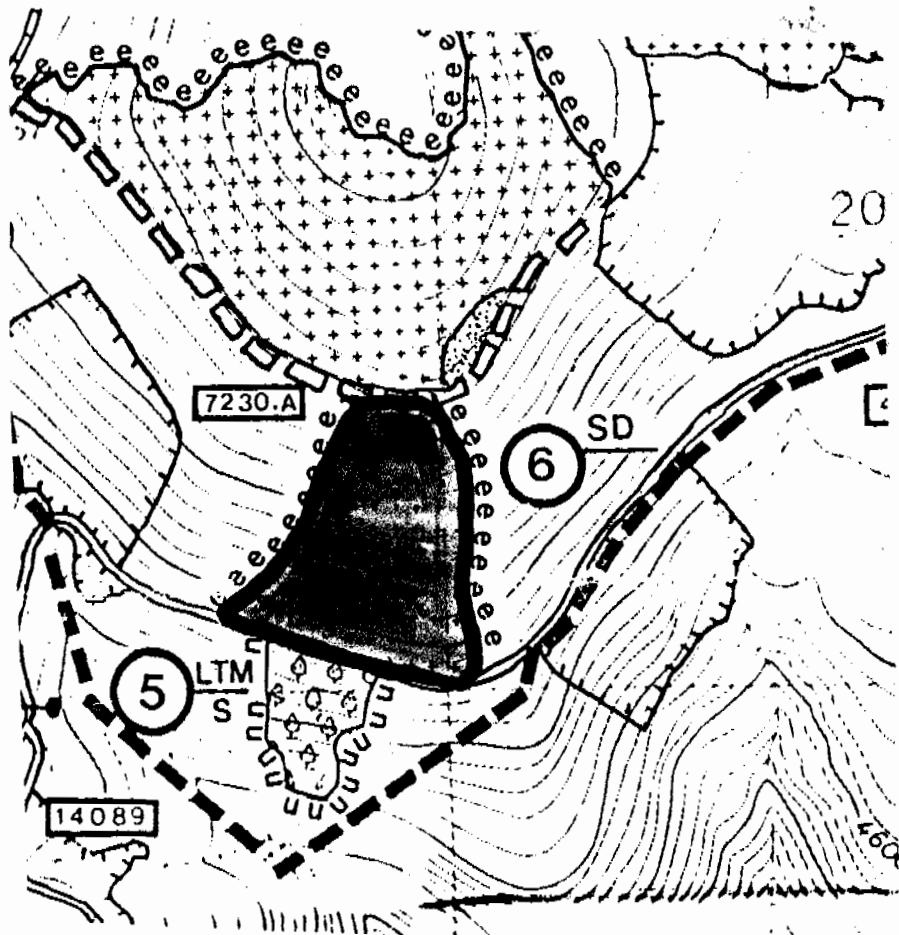


In general the unit looks good, < 5% detrimental disturbance.

COMPACTON (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.  
 COMPACTON (Light) - Any other area not included in heavy COMPACTON 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.

### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



131 01 117

# Walk Through

07/28/1999  
Rexford - Middle Fork Pest Control  
Unit 22  
13101117  
RTS

## KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE 7/28/99 CUTTING METHOD clipper  
 OBSERVER Kenhen SKIDDING METHOD RTS  
 DISTRICT Rexford If tractor: dispersed  dedicated   
 SALE/S.A. Middle Fork P.C. HAZARD TREATMENT BB Fall '97  
 Unit # 22 Acres 18 SILVICULTURAL TRMT seed tree SD  
 H.T. SAF/Vasc OPERATION PERIOD Summer '92  
 Slope 5-25 Aspect: northeast Kevalk quartzite  
 Location upper slope Ele: 5300-5800 6-8" ash  
 COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

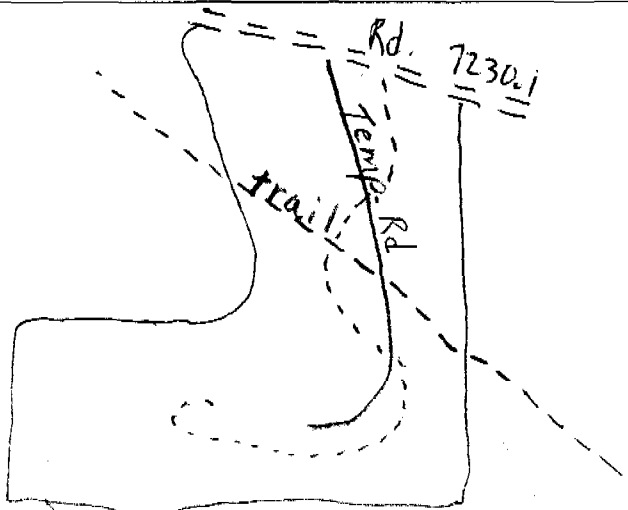
DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Lots of surface rock in southwest part of unit. Also some bedrock exposed. BB fall of 1997 - cool - lots of fines and CWD left. Temp road excavated on lower end, partially recontoured. Generally not very distinguishable. Firelines look good, built w/ excavator and waterbars placed properly. Upper part of unit w/ 100 feet of ridge top. (Rd. 7230.1)  
Ditch functioning well as are most of the culverts. There are insufficient culverts as evidenced by the ditch scouring in places.

### SHAPE OF UNIT AND PATTERN OF TRANSECT

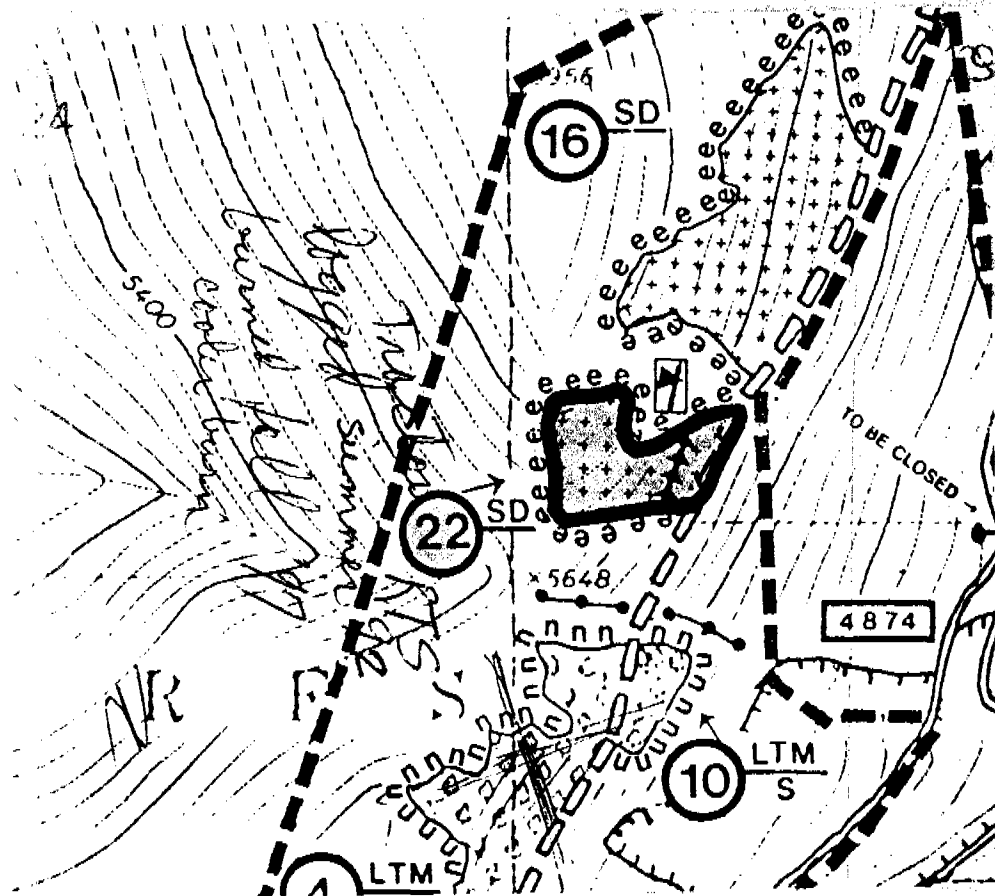


Unit looks very good!

**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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



12604156

Walk Through

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

SERVER 8/11/99 CUTTING METHOD Process at stump  
 DISTRICT Kuchman SKIDDING METHOD Skyline - below rd, tractor - above  
 SALE/S.A. Rexford Woodgr If tractor: dispersed dedicated  
 Unit # 11 HAZARD TREATMENT BB w/ fireline fuel break 1996  
 Acres 41 SILVICULTURAL TRMT SD / ST  
 H.T. OPERATION PERIOD 1995 Summer  
 Slope 20-40 Aspect: SSE 8-12" Volcanic ash  
 Location lower to mid Elevation: 4500-4900  
 COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

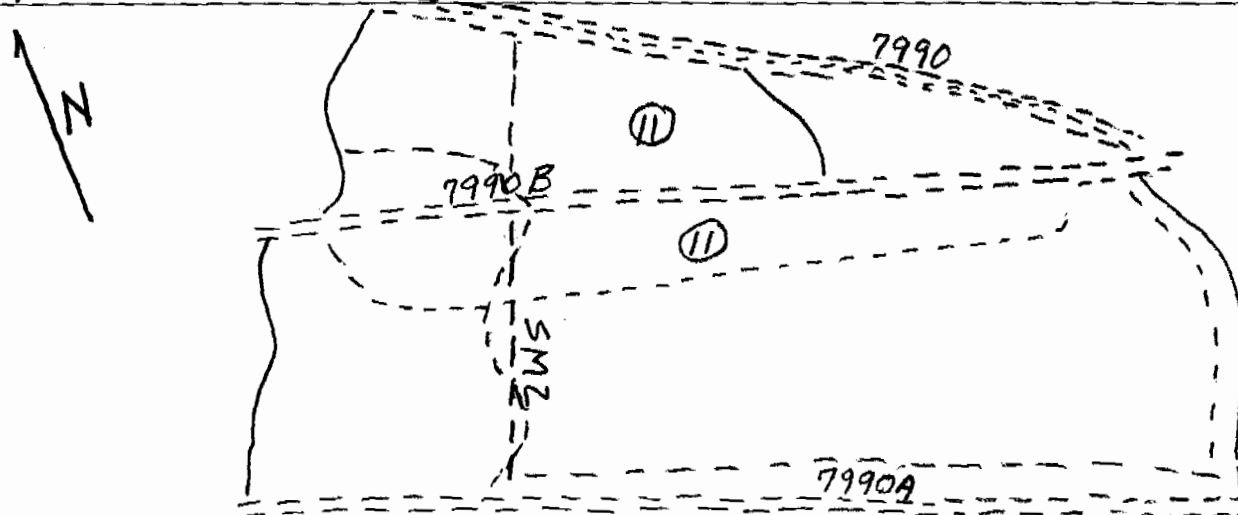
DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK all w/ greater than 14" stumps left.

COMMENTS Unit contained mostly LPP w/ some Larch + Doug-fir. L + DP left as seed trees - some of which blew down. Cable corridor every 20-30 feet. Other than the machine fireline below Rd 7990B there is no soil disturbance. Firelines were by excavator w/ throwback. The area is underlain by Prichard quartzite. There is a good volcanic ash layer. Because of the hard bedrock lots of the soil water moves laterally through the soil and is often intercepted by the rocks. This water moves across the roads by pipes where it is concentrated, sometimes causes erosion below the outlets. There is a little detrimental disturbance above the Rd. 7990B. There is some sloughing of the cut slope on Rd. 7990A. Part of a district BNPI audit.

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.

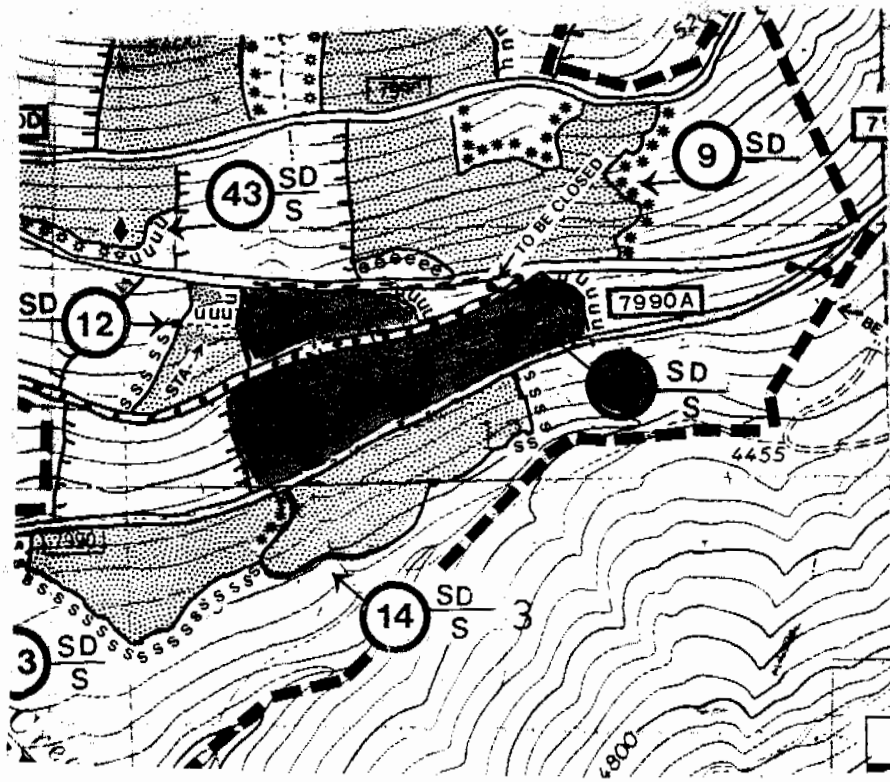
UNDISTURBED - No signs of any machinery or skidding activity.

DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.



### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



126-04-155

*Walk Through*  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 8/11/99 CUTTING METHOD Process at Stumps  
 OBSERVER K. W. ... SKIDDING METHOD Tractor  
 DISTRICT Rexford If tractor: dispersed dedicated  
 SALE/S.A. Brier Patch P.C. HAZARD TREATMENT BB w/ skyline fuel track 199  
 Unit # 12 Acres 9 SILVICULTURAL TRMT SD / LPP ST  
 H.T. SAE/01un/mete OPERATION PERIOD Summer 1995  
 Slope 15-35 Aspect & SSE  
 Location mid Elevation: 4700 - 4900  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

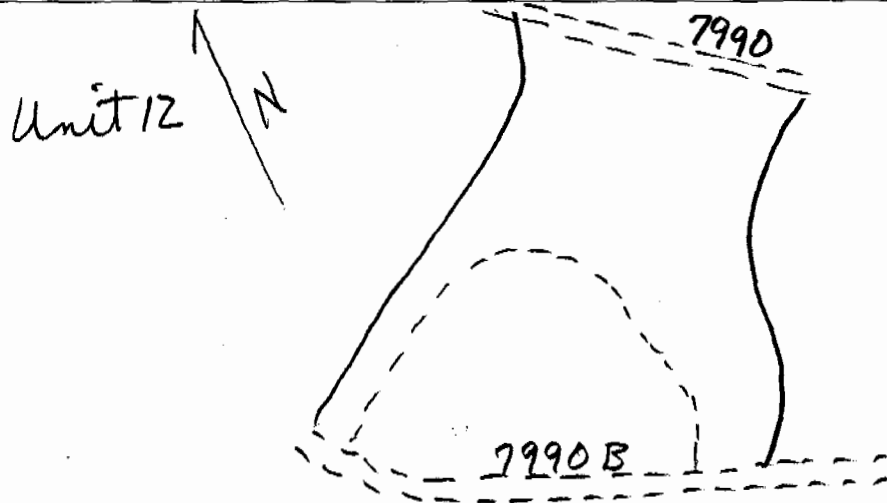
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

*The unit looks good. There is some detrimental disturbance in the unit. The review was part of a district BMP audit.  
 all WL > 14" stumps height left.*

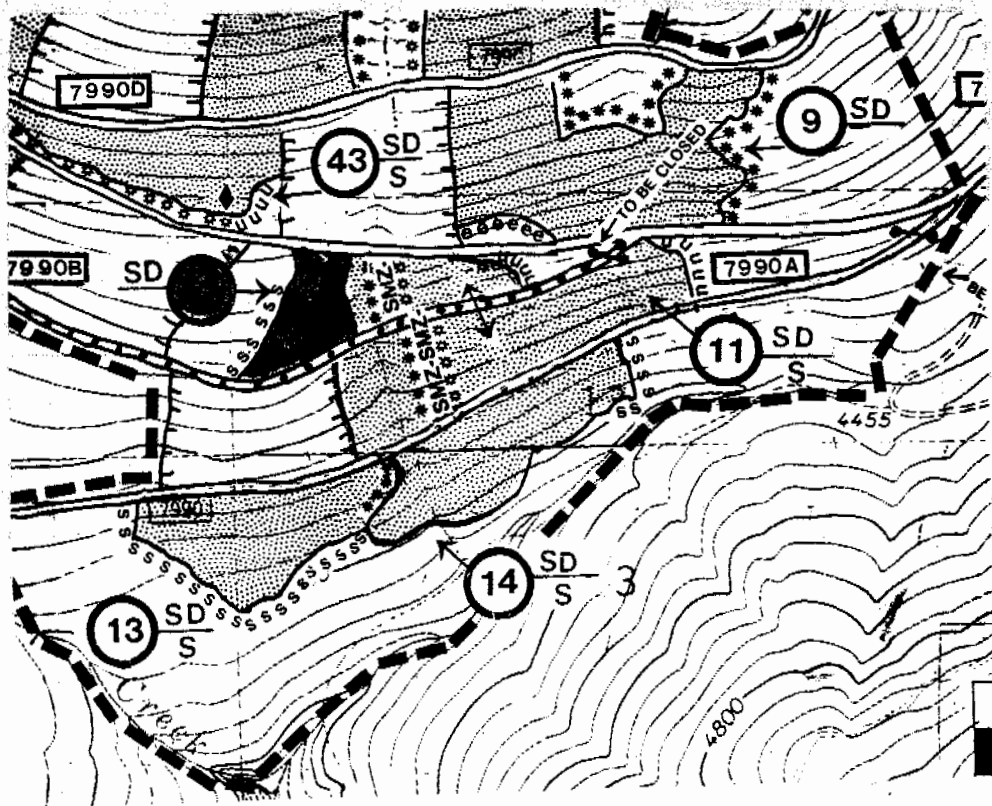
SHAPE OF UNIT AND PATTERN OF TRANSECT



**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.

### 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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



353 06 010

~~Walk Through~~  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

09/13/1999

Fortine - Lost Lamb Salvage

Unit 3

35306010

Forwarder

DATE Sept. 13, 1999

CUTTING METHOD clipper/processor

OBSERVER Kuennen

SKIDDING METHOD Forwarder

DISTRICT Fortine

HAZARD TREATMENT WTP, landing clean-up

SALL Post Lamb Salvage  
Unit No: 3 Acres: 10

SILVICULTURAL TREATMENT SD (dead + down LPP)

HT: DF/Arnr - SAF/Lito

OPERATION PERIOD summer 1998

Slope: lower Aspect: SSW Ele: 4400 - 4500'

COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

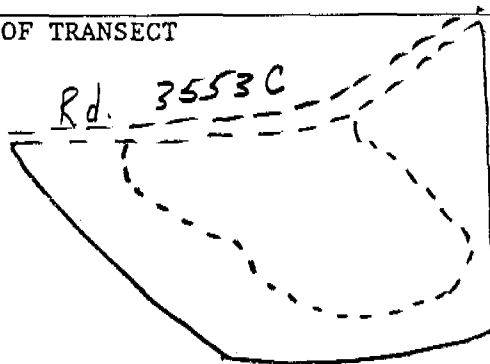
EXCAVATED SKID TRAIL

SMZ

COMMENTS Unit is bordered by SMZs on three sides. Topography is broken w/ scattered rock outcrop. Part of a forest BMP review. Unit generally looks good. Removal of all standing dead + down dead LPP.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 3



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.

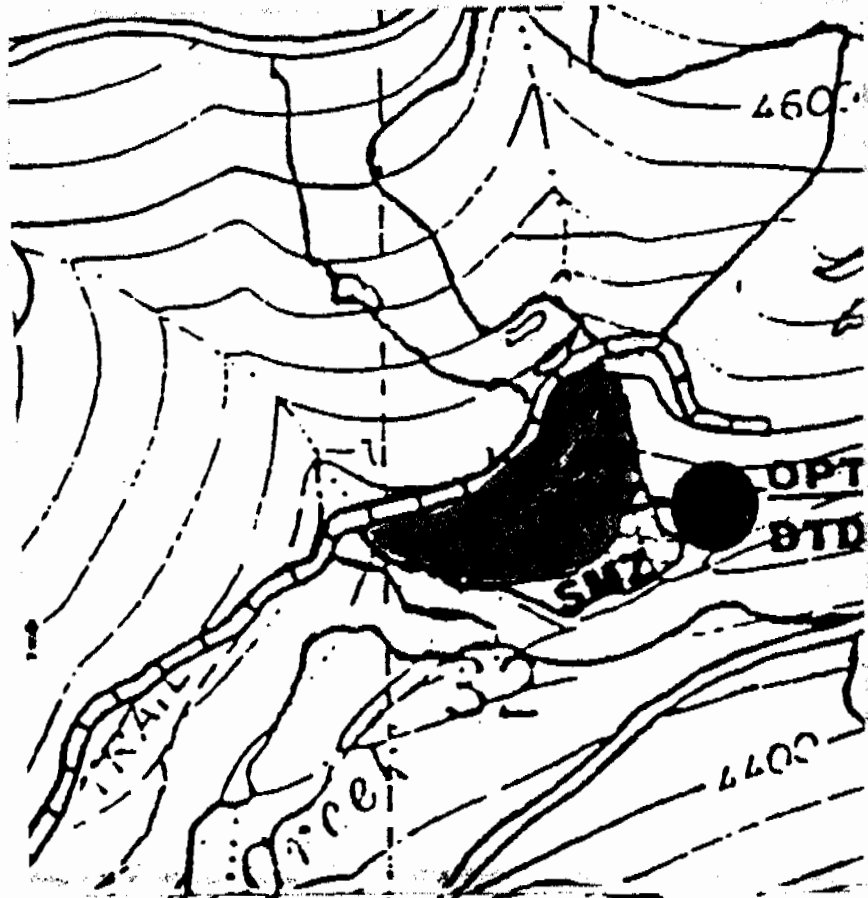
UNDISTURBED - no signs of any machinery or skidding activity.

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.	%
D i s t u r b								
HEAVY								
LIGHT								
UNDISTURB								
<b>TOTALS</b>								
DISPLACED								
EROSION								
PUDDLED								
SMZ								
ROCK								
BURN PILES								



406 01 176

Forwarder

09/24/1999

Three Rivers - Roaring Meadows Salvage

Unit 38B

40601176

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.99 CUTTING METHOD clipper  
 OBSERVER Kuennen, Benedict SKIDDING METHOD forwarder  
 DISTRICT Three Rivers If tractor: dispersed dedicated ✓  
 SALE/S.A. Roaring Meadows Salv HAZARD TREATMENT not treated yet (Excavator pile)  
 Unit # 38B Acres 12 SILVICULTURAL TRMT LTM / LF (SC w/ reserves)  
 H.T. W.H. / Clintonia OPERATION PERIOD winter - Jan - Feb. 1999  
 Slope 10-25% Aspect: northwest  
 Location mid slope Elevation: 3600 - 3700  
 COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

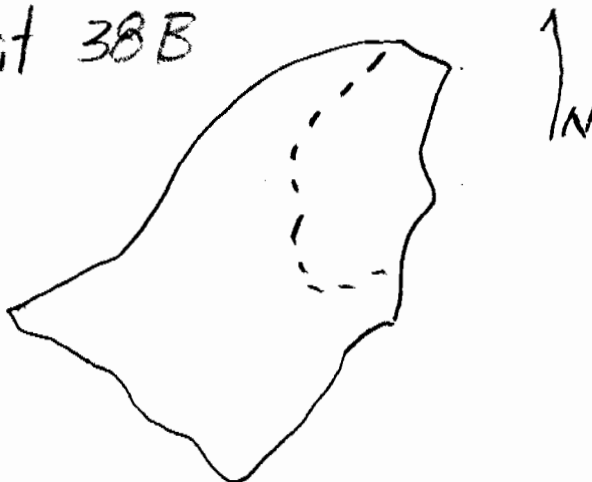
EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS We walked along a snow road / temporary road to access Unit 38B. In a few places the road was heavily disturbed. There was plenty of CWD + fines as of now. Less than 10% percent of detrimental disturbance was observed. Unit looks good.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 38B



**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.

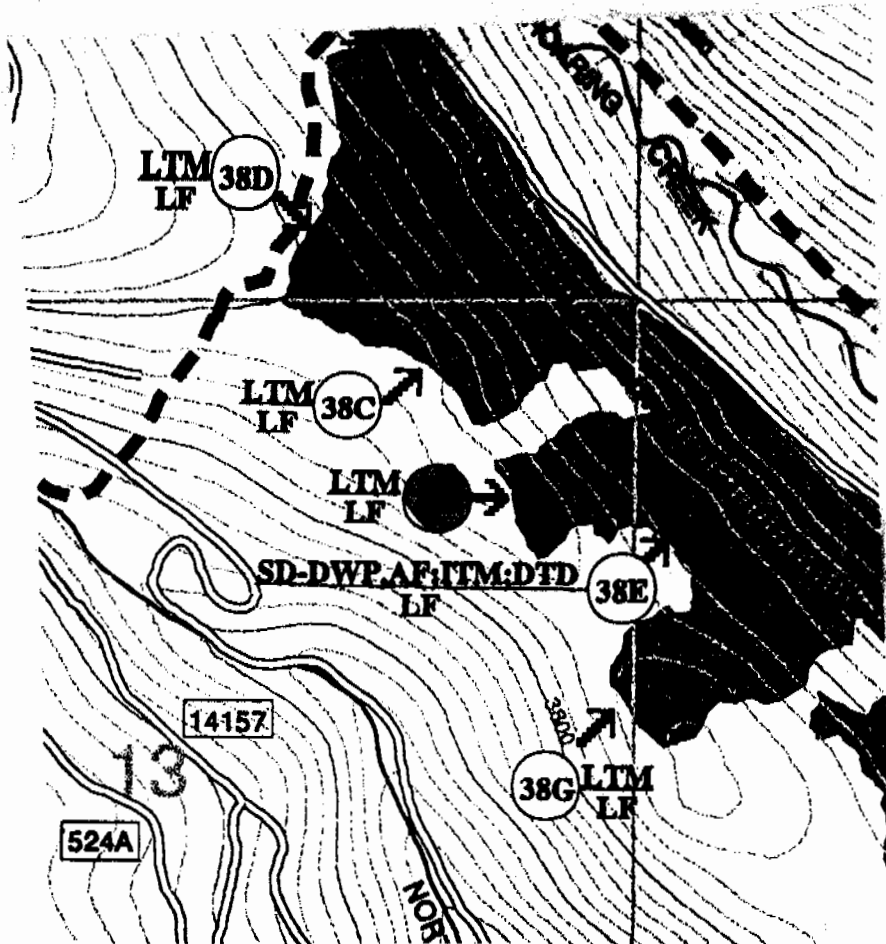
**COMPACTION (Light)** - Any other area not included in heavy COMPACTION or UNDISTURBED.

**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.

### TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Disturbed												
HEAVY												
LIGHT												
UNDISTURB												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



406 01 179

Forwarder

09/24/1999

Three Rivers - Roaring Meadows Salvage

Unit 38G

40601179

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.99 CUTTING METHOD clipper  
 OPERATOR Kremen, Benedict SKIDDING METHOD forwarder  
 DISTRICT Three Rivers Shero If tractor: dispersed  dedicated   
 SALE/S.A. Roaring Meadows Salv. HAZARD TREATMENT not treated yet. (Excavator pile)  
 Unit # 38G Acres 21 SILVICULTURAL TREATMENT LTM / LF (CC w/ reserves)  
 H.T. WH / Clintonia OPERATION PERIOD Jan - Feb 1999  
 Slope 5-2.5% Aspect: northeast Ele: 3700-3950  
 COMPACTION (Heavy) [redacted]

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

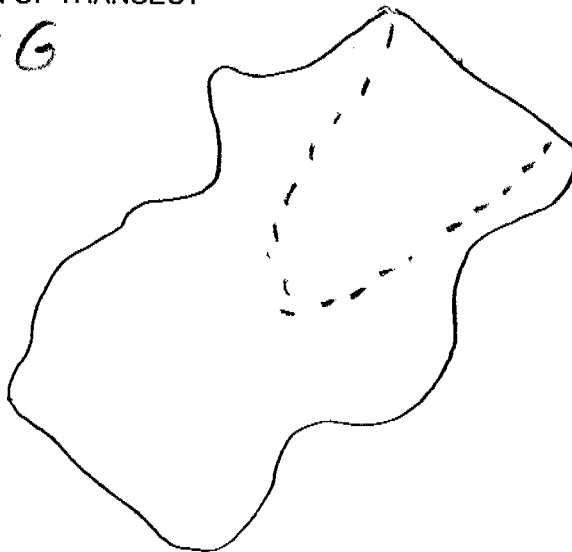
SMZ/ROCK \_\_\_\_\_

COMMENTS

Unit looks good.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 38G



**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.

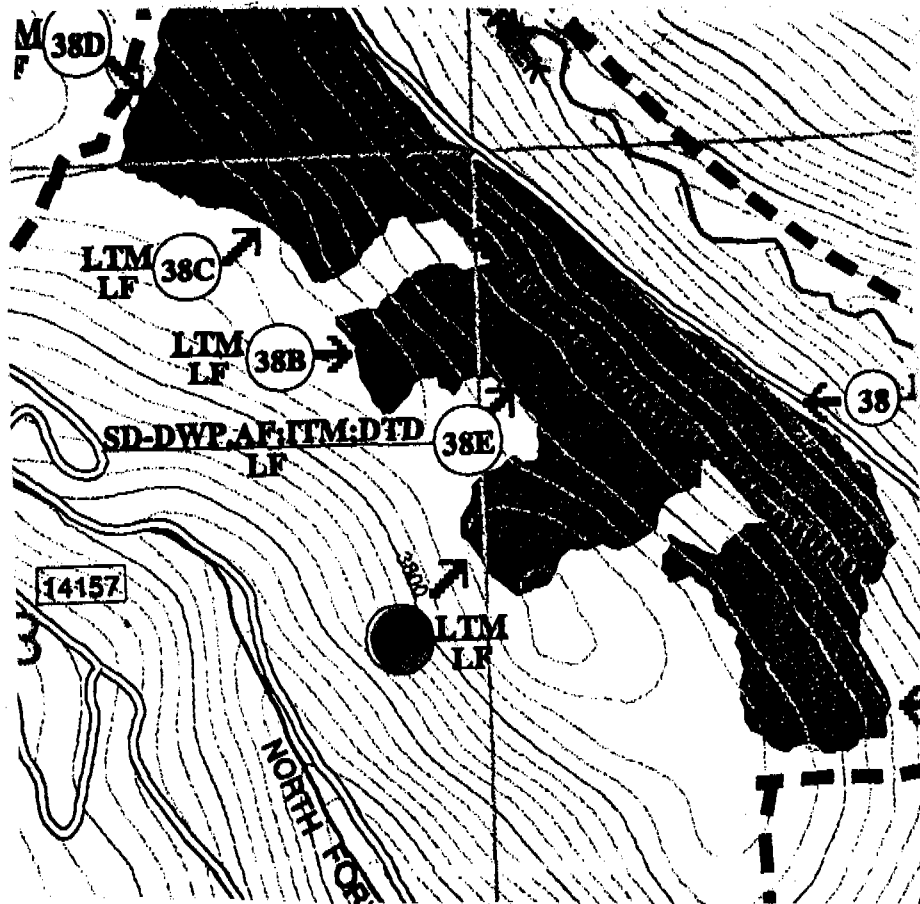
**UNDISTURBED** - No signs of any machinery or skidding activity.

**DISPLACED** - Any place soil has been mounded by machinery, also include in heavy or light compaction.



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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



405 03 196

09/24/1999  
Three Rivers - Roaring Meadows Salvage  
Unit 51A  
40503196

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.99 CUTTING METHOD clipper  
 OBSERVER Kyennen, Benedict SKIDDING METHOD Forwarder  
 DISTRICT Three Rivers Skid tractor: dispersed  dedicated   
 SALE/S.A. Roaring Meadows HAZARD TREATMENT not treated yet (Excavator pile)  
 Unit # 51A Acres 3 Salv. SILVICULTURAL TRMT LT M (seed trees w/ reserves)  
 H.T. W.H. / Clintonia OPERATION PERIOD Oct - early Dec. 1998  
 Slope 10-20% Aspect: northwest  
 Location mid slope Elevation: 4200-4300  
 COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

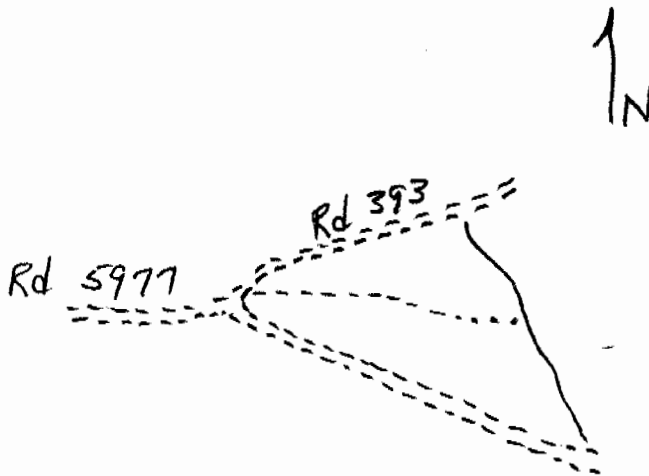
EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

between  
 There is plenty of CWD and fines at this point. There are  
 approximately 6 major skid trails between the two roads. The logs were  
 skidded onto Rd 393 w/ several landings below & adjacent to the  
 Rd. Less than one percent of detrital disturbance was  
 observed. Some disturbance occurred of the cut slope by  
 the skidding machinery.  
 Unit: looksgood.

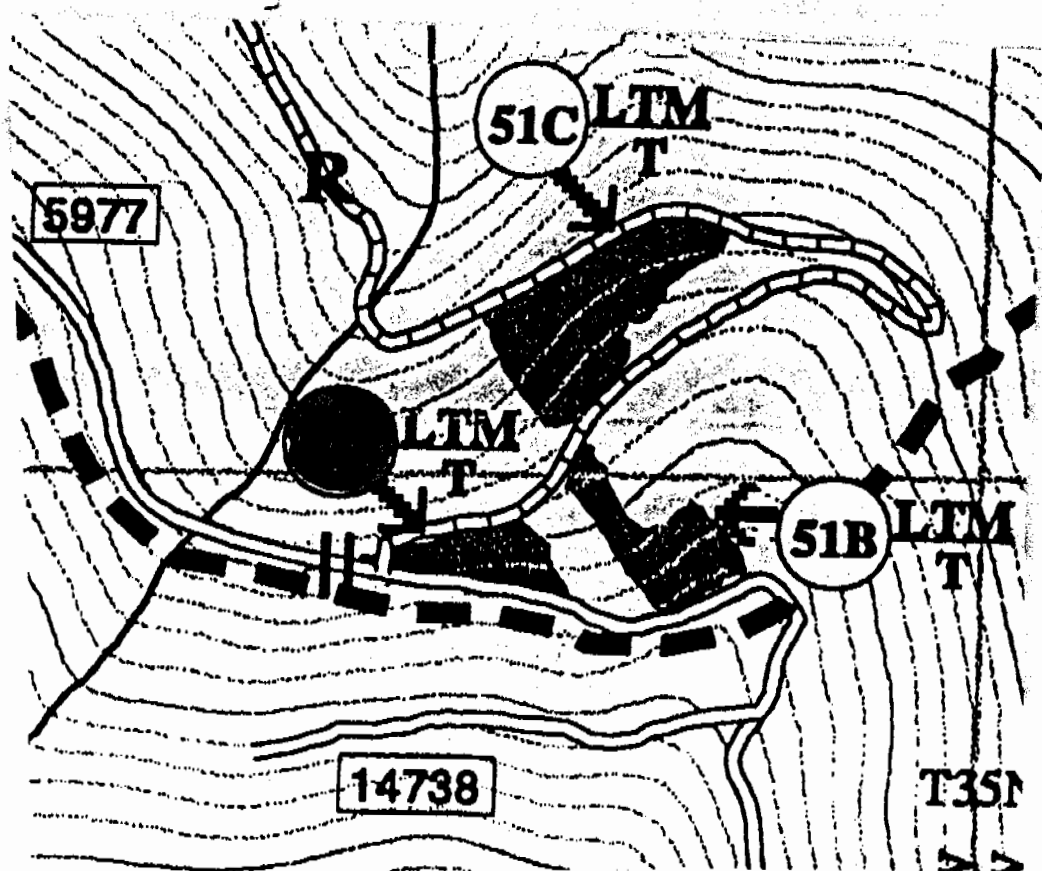
SHAPE OF UNIT AND PATTERN OF TRANSECT



**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.

### 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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



405 03 197

09/24/1999  
Three Rivers - Roaring Meadows Salvage  
Unit 51B  
40503197

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.99 CUTTING METHOD Clipper  
 FORESERVER Kuennen, Bened SKIDDING METHOD forwarder  
 DISTRICT Three Rivers Shire tractor: dispersed dedicated   
 SALE/S.A. Roaring Meadows HAZARD TREATMENT not treated yet (Excavator pile)  
 Unit # 51B Acres 3 Subr. SILVICULTURAL TRMT LT M (seed tree) / reserved  
 H.T. Hemlock / Clintonii OPERATION PERIOD Oct - early Dec 1998  
 Slope 15 - 25% Aspect: northwest  
 Location mid slope Elevation: 4100 - 4350  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

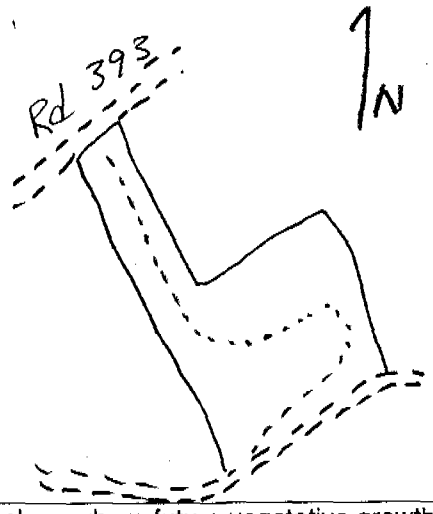
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

*This unit was winter logged. There were approximately 2 main skid trails that funnelled into one through the narrow part of the unit. The unit is shaped like a flag w/ a staff with the 1 staff at the lower part of the unit. The only place there was any observable compaction for displacement was on this single trail. It is estimated that to one percent of the unit had detrimental disturbance. There is plenty of CWB and fines. The landing is just above Rd. 393  
 Unit looks good*

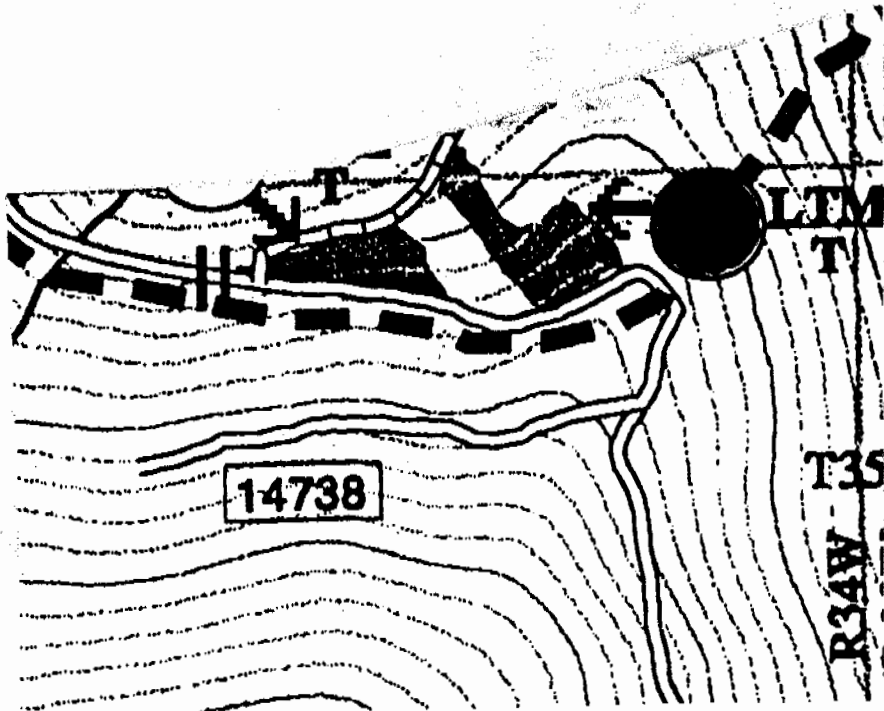
SHAPE OF UNIT AND PATTERN OF TRANSECT



**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.

### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



40503198

Forwarder

09/24/1999  
Three Rivers - Roaring Meadows Salvage  
Unit 51C  
40503198

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.99 CUTTING METHOD clipper  
 OBSERVER Kuennen, Benedict SKIDDING METHOD forwarder  
 DISTRICT Three Rivers Shire If tractor: dispersed  dedicated   
 SALE/S.A. Roaring Meadows HAZARD TREATMENT not treated yet. (Excavator Pile)  
 Unit # 51C Acres 6 Selv. SILVICULTURAL TRMT LTM (seed trees w/ reserves)  
 H.T. W.H. / Clintonia OPERATION PERIOD Oct. - early Dec. 1998  
 Slope 10-25% Aspect: northwest  
 Location mid slope Elevation: 3950 - 4100  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

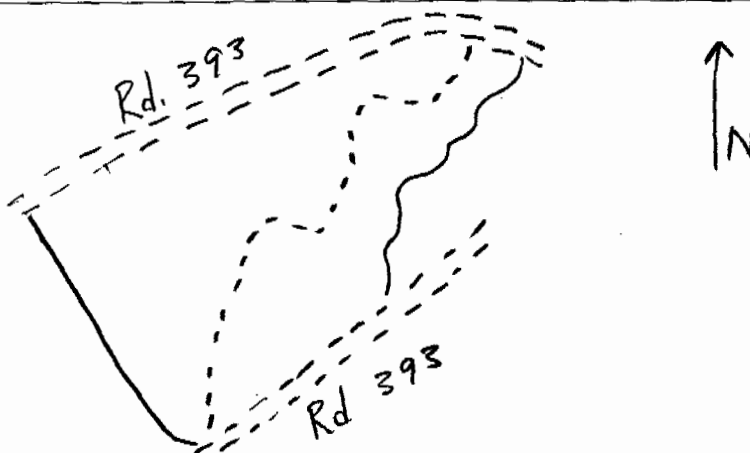
SMZ/ROCK \_\_\_\_\_

COMMENTS

There is plenty of CWD & fires. The unit was winter logged.  
less than two percent detrimental disturbance was observed.  
There were 10 main trails or so.  
Unit looks good

SHAPE OF UNIT AND PATTERN OF TRANSECT

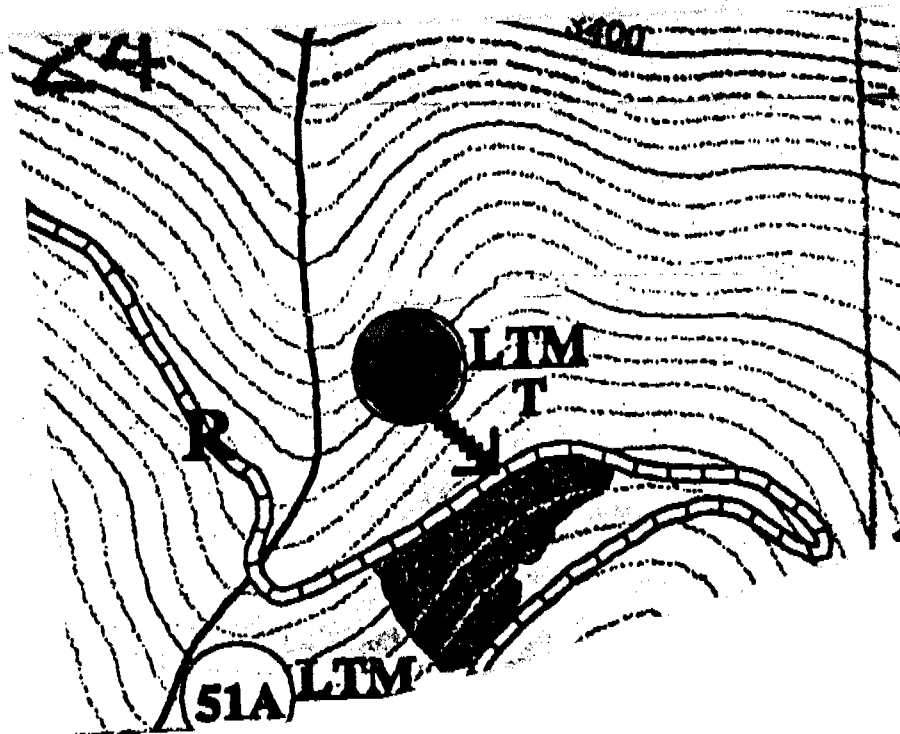
Unit 51C



**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.

### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



04/27/1999

Libby - Boundary Mountain Salvage

Unit 15

56006099

56006099

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

April 27, 1999

Rohmen/Crawford  
Libby Crawford

Boundary Mtn Salv.  
# 15 Acres 29

CUTTING METHOD

clipper cut to length

SKIDDING METHOD

forwarder

If tractor:

dispersed dedicated

HAZARD TREATMENT

not done yet. (Grapple pile)

SILVICULTURAL TRMT

SD/LPP

OPERATION PERIOD

Dec. 1998

Depth 25-35

Aspect | NE

Location mid to upper

Elevation | 4450 - 4650

COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SNOW/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Unit looks good. Winter operations. Some old excavated horizontal trails from much older operations.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 15

Rd 4904

Rd 4939

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.

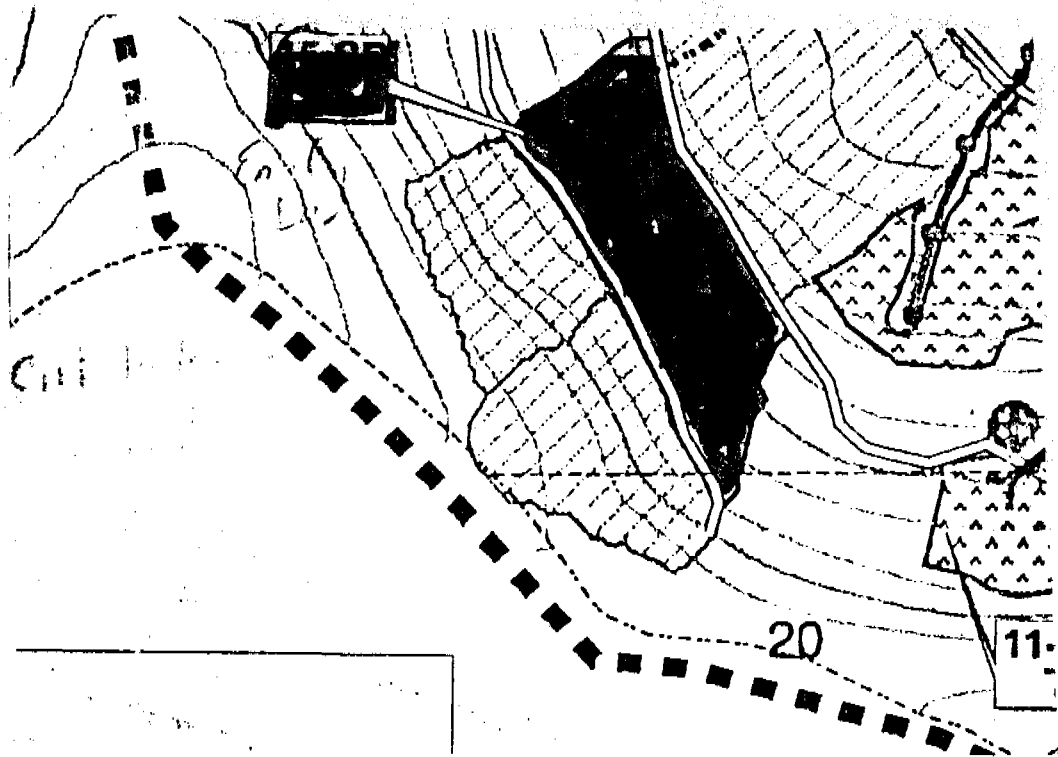
UNDISTURBED - No signs of any machinery or skidding activity.

DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.



### 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



560 06 052

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

04/247/1999

Libby - Boundary Mountain Salvage

Unit 25 56006052

*forwarder*

DATE April 27, 1999 CUTTING METHOD cut to length  
 SERVER Russell/Crawford SKIDDING METHOD forwarder  
 DISTRICT Libby Crawford If tractor: dispersed dedicated  
 SALE/S.A. Boundary Mtn Salv HAZARD TREATMENT not done yet  
 Unit # 25 Acres 36 SILVICULTURAL TRMT SD/LPP  
 H.T. \_\_\_\_\_ OPERATION PERIOD Dec. 1998  
 Slope 20-35 Aspect ENE  
 Location mid to upper Elevation 4400-4600'  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

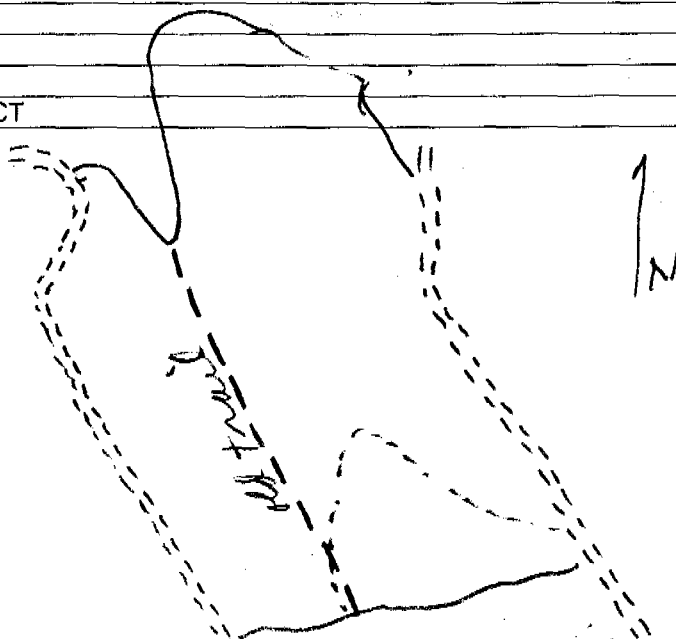
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (include soil, geology, organic debris, other pertinent info)

*4-8" ash surface. Unit looks good. Winter operations.*

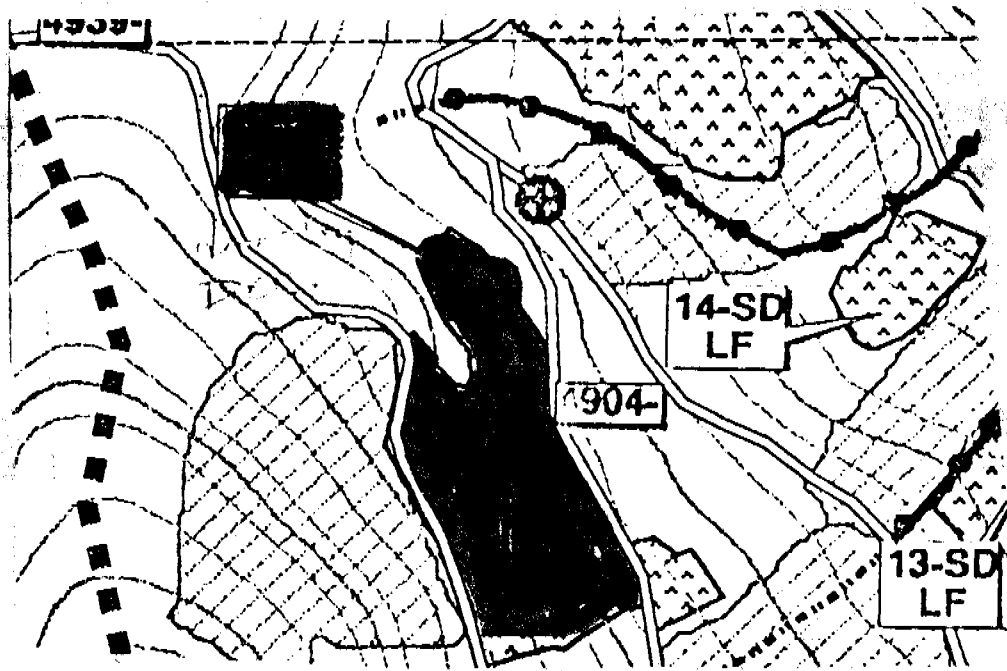
SHAPE OF UNIT AND PATTERN OF TRANSECT



- 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



55405089

09/28/1999  
Libby - Bristow Creek Salvage  
Unit 8  
55405089

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Sept. 28, 1999 CUTTING METHOD clipped  
 SERVER Reumen SKIDDING METHOD RTS free length / landing process  
 DISTRICT Libby If tractor: dispersed  dedicated  
 SALE/S.A. Bristow Cr. Salvage HAZARD TREATMENT WTY  
 Unit # 8 Acres 29 SILVICULTURAL TRMT SD-LPP  
 H.T. \_\_\_\_\_ OPERATION PERIOD summer 1999  
 Slope 20-35 Aspect SSW  
 Location mid to upper Elevation 4300-4700  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

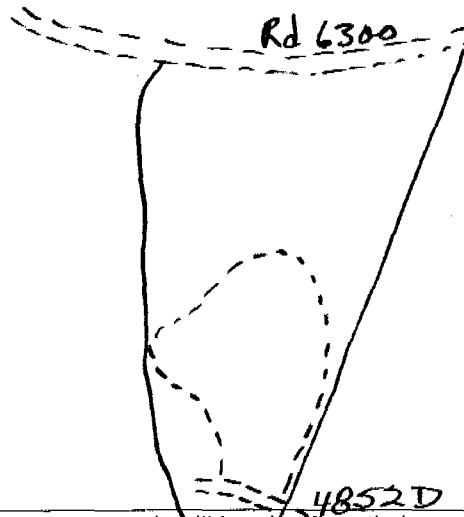
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Rd 4852 D is to be put to bed. Unit looks good. One main skid trail. CWD is good. Part of a District BMP audit.

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.

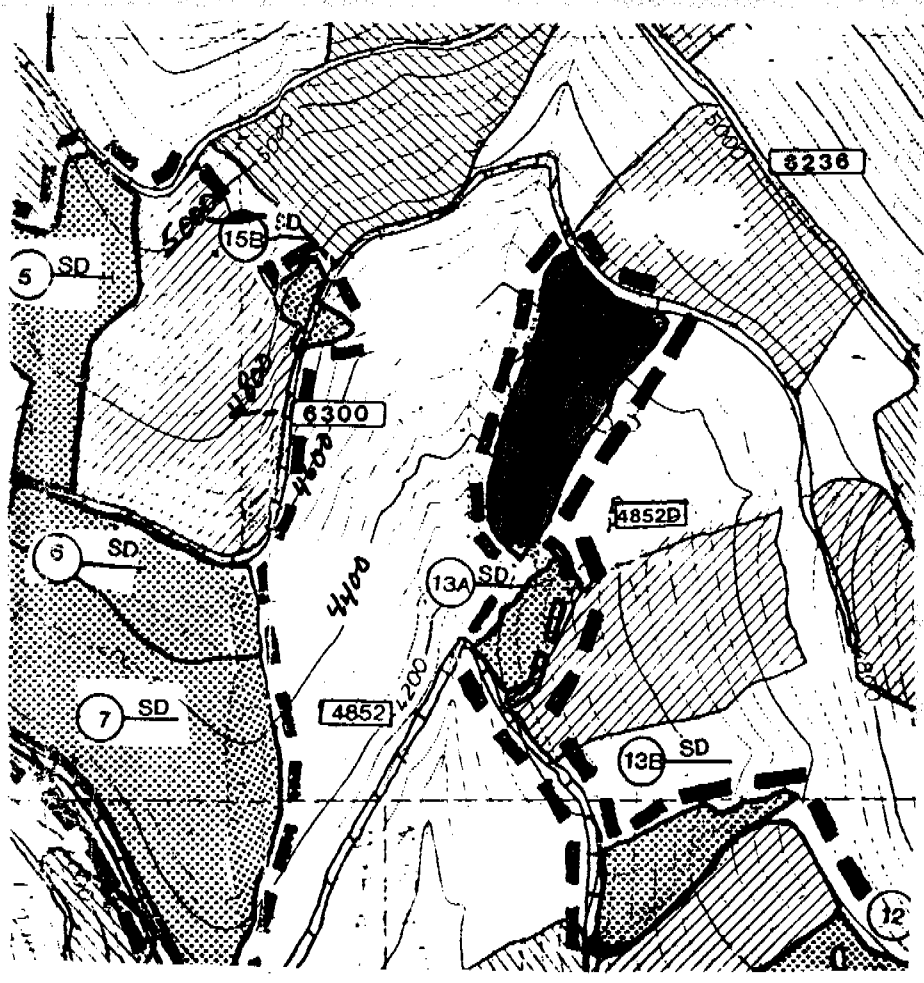
**UNDISTURBED** - No signs of any machinery or skidding activity.

**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.	%
AVY												
SHT												
NDISTURB												
TOTALS												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



72201030

09/27/1999

Cabinet - Red Devil

Unit 3A

72201030

### KOOTENAI NATIONAL FOREST SOIL DISTURBANCE MONITORING FORM

DATE Sept. 27, 1999 CUTTING METHOD \_\_\_\_\_  
 SERVER Kelanner / Newell SKIDDING METHOD Skyline - 90° north, tractor - south  
 TRACTOR \_\_\_\_\_ If tractor: \_\_\_\_\_ dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Red Devil HAZARD TREATMENT not done yet  
 Unit # 3A Acres 17 SILVICULTURAL TRMT LTM -- ST final w/ Reserves  
 H.T. WH/Chun OPERATION PERIOD Aug-Sept. 1998  
 Slope 25-40 Aspect East \_\_\_\_\_  
 Location upper Elevation 4700 - 5000'  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

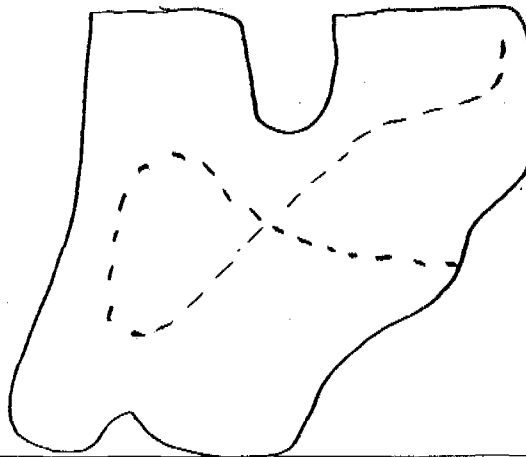
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Similar to Unit 3B from the standpoint of excavator work. Unit was partially tractor-drawn & partially skyline-drawn.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Unit 3A



**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.

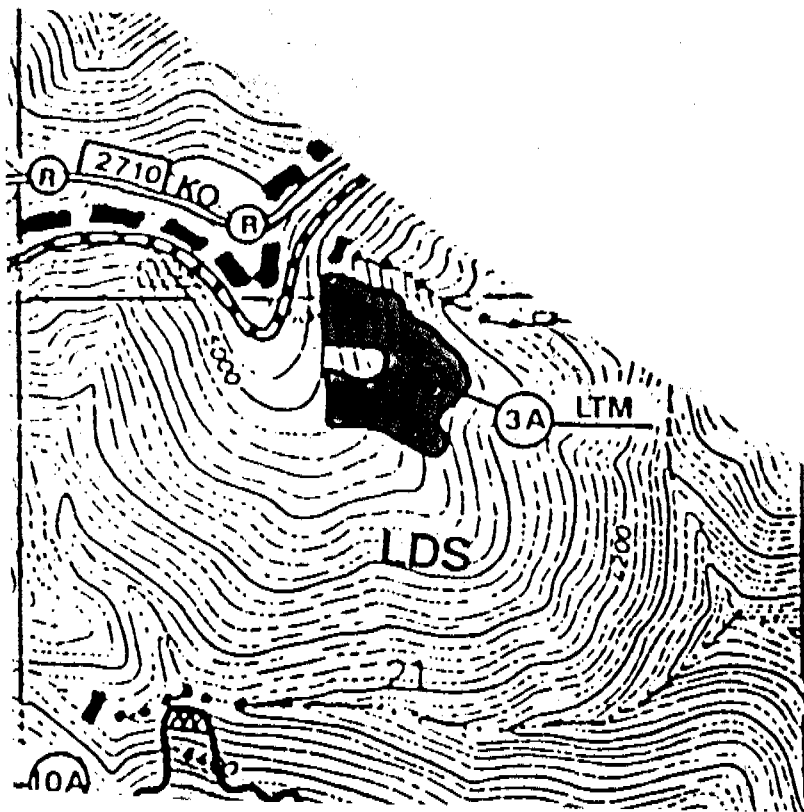
**UNDISTURBED** - No signs of any machinery or skidding activity.

**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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



722 01031

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

09/27/1999  
Cabinet - Red Devil  
Unit 3B  
72201031

DATE Sept. 27, 1999 CUTTING METHOD skidline  
 SERVER Ruennen/News SKIDDING METHOD ST Final w/ Riser  
 STRICT Cabinet If tractor: dispersed dedicated   
 SALE/S.A. Red Devil HAZARD TREATMENT not done yet, excavator piling  
 Unit # 3B Acres 16 SILVICULTURAL TRMT LITM, seed tree regeneration  
 H.T. WHT/Chun OPERATION PERIOD Aug - Sept 1998  
 Slope 35-50 Aspect | SE  
 Location upper Elevation | 4500 - 4950  
 COMPACTION (heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

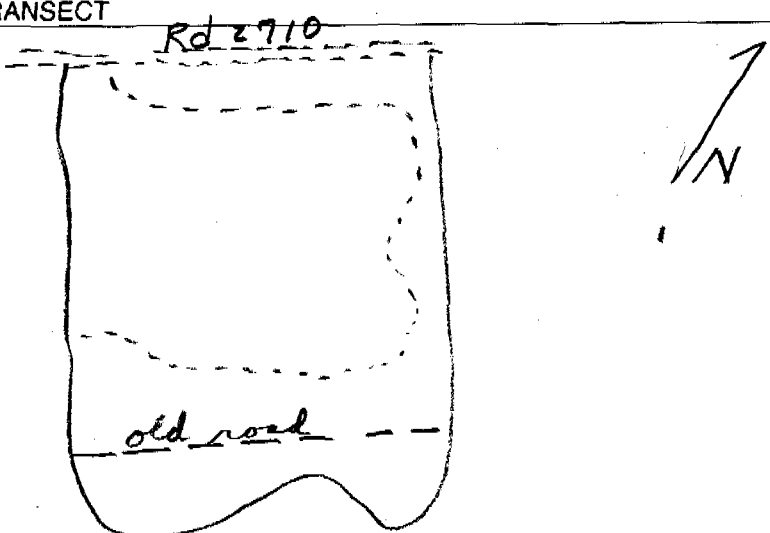
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

A cable unit that was intended for excavator piling & 8x8 spacing for tree planting. Logging looks very good. Lots of CWD left. Due to an operator that had never site-preped there is an excessive amount of scuffing. Unfortunately, the district did not have someone staying w/ the operation consistently to help train. The area was fairly steep also. This is a residual soil w/ volcanic ash surface.

