



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary Beaver Rim Sale 341-03-42

District: Klamath/Lake

Date: 10/3/02

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$304,611.66	\$0.00	\$304,611.66
		<b>Project Work</b>	(\$38,975.00)
		<b>Advertised Value</b>	\$265,636.66



# Timber Sale Appraisal

## Timber Description

### Beaver Rim

### Sale 341-03-42

"STEWARDSHIP IN FORESTRY"

**District:** Klamath/Lake

**Location:** T27S,R8E, Portions Sections 16 & 32  
 T28S,R8E, Portion Section 21  
 Klamath County, Oregon

**Date:** 10/3/02

**Stand Stocking:** 60%

Species	Avg. DBH	Amortized%	Recovery%
Sugar Pine	13	0	97
Ponderosa Pine	14	0	97
Lodgepole Pine	11	0	95

Volume by Grade	Sugar Pine	Ponderosa Pine	Lodgepole Pine	Total
Camprun	0	0	948	948
CR 8" - 14"	9	557	0	566
CR 14" - 22"	6	217	0	223
CR 22"+	9	0	0	9
<b>Total</b>	<b>24</b>	<b>774</b>	<b>948</b>	<b>1,746</b>

**Comments:** Pond Values Used: 3rd Quarter 2002

Other costs (plus P&R):  
 Dust abatement:\$11,070.00  
 Brand & paint: \$4,000.00  
 Other costs: (no P&R):  
 Road use fees:\$1,775.00



# Timber Sale Appraisal

## Logging Conditions

### Beaver Rim

### Sale 341-03-42

"STEWARDSHIP IN FORESTRY"

---

**Combination#: 1**

Sugar Pine	30.00%
Ponderosa Pine	40.00%
Lodgepole Pine	90.00%

**Yarding Distance:** Short (400 ft)      **Downhill Yarding:** Yes  
**Logging System:** Wheel Skidder      **Process:** Feller Buncher  
**Tree Size:** Small / Thinning 9in (70 Bft/tree), 20+ logs/MBF  
**Loads/Day:** 16      **Bd. Ft./Load:** 3,000  
**Cost/MBF:** \$69.88

**Machines:**  
Feller Buncher w/ Delimber  
Log Loader (B)  
Stroke Delimber (B)  
Tire Skidder

**Combination#: 2**

Sugar Pine	70.00%
Ponderosa Pine	60.00%
Lodgepole Pine	10.00%

**Yarding Distance:** Short (400 ft)      **Downhill Yarding:** Yes  
**Logging System:** Wheel Skidder      **Process:** Manual Falling/Delimiting  
**Tree Size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF  
**Loads/Day:** 12      **Bd. Ft./Load:** 3,700  
**Cost/MBF:** \$67.59

**Machines:**  
Log Loader (B)  
Tire Skidder



# Timber Sale Appraisal

## Logging Costs

### Beaver Rim

### Sale 341-03-42

"STEWARDSHIP IN FORESTRY"

Date: 10/3/02

Operating Seasons: 1.0

Profit & Risk: 15%

Project Costs: \$38,975

Other Costs (P/R): \$15,007

Slash Disposal: \$0

Other Costs: \$1,775

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$1.26

#### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Sugar Pine	\$0.00	2.0	3.5
Ponderosa Pine	\$0.00	2.0	3.5
Lodgepole Pine	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Logging Costs Breakdown Beaver Rim Sale 341-03-42

Costs	Sugar Pine	Ponderosa Pine	Lodgepole Pine
<b>Logging</b>	68.28	68.51	69.65
<b>Road Maintenance</b>	1.30	1.30	1.33
<b>Fire Protection</b>	1.55	1.55	1.55
<b>Hauling</b>	67.73	67.73	80.84
<b>Other (P/R appl.)</b>	8.60	8.60	8.60
<b>Profit &amp; Risk</b>	22.12	22.15	24.30
<b>Slash Disposal</b>	0.00	0.00	0.00
<b>Scaling</b>	2.00	2.00	2.00
<b>Other</b>	1.02	1.02	1.02
<b>Total</b>	172.60	172.86	189.29