SHAPE OF UNIT AND PATTERN OF TRANSECT

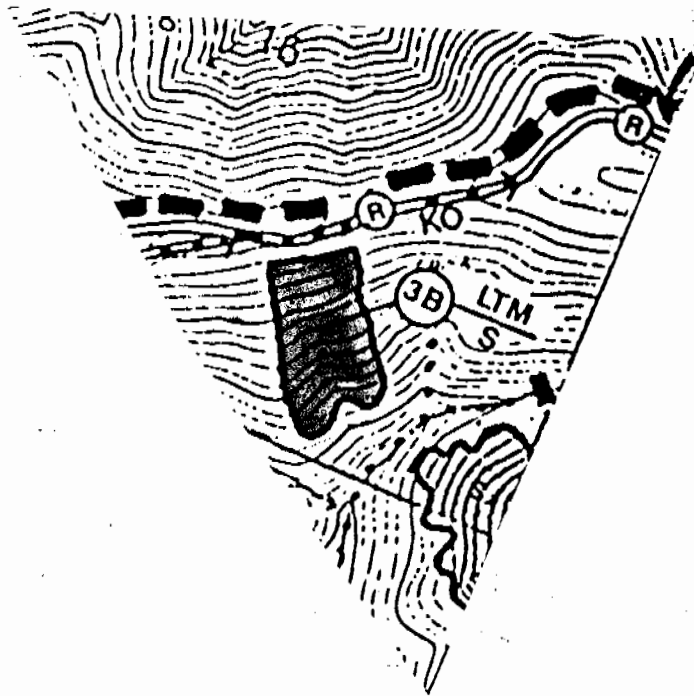


- COMPACTION (Heavy)** - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.
- COMPACTION (Light)** - Any other area not included in heavy 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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



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

COMPACTION (Light) upper: 16  
lower: 17.2  
middle: 18.2

UNDISTURBED upper: 180  
lower: 152  
middle: 114

DISPLACED upper: 107  
lower: 17  
middle: 9

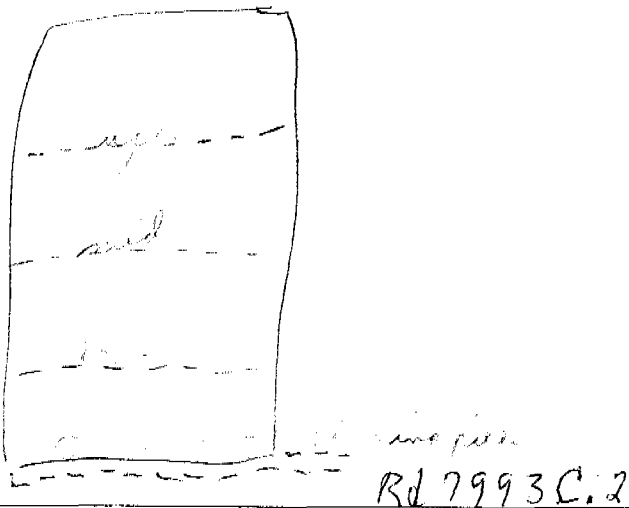
EXCAVATED SKID TRAIL erosion: lower: 6; mid: 5; upper: 2

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

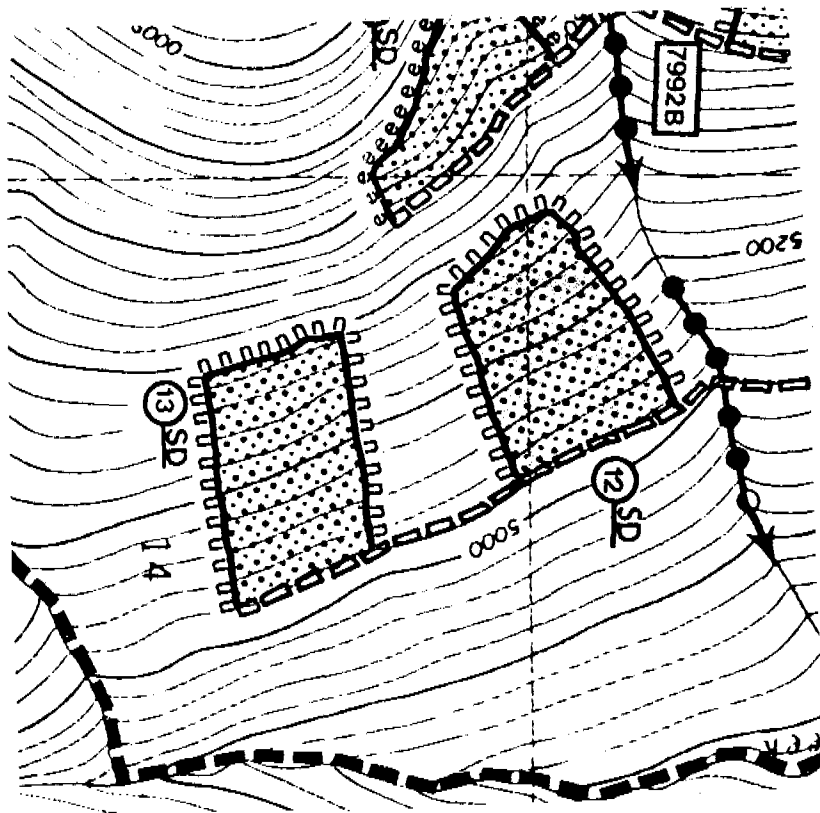
SHAPE OF UNIT AND PATTERN OF TRANSECT



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
<b>TOTALS</b>	<b>357</b>	<b>100</b>	<b>328</b>	<b>100</b>	<b>303</b>	<b>100</b>					<b>988</b>	<b>100</b>
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

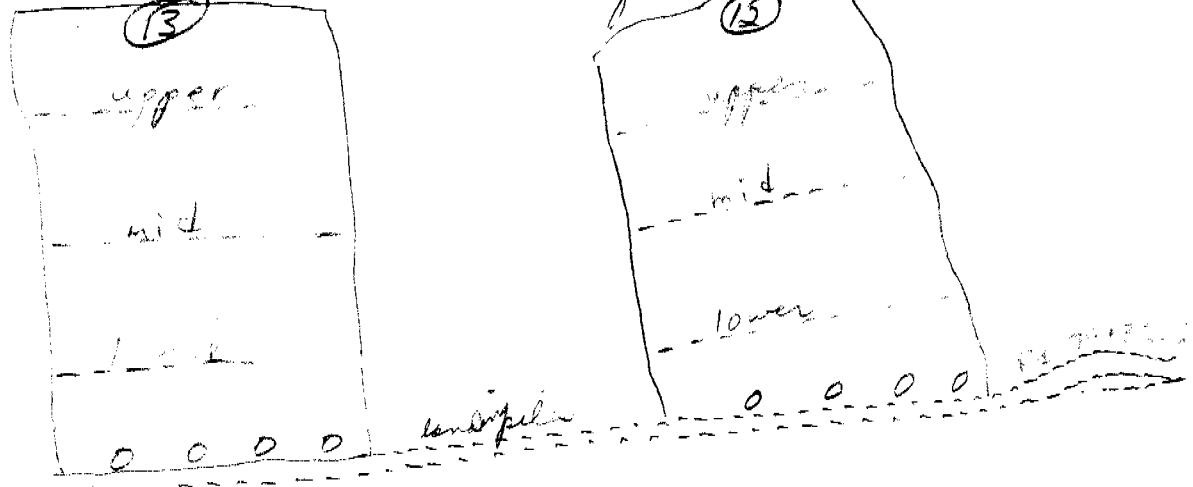
UNDISTURBED lower: 144  
middle: 102  
upper: 158

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 & Fir 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 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

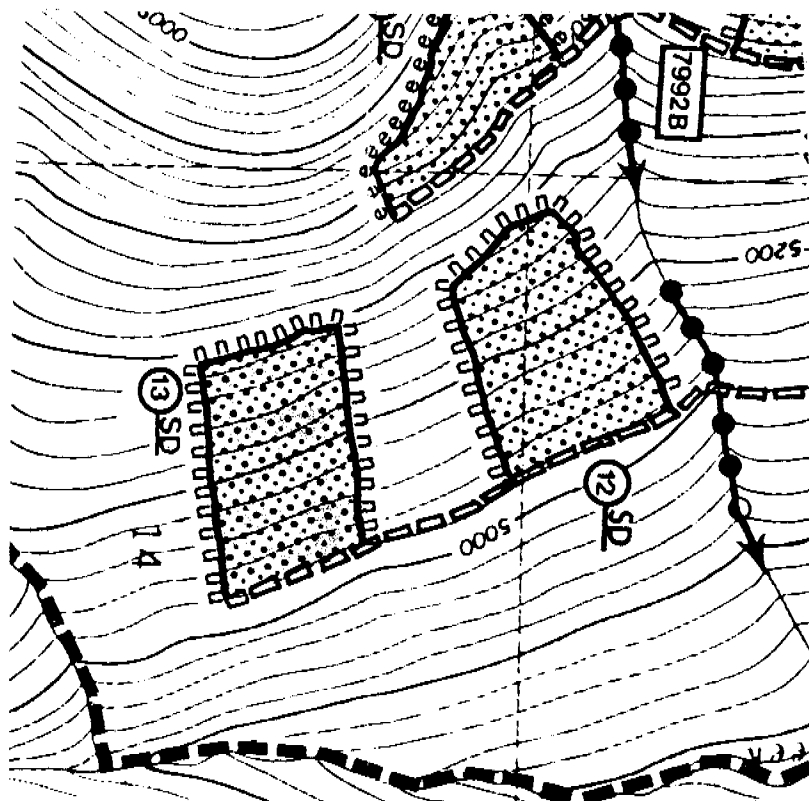


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**SMZ** - Include within transect if within harvest unit.

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
	<b>TOTALS</b>	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

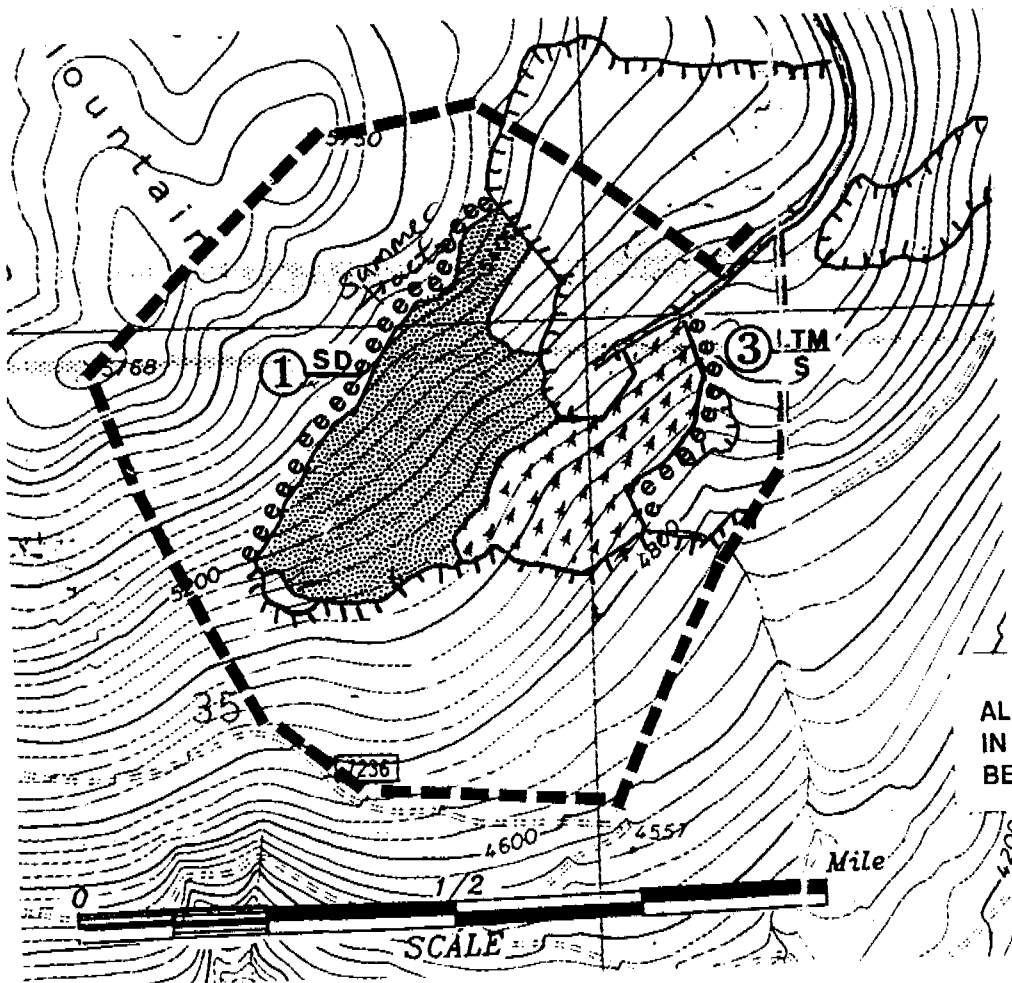




TRANSECT SUMMARY FORM

*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%
<b>TOTALS</b>	<b>744</b>	<b>100</b>	<b>678</b>	<b>100</b>	<b>170</b>	<b>100</b>					<b>1592</b>	<b>100</b>



1996 Sale

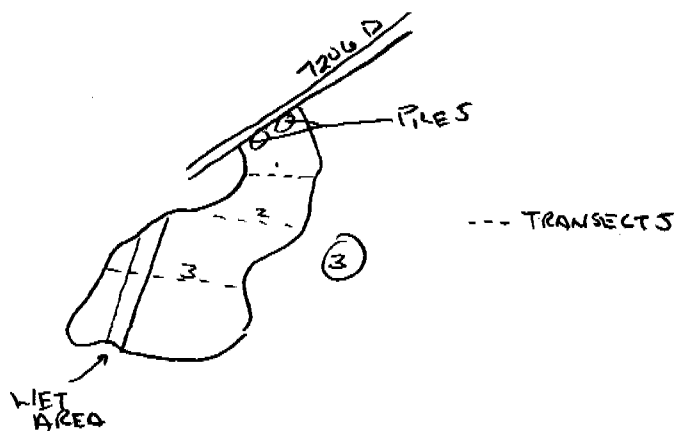
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE 9/25/98 CUTTING METHOD CLIPPER  
 OBSERVER 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 3<sup>rd</sup> TRANSECT

COMMENTS SUBALPINE FIR, PINE GRASS, ALDER, DWARF HUCKLEBERRY, KUNNIKINNICK;  
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 & SEEDING; ~ 50% OF H<sub>2</sub>O 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

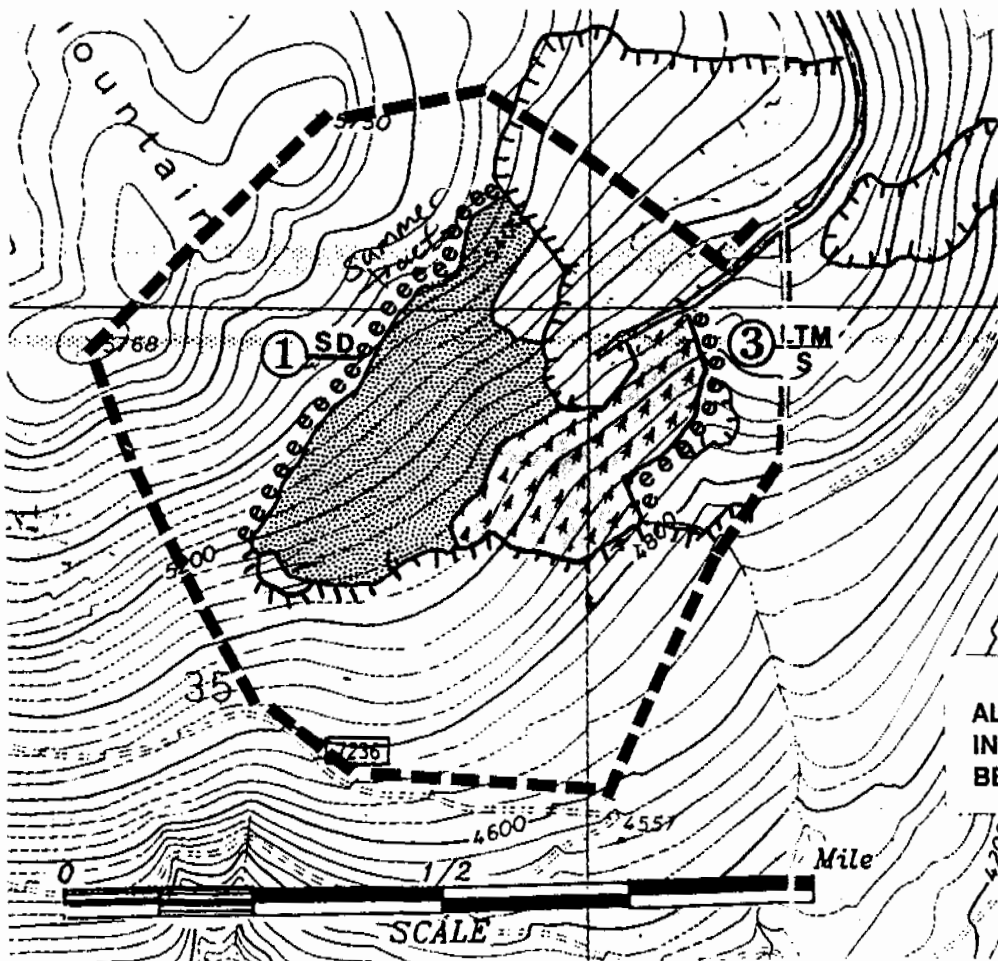


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**COMPACTION (Light)** - Any other area not included in heavy COMPACTION or UNDISTURBED.  
**UNDISTURBED** - No signs of any machinery or skidding activity.  
**DISPLACED** - Any place soil has been mounded by machinery, also include in heavy or light 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	2	1.3%	3	1.9%	2	0.9%					7	1%
s t	129	85.4%	120	75.5%	167	81.9%					416	81%
u r	20	13.2%	36	22.6%	35	17.2%					91	18%
b												
<b>TOTALS</b>	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

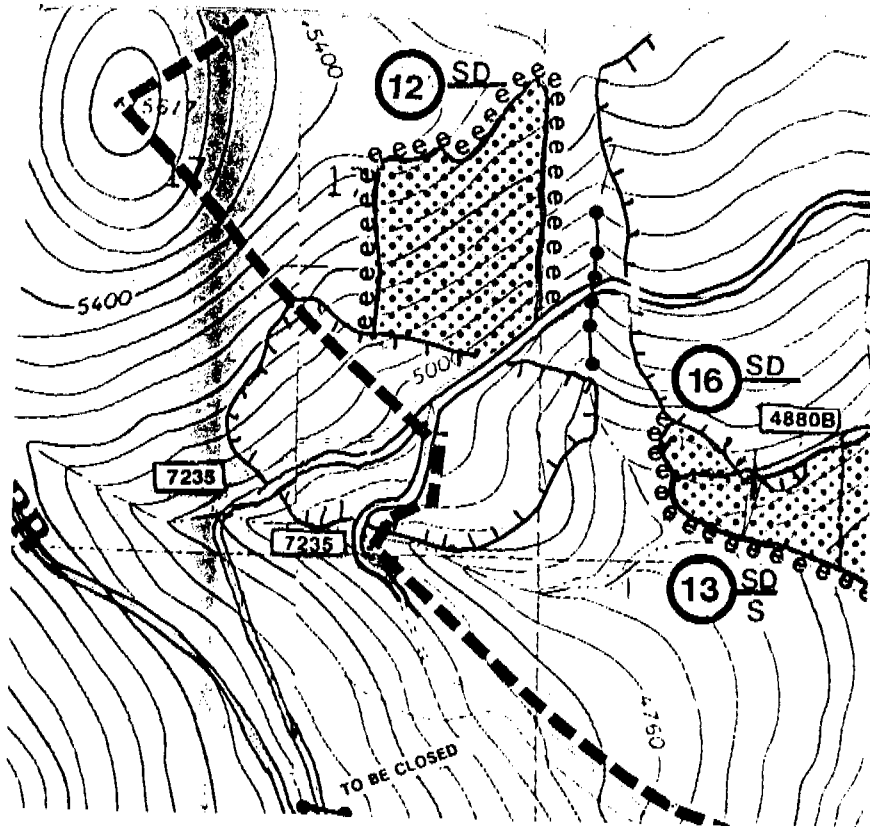




TRANSECT SUMMARY FORM

*lower*      *mid*      *upper*

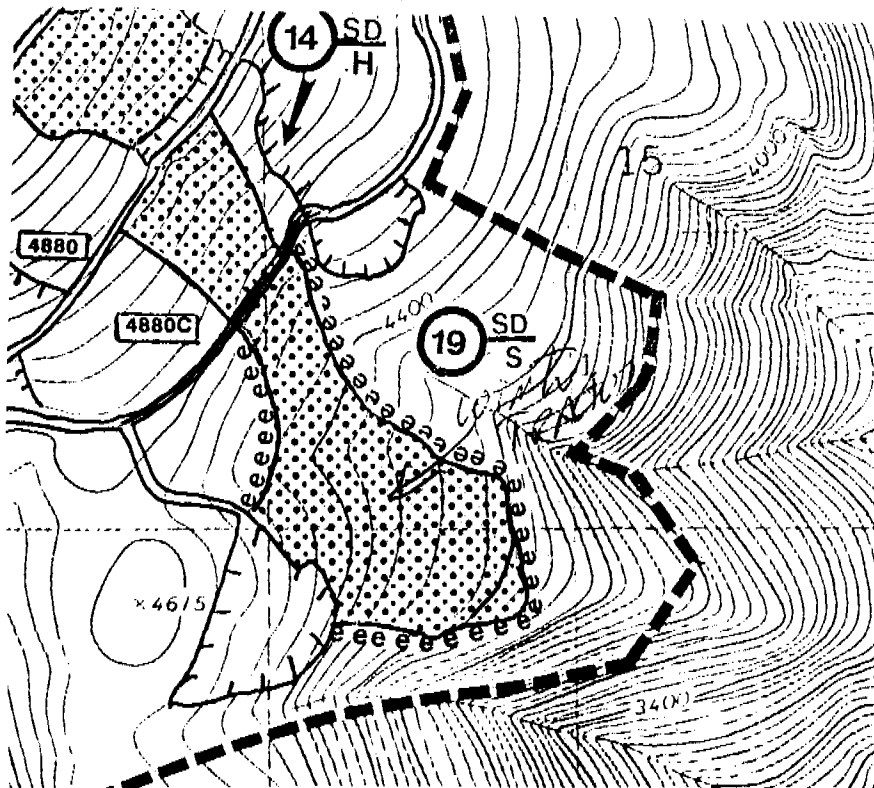
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D i s t u r b	HEAVY	39	12.3%	27	5.6%	25	5.1%					91	7.1%
	LIGHT	249	78.5%	430	89.8%	443	90%					1122	87.1%
	UNDISTURB	29	9.1%	22	4.6%	24	4.9%					75	5.8%
	<b>TOTALS</b>	317		479		492						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





TRANSECT SUMMARY FORM

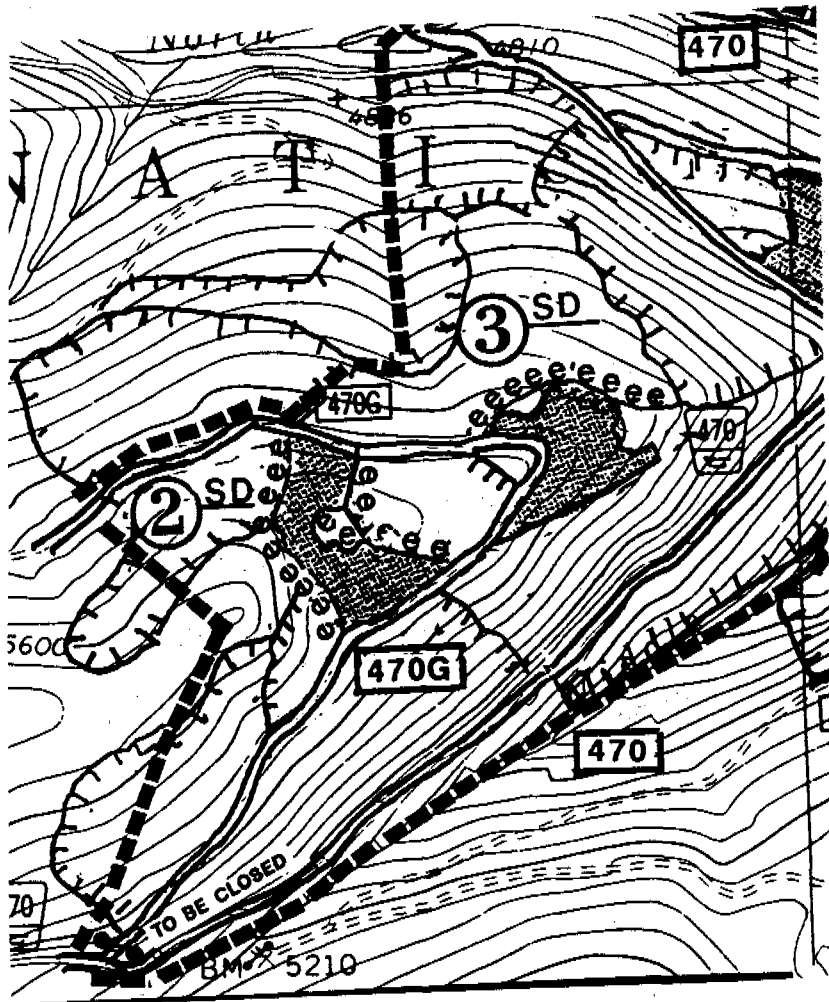
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D i s t u r b	HEAVY	8	2.2%	15	2.2%						23	2.2%
	LIGHT	294	80.5%	532	77.8%						826	78.7%
	UNDISTURB	63	17.3%	137	20%						200	19.1%
	<b>TOTALS</b>	<b>365</b>	<b>100</b>	<b>684</b>	<b>100</b>						<b>1049</b>	<b>100</b>
	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





TRANSECT SUMMARY FORM

	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	

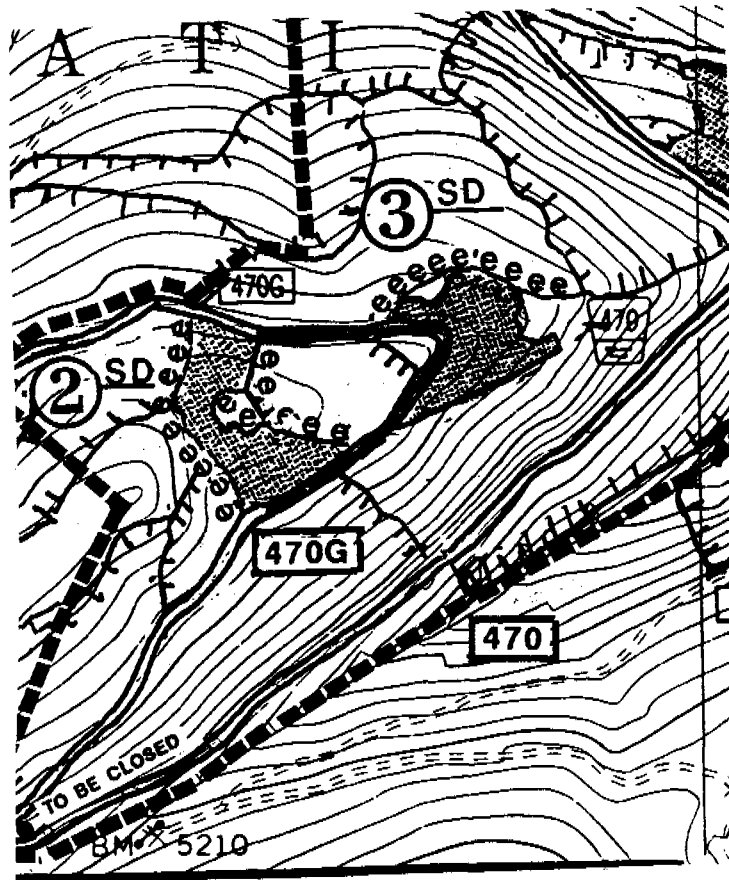






### TRANSECT SUMMARY FORM

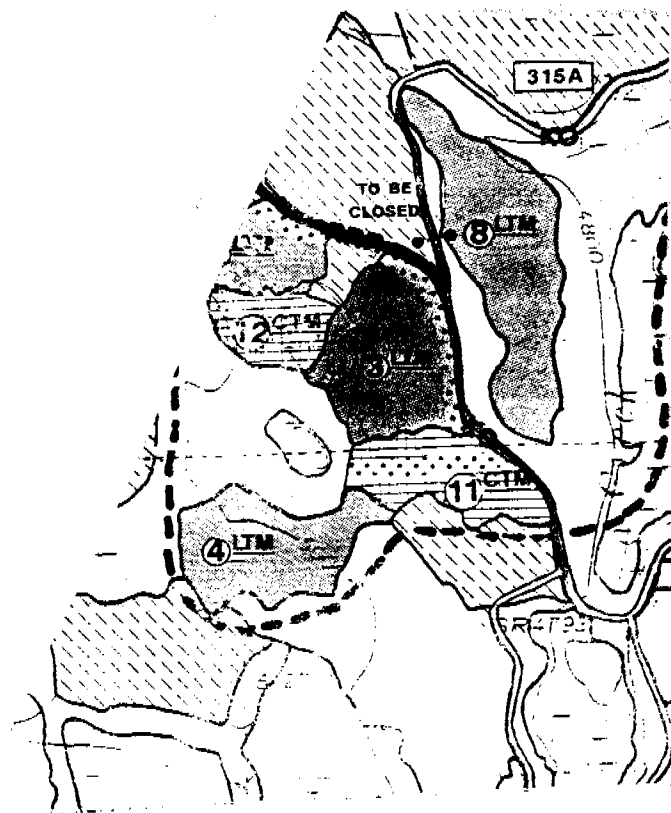
	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
Disi	HEAVY	27	6.3%	20	5.8%							47	6.1%
st	LIGHT	376	87.2%	315	91.3%							691	89%
ur	UNDISTURB	28	6.5%	10	2.9%							38	4.9%
b	<b>TOTALS</b>	431		345								776	
	DISPLACED	11	3	9	3							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
<b>TOTALS</b>	<b>315</b>	<b>100</b>	<b>345</b>	<b>100</b>							<b>660</b>	<b>100</b>
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 <sup>entry</sup>  
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 \_\_\_\_\_

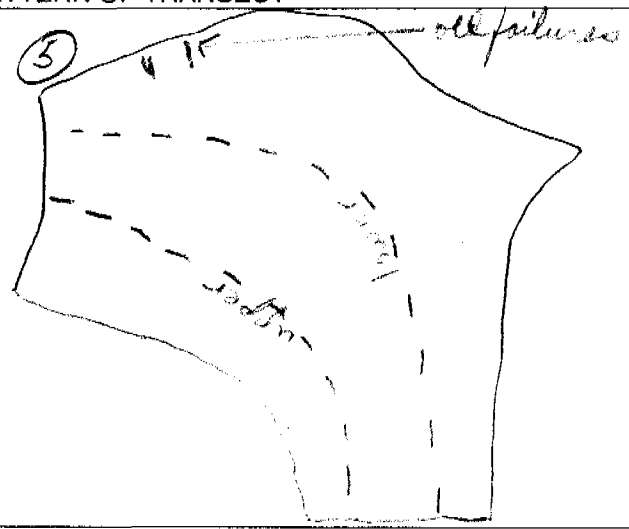
SMZ/ROCK \_\_\_\_\_

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

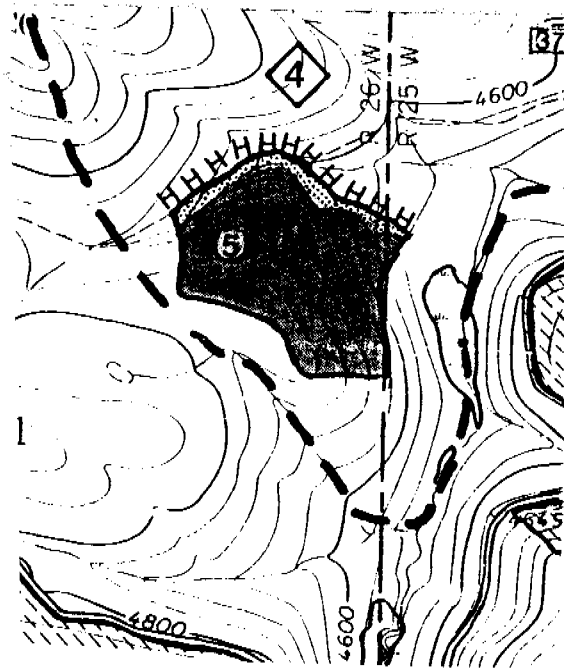
SHAPE OF UNIT AND PATTERN OF TRANSECT



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> 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
	<b>TOTALS</b>	<b>500</b>	<b>100</b>	<b>461</b>	<b>100</b>						<b>961</b>	<b>100</b>
	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

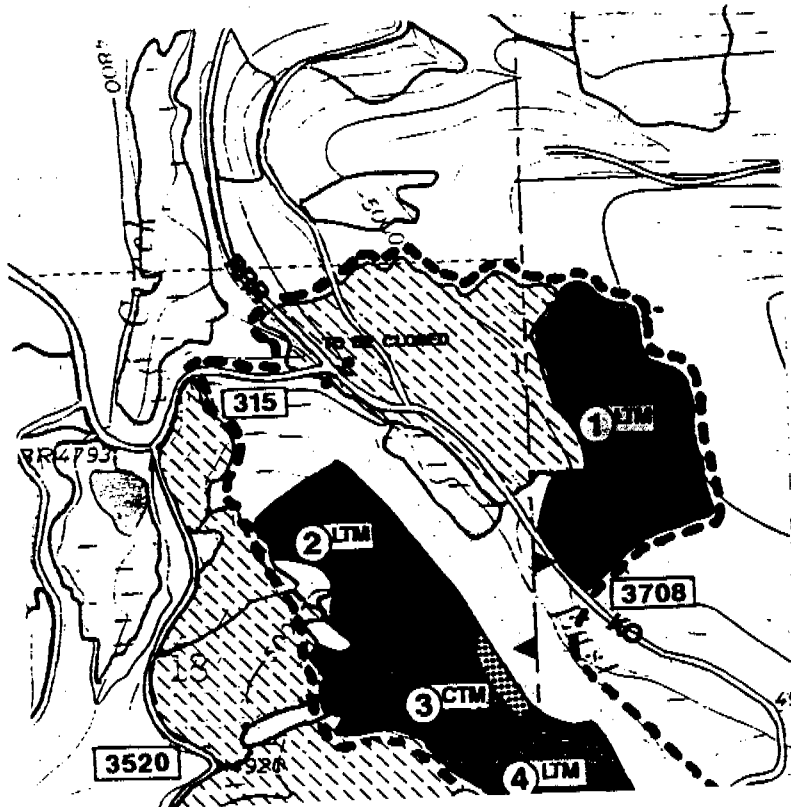




TRANSECT SUMMARY FORM

*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
<b>TOTALS</b>	<b>198</b>	<b>100</b>	<b>271</b>	<b>100</b>	<b>402</b>	<b>100</b>					<b>871</b>	<b>100</b>
<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



Test transect for Kenny

Test transect for Kenny  
09/24/1998

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 9.24.98  
OBSERVER Penny Kambil  
DISTRICT  
SALE/S.A.  
Unit # Acres  
H.T.  
Slope  
Location

CUTTING METHOD  
SKIDDING METHOD  
If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
HAZARD TREATMENT  
SILVICULTURAL TRMT  
OPERATION PERIOD

COMPACTION (Heavy) 1    (28) / (46)  
2    (39) /  
3   (21)

COMPACTION (Light) 1            (139) /  
2            (191) (516)  
3             (195)

UNDISTURBED 1    (52) /  
2    (47)  
3        (23) (217)

DISPLACED 1  (14) / 2  (10) / 3  (7) (5)

EXCAVATED SKID TRAIL 1  (5) / 2 (0) / 3  (7) (12)

SMZ/ROCK

COMMENTS Flaser 1: (0) / 2 (0) / 3 (0) (3)

SHAPE OF UNIT AND PATTERN OF TRANSECT

347  $\sqrt{290}$

272  $\sqrt{\begin{matrix} .10 \\ 390 \\ 272 \\ \hline 118 \end{matrix}}$

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	28		39		29						96	
	LIGHT	130		191		195						516	
	UNDISTURB	52		42		123						217	
	<b>TOTALS</b>											<del>800</del>	
	DISPLACED	14		10		7						31	
	EROSION	3		0		0						3	
	RIDDLED S.D.H.	5		0		7						12	
	SMZ												
	ROCK												
	BURN PILES												

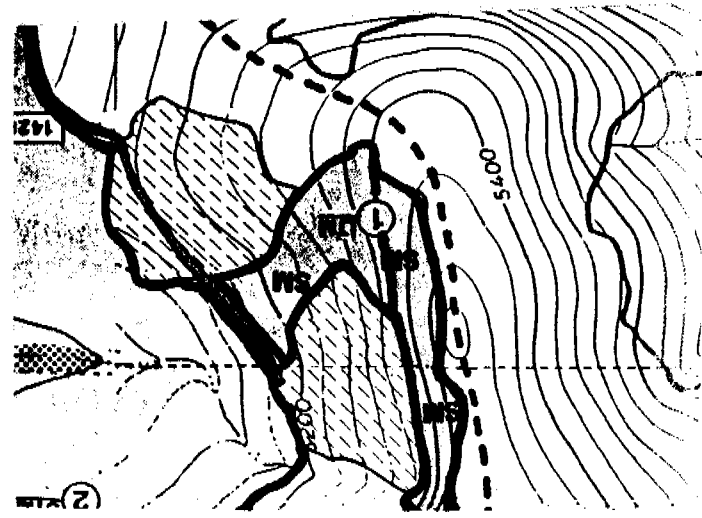
sk

$$\begin{array}{r}
 829 \overline{) 965} \\
 \underline{829} \\
 131
 \end{array}$$



TRANSECT SUMMARY FORM

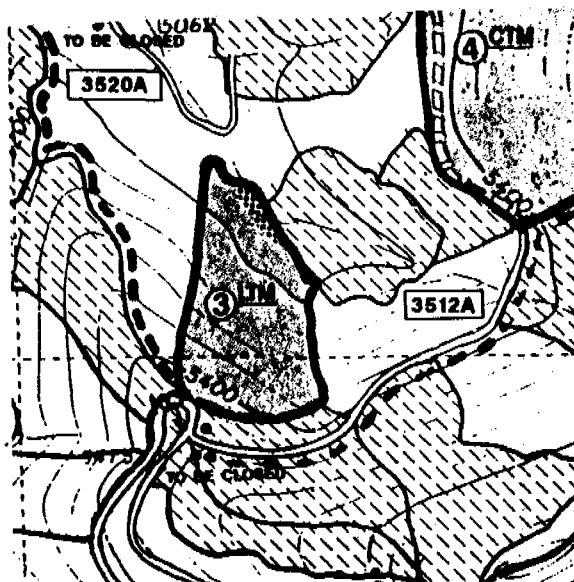
		<i>lower</i>		<i>middle</i>		<i>upper</i>		<i>upper 2</i>		TOTALS			
		Transect 1		Transect 2		Transect 3		Transect 4		Transect 5			
		Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%		
Disturbance	HEAVY	6	4	24	6	2	1	40	11			72	6
	LIGHT	116	88	255	71	113	43	303	85			787	71
	UNDISTURB	10	8	82	23	145	56	13	4			250	23
	TOTALS	132	100	361	100	260	100	356	100			1109	100
	DISPLACED	2	1	30	8	10	4	16	4			58	5
<del>EROSION</del> <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
	<b>TOTALS</b>	<b>281</b>	<b>100</b>	<b>283</b>	<b>100</b>						<b>564</b>	<b>100</b>
	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

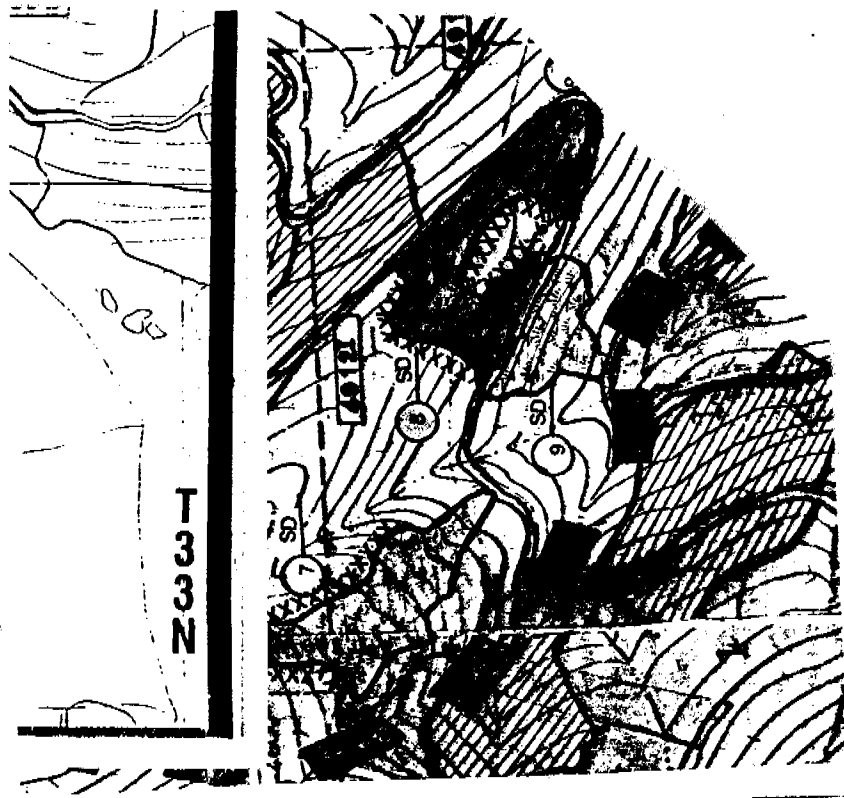




TRANSECT SUMMARY FORM

*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
	<b>TOTALS</b>	<b>207</b>	<b>100</b>	<b>198</b>	<b>100</b>						<b>405</b>	<b>100</b>
	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

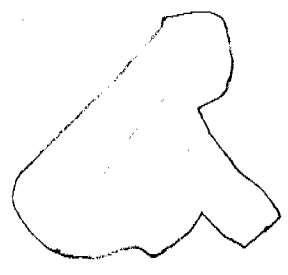
DISPLACED  \_\_\_\_\_ 0

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.

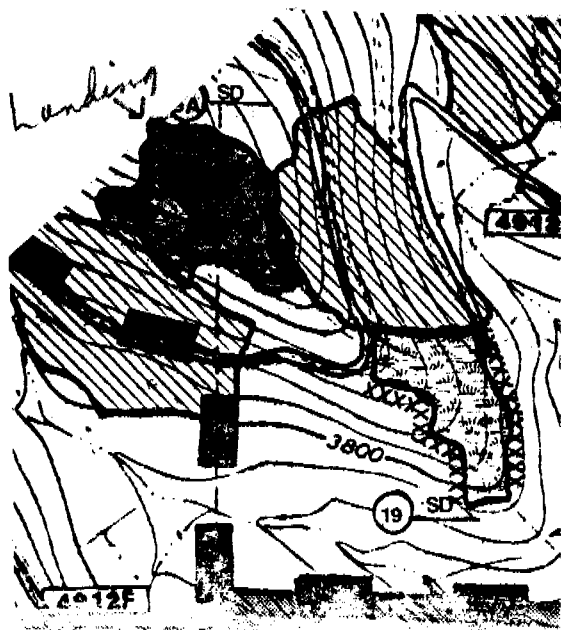






TRANSECT SUMMARY FORM

	<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
	<b>TOTALS</b>	<b>187</b>	<b>100</b>	<b>268</b>	<b>100</b>	<b>245</b>	<b>100</b>					<b>700</b>	<b>100</b>
	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. Doyle - per / long / w / OPERATION PERIOD Mar 97/98  
 Slope 43% - Unit 4, Unit 5 - short pit 55% off of higher terrace.  
 COMPACTION (Heavy) Unit 4 ② 23 ③ 16 ④ 11  
Unit 5 (along easterly face) ② 15 ③ 50

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

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

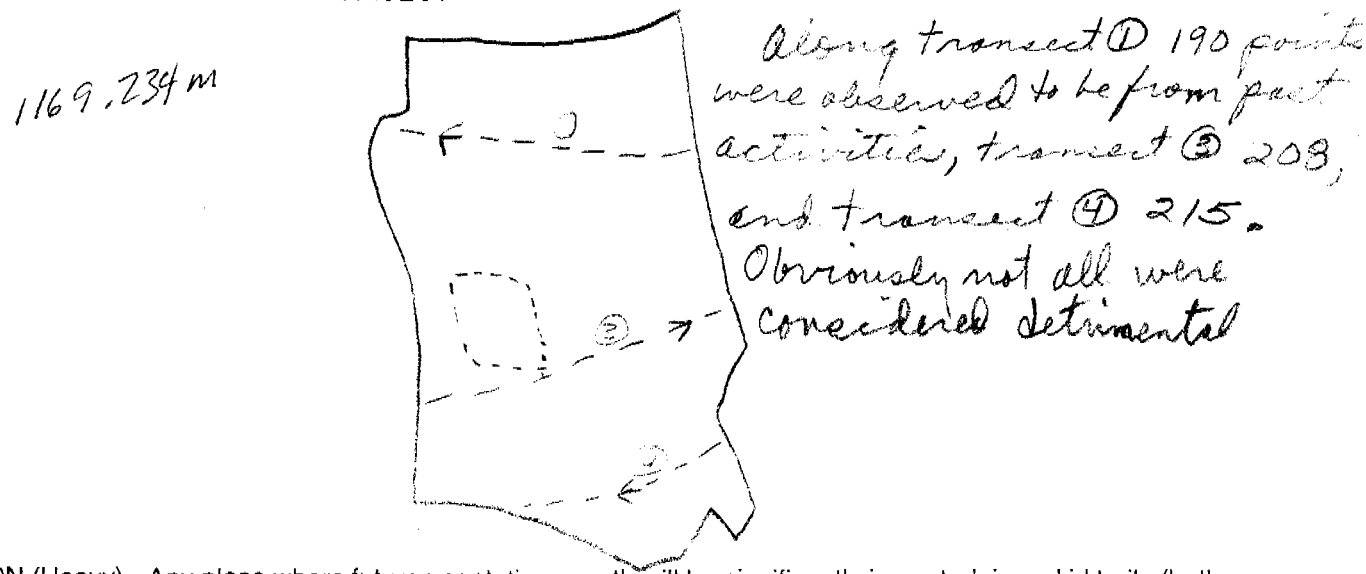
Unit 5 (along easterly face) ② 173 ③ 101  
 DISPLACED Unit 4 5 3 1 2

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 ③ 208 ④ 215 613  
Unit 5 ⑤ 148

COMMENTS whole tree yarded, stroke delimeter at landing  
scattered CF 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  
bedrock points w/ sandy siltstone filling in between them.

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.

Unit 4

TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
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
HEAVY	23	7	16	5	28	7					67	6
LIGHT	271	80	301	86	307	81					879	82
UNDISTURB	46	13	33	9	45	12					124	12
<b>TOTALS</b>	<b>340</b>	<b>100</b>	<b>350</b>	<b>100</b>	<b>380</b>	<b>100</b>					<b>1070</b>	<b>100</b>

23  
104  
+167  
-----  
271

16  
109  
+192  
-----  
301

28  
120  
+187  
-----  
307

46

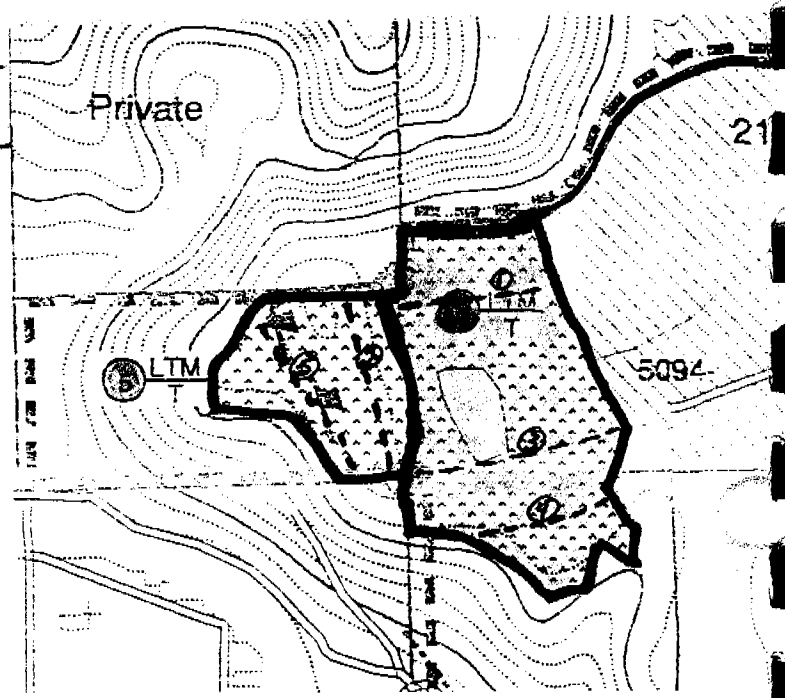
33

45

190  
-23  
-----  
167

208  
-16  
-----  
192

215  
-28  
-----  
187



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE June 3, 1998 CUTTING METHOD chipper  
 OPERATOR Kuennen SKIDDING METHOD RTS + Cat  
 DISTRICT Libby Crawford 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

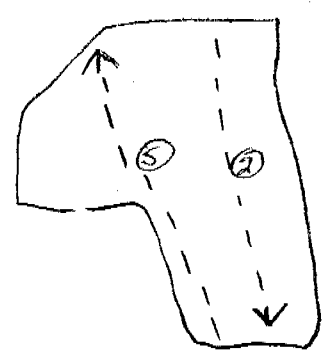
DISPLACED ② 18 ③ 2

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

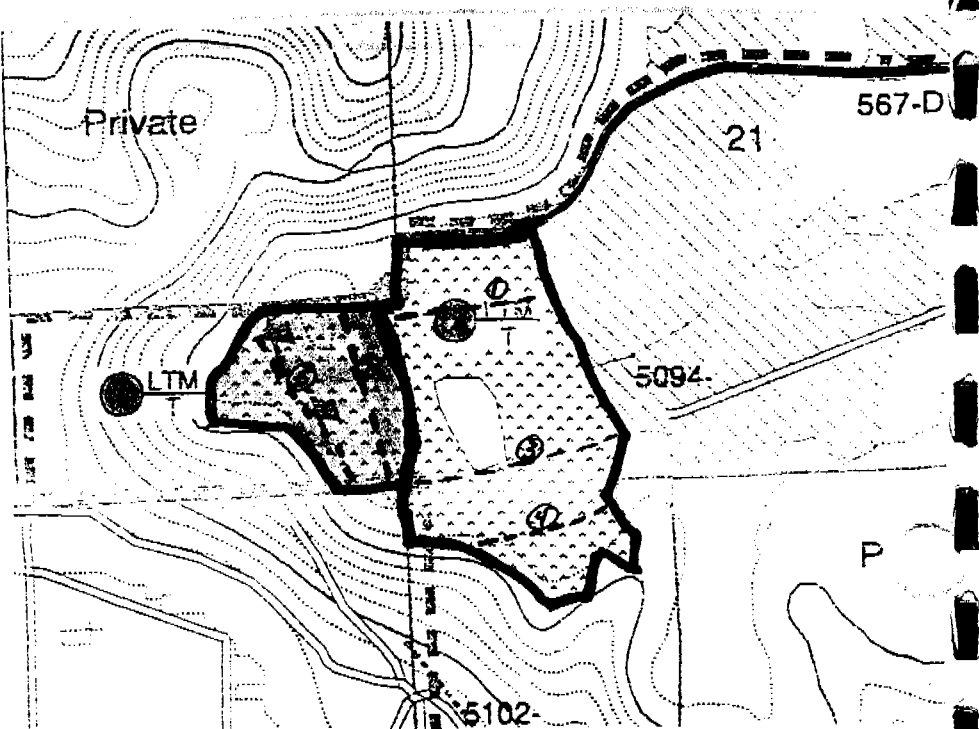
⑤

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
<b>TOTALS</b>	<b>311</b>	<b>100</b>	<b>397</b>	<b>100</b>							<b>708</b>	<b>100</b>
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



06/12/1998

Libby - Dry 3 Roadside

57905027

Unit 2

57905027

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE June 12, 1998

CUTTING METHOD clippers

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT \_\_\_\_\_

SALE Dry 3 RDSD.  
Unit No. 2 12A

SILVICULTURAL sanitation salvage

OPERATION PERIOD summer

COMPACTION(Heavy)  1. <sup>14</sup>

COMPACTION (Light) ~~XXXXXX~~ <sup>109</sup>

UNDISTURBED ~~XXXXXXXXXX~~ <sup>140</sup>

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

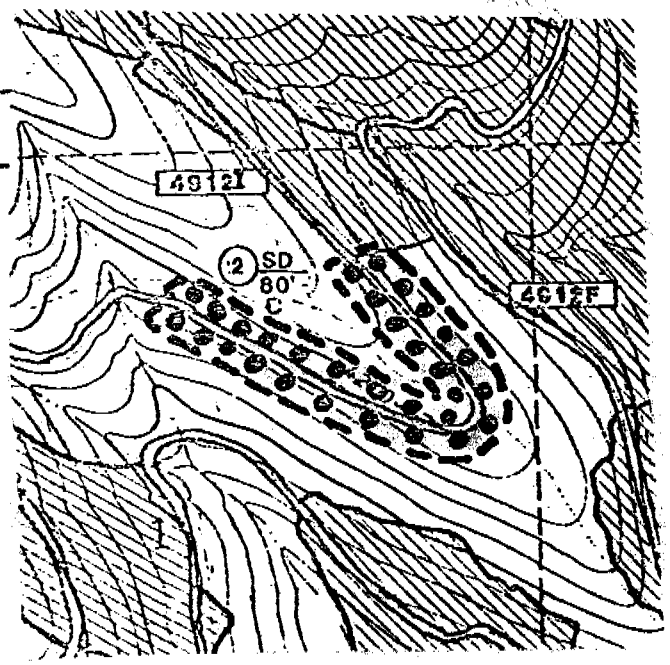
COMMENTS

Dead + down LPP

6% detrimental, 41 light, 53 undisturbed  
Shape of Unit and Pattern of Transect



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



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 30 1998 CUTTING METHOD Clipper mostly, hand for large  
OBSERVER Kuennen SKIDDING METHOD Tractor  
DISTRICT Libby If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
SALE/S.A. Detgen Cowell - Deery HAZARD TREATMENT \_\_\_\_\_  
Unit # 7 Acres 15 SILVICULTURAL TRMT LTM Shelterwood  
H.T. DF/Caru - GF/Libo OPERATION PERIOD Summer 1998  
Slope 5-20  
Location Mid slope  
COMPACTION (Heavy) upper 11  
lower 23

COMPACTION (Light) upper 141  
lower 190

UNDISTURBED upper 79  
lower 87

DISPLACED           100  
lower           130  
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

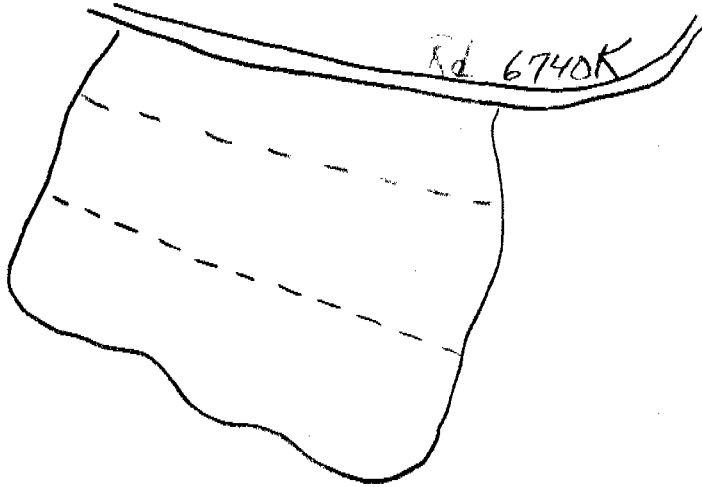
COMMENTS Unit was machine scalped, so there is a lot of displacement  
Excavated trail along upper west edge, then extends into unit  
unit. Reshaped where present in unit

Unit logged before -- poss. 50 yrs. Appears only scattered land  
were taken. Excavated trails evidenced throughout.

4-6" of ash present well mixed w/ rock.

Old excavated trails perpendicular to current operations. 5-7% of  
unit in old trails. Only 2-3% indicated by current transects as  
The transects were more or less parallel to old trails.

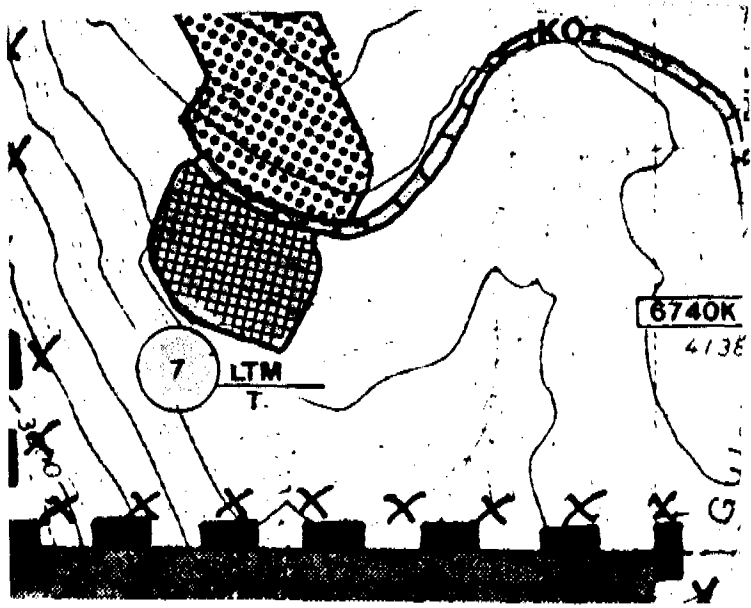
SHAPE OF UNIT AND PATTERN OF TRANSECT



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>upper</i>		<i>lower</i>		Transect 3		Transect 4		Transect 5		TOTALS	
		Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
		Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
Disturbance	HEAVY	11	5	23	8							34	7
	LIGHT	141	61	190	63							331	62
	UNDISTURB	79	34	87	29							166	31
	<b>TOTALS</b>	<b>231</b>	<b>100</b>	<b>300</b>	<b>100</b>							<b>531</b>	<b>100</b>
	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



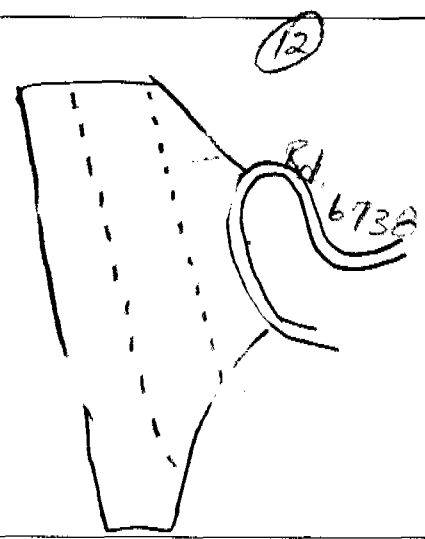
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 30, 1998 CUTTING METHOD Chipped  
OBSERVER Kruenner SKIDDING METHOD Tractor  
DISTRICT Libby If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
SALE/S.A. Detgen Cowell - Deer HAZARD TREATMENT  
Unit # 12 Acres 6 SILVICULTURAL TRMT LTM - Seed tree  
H.T. GF/Libby - DF/Com OPERATION PERIOD Summer 1998  
Slope 20-50 NE  
Location mid-slope

COMPACTION (Heavy)	lower: 1	7
	upper: 1	5
COMPACTION (Light)	lower: [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	100
	upper: [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	130
UNDISTURBED	lower: [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	115
	upper: [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	150
DISPLACED	lower: [X] [X]	20
	upper: [X]	8
EXCAVATED SKID TRAIL		
SMZ/ROCK		

COMMENTS Same ash present - lots of small angular rock mixed w/ surface (50%)  
Steepest slopes apparently had fewest trees - trails spaced further apart.

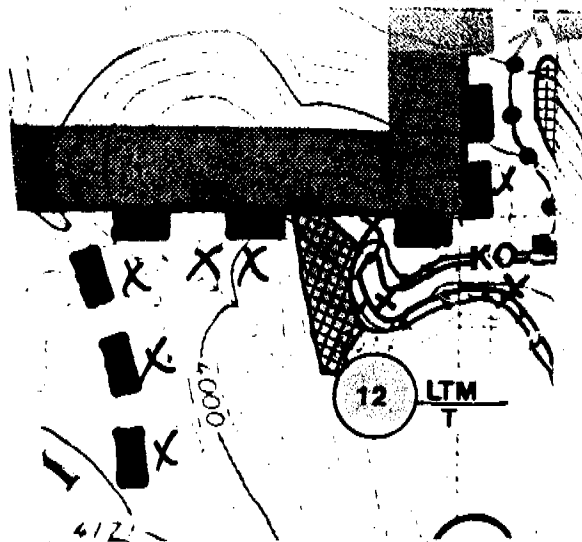
SHAPE OF UNIT AND PATTERN OF TRANSECT



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.	%
Disturbance	HEAVY	7	3	5	1							12	2
	LIGHT	100	45	130	46							230	45
	UNDISTURB	115	52	150	53							265	53
	<b>TOTALS</b>	<b>222</b>	<b>100</b>	<b>285</b>	<b>100</b>							<b>507</b>	<b>100</b>
	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	

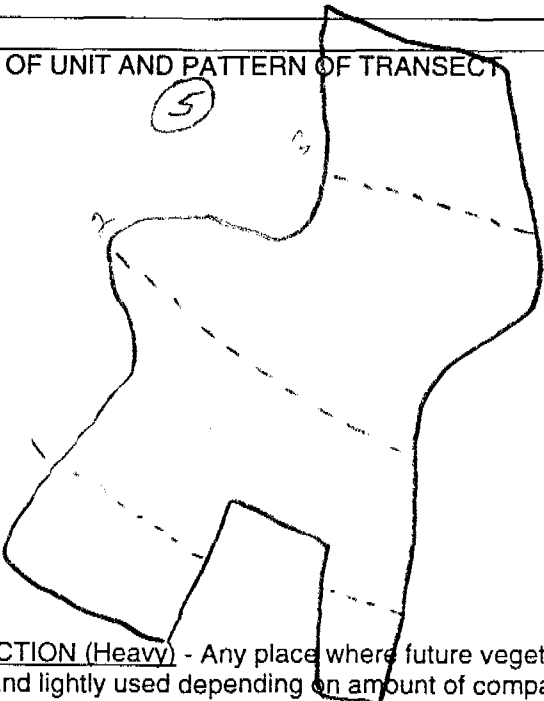


KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

DATE Sept. 22, 1998 CUTTING METHOD chipper  
 OBSERVER Kaehnen SKIDDING METHOD RTS  
 DISTRICT Libby Mc Bride If tractor: dispersed  dedicated   
 SALE/S.A. Bristow Cr. Salvage HAZARD TREATMENT \_\_\_\_\_  
 Unit # 5 Acres 46 SILVICULTURAL TREATMENT SD  
 H.T. SAF/Vase - 5/Libo OPERATION PERIOD October '97 summer '98  
 Slope 15-30% Elev: 4600-5000'  
 COMPACTION (Heavy) lower - 5 (winter); 2 (summer); 3 (winter)  
                                   middle - 7 (winter); 10 (summer); 9 (winter)  
                                   upper - 8 (summer); 5 (winter)  
 COMPACTION (Light) lower - 69 (winter); 120 (summer); 15 (winter)  
                                   middle - 63 (winter); 155 (summer); 53 (winter)  
                                   upper - 140 (summer); 40 (winter)  
 UNDISTURBED lower - 40 (winter); 50 (summer); 15 (winter)  
                                   middle - 30 (winter); 60 (summer); 30 (winter)  
                                   upper - 80 (summer); 30 (winter)  
 DISPLACED lower - 11  
                                   middle - 1                                    upper -  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS Rd. 6300 definitely needs surface drainage -- hope this occurs before winter.  
Unit of disturbance for eastern incline too much.  
Small finger east end west part of larger finger winter operations  
the October operations definitely reflect higher soil moisture.

SHAPE OF UNIT AND PATTERN OF TRANSECT



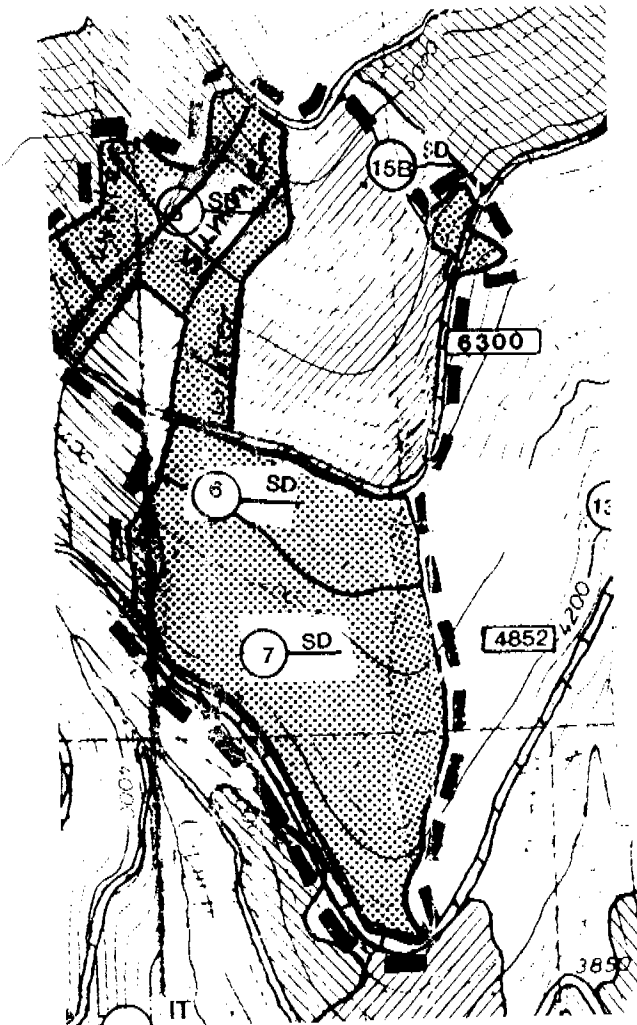
**COMPACTION (Heavy)** - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
**COMPACTION (Light)** - Any other area not included in 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.

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

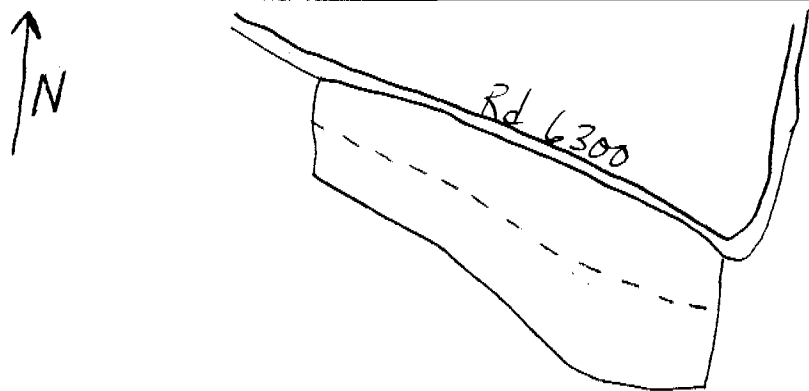
EXCAVATED SKID TRAIL

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

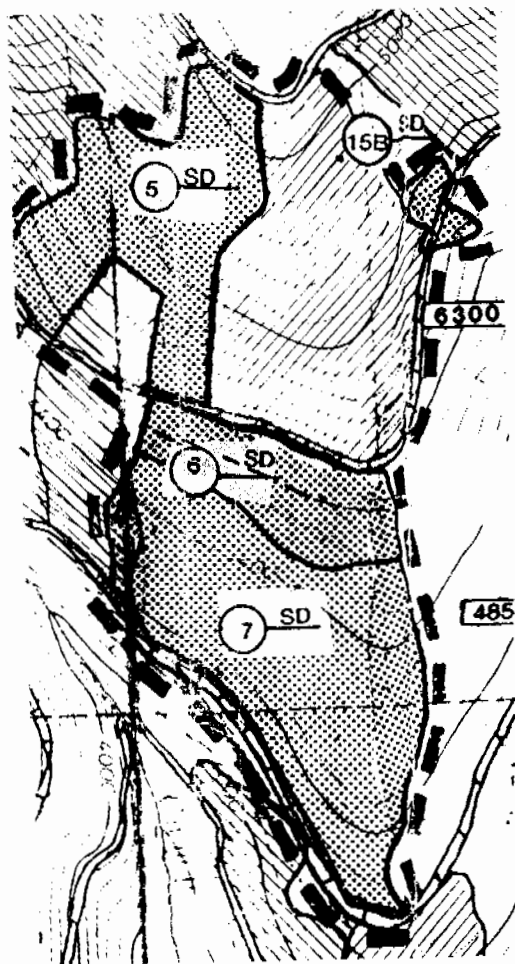


**COMPACTION (Heavy)** - Any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
**COMPACTION (Light)** - Any other area not included in 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 b	HEAVY	12	2								12	2
	LIGHT	386	66								386	66
	UNDISTURB	185	32								185	32
	<b>TOTALS</b>	<b>583</b>	<b>100</b>								<b>583</b>	<b>100</b>
	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  
 TRACTOR 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~~ ~~Sho/Chun~~ 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

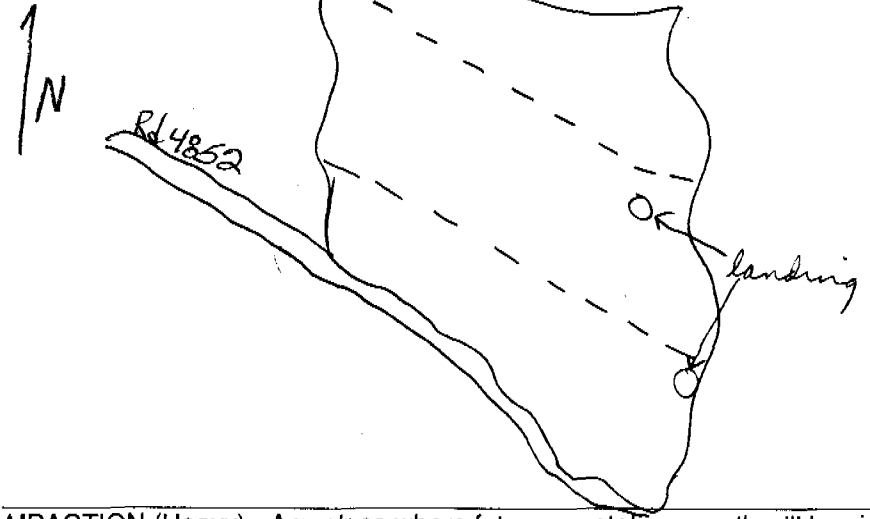
DISPLACED lower  10  
upper  8

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

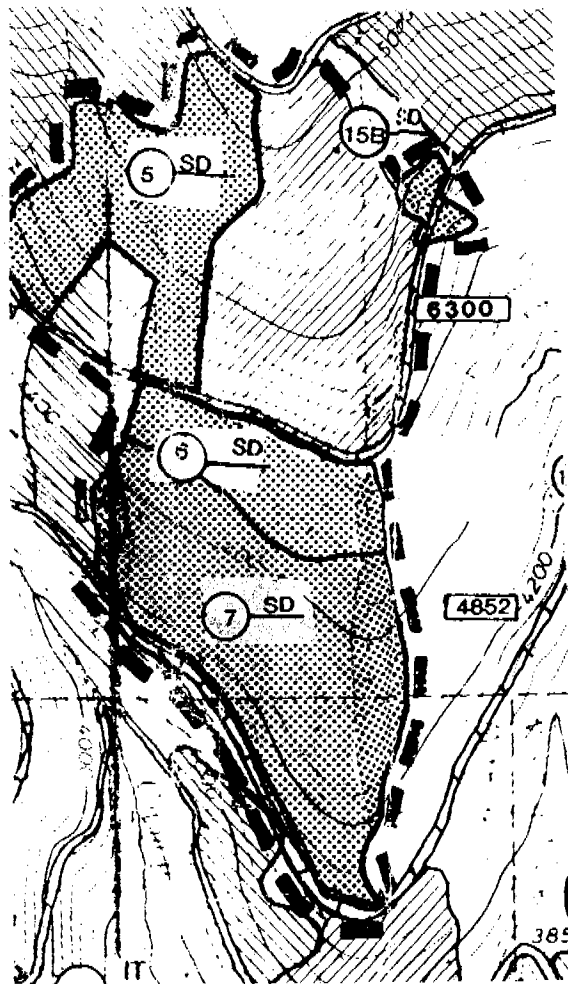
SHAPE OF UNIT AND PATTERN OF TRANSECT



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 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> 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
<b>TOTALS</b>	<b>739</b>	<b>100</b>	<b>875</b>	<b>100</b>							<b>1614</b>	<b>100</b>
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



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

1963

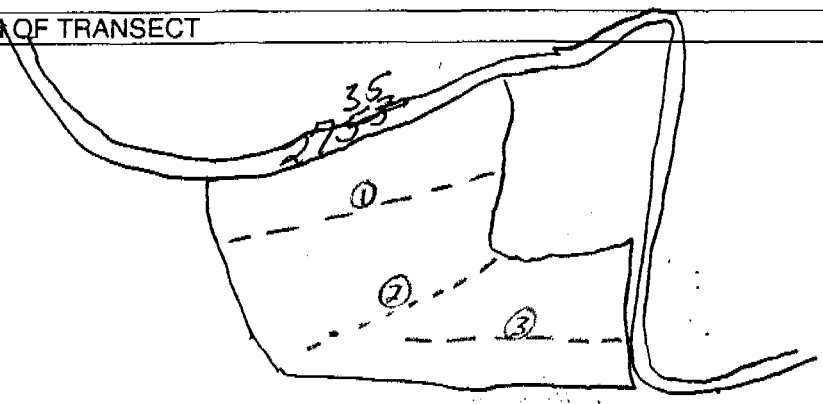
DATE Oct. 23, 1998 CUTTING METHOD Hand  
 SERVER Kuesner SKIDDING METHOD RTS  
 DISTRICT Cabinet If tractor: dispersed  dedicated   
 SALE/S.A. Gray Woodchuck/Unit HAZARD TREATMENT \_\_\_\_\_  
 Unit # 1 Acres 29 SILVICULTURAL TRMT Seed tree  
 H.T. DE/Phma OPERATION PERIOD Summer 1998  
 Slope \_\_\_\_\_ Aspect: E-ENE  
 Location lower slope Elevation: 2900-3100

COMPACTED (Heavy) <input type="checkbox"/>	2	10
② <input type="checkbox"/>	3	5
③ <input type="checkbox"/>	2	
COMPACTED (Light) <input checked="" type="checkbox"/>	168	41 old <input checked="" type="checkbox"/>
② <input checked="" type="checkbox"/>	92	② old <input checked="" type="checkbox"/> : 32 <input checked="" type="checkbox"/>
③ <input checked="" type="checkbox"/>	43	
UNDISTURBED <input checked="" type="checkbox"/>	187	
② <input checked="" type="checkbox"/>	73	
③ <input checked="" type="checkbox"/>	50	
DISPLACED <input type="checkbox"/>	2	
② <input type="checkbox"/>	3/4	
EXCAVATED SKID TRAIL <input checked="" type="checkbox"/>	10	

SMZ/ROCK \_\_\_\_\_

COMMENTS Logging operation looks good. Waterbars not properly placed - some w/ butlets so water comes back to trail  
had trail along lower leg of unit near young stand. Possibly could we pushed berm back into trail.  
Unit previously logged in 1963.

SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTED (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.  
 COMPACTED (Light) - Any other area not included in heavy COMPACTED 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.

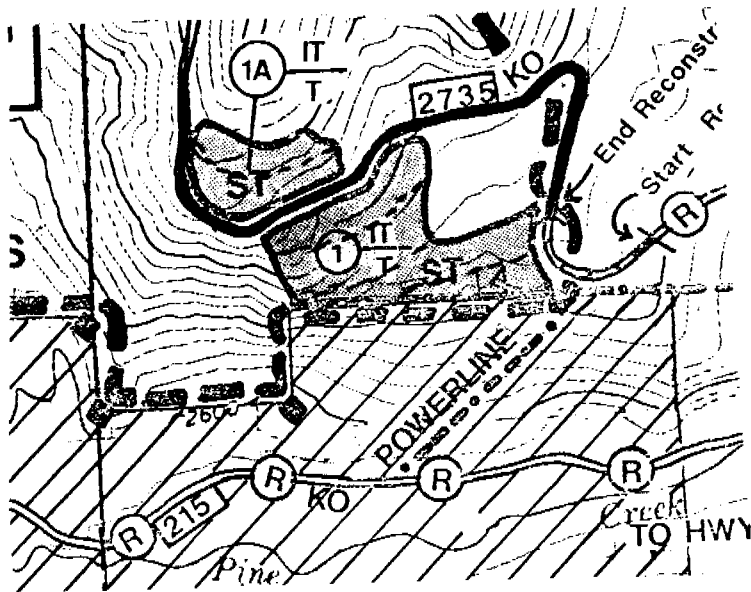
*current operations*

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
<b>TOTALS</b>	<b>357</b>		<b>167</b>		<b>95</b>	<b>100</b>	<b>51</b>		<b>37</b>		<b>707</b>	<b>100</b>
	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



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE MONITORING FORM

1962

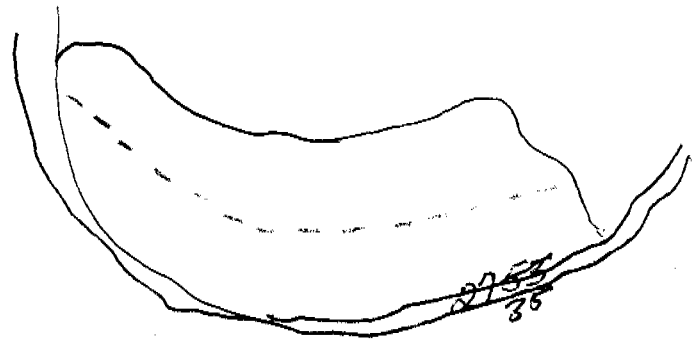
DATE Oct. 23, 1998  
 SERVER Kuennen  
 DISTRICT Cabinet  
 SALE/S.A. Gray-Woodchuck/Hilt  
 Unit # 1A Acres 13  
 H.T. DF/Phma  
 Slope 25-30 Aspect: E-ENE  
 Location lower slope Ele: 3100-3200  
 CUTTING METHOD Hand  
 SKIDDING METHOD RTS  
 If tractor: dispersed  dedicated   
 HAZARD TREATMENT \_\_\_\_\_  
 SILVICULTURAL TRMT Seed trees  
 OPERATION PERIOD Summer 1998

COMPACTED (Heavy) 11 4  
11 6  
 COMPACTED (Light)                  86  
11     42  
 UNDISTURBED                   184

DISPLACED 1 5  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ/ROCK \_\_\_\_\_

COMMENTS Logging looks good. Can still tell impact from old logging - 30+ years ???  
North skid trail - possibly 1-2 waterbars above rd. ??  
Unit previously logged in 1962.

SHAPE OF UNIT AND PATTERN OF TRANSECT

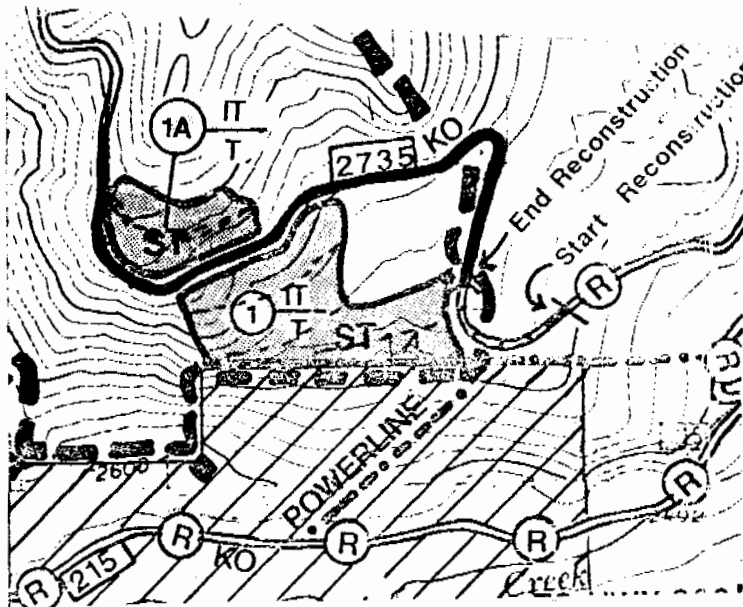


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 COMPACTED (Light) - Any other area not included in heavy COMPACTED or UNDISTURBED.  
 UNDISTURBED - No signs of any machinery or skidding activity.  
 DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.  
 SMZ - Include within transect if within harvest unit.

TRANSECT SUMMARY FORM

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.

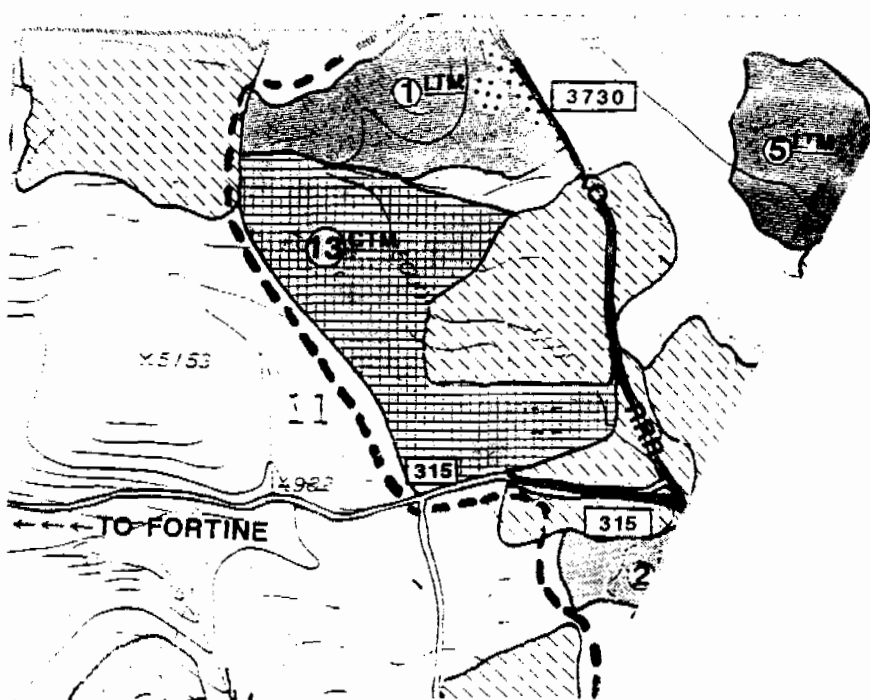
SHAPE OF UNIT AND PATTERN OF TRANSECT

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											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											



① ~~347-03-055~~ 38  
② 347-04-013 98

W. over Througa  
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.

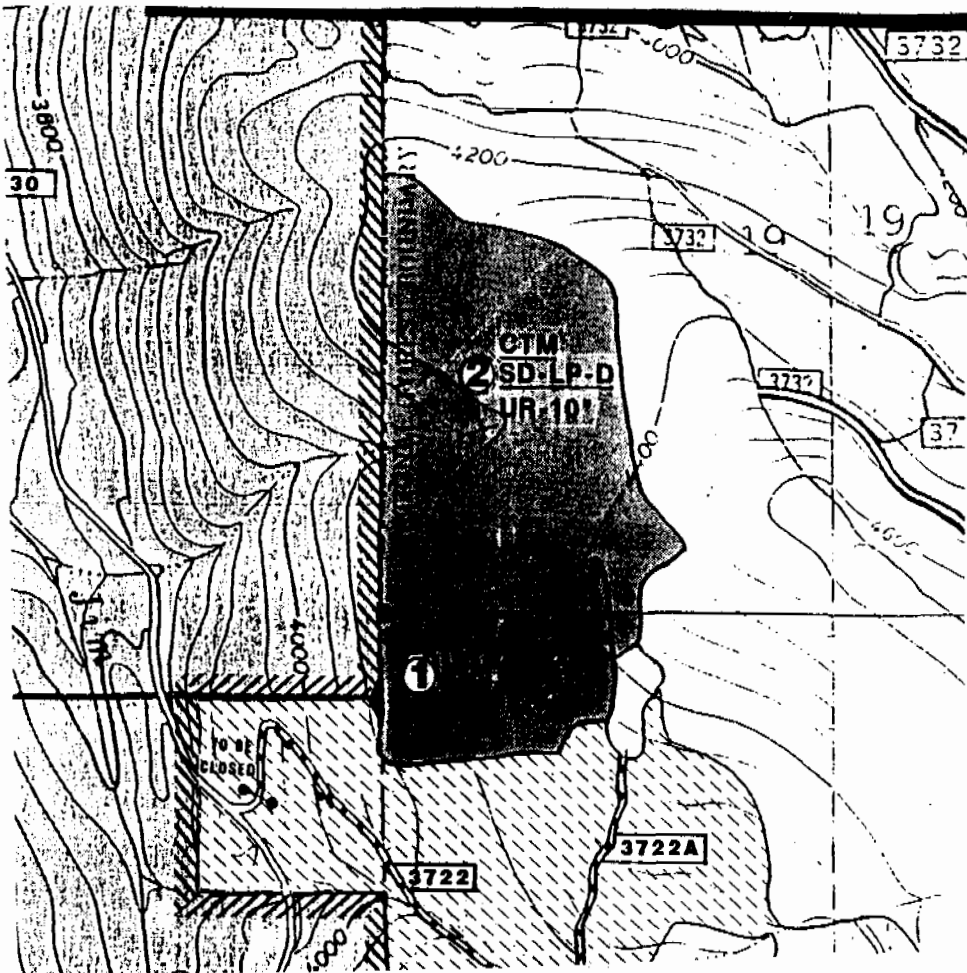
Unit 2: Much less volume removed so not nearly as many trans per trail.  
Temp. road to both units closed.

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.

### 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												
<b>TOTALS</b>												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



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. SILVICULTURAL ST final cut

Unit No. 23

OPERATION PERIOD Jul/Aug '97

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

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

slope 25 OPERATION PERIOD Jul/Aug '02

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

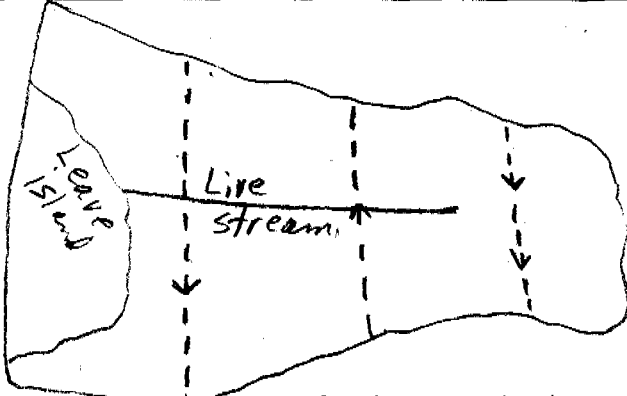
112-02-102  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 4/17/97 CUTTING METHOD CC w/ reserves / Fire Salvage  
 OBSERVER Kuennen Sullivan Yang, Billows, Wadger SKIDDING METHOD Summer Tractor  
 DISTRICT D-1 HAZARD TREATMENT Spring 97  
 SALE Bunker Hill Fire Salvage SILVICULTURAL TREATMENT Broadcast w/ jack pt piles  
 Unit No. 10 112-02-102 OPERATION PERIOD Summer '96  
 Acres 44  
 Habitat Type SHF/Clun

COMPACTION (Heavy) Trans. 1	<input checked="" type="checkbox"/>	15
Trans. 2	<input checked="" type="checkbox"/>	19
Trans. 3	<input checked="" type="checkbox"/>	33
COMPACTION (Light) Trans. 1	<input checked="" type="checkbox"/>	55
Trans. 2	<input checked="" type="checkbox"/>	151
Trans. 3	<input checked="" type="checkbox"/>	148
UNDISTURBED Trans. 1	<input checked="" type="checkbox"/>	150
Trans. 2	<input checked="" type="checkbox"/>	239
Trans. 3	<input checked="" type="checkbox"/>	220
DISPLACED	<input checked="" type="checkbox"/>	
EXCAVATED SKID TRAIL		
SMZ	<input checked="" type="checkbox"/>	

COMMENTS Trans 3 - broadcast skid trail SMZ  
waterbars generally every 30-50' + lots of water that ran thru  
spring shed trail on south end of unit + from old unused track.  
lots of water run + eroded upper part of trail.  
Need to put more waterbars in shed trail on south side of unit.

SHAPE OF UNIT AND PATTERN OF TRANSECT

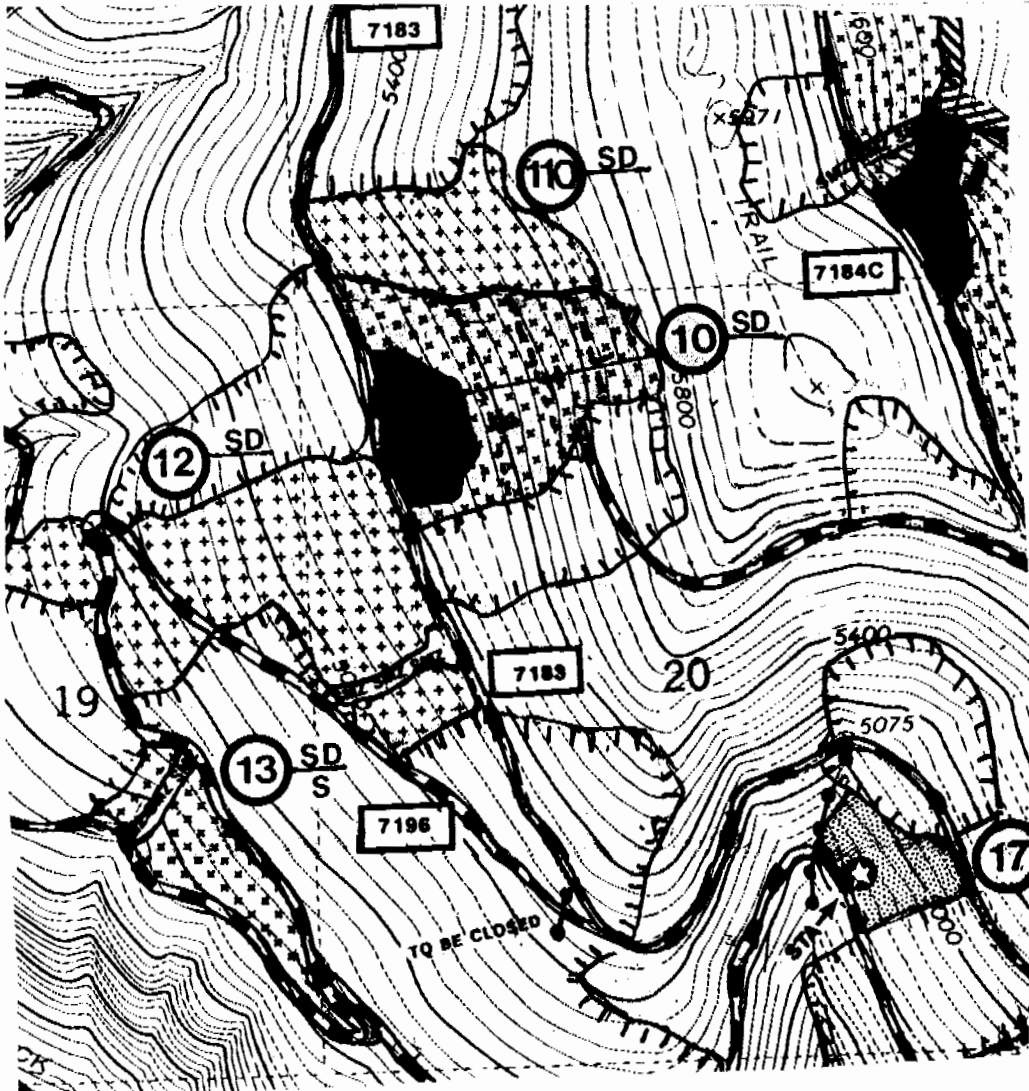


COMPACTION (Heavy) - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.  
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UNDISTURBED - 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	15	7	19	5	33	8					67	6.5
	LIGHT	55	25	151	37	148	29					354	34.5
	UNDISTURB	150	68	239	58	220	55					609	59
	TOTALS	220	100	409	100	401	100					1030	100
DISPLACED													
		10	5	19	5	20	5					49	5
EROSION													
		3		5		7						15	1
PUDDLED													
		0		0		0						0	0
SMZ													
						23						23	2
ROCK													
				4								4	0
BURN PILES													



11203075

DATE 8.5.97

CUTTING METHOD Hand

OBSERVER Kuennen

SKIDDING METHOD Cable

DISTRICT Rexford

HAZARD TREATMENT none

SALE Bunker Hill Fire Salvage  
Unit No. 6 <sup>wood gen</sup> 10 Acres

SILVICULTURAL TREATMENT

H.T. SAF/Clun/Mefe -> Mefe  
OPERATION PERIOD Summer '97  
slope 30-45%

COMPACTION(Heavy)::: 112-03-075 4

COMPACTION(Light) [X][X][X][X] 40

UNDISTURBED [X] 200

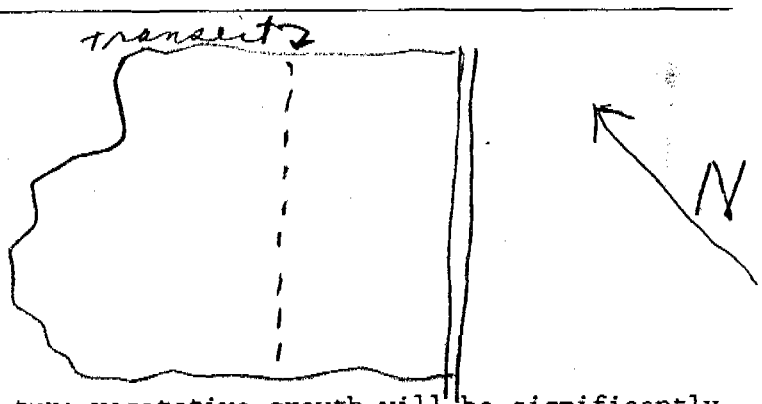
DISPLACED | 3

EXCAVATED SKID TRAIL

SMZ

COMMENTS Cable corridor 100' ± apart. Several minimal waterbars placed in one corridor where slightly gouged on convex slope.

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.

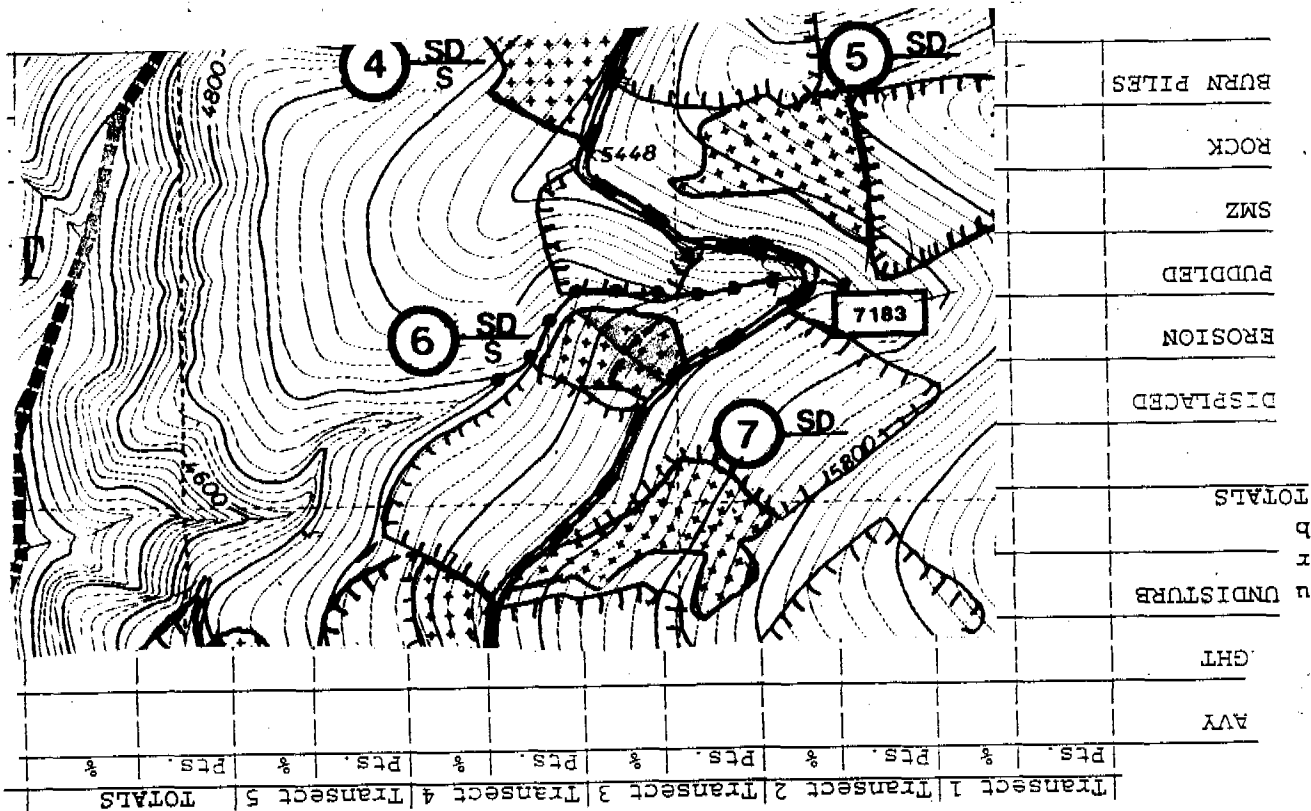
**UNDISTURBED** - no signs of any machinery or skidding activity.

**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 e n c e s L I G H T	4	2									4	2
u n d i s t u r b e n c e s L I G H T	40	16									40	16
u n d i s t u r b e n c e s	200	82									200	82
<b>TOTALS</b>	<b>244</b>	<b>100</b>									<b>244</b>	<b>100</b>
DISPLACED	3	1									3	1
EROSION											0	
PUDDLED											0	
SMZ												
ROCK												
BURN PILES												



10907167  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE July 22 1997 CUTTING METHOD Clipper  
OBSERVER Kenneth Sullivan SKIDDING METHOD Tractor/Forwarder  
DISTRICT Rexford HAZARD TREATMENT BB?  
SALE Webb Fire Salvage SILVICULTURAL TREATMENT Group Shelterwood / <sup>SD</sup> <sub>residual</sub>  
Unit No. 2 Acres 11.2 OPERATION PERIOD Winter 96-97

One transect on lower end of mid-section of unit - started west to east  
COMPACTION (Heavy) ||||

COMPACTION (Light) ||||| 173  
||||| 232

UNDISTURBED ||||| 199 ||||| 40  
||||| 291

DISPLACED ||

EXCAVATED SKID TRAIL

SMZ

COMMENTS

overland/channeled flow: |||| 32 || 4

one with erosion  
A lot of surface flow during spring melt in W part of unit.  
Some exposed soil along go-back trail on eastern edge of unit  
Erosion of wheel tracks on trail between two cleared patches

SHAPE OF UNIT AND PATTERN OF TRANSECT

see back

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.

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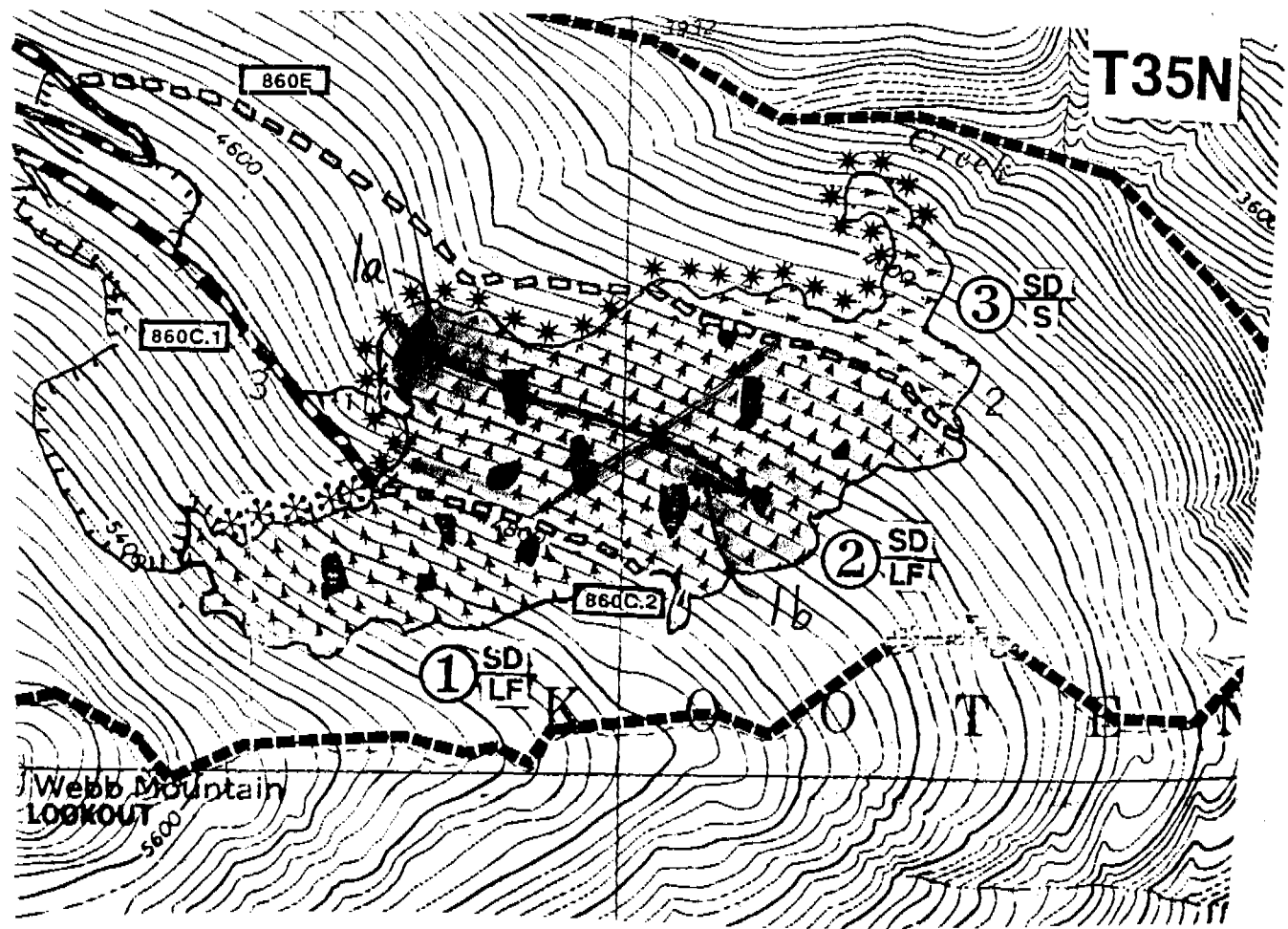
SMZ - include within transect if within harvest unit.

TRANSECT SUMMARY FORM

*forwarder*

*Tractor*

	Transect 1a		Transect 1b		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D HEAVY	5	1	5	1							10	1
s LIGHT	172	46	232	46							404	46
u UNDISTURB	199	53	271	53							470	53
r												
b												
TOTALS	376	100	508	100							884	100
DISPLACED	6	2	3	1							9	1
EROSION	4	1	2	0							6	1
PUDDLED											0	0
<del>Overland</del> flow	28	7	1	0							29	3
ROCK												
BURN PILES												



10704088

NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/22/1997  
Rexford (D-1) - Lower Scalp  
Fire Salvage  
Unit 8  
10704088

DATE July 22, 1997

CUTTING METHOD Hand

OBSERVER Kuman/Sullivan/Kindel

SKIDDING METHOD Tractor

DISTRICT Rexford

HAZARD TREATMENT Whole tree Yarded

SALE Lower Scalp Fire Salv. Unit No. 8 19 Acres

SILVICULTURAL TREATMENT Leave tree marked

OPERATION PERIOD Winter 96-97

107-04-088

HT. DF/Vaca upper 3/4 Lower 1/3  
Current DF/Caru LT 302

Previous ≈ 1970

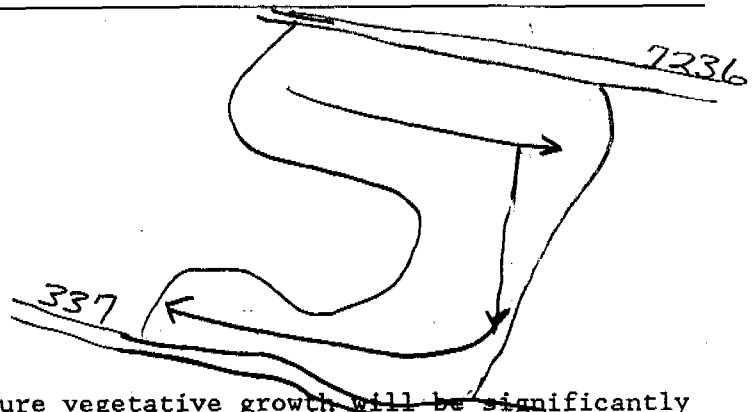
COMPACTON (Heavy)	F	41
	S	40
	W	43
COMPACTON (Light)	E	46
	S	30
	W	54
UNDISTURBED	F	
	S	
DISPLACED	F	
	S	
EXCAVATED SKID TRAIL	SU	
SMZ		

COMMENTS

OVERLAND CHANNEL FLOW E ::

Underlain by Keweenaw Quartzite  
A lot of surface rock; ash cap generally absent  
Lots of surface water in the spring.

SHAPE OF UNIT AND PATTERN OF TRANSECT



- COMPACTON (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.
- COMPACTON (Light) - any other area not included in heavy COMPACTON 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.

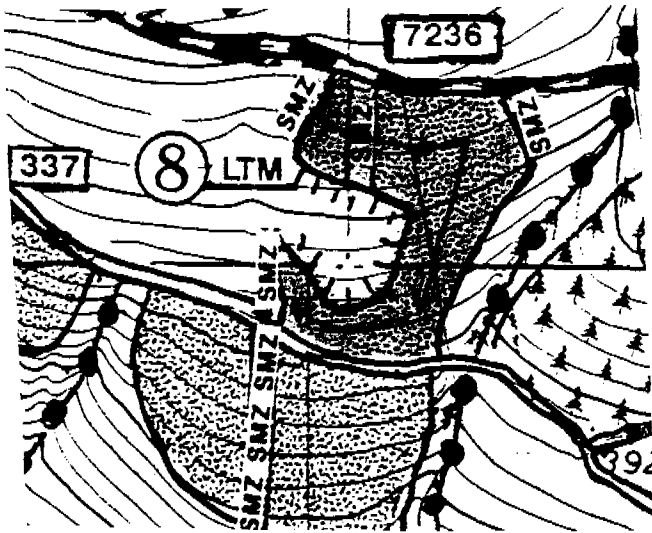
# Current

# Previous

TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 1		Transect 2		Transect 3		
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	
D HEAVY	0	0	0	0	0	0	41	19	40	22	54	20	10
s LIGHT	76	35	77	43	132	50	133	60	110	61	167 <sup>695</sup>	63	52
u UNDISTURB	144	65	104	51	132	50	46	21	30	17	43 <sup>499</sup>	17	38
<b>TOTALS</b>	<b>220</b>	<b>100</b>	<b>181</b>	<b>100</b>	<b>264</b>	<b>100</b>	<b>220</b>	<b>100</b>	<b>181</b>	<b>100</b>	<b>264</b>	<b>100</b>	
DISPLACED			665				40	18	36	20	43	17	9
EROSION							5	2	4	2	7	3	1
PUDDLED													
SMZ													
ROCK													
BURN PILES													

135

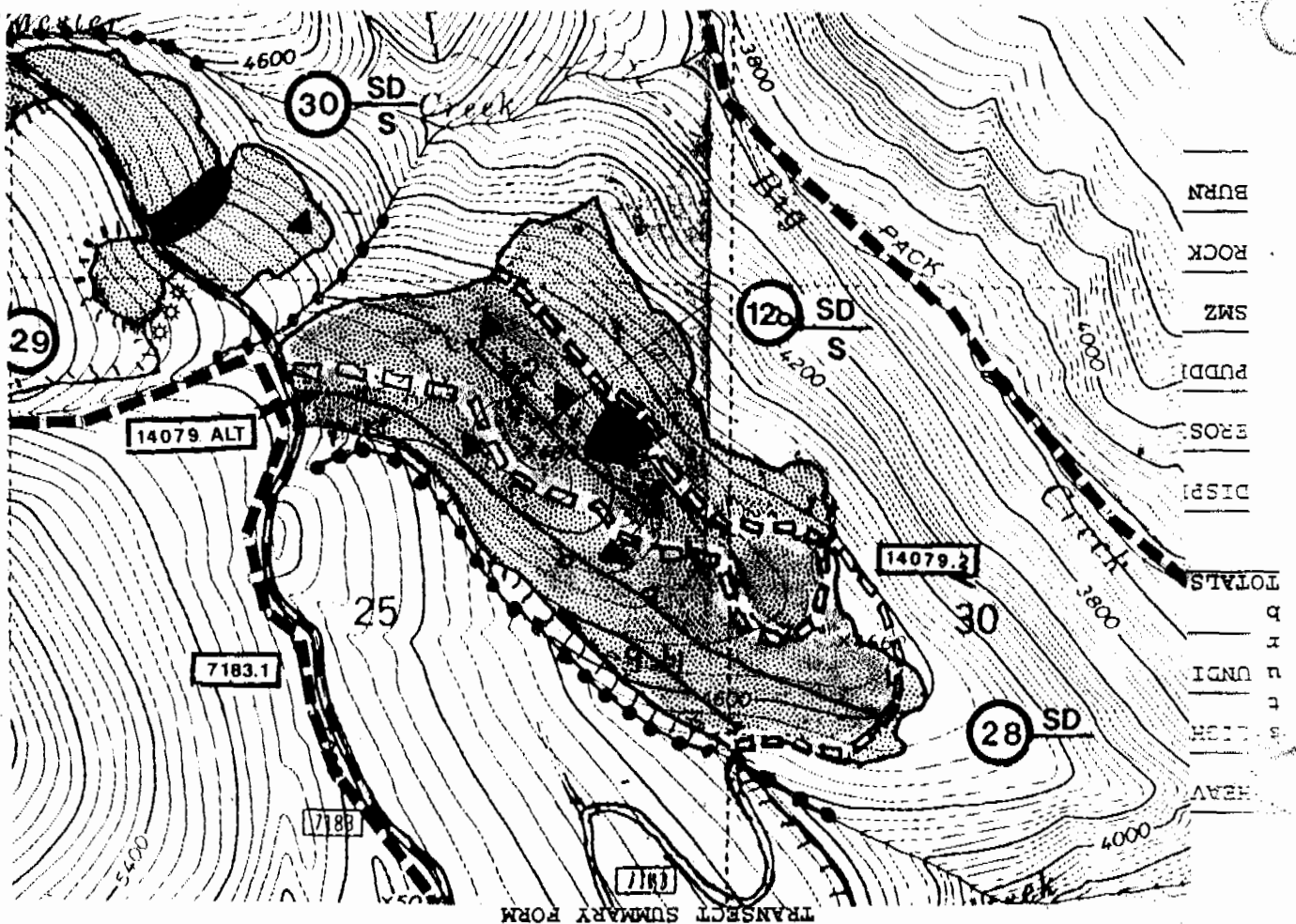






TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												
HEAVY	20	2										
MEDIUM												
LIGHT	285	24										
UNDISTURBED	885	74										
TOTALS	1190	100										



08/05/1997

Rexford (D-1) - North Fork West Fire Salvage

Unit 28B 11204220

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8.5.97

CUTTING METHOD chipper

OBSERVER Kuennen

SKIDDING METHOD forwarder

DISTRICT Rexford

HAZARD TREATMENT \_\_\_\_\_

SALE North Fork West Fire Salvage <sup>Emergency</sup>  
Unit No. 28b

SILVICULTURAL TREATMENT SD

H.T. WRC/Chen

OPERATION PERIOD Summer '97

COMPACTION (Heavy)  20-35% summer operation tractor SE corner 13  L

summer operation - tractor 5-40% northwest 17

COMPACTION (Light)           100           190

UNDISTURBED           130           210

DISPLACED L 7

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Temp. / debris stid shift soil was excess for the steeper part on southern edge. Need to recontour at wet spot.

SHAPE OF UNIT AND PATTERN OF TRANSECT

See 28a

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.

SE NW  
corner corner  
TRANSECT SUMMARY FORM

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D-HEAVY	13	5	17	4							30	4.5
S-LIGHT	100	41	190	46							290	44
UNDISTURB	130	54	210	50							340	51.5
TOTALS	243	100	417	100							660	100
DISPLACED	7	3	0	0							7	1
EROSION											0	
PUDDLED											0	
SMZ												
ROCK												
BURN PILES												

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
HEAVY												
S-LIGHT												
UNDISTURB												
TOTALS												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												

34504054

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE Aug. 15, 1997

CUTTING METHOD Hand 1/4 / clipped 3/4

OBSERVER L Kuennen

SKIDDING METHOD \_\_\_\_\_

DISTRICT Fortine

HAZARD TREATMENT BB - spring '97

SALE Mid Advent 345-04-054  
Unit No. 1 Acres 33  
H.T. - SAF/Libo

SILVICULTURAL TREATMENT LTM - WL + DF seed trees

OPERATION PERIOD winter '96  
Slope: 5-30%

COMPACTION(Heavy)  L \_\_\_\_\_ 15  
L \_\_\_\_\_ 5

COMPACTION(Light)     \_\_\_\_\_ 60  
  \_\_\_\_\_ 40

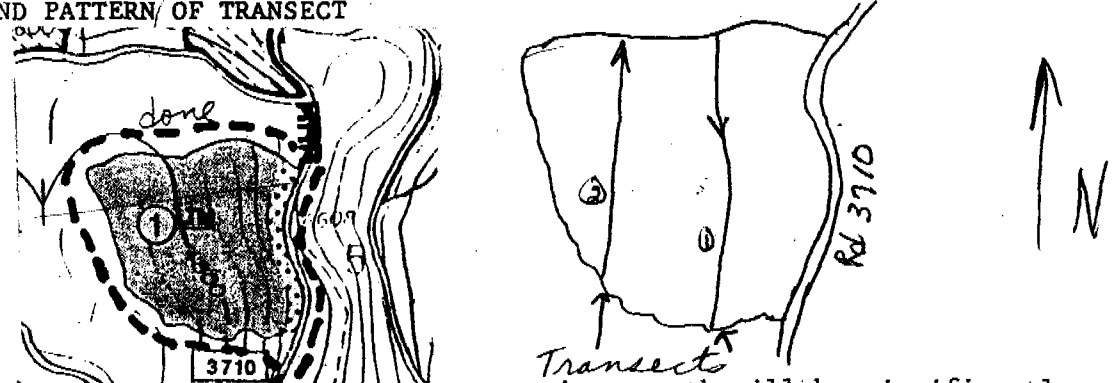
UNDISTURBED  \_\_\_\_\_ 360  
   \_\_\_\_\_ 210

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

~~Rock~~  L /   Bedrock layers fairly flat, dipping to W 5°.  
Rock ribs scattered throughout unit. Some bluffs up to 30' high.  
COMMENTS Soil: ash cap generally absent on N 1/2 of unit. S 1/2 6-8" deep.  
Lots of smaller rock than till, generally appears to be mostly local of Pilgona.  
Fair amt. of shallow soils due to flatness of bedrock.  
Burn looks very good. Lots of 3"+ CWD left and a lot of humus still intact.  
From the soil to water stand point the burn looks very good.  
Excavator fuel line w/ throwback. Cool burn  
Land form broken  
Elev. 4620 - 4880'

SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTION(Heavy) - vegetative growth will be significantly impacted, i.e., some areas (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.



DATE 8.15.1997

CUTTING METHOD Clipped

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fortine 345-02-054

HAZARD TREATMENT BB - cool Spring '97

SALE Mid Advent

SILVICULTURAL TREATMENT LTM - WL + DF seed trees

Unit No. 3 Acres: 35  
 H.T. SAF/Libo → SAF/Xete

OPERATION PERIOD Spring '96

COMPACTION (Heavy) 5

COMPACTION (Light) 180  
190 46

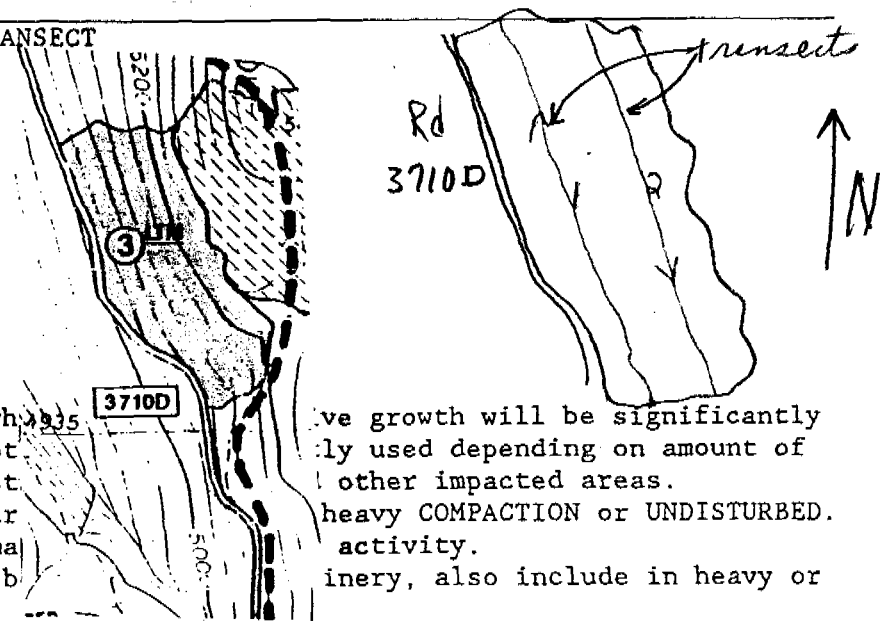
UNDISTURBED 405

DISPLACED

EXCAVATED SKID TRAIL

Rock Bedrock - Piegan One rock bluff 20' high. 8/33  
Again rock rib in unit - more in upper part of unit than lower  
 COMMENTS Soil: Ash absent in 1/2 of the unit. Generally present on gentler slopes +  
more uniform slopes. Lots of rock and till (angular to sub angular)  
Burn - generally cool. More duff left than in Unit 1, also more unburned.  
Enough of 3" KWD present  
Excavated fireline w/ throwback.

SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTION (Heavy) - any place where  
 impacted, i.e., skid trails (both  
 compaction related to soil moist.  
 COMPACTION (Light) - any other area  
 UNDISTURBED - no signs of any major  
 DISPLACED - any place soil has been  
 light compaction.  
 SMZ - include within transect if within harvest unit.

Vegetation growth will be significantly  
 affected depending on amount of  
 other impacted areas.  
 heavy COMPACTION or UNDISTURBED  
 activity.  
 In heavy or light activity, also include in heavy or



40303106  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8-13-97 CUTTING METHOD hand fall  
 OBSERVER L. Kummer/Moeller SKIDDING METHOD Rubber tire (RTS)  
 DISTRICT D-4 HAZARD TREATMENT None  
 SALE Saloon Salvage SILVICULTURAL TREATMENT Sanitation Salvage  
 Unit No. 1 Kibler  
WH/Clun 19 Acres OPERATION PERIOD Nov/Dec 1996  
Slope - 5-35  
 403-03-106  
 COMPACTION(Heavy)  : - existing trail 9

COMPACTION(Light)      59 Rock

UNDISTURBED                     254

DISPLACED           14  
 14

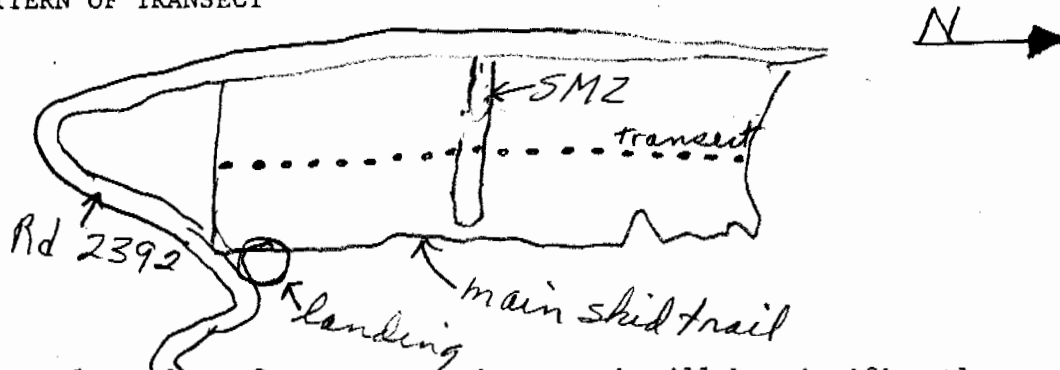
EXCAVATED SKID TRAIL

SMZ     40

COMMENTS The heavy compaction was found only on go back trails and 1 existing old cat trail. The unit looks good. Trail layout was excellent. The winter harvest maintained the duff layer on the majority of the skid trails. Some of the H<sub>2</sub>O Bars are ineffective, but the majority are adequate. Seeding is good.

Removed WWP from stand. Main trail on bench at lower end of unit.

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.

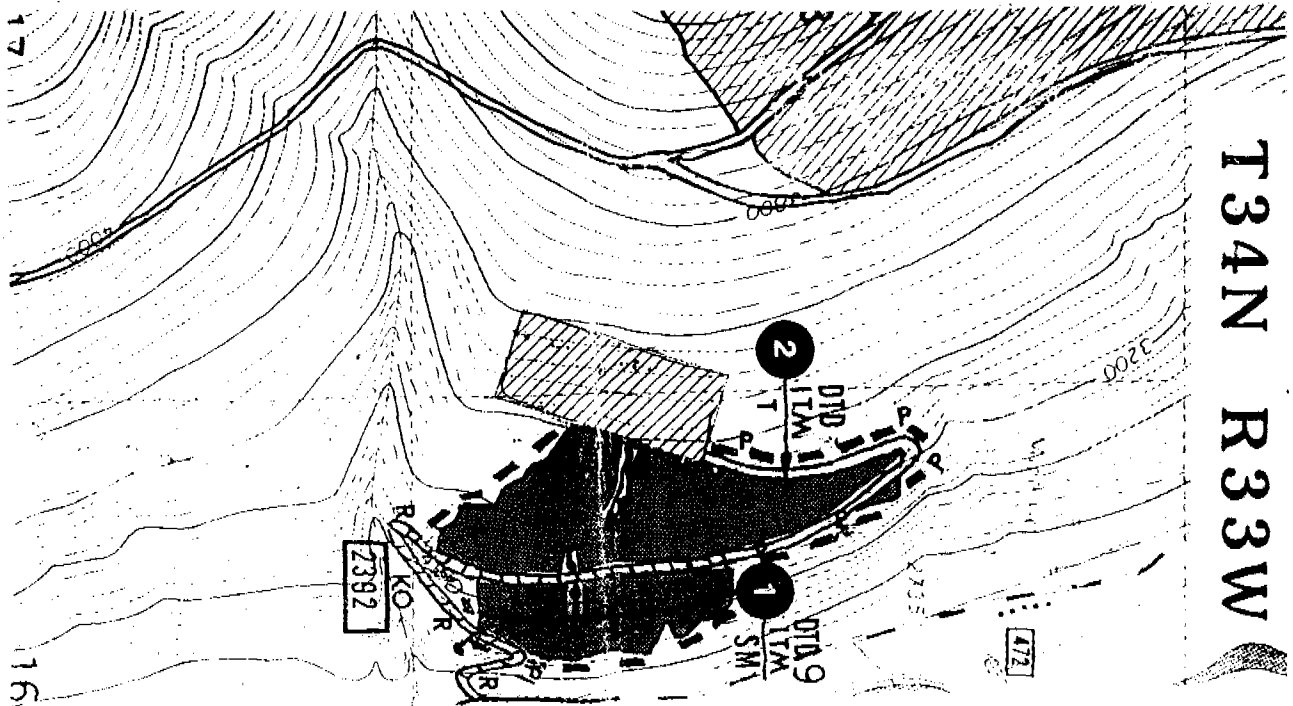
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

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 e d H E A V Y	9	3									9	3
L I G H T	59	19									59	19
U N D I S T U R B	254	78									254	78
T O T A L S	326	100									326	100
D I S P L A C E D	14	4									14	4
E R O S I O N												0
P U D D L E D												0
S M Z	40	12									40	12
R O C K	14	4									14	4
B U R N P I L E S												

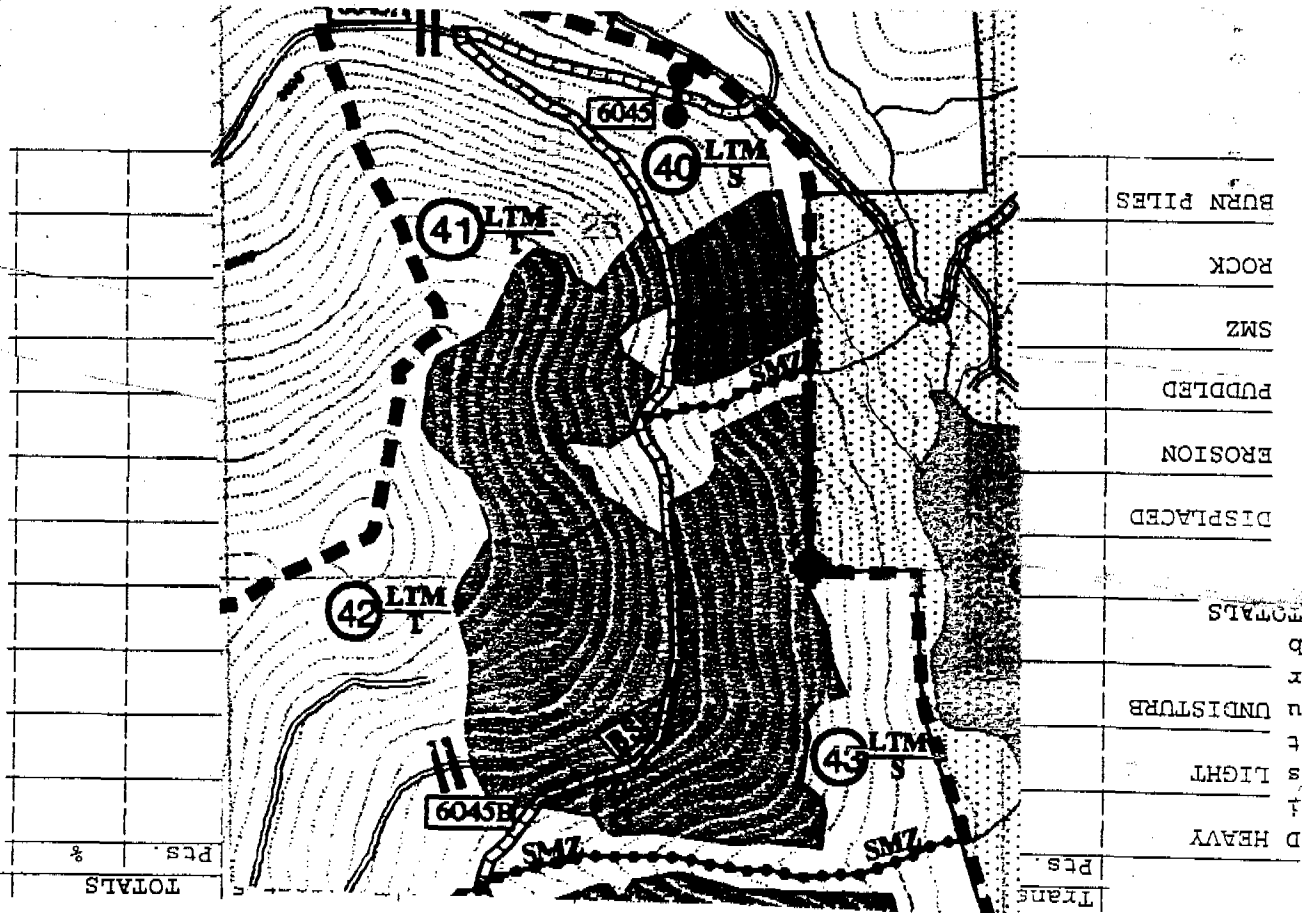




TRANSECT SUMMARY FORM

lower Upper

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
HEAVY	14	4	20	7							34	6
LIGHT	73	23	86	29							153	26
UNDISTURB	230	73	175	64							405	68
TOTALS	317	100	275	100							592	100
DISPLACED	17	5	19	7							36	6
EROSION											0	0
PUDDLED											0	0
SMZ												
ROCK												
BURN PILES												



TRANSECT SUMMARY FORM

42201147

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

08/13/1997  
Three Rivers - Mud Little  
Unit 7  
42201147

DATE 8.13.97

CUTTING METHOD Clipped/hand

SERVER Kuennen/Moeller

SKIDDING METHOD RTS - Dispersed Skidding

DISTRICT Three Rivers

HAZARD TREATMENT None

SALE Mud Little  
Unit No. 7 Shira  
Tshe/cinn 18 Acres

SILVICULTURAL TREATMENT CC / w patches

OPERATION PERIOD Aug - Oct. 1996  
Slope 5-45%

422-01-147

COMPACTION (Heavy)       16/18

COMPACTION (Light)                   110/175

UNDISTURBED         50/65

DISPLACED           16/8

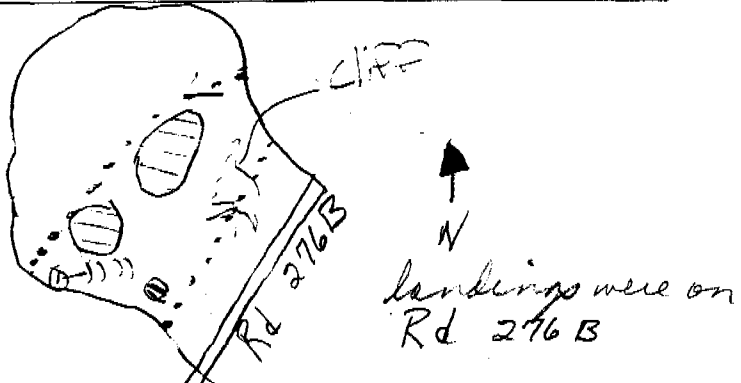
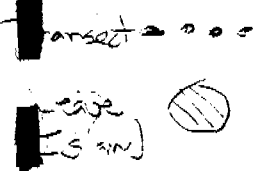
EXCAVATED SKID TRAIL

SMZ

COMMENTS 1) Puddling and overland flow occurring on trail located in small Draw depression - NW corner of unit. Leaves Islands and ground topography tended to concentrate skidding in portions of the unit. Erosion control measures were spot H<sub>2</sub>O Bar construction was excellent.

Soil - deep glacial till except for rock pit in SE portion. Landform very broken. Slope ranges from 5-45%.

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.