<b>Amortization</b>	0.00	0.00	0.00
<b>Pond Value</b>	456.88	434.25	290.00
<b>Stumpage</b>	284.28	261.39	100.71
<b>Amortized</b>	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary Beaver Rim Sale 341-03-42

**Amortized**

	Sugar Pine	Ponderosa Pine	Lodgepole Pine
<b>MBF</b>	0.00	0.00	0.00
<b>Value</b>	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00

**Unamortized**

	Sugar Pine	Ponderosa Pine	Lodgepole Pine
<b>MBF</b>	24.00	774.00	948.00
<b>Value</b>	284.28	261.39	100.71
<b>Total</b>	6,822.72	202,315.86	95,473.08

**Gross Timber Sale Value**

**Recovery \$304,611.66**

Prepared by: Ed Scheick

Date: 10/3/02

District: Klamath/Lake

Phone: (541) 883-5681

## SUMMARY OF PROJECT WORK

<b>Project #1:</b> Road construction and improvement	\$8,090.00
<b>Project #2:</b> Fell, skid, pile submerch.	\$27,966.00
<b>Project #3:</b> Slashing	\$1,080.00
<b>Project #4:</b> Tractor piling	\$1,415.00
<b>Project #5:</b> Road closures	<u>\$424.00</u>
	\$38,975.00

## CRUISE REPORT

**Sale Name:** Beaver Rim

**Sale Area:** T.27S., R.8 E., Portions of Sections 16 and 32.  
T.28S., R.8 E., Portion of Section 21.

**Fund:** 100% BOF

**Boundary Lines:** Unit boundaries are posted with "Timber Sale Boundary" signs, marked with fluorescent orange paint and flagging. Exclusion areas are posted with "Timber Sale Boundary" signs, marked with fluorescent orange paint and flagging. Area boundaries are posted with "Area Boundary" signs, marked with yellow paint and blue flagging.

<b><u>Acreage:</u></b>	Area #1:	Type 252	153 acres
		Type 253	128 acres
	Area #2:	Type 251	118 acres
	Area #3,4&5	Type 250	19 acres
	Area #6	Type 248	36 acres
	Approximate Sale Acreage:		454 acres

Areas and exclusions were mapped using GPS, with data run on the district GIS program.

**Treatment:** Areas 1,2, & 6 are marked as a selection cut, leave tree mark with orange paint. Wildlife trees are designated with an orange painted "W". Areas 3,4, & 5 are diameter limit cuts of all lodgepole pine greater than 8.0" DBH.

### **Cruise Method:**

Variable plot cruise with all the plots being measure plots. Fixed plot cruise for all submerch material ( 5.0 -8.0 DBH ), with all plots being measure plots.

Measure and grade all trees.

### **Plot Designation:**

Plot centers were established at every plot using blue flagged pins. White flagging with the corresponding plot number was attached to the nearest available branch.

**BAF:** 10 BAF: Type 248, 251 and 253.  
5 BAF: Type 250 and 252.

Full point plots taken, 1/50th acre fixed plots for submerch. material (5.0-8.0 DBH)



### Sample Size Calculations:

For cruising purposes, the sale was divided into 2 separate cruises:.

**Type 251 & 253: Ponderosa Pine**

**Type 248, 250, & 252: Lodgepole Pine**

	CV%	Desired SE%	Acres
Type 251 & 253	105	13	246
Type 248, 250, & 252	95	15	208

$$N = \frac{T^2 C^2}{A^2}$$

C = Coefficient of Variation in percent (taken from recent inventory data)

T = Number of Standard errors

A = Desired sampling error for a sale of this size and value

Type 251 & 253

$$N = \frac{(1)^2 (105)^2}{(13)^2} = 65 \text{ plots} \quad 400' \text{ grid}$$

Type 248, 250, & 252

$$N = \frac{(1)^2 (95)^2}{(15)^2} = 40 \text{ plots} \quad (\text{Took 41 plots}) \quad 475' \text{ grid}$$

Measurements and Grading:

- DBH and Height were measured on all "in" trees in the plot.
- All plots were measure plots.
- Pulp volume and sawlog volume cruised
- See attached species and grade tables for minimum requirements.
- All trees were graded using the segment system.
- Separate fixed plot cruise for all Submerch. Material (5.0"-8.0"dbh)

### Tree Height:

All trees were measured to a fixed diameter outside bark. This height is usually taken as high up the bole as possible, where the cruiser can clearly see the bole, and the taper remains constant. (usually 6 inches ) The log segments are then broken out and graded accordingly.