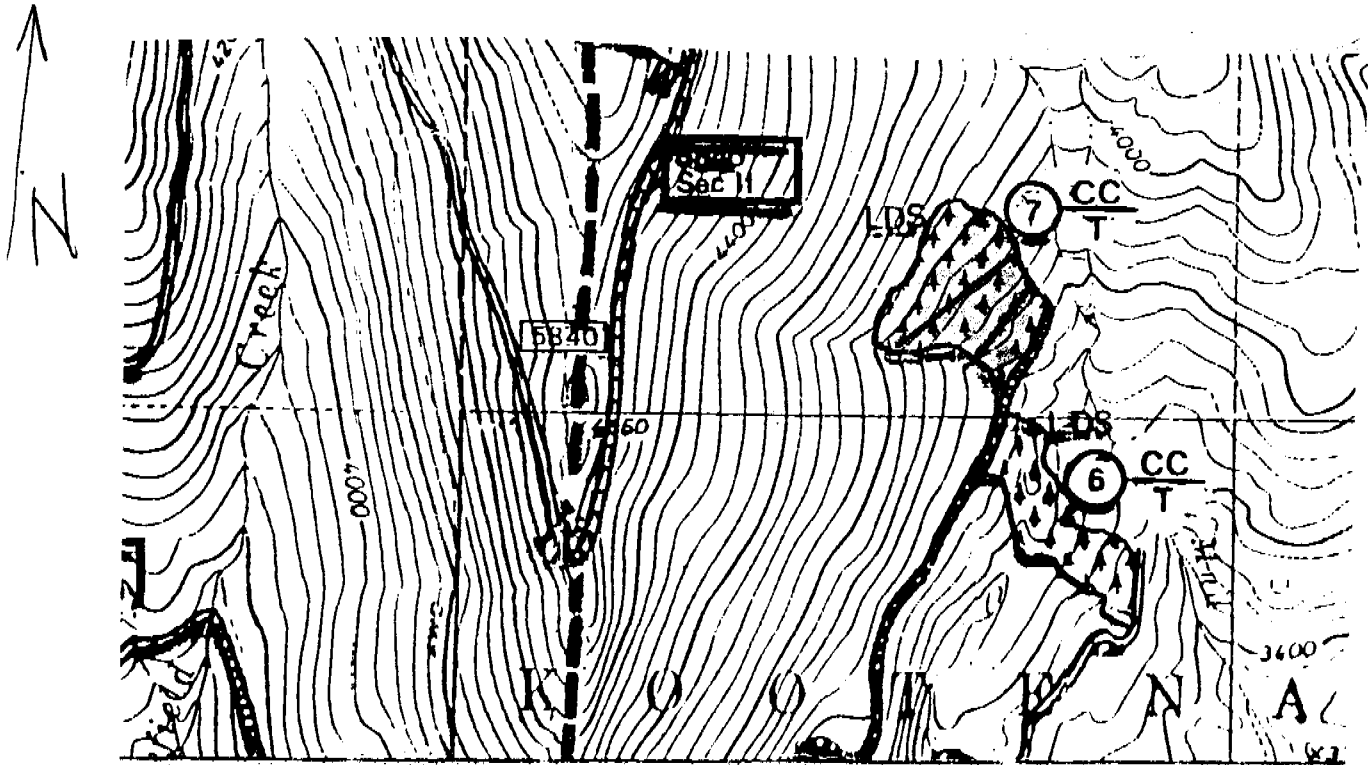
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

TRANSECT SUMMARY FORM

lower Upper

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
D HEAVY	16	9	18	6							34	8
s LIGHT	110	63	175	69							285	66
u UNDISTURB	50	28	65	25							115	26
b TOTALS	176	100	258	100							434	100
DISPLACED	8	5	3	1							11	3
EROSION											0	0
PUDDLED											0	0
SMZ												
ROCK	16	9	0	0							16	4
BURN PILES												



45404129  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Sept. 26, 1997 CUTTING METHOD Chipper  
OPERATOR Kuennen SKIDDING METHOD Cable-skyline  
STRICT Three Rivers If tractor: dispersed dedicated  
SALE/S.A. Pulpit Fire Salvage HAZARD TREATMENT ST seed  
Unit # 6 Acres 58 SILVICULTURAL TREATMENT CC  
H.T. SAF/Vag/w/some SAF/Xep OPERATION PERIOD July Aug - 97  
Slope 50-70 & SAF/Mefe 454-04-129  
COMPACTION (Heavy) 3

COMPACTION (Light) 256

UNDISTURBED 640

DISPLACED 20

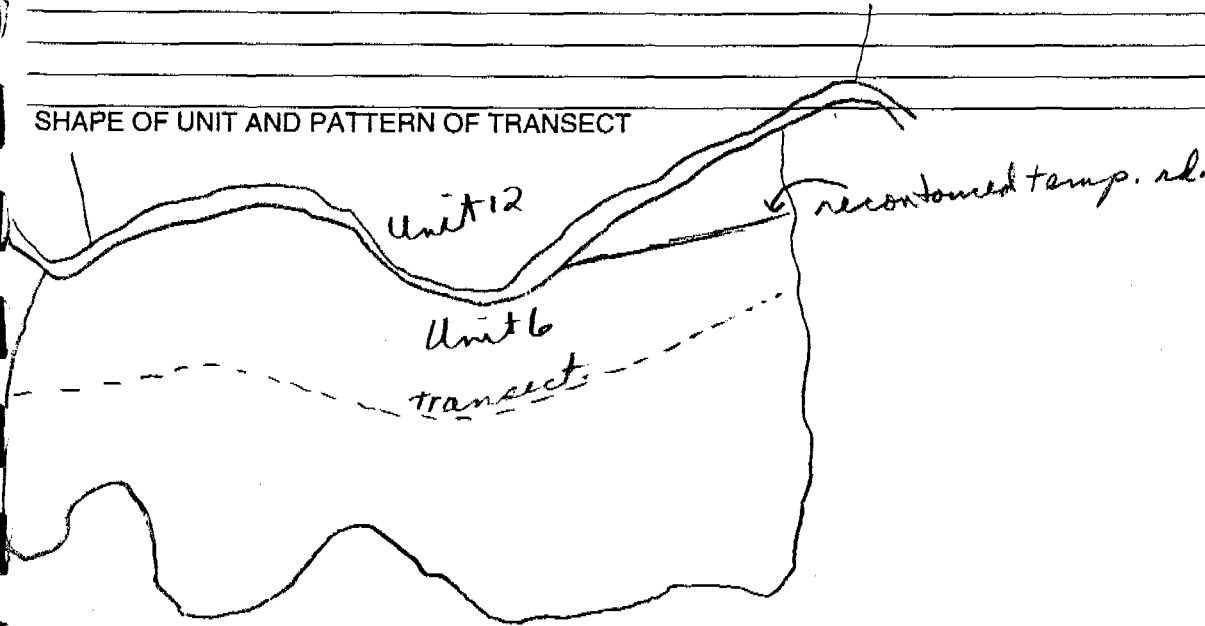
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Skidding corridors not nearly as pronounced as in Unit 14.  
None of these will need waterbars.

Drive-through dips need to be at an angle  
cut slope not roughened

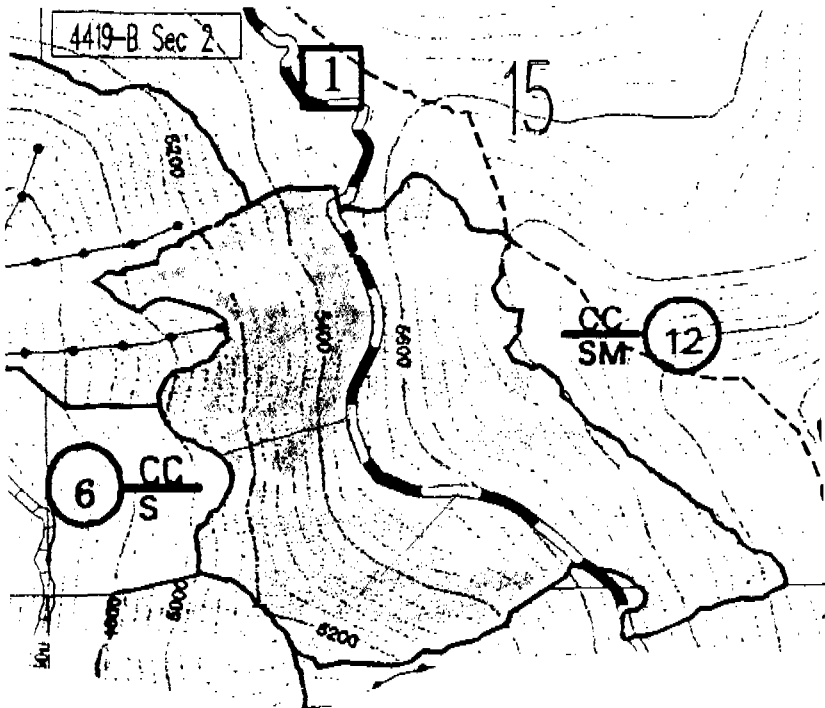
SHAPE OF UNIT AND PATTERN OF TRANSECT



- 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.	%
Disturbance	HEAVY	3	.3								3	.3
	LIGHT	256	28								256	28
	UNDISTURB	640	72								640	72
	<b>TOTALS</b>	<b>899</b>	<b>100</b>									<b>899</b>
DISPLACED											20	2
EROSION												0
PUDDLED												0
SMZ												
ROCK												
BURN PILES												



DATE Sept 26, 1997 CUTTING METHOD Clipper  
OBSERVER Rudnien SKIDDING METHOD Tractor  
DISTRICT Three Rivers If tractor: dispersed  dedicated   
SALE/S.A. Pulpit Fire Salvage HAZARD TREATMENT \_\_\_\_\_  
Unit # 12 Acres 48 SILVICULTURAL TREATMENT CC  
H.T. SAE/ete w/ SAE/MeTe OPERATION PERIOD winter Nov. 96  
Slope 10-35  
COMPACTION (Heavy) 10 454-04-128

COMPACTION (Light) 245

UNDISTURBED 552

DISPLACED 35

EXCAVATED SKID TRAIL 7

SMZ/ROCK \_\_\_\_\_

COMMENTS Soil has dark color. Some gopher evidence. Lots of fireweed & arnica. Also have Xete, elf sedge, Hawthorn (native). Some elderberry & willow resprouting. Occasional grouse whortleberry. Duff varies between absent and some present. Big old logs on ground. Generally did not burn. Excavated trail above rd. should be pulled back.

SHAPE OF UNIT AND PATTERN OF TRANSECT

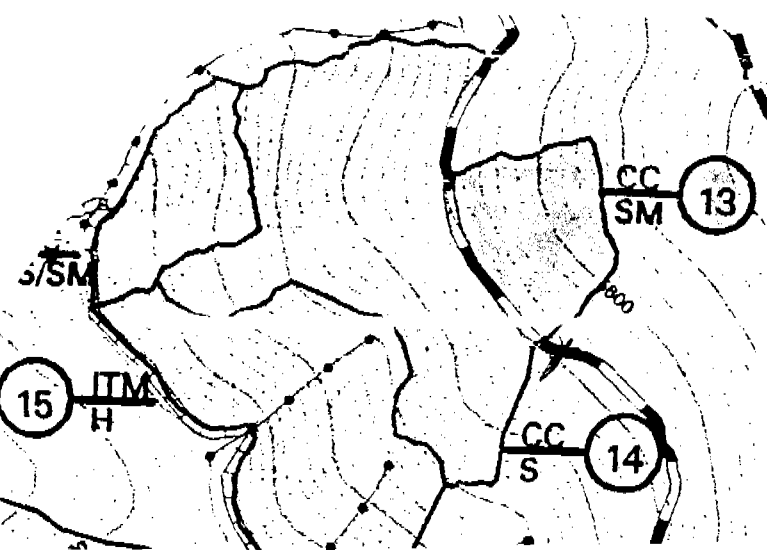


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COMPACTION (Light) - Any other area not included in heavy COMPACTION or UNDISTURBED.  
UNDISTURBED - No signs of any machinery or skidding activity.  
DISPLACED - Any place soil has been mounded by machinery, also include in heavy or light compaction.  
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	8	3								8	3
	LIGHT	66	25								66	25
	UNDISTURB	194	72								194	72
	<b>TOTALS</b>	<b>268</b>	<b>100</b>								<b>268</b>	<b>100</b>
	DISPLACED	10	4								10	4
	<del>          </del>											
	Excavated trail	5	2								5	2
	PUDDLED											0
	SMZ											
	ROCK											
	BURN PILES											



45404231  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Sept. 26, 1997 CUTTING METHOD Hand  
OBSERVER Kuennen SKIDDING METHOD Cable  
DISTRICT Three Rivers If tractor: dispersed dedicated  
SALE/S.A. Pulpit Fire Salvage HAZARD TREATMENT \_\_\_\_\_  
Unit # 14 Acres 46 Shore SILVICULTURAL TREATMENT CC  
H.T. SAF/MeTe/Vag SAF/MeTe OPERATION PERIOD Aug - Oct. '97  
Slope 50-70  
COMPACTION (Heavy) 10 454-04-231

COMPACTION (Light) 45

UNDISTURBED 539

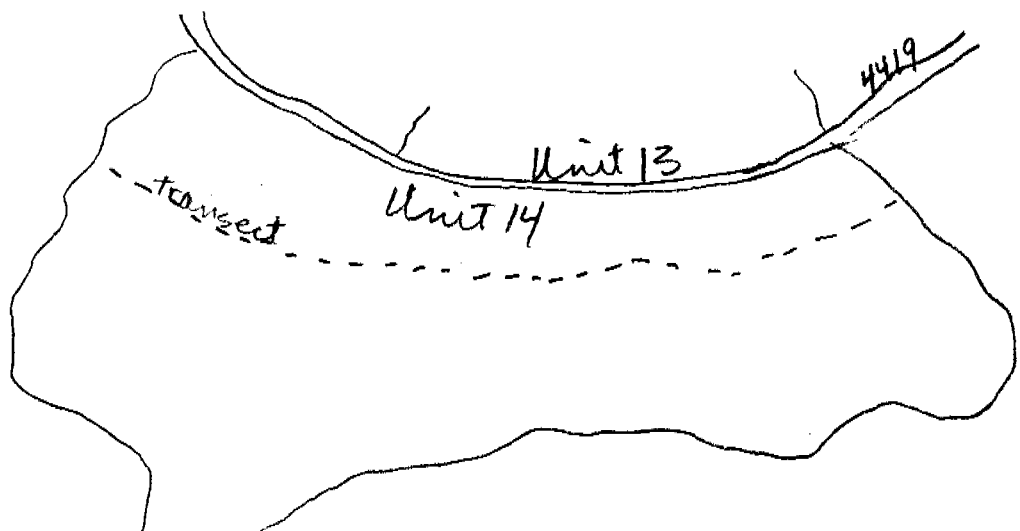
DISPLACED 50

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Gophers will be a problem. Deep glacial till in most of unit. Soil has dark surface (lots of dregs/forbs underfoot), which will add to region problems. Leave all skid trail debris. Seven skidding corridors on west end of unit, not waterbarred, two on east end. Most of waterbars in other corridors okay. Some will be ineffective. A log should have been anchored across corridor every 4-5 waterbars. Ground form shows lots of old surface failures. Dune and thing road did not go any further. There will be plenty of sloughing the way out, especially between units 6 and 14. As the aspect rolls more around to the northwest MeTe becomes the dominant understorey. Stand was 180-220 years old.  
- Each corridor 8-12" deep, 3-4" excavation & 5-8" of berm.

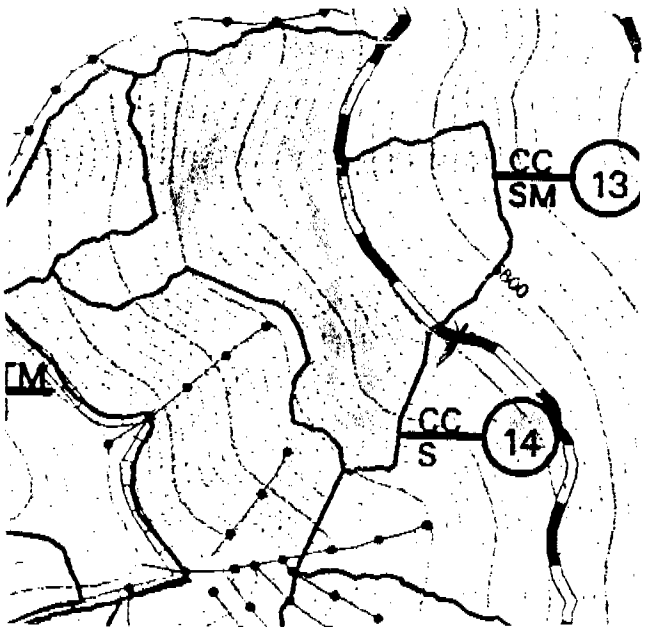
SHAPE OF UNIT AND PATTERN OF TRANSECT



- 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.	%
Disturbance	HEAVY	10	2								10	2
	LIGHT	45	7								45	7
	UNDISTURB	539	91								539	91
	TOTALS	594	100								594	100
DISPLACED	50	8								50	8	
EROSION											0	
PUDDLED											0	
SMZ												
ROCK												
BURN PILES												



Transect was run at slope break where most of displacement has occurred. Percent is not representative of total unit. Less than 1/2 of 8%.





55103038  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8.19.97

CUTTING METHOD hand

OBSERVER L. Kuennen

SKIDDING METHOD High track cat

DISTRICT libby

HAZARD TREATMENT none

SALE Peace Alexander Salvage  
 Unit No. 16 Farmer  
 Acres 3

SILVICULTURAL TREATMENT SD - removing dead LPP

Habitat Type SAF/Mete → SAF/Libo  
601-03-038 551-03-038

OPERATION PERIOD Summer '97

COMPACTION (Heavy) Trans. 1 1 3  
 Trans. 2  
 Trans. 3

COMPACTION (Light) Trans. 1      65  
 Trans. 2      60  
 Trans. 3

UNDISTURBED Trans. 1      52  
 Trans. 2      50  
 Trans. 3

DISPLACED  15  
 15

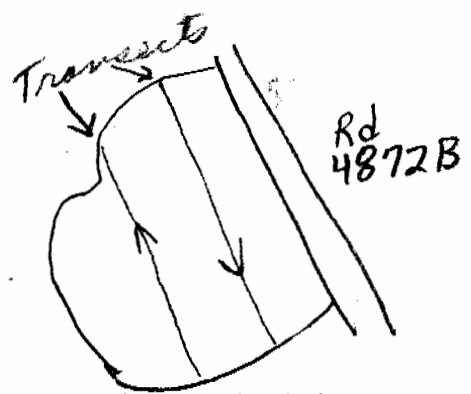
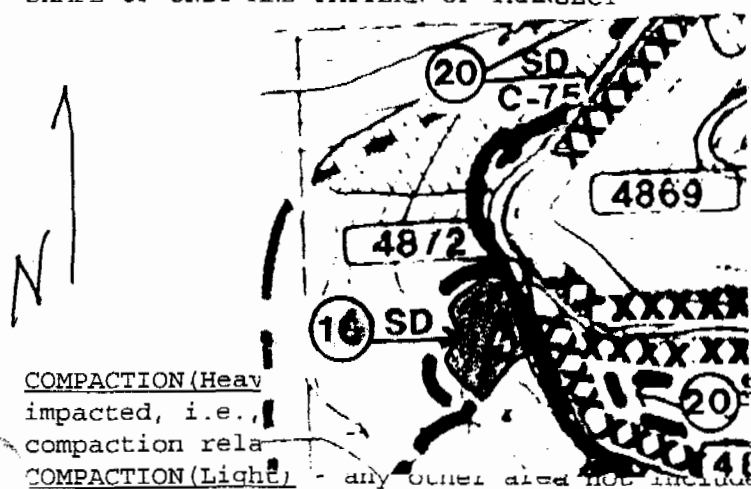
EXCAVATED SKID TRAIL

SMZ

COMMENTS Several scattered WH + WRC

Soil: 8-10" of ash over till/residual. Lots of angular rock in matrix. More moss towards drainage. Lots of alder in unit.

SHAPE OF UNIT AND PATTERN OF TRANSECT



COMPACTION (Heavy) impacted, i.e., compaction relative to undisturbed soil. vegetative growth will be significantly reduced, 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.

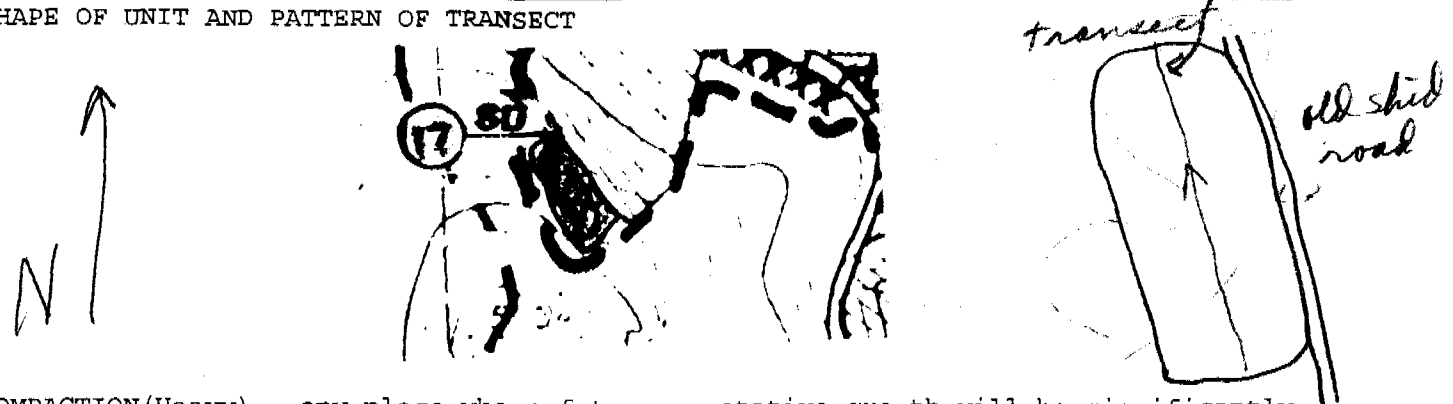


DATE 8.19.97 CUTTING METHOD hand  
 OBSERVER L. Kuennen SKIDDING METHOD high Trac  
 DISTRICT Libby HAZARD TREATMENT \_\_\_\_\_  
 SALE Peace Alexander Salvage SILVICULTURAL TREATMENT SD-removed dead LPP  
 Unit No. 17 Farmer  
 Acres 2  
 Habitat Type SAF/Libby - SAF/Vogel OPERATION PERIOD Summer '97  
601-03-068 551-03-068 Slope: 10-30%  
 COMPACTION (Heavy) Trans. 1: \_\_\_\_\_ 2  
 Trans. 2 \_\_\_\_\_  
 Trans. 3 \_\_\_\_\_  
 COMPACTION (Light) Trans. 1       63  
 Trans. 2 \_\_\_\_\_  
 Trans. 3 \_\_\_\_\_ 63  
 UNDISTURBED Trans. 1        
 Trans. 2 \_\_\_\_\_  
 Trans. 3 \_\_\_\_\_  
 DISPLACED   \_\_\_\_\_ 20  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ \_\_\_\_\_

COMMENTS *The big question becomes what to do w/ the skid trail. Should it be treated as part of Unit 17 or possibly include some of Unit 16 as just treat it as part of the transportation system. I'm not sure that the volume removed was worth the skid trail!! Even though the water bars are very large, some of them are inadequate since the outflow is diverting back onto the trail. The end of the bar was not carried far enough out. This becomes more true on the lower end of skid trail.*

Soil: Ash over till/presidual. Mostly angular rock in matrix.

SHAPE OF UNIT AND PATTERN OF TRANSECT

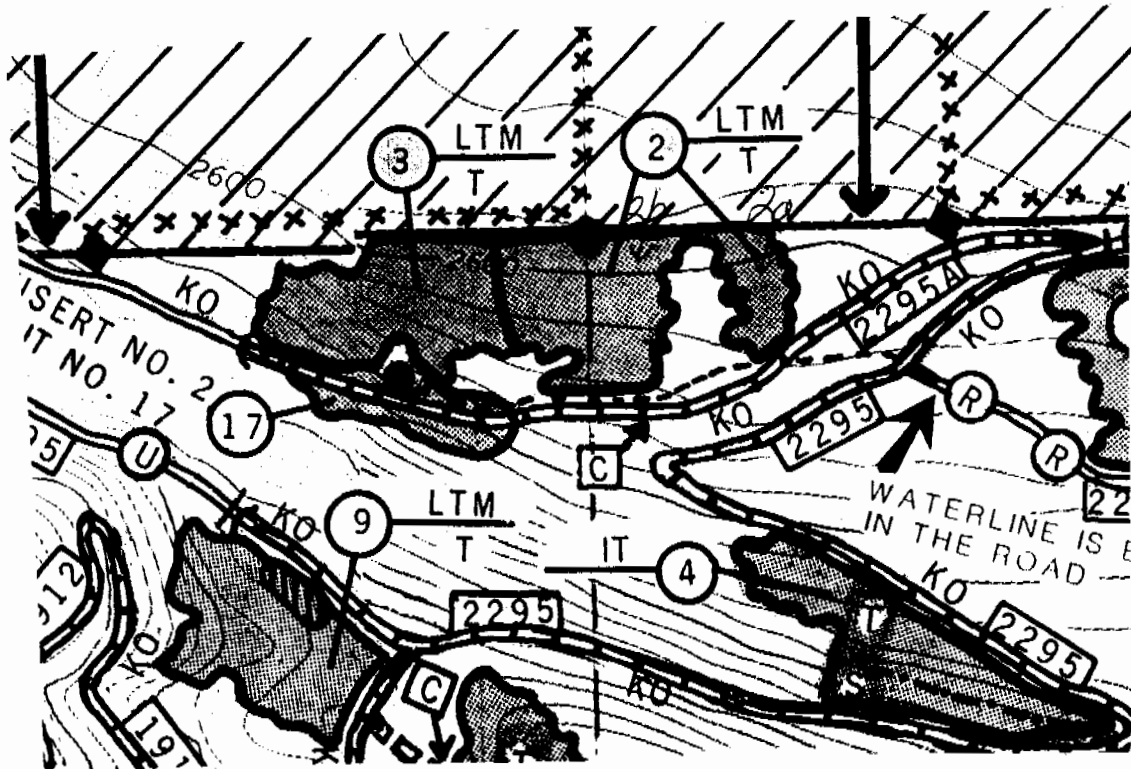


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COMPACTION (Light) - any other area not included in heavy COMPACTION or UNDISTURBED.  
UNDISTURBED - no signs of any machinery or skidding activity.  
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.  
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 e d HEAVY	0		2	3							2	1
LIGHT	15	23	23	30							38	28
UNDISTURB	50	77	50	67							100	71
TOTALS	65	100	75	100							140	100
DISPLACED												0
EROSION												0
PUDDLED												0
SMZ												
ROCK												
BURN PILES												



71501035  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.29.97

CUTTING METHOD Hand

OBSERVER Kuenn

SKIDDING METHOD Tractor dispersed

DISTRICT Cabinet

HAZARD TREATMENT ?

SALE Beaver Pk Resell  
Unit No. 2b west

SILVICULTURAL TREATMENT seed tree

OPERATION PERIOD Winter 95-97  
16 Acres slope 5-20

COMPACTION (Heavy) !! 4

COMPACTION (Light)         80

UNDISTURBED         110

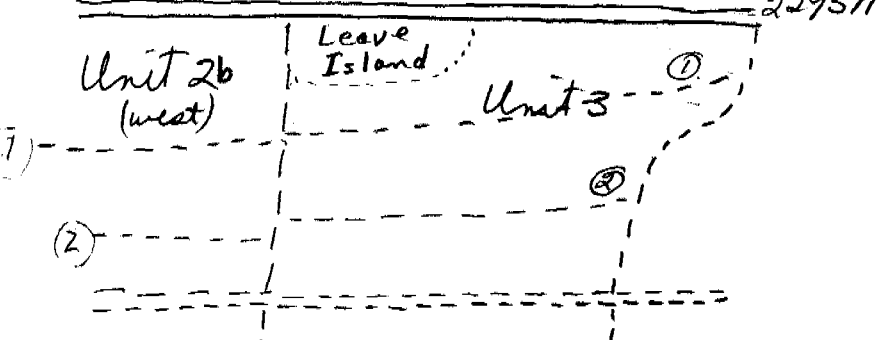
DISPLACED 80

EXCAVATED SKID TRAIL

SMZ

COMMENTS Older logging; see some 2-4 yr old seedlings, esp. larch.  
Regen: Pico, Pome, Pipa, Laoc, Abgr, Tshc, Pimo  
Unit generally less than 20% slope, mostly <10.

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.

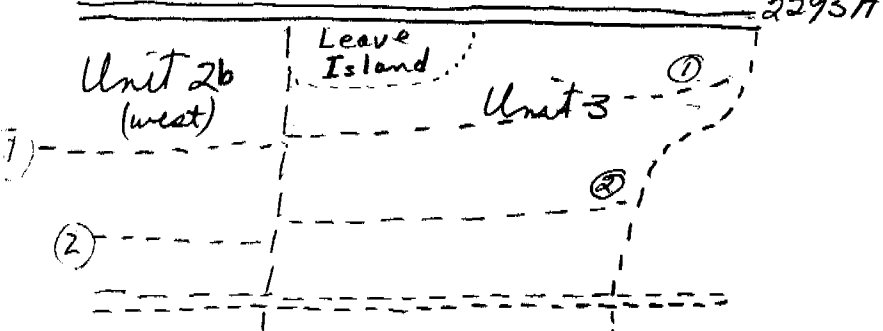
DATE 7.29.97  
OBSERVER Kuennen  
DISTRICT Cabinet  
SALE Beaver Pk Resell  
Unit No. 2b west

CUTTING METHOD Hand  
SKIDDING METHOD Tractor dispersed  
HAZARD TREATMENT ?  
SILVICULTURAL TREATMENT seed tree  
OPERATION PERIOD Winter 95-97  
16 Acres Slope 5-20

COMPACTION(Heavy)	4
<u>L:</u>	<u>6</u>
COMPACTION(Light) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	80
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	120
UNDISTURBED <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	110
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	80
DISPLACED	
EXCAVATED SKID TRAIL	
SMZ	

COMMENTS Older logging; see some 2-4 yr. old seedlings, esp. larch.  
Regen: Pico, Pshc, Pipo, Jaco, Abar, Tshc, Pimo  
Unit generally less than 50% slope, mostly <10.

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 T O T A L S	4	2	6	3							10	2
s L I G H T	86	41	120	58							200	50
u N D I S T U R B	110	57	80	39							190	48
b T O T A L S	194	100	206	100							400	100
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		TOTALS	
	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%	Pts.	%
H E A V Y												
L I G H T												
U N D I S T U R B												
T O T A L S												
D I S P L A C E D												
E R O S I O N												
P U D D L E D												
S M Z												
R O C K												
B U R N P I L E S												





08/05/1997

Rexford - North Fork West Fire Salvage

Unit 26

11204221

11204221

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8-5-97

CUTTING METHOD clipper

OBSERVER Kuennen/Sullivan

SKIDDING METHOD RTS

DISTRICT Rexford

HAZARD ABATEMENT Jackpot burn '98

SALE NFWest Fire Salvage

SILVICULTURAL SW seed/reserve

Unit No. 26 43A

OPERATION PERIOD Dec '96/Jan '97

H.T-531 Ele-4800 A<sub>5</sub>NW

COMPACTION(Heavy) \_\_\_\_\_

Walk-Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS winter operation - looks very good

Shape of Unit and Pattern of Transect

11203074  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8-5-97 CUTTING METHOD hand/clipper

OBSERVER Kuennen/Sullivan SKIDDING METHOD cable

DISTRICT Rexford HAZARD ABATEMENT jackpot burn '98

SALE Bunker Hill Fire Salvage SILVICULTURAL SW seed/reserve  
Unit No. 8 43A

HT-620, Ele-5100, As-W OPERATION PERIOD Dec '96/Jan '97

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) Walk-through

UNDISTURBED \_\_\_\_\_

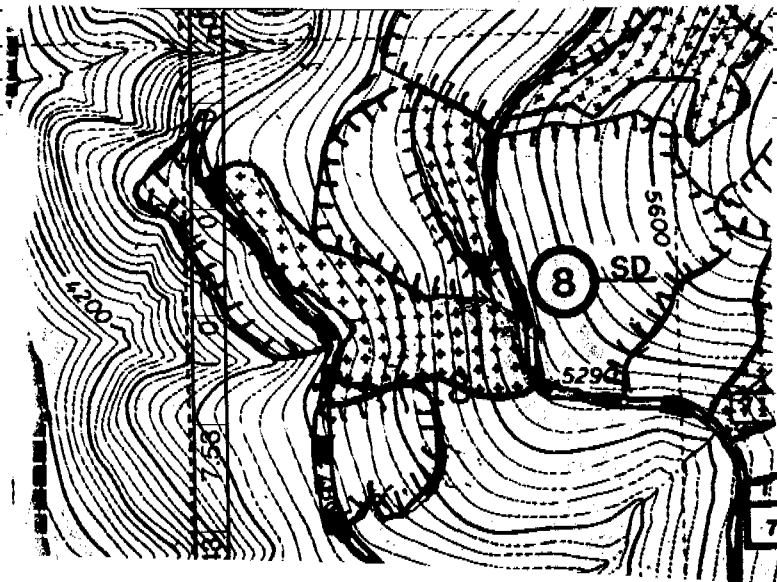
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS winter operations

Shape of Unit and Pattern of Transect





42402192

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 2/12/97

CUTTING METHOD clipper/hand

OBSERVER Kuennen/Moeller

SKIDDING METHOD RTS/cable

DISTRICT Three Rivers

HAZARD ABATEMENT burn grapple piles '98

SALE Zimm Hill Fire Salvage  
Unit No. 43 71A

SILVICULTURAL ST seed cut

H.T.-571

OPERATION PERIOD Jan '97

Ele: 3700

Aspect: E

COMPACTION(Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Winter operation. Lots of snow - snow roads. Very minimal soil impacts. Operation looked very good. Good SMZ left

Shape of Unit and Pattern of Transect

United States  
Department of  
Agriculture

Forest  
Service

Kootenai NF

506 US Highway 2 West  
Libby, MT 59923

Reply To: 2430  
2550

Date: June 4, 1997

Subject: West Yaak Proposal

To: District Ranger, D4  
Attn: Leslie Ferguson

*Walk throughs!*

*All had some past activity*

Leslie Ferguson, Hilaire Bojonell, and Louis Kuennen made on-site visits to Units 53A, 53B, 19, & 24 on May 30, 1997 and Units 5, 8, 10, & 11 on June 12, 1997, of the West Yaak proposal. One of the concerns is related to the impact of past activities. ~~All of the units contain varying degrees of past activity - skid trails. We put information together for the West Yaak EA one of the~~ resources to be discussed is the soil, specifically soil compaction. The method used in dealing with impact to the soil in previously logged tractor units is to apply a percentage factor for the skidding and the hazard abatement. Usually these activities were done with tracked vehicles. The percentage of ground impacted was at least 15. Fifteen percent is the Kootenai National Forest's limit for significant soil impact. Naturally very little amelioration occurs. This means that future operations will increase the soil impacts beyond the accepted limits.

An on-the-ground review was done to determine just exactly what the total past activity impact was. Units 53A and 53B are adjacent to each other. The past activity in both consisted of constructing excavated skid trails and removing scattered trees. It appears that no operations occurred off the trails. It is estimated that less than 5 percent of the area was previously impacted, mainly because only scattered trees were removed. This means that the current proposal could add ten percent of significant soil impact and stay within the Forest guidelines.

For the above two units the habitat type is Douglas-fir/dwarf huckleberry. The landtype is 355. Landtype 355 is described as moderately deep soil with a higher rock content than the "normal" glacial till on the Forest. The soil within the two units contains 50 to 75 percent rock. Some of the rock (the source is both metasedimentary and igneous) is subrounded and subangular and some is angular. The angular rock is located at or near the surface. Activity impact to the soil will be less than normal in these two units because of the large amount of rock. The high rock content creates a droughtier soil and may have a limiting effect on the size and productivity of shrubs.

The amount of excavated trails in Unit 19 is greater than in Units 53A and 53B, so the significant soil impact is greater. Current activity will need to remain on the existing trails. Unit 24, unlike the other units, generally has a uniform slope which is less than 30 percent. This unit has several old skid trails that were used to salvage in the past. The volcanic ash surface is fairly deep (12 - 18 inches) and contains few rock. This soil is very compactible. Also, the site is such that it will remain wetter than the accepted 18 percent soil moisture used for machinery activity. It is agreed that cabling is the proper method of log removal from this unit.

Unit 8 is very similar to Unit 24--deep volcanic ash, uniform slope, but better drained. This unit has existing trails. Unit 5 (includes what was referred to as Unit 4 of the Pete Creek Proposal memo of June 21, 1991) has deep volcanic ash and broken slopes. Several streams also flow through the unit--some are a

result of piped flows from Rd. 5919C. The north end of the unit contains populations of sensitive Botrychium species. This unit has devil's club scattered throughout.

A natural opening divides Unit 11 and extends from the upper road almost to the lower road. I can't completely explain the opening, but it has been there a long time as indicated by the depth of the dark surface soil. The lower end of Unit 11 is very wet, especially west of the opening, as indicated by an almost continuous covering of devil's club. Also very few western white pine were seen in the area. A population of sensitive Botrychium is present just below the upper road east of the opening. Unit 10 contains many more stems of western white pine and generally is drier than Unit 11.

A lot of surface flow is coming from the all the roads within the area of the proposal. As a result fines are being washed from the gravel lift, sometimes going directly to a stream. As a resource the surface of the roads need to be protected from erosion.

RECOMMENDATIONS:

1. Units 53A and 53B can be logged during the summer.
2. Any temporary road coming off the Yaak Highway (Units 53A and 53B access) should be recontoured. The power lines that parallel the Highway are not that high above the ground and may provide a hazard to tall equipment.
3. Unit 19 can be summer logged but the previous trails should be used.
4. Unit 24 should be cable logged or winter logged. Jackpot piling with an excavator can be done within the same season of log removal. This doesn't mean the entire unit.
5. Unit 5 should be cabled, with the north end of the unit dropped to recognize the Botrychium population.
6. Unit 8--log in the drier part of the summer and stay on the existing trails.
7. Unit 11--drop the area west of the natural opening and exclude the Botrychium area.
8. Include Unit 10 and winter log it.
9. Drive-through dips should be placed in the access roads for the West Yaak proposal.

If there any questions, please call.

/s/ Louis J. Kuennen

LOUIS KUENNEN  
SOIL SCIENTIST

*58, 10, 11*

5	207	209-02-125	40902131, 40902135
8	287	<del>209-02-132</del>	40902132
10	23	<del>01-104</del>	40901164, 40901165
11	11	<del>11-01-163</del>	40901163
20		<del>11-01-164</del>	40901164
53A	Land		40902112
53B	Fl		40902113
	127		

06/12/1997  
Three Rivers - West Yaak (Blistered Beetle)  
Unit 5, 8, 10, 11  
40902125 40902132  
40901164 40901163

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6/12/1997 CUTTING METHOD clipper  
OBSERVERS Quennen/Bozonell/Erguson SKIDDING METHOD RTS  
DISTRICT Three Rivers HAZARD ABATEMENT burn grapple piles 2002  
SALE Blistered Beetle SILVICULTURAL ST cut (mortality cut)  
Unit No. 5, 8, 10, 11 OPERATION PERIOD summer 2000

COMPACTION (Heavy) Walk Throughs

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

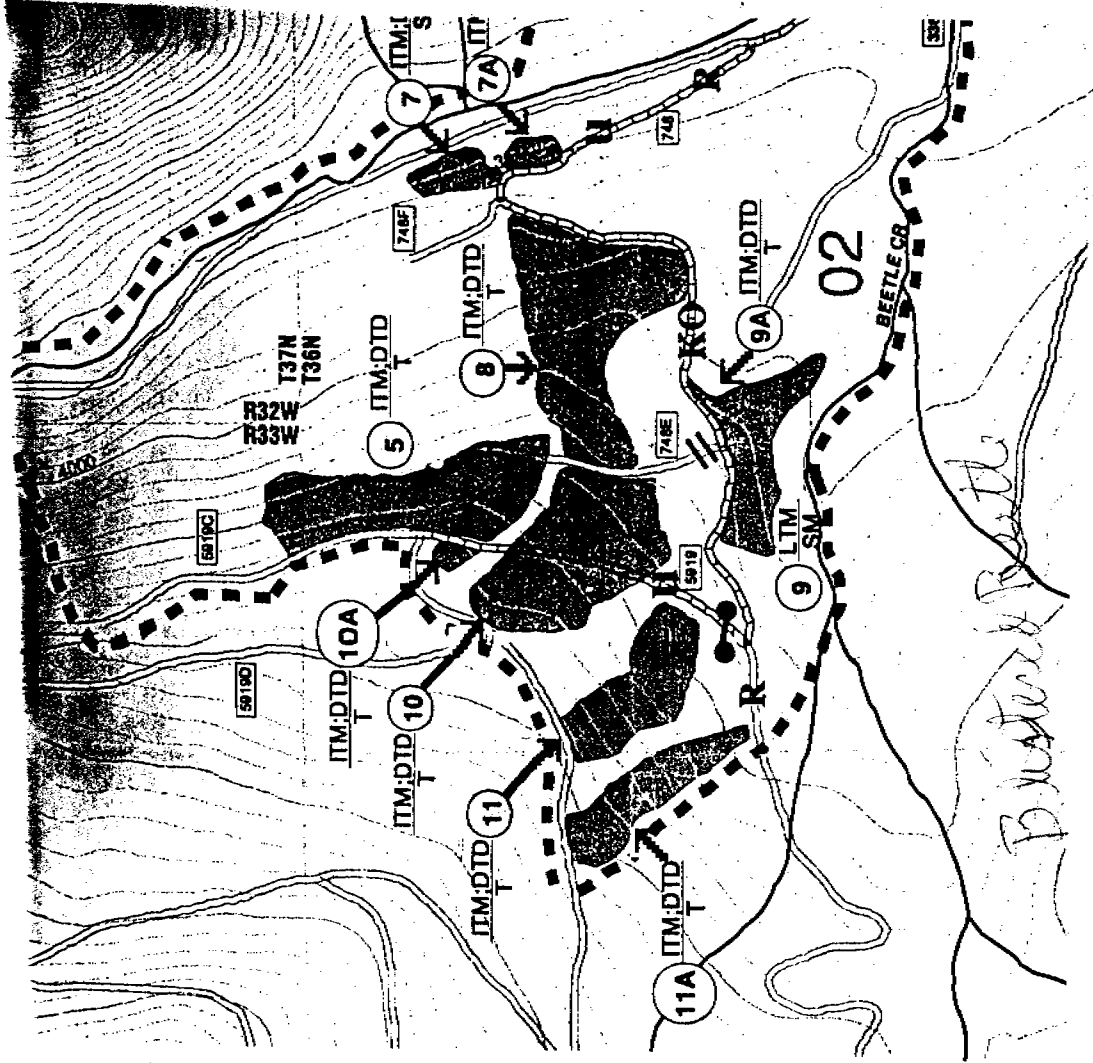
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Past excavated skid trails present  
5 - H.T. - 570, El. - 4000, As - E, slope - 15-30% mortality cut  
cable unit + drop Botrychium area  
8 - H.T. - 571, El. - 4000, As - E, slope - 10-25%; mortality cut  
Use existing trails  
10 - H.T. - 590, El. - 4200, As - E, slope - 15-30%; mortality cut, grapple piled  
winter log  
11 - H.T. - 571, El. - 4300, As - SE, slope - 10-25%; mortality cut, grapple piled  
Drop wet area west of natural opening  
Estimate past detrimental at < 5%.

Shape of Unit and Pattern of Transect  
5 - 40902125, 40902131 : 20A  
8 - 40902132 : 28A  
10 - 40901164, 40901165 : 23A  
11 - 40901163 : 11A



24 ÷ 40705129-19A, 40705101-6A

05/30/1997  
Three Rivers - West Yaak (North Pole Salvage)  
Unit 24  
40705101/40705129

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5/30/1997

CUTTING METHOD clipper

OBSERVER Kuennen/Bojnell/Ferguson

SKIDDING METHOD RTS

DISTRICT Three Rivers

HAZARD ABATEMENT Burn landing 2002

SALE North Pole  
Unit No. 24 25A

SILVICULTURAL mortality cut

U.T. - 570, Elk - 3900, As - 5

OPERATION PERIOD Summer 2000

COMPACTION (Heavy)

Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

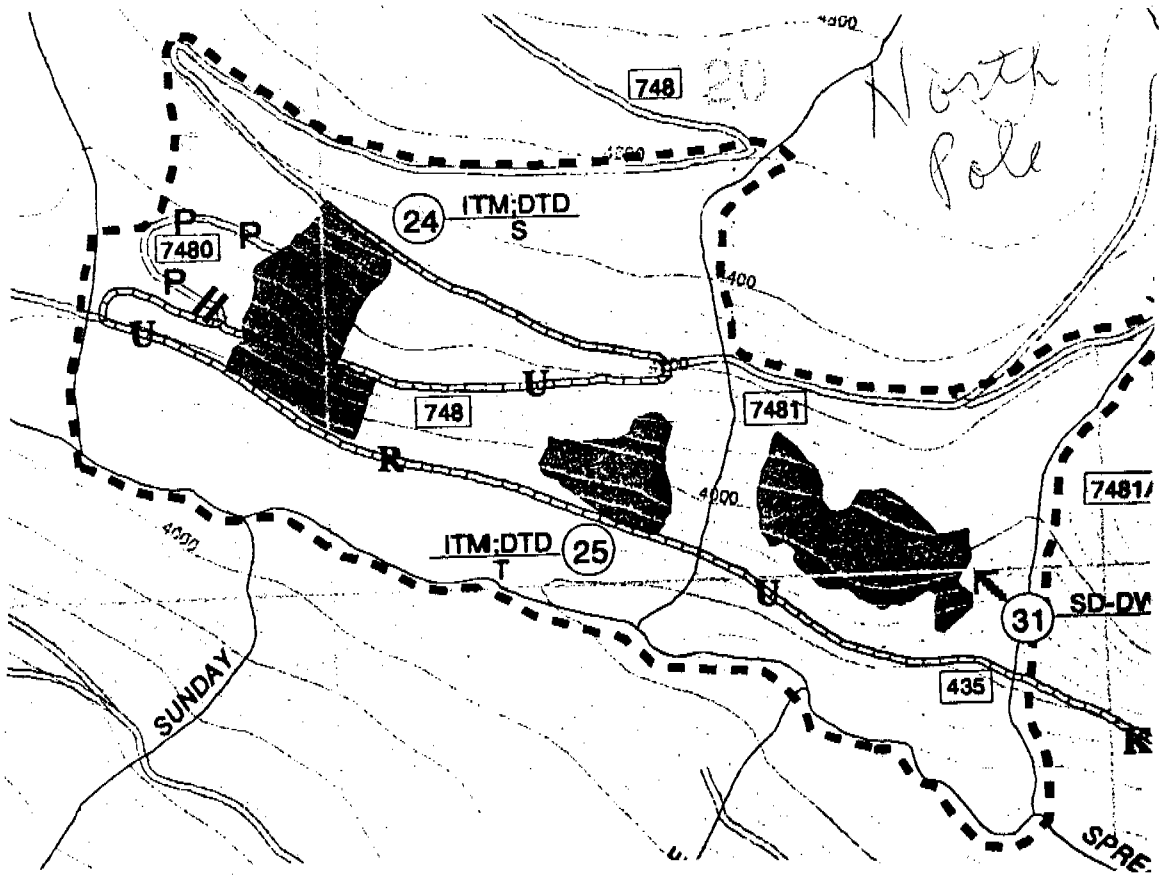
EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Post excavated skid trails present - very scattered. Trails were created to remove scattered, large trees. Due to scattered nature of the trees removed no activity seems to have occurred off the excavated trails. Less than 5% of area affected.

Mortality cut.

Shape of Unit and Pattern of Transect



05/30/1997  
Three Rivers - West Yaak (Flaming Whitetail SSAS)  
Unit 53  
41005107

41005107 - 20A  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE 5/30/1997 CUTTING METHOD clipper  
OBSERVER Mannan/Bojonell/Ferguson SKIDDING METHOD Tractor  
DISTRICT Three Rivers tractor: dispersed  dedicated   
SALE/S.A. Flaming Whitetail 5517 HAZARD TREATMENT understory burn 2000  
Unit # 53 Acres 20 SILVICULTURAL TRMT \_\_\_\_\_  
H.T. 250 OPERATION PERIOD Summer 1999  
Slope 25-40% Aspect S  
Location lower slope Elevation 3200  
COMPACTION (Heavy) \_\_\_\_\_

PAST ACTIVITY  
COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris-large & small, erosion, road drainage, other pertinent info)

Excavated trails present from past scattered tree removal. Definitely less than 5% past detrimental disturbance.

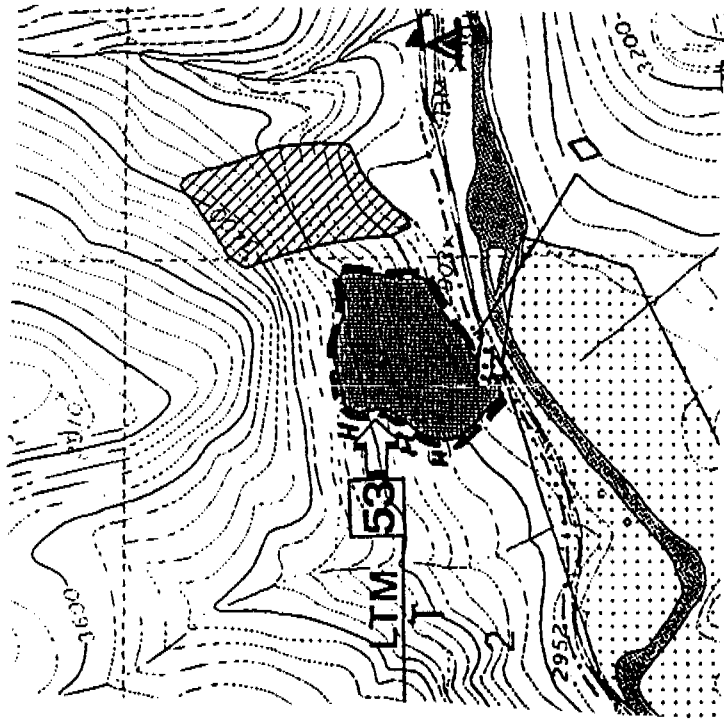
SHAPE OF UNIT AND PATTERN OF TRANSECT \_\_\_\_\_

**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/ROCK/BURN PILE** - Include within transect if within harvest unit



### TRANSECT SUMMARY FORM

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



53A-41004133-

05/30/1997  
Three Rivers - West Yaak  
Unit 19 & 53A  
40901182/40402115

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5/30/1997 CUTTING METHOD \_\_\_\_\_

OBSERVER Kuennen/Bozonell/Ferguson SKIDDING METHOD \_\_\_\_\_

DISTRICT Three Rivers HAZARD ABATEMENT \_\_\_\_\_

SALE West Yaak proposal SILVICULTURAL \_\_\_\_\_

Unit No. 19 & 53A OPERATION PERIOD \_\_\_\_\_

COMPACTION (Heavy) Walk-throughs

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Part excavated trails present - very scattered  
19-20A, H.T.-570, Ele-4100, As-E

53A-22A, H.T.-570, Ele-3900, As-S/SW

Shape of Unit and Pattern of Transect

entered into SOILMON as  
one line of data - couldn't  
find Unit 19 in Sale History - TSMRES-  
to get associated stand # -  
See comments. 3/14/03 nk

13-45303170-39

01/28/1997  
Three Rivers - Studebaker Fire Salvage  
Unit 13  
45303170

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Jan. 28, 1997 CUTTING METHOD Hand  
 OBSERVER Kuennen SKIDDING METHOD skysline  
 DISTRICT Three Rivers If tractor: dispersed dedicated  
 SALE/S.A. Studebaker F.S. HAZARD TREATMENT Jackpot burn 1998  
 Unit # 3 Acres 39 SILVICULTURAL TRMT CC Seedtree  
 H.T. 624 OPERATION PERIOD winter 1998  
 Slope 40 Ele: 5200  
 Location mid-upper Aspect: SE-S  
 COMPACTION (Heavy) Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS  
Skysline operation w/ mid slope pole. Yarding to corridor  
+ then yarding to top. Operation looks good. Lots of snow. Ground frozen  
in corridor.

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



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 10-21-97 CUTTING METHOD hand  
OBSERVER Kuennen SKIDDING METHOD skyline  
DISTRICT Three Rivers HAZARD ABATEMENT jackpot + landings  
SALE Studebaker Fire Salvage SILVICULTURAL CC - ST, CC w/reserves  
Unit No. 8, 9C, 10, 13, 18 OPERATION PERIOD summer '97

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) Walk through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

*All were skyline units. Lots of CWD. Very little surface soil disturbance in skidding corridors, erosion control necessary. Some cut slope slumping occurring in new construction.*

- 8 4000-5200' S→W
- 9C 5000-5400 W
- 10 4000-4800 S→SE
- 18 5200-5600 SE
- 13 5000-5600 S-E

Shape of Unit and Pattern of Transect/Walk-through

- 8 - 45303159, 79A, HT-670, As-W, Ele-4400, slope-55%
- 9C - 45303178, 9A, HT-220, As-W, Ele-5000, slope-51%
- 10 - 45303145, 40A, HT-570, As-S, Ele-~~4900~~, slope-55%
- ~~13 - 45303170, 39A, HT-624, As-SE, Ele-5200, slope-40% see previous \*~~
- 18 - 45303134, 6A, HT-624, As-SE, Ele-5300, slope-47%

7 = 45404237

7A = 45404238

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

8 = 45404233

DATE June 16, 1997  
SERVER Fraser  
DISTRICT Three Rivers  
SALE/S.A. Pulpit Fire Salv.  
Unit # 7, 7A, 8 Acres 35.2  
H.T. WH/Clun  
Slope 35-60  
Location mid-slope  
COMPACTION (Heavy)

CUTTING METHOD Hand  
SKIDDING METHOD skidline  
If tractor: dispersed  dedicated   
HAZARD TREATMENT none  
SILVICULTURAL TRMT none  
OPERATION PERIOD 999 summer  
Aspect | NW  
Elevation | 4100 - 5500

Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Pre harvest review -  
units 7 + 7A very wet Roads running into area have  
extensive clumping of several species of shrubs.  
2nd rutting failure on road between units 7

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 b	HEAVY											
	LIGHT											
	UNDISTURB											
	<b>TOTALS</b>											
	DISPLACED											
	EROSION											
	PUDDLED											
	SMZ											
	ROCK											
	BURN PILES											

1=51201009 - 74A  
HT-250, Ele-2400, Flat

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

2=51201013 - 48A

HT-250, Ele-2400 Flat

51405026 - 47A

DATE 4/28/97

CUTTING METHOD clipper

OBSERVER Kuennen/Crawford

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT burn landings '99

SALE Bobtail Flats  
Unit No. 1+2

SILVICULTURAL Sanitation Salvage

OPERATION PERIOD Summer '97

04/28/1997  
Three Rivers  
- Bobtail Flats  
Fire Salvage  
Unit 1 & 2  
51201009  
51201013/  
51405026

COMPACTION(Heavy) Walk-Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Soils still too wet to operate on. Won't be long drying quickly.

Shape of Unit and Pattern of Transect



05/27/1997  
Libby  
- Barron Salvage  
Unit 5  
55303013

55303013 9A  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5/27/97

CUTTING METHOD clippers

OBSERVER Kuennen/Farmer

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT grapple pile burn '00

SALE Barron Salvage  
Unit No. 5

SILVICULTURAL SW seed/reserve

OPERATION PERIOD Jul/Aug '98

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

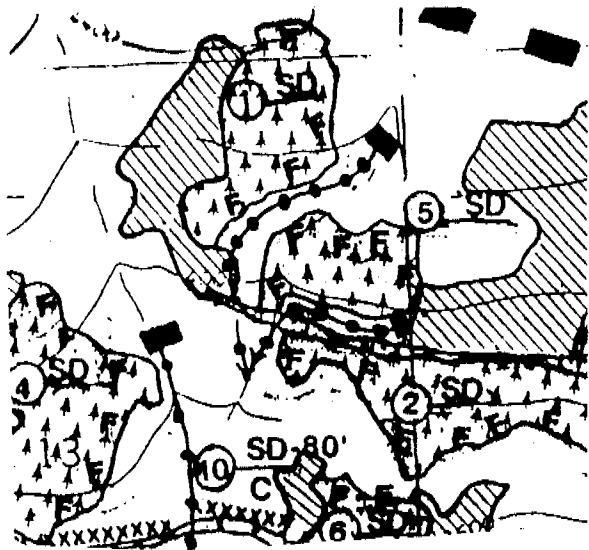
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

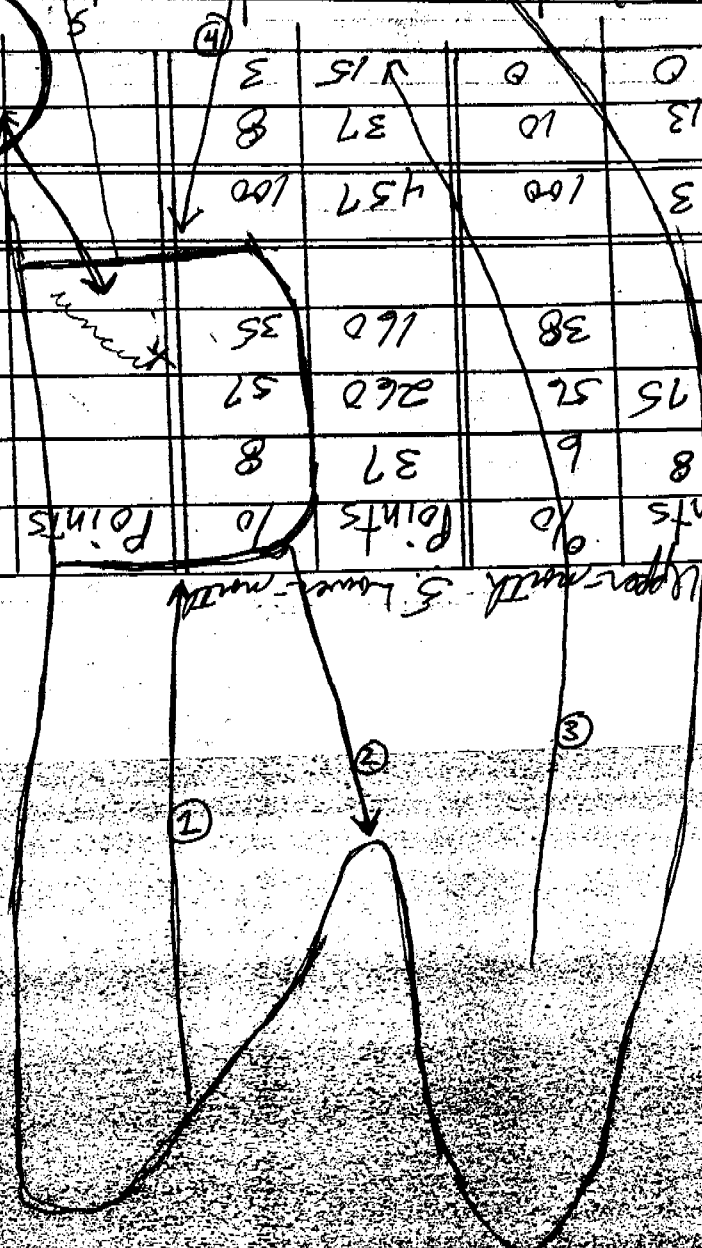
Shape of Unit and Pattern of Transect





Disturbance	1 Lower		2 Middle		3 Upper		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	45	19	30	18	45	7		
Light	135	56	70	59	400	59		
Undist.	60	25	45	27	235	34		
<b>TOTAL</b>	<b>240</b>	<b>100</b>	<b>165</b>	<b>100</b>	<b>680</b>	<b>100</b>		
Puddled	20	8	30	18	45	7		
Displaced	10	4	5	3	25	4		

Disturbance	1 Lower		2 Middle		3 Upper		4. Upper with 5 lower	
	Points	%	Points	%	Points	%	Points	%
Heavy	8	6	37	8	37	8	165	35
Light	95	52	260	57	260	57	160	35
Dist.	50	38	38	38	38	38	38	38
<b>TOTAL</b>	<b>133</b>	<b>100</b>	<b>437</b>	<b>100</b>	<b>437</b>	<b>100</b>	<b>1675</b>	<b>100</b>
Puddled	13	10	37	8	37	8	55	3
Displaced	0	0	15	3	15	3	145	9



4. Upper with 5 lower

DATE 7.16.96

CUTTING METHOD Chipper/Processor

OBSERVER Kuennen

SKIDDING METHOD Tractor

DISTRICT Rexford

HAZARD TREATMENT \_\_\_\_\_

SALE Inch Mt. p.c. 123-04-104  
 Unit No. 1

SILVICULTURAL TREATMENT SD W/ seed trees

SAF/Alai or Mafe 38A

OPERATION PERIOD winter? late spring/spring  
Unit not burned.

COMPACTION (Heavy) \_\_\_\_\_ 2

COMPACTION (Light)                      \_\_\_\_\_ 170  
260

UNDISTURBED                     \_\_\_\_\_ 175  
180

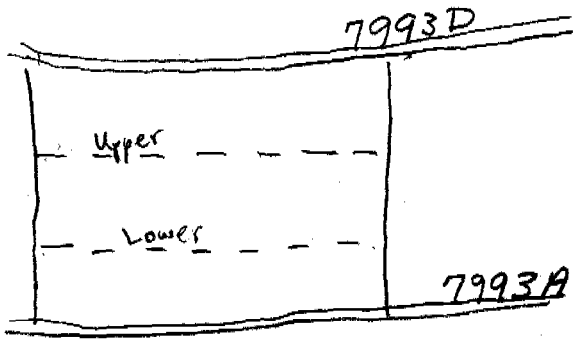
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

unharvested  
 SMZ \_\_\_\_\_ 50

COMMENTS Quartzite bedrock. Soil very rocky. Soil very wet.  
Two operational periods!?  
Some erosion occurring in fireline!  
Soil saturated. Wet spots scattered throughout unit. More in southern  
finger.  
Unit looks very good.  
Ash 4-10", mixed in places!

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.

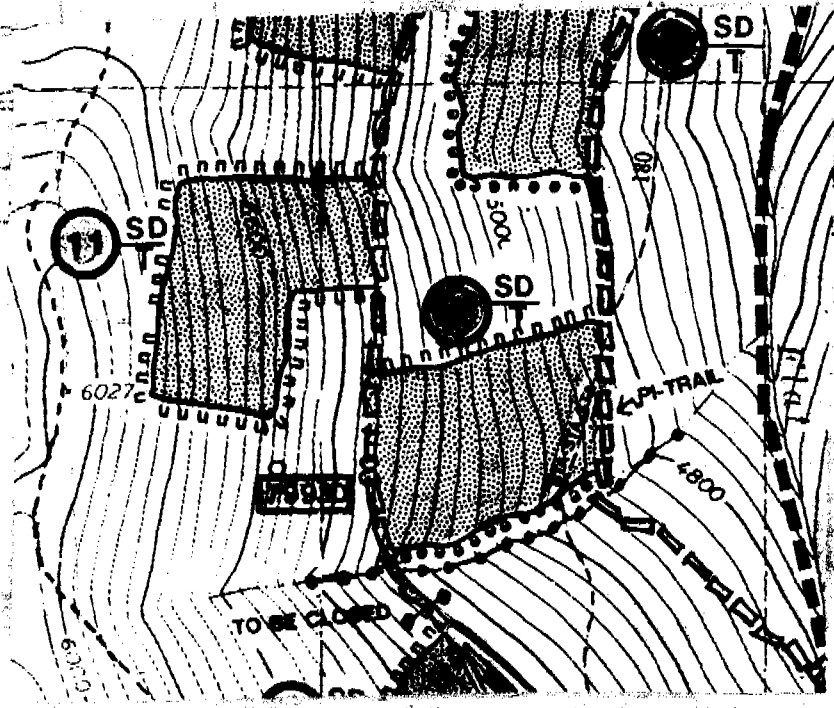
DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

Disturbance	Points		Points		Points		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy								
Light								
Undist.								

TOTAL

Displaced



Disturbance	Points		Points		Points		Total	
	Points	%	Points	%	Points	%	Points	%
Displaced	0		0		1		5	
SMZ	1	5	0	0	1	100	3	100
TOTAL	1	791	0	444	1	100	3	347
Undist.	45	355	41	180	50	175	175	175
Light	54	430	58	260	49	170	170	170
Heavy	1	6	1	4	1	2	2	2
Total	100	791	100	444	100	347	347	347

12304058  
 KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 7.16.96 CUTTING METHOD Clipper  
 OBSERVER Kuennen SKIDDING METHOD Tractor  
 DISTRICT Rexford HAZARD TREATMENT BB spring '96  
 SALE Inch Mt. 123-04-058 SILVICULTURAL TREATMENT SD Few L seed trees  
 Unit No. 11 OPERATION PERIOD July - August 1995

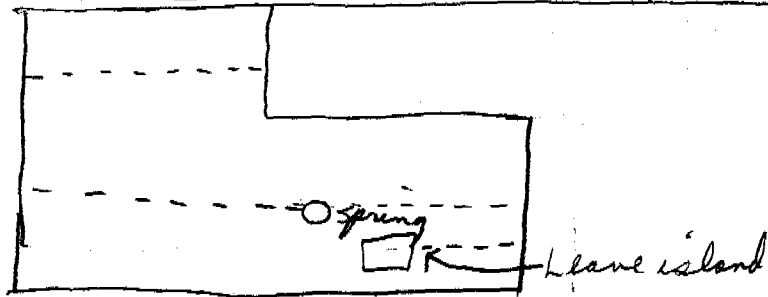
Planted ES, WL, DF 39A SAF/A/Si or Mafe Unit was burned

COMPACTION(Heavy) <input type="checkbox"/>	1	8
COMPACTION(Light) <input checked="" type="checkbox"/>		3
<input checked="" type="checkbox"/>		0
<input checked="" type="checkbox"/>		62
<input checked="" type="checkbox"/>		140
<input checked="" type="checkbox"/>		40
UNDISTURBED <input checked="" type="checkbox"/>		180
<input checked="" type="checkbox"/>		332
<input checked="" type="checkbox"/>		90
DISPLACED /		3
EXCAVATED SKID TRAIL	along leave island <input checked="" type="checkbox"/>	3 / 20
Spring areas <input checked="" type="checkbox"/>		10
Erosion <input checked="" type="checkbox"/>		3

COMMENTS Over Quartzite bedrock. Lots of angular rock in soil (over 65%)  
 Fire left most of partially decomposed P.M.  
 Some erosion in excavated fireline. Lower end of skid trails have some  
 erosion. - < 10 Bedrock exposures in unit. - Lower part of unit much  
 steeper than upper part, except for SW corner.  
 - Wet spots in unit.  
 Unit looks very good.

Middle - across middle of longer part of unit!  
 Lower - across middle of shorter part of unit!

SHAPE OF UNIT AND PATTERN OF TRANSECT 7993D



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.

Disturbance	1 Lower		3 Middle		3 upper		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	8	3	3	1	0	0	11	1
Light	62	25	160	32	40	31	262	30
Undist.	180	72	332	67	90	69	602	69
<b>TOTAL</b>	<b>250</b>	<b>100</b>	<b>495</b>	<b>100</b>	<b>130</b>	<b>100</b>	<b>875</b>	<b>100</b>
<del>puddled</del> Displaced Wet	0	0	10		6	0	10	1
Erosion	3	1	0	0	0	0	3	0

10403109

DATE 9.12.96  
SERVER Kuennen-Sullivan  
DISTRICT Rexford  
SALE Upper Face PC  
Unit No. 8  
104-03-109 32A

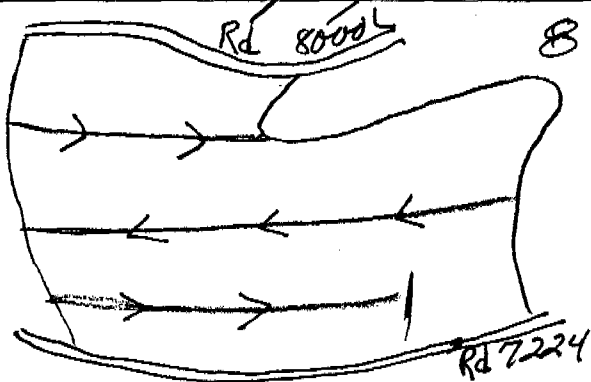
CUTTING METHOD Clipper  
SKIDDING METHOD Cat  
HAZARD TREATMENT ?  
SILVICULTURAL TREATMENT SpDes - CTM  
OPERATION PERIOD August 1996

COMPACTION (Heavy)	11	17
		10
		13
COMPACTION (Light)	136	230
		165
UNDISTURBED	30	63
		40
DISPLACED	10	58
		40
Rock		3
		7
		1

COMMENTS  
Unit was skidded w/ dozer. Looks like they backed to every log and tried to drive on every piece of ground. Soil moisture was well below 18%. Typical - there is a lot more disturbance in + around the landing. The water bars on the major skid trails are composed mostly of broken wood. These should work. Construction of some of the bars is not the best. Very low profile of slash due to being trampled by cat. Probably should be a good burn to provide some site prep.

SHAPE OF UNIT AND PATTERN OF TRANSECT

- 1. upper
- 2. middle
- 3. lower



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.



# Unit 8

Disturbance	Upper		Middle		Lower		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	17	10	10	3	13	6	40	6
Light	136	74	230	76	165	76	531	75
Undist.	30	16	63	21	40	18	133	19
<b>TOTAL</b>	<b>183</b>	<b>100</b>	<b>303</b>	<b>100</b>	<b>218</b>	<b>100</b>	<b>704</b>	<b>100</b>
Rock	5	3	7	2	1	1	13	2
Displaced	10	5	58	19	40	18	108	15

10403112

DATE 9.12.96

CUTTING METHOD Chipper

OBSERVER Kuennen-Sullivan

SKIDDING METHOD RTS (south), dozer (north)

DISTRICT Rexford

HAZARD TREATMENT ?

SALE Upper Face PC  
 Unit No. 10

SILVICULTURAL TREATMENT Sp Des - CTM

104-03-112 54A

OPERATION PERIOD Aug-Sept 1996

COMPACTION (Heavy) RTS / Cat  
 /

COMPACTION (Light) RTS / Cat  
 /

UNDISTURBED RTS / Cat  
 /

DISPLACED RTS / Cat  
 /

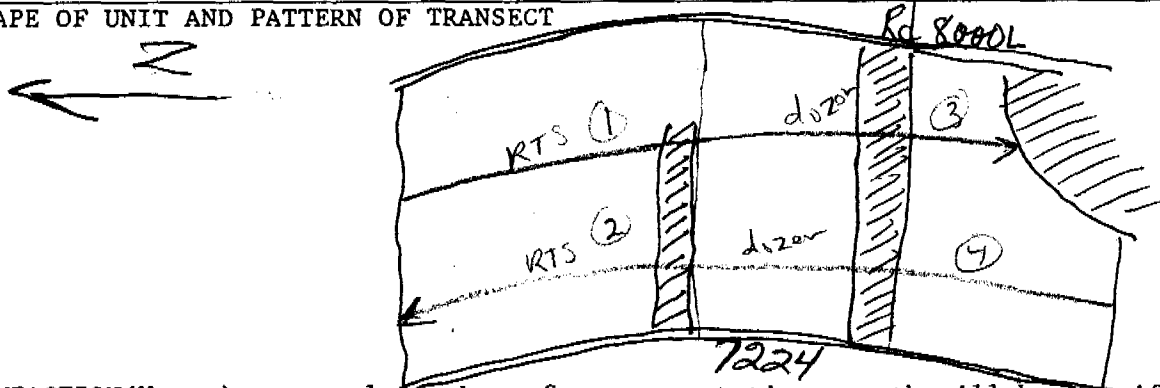
EXCAVATED SKID TRAIL RTS / Cat  
 /

SMZ RTS / Cat  
 /

COMMENTS  
North half - dozer skidder; south half - RTS  
soil moisture well below 18 pt.  
Type of skidder definitely make a difference in profile of slash.  
Other than amount of displacement being a little high, the  
unit looks good.

10/20  
 19/21  
 110/20  
 147/219  
 23/40  
 25/68  
 33/80  
 38/42  
 50/50  
 50/20

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.

# Unit 10

## Up RTS | | Up Dozer

Disturbance	Points	%	Points	%	Points	%	Points	%
Heavy	10	7	19	10	20	8	21	7
Light	110	77	147	77	203	77	219	71
Undist.	23	16	25	13	40	15	68	22
<b>TOTAL</b>	<b>143</b>	<b>100</b>	<b>191</b>	<b>100</b>	<b>263</b>	<b>100</b>	<b>308</b>	<b>100</b>
lewestrips	50		50		50		20	
Displaced	33	23	38	20	80	30	42	14

### RTS

### Dozer

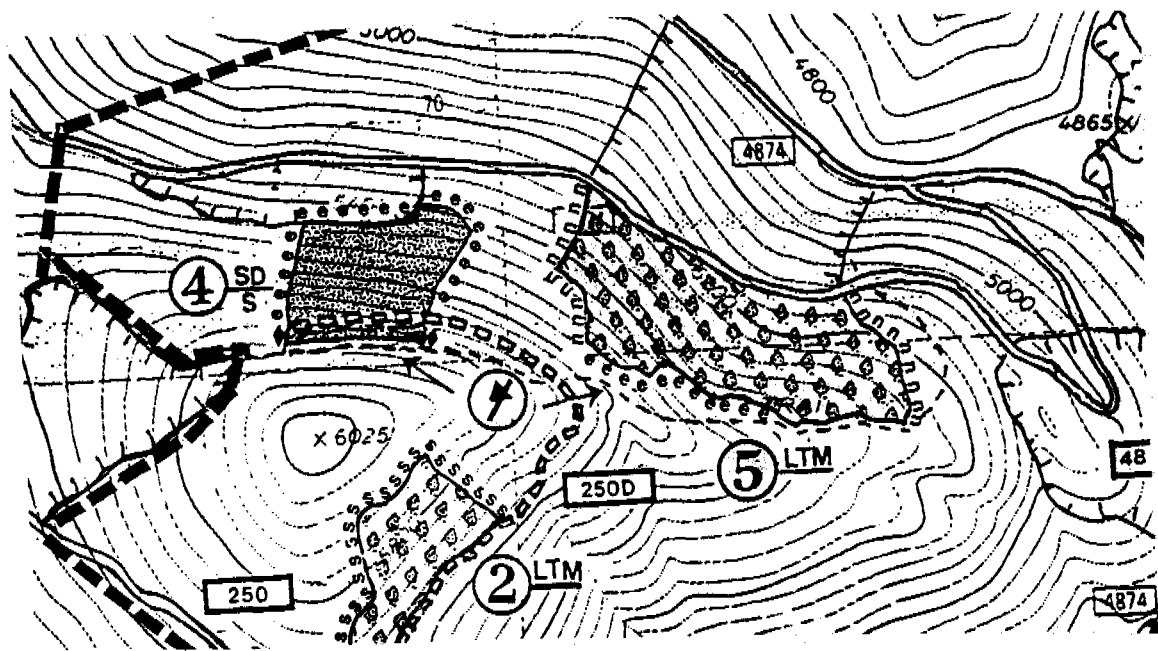
29	9
257	77
48	14
<b>334</b>	<b>100</b>
71	21

41	7
422	74
108	19
<b>571</b>	<b>100</b>
122	21

905



Disturbance	1 Lower		2 Upper		Total	
	Points	%	Points	%	Points	%
Heavy	47	7	7	1	54	4
Light	299	47	325	47	622	47
Undist.	287	46	360	52	647	49
<b>TOTAL</b>	<b>631</b>	<b>100</b>	<b>692</b>	<b>100</b>	<b>1323</b>	<b>100</b>
Erosion	20	3	13	2	33	2
Displaced	20	3	17	2	37	3
Puddled	5	1	0	0	5	0





1 Lower || 2 Upper ||

	1 Lower		2 Upper		%	Total Points	%
are vy	6	1	4	1		10	1
Light	315	52	320	58		635	55
Undist.	285	47	230	41		515	44
	606	100	554	100		1160	100
Burn Piles	15	2.5	15	2.7		30	3
Displaced	8	1	13	2		21	2
Erosion	4	.6	3	.5		7	.6

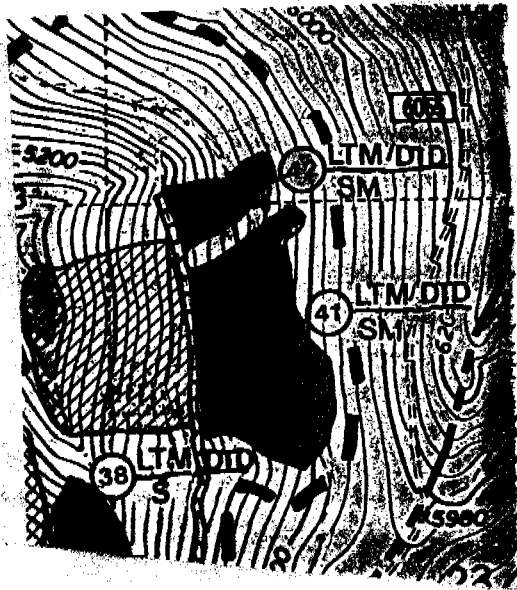




North  
Transect      South  
Transect

Total

Disturbance	North Transect		South Transect		Total	
	Points	%	Points	%	Points	%
Heavy	11	4	14	5	25	4
Light	91	30	60	22	151	26
Undist.	199	66	201	73	400	70
<b>TOTAL</b>	<b>301</b>	<b>100</b>	<b>275</b>	<b>100</b>	<b>576</b>	<b>100</b>
Excavated Trail	11	4	14	5	25	4
Displaced	35	12	51	19	86	15





Upper Lower

Total

Disturbance	Upper		Lower		Total	
	Points	%	Points	%	Points	%
Heavy	7	2	20	6	27	4
Light	165	56	210	61	375	59
Undist.	123	42	112	33	235	37
<b>TOTAL</b>	<b>295</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>637</b>	<b>100</b>
Displaced	20	7	50	15	70	11



Disturbance	Lower		Upper				Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	20	5	18	5			38	5
Light	220	57	224	57			444	57
Undist.	145	38	150	38			295	38
<b>TOTAL</b>	<b>385</b>	<b>100</b>	<b>392</b>	<b>100</b>			<b>777</b>	<b>100</b>
Displaced	30	8	30	8			60	8



Lower      Middle      Upper      Total

Disturbance	Lower		Middle		Upper		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	33	10	17	5	3	2	53	6
Light	198	57	190	53	85	51	468	54
Undist.	112	33	150	42	80	48	342	40
<b>TOTAL</b>	<b>338</b>	<b>100</b>	<b>357</b>	<b>100</b>	<b>168</b>	<b>100</b>	<b>863</b>	<b>100</b>
Displaced	45	13	43	12	5	3	93	11





Disturbance	Lower		Upper		Total			
	Points	%	Points	%	Points	%		
Heavy	30	6	15	3			45	5
Light	280	56	270	62			550	59
Undist.	190	38	152	35			342	36
<b>TOTAL</b>	<b>500</b>	<b>100</b>	<b>437</b>	<b>100</b>			<b>937</b>	<b>100</b>
Displaced	33	7	35	8			68	7

72809003

DATE Oct. 17, 1996

CUTTING METHOD Hand

SERVER Kuennen/Brooks

SKIDDING METHOD Tractor

DISTRICT Cabinet

HAZARD TREATMENT \_\_\_\_\_

SALE Beetle Bug Salvage

SILVICULTURAL TREATMENT IT

Unit No. 728-09-003 75A

OPERATION PERIOD Winter '95

COMPACTION (Heavy) ① ③

COMPACTION (Light) 90/ 140

UNDISTURBED 110 170

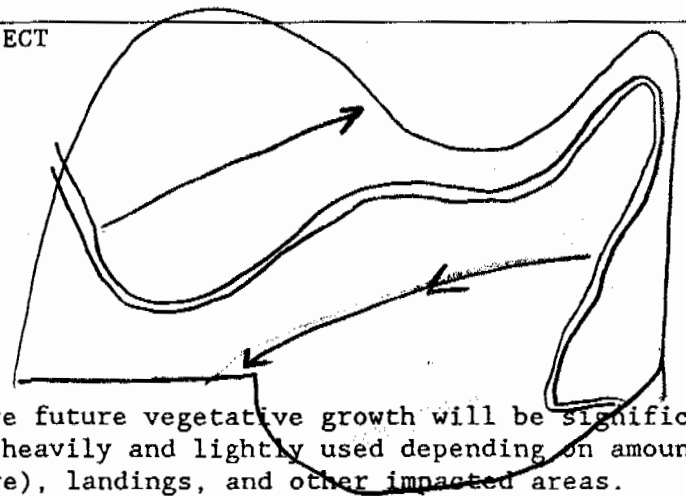
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Winter operation. See evidence of fairly old skid trails.

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.

Disturbance	Upper		Lower		Total			
	Points	%	Points	%	Points	%		
Heavy	1	0	3	1			4	1
Light	90	39	110	39			200	39
Undist.	140	61	170	60			310	60
<b>TOTAL</b>	<b>231</b>	<b>100</b>	<b>283</b>	<b>100</b>			<b>514</b>	<b>100</b>
Displaced	0		2				2	0

72206041

DATE Oct-17, 1996

CUTTING METHOD: <sup>10%</sup> Hand & <sup>90%</sup> Chipped

OBSERVER Kuennen/Brooks

SKIDDING METHOD Tractor

DISTRICT Cabinet

HAZARD TREATMENT \_\_\_\_\_

SALE Stevens Blacktail

SILVICULTURAL TREATMENT LTM

Unit No. 4  
722-06-091 13A

OPERATION PERIOD September 1996

COMPACTION (Heavy)     (41)

COMPACTION (Light)                    (502)

UNDISTURBED                (207)

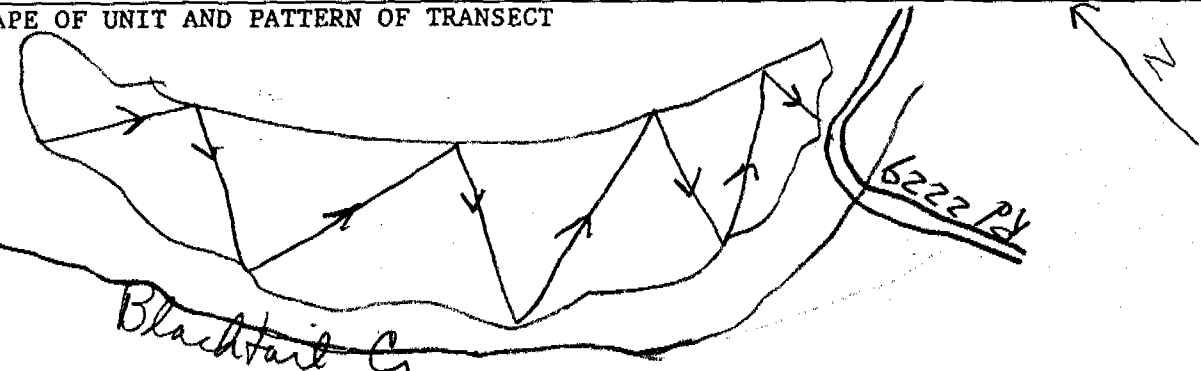
DISPLACED     (54)

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Dedicated trail along southwestern edge of unit. Recontoured. Trail near Rd. 2229 looks good. Could have been leveled more. Some water collecting on mid portion of trail with a little erosion. Might have done some ripping of trail. Unit looks good.  
Due to skidding pattern did a series of zig-zags across unit, but called it one transect.

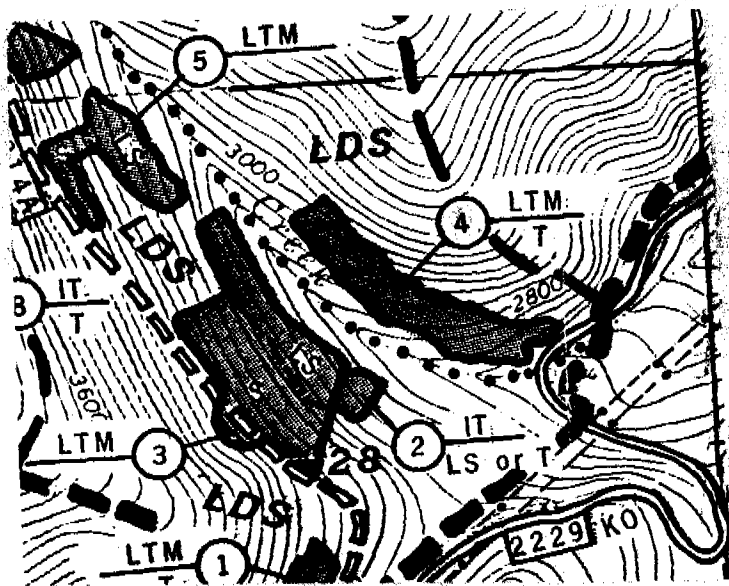
SHAPE OF UNIT AND PATTERN OF TRANSECT



Blacktail Cr.

- 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.

Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	41	5					41	5
Light	502	67					502	67
Undist.	207	28					207	28
<b>TOTAL</b>	<b>750</b>	<b>100</b>					<b>750</b>	<b>100</b>
Displaced	54	7					54	7





Below Rd 2746C

Distance	Points	%	Points	%	Points	%	Total
Heavy	38	9	195	40	230	64	443
Light							
Undist.							
							100
TOTAL							443

Above Rd 2746C

Distance	Points	%	Points	%	Points	%	Total
Heavy	5	2	72	26	77	27	150
Light	165	71	206	71	190	69	561
Undist.	10	28	80	28	80	30	220
							100
TOTAL							274

71902016

DATE Oct. 7, 1996

CUTTING METHOD Hand

BSERVER Kuennen

SKIDDING METHOD RTS w/ grapple

DISTRICT Cabinet

HAZARD TREATMENT BB Oct. 1996

SALE Stevens Blacktail

SILVICULTURAL TREATMENT Seed Pres <sup>LTM</sup> DF

Unit No. 17  
919-02-012 17A  
GFT/COOC

OPERATION PERIOD Sept 1996

COMPACTION(Heavy)   \_\_\_\_\_ 25

COMPACTION(Light)                  \_\_\_\_\_ 180

UNDISTURBED      \_\_\_\_\_ 75

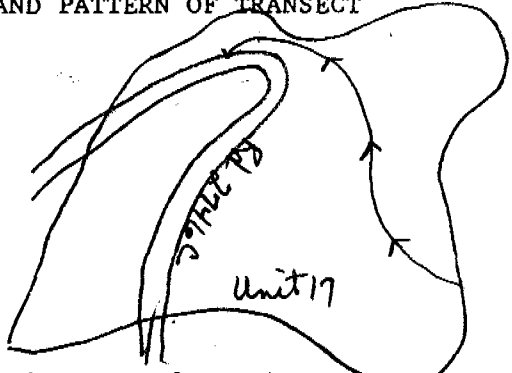
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Dispersed skidding w/ major trails. Heavy compaction in major trails. Topography fairly so no displacement

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.

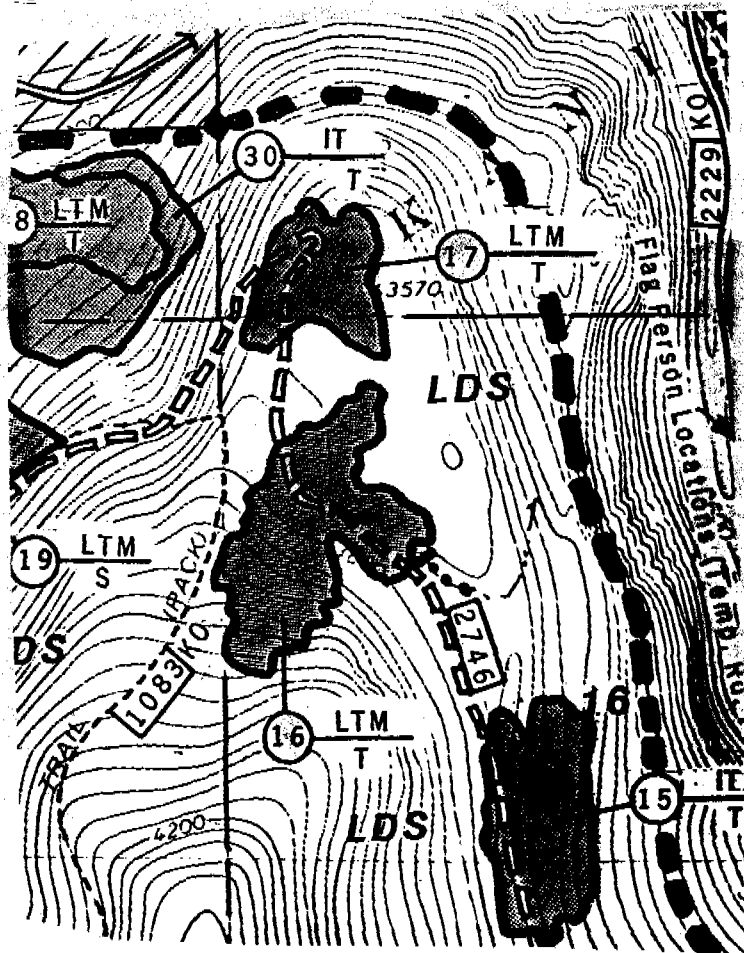
UNDISTURBED - no signs of any machinery or skidding activity.

DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.



Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	25	9						
Light	180	64						
Undist.	75	27						
<b>TOTAL</b>	<b>280</b>	<b>100</b>						
Displaced	0	0						



1 = 10102001 - 65 10102012 - 42

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

4 = 10503025 - 15  
= 10503024 - 20

3 = 10503026 - 27

DATE Jan. 17, 1996 01/17/1996

OBSERVER Kuennen

CUTTING METHOD Hand

SKIDDING METHOD RTS

DISTRICT Rexford Rexford

HAZARD TREATMENTS slashing 144 Jack pot burning

SALE Dodge Cr. Fuels  
Unit No. 1, 3 & 4

SILVICULTURAL TREATMENT LTM 3-Ep. pile

Dodge Creek Fuels, Unit 1, 3 & 4  
10102001, 10503026, 10503025

OPERATION PERIOD Winter '95-'96  
HT. 312 Slope: 410  
Ele. 2600 location - lower

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Winter operation - Nearly flat. Looks very good!

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.

11304115-12A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

03/29/1996  
Rexford - North Fork West Fire Salvage  
Unit 45  
11304115

DATE 3/29/96 CUTTING METHOD clips/hand

OBSERVER Kuennen/Sullivan SKIDDING METHOD RTS

DISTRICT Rexford HAZARD ABATEMENT Jackpot '99

SALE North Fork West Fire Salvage SILVICULTURAL ST cut  
Unit No. 45

H1-533 EG-4200 A5-SE slope 25-30 OPERATION PERIOD Jan-Feb '96

COMPACTION (Heavy) \_\_\_\_\_

Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

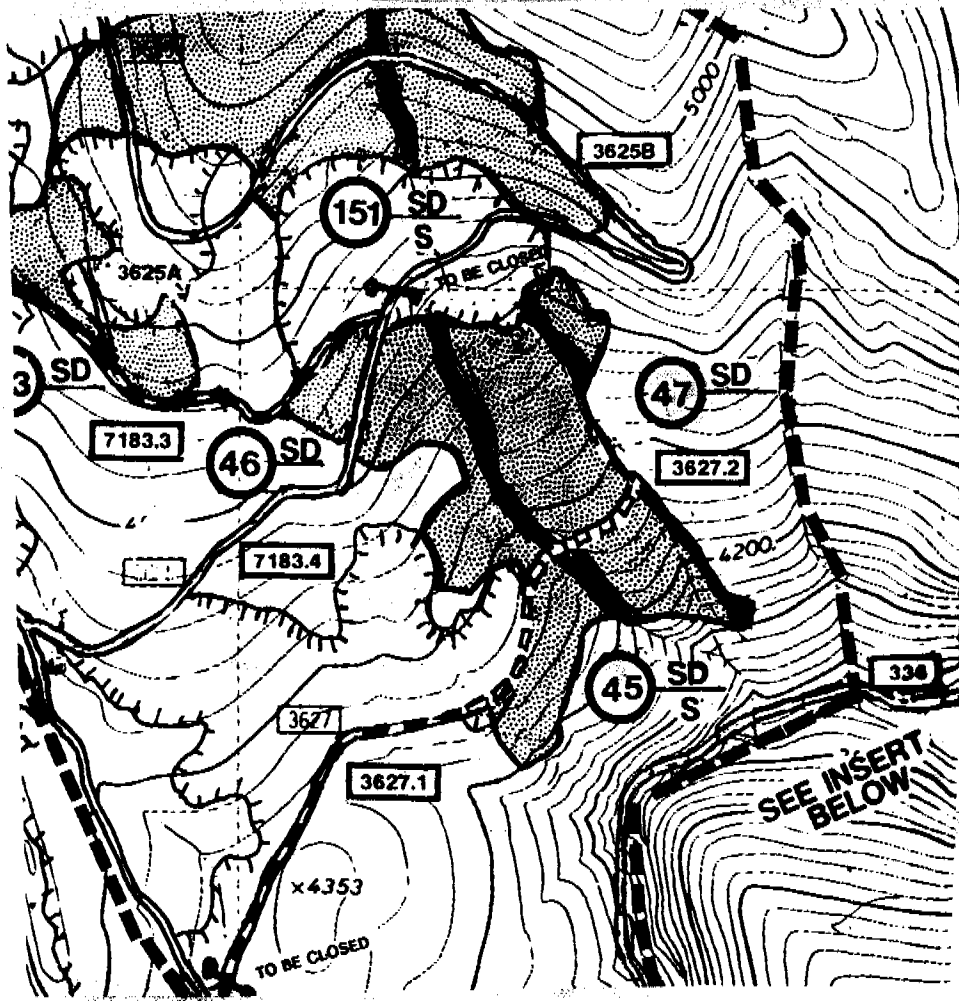
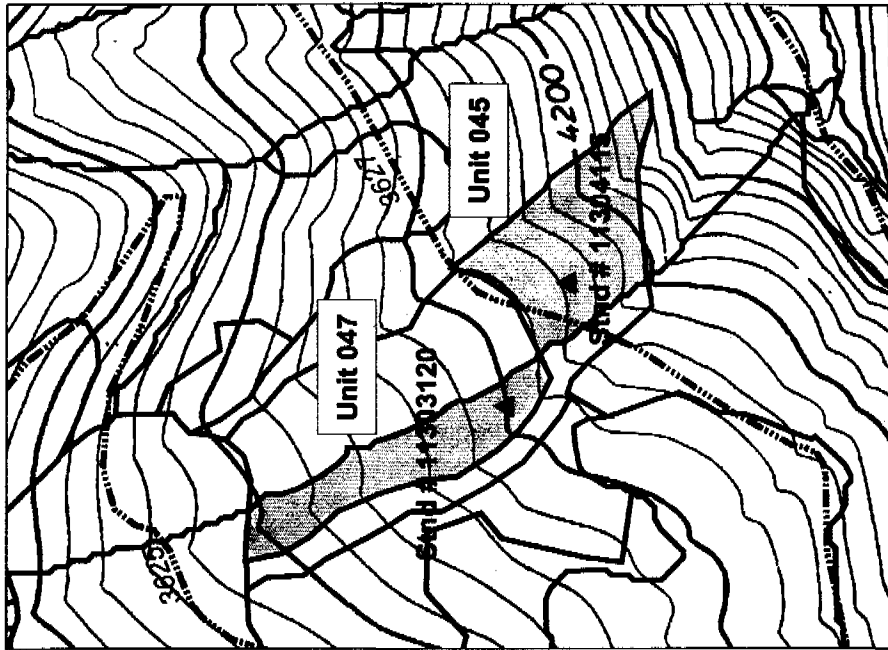
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Operations occurring on snow roads. Operations look very good. Proceeding at the landing. Temp. road into units to be put to bed.

Shape of Unit and Pattern of Transect



*Sale Maps different from  
 current stand layer, which  
 agrees w/ average. nk 7/11/03*

11303120  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

03/05/1996  
Rexford - North Fork West Fire Salvage  
Unit 47  
11303120

DATE 3/5/96

CUTTING METHOD clipper

OBSERVER Kuennen/Emery

SKIDDING METHOD RTS

DISTRICT Rexford

HAZARD ABATEMENT Jack pot '99

SALE North Fork West Fire Salvage  
Unit No. 47 9A

SILVICULTURAL ST cut

OPERATION PERIOD Jan-Feb '96

HT-621, EL-4500. A5-SE

COMPACTION(Heavy)

Walk through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Operation look very good! Lots of snow - snow roads  
Processing at the landing.

Shape of Unit and Pattern of Transect

UNITED STATES NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

10/10/1996

Fortine - Twin Meadows Fire Salvage  
Unit 1, 2, 3, 4

35406069  
35407007  
35406071/  
35407002  
35407011

DATE Oct-10, 1996

CUTTING METHOD Clipper

OBSERVER Knennen

SKIDDING METHOD RTS w/ grapple

DISTRICT Fortine

HAZARD TREATMENT \_\_\_\_\_

SALE Twin Meadows Fire Salvage  
Unit No. 1, 2, 3, 4

SILVICULTURAL TREATMENT 2 & 3 LTM, 4 Spdes.

OPERATION PERIOD Jan - Feb. 1996, June '96

COMPACTION (Heavy) Walk through!!  
1. 354-06-069 10A 3. 354-06-071 9A  
2. 354-09-009 12A 4. 354-09-003 17A  
5. 354-09-011 25A

① CC w/ reserves      ② CC w/ reserves

COMPACTION (Light) ③ CC w reserves      ④ ~~CC~~ ST Seed cut

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Review of these units was part of a Sale Administrator certification for Ed Ferruggio. Units 2 & 3 were winter logged. The only way to get in where the skid trails were was by the accumulation of sticks etc. & the mangled stumps. No removal occurred in the SMZ; no machinery entered the STA. No disturbance occurred in Units 1, 2, & 3 except at the landing. Unit 4 was summer logged. Some compaction occurred in the main trail. Generally everything looked good, especially w/ the lack of organic mat & slash. Volcanic ash is present. Area very susceptible to overland flow!

SHAPE OF UNIT AND PATTERN OF TRANSECT

Winter logging in Units 1, 2 & 3 was excellent.  
Summer logging in Unit 4 was good. I would estimate less than 5% heavy compaction!

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

ENTIRE	LANI	ACI	UN
YAF	CLEA		
X=Y	X=		



ING ROAD, HAULING RESTRICTED, C5.12#

ROAD OPEN, B6.22

CLOSED, C5.51#

FIELD RECONSTRUCTION, B5.2, A9

IAL TREATMENT AREA, C6.4#

AM MANAGEMENT ZONE, C6.50#

AMCOURSE PROTECTION, C6.51

REE MARKING, C2.35# (OPT C)

NATION FOR CUTTING, C2.352# (OPT 1) and  
PECIES DESIGNATION, C2.38#

DEAD STANDING, C2.38#

IAL SOURCE, C5.221#, A11

ING UNIT

AREA BOUNDARY

OTHER THAN FOREST SERVICE

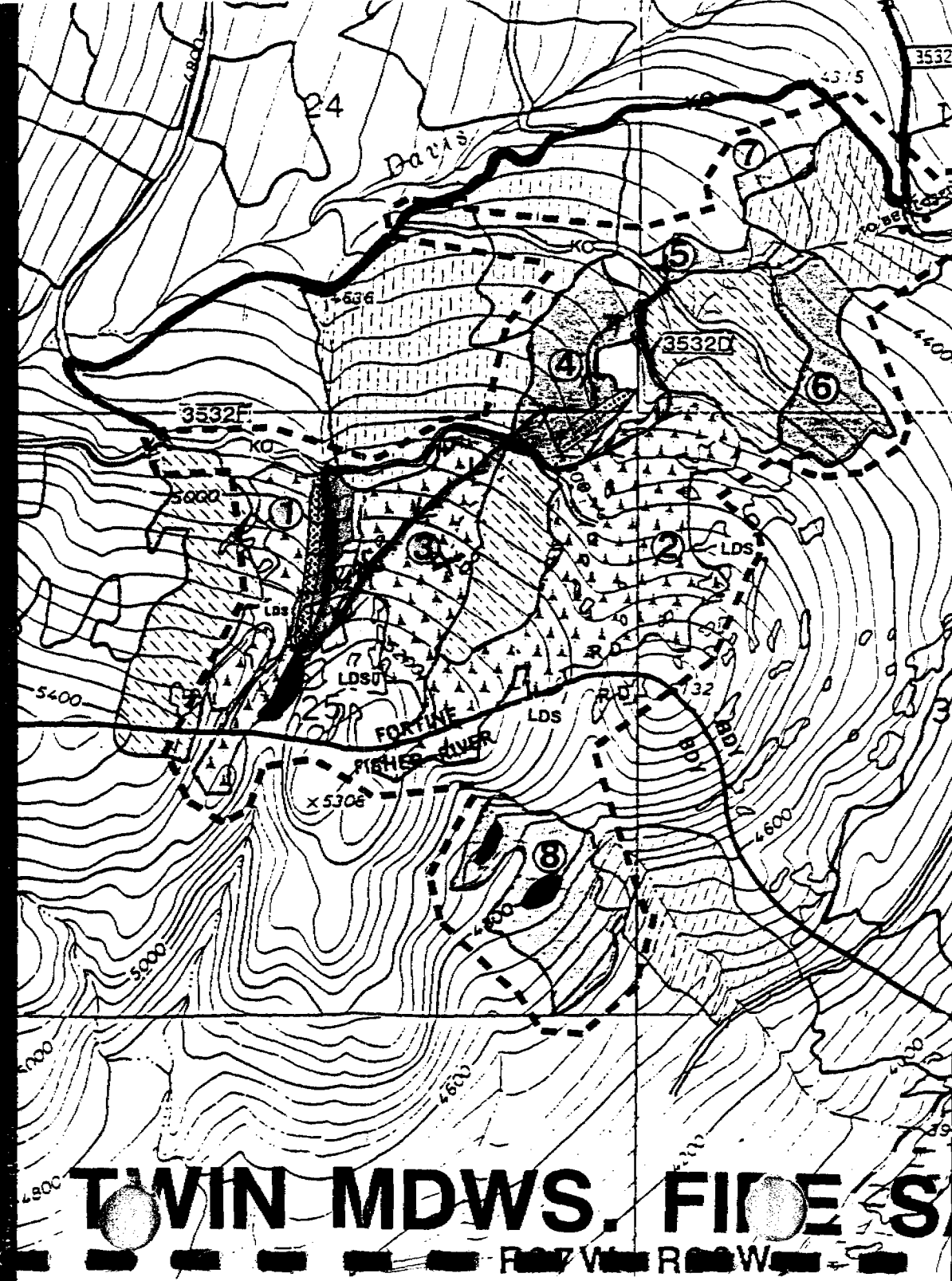
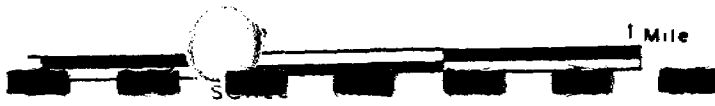
*Weight Sale*

*STA - SMZ*

*10/10/96  
walk through*

TWIN MEADOWS FIRE SALVAGE  
PURCHASER SLASH TREATMENT  
LEGEND

1	2	3	4	5	6	7	8
28	73	36	22	6	21	3	29
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X



TWIN MDWS. FIRE S

10 42704118 - 29A

17 42704118 - 140A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

01/23/1996  
Three Rivers  
- Fowler  
Fire Salvage  
Unit 10 & 17  
42701178  
42704118

DATE 1/23/96

CUTTING METHOD clipper/hand

OBSERVER Kuennen/M. Pelton

SKIDDING METHOD RTS

DISTRICT Three Rivers

HAZARD ABATEMENT \_\_\_\_\_

SALE Fowler Fire Salvage  
Unit No. 10 + 17

SILVICULTURAL Regeneration Cut CC w/reserve

HT-732/740 El-5060-5200, As-SW-NW OPERATION PERIOD Jan '96

COMPACTION (Heavy) slope 25-35

walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

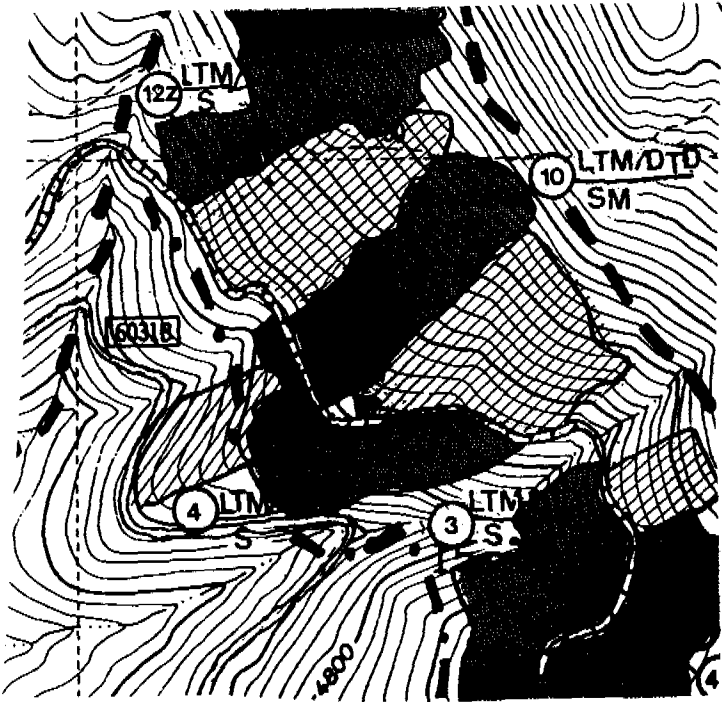
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Operation occurring on snow roads. Snow very deep. No impact to soil. Need to be sunk to create opening in berms along edge of roads.

Shape of Unit and Pattern of Transect





1994 Grapple pile, 1995 burn  
CC w/ Reserves  
Hand sawn  
RTS

42202165 40  
42201449 31A  
42202159  
also 10+16 422-02-164  
10A

DATE 7.18.96

OBSERVER Kuennen

DISTRICT Three Rivers

SALE Mud Little

UNIT # 14  
422-02-162 25A

Wt/Clun Planted to WL, DF, WWP

~~Walk through!~~

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS

No transects were made. Looks like delimited trails for skidding. Erosion occurring on part of the trails.

- Feel that the trail coming directly down slope to landing needs slash placement. Skidding was such that there is a berm along side of trail. Can use debris that has accumulated on edge of trail.
- Landing should be ripped.

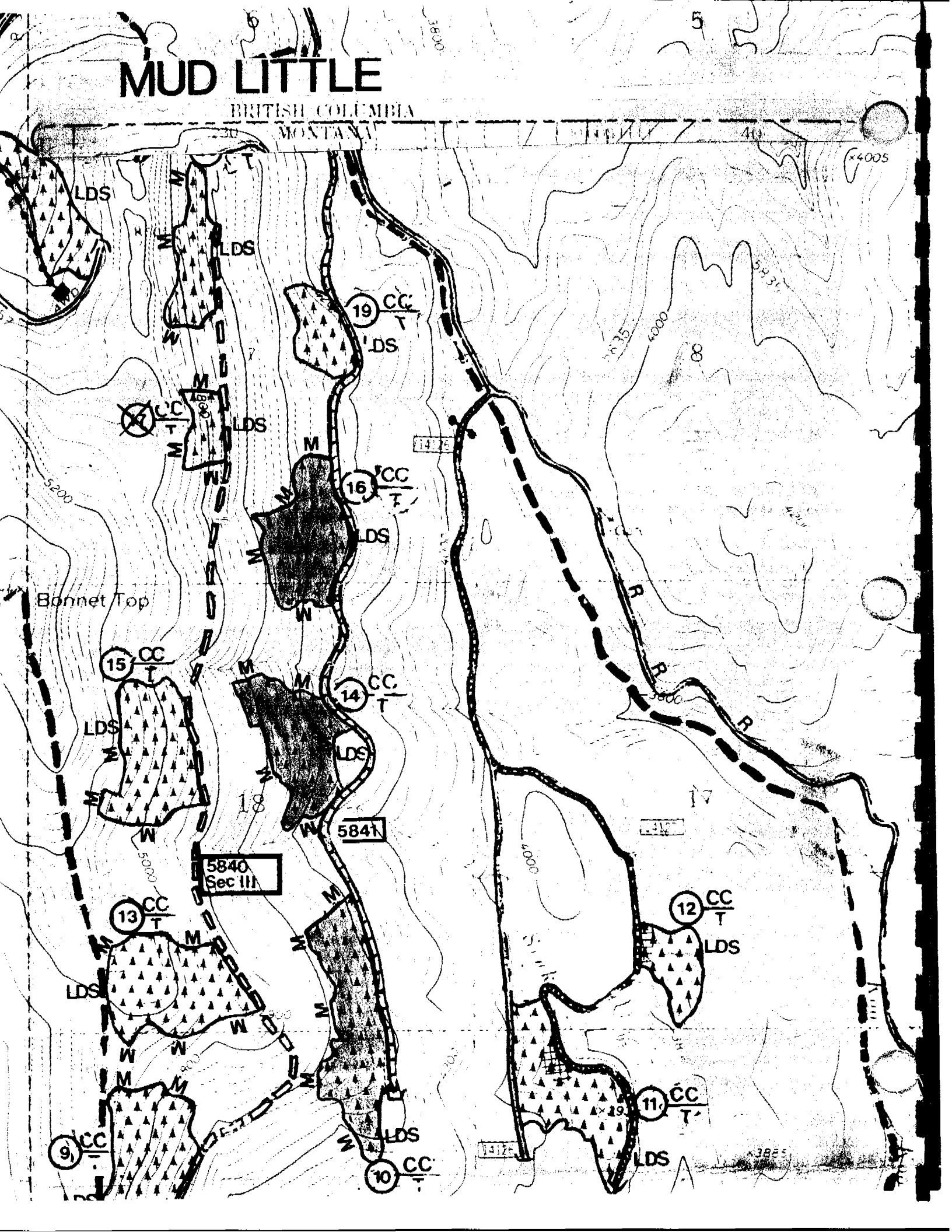
SHAPE OF UNIT AND PATTERN OF WALK THROUGH.

Have some problem w/ unit layout on units 10, 14, 16.

# MUD LITTLE

BRITISH COLUMBIA

MONTANA



5200

Bonnet Top

15 CC  
T

LDS

5840  
Sec III

13 CC  
T

LDS

9 CC  
T

19 CC  
T

LDS

16 CC  
T

LDS

14 CC  
T

LDS

5841

12 CC  
T

LDS

11 CC  
T

LDS

10 CC  
T

4005

4000

5931

4000

17

3825

3890

5

40

4472

45303179 - 3

09/17/1996  
Three Rivers - Studebaker Fire Salvage  
Unit 16  
45303179

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9-17-96

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD cable

DISTRICT Three Rivers

HAZARD ABATEMENT \_\_\_\_\_

SALE Studebaker F. S.  
Unit No. 16 3A

SILVICULTURAL ST seed cut

OPERATION PERIOD Jan. '96

COMPACTION(Heavy) \_\_\_\_\_

Walk Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Small old debris failure in drainage. No impact to soil.

Shape of Unit and Pattern of Transect Walk Through

DATE 9-17-96

CUTTING METHOD hand

OBSERVER Kuenne

SKIDDING METHOD cable

DISTRICT Three Rivers

HAZARD ABATEMENT

SALE Studebaker Fire Salvage  
Unit No. 17

SILVICULTURAL Sw seed

HT-624 EL-5500 As-S 7A  
slope 35

OPERATION PERIOD Aug '97

COMPACTION (Heavy)

Walk Through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

small  
Old debris failure in corner of unit. Recommend no road or  
no removal around or above failure. No impact to soil

Shape of Unit and Pattern of Transect Walk - through

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

09/23/1996  
Three Rivers - Fowl Ball  
Unit 19  
42702104

DATE 9.23.96 CUTTING METHOD Hand

OBSERVER Kuennen/Moeller/Bajonet SKIDDING METHOD RTS

DISTRICT Three Rivers HAZARD TREATMENT Excavator Pile

SALE Fowl Ball RE-AD SILVICULTURAL TREATMENT Species Des. LPP

Unit No. 19 9A OPERATION PERIOD Jan-Feb. 1996

SAF Walk through! 427-02-104

COMPACTION(Heavy)

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS No transects! Walk through! The unit is long & linear & flat. It is on an old lakebed. Soil material is fine sand. Volcanic ash is scattered - absent, mixed, present. Three major trails were used to skid from far end of unit to landing. Soil compaction is evident in these trails. About 5 percent of the unit is in trails. A soft layer is present over almost all of the unit - very little is disturbed. More than sixty percent of the unit had machinery on it. A charcoal layer is present, over all the unit, at the soil surface.

SHAPE OF UNIT AND PATTERN OF TRANSECT

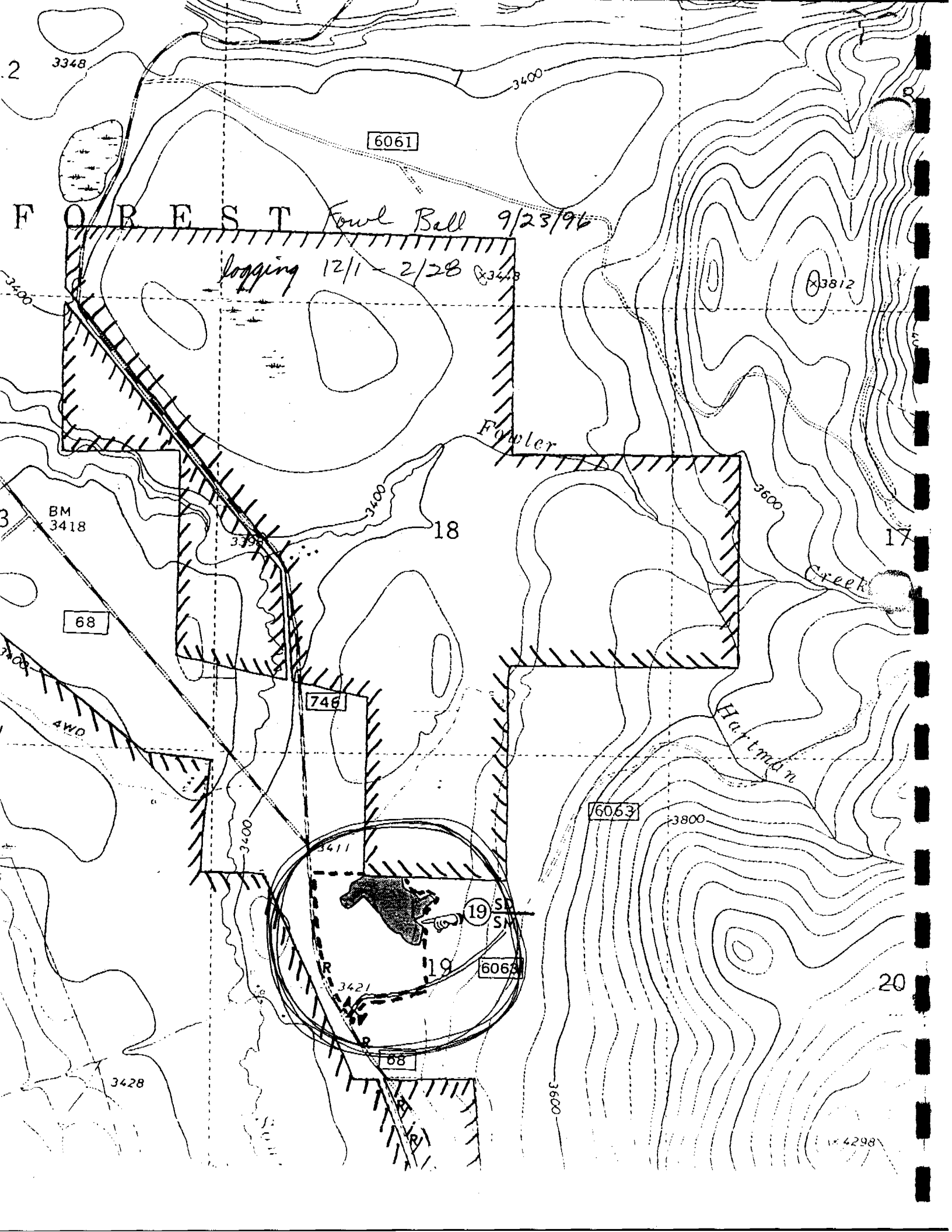
COMPACTION(Heavy) - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.

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.



3348

6061

FOREST Fowl Bell 9/23/96

logging 12/1 - 2/28

33812

Fowler

BM  
3418

18

17

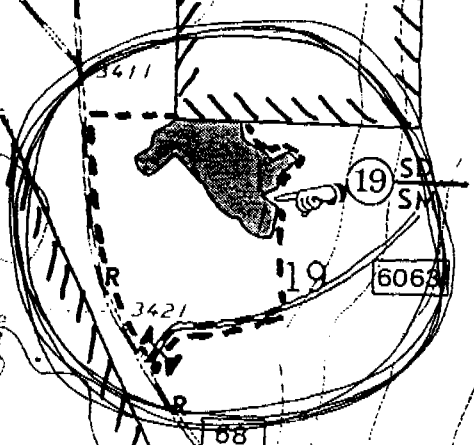
Creek

68

746

Hartman

6063



19

6064

19

68

20

3428

3600

3800

4298

51404048 - 41

51705020 - 36

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

11/29/1996  
Libby - Sheldon Interface  
Unit 5 51404048/51704020

DATE 11/29/96

CUTTING METHOD clipper

OBSERVER Kuennen / Corda

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT \_\_\_\_\_

SALE Sheldon Interface  
Unit No. 5 77A

SILVICULTURAL Improvements

OPERATION PERIOD Dec '95 - Jan '96

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) Walk through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS This project is associated w/ an overall urban interface fuel reduction north of Kootenai River. Low soil impact soil p/ayer/kerd in skid trails

Shape of Unit and Pattern of Transect walk through



02/23/1996  
Libby - Prospect Parmenter  
Unit 32  
52301088

52301088 - 11A  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 2/23/96

CUTTING METHOD clipper/hand

OBSERVER Kuennen/Crawford

SKIDDING METHOD Cable

DISTRICT Libby

HAZARD ABATEMENT understory burn '97

SALE Prospect Parmenter  
Unit No. 32 11A

SILVICULTURAL Sw seed/reserve

OPERATION PERIOD Jul/Aug '96

HT-312 El-3500, As-S Slope 50

COMPACTION(Heavy) \_\_\_\_\_

walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Shape of Unit and Pattern of Transect

SOIL DISTURBANCE DATA FORM

10/04/1996  
 Cabinet - Genos Vex SSTS  
 Unit 1 & 2  
 74101054/74105054

74105054

DATE Oct. 4, 1996

CUTTING METHOD Hand

SERVER Kuennen

SKIDDING METHOD Horse

DISTRICT Cabinet

HAZARD TREATMENT \_\_\_\_\_

SALE Genos's Vex SSTS

SILVICULTURAL TREATMENT ITM

Unit No. 1 + 2 53 Acres

OPERATION PERIOD Summer 1996

Walk through!

741-05-054

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS This was one of the sales reviewed as part of the KNE salvage sale monitoring. Hand felled horse tractor skidded. A small tractor w/ trailer was used where it could stay on skid trails that had been created by previous logging. Some gouging was occurring in picking trails where the log mules were digging in. Little or no impact occurred off the skid trails.

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.

# GENO'S VEX SSTS

10/4/96

## SALE AREA, HAZARD REDUCTION AND SITE PREPARATION MAP

LANDLINES ARE APPROXIMATE

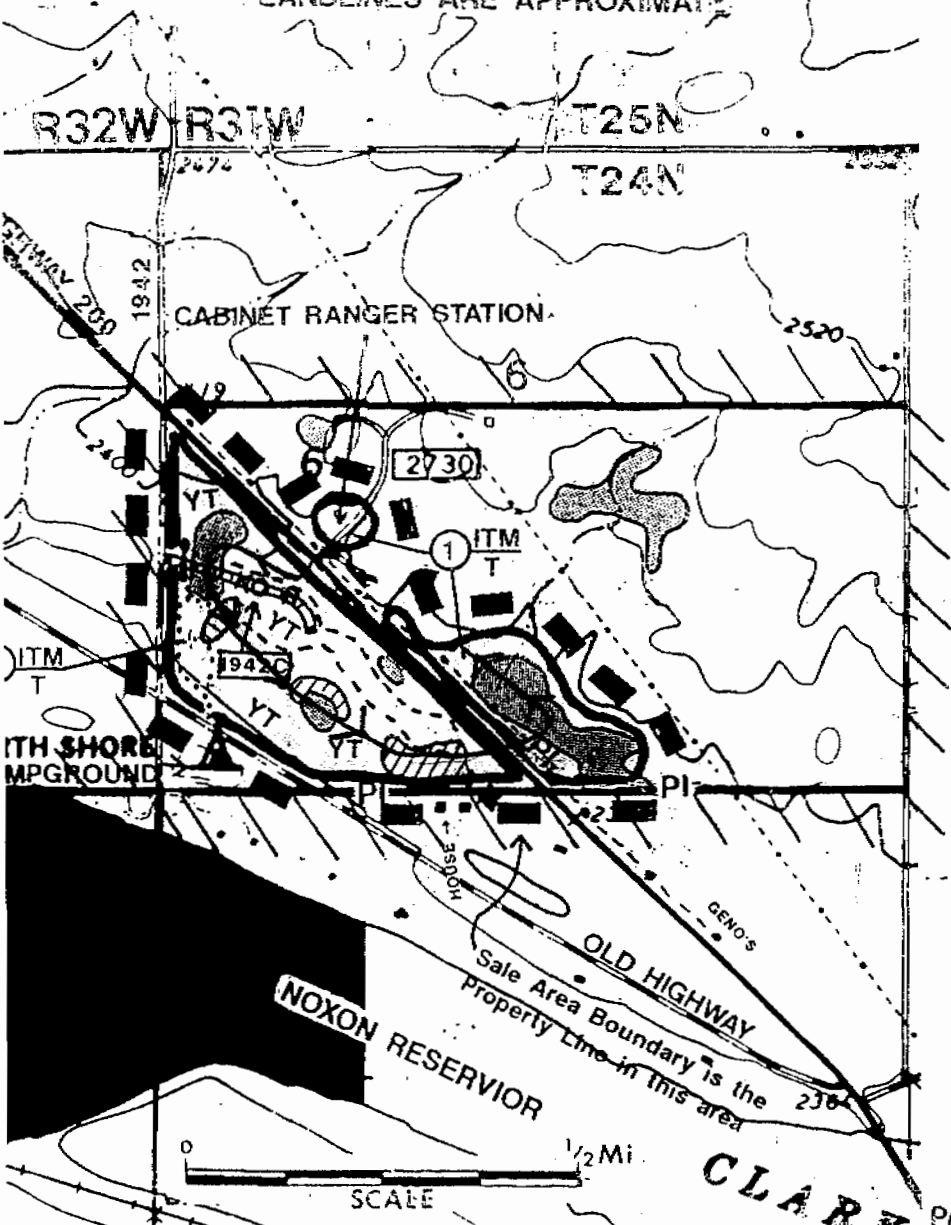
FAX TRANSMITTAL

To: *Pat Potter*      From: *Mike*

Dept. Agency: *SC - Res. Serv.*      Phone: \_\_\_\_\_

Fax #: \_\_\_\_\_      Filer #: \_\_\_\_\_

NSN 75-306-100-0000      5010-108      5010-108-0000



### LEGEND

- ROAD NUMBER
- SALE AREA BOUNDARY, BT1.1
- EXISTING TRANSPORTATION SYSTEM ROAD, BT5.12
- EXISTING ROAD, HAULING RESTRICTED, CT5.12#
- EXISTING TRAIL
- KEEP ROAD OPEN, BT6.22
- SPECIFIED ROAD RECONSTRUCTION, BT5.2, AT9
- UNSUITABLE FOR HAULING PRIOR TO AGREED RECONSTRUCTION, CT5.12#
- EXISTING UNIT
- INDIVIDUAL TREE MARKING, BT2.35, CT2.351#
- EXISTING CLOSURE, TO BE CLOSED, CT5.51#
- PROTECT KNOWN SURVEY MONUMENT, CT6.23
- PROTECT IMPROVEMENT, (powerline) BT6.22, CT6.41#
- PROTECT IMPROVEMENT, (fence) BT6.22, CT6.41#
- OTHER THAN NATIONAL FOREST OWNERSHIP
- TRACTOR SKIDDING SPECIFIED, BT6.42, CT6.4#

- #### HAZARD REDUCTION REQUIREMENTS
- Unit 1 HAND PILE, CT6.7#
  - All Units MACHINE PILE AND SCARIFY, CT6.7#
  - All Units LANDING CLEANUP, CT6.7#
  - YT YARD TOPS, CT6.7#

PAYMENT UNIT NUMBERS ARE THE SAME AS UNIT NUMBER MSG

SOIL DISTURBANCE DATA FORM

10/04/1996  
Cabinet - Pilik Horse Salvage  
Unit 1  
70601005

70601005

DATE Oct 4, 1996

CUTTING METHOD Hand

OBSERVER Kuennen

SKIDDING METHOD Horse (Howard Page)

DISTRICT Cabinet

HAZARD TREATMENT \_\_\_\_\_

SALE Pilik Horse  
Unit No. 1 198 Acres

SILVICULTURAL TREATMENT \_\_\_\_\_

OPERATION PERIOD Summer 1996

Walk Through!!

706-01-005

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

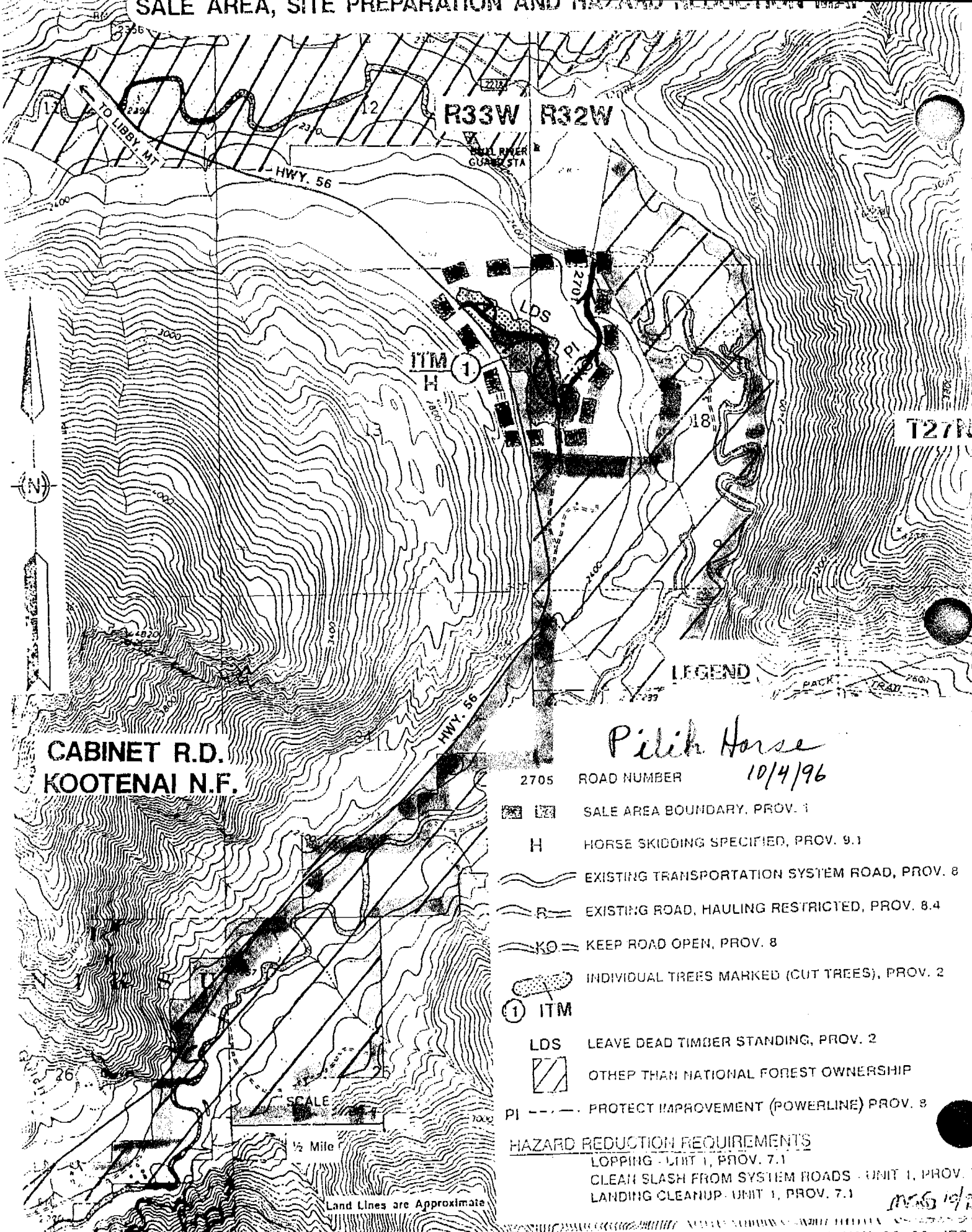
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS This was one of the units reviewed as part of the KNF salvage site monitoring. Hand felled horse logged. Very little impact observed. In several of the trails where a lot of skidding occurred, the butt end of the log was gouging the soil. This occurred in trails that had been created in two previous entries. The current logging had little or no impact off the skid trails, and minimal amount on the old trails.

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.



**CABINET R.D.  
KOOTENAI N.F.**

*Pilih Horse*  
10/4/96

- 2705 ROAD NUMBER
  - [Symbol] SALE AREA BOUNDARY, PROV. 1
  - H HORSE SKIDDING SPECIFIED, PROV. 9.1
  - [Symbol] EXISTING TRANSPORTATION SYSTEM ROAD, PROV. 8
  - [Symbol] EXISTING ROAD, HAULING RESTRICTED, PROV. 8.4
  - [Symbol] KEEP ROAD OPEN, PROV. 8
  - [Symbol] INDIVIDUAL TREES MARKED (CUT TREES), PROV. 2
  - ① ITM
  - LDS LEAVE DEAD TIMBER STANDING, PROV. 2
  - [Symbol] OTHER THAN NATIONAL FOREST OWNERSHIP
  - PI --- PROTECT IMPROVEMENT (POWERLINE) PROV. 8
- HAZARD REDUCTION REQUIREMENTS**  
 LOPPING - UNIT 1, PROV. 7.1  
 CLEAN SLASH FROM SYSTEM ROADS - UNIT 1, PROV. 7  
 LANDING CLEANUP - UNIT 1, PROV. 7.1

SCALE

1/2 Mile

Land Lines are Approximate

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

06/28/1995  
Libby - Swede McMillan  
Unit 29  
52904046

DATE 6 28 95

CUTTING METHOD Hand

SERVER Kuennen

SKIDDING METHOD forwarder

DISTRICT Libby

HAZARD TREATMENT Broadcast <sup>explosive</sup> w/ fuel line w/ pullback

SALE Swede-McMillan  
Unit No. 29

SILVICULTURAL TREATMENT LTM

OPERATION PERIOD April w/ Timber + forwarder

Williams Cr. 323

529-04-046 Acres 29

COMPACTION(Heavy) /// 3

COMPACTION(Light) ||||| 15/125

UNDISTURBED swamp ||||| 55/475

DISPLACED ||

EXCAVATED SKID TRAIL

SMZ

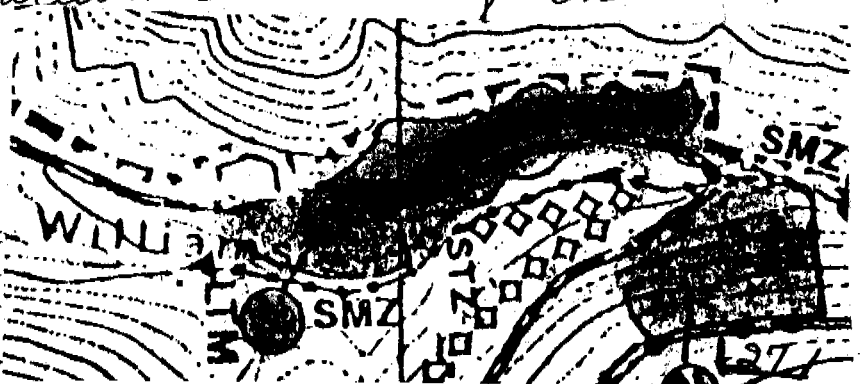
COMMENTS slope 20-35% w/ pitches to 50%; E aspect; av. 3400' ele;  
very narrow unit that parallels the road -- 100 yds wide to 50 yds

No transect below rd. all above!

No surface ash layer; 1% surface rocks

SHAPE OF UNIT AND PATTERN OF TRANSECT

\* Large cut slope failure at bottom of Unit 27!!



COMPACTION(Heavy) - any place where fut-  
impacted, i.e., skid trails (both heavy  
compaction related to soil moisture), 1

COMPACTION(Light) - any other area not

UNDISTURBED - no signs of any machinery

DISPLACED - any place soil has been mounded by machinery, also include in heavy or  
light compaction.

SMZ - include within transect if within harvest unit.



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6.28.95

CUTTING METHOD Hand

OBSERVER Kuennen

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD TREATMENT whole-tree yard/compress

SALE Swede-McMillan  
Unit No. 31a

SILVICULTURAL TREATMENT LTM

529-04-090 323

OPERATION PERIOD Feb piled landings  
Acres 17 spring

COMPACTION (Heavy) ||||| 19

COMPACTION (Light) ||||| 50/20

UNDISTURBED ||||| 301/80  
DISPLACED

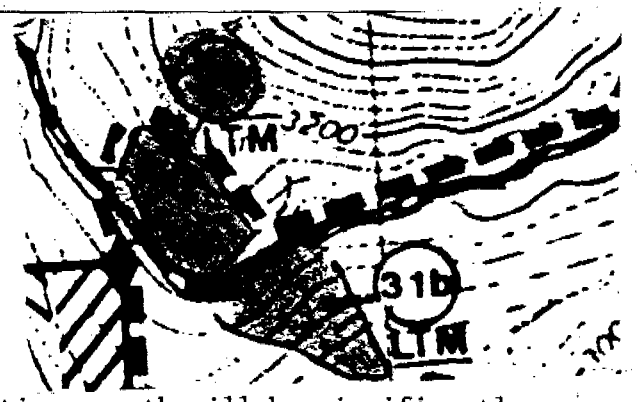
EXCAVATED SKID TRAIL

SMZ

COMMENTS southeast to southwest aspect. Unit on point of ridge;  
VE SE Sec 6 T29N 30.50' elev.

already planted  
No surface ash layer 5% surface rock

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.