**Minimum DBH:**      8.0" dbh for sawlog volume  
                             5.0" dbh for pulp volume

**Diameter Standards:** 1" diameter class

**BTR:**

Standard ratios were used. See attached species table for specifics.

**Form Factor:**

Form factor was measured or estimated at 16' for every tree.

**Form Point:** All trees were sighted at dbh.

**Final Cruise Results:**

	CV%	SE%
Type 251 & 253	62	7.6
Type 248, 250, 252	70	11.0

**Cruisers:**

John Pellissier, Jason Pettigrew, Craig Leech, Ed Scheick  
Cruised

**Volume Computation:**

All cruise data was inputted and run at the district level on Atterbury's super ace program.

**Timber Description:**

**SAWLOG VOLUME:**

This volume was obtained from the variable plot cruise. All material > 8.0" DBH.

All material graded camprun

See grade table for minimum standards.

	<u>SPECIES</u>	<u>AVE. DBH</u>	<u>GROSS VOL (MBF)</u>	<u>NET VOL (MBF)</u>
<b>AREA 1</b>				
Type 253	Ponderosa Pine	15.9	543	533
	Lodgepole Pine	12.4	120	118
	Sugar Pine	20.4	15	15
Type 252	Ponderosa Pine	11.6	1	1
	Lodgepole Pine	11.1	361	357
<b>TOTAL AREA 1</b> -----				<b>1024 MBF</b>
<b>AREA 2</b>				
Type 251	Ponderosa Pine	12.4	244	240
	Lodgepole Pine	10.5	192	191
	Sugar Pine	11.4	9	9
<b>TOTAL AREA 2</b> -----				<b>450 MBF</b>
<b>AREA 3,4,&amp;5</b>				
Type 250	Lodgepole Pine	9.6	71	69
<b>TOTAL AREA 3,4,&amp;5</b> -----				<b>69 MBF</b>
<b>AREA 6</b>				
Type 248	Lodgepole Pine	14.0	228	213
<b>TOTAL AREA 6</b> -----				<b>213 MBF</b>
<b>TOTAL SALE AREA</b>				
	Ponderosa Pine	14.1	788	774
	Lodgepole Pine	11.0	972	948
	Sugar Pine	13.1	24	24
<b>TOTAL SAWLOG VOLUME</b> -----				<b>1746 MBF</b>

(Volumes obtained from Spp, sort, Grade, len%-BDFT Report)

## GREEN PULP VOLUME:

This volume was obtained from the variable plot cruise (>8.0"DBH) and the fixed plot cruise (5.0"-8.0"DBH).

All material graded green pulp.

See grade table for minimum standards.

	<u>SPECIES</u>	<u>AVE. DBH</u>	<u>NET VOL (MBF)</u>	<u>TREES/AC</u>
<b>AREA 1</b>				
Type 253				
<b>Variable plot:</b>				
	Ponderosa Pine	9.6	14	4.7
<b>Fixed plot:</b>				
	Ponderosa Pine	6.1	35	27.3
	Lodgepole Pine	6.0	2	1.5
Type 252				
<b>Variable plot:</b>				
	Lodgepole Pine	9.2	12	2.1
<b>Fixed Plot:</b>				
	Lodgepole Pine	6.4	107	58.3
<b>TOTAL AREA 1</b> -----				<b>170MBF</b>
<b>AREA 2</b>				
Type 251				
<b>Variable plot:</b>				
	Ponderosa Pne	8.3	16	6.8
	Lodgepole Pine	9.5	9	2.5
	Sugar Pine	8.7	2	1.5
<b>Fixed plot:</b>				
	Ponderosa Pine	6.4	74	54.9
	Lodgepole Pine	6.8	124	50.0
	Sugar Pine	5.0	2	1.6
<b>TOTAL AREA 2</b> -----				<b>227MBF</b>
<b>AREA 3</b>				
Type 250				
<b>Variable plot:</b>				
	Lodgepole Pine	8.9	7	8.2
<b>Fixed Plot:</b>				
	Lodgepole Pine	7.9	7	17.0
<b>TOTAL AREA 3</b> -----				<b>14MBF</b>

**AREA 4 & 5**

No submerch material to be removed.