06/28/1995  
Libby - Swede McMillan  
Unit 46  
52904057

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6.28.95

CUTTING METHOD Hand

SERVER Kuennen

SKIDDING METHOD Forwarder

DISTRICT Libby

HAZARD TREATMENT broadcast / excavator fuel line w/ pull back

SALE Swede-McMillan  
Unit No. 46

SILVICULTURAL TREATMENT LTM

Williams Cr. 322

OPERATION PERIOD early April w/ tractors & forwarder  
Acres 5

COMPACTION (Heavy) ||||| 3/4

COMPACTION (Light) ||||| 35/20

UNDISTURBED ||||| 127/60

DISPLACED ||||| 4/6

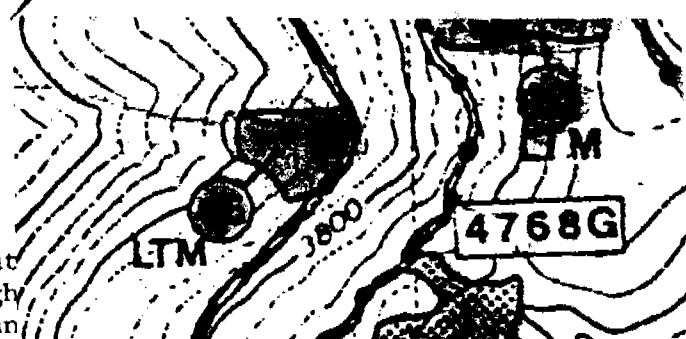
EXCAVATED SKID TRAIL

SMZ

COMMENTS W to NW aspect; surface loess layer present. Except for the compaction/displacement from previous logging the unit looks very good.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Three old ground skidding corridors from the 20s cross the unit; resulted in displacement & heavy compaction  
Elev 3700



- COMPACTION (Heavy) - any place where future vegetation impacted, i.e., skid trails (both heavily and light compaction related to soil moisture), landings, and
- 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.

Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	3	2	4	5			7	3
Light	35	21	20	24			55	22
Undist.	127	77	60	71			187	75
<b>TOTAL</b>	165	100	84	100			249	100
Displaced	4	2	6	7			10	4

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.18.95  
SERVER Kruennen  
DISTRICT Libby  
SALE West Pipe 512-03-045  
Unit No. MB

CUTTING METHOD Hand  
SKIDDING METHOD Tractor, rubber-tired  
HAZARD TREATMENT doper pile  
SILVICULTURAL TREATMENT Seed tree cut

Operation Tsuhet / Clinau 352 w/ outwash  
OPERATION PERIOD late 1993 Oct. 93 piled - Sept.  
Bothman Kerelty D6D  
COMPACTION (Heavy)  5/5

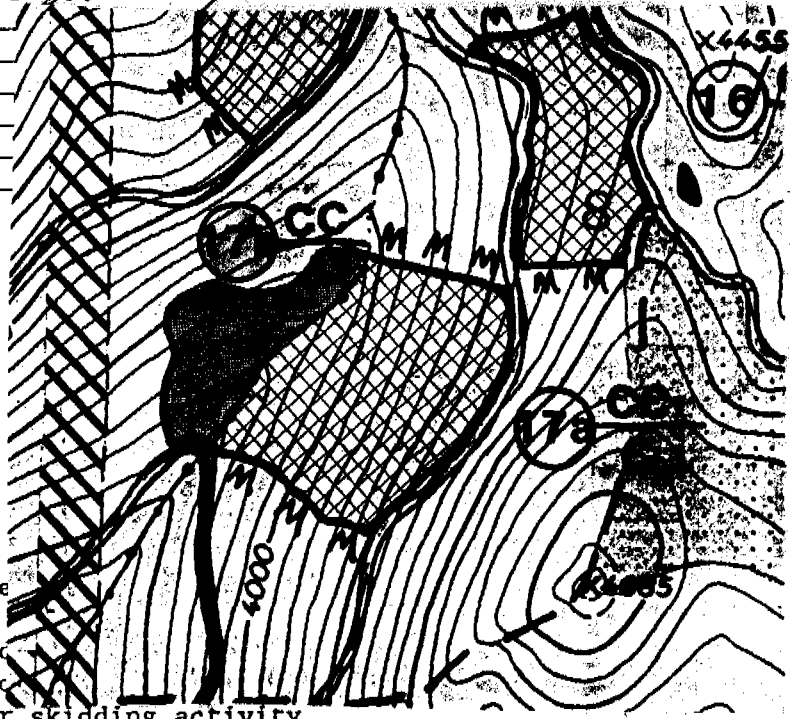
COMPACTION (Light)                  
110/105

UNDISTURBED     
30/40

DISPLACED    
EXCAVATED SKID TRAIL    
20/60

Doper pile remnants    
COMMENTS Burning has been completed. Most of gl. disturbed w/  
skidding + piling -- mostly thru piling operations.  
lots of displacement has occurred. Good crop of bull thistle  
Ash 12-16" deep. Very good growing site!

SHAPE OF UNIT AND PATTERN OF TRANSECT  
Unit NW side of draw



COMPACTION (Heavy) - any place where future impacted, i.e., skid trails (both heavily compaction related to soil moisture), land  
COMPACTION (Light) - any other area not in  
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.

Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	5	3	5	3			10	3
Light	110	76	105	70			215	73
Undist.	30	21	40	27			70	24
<b>TOTAL</b>	145	100	150	100			295	100
Displaced	20	14	60	40			80	27

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.18.95

CUTTING METHOD Clipper

SERVER Kuennen

SKIDDING METHOD Tractor (winter?)

DISTRICT Libby

HAZARD TREATMENT Jackpot

SALE West Pipe 512-02-064  
Unit No. 23

SILVICULTURAL TREATMENT LTM

OPERATION PERIOD Jan. 1994 2/92

43A

COMPACTION(Heavy)  7

COMPACTION(Light)      53

UNDISTURBED                175

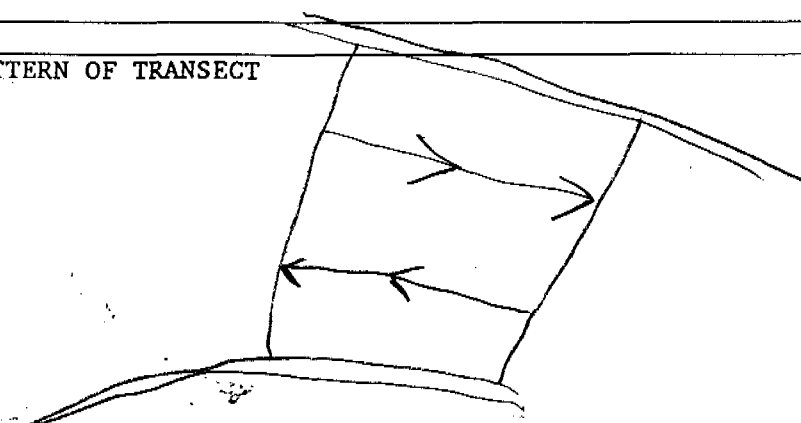
DISPLACED  3

EXCAVATED SKID TRAIL

SMZ Dry draw. No skidding in draw. Logs removed.

COMMENTS: Burning has been completed.

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.

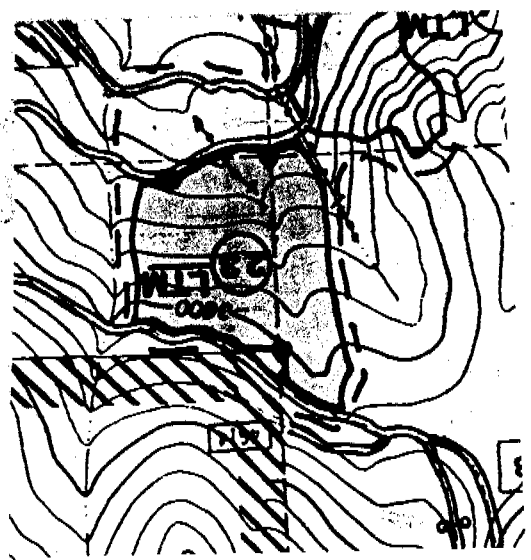
UNDISTURBED - no signs of any machinery or skidding activity.

DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.



Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	7	3						
Light	53	23						
Undist.	175	74						
<b>TOTAL</b>	<b>235</b>	<b>100</b>						
Displaced	3	1						









Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	0	0	0	0			0	0
Light	170	81	90	45			260	63
Undist.	40	19	110	55			150	37
<b>TOTAL</b>	<b>210</b>	<b>100</b>	<b>200</b>	<b>100</b>			<b>410</b>	<b>100</b>
Displaced	10	5	10	5			20	5



Disturbance							Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	30	7	30	8			60	7
Light	300	72	250	64			550	68
Undist.	90	21	110	28			200	25
<b>TOTAL</b>	<b>420</b>	<b>100</b>	<b>390</b>	<b>100</b>			<b>810</b>	<b>100</b>
Displaced	70	17	0	0			70	9

07/10/1995  
Rexford  
- Lawrence Mountain  
Unit 6  
13001103

150 01 100  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.10.95 CUTTING METHOD feller/processor  
OBSERVER Kuennen/Woodger SKIDDING METHOD forwarder  
DISTRICT Rexford HAZARD TREATMENT BB 1997  
SALE Lawrence Mt SILVICULTURAL TREATMENT CC  
Unit No. 6 Acres: 9 OPERATION PERIOD Summer 1995  
H.T. SAF/Mefe Ele: 5300-5500  
Aspect. N Walk-Through  
COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Unit looks very good. Operating at higher moisture  
(by agreement w/ soil scientist). The key is operating on  
organic mat.

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.



1-517

51404013

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.18.95  
OBSERVER Kuennen  
DISTRICT Libby  
SALE Sheldon Doak  
Unit No. 1 & 12 (20)

CUTTING METHOD \_\_\_\_\_  
SKIDDING METHOD Tractor  
HAZARD TREATMENT piling  
SILVICULTURAL TREATMENT \_\_\_\_\_  
OPERATION PERIOD \_\_\_\_\_

~~Wack through~~

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS <sup>ok</sup> Unit 1 looks! Has already been piled! Occasionally displacement somewhat aggressive.  
Unit 20 skidded uphill excessive displacement

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.

08/31/1995  
 Libby - Prospect Parmenter  
 Unit 9, 13 & 17  
 52801021 52401009 52401056

KOOTENAI NATIONAL FOREST 17-52401056 79 Hecres  
 SOIL DISTURBANCE DATA FORM

DATE 8-31-95

CUTTING METHOD hand

OBSERVER Kenneth Crawford

SKIDDING METHOD \_\_\_\_\_

DISTRICT Libby

HAZARD TREATMENT \_\_\_\_\_

SALE Prospect Parmenter  
 Unit No. 9 + 13 + 17

SILVICULTURAL TREATMENT seedcut / CC w/ reserves  
SW prep cut

OPERATION PERIOD \_\_\_\_\_

Walk through

COMPACTION (Heavy) (9) (13) (17)

COMPACTION (Light) Elc-2900 As-E Elc-3000 As-N Elc-3500 As-S  
HT 520 9% HT 531 29% HT 531 39%

UNDISTURBED ST Seed cut CC w/ reserves SW Prep cut  
Cripple pits 195 logging  
burn 196

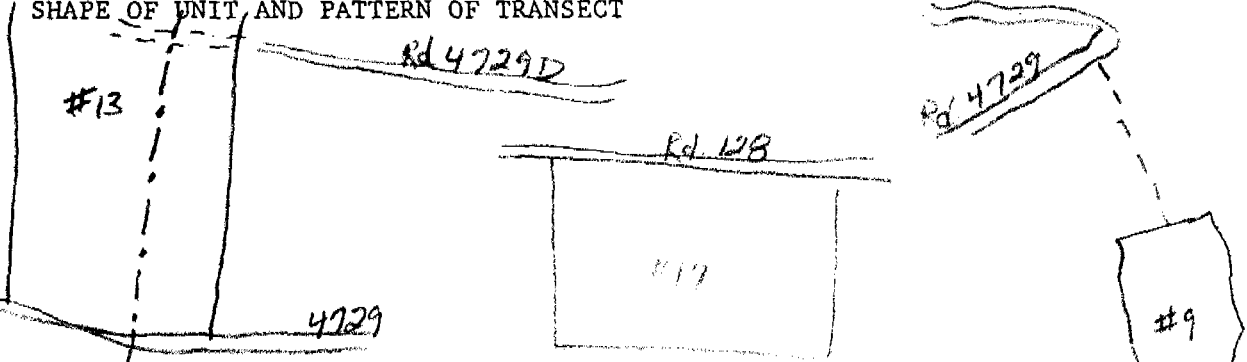
DISPLACED skipped RTS

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Temp. Rd into Unit 9 could use little more recontouring. Unit 9  
looks very good. Tractor skidded  
Unit 13 looks good. Tractor skidded. Occasionally little bit extra  
displacement.  
Unit 17 - cable skidded - some gouging in cable corridor.  
Unit looks very good  
Rt. 128 needs some surface drainage corrections.

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.

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 6.21.94

CUTTING METHOD clipped

OBSERVER Kuennen/Siemens

SKIDDING METHOD Tractor/Rubber tire

DISTRICT Fisher River

HAZARD TREATMENT \_\_\_\_\_

SALE Calx Mnt.

SILVICULTURAL TREATMENT SD

Unit No. 8

OPERATION PERIOD May-June

~~627-01-015~~  
 57701015

COMPACTION (Heavy)     (T-1)

T-1 T-2 T-3  
 89 25 44

COMPACTION (Light)                      (T-1) 243

151 111

UNDISTURBED           (T-1)

123

DISPLACED       (T-1)

64

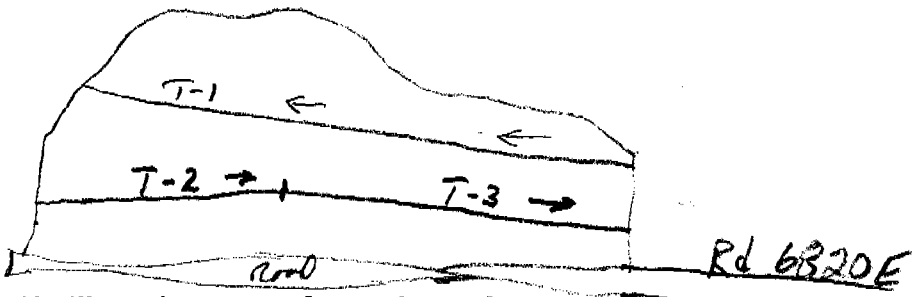
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Rock outcrop (6 paces) + 4 more + 2 + 3 (T-1)

Northwest corner of unit (T-3 area) landscape steeps, resulting heavy displacement. Poor sale administrator control of operation.

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.

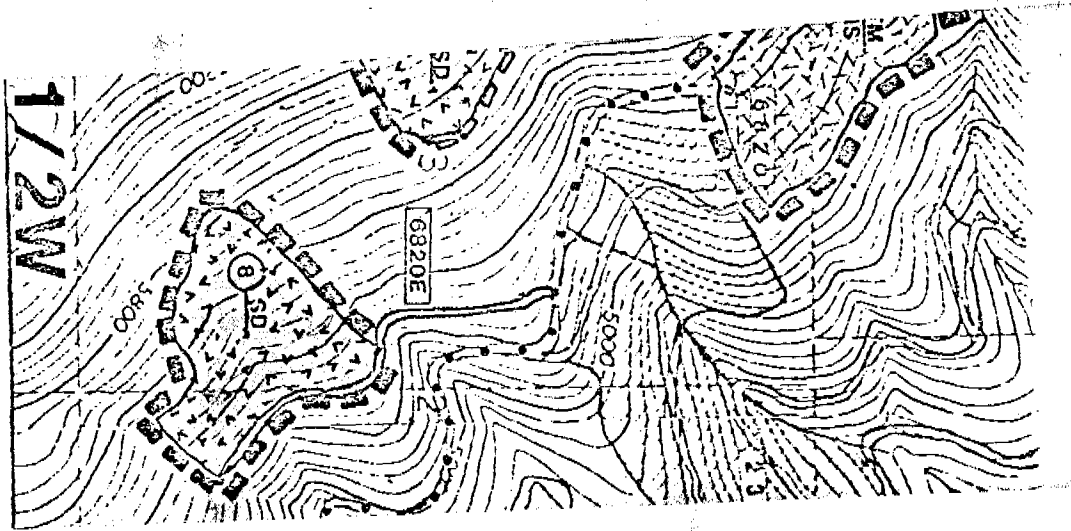
UNDISTURBED - no signs of any machinery or skidding activity.

DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

	T1		T2		T3		Total	
	Points	%	Points	%	Points	%	Points	%
Heavy	49	12	25	10	44	23	118	14
Light	243	59	151	63	111	59	505	60
Undis.	123	30	63	26	34	18	220	26
Total	415	101	239	99	189	100	843	100
		644						
Displaced	64	15	29	12	63	33	156	19
Rock	15	4						

644  
 11  
 29  
 14



T1 + T2  
 74 14  
 394 60  
 186 29  
 654



Lower Upper

Total

Disturbance	Lower		Upper		Total	
	Points	%	Points	%	Points	%
Heavy	73	6	20	4	33	4
Light	172	51	265	58	437	55
Undist.	150	45	175	38	325	41
<b>TOTAL</b>	<b>335</b>	<b>100</b>	<b>460</b>	<b>100</b>	<b>795</b>	<b>100</b>
Displaced	12	4	12	3	24	3
SMZ	2		27	6	29	4

22-52401106

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

23-52401107

06/30/1994 Libby - Prospect Parmenter

Unit 22 & 23 52401106 52401106

DATE 6.30.94

CUTTING METHOD

OBSERVER Kuennen

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD TREATMENT Excavator Pile

SALE Prospect/Parmenter  
Unit No. 22 + 23 4+6 A

SILVICULTURAL TREATMENT LTM

OPERATION PERIOD Winter '93-'94

22-524-01-106  
2 2

23-524-01-107

23

COMPACTION(Heavy): 2 D

COMPACTION(Light) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	48	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> LT	65
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> LT	80

UNDISTURBED <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	30	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> LT	50
		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> LT	60

DISPLACED: 17 water bars 6

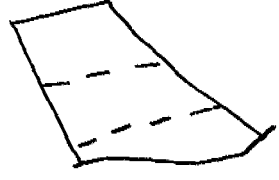
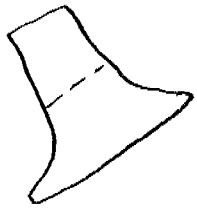
EXCAVATED SKID TRAIL

SMZ

COMMENTS

H.T. DF/Phma → GF/Phma old logging activity	old logging activity
15-30% slopes	15-35% slopes

SHAPE OF UNIT AND PATTERN OF TRANSECT



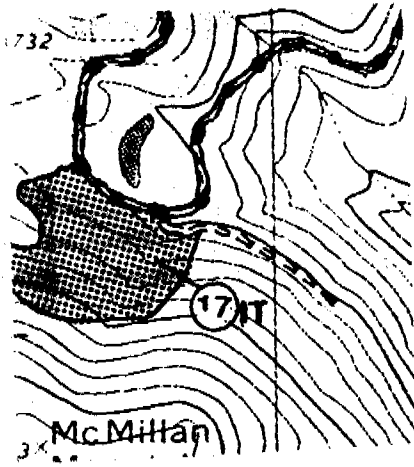
**COMPACTION(Heavy)** - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.

**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.













KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8.26.93  
 OBSERVER L. Kuennen  
 DISTRICT Troy  
 SALE Arbo Fire Salvage  
 Unit No. 1 <sup>43A</sup>  
450-02-126

CUTTING METHOD chippers  
 SKIDDING METHOD tractor  
 HAZARD TREATMENT spot pile, 15 Tons  
 SILVICULTURAL TREATMENT CC w/ R / plant  
 OPERATION PERIOD October 92

COMPACTION (Heavy)        \_\_\_\_\_ 59  
     \_\_\_\_\_ 60

COMPACTION (Light)                 \_\_\_\_\_ 190  
           \_\_\_\_\_ 147

UNDISTURBED                 \_\_\_\_\_ 194  
       \_\_\_\_\_ 133

DISPLACED    \_\_\_\_\_ 40

EXCAVATED SKID TRAIL  \_\_\_\_\_ 10

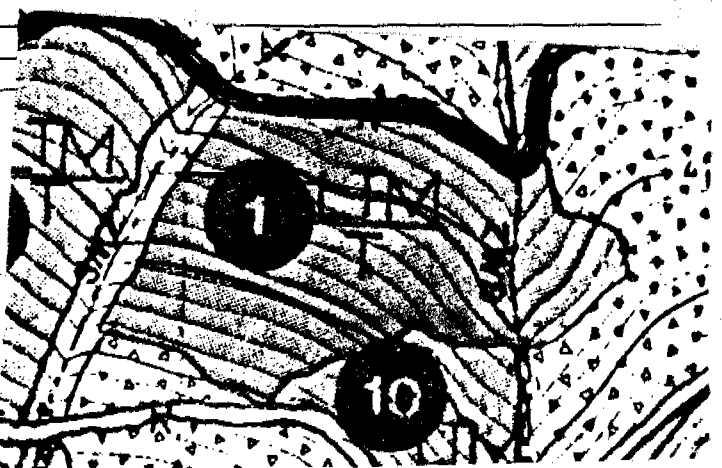
SMZ      \_\_\_\_\_ 30/30

COMMENTS See comments unit 4.

AMOUNT OF DISTURBANCE	Unit 1				ECT
	No. of Paces	Per-cent	No. of Paces	Per-cent	
Heavy dis-bance	119	15			
Light, mod. disturbance	337	43			
Undisturbed	327	42			
TOTAL	783	100			

Displaced	40	5		
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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.









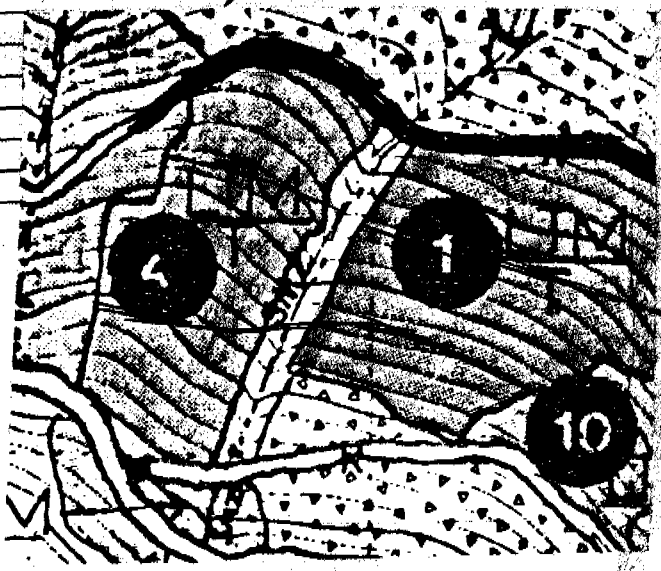
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8.26.93 CUTTING METHOD clipper  
 OBSERVER L. Kuennen SKIDDING METHOD Tractor  
 DISTRICT Troy HAZARD TREATMENT spot pile, 15 Ton  
 SALE Arbo Fire Salvage SILVICULTURAL TREATMENT CC w/R/plant  
 Unit No. 4 31A OPERATION PERIOD Summer 93 July-Aug.  
450-02-175

COMPACTION (Heavy)    | 30  
   29  
 COMPACTION (Light)         | 82  
       110  
 UNDISTURBED           | 133  
       127  
 DISPLACED   | 20  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ    |   30/30

COMMENTS Landing area should be ripped; better waterbars on landing.  
Unit boundary marked to water course. Heavy marking in (SMZ) channel  
banks. Two drainages w/ 60-70' of each other -- separate units 1 & 4.

AMOUNT OF DISTURBANCE	Unit 4		No. of Paces	Per-cent	No. of Paces	Per-cent
	No. of Paces	Per-cent				
Heavy dis-bance	59	12				
Light, mod. disturbance	192	38				
Undisturbed	260	50				
TOTAL	511	100				
Displaced	20	4				



**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.



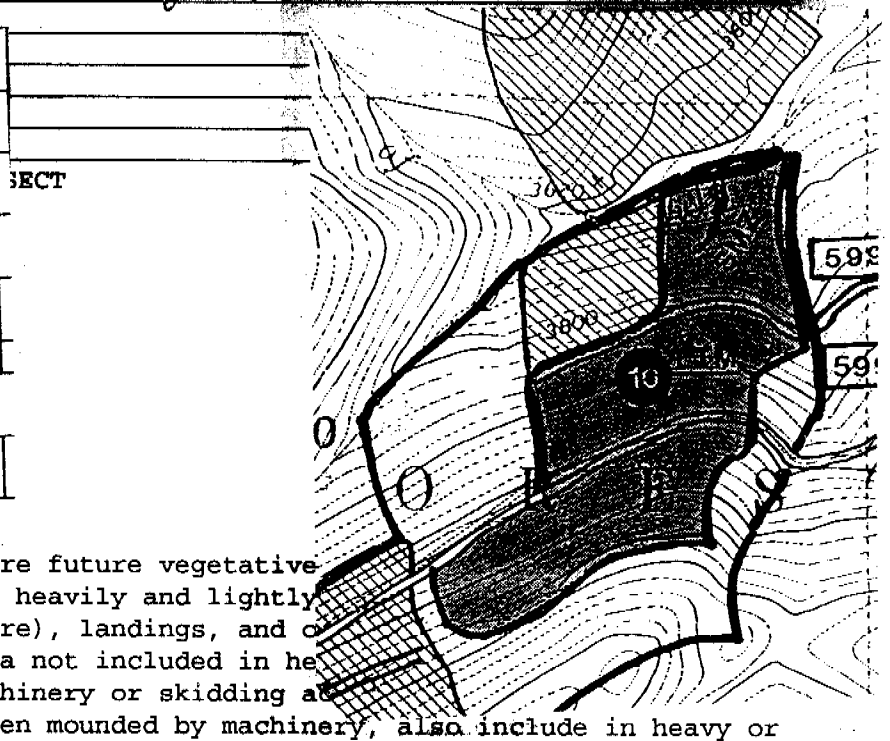
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 6-7-93 CUTTING METHOD Hand  
 OBSERVER Moeller + Kuennen SKIDDING METHOD FMC on snow roads  
 DISTRICT Troy HAZARD TREATMENT \_\_\_\_\_  
 SALE Ten Left Fire Salvage SILVICULTURAL TREATMENT \_\_\_\_\_  
 Unit No. 10 86A OPERATION PERIOD Winter 92-93

*Fourth of July Salvage 402-02-127*  
*No Organic mat 402-03-149*  
 Heavy - 1  
 COMPACTED (Heavy) |||||  
 w/ winter trail  
 COMPACTION (Light) ||||| 26  
||||| 20  
 w/ diff or new mass  
 UNDISTURBED ||||| 92  
||||| 98  
 DISPLACED ||||| 21  
||||| 21  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ \_\_\_\_\_

COMMENTS *Old growth overstory - hot fire removed most of O.M.*  
*Winter snow roads - using small amounts of surface soil*  
*to help pack the snow roads!!*  
*Rock ||||| Large amounts of organic on trail (plantable)*

AMOUNT OF DISTURBANCE	Unit 10		No. of Paces	Per-cent
	No. of Paces	Per-cent		
Heavy disturbance	1	0		
Light, mod. disturbance	46	20		
Undisturbed	190	80		
TOTAL	237			
Displaced	42	18		



**COMPACTION (Heavy)** - any place where future vegetative impacted, i.e., skid trails (both heavily and lightly compaction related to soil moisture), landings, and other areas of heavy machinery use.  
**COMPACTION (Light)** - any other area not included in heavy compaction.  
**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.



KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 6.7.93 CUTTING METHOD Hand  
 OBSERVER Moeller-Kuennen SKIDDING METHOD Rubber tire  
 DISTRICT Troy HAZARD TREATMENT \_\_\_\_\_  
 SALE Fourth-Cyclone Fire Salvage SILVICULTURAL TREATMENT \_\_\_\_\_  
 Unit No. 91 + ~~4~~  
402-01-126 OPERATION PERIOD summer '92?  
-128 46 Acres

COMPACTION (Heavy) |||||  
 COMPACTION (Light) |||||  
 UNDISTURBED |||||  
 DISPLACED |||||  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ No duff |||||

COMMENTS One transect crossing the middle of the unit, parallel to the road. Very hot - most of organics gone.  
Rock-1

AMOUNT OF DISTURBANCE	Unit 9	
	No. of Paces	Per-cent
Heavy disturbance	35	14
Light, mod. disturbance	80	32
Undisturbed	135	54
TOTAL	250	100
Displaced	70	28

ERN 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.









KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8.25.93 CUTTING METHOD Hand  
 OBSERVER L. Kuennen SKIDDING METHOD tractor  
 DISTRICT Fisher River HAZARD TREATMENT underburn  
 SALE Butler Dedit SILVICULTURAL TREATMENT Seed tree  
 Unit No. 4A above rd OPERATION PERIOD August '93  
615-03-045 7 Acres  
 COMPACTION (Heavy)   25

COMPACTION (Light)        102

UNDISTURBED             206

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

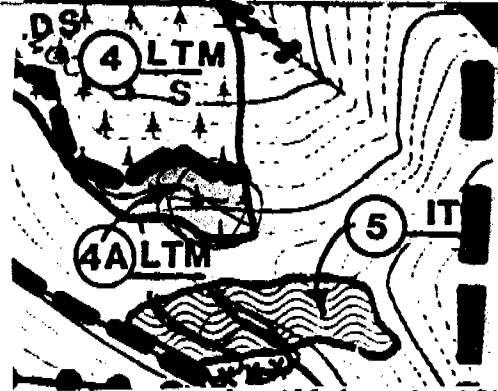
SMZ \_\_\_\_\_

COMMENTS This ash mantle. DF/Libo.

No hazard abatement completed yet! Small size of unit probably contributed to higher heavy disturbance.

AMOUNT OF DISTURBANCE	Unit 4A		No. of Paces	Per- cent
	No. of Paces	Per- cent		
Heavy disturbance	25	8		
Light, mod. disturbance	102	30		
Undisturbed	206	62		
TOTAL	333	100		

Displaced	0	0		
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**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.







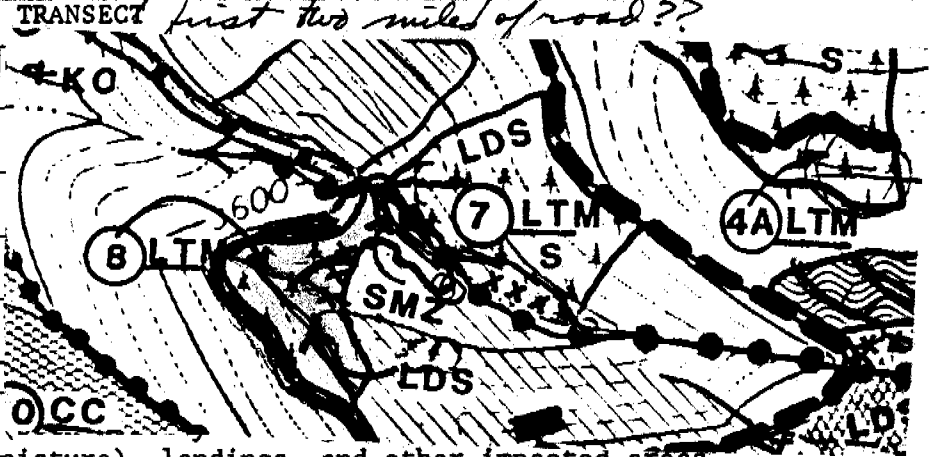
KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 8.25.93 CUTTING METHOD Hand  
 OBSERVER L. Kuennen SKIDDING METHOD Tractor  
 DISTRICT Fisher River HAZARD TREATMENT Underburn  
 SALE Butler Dedit SILVICULTURAL TREATMENT Seed tree  
 Unit No. 8  
DF/Phma 615-03-050 OPERATION PERIOD August  
11 Acres

COMPACTION (Heavy)    32  
 COMPACTION (Light)        95  
 UNDISTURBED        125  
 DISPLACED \_\_\_\_\_  
 EXCAVATED SKID TRAIL \_\_\_\_\_  
 SMZ \_\_\_\_\_

COMMENTS Burning not complete yet.  
Knapweed scattered on old skid trails (10+ years old)  
Land types (soil) combination of 303 + 302. Outcrops exposed on  
south, especially along ridge, lot of angular rocks in soil. Original  
waterbars put in poorly - look like w/ rubber tire skidder blades.  
All they / we were doing was channeling water to next waterbar.  
Extra / pulaski work helped a lot.  
 \* Roads - drive through dips look great - did a good job. Looks  
like hauling occurred on very wet roads. Why not water bars on  
first two miles of road??

AMOUNT OF DISTURBANCE	Unit 8		No. of Paces	Per-cent
	No. of Paces	Per-cent		
Heavy disturbance	32	13		
Light, mod. disturbance	95	37		
Undisturbed	125	50		
TOTAL	252	100		



Displaced	0	0		
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Disturbance (moisture), landings, and other impacted areas.  
 This area not included in heavy COMPACTION or UNDISTURBED.  
 by machinery or skidding activity.

CAUTION - why place soil has been mounded by machinery, also include in heavy or light compaction.  
 SMZ - include within transect if within harvest unit.









57502020 62502020  
 DATE 9.24.93

CUTTING METHOD Hand

OBSERVER L. Kuennen

SKIDDING METHOD FMC

DISTRICT Fisher River

HAZARD TREATMENT none

SALE Smoke Cr. P.C.

SILVICULTURAL TREATMENT Sanitation Salvage

Unit No. 9 16A

OPERATION PERIOD Early-mid Sept. 1993

625-02-020

COMPACTION (Heavy) 2

COMPACTION (Light) 420  
 90 105 225

UNDISTURBED 430  
 135 180 115

DISPLACED 120  
 40 30 50

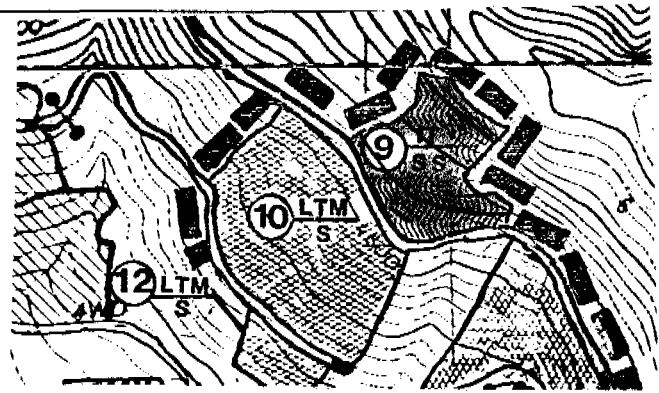
EXCAVATED SKID TRAIL

SMZ

COMMENTS Started on SE side of unit towards NE corner adjacent to upper end of talus outcrop of unit.  
2nd transect ~ middle of unit. Includes some of steeper area.

6732E - pipe ~.2 mile above - also surface drainage going off at this point crossing along side pipe. Post crane through 1,000-2000' above this. Located in SW 5.75 miles on Smoke Cr. Rd.

AMOUNT OF DISTURBANCE	No. of Paces	Per- cent	No. of Paces	Per- cent
Heavy dis- bance	2	1		
Light, mod. disturbance	420	49		
Undisturbed	430	50		
TOTAL	852	100		



Displaced	120	14		
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the vegetative growth will be significantly and lightly used depending on amount of windings, and other impacted areas. 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.



11202036  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

236 = Unit 11

DATE: July 8, 1993  
SECTION: Khennen  
SITE: Rexford  
LEAS.A.: North Fork  
INITIALS: 236 Acres 39  
CUTTING METHOD: clipper/hand  
SKIDDING METHOD: dispersed dedicated  
HAZARD TREATMENT: BFB  
SILVICULTURAL TRMT: ST seed cut  
OPERATION PERIOD: July/Aug 89  
Aspect |  
Elevation |

COMPACTION (Heavy)

COMPACTION (Light) Walk-through

UNDISTURBED

DISPLACED

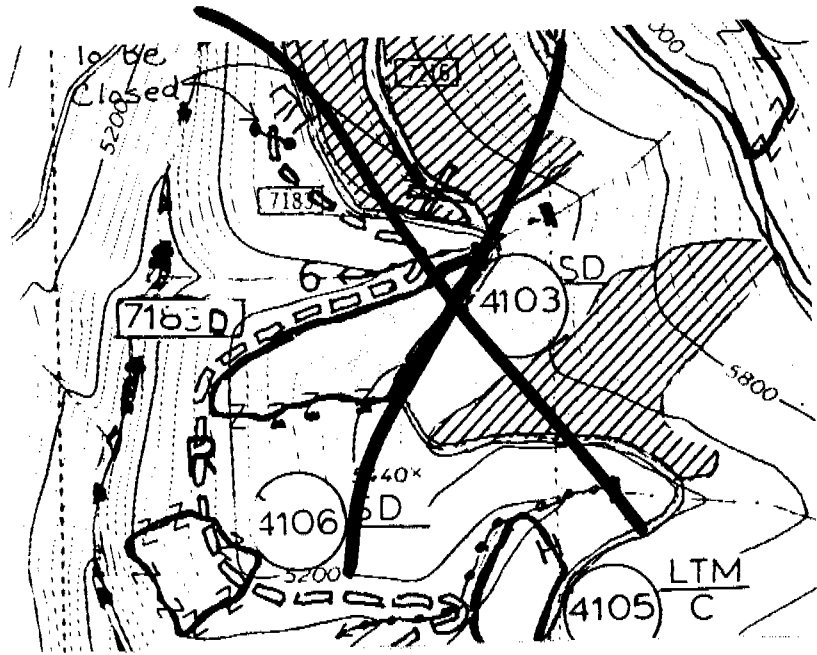
EXCAVATED SKID TRAIL

SMZ ROCK

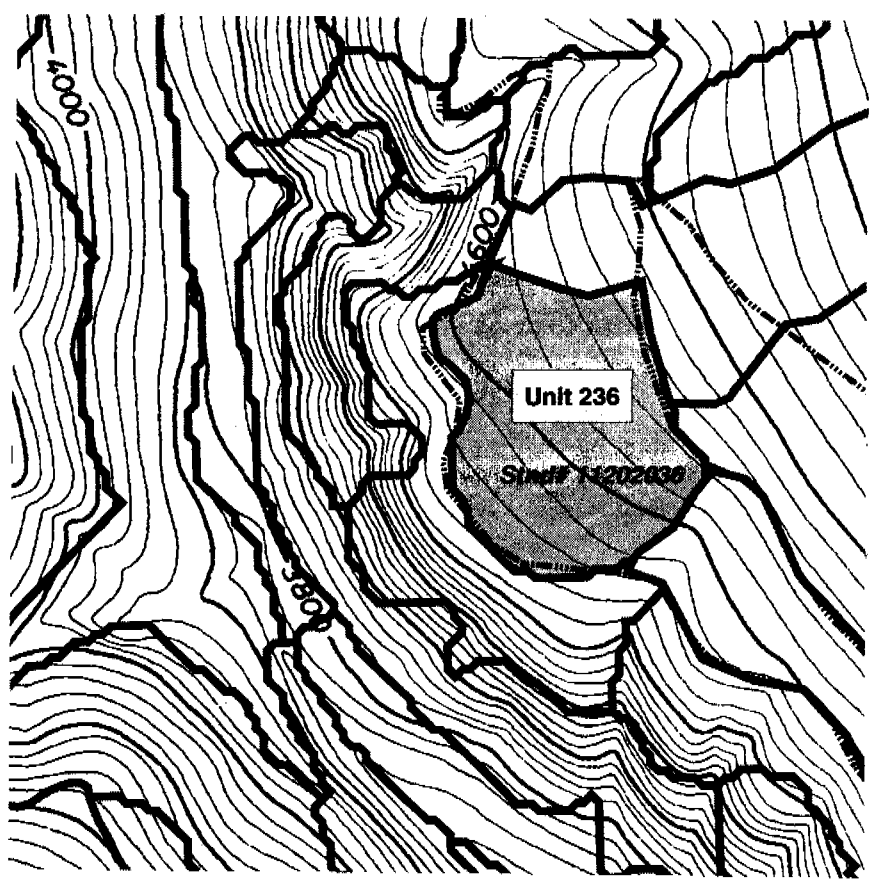
COMMENTS (Include soil, geology, organic debris, other pertinent info)  
This unit was part of a District Fire + Fuels Review  
From the soil + water resource view the unit looks good.  
Very difficult to leave non-fire tolerant spp + get them to  
survive w/o clearing around base. Protection should  
be done by hand or operator.

SHAPE OF UNIT AND PATTERN OF TRANSECT

**ACTION (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.



not correct map  
(stained) AK 7/5/03



~~11104013~~ 11104013 nk 403  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

4103 = Unit 16

DATE July 8, 1993 CUTTING METHOD clipper  
SECTOR Kneemen SKIDDING METHOD RTS  
TRACTOR Redford If tractor: dispersed dedicated  
LEADER A. North Fork HAZARD TREATMENT BB  
UNIT # 4103 Acres 40 36 SILVICULTURAL TRMT CC  
T. 413 nk 117103 OPERATION PERIOD July/Aug '89  
Aspect |  
Elevation |

COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

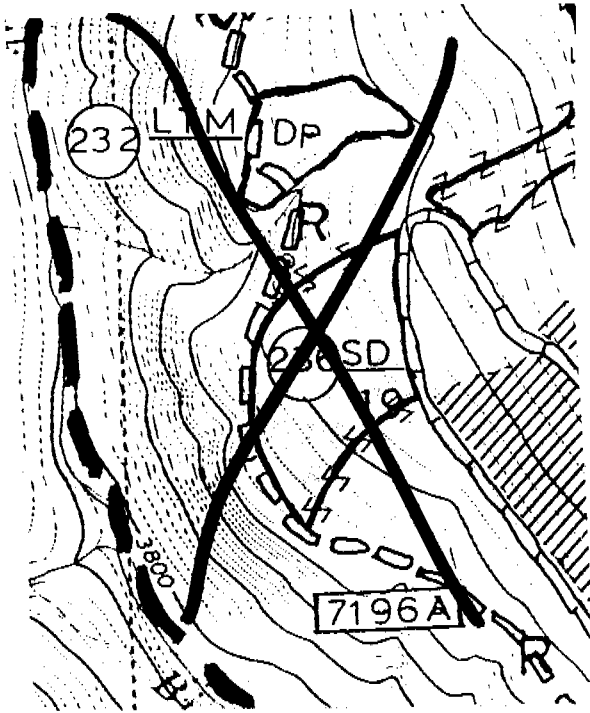
SMZ ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

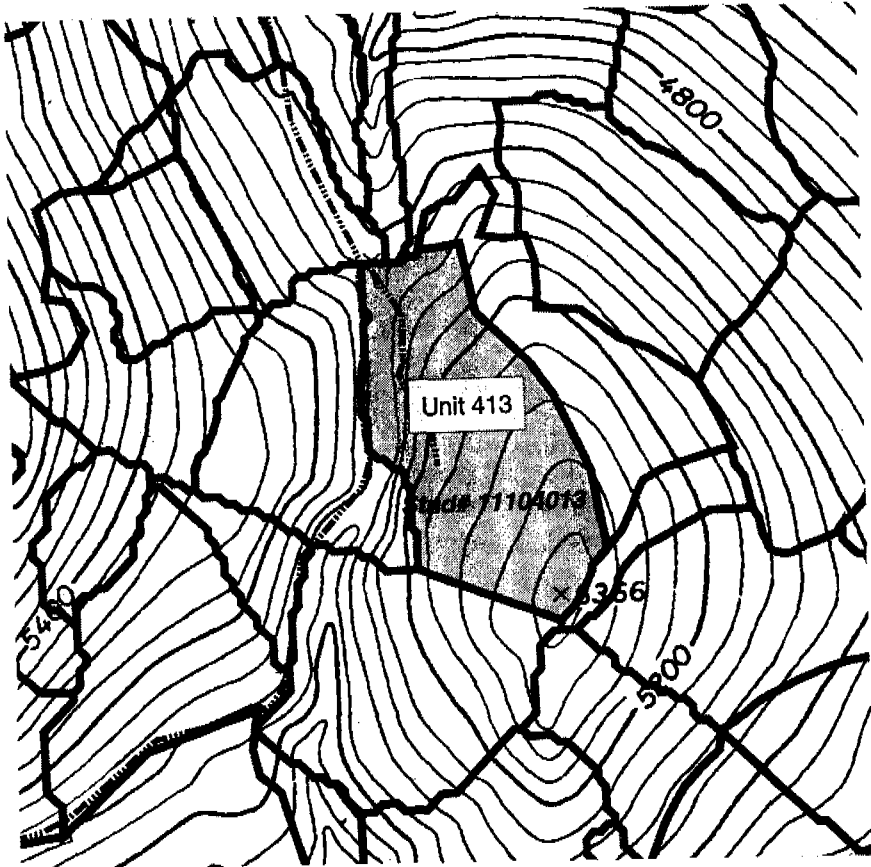
This unit was part of a Forest Fire + Fuels Review  
lots of fuel remnants around E.S. + SAF. leave trees  
will kill all of these unless fuel removed.  
Unit looks good from soil + water stand point

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.



(stand)  
for correct map  
nk 7/7/03



11805075

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

118-3-73

DATE: July 8, 1993  
SECTOR: Kootenai  
STRIP: Rexford  
LEASING: Holdup Gulch  
INITIALS: 10 Acres 83  
I.T.: 312  
Slope: 23%  
Location:  
CUTTING METHOD: clipper  
SKIDDING METHOD: RTS  
If tractor: dispersed dedicated  
HAZARD TREATMENT: underburn completed 9-10-91  
SILVICULTURAL TRMT: SW/UB + meth/plant  
OPERATION PERIOD: 3/1991  
Aspect: NW  
Elevation: 3100'

COMPACTION (Heavy)

Walk-Through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

BMZ ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)

This unit was part of a District Fire & Fuels Review  
Leave tree mortality low - probably due to light rain prior  
to burn. Size of PP live trees less than on Unit 12.  
From soil & water standpoint unit looks good.

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.  
BMZ - Include within transect if within harvest unit.

11803072  
KOOTENAI NATIONAL FOREST

118.3-72 SOIL DISTURBANCE MONITORING FORM

DATE: July 8, 1993  
OPERATOR: J. Kienner  
CUTTING METHOD: chipper  
SKIDDING METHOD: HRTS  
If tractor: dispersed          dedicated           
LEAS.S.A.: Rexford  
HAZARD TREATMENT: underburn 9.2.91  
unit # 12 Acres 34 SILVICULTURAL TRMT: SW/UB + mech/plant  
I.T.: 324 OPERATION PERIOD: 3/1991  
lat: 2370 Aspect: N  
location: Elevation: 3500'

COMPACTION (Heavy)         

COMPACTION (Light) Walk-Through

UNDISTURBED         

DISPLACED         

EXCAVATED SKID TRAIL         

SMZ/ROCK         

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
This unit was part of a Forest Fire & Fuels Review.  
Lots of leaves & tree piles. Too much fuel around base of  
tree. Lots of heat around base of tree -- roots killed 3" into  
soil.

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.



11101018

07/23/1993  
Rexford - Good Creek Pest Control  
Unit 20  
11101018

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 23, 1993  
BSI  
DISTRICT  
A/E/S.A. Rexford  
Unit # 20 Acres 33  
H.T. SAF/ctm (571)  
Slope 10 - 3.5%  
Location upper  
CUTTING METHOD chipper  
SKIDDING METHOD RTS  
If tractor: dispersed \_\_\_\_\_ dedicated   
HAZARD TREATMENT BB 196  
SILVICULTURAL TRMT CC - remove all PP leave all others  
OPERATION PERIOD July 1993  
Aspect southwesterly  
Elevation 4600

COMPACTION (Heavy) \_\_\_\_\_  
Walk-through

COMPACTION (Light) \_\_\_\_\_  
UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
This was part of a field trip between FS & industry. Soil moisture was greater than 18%. The area is upper and C<sub>2</sub> where the soils remain wet a long time. Operations were on-going but late spring rains were making it difficult to operate under 18% soil moisture. The skid trails were definitely compacted. Cannot keep slash on trail when ground 'shuddering'.

\* Accompanied by Gerald Jensen, Bob Seidel, Keith Cloney, Jack Hagle, Randy Peterson, Mike & Charles Newton

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.



05/20/1993  
Three Rivers - East Basin  
Unit 25 & 26  
42902150 / 42902209

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

25. BW - Seed cut  
Campfire '93 burn '94

26 { Seed Tree NR;  
unintentional burn '93

DATE May 20, 1993

OBSERVER Kuennen-Shera

Tractor shided

DISTRICT Three Rivers

SALE E. Basin UNIT # 26+25

25. 429 02 150 30 Acres

~~05 209~~ different

26. 429 02-149 stand to

west of

drawn

map -

also 32.A

by itself

uk 7/7/03

le 5600  
HS - IN  
HT 571

Walk Through

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

DISPLACED

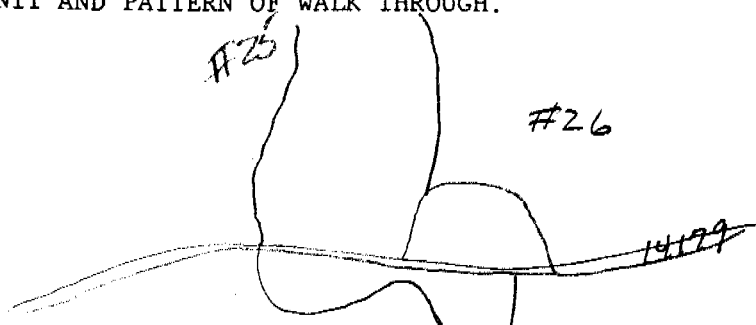
EXCAVATED SKID TRAIL

SMZ

COMMENTS

Generally the unit looks good! Some of the  
skid track more displacement than is desired.  
Waterbars poorly constructed in some cases.

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.





KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6-7-93

CUTTING METHOD Hand clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Three Rivers

HAZARD ABATEMENT none

SALE Fourth Cyclone Fire S.  
Unit No. 1, 7, 7A, 23B  
46

SILVICULTURAL CC or CC w/ reserves

OPERATION PERIOD 1999 summer

COMPACTION(Heavy) Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

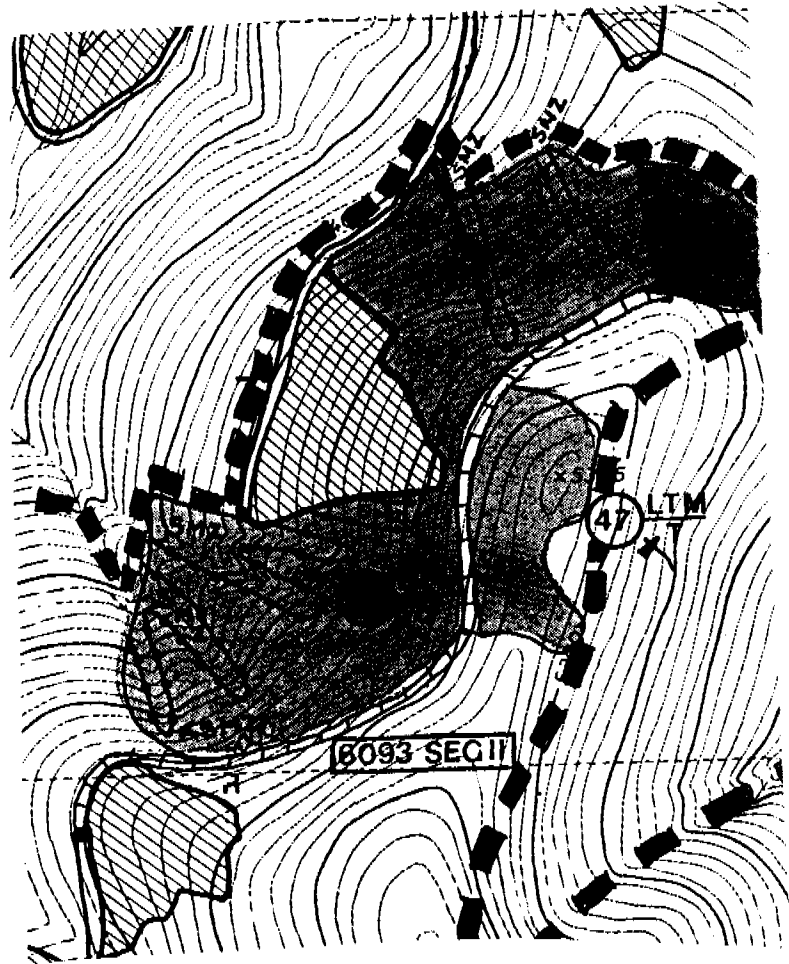
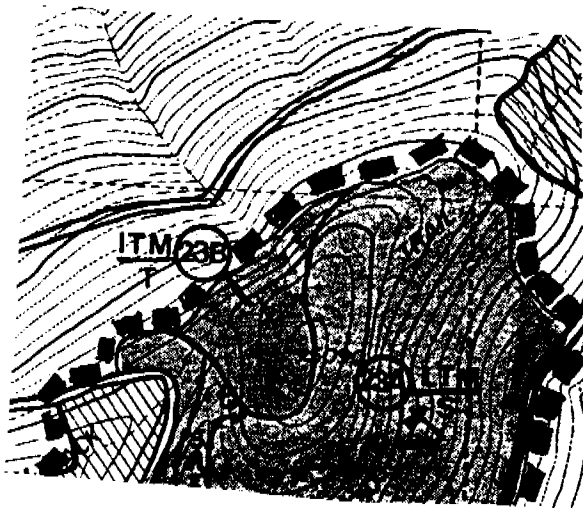
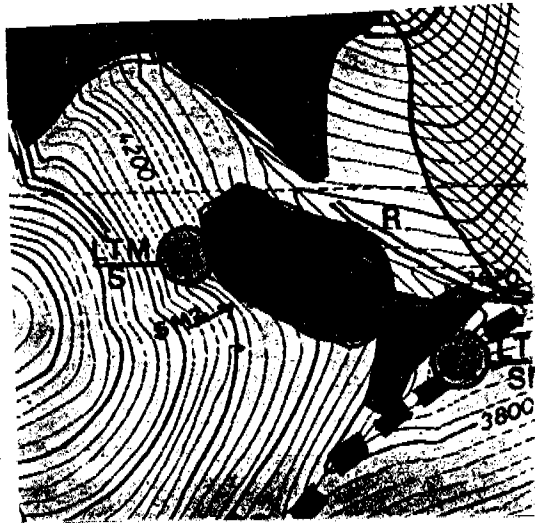
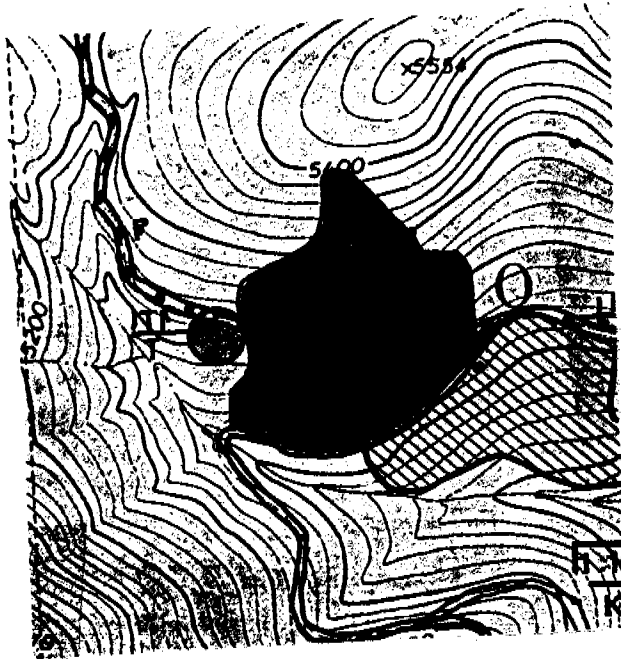
COMMENTS \_\_\_\_\_

- Unit 1 40201137, <sup>38</sup> clearcut, 10 Acres, 1994
- Unit 7 40201143, clearcut, 19 Acres, 1994 } 22 Acres
- 40202126, clearcut, 3 Acres, 1994 } 22 Acres
- Unit 7A 40201144, CC w/ reserve, 27 Acres, 1994 } 2 Acres
- "      40202128, CC w/ reserve, 6 Acres, 1994 } 2 Acres
- Unit 23B 40301170, CC w/ reserve, 10 Acres, 1994 } 16 Acres
- "      40402159, CC w/ reserve, 6 Acres, 1994 } 16 Acres
- Unit ~~7~~ 46 40301177, clearcut, 119 Acres, 1994 } 27 Acres
- "      40301140, clearcut, 18 Acres, 1994 } 27 Acres

Shape of Unit and Pattern of Transect

46

80 Acres



DATE 5.21.93

OBSERVER Kenneth Crawford - Jimeno *wk 2/03*

DISTRICT Libby

SALE Blue-Rice UNIT # 17 + 21 *514-01-011 29A* *514-02-032 28A*

*Handfelled  
Tractor skidded*

*Walk Through subsequent to '92 transects.*

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

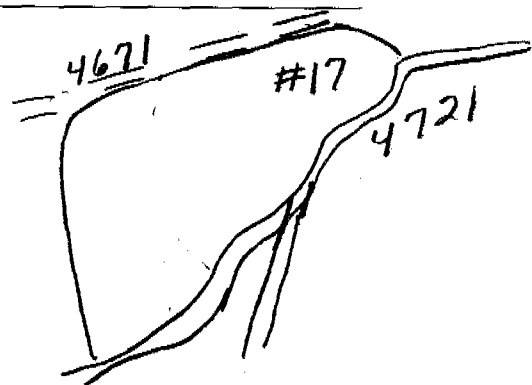
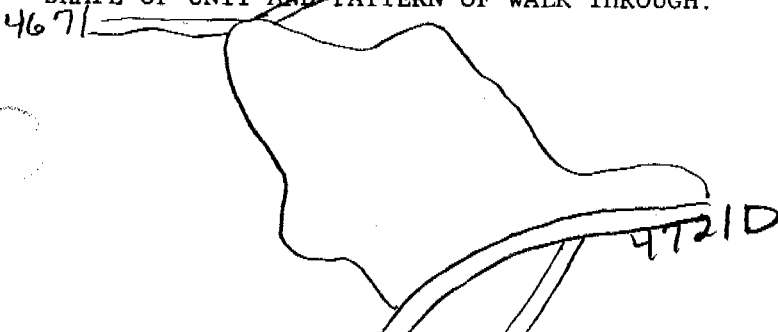
DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS *Somewhat heavy on the skidding. Some previous skidding had occurred in Unit 17. Steep pitch along draw - excessive displacement. Too much displacement w/ fire lines. Appears skidding occurred when soils too wet.*

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.







06/01/1993  
Libby - Homesteader  
Unit 27  
59002027 64002027

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

DATE June 1, 1993  
OBSERVER Kuennen - Farmer - Johnson  
DISTRICT Fisher River  
SALE Homesteader UNIT # 27

*Tractor skidded  
Doser piled*

*640-02-027  
18 59002027*

*Walk through subsequent to '92 transects.*

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

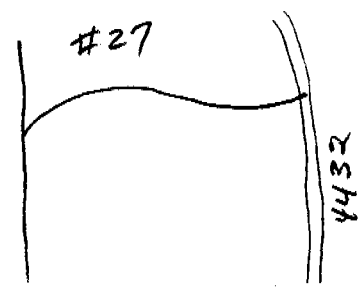
DISPLACED

EXCAVATED SKID TRAIL

SMZ

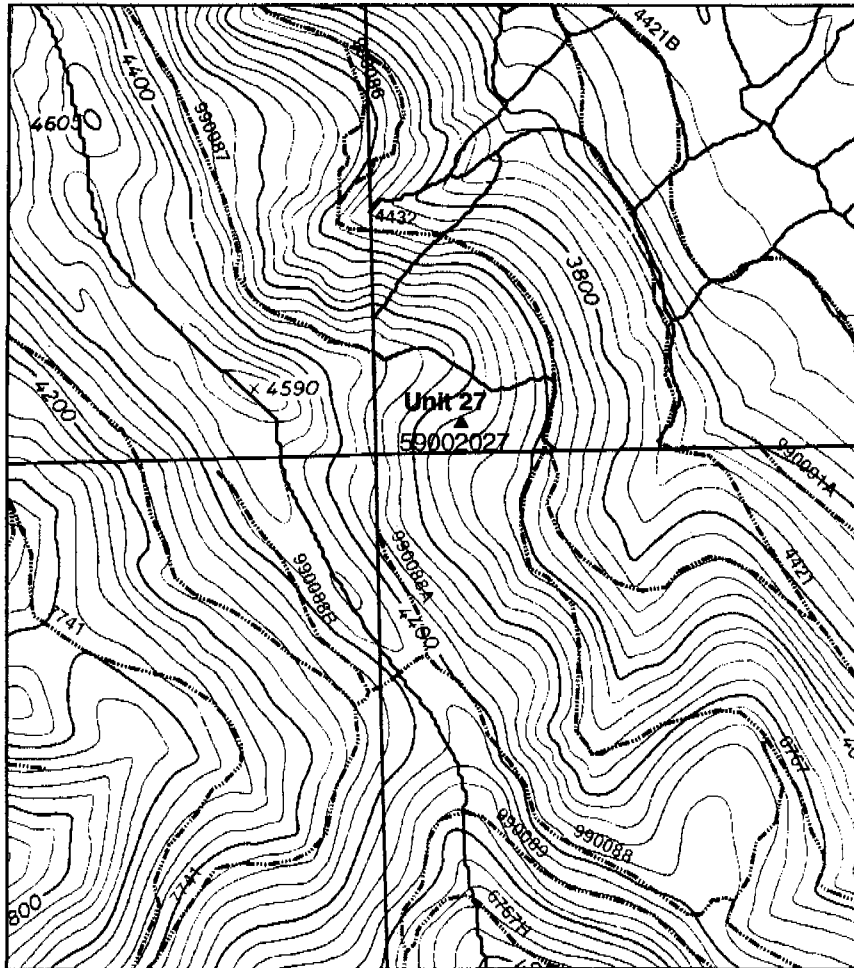
COMMENTS *Very obvious the impact of tractor piling, "Heavy" percentage increased dramatically as result of piling. Lower end of unit w/o piling is very acceptable*

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.



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 e d												
HEAVY												
LIGHT												
UNDISTURB												
TOTALS												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



7/18/04

57103076 ne 11/1/93  
~~51703076~~

08/02/1993  
Fisher River - Cow Creek Pest Control  
Unit 12 & 12A  
51703076

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8.2.93

CUTTING METHOD hand

OBSERVER Kulman

SKIDDING METHOD Tractor

DISTRICT Fisher River

HAZARD ABATEMENT underatory 1997

SALE Cow Cr. P.C.  
Unit No. 12 + 12A

SILVICULTURAL St. Seed Cut

Walk through  
COMPACTION (Heavy)

OPERATION PERIOD 1993 Summer

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

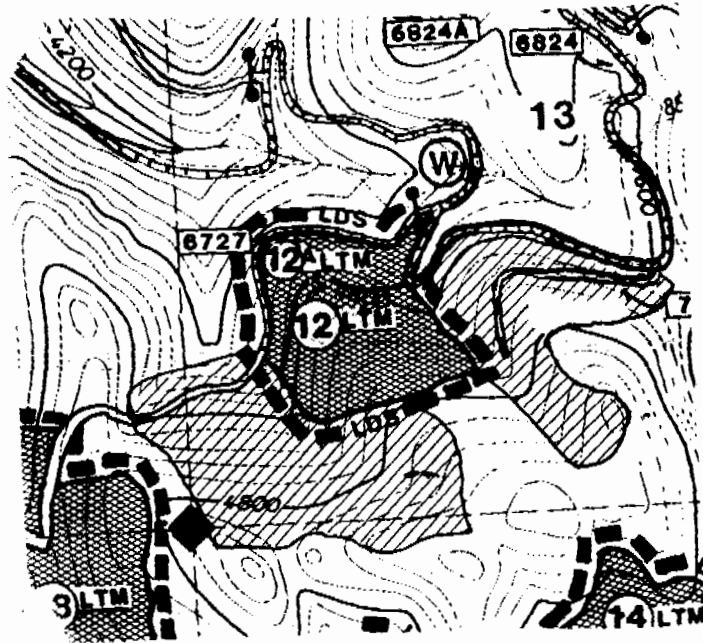
SMZ/ROCK

COMMENTS

12 - 22A

12A - 10A

Shape of Unit and Pattern of Transect



592.7-43  
12 acres

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

H. T. - 660 elev. - 4300'  
Slope - 16%  
Asp - SW

DATE 8.2.93

CUTTING METHOD cc/SP/Burn piles

OBSERVER Kuennen-Hennessey

SKIDDING METHOD Tractor

DISTRICT Fisher River

HAZARD TREATMENT Grapple pile '93  
Burn GP - 10/94

SALE Cow Cr. P.C.  
Unit No. 29

SILVICULTURAL TREATMENT cc/SP Mech / Plant

OPERATION PERIOD 6/1990

*Walk through*

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

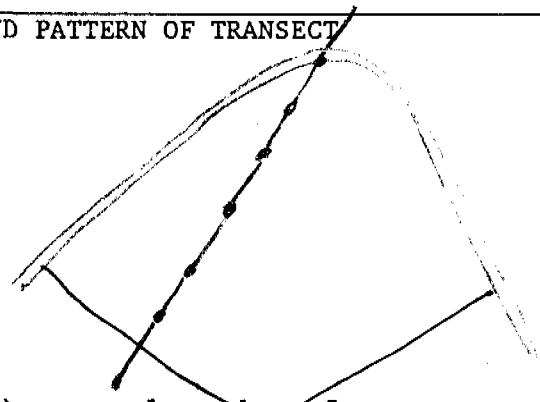
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS *Spalling looks very good. Very gentle topography.  
Excavator piling looks good. Several other units w/ j  
unit that are of concern w/ piling. Need to stay away from.*

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.