<u>SPECIES</u>	<u>AVE.DBH</u>	<u>NETVOL [MBF]</u>	<u>TREES/AC</u>
----------------	----------------	---------------------	-----------------

**AREA 6**

Type 248

**Variable plot:**

Lodgepole Pine	13.0	3	.6
----------------	------	---	----

**Fixed plot:**

Lodgepole Pine	6.4	18	36.0
----------------	-----	----	------

**TOTAL AREA 6-----21MBF**

**TOTAL GREEN PULP VOLUME-----432 MBF**

(Volumes obtained from Spp, sort, Grade, len%-BDFT Report)

# Species Table Report

TblSpecies

Date: 8/29/02  
Page: 1

Table Name: KL SPECIES

Cod	Abry	Description	Bark Ratio	ASub Const	Form Factor	Wood Type	Component	Yield Table	Min Log Dia	Min Log Len	Max Log Len	Log Trim	Max Tree Dia	Max Tree Hgt.	BdFt Rule	CuFt Rule	Weight
1	PP	P PINE	.87	PP	.85	C	C	PP--EQUA--100	3	9	20	1.0	99	200	E	1	LB M
2	WF	WHITE F	.94	NF	.87	C	C	DF--EQUA--050	3	9	20	1.0	99	200	E	1	LB M
3	LP	LP PINE	.96	DF	.9	C	C	LP--EQUA--100	3	9	20	1.0	99	200	E	1	LB M
5	SP	SUG PINE	.87	PP	.84	C	C	PP--EQUA--100	3	9	20	1.0	99	200	E	1	LB M
6	IC	INC CED	.90	SS	.8	C	C	DF--EQUA--050	3	9	20	1.0	99	200	E	1	LB M

## Sort/Grade Table

Table Name: KLAMATH

Date: 9/3/02

ort	Grd	Abr	Desc	Fbr	Min Dia	Max Dia	Max Butt	Min Len	Max Len	Defect	Min Vol	Vol Type	Min Ring	Knot Size	Knot Freq	Str	Sap	Min Age	Lbs	Lbs Type	Cords	Cords Type
0		CU	CULL	G	1	0	0	1	0	0	0		0	0	0			0	0		0	
1		CR	CAMPRUN	G	6	0	0	10	0	0	0		0	0	0			0	0		0	
7		GP	GRNPULP	G	3	0	0	10	0	0	0		0	0	0			0	0		0	
8		DP	DEADPUL	G	3	0	0	10	0	0	0		0	0	0			0	0		0	
9		UT	UTILITY	G	8	0	0	12	0	0	0		0	0	0			0	0		0	
		CU	CULL	G	0	0	0	0	0	0	0		0	0	0			0	0		0	
		CR	CAMPRUN	G	1	0	0	1	0	0	0		0	0	0			0	0		0	

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES
28S	8E	21	V PLOT	248	36.00	7	42

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	7	42	6.0		
CRUISE	7	42	6.0	2,023	2.1
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
LP PINE	42	56.2	14.0	38		60.0	6,404	5,982	1,452	1,452
<b>TOTAL</b>	<b>42</b>	<b>56.2</b>	<b>14.0</b>	<b>38</b>		<b>60.0</b>	<b>6,404</b>	<b>5,982</b>	<b>1,452</b>	<b>1,452</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF TREES REQ.		INF. POP.
1						5	10	15
LP PINE	99.4	15.3	137	162	187			
<b>TOTAL</b>	<b>99.4</b>	<b>15.3</b>	<b>137</b>	<b>162</b>	<b>187</b>	<b>395</b>	<b>99</b>	<b>44</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF TREES REQ.		INF. POP.
1						5	10	15
LP PINE	86.9	13.4	33	38	43			
<b>TOTAL</b>	<b>86.9</b>	<b>13.4</b>	<b>33</b>	<b>38</b>	<b>43</b>	<b>302</b>	<b>75</b>	<b>34</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ.		INF. POP.
1						5	10	15
LP PINE	47.9	18.1	46	56	66			
<b>TOTAL</b>	<b>47.9</b>	<b>18.1</b>	<b>46</b>	<b>56</b>	<b>66</b>	<b>92</b>	<b>23</b>	<b>10</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ.		INF. POP.
1						5	10	15
LP PINE	33.3	12.6	52	60	68			
<b>TOTAL</b>	<b>33.3</b>	<b>12.6</b>	<b>52</b>	<b>60</b>	<b>68</b>	<b>44</b>	<b>11</b>	<b>5</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ.		INF. POP.
1						5	10	15
LP PINE	44.6	16.8	4,974	5,982	6,990			
<b>TOTAL</b>	<b>44.6</b>	<b>16.8</b>	<b>4,974</b>	<b>5,982</b>	<b>6,990</b>	<b>79</b>	<b>20</b>	<b>9</b>