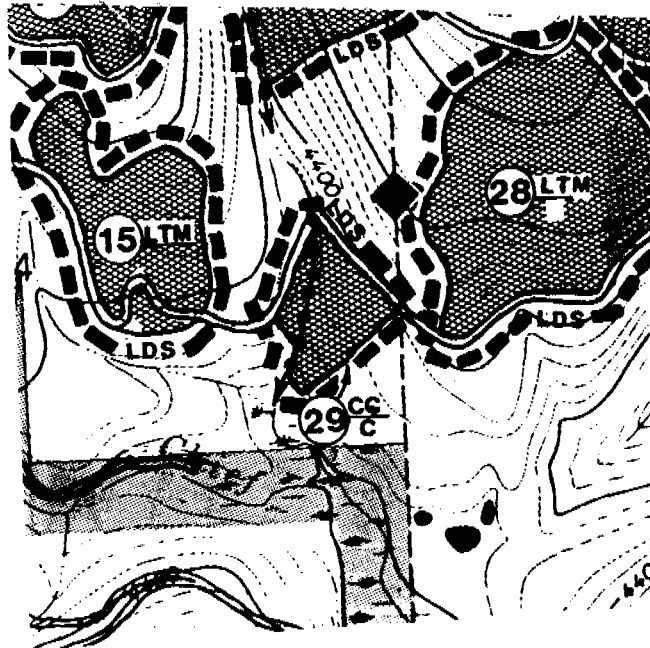
UNDISTURBED - no signs of any machinery or skidding activity.

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 HEAVY												
i												
s LIGHT												
t												
u UNDISTURB												
r												
b												
TOTALS												
DISPLACED												
EROSION												
PUDDLED												
SMZ												
ROCK												
BURN PILES												



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

H.T. - 250  
Slope - 23%  
Asp. - S  
elev. - 5100'

568-6-06

DATE 9.7.93

CUTTING METHOD Hand

OBSERVER Quinnan McBride

SKIDDING METHOD Tractor

DISTRICT Fisher River

HAZARD TREATMENT Broadcast Burn - 5/1995

SALE Cody -  
Unit No. 6 29 Acres

SILVICULTURAL TREATMENT CCRes/BcB/Plant

OPERATION PERIOD Summer '93

Walk through

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

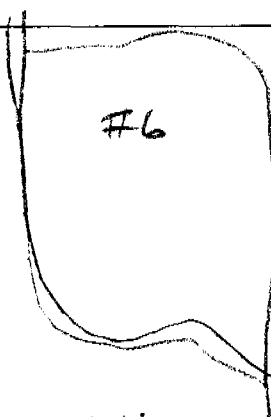
DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS Ground very broken - creating a lot of displacement. Very difficult to establish a skidding pattern. In general, the unit looks good, but there is too much displacement in some areas.

SHAPE OF UNIT AND PATTERN OF TRANSECT



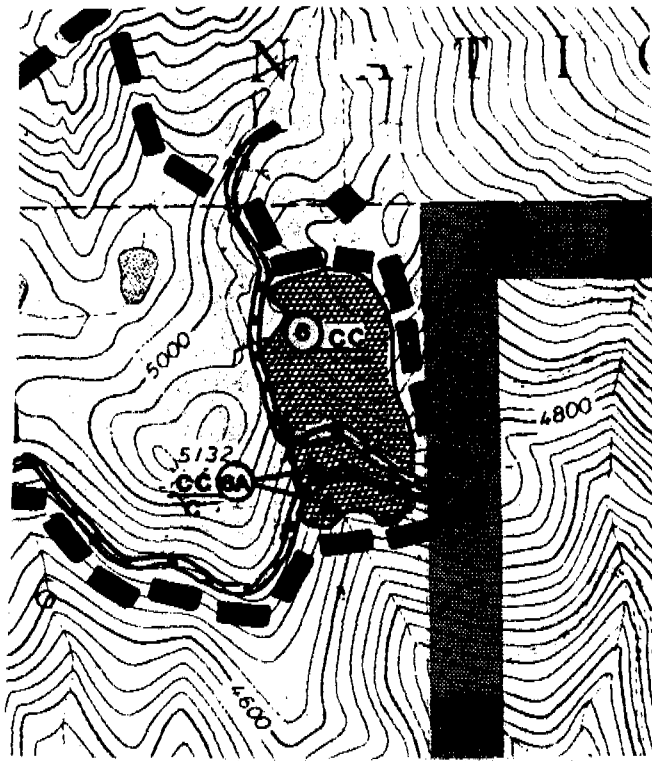
COMPACTION(Heavy) - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.

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.





05/14/1993  
Cabinet - Beaver Peak Resell  
Unit 2  
71501035

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

ST Seed Cut  
Grapple pile '97, burn '98  
Jan-Feb 97 Dozer

DATE 5.14.93

OBSERVER Kuennen-Helf

DISTRICT Cabinet

SALE Beaver PK Resell UNIT # 2 23A

715-01-035

Walk Through  
Ele - 2700, HT-570  
As-NE, slope 15%

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

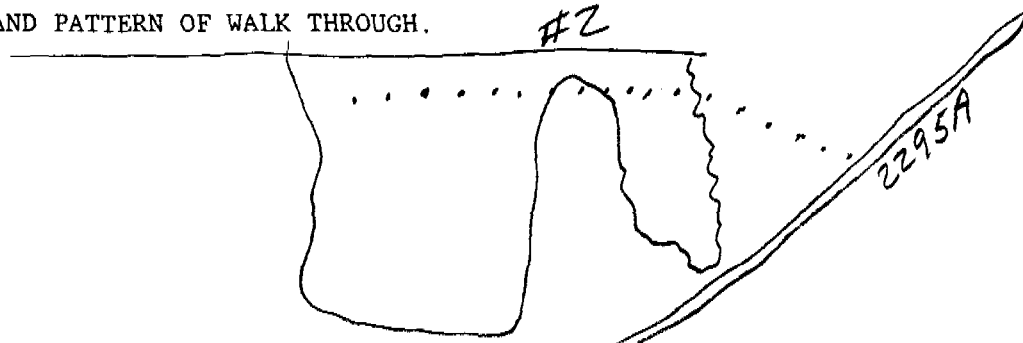
DISPLACED

EXCAVATED SKID TRAIL

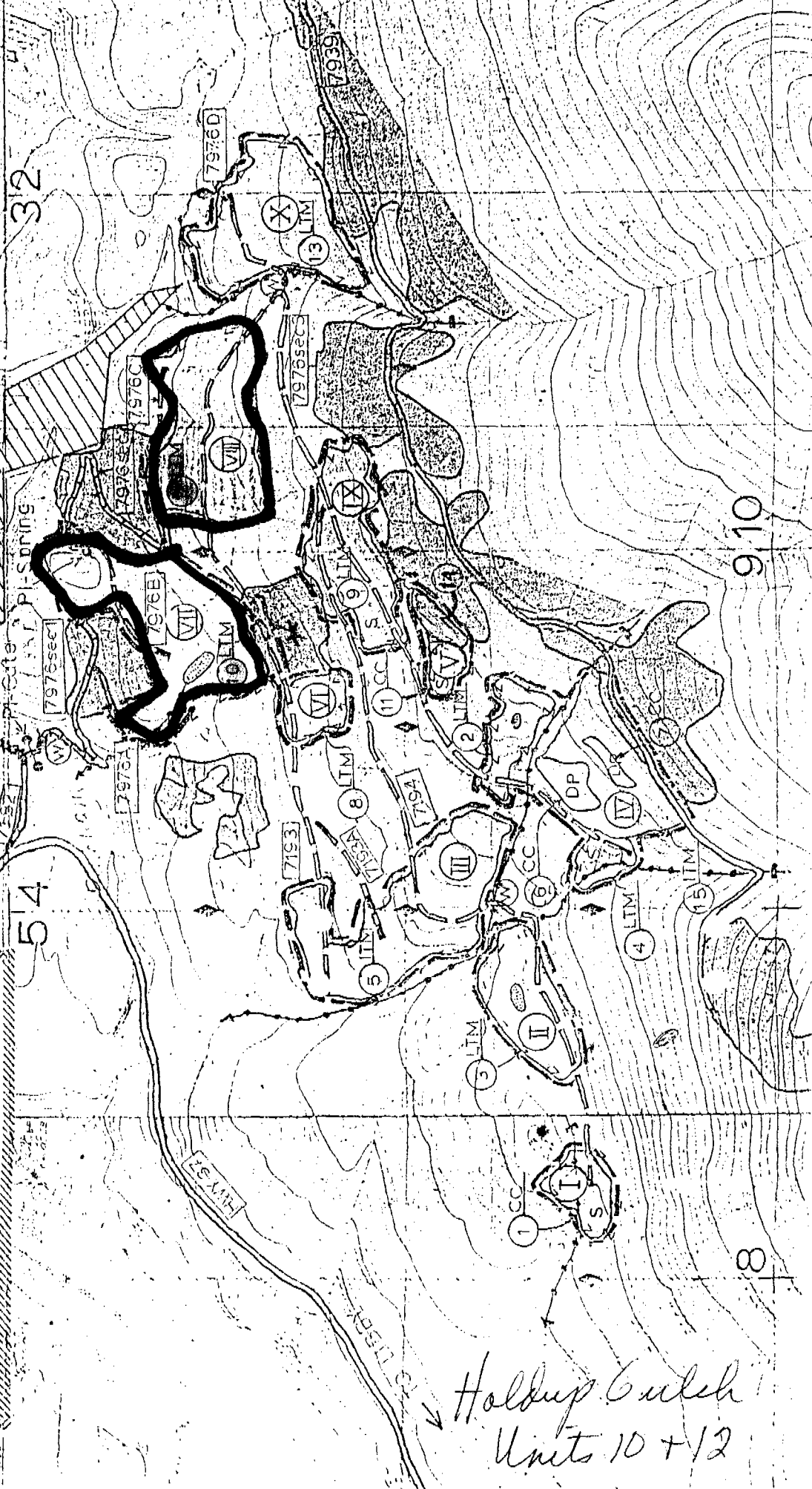
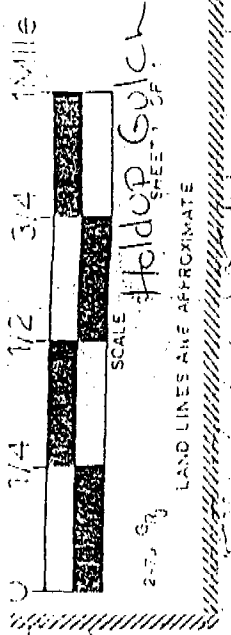
SMZ

COMMENTS essentially flat gd. Temp rd laid out. Thick ash cap.  
Looks good. winter operation. Scruffy temp rd.

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.







Holdup Gulch  
Units 10 + 12

SE to DWL (w) → SE to WL (w) → SE to DWL (w) → SE to DWL (w)  
 SW to Spring (w) → SW to Spring (w) → SW to Spring (w) → SW to Spring (w)  
 Good Creek Sale Unit 14

5-15-92

Unit 14	Unit 1	Unit 1
Undisturbed	NW corner Painted edge next to alder patch	Operations clipped, processed at stamp, chilled w/ rubber tire + D 64
Heavy slash	(78)	149
Slash, little duff Mod.	(42)	23
Light	(23)	2
Disturbed	(19)	20
Trail Light edge	(20)	60
Trail Mod edge	(21)	11
Trail center	(35)	27
Heavy slash	(32)	3
Compacted	(23)	39
Displaced center	(5)	
Rock (Surface)	(21)	1
Alder	(1)	
Spring area		35
Old shed trail		369
	364	369

Undisturbed 1991

Light 1991

Heavy 1991

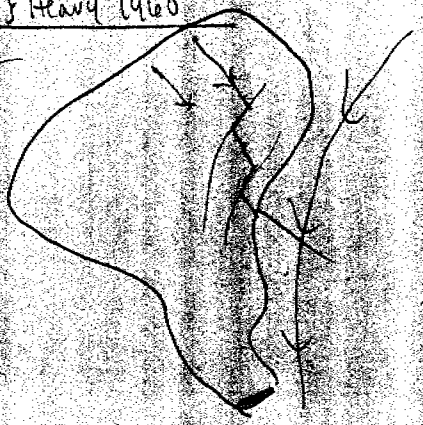
13 displaced HB 4/10/98 per LK.

Undisturbed 1991

Heavy 1990

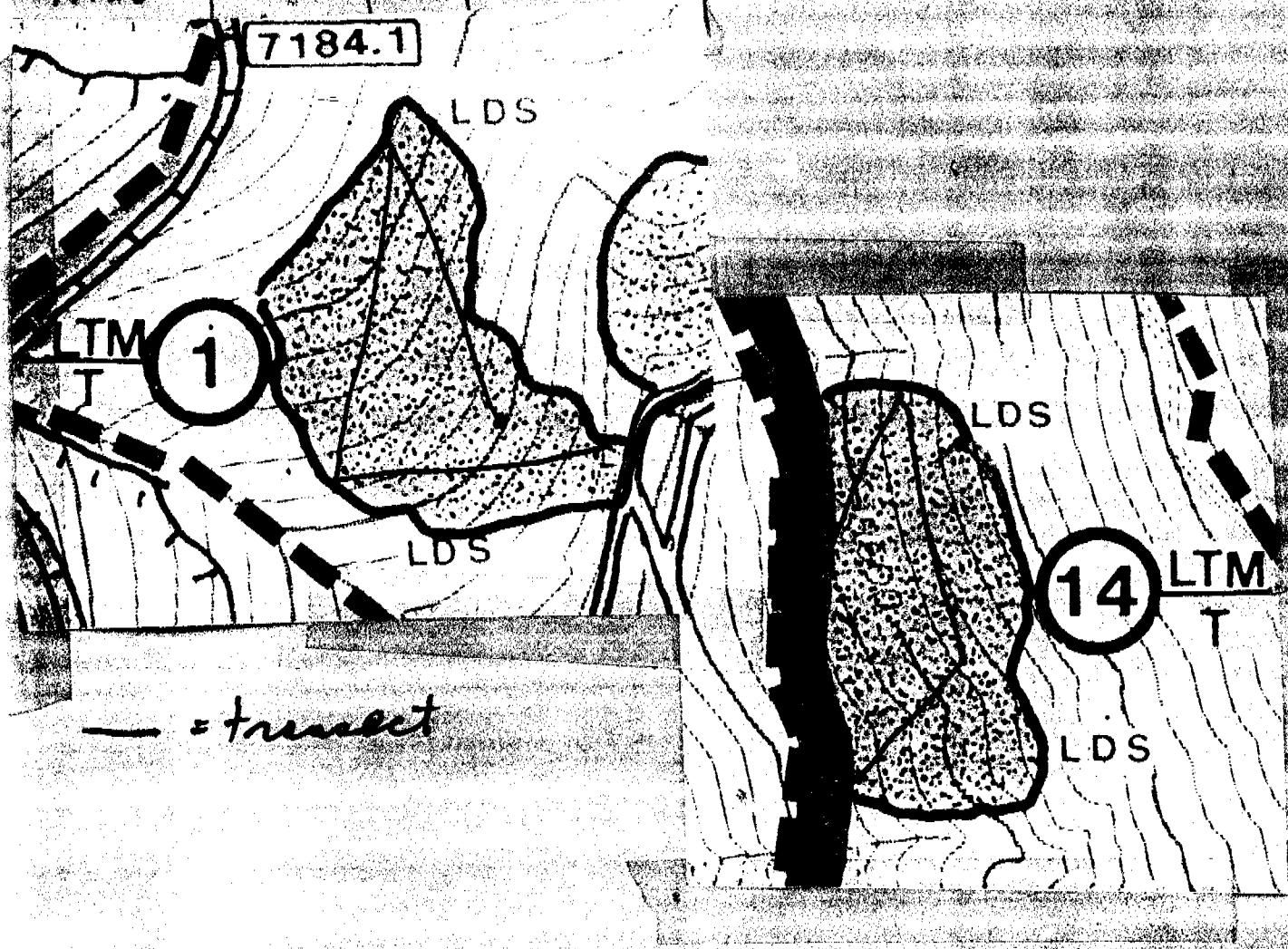
05/15/1992 Good Creek Sale Unit 14

○ Moderate to severe compaction



W.K. at 2/8/10

	Unit 14		Unit 1			
	Points	%	Points	%		
ump Heavy	72	19	38	10	Heavy Light	
ump Light+Med	200	35	121	33		
slash	Heavy	73	20	149	40	Undisturbed
	Med	42	12	23	6	
	Light	23	6	2		
	Rock	5	1			
undist alder	21	6	(1)			
Spring	1					
old chert			35	9	Heavy	
Total	369		369		1991	



# Good Cr. Unit 16 Transects

attempt to stop slash  
Peller buncher  
slide boom delimeter  
w/ grapple chidder

## A. Above Rd 7197

E 1/2 start near gate  
end near white flagging  
on WL

W 1/2 start stake 19+20  
end in SW corner

No attempt to slash  
on slash

13	Compaction 12% heavy			72.8
5	50% Light & Med			55%
44	Undisturbed			38% 41
5	Displaced		④	10%

## B. Below Rd 7197

Trail length  
successful landing  
E 1/2 start E. turnout  
in middle of unit

W 1/2 start NW corner

13.3	Compaction 10% heavy 66% light			69%
4	Undisturbed			50%
4	Displaced		④	44%
20			④	21

Below - Ravell Quartzite: lots of L rock in soil. Helped to minimize disturbance. At 353 Rd need grass mats.  
In my opinion there was no need to burn unit. Light burning already.  
Plenty of site prep

## Good Cr.

55	Compaction 15% heavy 63% light			69%
60	22% Undisturbed			69%
2	Displaced		④	69%

Surface rock

1/3 of unit is 353 - lots of L rock showing at surface

# Good Cr. Soil Samples

Good Creek Soil Samples - above road 7197

## "After" samples

### A. Above rd. 7197 (new rd)

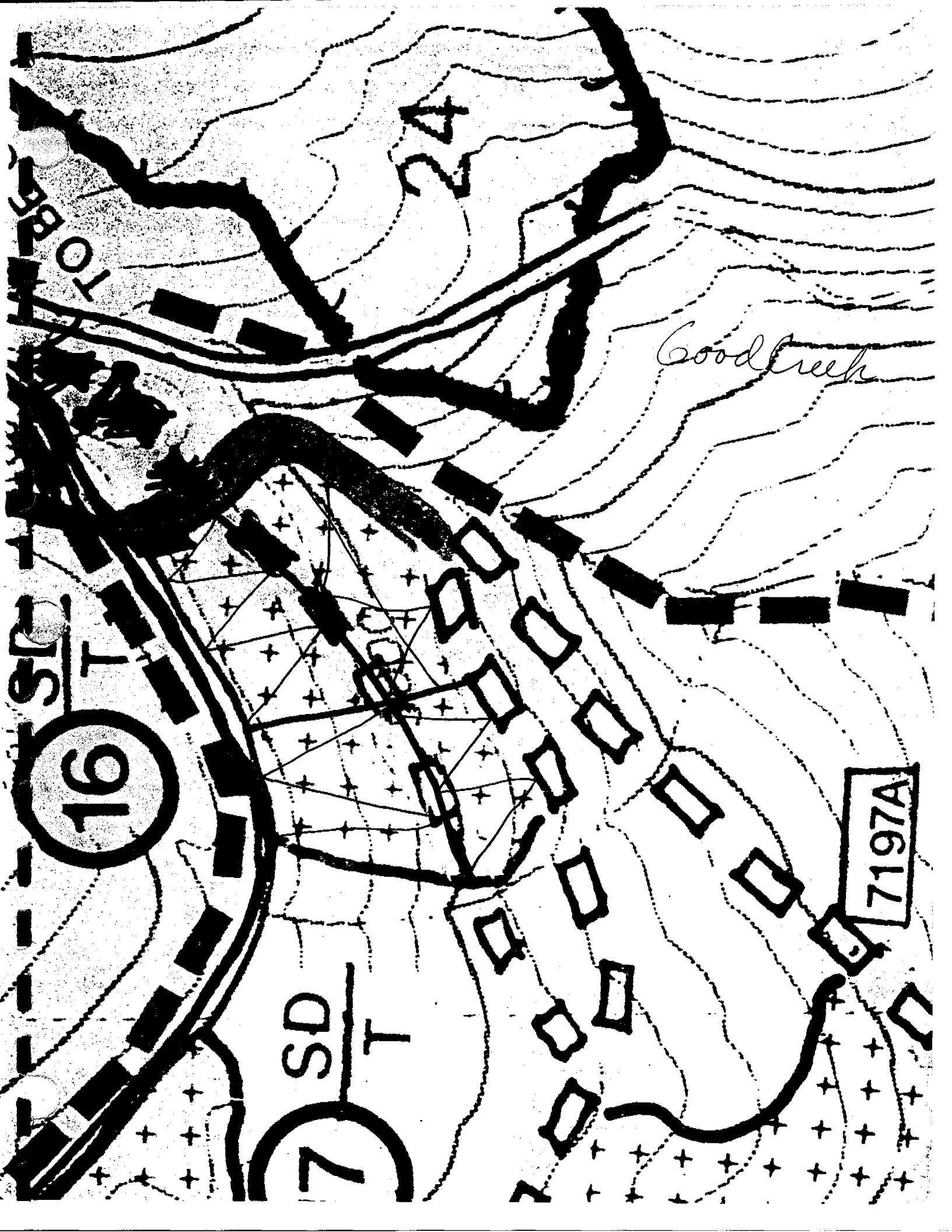
1. Landing area just above rd on W. end of unit.
2. Shid trail leading to landing above rd.
3. Depression near upper rd, W. end of unit major shid trail
4. Shid trail leading to depression, near middle of unit.
5. Shid trail on E 1/2 of unit, above rd.
6. Shid trail, <sup>soil</sup> under slash in small depression E end of
7. Shid trail near ~~rd~~ <sup>unit</sup> above rd.
8. Shid trail E 1/2 of unit just above rd.

### B. Below rd. 7197

20. upper end of major shid trail E end of unit
10. just below rd 7197 dedicated trail/haul back slash
11. Landing SW corner of unit.
12. Dedicated trail 2/3 downhill, moped ash
13. Dedicated trail near E end of haul back slash 2/3 way to
14. Upper track
15. main trail near lower end of unit above big landing
16. main lateral, up + down hill lower end
17. main lateral upper end
- 18.
- 19.

	Above 7197				Below 7197				Unit		Unsettled (units)	
	E 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2	W 1/2
53	13	12	8	7	11	6	56	75	53	9		
336	56	50	58	53	66	89	50	225	63	336	66	
223	34	35	50			44	60	22	123	31		
30	①	③	④	⑤	⑥	④	②	⑧	③	30	⑤	
* Surface ash							20					
	113	106	203	180			360		602			

\* included in undisturbed



TO BE

A

*Good Creek*

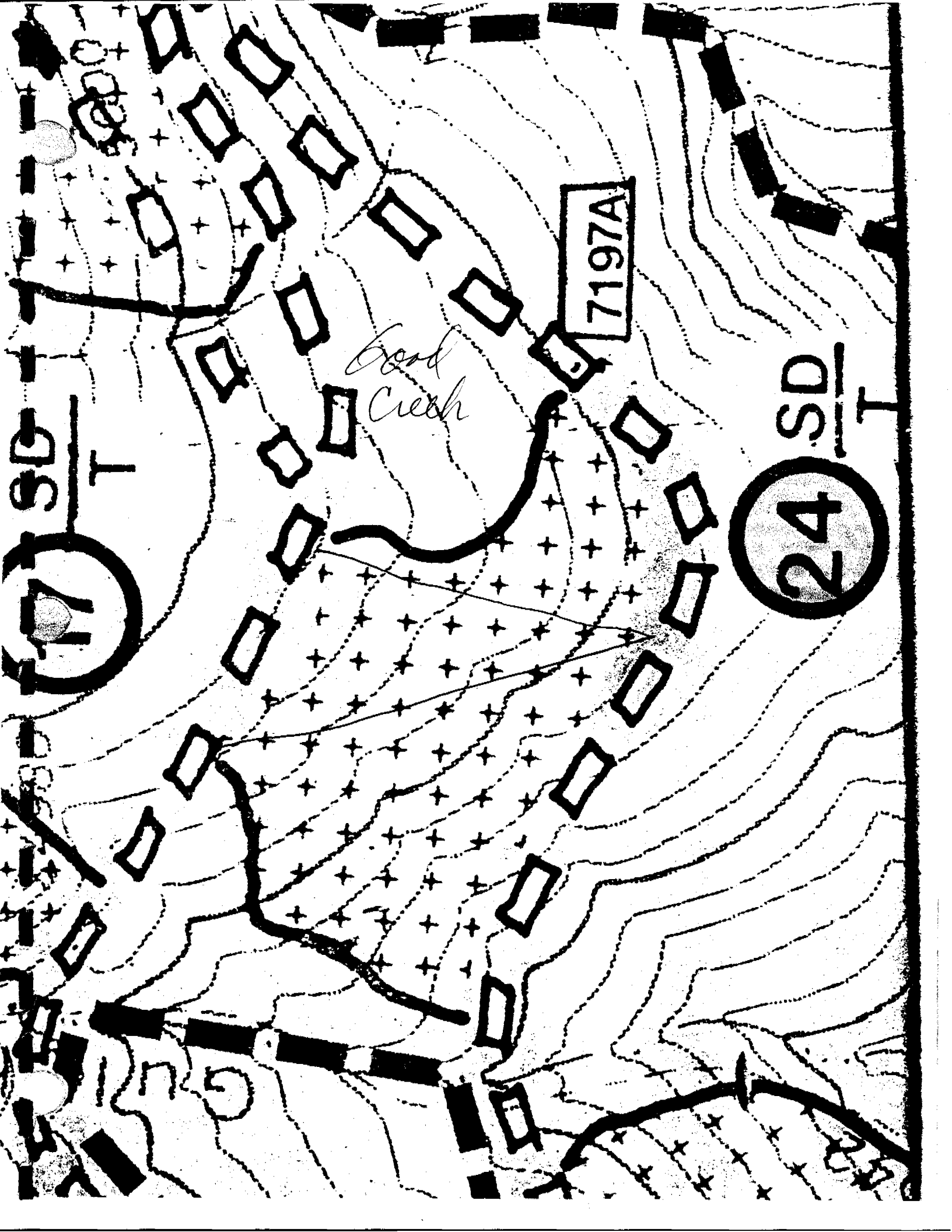
16

SD  
T

7

7197A





*Good  
Creek*

7197A

17

24

SD  
T

SD  
T

D-1

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

10/20/1992  
Rexford - South Pinto  
Unit 2  
13303082

DATE 10.20.92

OBSERVER Kuennen

CC w/ reserved

DISTRICT Rexford

SALE South Pinto UNIT # 2

133-03-082

60A

19	W 6%	COMPACTION HEAVY	[X] [X] [X] [X]	mod.	[X] [X] [X] [X]	14	
17	M 6%	[X] [X] [X] [X]	[X] [X] [X] [X]		[X] [X] [X] [X]	9	
19	E 9%	[X] [X] [X] [X]	[X] [X] [X] [X]		[X] [X] [X] [X]	6	
		COMPACTION LIGHT	[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	165	57%
		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	137	49%
		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	154	55%
		UNDISTURBED	[X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X]	89	30%
		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	113	38%
		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]		[X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]	100	36%

DISPLACED:

EXCAVATED SKID TRAIL

*to site coming to landing* [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]

SMZ

COMMENTS Lot of disturbance in upper NW corner of unit where  
alder/wet spot is.  
Waterbars??  
Wet area lower 1/3 W  
Spruce 60 years old, 21" at stump (14")  
Excavated trail lower east.  
East lower chided in depression - pushing into wet spot

20	7%	Rock	[X] [X]		[X] [X] [X] [X]		
4	2%	SHAPE OF UNIT AND PATTERN OF WALK THROUGH.					

W - 293  
M - 287  
E - 279

S. Pinto Unit 2  
Bulk Density Samples

10.20.92

1. Main trail near landing 1.16
2. Main trail W., near lower end, as it makes the bend <sup>1.28, 1.05</sup>
3. lateral trail, west side 1.42, 1.15
4. Main trail W, half way up 1.28, 1.05
5. Undist. (W) w/ alder patch .87, .81
6. Lateral trail (M)  $\approx$  1/2 way up, on nose of ridge 1.09, .96
7. Glacial till, from root wad  $\approx$  14" in profile
8. Main trail middle  $\approx$  1/2 way up 1.18, 1.09
9. Main trail (E) 2/3 way up more slash left 1.45, 1.55
10. Main trail (E) 3/4 way up 1.07, 1.23
11. lateral trail (E) 3/4 way up 1.38, 1.42

South Pinto  
Unit 2

	Cut to length Forwarder 2(1)		Feller-Processor 2(2)		o/o Cumm.
	No.	%	No.	%	
Heavy	4	3	<del>51</del> <sup>55</sup>	7	<del>59</del> 55
light	46	39	<del>40</del> <sup>407</sup>	54	453
Undist.	<del>66</del> <sup>61</sup>	55	<del>242</del> <sup>296</sup>	33	365 308
Displ.	0	0	(7)	(1)	
rock	3	3	43	6	46
spring	0		(11)		

859

connections  
made 02/08/01  
JFK

10/23/1992  
Rexford - South Pinto  
Unit 4  
13303084

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

DATE 10.23.92  
OBSERVER Kuennen-Carfield-Hanson  
DISTRICT Rexford  
SALE South Pinto UNIT # 4  
*not designated trails,  
slide boom at stump*

28A  
133-03-084  
*4-5" tops required  
series of main trails  
Grapple - skidder*

COMPACTION HEAVY	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
COMPACTION LIGHT	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
UNDISTURBED	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
DISPLACED	<input checked="" type="checkbox"/>	..
EXCAVATED SKID TRAIL		
<del>SMZ</del> <u>Rock</u>	..	..

COMMENTS  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.

South Pinto  
Unit 4

	Slide boom 4(2)		Grapple shredder 4(1)			
	No.	%	No.	%		
Heavy	17	15	7	7	24	11
Light	58	50	62	63	120	56
Undist.	37 <sup>30</sup>	32	28 <sup>30</sup>	28	65	30
Diap	(9)	(8)	(2)	(2)	11	5
Rock	3	3	2	2	5	2
	(115)		(99)			
					214	

corrections made  
02/08/01 *AK*

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

10/28/1992  
Yaak - Dogwood Windy  
Unit 28  
43001108 / 43002103

D-4

DATE 10-28-92

G  
6 rappe skidded, clipped - small  
hand fell - larger

OBSERVER M. Moellen

Cat put in water bars

DISTRICT D-4

No piling

SALE Dogwood Windy

UNIT # 28

430-01-1082  
-02-103

27A

29A c w/ vol. of 750M

COMPACTION HEAVY

COMPACTION LIGHT

UNDISTURBED

125

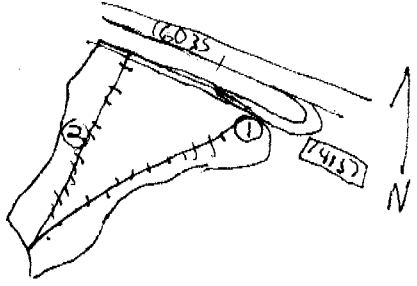
DISPLACED

EXCAVATED SKID TRAIL:

SMZ

COMMENTS This whole unit has been run over pretty well.  
Lots of cat turns. The skid pattern is well spread  
out. There are 2-3 large piles at the landing.  
Some of the down trees seem pretty upright. 555300084 = ...  
A lot of past fire wreckage ~~is~~ also churned  
up in the soil around the lands.

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.



Bug Samples

- ① NE Corner of unit on a shield trail
- ② West Side unit 1/2 way down on a shield trail. This sample composed of organics - not sent in.

Dogwood Windy  
Unit 28

	No.	%
Heavy	68	22
Light	186	59
Undist	58	18
Displa	125	40
Epa Shield trail	2	1
	314	

— = transect



D-4

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

10/20/1992  
Yaak - Upper Basin  
Unit 9 & 9A  
42903210 42903211

Unit 9 - clipped, grapple-skidded,  
whole-tree yarded, return tops to unit.

DATE 8-28-92

OBSERVER M. Moellen

Unit 9A Hand felled, whole-tree yarded  
Link Belt 10B

DISTRICT D-4

SALE Upper Basin UNIT # 9 & 9A

9. 429-03-210 19A  
10. 429-03-211 5A

63 COMPACTION HEAVY

222 COMPACTION LIGHT

116 UNDISTURBED

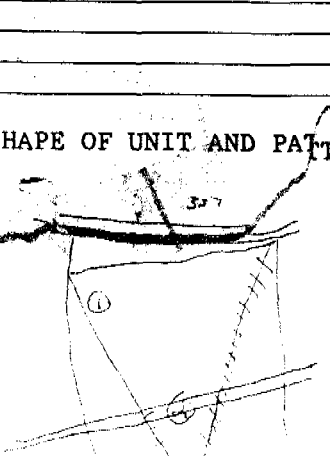
124 DISPLACED

EXCAVATED SKID TRAIL :

SMZ

COMMENTS Lower 1/3 of unit is less disturbed than the upper 2/3  
The lower 1/3 was a line unit. There are  
2 large piles at the landing on the road  
in the middle of the unit. The upper 2/3  
of unit is heavily impacted with skid trails  
and Dozer Trails

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.





Dug down

#1 Skid trail on NE. Corner of Unit

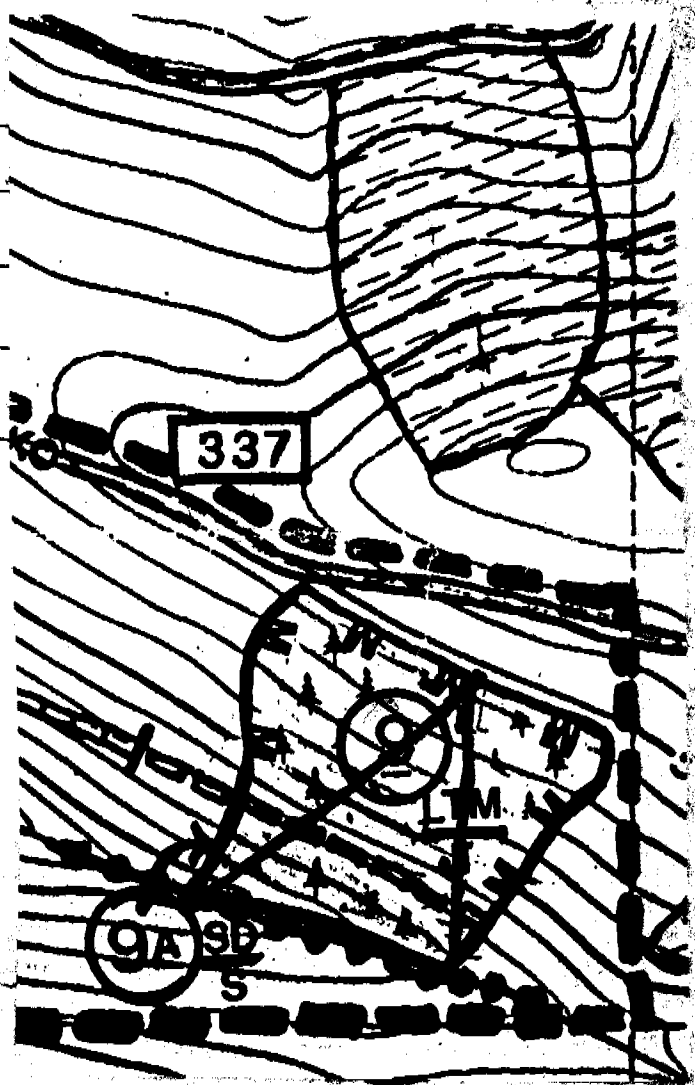
#2 On Side of Kocio that runs through Unit  
Lots of sticks + other organics mixed in. Appears to be  
some till also mixed in.

Upper Basin  
Unit 9



Unit 9A

	No.	%	No.	%
Heavy	60	21	7	6
Light	182	62	40	35
Undist.	50	17	66	59
Displ	(110)	38	(4)	(5)
Spec Skid trail	(2)	(1)		
	292		113	



— = transect

9A skyline steeper slopes  
LTM - Tractor

KOOTENAI NATIONAL FOREST  
 SOIL DISTURBANCE DATA FORM

DATE 5-7-93  
 OBSERVER M. Moller  
 DISTRICT D-4  
 SALE Upper Basin  
 Unit No. 9

CUTTING METHOD Clipper  
 SKIDDING METHOD Rubber Tire  
 HAZARD TREATMENT None  
 SILVICULTURAL TREATMENT Ltm  
 OPERATION PERIOD \_\_\_\_\_

	1st Traverse	2nd Traverse
COMPACTION (Heavy)	12 7%	9 6%
COMPACTION (Light)	68	74
UNDISTURBED	63	45
DISPLACED	25	30
EXCAVATED SKID TRAIL	0	0
COMMENTS	168	158

$\frac{21}{326} = 6\%$

SHAPE OF UNIT AND PATTERN OF TRANSECT

6% - compaction

Rerun of Unit 9, also ran one myself along lower edge of unit on 5/20/93. Came out w/ 9-10%. LR

**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 action 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.

**MZ** - include within transect if within harvest unit.



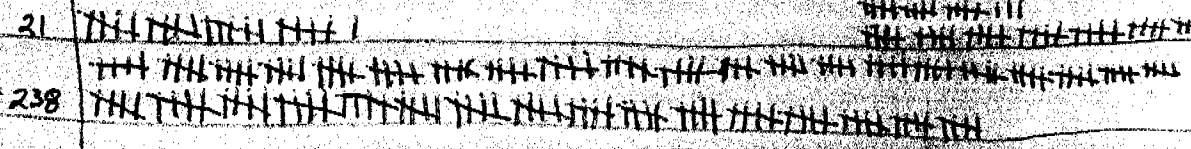
28 Acres  
514-02-032

unrec'd hand saw, log length  
Dec. 91 JK  
8-19-92  
D6  
16 Aug '92

# Blue-Rice Sale Unit #21 LTM Tractor log + pt to Aug '92

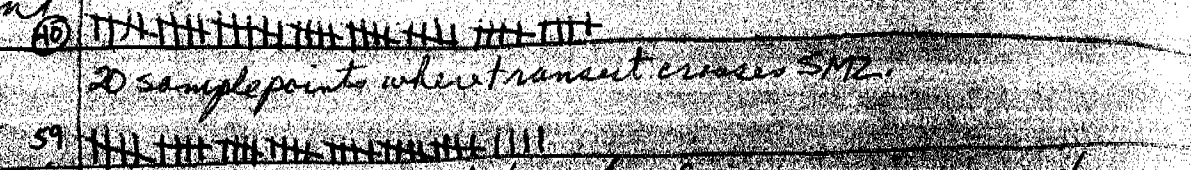
Compaction  
Heavy

Transsect goes from SW corner to E to 14605 junction. Then transsect heads S to body (near corner of older unit), then to SW to landing ending in SMZ.



Displacement

20 sample points where transect crosses SMZ.



Undisturbed

Very small percentage of unit w/o cat tracks. Soil surface very dry. Into soil profile, soil is moist. Good distribution of large organic matter. Soil fairly rocky w/ a few R.O. Most of compaction judged to be in slight + mod. category; a. soil moisture below 10"; b. for the most part machine rode over largest small rocks & gobbles & d. amt. of material to pile was light. Strongly illustrates amt. of area impacted by tractor logging & piling.

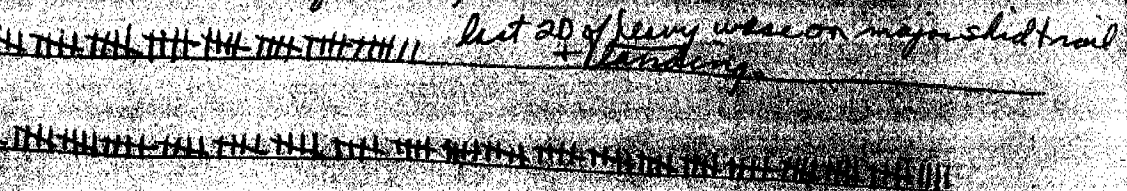
Unit 17

Mile Mass V-D 91 Rubber tire log  
hand saw, log length

Blue-Rice (243)  
Compaction

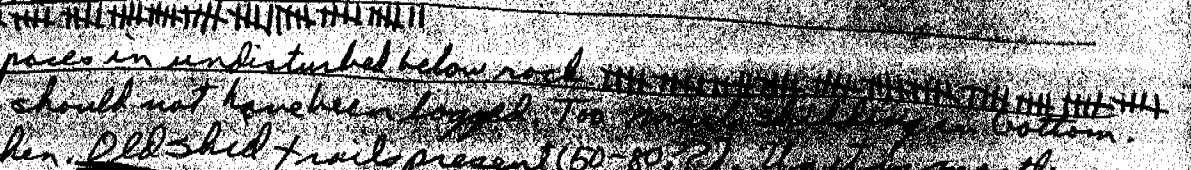
Unit 17 LTM Tractor log  
Transect starts edge to rock pt on W edge of unit. Then ESE to rd middle of unit; then to SW

Heavy 67  
Light + Med 104



Displacement

1st 20 paces in undisturbed below road



Undisturbed

Wet spot in notch, should not have been logged. Topography very broken. Old shed trails present (50-80'). Unit is mostly 5 F/Libs w/ some WRC. Soil has mixed ash surface. Lot of angular rock present. Wandings indicate high soil moisture during operation. Excellent seed germination on new construction

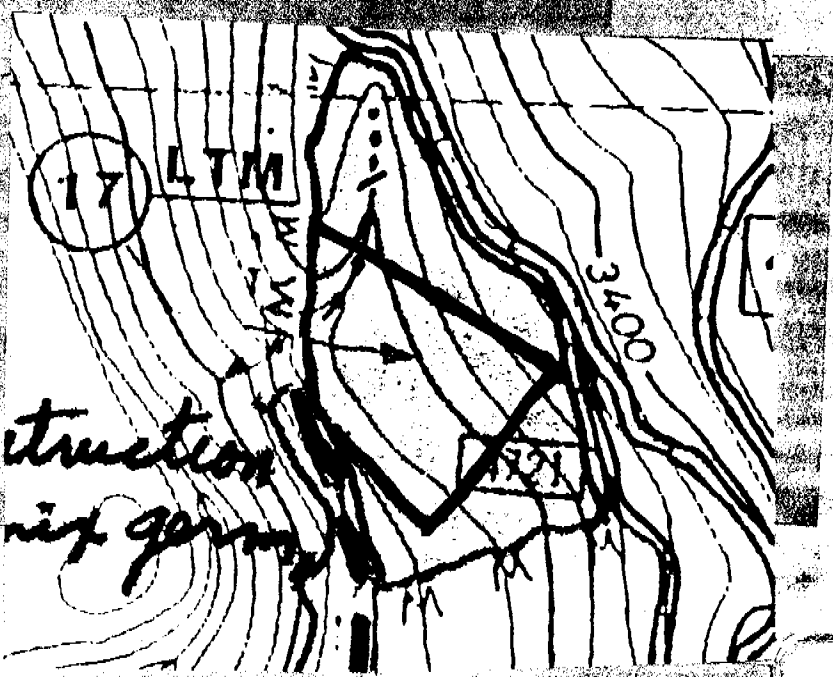
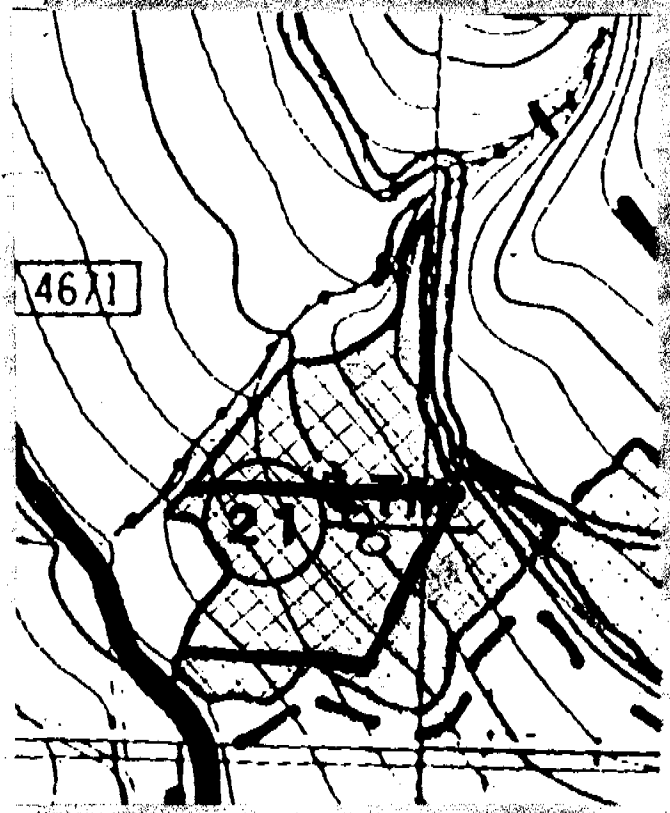
(over)

# Blue-Rice

Unit 21

Unit 17

	21	7		67	21
Heavy	238	75		104	43
Light	(40)	(13)		(7)	(3)
Displaced	59	18		72	30
Undist.	318			243	



— = transect

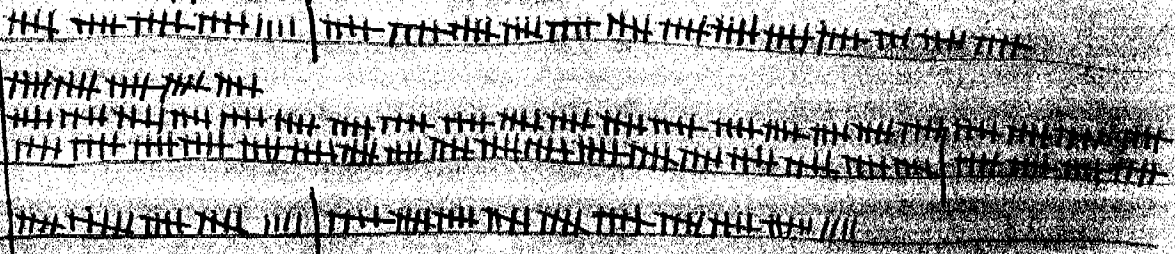
Blue Mountain Sale  
Unit 2

~~573-01-080~~

along Rd 755P. The part logged in 1992. From SW corner to NE

24 - 14

65 - 23



capaction  
Heavy

Light

0 - 53 155 - 56

Displaced

Disturb

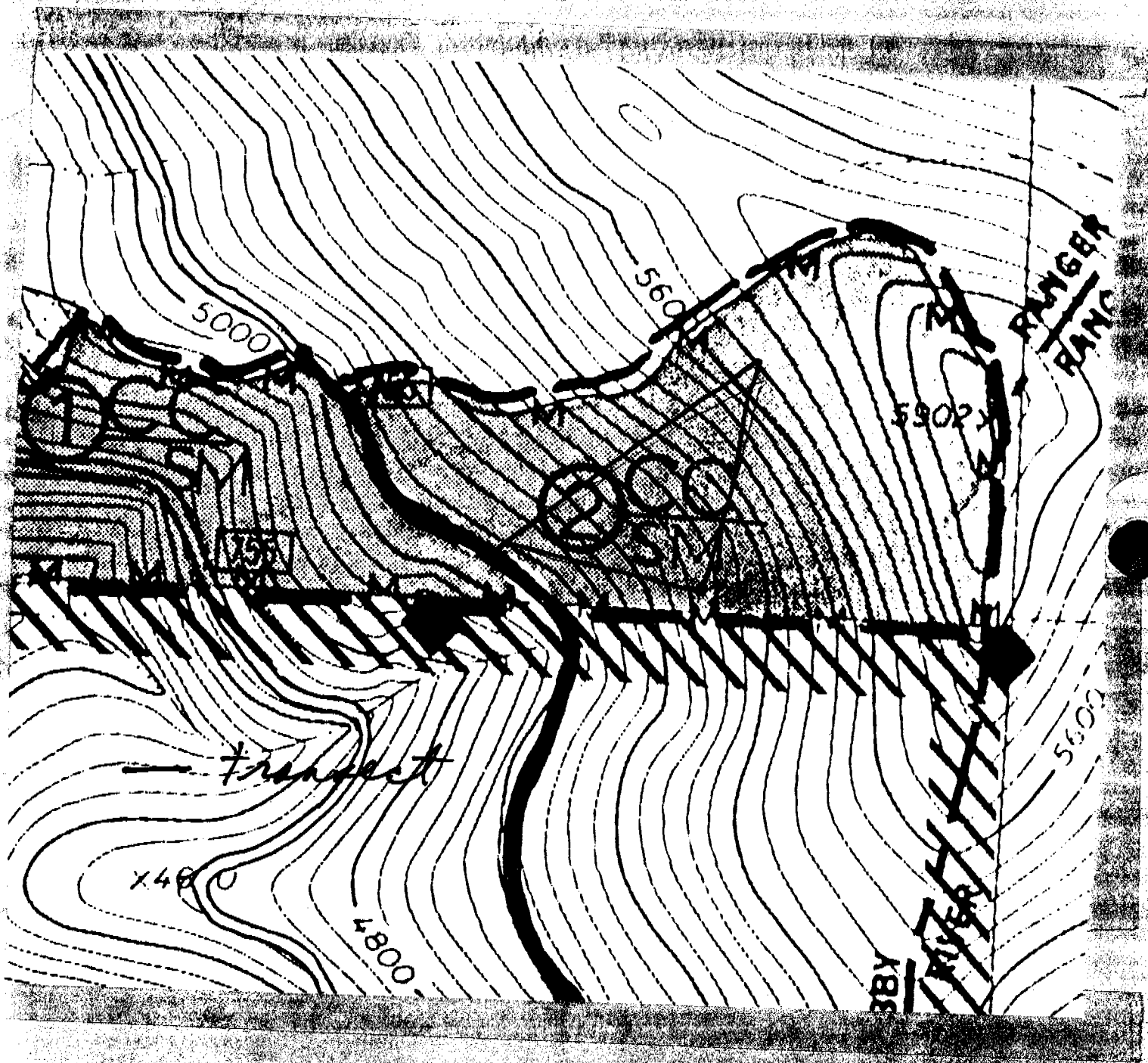
Too much debris removed. w/B coming down main from...  
trails are no good! Lohy but won't drain anywhere. Want...  
better to put in...  
w/B Yellow-92, fed red 91???. Generally...  
why not put in w/separator, pull out...  
Fire line along SE bdy too close to church.

- Truck road
- Truck length
- rubber tree
- ...

	1990	1992	Cumula
Heavy	24 14%	65 23%	20%
Light	90 53%	155 56%	55%
Displaced	24 14%	49 18%	16%
Disturb	57 33%	57 21%	25%



black = no. of pts  
red = percent.



D-6

10/16/1992

10.16.92

639-06-031  
15A

Homesteader Sale

Unit 4

rubber  
Tractor skidder head stamp

Compaction  
Heavy

|||||

combination  
skid left in unit

Fisher River - Homesteader  
Unit 4  
58906031 63906031

Light

|||||

Undisturbed

|||||

Displaced

|||||

SMZ

|||||

Excavated skid  
Trail

|||||

Comments: Generally have light impact in unit.  
Started SW corner of unit

640-02-027 Homesteader Sale Unit 27 handpelled 10-16-92

15A

upper 85%

crawler tractor

Compaction  
Heavy

tractor piled  
upper part

ground  
pulled to turn then logged

Light

|||||

Undisturbed

|||||

Displaced

|||||

Comments: between skidding + piling there is very little ground where cat did not run over. Side hill walking w/ cat did some deep displacement.  
≈ 85 (upper part) was tractor piled. Lower end (15%) was not.

C.H.

C.L.

|||||

Undis.

|||||

Displ.

|||||



Feb. '92  
Fraser/Thawing

Homesteader Unit 30 640-02-021 10.16.92  
6 Acres

10/16/1992

hand felled, crawler  
whole tree yarded

Fisher River - Homesteader  
Unit 30

12 C.H.

|||||

104 C.L.

|||||

59002029 64002029

46 Undisturbed

|||||

13 Displaced

|||||

62 Comments: Old skid trails crossed unit. WWP in stand.  
Tractor logged + un-piled

Feb. '92  
Fraser/Thawing

Homesteader Sale Unit 29 640-02-007 10.16.92

hand felled crawler skidded  
log in unit, whole tree

30 C.H.

|||||

75 C.L.

|||||

14 Undisturbed

|||||

50 Displaced

|||||

119 Comments: Unit tractor logged + tractor piled. machine over mount  
of ground.

	Unit 4		Unit 29		Unit 30		Unit 27				
	No.	%	No.	%	No.	%	Upper 85%		Lower 15%		
	No.	%	No.	%	No.	%	No.	%	No.	%	
Heavy	14	4	30	25	12	7	30	13	1	2	11
Light	45	14	75	63	104	64	183	80	38	64	77
Undist.	224	69	14	12	46	29	16	7	20	34	13
Diapl.	33	10	50	42	18	11	163	45	9	15	39
SMZ	32	10									
Erica trail	11	3									
	326		119		162		229		59		



DATE 10-29-92

OBSERVER M. Mueller

DISTRICT D-6

SALE E. Raritan UNIT # (1)

638-01-113

35A

COMPACTION HEAVY [X] [X] [X] [X] [X] [X] [X] [X] [X] [X]

COMPACTION LIGHT [X]

UNDISTURBED [X]

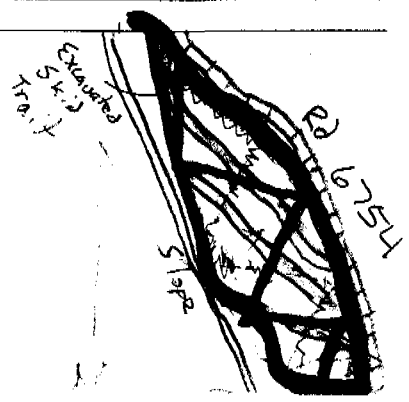
DISPLACED [X]

EXCAVATED SKID TRAIL [X]

SMZ

COMMENTS This unit is a leave tree mark. Mostly  
Larch ~~that~~ were left, but there are also a few Douglas  
Fir. There is an old Road that runs along the  
top of the unit that was used in the operation. The  
unit itself has a lot of material left as slash.  
It appears less disturbed than other unit I've seen, but  
it has a lot more excavated skid trails than other units  
around.

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.

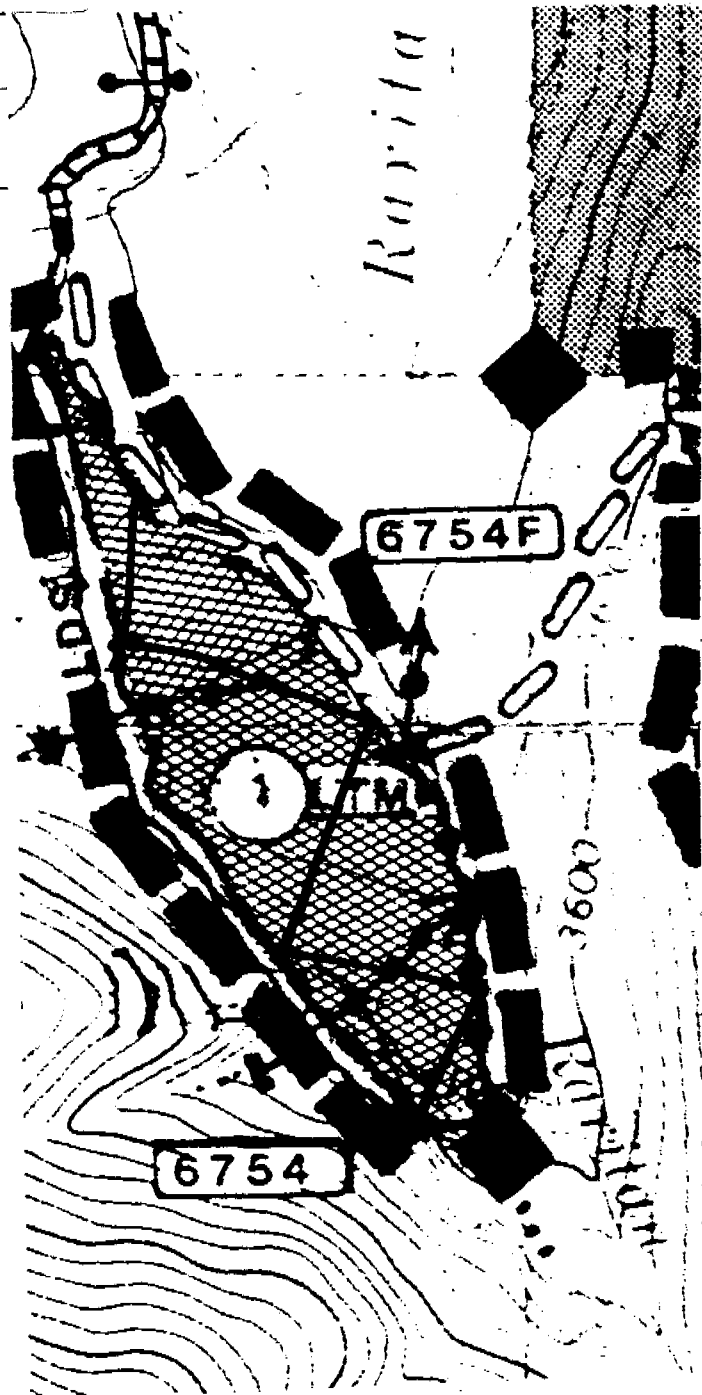


# East Paritan

## Unit 1

Slash in unit  
fireline, doger pits,  
hand felled, log skidded

	No.	%
Heavy	96	25
Light	128	33
Unhit	163	42
Displ	(111)	(29)
Escav. Trail	(42)	(11)
	387	

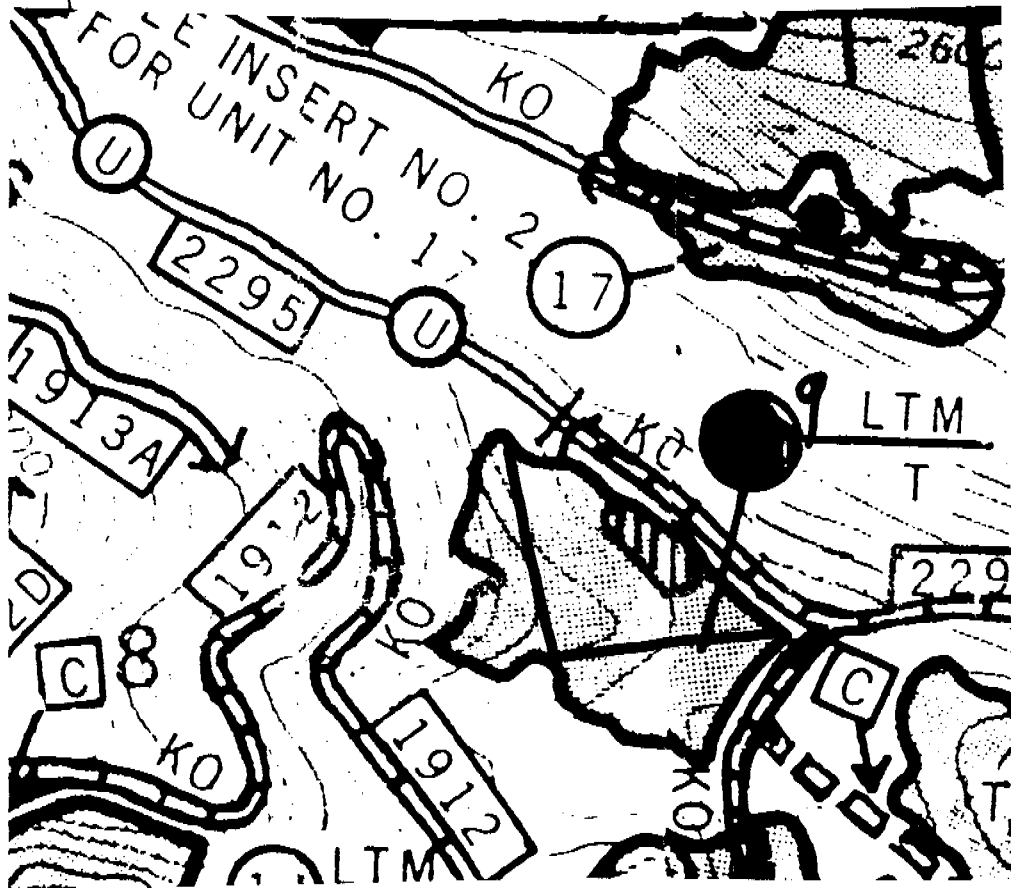




- #1 Or 5th transect in lower 1/2 of unit
  - #2 Upper middle of lower 1/2 of unit
  - #3 Taken in the North end of unit
- Beaver Peak Resell  
Unit 9

	No.	
Heavy	71	24
Light	190	65
Undist.	33	11
Displ.	(68)	(23)
	294	

— = transect



D-7

10/21/1992  
Cabinet - Dry Gulch Dixie  
Unit 14  
73007069

KOOTENAI NATIONAL FOREST  
SOIL IMPACT DATA FORM

Tractor-logged  
tree-length

DATE 10-21-92

OBSERVER Jim Moeller

DISTRICT D-7

SALE Dry Gulch Dixie UNIT # 14

730-09-069 9A

sawtooth line  
no piling  
some clipped  
drag chain

23 COMPACTION HEAVY ::||

82 COMPACTION LIGHT :

41 UNDISTURBED

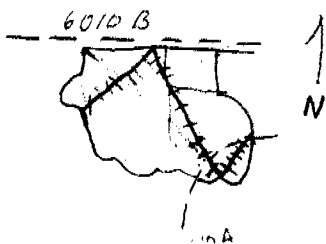
DISPLACED :

EXCAVATED SKID TRAIL ::

SMZ

COMMENTS Bottom of unit 40 yds away from running stream. The NW corner of unit is a steep slope. The lower portion of the unit appears to have been cabled. The NE side also seems to have been cabled. The fire line has water bar on it (good job).

SHAPE OF UNIT AND PATTERN OF WALK THROUGH.



3rd Source

- #1 Along Bottom of unit near fire line
- #2 Horse 500 ft on Sand trail

Dry Gulch Dixie  
Unit 14

	#1 Cable		#2 Tractor			
	No.	%	No.	%		
Heavy	4	3	23	15	27	10
Light	13	10	82	55	95	35
Undist.	108	87	45	27	153	56
					275	
Displ	(3)	(2)	(10)	(7)		
			4	3		
Exec. trail	125		150			



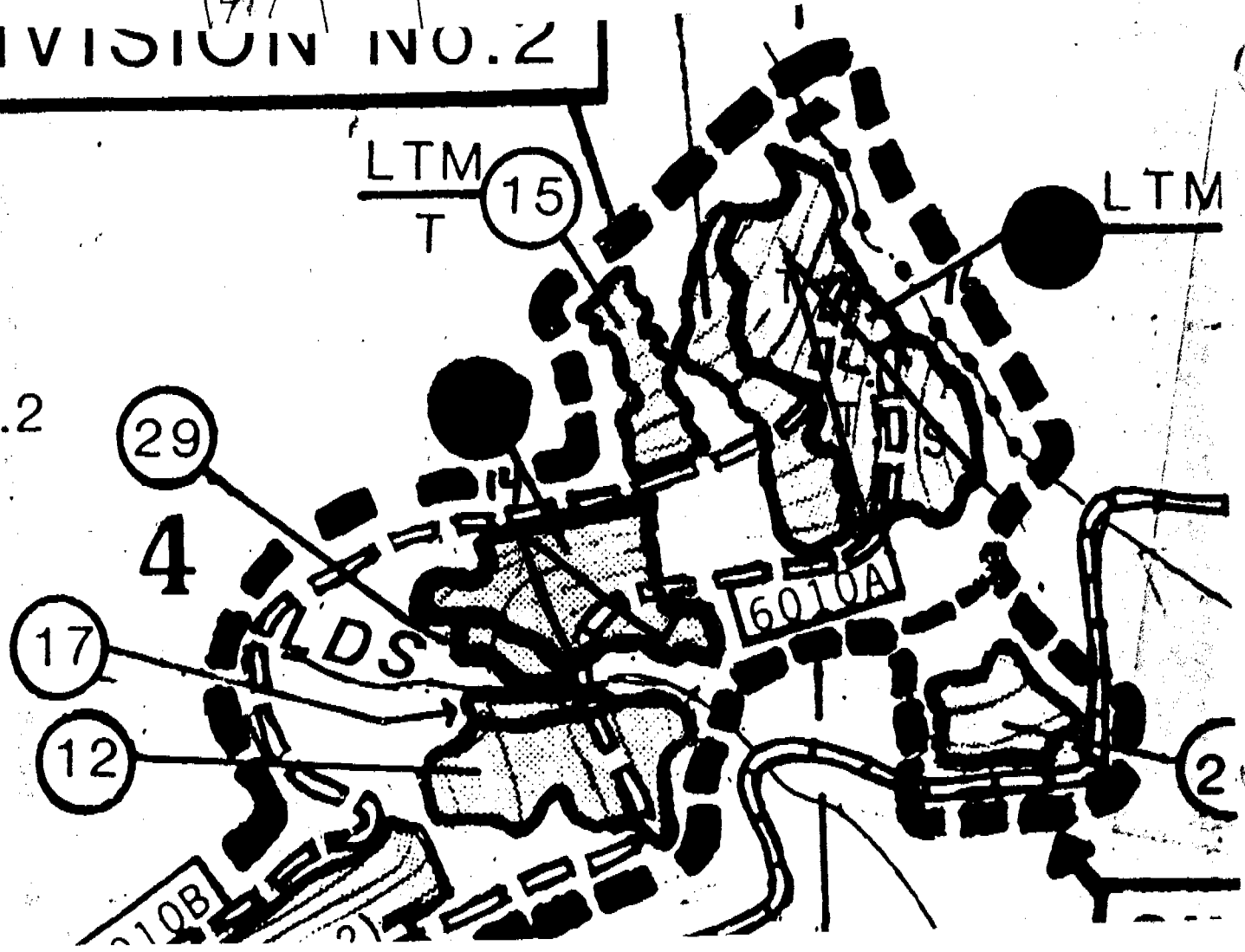


- #1 SW corner of unit on Excavated trail.
- #2 At the bank of Road (6010A) that runs between Unit
- #3 1/4 way up unit on Skid Trail

Dry Gulch Dipie  
Unit 16

	No.	%
Heavy	64	15
Light	241	58
Undist.	96	23
Displ	(73)	(17)
Epoa Shid trail	18	4
	419	

**DIVISION NO. 2**



51202013  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

512-2-13

DATE: July 21, 1992  
SERV: J. K. Decker  
TRACT: Libby  
E.A.: Bobtail Bull  
Unit #: 10 Acres: 13  
T: 250  
Slope: 49%  
Location:  
CUTTING METHOD: Skidder  
SKIDDING METHOD: NTS  
If tractor: dispersed dedicated  
HAZARD TREATMENT: Controlled pile 12 burn - 10/93  
SILVICULTURAL TRMT: Supp Best SP Mech Plant  
OPERATION PERIOD: 6/1/92  
Aspect: ER  
Elevation: 2500'

COMPACTON (Heavy) \_\_\_\_\_

*Walk-through*

COMPACTON (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

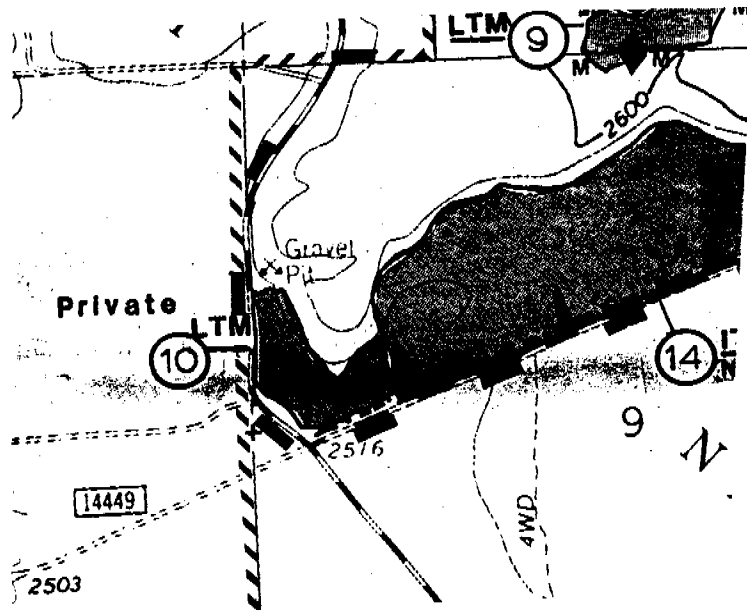
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*This unit was part of a site prep review.  
Unit looks good. There is enough mineral soil for natural.  
Here will be some interplanting to provide species diversity.*

SHAPE OF UNIT AND PATTERN OF TRANSECT \_\_\_\_\_

COMPACTON (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.  
COMPACTON (Light) - Any other area not included in heavy COMPACTON 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.



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

5 13-03-60

DATE: July 21, 1992 CUTTING METHOD: Timber chipping  
 OPERATOR: K. Libby SKIDDING METHOD: Grape  
 DISTRICT: Libby If tractor: dispersed dedicated  
 LEGAL: Banfield HAZARD TREATMENT: Preserve Pile & Burn OR - 11/92  
 UNIT # 12 Acres 8 SILVICULTURAL TRMT: Supp / SP Mech / PLOT  
 LOT: 662 OPERATION PERIOD: 8/1991 2029 p/2000  
 LOCATION: 177 Aspect: SE  
 Elevation: 5200'

COMPACTION (Heavy) \_\_\_\_\_

*Walk-through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

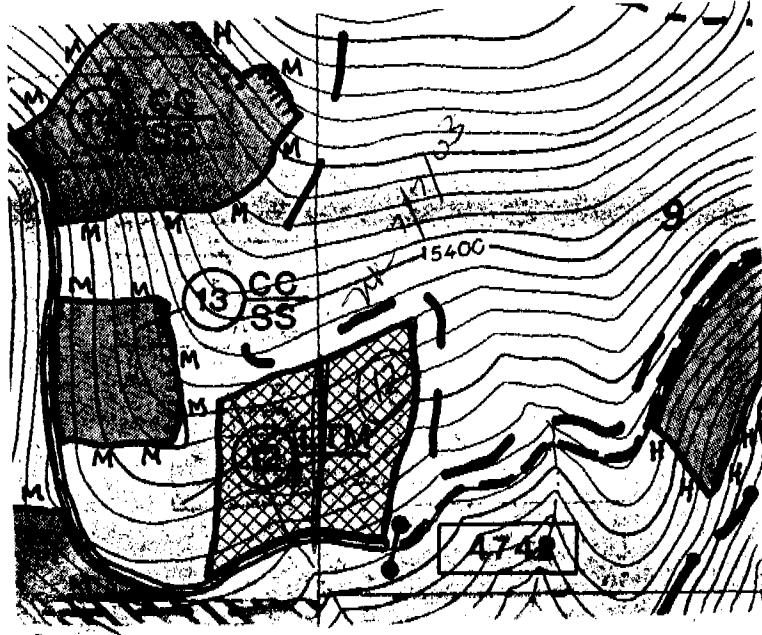
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*This unit was part of a site prep review from the stand point of potential soil exposure for natural region. Unit looked good. If the site were to be planted, there would be much exposed soil. There was very little sniping + displacement. Much better than Unit 18.*

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.



513-Q-B2

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 21, 1992 CUTTING METHOD chipper/hand  
 OPERATOR Rudman SKIDDING METHOD RTS  
 DISTRICT Libby If tractor: dispersed dedicated  
 LEGAL S.A. Banfield HAZARD TREATMENT Grapple piled <sup>192</sup> burned-11/92 BB-92  
 Unit # 18 Acres 20 SILVICULTURAL TRMT CC/SP mark + PC burn / Plant  
 I.T. 621 OPERATION PERIOD 5/1991  
 Slope 27% Aspect SE  
 Location Elevation 4800'

COMPACTION (Heavy) \_\_\_\_\_

*Walk-through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

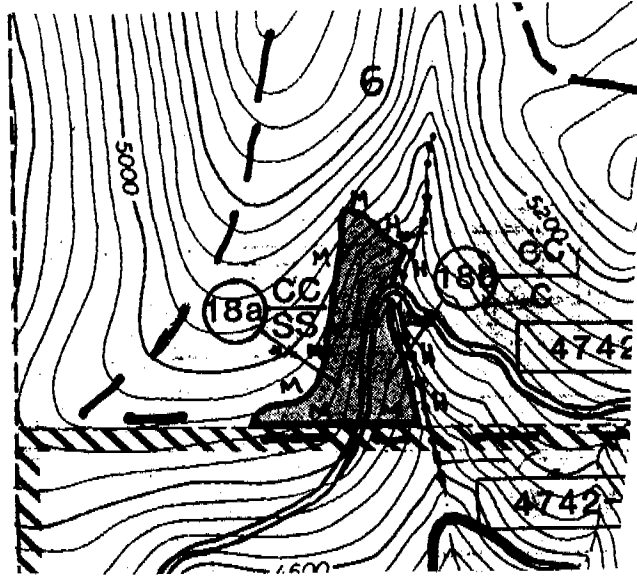
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*This unit was part of a site prep review. There was too much logging and compaction, especially w/ using a grapple. Grapple was used too much like a dozer.*

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.



52802050

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

Stand ID \_\_\_\_\_

E \_\_\_\_\_  
 SERV \_\_\_\_\_  
 TRACT \_\_\_\_\_  
 E.A. \_\_\_\_\_  
 Unit # \_\_\_\_\_ Acres \_\_\_\_\_  
 T HT \_\_\_\_\_  
 op % \_\_\_\_\_  
 location \_\_\_\_\_  
 COMPACTION (Heavy) \_\_\_\_\_

CUTTING METHOD \_\_\_\_\_  
 SKIDDING METHOD \_\_\_\_\_  
 If tractor: \_\_\_\_\_  
 HAZARD TREATMENT \_\_\_\_\_  
 SILVICULTURAL TRMT \_\_\_\_\_  
 OPERATION PERIOD \_\_\_\_\_  
 Aspect | \_\_\_\_\_  
 Elevation | \_\_\_\_\_

Ellen snatcher  
 dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 Burn DP-10/1991  
 CC/Res/SP Mech/Plant  
 3/1990

COMPACTION (Light) \_\_\_\_\_

Walk-through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

This was part of a site prep review.  
 The contract called for 40-45% mineral soil as part of the down piling.  
 According to the specifications  $\approx$  1/3 of the unit too light, 1/3 too heavy,  
 and 1/3 about right. With planting scheduled the prescription for  
 40-45% was too high. The light area was probably about right. CWD  
 was fairly light.

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.



528.2-124

32802124  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE: July 21, 1992  
 OPERATOR: R. Reimann  
 DISTRICT: Libby  
 LOCATION: A. Snowshoe Road Bugs  
 UNIT #: 45 Acres  
 T: A 591  
 Slope: 03%  
 Location: *Lower*  
 CUTTING METHOD: *Chippers (yellow buncher)*  
 SKIDDING METHOD: *RTS*  
 If tractor: dispersed  dedicated   
 HAZARD TREATMENT: *Burn Landings - 10/1991*  
 SILVICULTURAL TRMT: *ST/SPOK/NGT*  
 OPERATION PERIOD: *7/1990*  
 Aspect: *LR*  
 Elevation: *2600'*

COMPACTION (Heavy)   
 COMPACTION (Light)  *Walk-through*

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
*This was part of a site prep review.  
 This unit was scheduled for natural regen. It was felt that  
 amount of scarification was light for natural regen. Would be  
 just right if the unit were to be planted & supplemented w/  
 natural.*

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.

53201026  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

53201-26

DATE: July 21, 1992  
SERV: Kulesen  
TRACT: Libby  
E.A.: Hoodoo  
Unit #: 65 Acres 16  
T: 571  
Op: 15%  
Location:  
CUTTING METHOD: skippis  
SKIDDING METHOD: RTS  
If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
HAZARD TREATMENT: Grapple pulpit - burned 10/93  
SILVICULTURAL TRMT: SW/Res/50%ch/Plant  
OPERATION PERIOD: 3/1990  
Aspect: N  
Elevation: 3200'

COMPACTION (Heavy) \_\_\_\_\_

*Walk-through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

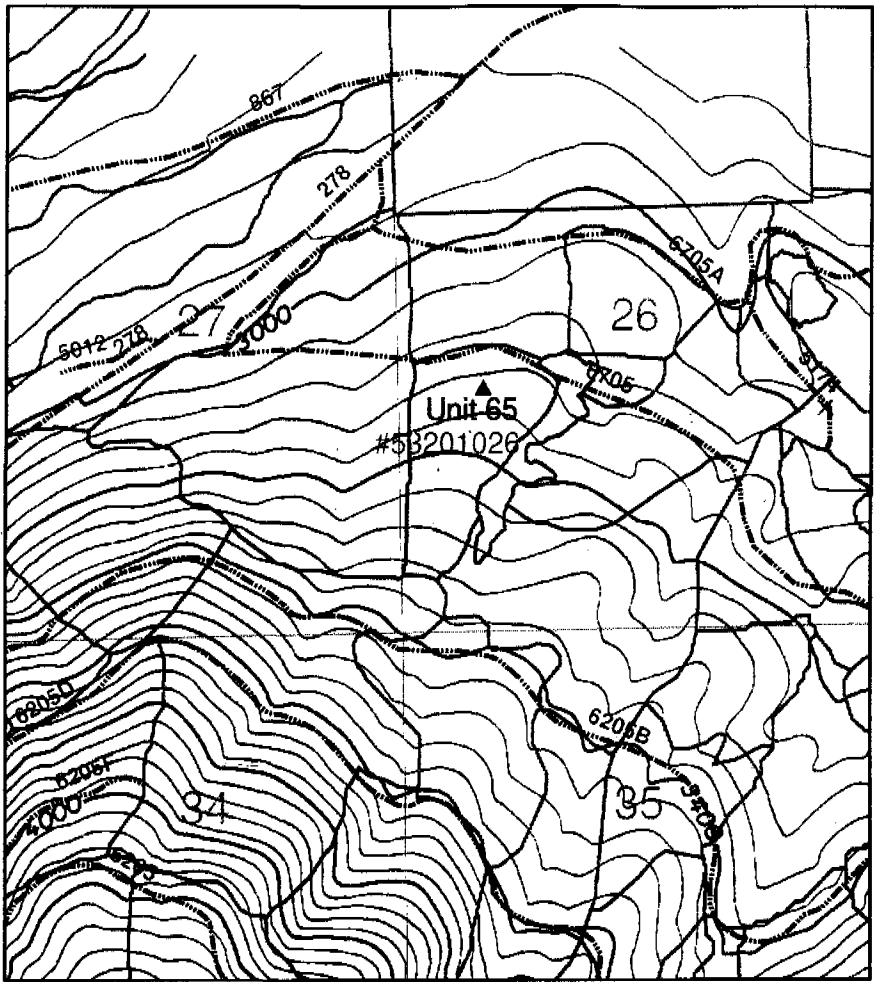
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*This was part of a site prep review. Grapple  
This unit should never have been piled. Operations occurred  
when the soil was too wet. It is a site that probably never  
dries below 20% which is greater than the 18% recommended  
for machinery operations. Obviously, this unit should have  
been broadcast burned. Since this unit was scheduled for  
planting there definitely no need for 50% mineral soil.*

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.



1/8/04 nk  
map correction

57903027

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

05/15/1991  
Fisher River - Slippery Slime Salvage  
Unit 2  
57903027

DATE 5.15.91

CUTTING METHOD clipper

OBSERVER Kullonen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT burn landing

SALE Slippery Slime F.S.

SILVICULTURAL CC

Unit No. 2

57 ACRES

OPERATION PERIOD Summer 1990

COMPACTION (Heavy)

Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit 2: 57903027; 57A; 20-35% slope; Elev-4600-500  
S aspect; H.T. 663 Burned landing, 1990

LDS; Two STZ's in unit

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

05/15/1991  
Fisher River - Movie Spur Salvage  
Unit 2  
57906027

55906027-27A

DATE 5.15.91

CUTTING METHOD chipper

OBSERVER Kuennen

SKIDDING METHOD RTS, dozer

DISTRICT Fisher River

HAZARD ABATEMENT dozer piling

SALE Movie Spur F.S.

SILVICULTURAL st seed cut

Unit No. 2  
27A

OPERATION PERIOD Summer 1990

COMPACTION(Heavy) walk through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit No 55906027-27A; 10-20% slope; Elev - 4850-4950; east-  
aspect; H.T. - 620

LDS

Shape of Unit and Pattern of Transect

Part of 1988 Aug. Dry Fork Fire

57502013

06/10/1991  
Fisher River - Smoke Creek Pest Control  
Unit 3  
57502013

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE June 10, 1991 CUTTING METHOD \_\_\_\_\_  
 OBSERVER Kuennen SKIDDING METHOD Tractor  
 DISTRICT Libby If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Smoke Creek HAZARD TREATMENT \_\_\_\_\_  
 Unit # 3 Acres 10 SILVICULTURAL TRMT spotted wood/sitka LTM  
 H.T. DF/Vaql OPERATION PERIOD Jan-Feb-1991  
 Slope upper Aspect W-NW  
 Location \_\_\_\_\_ Elevation 3600 - 3800  
 COMPACTION (Heavy) \_\_\_\_\_

Walk - Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

No puddling; compaction + displacement minimal.  
Erosion limited to skidding areas + haul roads. There was  
too much erosion. (aluminum ash surface (0-8") over top.

off Rst. 6760

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.

516 01 005 KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

07/11/1991  
Libby - Rainy Creek  
Unit 1  
51601005

DATE July 10, 1991 CUTTING METHOD Hand  
OBSERVER K. Kinnison SKIDDING METHOD Tractor  
DISTRICT Libby If tractor: dispersed dedicated  
SALE/S.A. Rainy Creek HAZARD TREATMENT \_\_\_\_\_  
Unit # 1 Acres 63 SILVICULTURAL TRMT CC  
H.T. DF/Armv OPERATION PERIOD Summer  
Slope 35-55% Aspect South  
Location lower slope Elevation \_\_\_\_\_  
COMPACTION (Heavy) \_\_\_\_\_

Walk-Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Area has been logged in the past. Excavated trails were in existence and were excessive from soil disturbance standpoint. Should probably have been cable logged. Current operation used existing trails.

Became part of ~~F~~ VWS lease patented mining claim.

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.

446 01 220

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 11, 1991 CUTTING METHOD hand  
 OBSERVER (Kuchner) Church SKIDDING METHOD Tractor  
 DISTRICT Three Rivers If tractor: dispersed dedicated  
 SALE/S.A. Logan Ridge Resale HAZARD TREATMENT \_\_\_\_\_  
 Unit # 7 Acres 12 SILVICULTURAL TRMT CC  
 H.T. WRC/ Clean OPERATION PERIOD \_\_\_\_\_  
 Slope 10-30% Aspect | Southwest  
 Location mid Elevation | 2680 - 2400'  
 COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
Both a riparian area and wetland were in the unit.  
Poor layout - not enough recognition of the wetland.  
occurred. Hard to avoid wetland during harvesting. Felling  
disturbance especially.  
off Rd 44187A

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.



446 01 227

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE July 11, 1991 CUTTING METHOD hand  
 OBSERVER Kutninen / Church SKIDDING METHOD skylane  
 DISTRICT Three Rivers If tractor: dispersed dedicated  
 SALE/S.A. Logan Ridge Resale HAZARD TREATMENT \_\_\_\_\_  
 Unit # 9 Acres 8 SILVICULTURAL TRMT Seed tree - Green sale  
 H.T. WH/Clan OPERATION PERIOD \_\_\_\_\_  
 Slope 45-60 Aspect northerly  
 Location upper Elevation 3040 - 3280'  
 COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) Walk-through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

No puddling, no erosion, a lot of displacement in corridors. Volcanic ash surface (8-12") completely removed in parts of corridors. Potential for erosion. There was too much soil displacement in the skylane corridors, but these are confined to less than 1% of unit. Good growing site.

off Rd 4419B

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.

57902003-2

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

08/13/1991  
Fisher River  
- Spring Clearance  
Unit 2  
57902003

DATE 8.13.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT Grapple piling

SALE Spring Clearance F.S.

SILVICULTURAL CC w/ Reserve

Unit No. 2  
72A

OPERATION PERIOD Summer 1990

COMPACTION(Heavy) Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 2: 57902003; 72A; 15-30% slope, E6-5100-5500;  
N aspect; H.T.: 625; burned landings + grapple piles - 1992

LDS, STZ adjacent to W edge of unit

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

57902043-9A / 2  
57903082-10A / 2

DATE 8.13.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT \_\_\_\_\_

SALE Down & Dirty F.S.  
Unit No. 2

SILVICULTURAL CC

OPERATION PERIOD Summer 1990

COMPACTION(Heavy) Walk-Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 2: 57902043-9A, 57903082-10A, 57903087-21A;  
5-20% slope; Cle-4900-5300'; Notsect w/ some S-  
SW; H.T. - 625-663;

Special Treatment Zone along drainageway, LPS

Shape of Unit and Pattern of Transect  
Part of 1988 Dry Fork Fire

57902045-21A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

08/13/1991  
Fisher River - In the Black Fire Salvage  
Unit 3  
57902045

DATE 8.13.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS/doyzer

DISTRICT Fisher River

HAZARD ABATEMENT \_\_\_\_\_

SALE In the Black F.S.

SILVICULTURAL CC

Unit No. 3

OPERATION PERIOD summer 1989

COMPACTION(Heavy) \_\_\_\_\_

Walk-Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 3: 21A; 10-20% slope; Ele <sup>5400-5600</sup> -5500'; E aspect;  
H.T. - 670; burned landings 1990

Protected stream course in NW portion of unit, LDS

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

41A-57904057-40A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9.18.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT \_\_\_\_\_

SALE End of the Burnt F.S.

SILVICULTURAL LTM-1+1A

Unit No. 1 & 1A

OPERATION PERIOD Summer 1989

COMPACTION(Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 1 & 1A: 25-35% slope; Ele-3700-4300'; W-SW aspect; H.T.- 323

Leave dead standing in units

Shape of Unit and Pattern of Transect

Part of Aug 1988 Dry Fork Fire

1-5790102-1-25A

4-57901050-18A

3-57901029-9A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

09/18/1991  
Fisher River - Frustration Fire Salvage  
Unit 1, 3 & 4

DATE 9.18.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT Dozer pile portions of 3+4 <sup>Burn landings</sup> <sub>6-1-89</sub>

SALE Frustration F.S.

SILVICULTURAL 1-CC w/ ST, 3+4-CC

Unit No. 1, 3, 4

OPERATION PERIOD Dec '88 - Feb. '89

COMPACTION(Heavy) Walk-throughs

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit 1: 10-25% slope; Ele - 5200-5400'; S-SE aspect; H.T. - 625

Unit 3: 10-20% slope; Ele - 5000-5100'; S aspect; H.T. - 620

Unit 4: 10-20% slope; Ele - 5000-5200'; E-NE aspect; H.T. - 625

Shape of Unit and Pattern of Transect

Part of Aug 1988 Dry Fork Fire

Special Treatment zone between unit 3+4  
Dozer pile portions of units 3+4

1 - 55907064 - 4A

4 - 55907065 - 17A

3 - 55907042 - 6A

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

5 - 55907043 - 6A

09/18/1991

Fisher River

- Out of the Black Fire Salvage

Unit 1, 3, 4 & 5

DATE 9.18.91

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT Grappler - 3, burn landing

SALE Out of the Black F.S.

SILVICULTURAL LTM-1, 4, 5, CC-3

Unit No. 1, 3, 4, 5

OPERATION PERIOD Dec-90, Jan-Feb-'91

COMPACTION (Heavy)

Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS Unit 1: 15-25% slope; Ele - 4650-4700; W-NW aspect;

H.T. - 620; pitchpat burn

Unit 3: 10-25% slope; Ele - 4450-4500; N-NE aspect;

H.T. - 670

Unit 4: 15-25% slope; Ele - 4600-4800; E-NE aspect; H.T. - 620

Unit 5: 10-20% slope; Ele - 4500-4600; N aspect; H.T. - 620

Special Treatment Zone along drainage way; leave dead standing and leave dead down in all units

Shape of Unit and Pattern of Transect

Part of Aug 1988 Dry Fork Fire

1-3510 21A  
3-55907036 - 21A

09/18/1991  
Fisher River - Green Burnt Fire Salvage  
Unit 1 & 3  
55907063 55907036

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9.18.91 CUTTING METHOD clipper  
OBSERVER Kuennen SKIDDING METHOD RFS  
DISTRICT Fisher River HAZARD ABATEMENT grapple pile 1+3  
SALE Green Burnt F.S. SILVICULTURAL LTM-1, CC-3  
Unit No. 1+3 OPERATION PERIOD July - Aug - 1990

COMPACTION (Heavy) Walk-throughs

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit 1: 15-25% slope; Ele - 4750-4950; E aspect;  
H.T. - 620; LDS

Unit 3: 15-30% slope; Ele - 4300-4500; W-NW aspect;  
H.T. - 621;

LDS in Unit 3, Protected stream course along SW edge  
of Unit 3

Shape of Unit and Pattern of Transect

Part of Aug 1988 Dry Fork Fire



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

344-5-55

DATE: Sept 24, 1991  
SECTION: Kuluunen  
SITIC: Fortine  
L.S.A.: Blessed Ridge  
Unit #: 5 Acres: ~~27~~ 213  
T: 630  
Side: 25-30; 150  
Location: upper  
CUTTING METHOD: # 46832 clipper/delimiter  
SKIDDING METHOD: dispersed / dedicated  
If tractor:  
HAZARD TREATMENT: BB w/ tractor pipeline  
SILVICULTURAL TRMT: C-Seed tree; LPP harvest  
OPERATION PERIOD: 9/1991  
Aspect: westraly  
Elevation: 5000-75850'

COMPACTION (Heavy) \_\_\_\_\_  
*Walk-through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)  
*no puddling, some displacement in skid trails + oc-backs. 4-8" volcanic/ash surface. Soil + water resources both good.*

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.

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

09/24/1991  
Fortine - Blessed Ridge  
Unit 7 34405057

344-5-57

DATE Sept 24, 1991 CUTTING METHOD chipper / delimeter  
OBSERVER Kuennen SKIDDING METHOD \_\_\_\_\_  
SITE Fortine If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
S.A. Blessed Ridge HAZARD TREATMENT BB w/ tractor guidelines  
Unit # 7 Acres 46 SILVICULTURAL TRMT seed tree; LPP harvest  
H.T. Q30 OPERATION PERIOD 7/1991  
Slope 25-30-50 Aspect westerly  
Location uppr Elevation 5400-5600  
COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

No puddling; some displacement & compaction on  
skid trails and log-backs and landings. Soil & water  
resources look good. 4-8" volcanic ash surface.

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.



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

345-6-32

DATE Sept 25, 1991 CUTTING METHOD chipper / skidder  
 OBSERVER Ruennen SKIDDING METHOD \_\_\_\_\_  
 DISTRICT Fortine If tractor: dispersed \_\_\_\_\_ dedicated \_\_\_\_\_  
 SALE/S.A. Blessed Ridge HAZARD TREATMENT BB  
 Unit # 10 Acres 50 54 SILVICULTURAL TRMT Seed tree; remove all LPP  
 H.T. 663 OPERATION PERIOD 2/1991  
 Slope 25-30; 150 Aspect | northly  
 Location mid Elevation | 4880-5250  
 COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Operations started too early in spring; some puddling and displacement on all go-back trails. Detrimental compaction occurred as a result of operating on wet soils. Skidding in dry draw will probably result in increased flow here during next snow melt. Water was backing or insufficient in some places. Operations started too soon. Overall soil + water resources impacted more than necessary.

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.

345.1-34

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

09/25/1991  
Fortine - Blessed Ridge  
Unit 16  
34501034

DATE Sept 25, 1991 CUTTING METHOD clipper / skidder  
 OBSERVER Kuennen SKIDDING METHOD \_\_\_\_\_  
 DISTRICT Fortine If tractor: dispersed dedicated  
 SALE/S.A. Blessed Ridge HAZARD TREATMENT BB w/ tractor firelines  
 Unit # 16 Acres 22.23 SILVICULTURAL TRMT seed tree; remove all LFP  
 H.T. 663 OPERATION PERIOD 6/1991  
 Slope 25-30 Aspect | northern (west 3)  
 Location mid Elevation | 4600 - 4880'  
 COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

compaction  
No puddling; some displacement, especially on go-backs.  
occasional deep rutting near ridge tops. Soil + water  
resources look good. 4-8" volcanic ash surface.

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.

111-05-078  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

DATE Dec. 3, 1991 CUTTING METHOD clipped, processed-at-stump  
SECTOR Kuennen SKIDDING METHOD \_\_\_\_\_  
DISTRICT Rexford If tractor: dispersed \_\_\_\_\_ dedicated   
LEASER Good Cr. P.C. HAZARD TREATMENT \_\_\_\_\_  
Init # 1 Acres 28 SILVICULTURAL TRMT Harvest all LPP; Seed tree  
I.T. SAF OPERATION PERIOD Dec. 1990 / Jan. 1991  
Slope 20-35 Aspect | 115° - 165°  
Location mid-upper Elevation | 4900 - 5450'  
COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

No puddling, some displacement in main skid trail & landing. Previous displacement had occurred on old roads built to stage large snags from 1910 burn. In main skid trail. Soil frozen in trail, but not in adjacent area. 6" of snow during most of operation.

One

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.

57901022 - BA

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

03/21/1990  
Fisher River - Lonesome Fire Salvage  
Unit 1  
57901022

DATE 3-21-90

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT burned landings

SALE Lonesome F.S.

SILVICULTURAL CC

Unit No. 1  
BA

OPERATION PERIOD Feb - Mar '90

COMPACTION(Heavy) Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID-TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 1; BA; 5-20% slope; El-4700; SE Aspect;  
H.T. - 620; Burned landings - 1990

Special Treatment gone in middle of unit.

Shape of Unit and Pattern of Transect  
Part of 1988 Dry Fork Fire

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

7-55906032-24A

55906033-21A

DATE 5-10-90

CUTTING METHOD chipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT burned landings

SALE Smokey's Despair F.S.

SILVICULTURAL CC

Unit No. 2, 3

OPERATION PERIOD Dec '89 - Jan - '90

COMPACTION(Heavy) Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 2: 24A; 5-15% slope; Ele-4900-5050 E aspect;  
H.T. - 620; burned landings - 1990

Unit 3: 21A; 15-25% slope; Ele-4800-5000; E aspect;  
H.T. - 620; burned landings 1990

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 5.10.90

CUTTING METHOD hand 10,11,12; clipper - 1

OBSERVER Kuennen

SKIDDING METHOD skippers / cable 10,11,12; RTS-1

DISTRICT Fisher River

HAZARD ABATEMENT BB-1992, burn landings 1992

SALE Freckled Horse F.S.

SILVICULTURAL CC -> CC w/ reserves

Unit No. 1, 10, 11, 12

OPERATION PERIOD Dec '89 - Feb. '90 - Unit 1  
July - Aug '90 Units 10-12

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

Walk Through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID-TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Unit 1: 56008054; 48A; 20-35% slope; Ele - 4900-5400';  
NW aspect; burned landings - 1992; H.T. 750

Unit 10: 56008060; 33A; 40-55% slope; Ele - 3300-3900';  
N aspect; H.T. - 292; BB-1992

Unit 11: 56008014; 63A; 35-50% slope; Ele - 3300-3900';  
NE-NW aspect; H.T. - 292; BB-1993

Unit 12: 56008058; 30A; 30-45% slope; Ele - 3800-4200';  
NE aspect; H.T. 292; burned landings 1992

Shape of Unit and Pattern of Transect

Part of Dry Fork Fire 1988

55405100

05/10/1990  
Fisher River - Camp Creek Pest Control  
Unit 15  
55405100

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

cont # 46253

DATE 5.14.90 CUTTING METHOD clipper

OBSERVER Kuennen-Farmer-Buggeman SKIDDING METHOD RTS

DISTRICT Fisher River HAZARD TREATMENT BB-1991

SALE Camp Cr. P.C. <sup>wk</sup> 2103 SILVICULTURAL TREATMENT CC

Unit No. 15 28A

OPERATION PERIOD Mid May 1990

COMPACTION (Heavy)

Walk-through

slope: 21%  
S aspect

(3700-4200) (Psme/Vaca)  
Alt: 4100 H.T.: 250

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Request from Purchaser to start logging. Soil is top with wept on the rd. Request to allow clipping w/ clipper staying on rocky ridges. Some compaction occurring under clipper. Can see the difference between machine rifting + machine parked. Much denser where parked.

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.



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

3710267-1  
57903081-2  
DATE 6.13.90  
OBSERVER Kuennen  
DISTRICT Fisher River  
SALE Burnt Boundary F.S.  
Unit No. 1+2

CUTTING METHOD clipper  
SKIDDING METHOD RTS  
HAZARD ABATEMENT 1-Groppo pile  
SILVICULTURAL CC  
OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 1 - 57902009; 41A; 15-25% slope; Ele. 4800-5200'; E-SE aspect; H.T. 625;

Unit 2 - 57903081; 53A; 10-20% slope; Ele. 5200-5500'; NE aspect; H.T. 670' Burned landings - 1990

Special Treatment Zone along S + NE edges of Unit 2; also  
LDS in Unit 1

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

57903085-1

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6.13.90

CUTTING METHOD hand clipper <sup>sic</sup> nr 7/4/03

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT Yarded tops

SALE Big Red F.S.

SILVICULTURAL SD

Unit No. 1

OPERATION PERIOD \_\_\_\_\_

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

10A  
Unit 1: 57903085; 10-20% slope; Eo - 5400; E aspect;  
H.T. - 625, burned hand pits - 1992, burned landings - 1991

Protected stream course along N boundary

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

57903083-3  
57903080-5  
DATE 6.13.90

CUTTING METHOD hand

OBSERVER Kuennen

SKIDDING METHOD cable

DISTRICT Fisher River

HAZARD ABATEMENT \_\_\_\_\_

SALE New Boundary F.S.  
Unit No. 3 5

SILVICULTURAL CC

OPERATION PERIOD Summer 1989-3  
fall 1988-5

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 3: 57903083; 5A; 35-45% slope; Ele. 4900-5100';  
SE aspect; H.T. 323; burned landings - 1990

Unit 5: 57903080; 36A; 30-40% slope; Ele. 4600-5000';  
E aspect; H.T. 731; burned landings

SMZ in middle of unit 5; L.D.S. non-merchantable

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

55902066

09/20/1990  
Fisher River - Devastation Alley  
Unit 1 55902066

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

Lot # 47475

DATE Sept. 20 1990 CUTTING METHOD Hand  
 OBSERVER Khenhen SKIDDING METHOD Skyline  
 DISTRICT Fisher River If tractor: dispersed dedicated Cable corrid.  
 SALE/S.A. Devastation Alley HAZARD TREATMENT BB spring 1991  
 Unit # 1 Acres 18 SILVICULTURAL TRMT CC  
 H.T. \_\_\_\_\_ OPERATION PERIOD Summer 1990  
 Slope 55-65% Aspect S → SE  
 Location steep face into Crisples Elevation 4700 (4600-4800)  
 COMPACTION (Heavy) \_\_\_\_\_

Walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

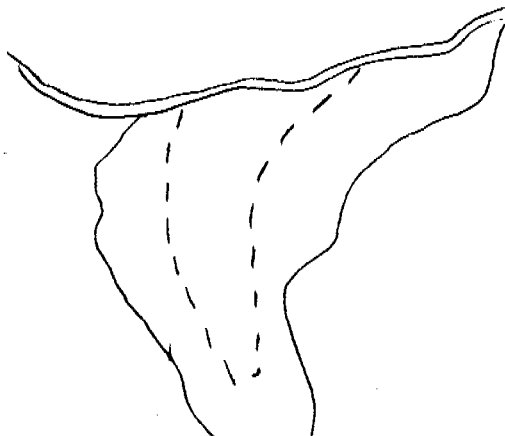
SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Skyline based - salvaging of 1988 Dry Fork Fire area.  
Some replacement for skidding corridors. Little erosion.  
Log cross trains & seeding were used. Looks very good. Mostly LPP

Part of 1988 Dry Fork Fire

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.

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM  
B-7442

559-6-34

DATE Sept 20, 1990 CUTTING METHOD chipper  
OBSERVER Kuennen SKIDDING METHOD Tractor + RTS  
DISTRICT Fisher River If tractor: dispersed  dedicated   
SALE/S.A. Black Horse Salvage HAZARD TREATMENT NA  
Unit # 2 Acres 63 SILVICULTURAL TRMT fire salvage CC  
H.T. SAF 530' OPERATION PERIOD 7/1990  
Slope 20 - 35% Aspect northerly  
Location upper Elevation 4500'  
COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

walk-through

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

Location above Rd 835A. Lots of erosion + displacement on skid trails. Waterbars very good. Trails perpendicular to hill making for difficult waterbaring. Ground till very dense. Operate this when soils wet.

Part of 1988 Dry Fork Fire

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.



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE MONITORING FORM

559-6-35

DATE	Sept. 1990	CUTTING METHOD	hand
OBSERVER	R. Whinnin	SKIDDING METHOD	tractor - RTS
DISTRICT	Fisher River	HAZARD TREATMENT	dispersed <input type="checkbox"/> dedicated <input type="checkbox"/>
SALE/S.A.	Black Horse	HAZARD TREATMENT	BC Burn
Unit #	3 Acres	SILVICULTURAL TRMT	CC: fire salvage
H.T.	530	OPERATION PERIOD	8/1990
Slope	34%	Aspect	N
Location		Elevation	4300'

COMPACTION (Heavy) \_\_\_\_\_

*Walk-Through*

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS (Include soil, geology, organic debris, other pertinent info)

*Area had previously been logged. Again skid trails  
waterbars are poor, most will not function. Some of  
the old trails were used, but some new ones were built.  
With a little effort no new ones would have to have been  
built.  
Expect a lot of fines to be delivered to Cripple Horse Creek.*

*Part of 1988 Dry Fork Fire*

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.

30 10/23/90  
3-19-90 > 2

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

10/23/1990  
Fisher River - Crossroads Fire Salvage  
Unit 2  
55907054

DATE 10.23.90

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT burn landings, grapple pile  
uppr area

SALE Crossroads Fire S.

SILVICULTURAL CC

Unit No. 2 49A

OPERATION PERIOD \_\_\_\_\_

COMPACTION (Heavy) Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 2 is 15-30% slope; E aspect; Ele - 4800-5300; H.T. - 620

Burn landings - 1990

Special treatment zone along drainage way + road  
SMZ adjacent to drainage in SE corner

Shape of Unit and Pattern of Transect

Part of Aug 1988 Dry Fork Fire

403 01 157

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

cont. # 45149

DATE 10.4.90 CUTTING METHOD hand

OBSERVER Kuennen Church-Williams SKIDDING METHOD cable

DISTRICT Troy HAZARD TREATMENT BB

SALE Red Top Cyclone SILVICULTURAL TREATMENT CC  
Unit No. 1 13 Acres

H.T. w/ cyclone  
through  
OPERATION PERIOD Summer 1990  
Ele: 4800  
Aspect: SSE

COMPACTION(Heavy)

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Lots of wet spots w/ harvest units - not accounted for in unit layout. Need to make some agreements w/ purchaser on avoiding these areas.

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.

539 05 040

06/26/1989  
Libby - Swamp Schriber  
Unit 1  
53905040

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 6/26/89

CUTTING METHOD clipper/hand

OBSERVER Kuennen/Deery

SKIDDING METHOD skylene

DISTRICT Libby

HAZARD TREATMENT BB - 1990

SALE Swamp/Schriber  
Unit No. 1 Acres: 34

SILVICULTURAL TREATMENT CC-1989

HT: Abla/Mele  
Aspect: north

OPERATION PERIOD: June 1989 nk/03  
Ele: 4700-5100

COMPACTION(Heavy) Walk-through

COMPACTION(Light)

UNDISTURBED

DISPLACED

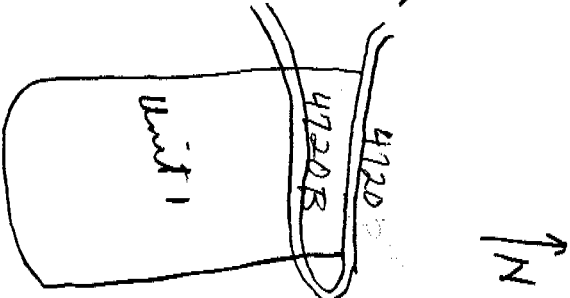
EXCAVATED SKID TRAIL

SMZ

COMMENTS

SHAPE OF UNIT AND PATTERN OF TRANSECT

Ash cap 8-12". Soil moisture still high.



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.

539 05 018

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

06/26/1989  
Libby - Swamp Schriber  
Unit 2  
53905018

DATE 6/26/89 CUTTING METHOD clipper/hand  
OBSERVER Kuennen/Deery SKIDDING METHOD skylene  
DISTRICT Libby HAZARD TREATMENT BB spring 1990  
SALE Swamp/Schriber SILVICULTURAL TREATMENT CC  
Unit No. 2

HT: WH/Clur. Acres: 39 OPERATION PERIOD: June 1989 wk 103  
Aspect: north Elevation: 4950 - 5400

COMPACTION (Heavy) Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

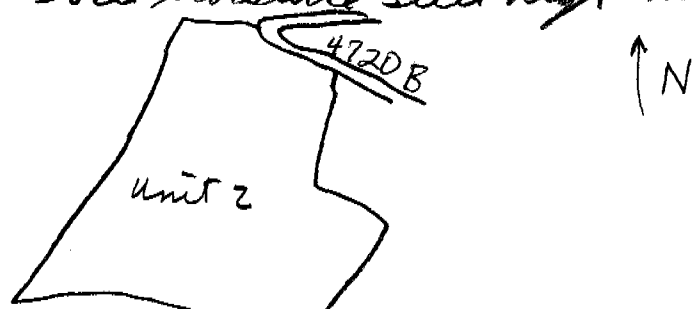
EXCAVATED SKID TRAIL

SMZ

COMMENTS

SHAPE OF UNIT AND PATTERN OF TRANSECT

Ash cap 6-10" over till. Soil moisture still high - near ridge top about ready.



- 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.

539 05 021

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

06/26/1989  
Libby - Swamp Schrieber  
Unit 4  
53905021

DATE 6/26/89

CUTTING METHOD clipper/hand

OBSERVER Kuennen/Deevy

SKIDDING METHOD skylene

DISTRICT Libby

HAZARD TREATMENT BB-1990

SALE Swamp/Schrieber  
Unit No. 4 Acres: 39

SILVICULTURAL TREATMENT CC-1989

H.T. - Abta/Clun  
Aspect: SE -> SW

OPERATION PERIOD: June 1989 wk 1/03  
Ele: 4300-4500

COMPACTION(Heavy) Walk-through

COMPACTION(Light)

UNDISTURBED

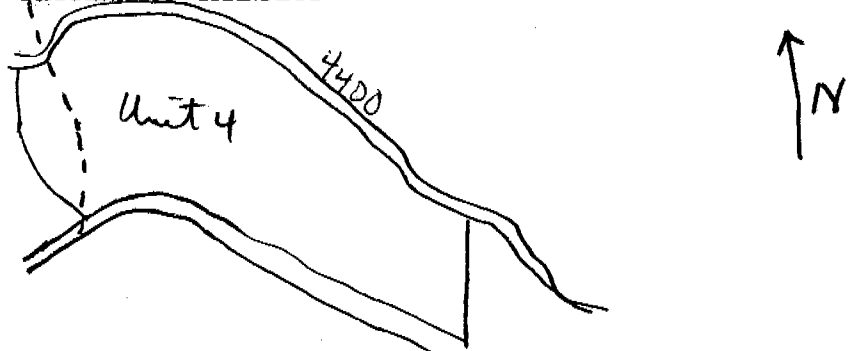
DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS  
Ash fairly thin 4-6". Soil moisture about right.

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.

DATE 6.26.89

CUTTING METHOD chipper/hand

OBSERVER Kuennen/Deery

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD TREATMENT Dozer Pile

SALE Little Cherry Bugs <sup>nk 1/07</sup>  
Unit No. 1 Acres: 24

SILVICULTURAL TREATMENT CC w/ reserves

H.T. - WH/Clam  
aspect: east slope: 5-15 Ele: 3450 - 3550

OPERATION PERIOD June 1989 nk 1/03

COMPACTION(Heavy) Walk-through

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS Looked at after piling for CWD amount. Also looked at on Silviculture/full abatement review w/ Russ Graham from Moscow Lab.

SHAPE OF UNIT AND PATTERN OF TRANSECT

Soils too wet to operate on.

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.

537 05 007  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

06/26/1989  
Libby - Little Cherry Bugs  
Unit 2  
53705007

DATE 6/26/89 CUTTING METHOD clipper

OBSERVER Kuennen/Decuy SKIDDING METHOD Tractor

DISTRICT Libby HAZARD TREATMENT Dozer piling

SALE Little Cherry Bug SILVICULTURAL TREATMENT CC w/ reserves

Unit No. 2 Area: 39 OPERATION PERIOD Summer

HT: WH/clun <sup>8 m</sup> 6/30/07

Aspect: SE Slope: 0-10 Ele: 3500

COMPACTION(Heavy) Walk-through

COMPACTION(Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

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.  
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DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.  
SMZ - include within transect if within harvest unit.



524 01 080

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/13/1989

Libby - South Flower Bugs

Unit 1A & 1B

52401080

DATE 7.13.89

CUTTING METHOD clipper/hand

OBSERVER Kuennen/Deery

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD TREATMENT 1a-BB, 1b dozer pile

SALE South Flower Bug

SILVICULTURAL TREATMENT \_\_\_\_\_

Unit No. 1a & 1b

OPERATION PERIOD \_\_\_\_\_

Acres: 18 & 10

COMPACTION(Heavy) Walk-through

COMPACTION(Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

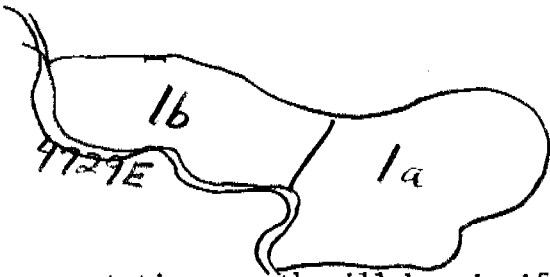
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ \_\_\_\_\_

COMMENTS

Unit 1b staying too wet for dozer piling

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.

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DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.

517 04 002

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/13/1989  
Libby - Pipe Flats Posts  
Unit 7-14  
51704002

DATE 7.13.89

CUTTING METHOD clipper

OBSERVER Kuennen/Deery

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD TREATMENT DP

SALE Pipe Flats Posts (More)

SILVICULTURAL TREATMENT SW seed w/ Reserves

Unit No. 7-14 (3) Bugs

OPERATION PERIOD Summer 1989

H.T. DF/Vaca  
slope < 5%

63A

Ele: 2450-2500

COMPACTION (Heavy)

Walk-through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS

Ash over very gravelly outwash. Even though soil material below the ash is heavy coarse, the ash is holding close to field capacity. It is too wet to operate.

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.

26 - 508 03 136 - 9A  
27 - 508 03 155 - 9A  
28 - 508 03 154 - 9A  
DATE 7.13.89

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

06/26/1989  
Libby - Purcell  
Unit 26-28  
50803138 50803155 50803154

OBSERVER Kucinen / Maffei

CUTTING METHOD clipper/hand

DISTRICT Libby

SKIDDING METHOD Tractor

SALE Dash Purcell  
Unit No. 26-28

HAZARD TREATMENT DP

H.T.: WRC/CIun  
slope: 15-30%  
COMPACTION (Heavy)

SILVICULTURAL TREATMENT CC

OPERATION PERIOD summer '89  
Ele: 4900-5000  
Aspect: S-W

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ

COMMENTS

Soils very wet. Ash over till. Upper basin of E.F. Pipe

SHAPE OF UNIT AND PATTERN OF TRANSECT

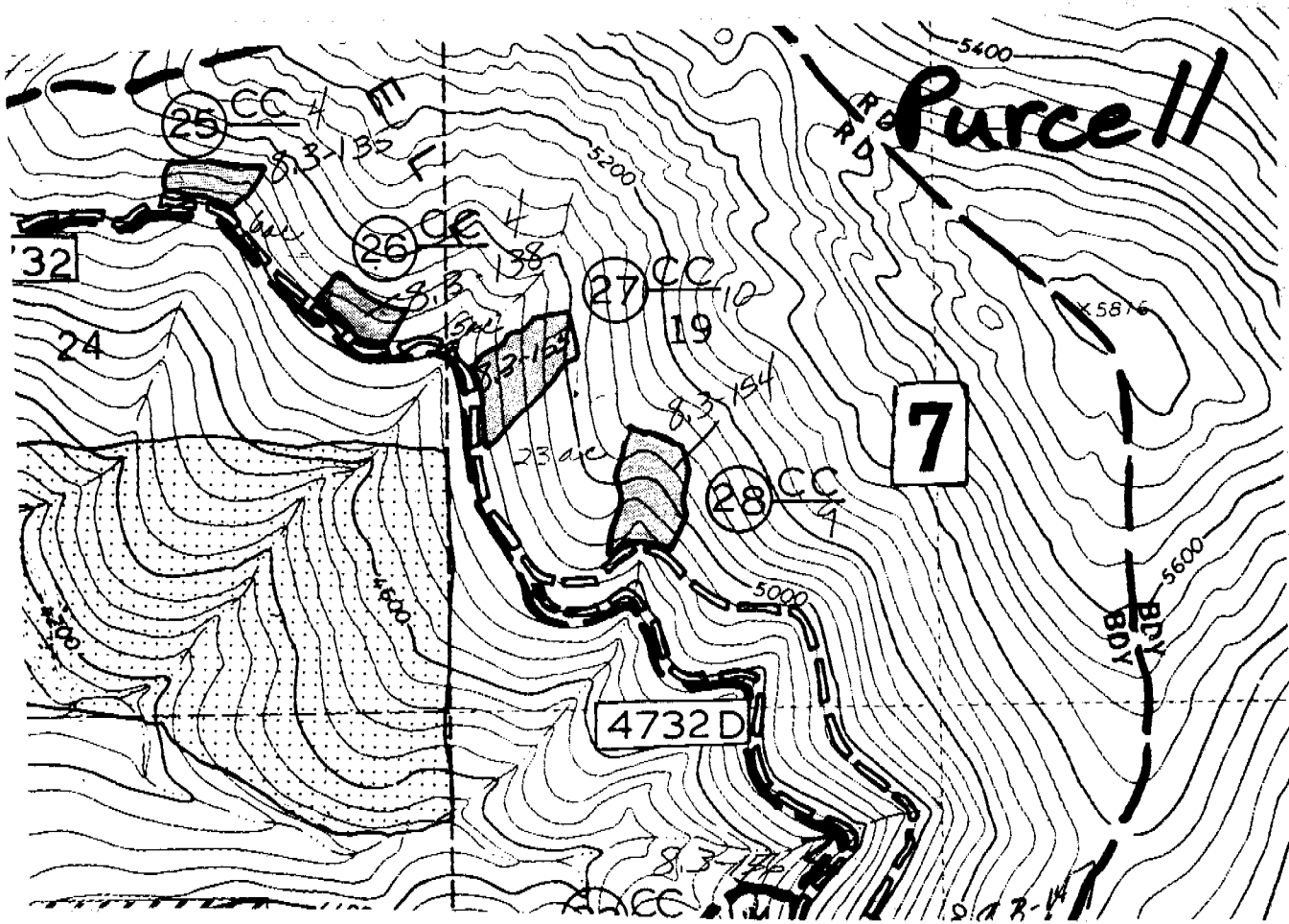
COMPACTION (Heavy) - any place where future vegetative growth will be significantly impacted, i.e., skid trails (both heavily and lightly used depending on amount of compaction related to soil moisture), landings, and other impacted areas.

COMPACTION (Light) - any other area not included in heavy COMPACTION or UNDISTURBED.

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DISPLACED - any place soil has been mounded by machinery, also include in heavy or light compaction.

SMZ - include within transect if within harvest unit.



55902043 - 3  
55902043 - 4A

08/24/1989  
Fisher River - Devastation Alley Fire Salvage  
Unit 3, 4A  
55902043 55902047

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8-24-89 CUTTING METHOD hand/clipper

OBSERVER Kuennen/McBride SKIDDING METHOD cable

DISTRICT Fisher River HAZARD ABATEMENT \_\_\_\_\_

SALE Devastation Alley F.S SILVICULTURAL CC  
Unit No. 3, 4A

OPERATION PERIOD Summer '89

COMPACTION (Heavy) Walk-Throughs

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS No activity in SMZ in 4A

Unit 3: 42A, 10-50% slope, S aspect, 4700 Ele, H.T. - 620  
Salvaged 1989 CC, burned landings 1991

Unit 4A: 81A, 10-25% slope, S aspect, Ele - 4900, HT - 620  
Salvaged 1989, burned landings 1991

Shape of Unit and Pattern of Transect  
Part of Aug. 1988 Dry Fork Fire

55907091 - 3 - 55907062  
55907120 - 2 - 55907047

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 8.24.89

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT burn landings

SALE Black Bush Fire Salv.  
Unit No. 1 & 3

SILVICULTURAL CC-1 + Seed Tree<sup>3</sup>

56A, 30A

OPERATION PERIOD winter 89-90

COMPACTION(Heavy) \_\_\_\_\_

Walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS \_\_\_\_\_

Unit 1: 55907091 - 35A, 55907120 - 21A; 10-25% slope,  
N-NW aspect, 4800-5000' ele, H.T-621;  
CC - 1989-1990, burned landings 1991

Unit 3: 55907047 - 16A, 55907062 - 14A; 10-20% slope,  
N-NW aspect, 4600-4700 ele, HT 621  
- 1989-1990; burned landings

Shape of Unit and Pattern of Transect

Part of Aug. 1988 Dry Fork Fire

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

58007089 - 21A  
58007108 - 10A

DATE 8.31.89

CUTTING METHOD chipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Snafu Fire Salvage HAZARD ABATEMENT burn landings

SALE Fisher River

SILVICULTURAL CC

Unit No. 2

OPERATION PERIOD Dec - Jan '88-'89

COMPACTION(Heavy) Walk Through

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit 2: 10-20% slope; E aspect; 4700-5100 - E/c; burned landings - 1990; H.T. 620

Special Treatment zone - along N boundary adjacent to drainage. LDS along margins of Unit 1

Shape of Unit and Pattern of Transect

Part of 1988 Dry Fork Fire

1-57974013 38A  
2-57904059 - 322  
DATE 8.31.89

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

08/31/1989  
Fisher River - Stump Holes and Ashes  
Unit 1 & 2  
57904013 57904059

DATE 8.31.89

CUTTING METHOD clipper

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Fisher River

HAZARD ABATEMENT \_\_\_\_\_

SALE Stump Holes + Ash F.S.  
Unit No. 1 + 2

SILVICULTURAL CC-2, LTM-1

OPERATION PERIOD Jan-Feb '89

COMPACTION(Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK Unit 2: 38A; 15-25% slope; Ele - 4700-4900'; NW aspect;  
H.T. 732

COMMENTS  
Unit 1: 38A; 15-25% slope; Ele - <sup>4900-5100'</sup>; NW aspect;  
H.T. - 732

Special Treatment zone in Unit 1 + adjacent to Unit 2  
LDS - unmerchantable, in both units

Some WL seed trees in Unit 1, all LPP in Unit 2. Did not  
burn as hot in Unit 1

Shape of Unit and Pattern of Transect  
Part of 1988 Dry Fork Fire



KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 9-19-89

CUTTING METHOD Hand chipper <sup>with</sup> (30)°S

OBSERVER Kuennen

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT \_\_\_\_\_

SALE Radio Tower F.S.  
Unit No. 2, 1  
41A, 5A

SILVICULTURAL 2-CC, 3-~~CCM~~

OPERATION PERIOD \_\_\_\_\_

COMPACTION (Heavy) Walk Through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS Top of terrace - lacustrine soil. Large grooves created by Clyde skidders still very visible. Early logging impact - heavy.

Unit 2 - CC 1990 41A ; landing burned 1992; RTS skidded HT-591, Elk-2400, essentially flat

Unit 1 - 5-20% slope; Elk-2200; flat to w aspect; HT-591; 5A CC-1990

Shape of Unit and Pattern of Transect

Part of 1988 Radio Tower Fire

51502110  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Blue Mountain Bugs  
Unit 6  
51502110

DATE 7.12.88

CUTTING METHOD clipper/hand

OBSERVER Kuennen

SKIDDING METHOD Tractor RTS nk.1/03

DISTRICT Libby

HAZARD ABATEMENT \_\_\_\_\_

SALE Blue Mtn Bugs  
Unit No. 6 25A

SILVICULTURAL SW seed/reserve

OPERATION PERIOD Summer '89

HT 670

COMPACTION (Heavy) \_\_\_\_\_

Elk-5200 AS-W  
walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Operations look good.

Presale review.

Shape of Unit and Pattern of Transect

x map w/ inspection report  
later

51003017  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Bigfoot Bugs Resale  
Unit 2  
51003017

DATE 7.12.88

CUTTING METHOD clippers, hand

OBSERVER Kuennen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT BB-1990

SALE Bigfoot Bugs Resale  
Unit No. 2 33A wk

SILVICULTURAL CC

OPERATION PERIOD Summer '89

HT 590

COMPACTION (Heavy) \_\_\_\_\_

Ele - 4' 00" AS -  
walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Unit should be ready to operate in when done w/  
units 3 & 4.

Presale review

Shape of Unit and Pattern of Transect

51004075

07/12/1988  
Libby - Bigfoot Bugs Resale  
Unit 3  
51004075

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.12.88

CUTTING METHOD chipper

OBSERVER Kuennen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT BB 1991

SALE Bigfoot Bugs Resale 6/24/03 wk  
Unit No. 3 45A

SILVICULTURAL CC

OPERATION PERIOD

HT 690

Ele - 5000 AS - SE  
walk-through

COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Concurred w/ sale administrator that operations could begin.

Shape of Unit and Pattern of Transect

51004015  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Bigfoot Bugs Resale  
Unit 4  
51004015

DATE 7.12.88

CUTTING METHOD chips/hand

OBSERVER Kuennen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby Resale - K

HAZARD ABATEMENT BB 1991

SALE Bigfoot Bugs 6/26/03  
Unit No. 4 '6A

SILVICULTURAL CC

OPERATION PERIOD summer '90

Elc - 4700 AS-E  
Wall-Through

HT570

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Soil moisture is appropriate to start operations

Shape of Unit and Pattern of Transect

51003059  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Bigfoot Bugs Resale  
Unit 5  
51003059

DATE 7.12.88

CUTTING METHOD skipper - hand

OBSERVER Kuermen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT understory burn 1990

SALE Bigfoot Bugs  
Unit No. (5) 18A

SILVICULTURAL CC

HT 690 8 - changed  
COMPACTION (Heavy) to aspe  
w/ TSMRS

OPERATION PERIOD summer '90

Elk - 4700 AS-SE  
Walk-through

COMPACTION (Light) 6/26/03 nk

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Unit lower on slope - soil moisture higher. Can operate  
in when units 3 + 4 complete

Shape of Unit and Pattern of Transect

51502014  
KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Doak Creek  
Unit 4  
51502014

DATE 7-12-88

CUTTING METHOD hand

OBSERVER Kuennen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT understory burn '91

SALE Doak Creek  
Unit No. 4 17A

SILVICULTURAL CC w/ reserves

OPERATION PERIOD June '89

Ele - 3500 AS-100  
walk-through

#1260  
COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

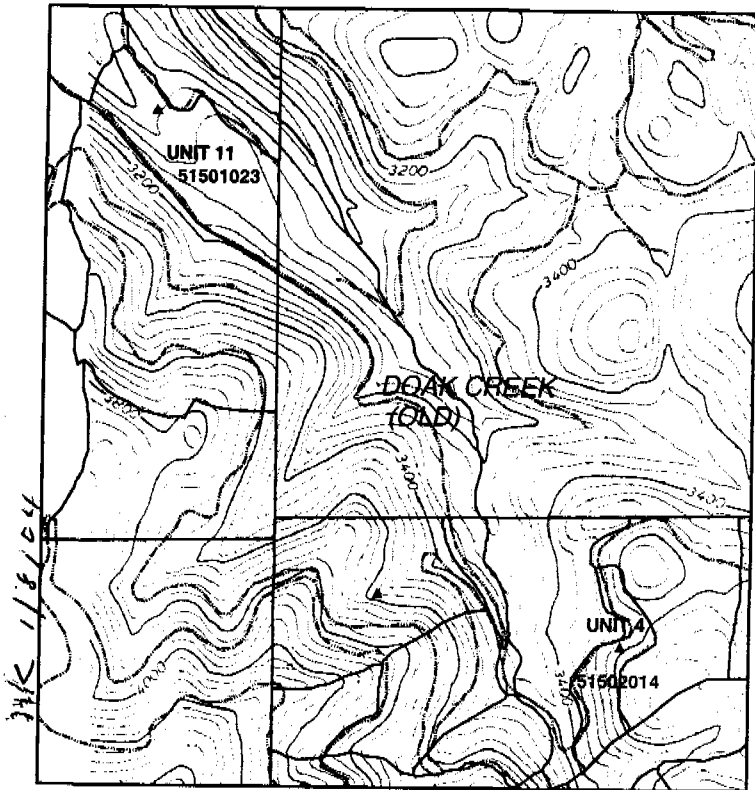
EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Soil moisture suitable for operations to begin.

Shape of Unit and Pattern of Transect



\* See site maps included  
later w/ copy of inspection  
report



51501023

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

07/12/1988  
Libby - Doak Creek  
Unit 11  
51501023

DATE 7.12.88

CUTTING METHOD hand

OBSERVER Kuennen/Lilly

SKIDDING METHOD RTS

DISTRICT Libby

HAZARD ABATEMENT understory '91

SALE Doak Creek  
Unit No. 11 40A

SILVICULTURAL CC w/ ST

OPERATION PERIOD June '89

HT 530

COMPACTION (Heavy) \_\_\_\_\_

Ele - 3100 AS - NE  
walk through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Units satisfactory for skidding operations

Shape of Unit and Pattern of Transect

50405112

07/29/1988  
Libby - Purcell  
Unit 6  
50405112

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.29.88

CUTTING METHOD hand

OBSERVER Kuennen/Tilly

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD ABATEMENT understory, burn 1989

SALE Purcell  
Unit No. 6 36 A

SILVICULTURAL SW Seed/reserve

HT. 530

OPERATION PERIOD Summer 1988  
Ek-4600 AS-5  
walk-through

COMPACTION (Heavy) \_\_\_\_\_

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

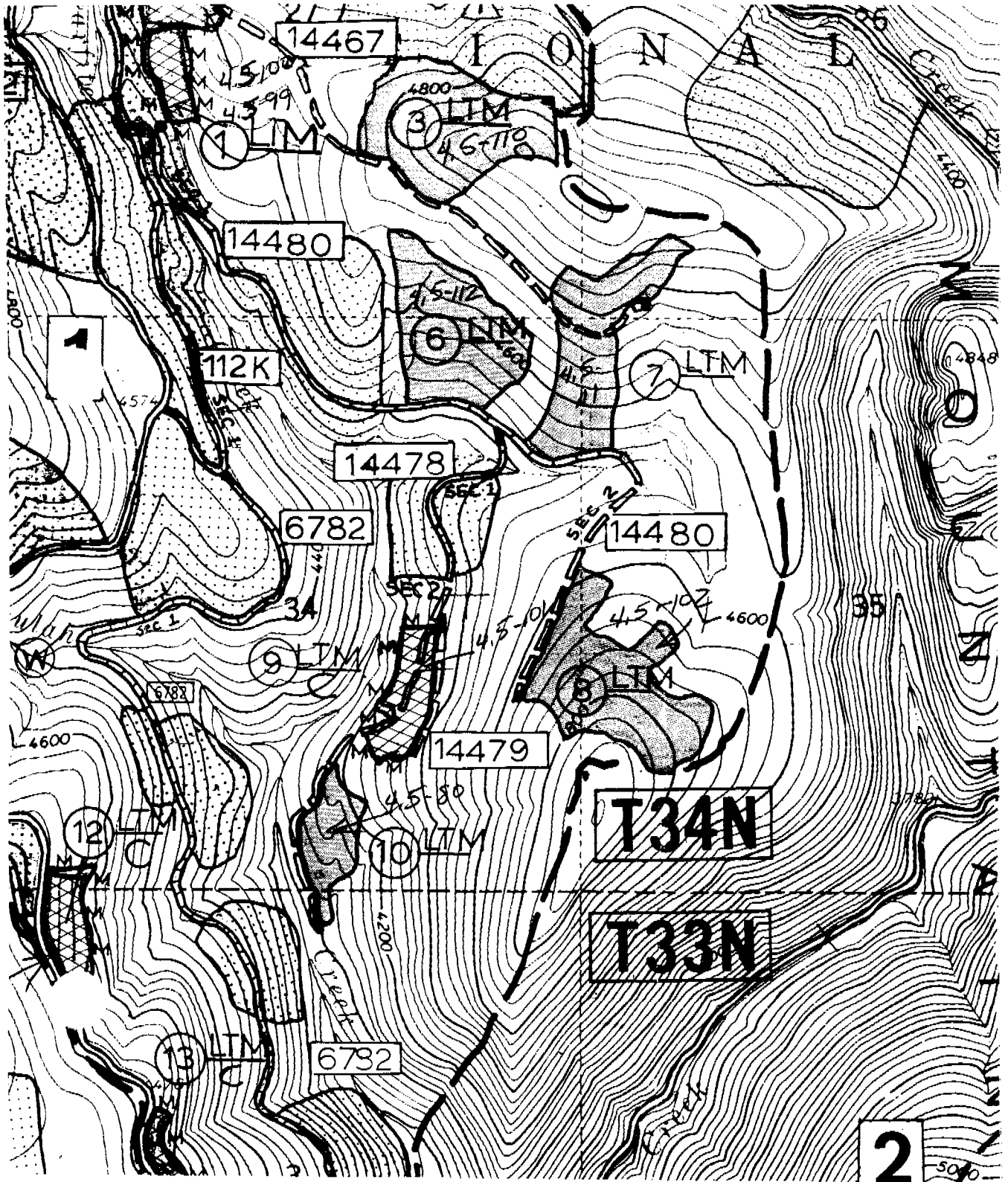
EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Soil moisture still too high to begin piling

Shape of Unit and Pattern of Transect



50405102

07/29/1988  
Libby - Purcell  
Unit 8  
50405102

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.29.88

CUTTING METHOD skipper hand

OBSERVER Kaennen/Lilly

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD ABATEMENT layer piles 91, burn piles 97

SALE Purcell

SILVICULTURAL SW seed/reserve

Unit No. 8 44A

OPERATION PERIOD summer 1990

Ele-47 As-NW  
walk-through

HT 530

COMPACTION (Heavy)

COMPACTION (Light)

UNDISTURBED

DISPLACED

EXCAVATED SKID TRAIL

SMZ/ROCK

COMMENTS

Still too wet to begin piling.

Shape of Unit and Pattern of Transect

50405080

07/29/1988  
Libby - Purcell  
Unit 10  
50405080

KOOTENAI NATIONAL FOREST  
SOIL DISTURBANCE DATA FORM

DATE 7.29.88

CUTTING METHOD hand

OBSERVER Kuennen/Zelly

SKIDDING METHOD Tractor

DISTRICT Libby

HAZARD ABATEMENT dozer pile 1988, burn 1989

SALE Purcell  
Unit No. 10 12A

SILVICULTURAL SW seed/reserve

OPERATION PERIOD summer 1988

511

COMPACTION(Heavy) \_\_\_\_\_

Ele - 4100, AS - SW  
walk-through

COMPACTION (Light) \_\_\_\_\_

UNDISTURBED \_\_\_\_\_

DISPLACED \_\_\_\_\_

EXCAVATED SKID TRAIL \_\_\_\_\_

SMZ/ROCK \_\_\_\_\_

COMMENTS

Moisture content almost ready for operations to begin.

Shape of Unit and Pattern of Transect