SD:	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ.		INF. POP.
1						5	10	15
LP PINE	38.4	14.5	1,241	1,452	1,663			
<b>TOTAL</b>	<b>38.4</b>	<b>14.5</b>	<b>1,241</b>	<b>1,452</b>	<b>1,663</b>	<b>59</b>	<b>15</b>	<b>7</b>



TC TSTATS				STATISTICS				PAGE 1		
				PROJECT	BRIM	DATE 8/6/2002				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
27S	8E	32	VPLOT	250	19.00	4	37			
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	4	37	9.3							
CRUISE	4	37	9.3	1,758		2.1				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
LP PINE	37	92.5	9.6	36		46.3	4,111	4,014	987	987
<b>TOTAL</b>	<b>37</b>	<b>92.5</b>	<b>9.6</b>	<b>36</b>		<b>46.3</b>	<b>4,111</b>	<b>4,014</b>	<b>987</b>	<b>987</b>
	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	64.4	10.6	46	51	56					
<b>TOTAL</b>	<b>64.4</b>	<b>10.6</b>	<b>46</b>	<b>51</b>	<b>56</b>	<b>166</b>	<b>41</b>	<b>18</b>		
	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	66.2	10.9	11	13	14					
<b>TOTAL</b>	<b>66.2</b>	<b>10.9</b>	<b>11</b>	<b>13</b>	<b>14</b>	<b>175</b>	<b>44</b>	<b>19</b>		
	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	42.5	21.2	73	93	112					
<b>TOTAL</b>	<b>42.5</b>	<b>21.2</b>	<b>73</b>	<b>93</b>	<b>112</b>	<b>72</b>	<b>18</b>	<b>8</b>		
	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	32.3	16.1	39	46	54					
<b>TOTAL</b>	<b>32.3</b>	<b>16.1</b>	<b>39</b>	<b>46</b>	<b>54</b>	<b>42</b>	<b>10</b>	<b>5</b>		
	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	23.1	11.6	3,550	4,014	4,478					
<b>TOTAL</b>	<b>23.1</b>	<b>11.6</b>	<b>3,550</b>	<b>4,014</b>	<b>4,478</b>	<b>21</b>	<b>5</b>	<b>2</b>		
	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
LP PINE	22.2	11.1	878	987	1,097					
<b>TOTAL</b>	<b>22.2</b>	<b>11.1</b>	<b>878</b>	<b>987</b>	<b>1,097</b>	<b>20</b>	<b>5</b>	<b>2</b>		

TC TSTATS				STATISTICS PROJECT BRIM				PAGE 1 DATE 9/3/2002		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
27S	8E	16	V PLOT	0251	118.00	32	176			
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		32	176	5.5						
CRUISE		30	176	5.9	8,927	2.0				
DBH COUNT										
REFOREST COUNT										
BLANKS		2								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
P PINE	103	38.1	12.4	32		32.2	2,246	2,169	571	561
LP PINE	67	34.9	10.5	32		20.9	1,775	1,691	443	425
SUG PINE	6	2.6	11.4	27		1.9	95	92	27	27
<b>TOTAL</b>	<b>176</b>	<b>75.7</b>	<b>11.5</b>	<b>32</b>		<b>55.0</b>	<b>4,116</b>	<b>3,952</b>	<b>1,041</b>	<b>1,014</b>
	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	174.7	13.2	52	60	68					
LP PINE	172.9	13.0	20	23	26					
SUG PINE	1172.1	88.3	1	6	12					
<b>TOTAL</b>	<b>133.5</b>	<b>10.1</b>	<b>80</b>	<b>89</b>	<b>98</b>	<b>713</b>	<b>178</b>			<b>79</b>
	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	152.5	11.5	13	15	17					
LP PINE	164.9	12.4	5	6	6					
SUG PINE	1058.3	79.8	0	1	3					
<b>TOTAL</b>	<b>110.7</b>	<b>8.3</b>	<b>20</b>	<b>22</b>	<b>24</b>	<b>490</b>	<b>122</b>			<b>54</b>
	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	122.1	21.6	30	38	46					
LP PINE	111.0	19.6	28	35	42					
SUG PINE	274.2	48.5	1	3	4					
<b>TOTAL</b>	<b>67.5</b>	<b>11.9</b>	<b>67</b>	<b>76</b>	<b>85</b>	<b>182</b>	<b>46</b>			<b>20</b>
	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	94.9	16.8	27	32	38					
LP PINE	94.3	16.7	17	21	24					
SUG PINE	285.4	50.4	1	2	3					
<b>TOTAL</b>	<b>53.1</b>	<b>9.4</b>	<b>50</b>	<b>55</b>	<b>60</b>	<b>113</b>	<b>28</b>			<b>13</b>
	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	95.4	16.9	1,803	2,169	2,535					
LP PINE	99.9	17.7	1,393	1,691	1,990					
SUG PINE	342.7	60.6	36	92	148					
<b>TOTAL</b>	<b>54.7</b>	<b>9.7</b>	<b>3,570</b>	<b>3,952</b>	<b>4,335</b>	<b>120</b>	<b>30</b>			<b>13</b>
	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10			15
P PINE	94.4	16.7	468	561	655					
LP PINE	94.6	16.7	354	425	496					
SUG PINE	319.6	56.5	12	27	43					
<b>TOTAL</b>	<b>51.2</b>	<b>9.0</b>	<b>922</b>	<b>1,014</b>	<b>1,105</b>	<b>105</b>	<b>26</b>			<b>12</b>

TC TSTATS		STATISTICS PROJECT BRIM					PAGE 1 DATE 8/6/2002				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES				
27S	8E	16	V PLOT	252	153.00	30	184				
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		30	184	6.1							
CRUISE		29	184	6.3	6,925	2.7					
DBH COUNT											
REFOREST											
COUNT											
BLANKS		1									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
LP PINE	183	45.0	11.1	36		30.5	2,437	2,409	612	612	
P PINE	1	.2	11.6	33		.2	7	5	2	2	
<b>TOTAL</b>	<b>184</b>	<b>45.3</b>	<b>11.1</b>	<b>36</b>		<b>30.7</b>	<b>2,443</b>	<b>2,413</b>	<b>614</b>	<b>614</b>	
	COEFF VAR.	S.E.%	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	70.4	5.2	64	67	71						
P PINE	1356.5	100.0	0	0	0						
<b>TOTAL</b>	<b>70.1</b>	<b>5.2</b>	<b>64</b>	<b>67</b>	<b>71</b>	<b>197</b>	<b>49</b>	<b>22</b>			
	COEFF VAR.	S.E.%	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	63.7	4.7	16	17	18						
P PINE	1356.5	100.0	0	0	0						
<b>TOTAL</b>	<b>63.2</b>	<b>4.7</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>160</b>	<b>40</b>	<b>18</b>			
	COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	60.5	11.1	40	45	50						
P PINE	547.7	100.0	0	0	0						
<b>TOTAL</b>	<b>60.3</b>	<b>11.0</b>	<b>40</b>	<b>45</b>	<b>50</b>	<b>145</b>	<b>36</b>	<b>16</b>			
	COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	63.0	11.5	27	31	34						
P PINE	547.7	100.0	0	0	0						
<b>TOTAL</b>	<b>63.2</b>	<b>11.5</b>	<b>27</b>	<b>31</b>	<b>34</b>	<b>160</b>	<b>40</b>	<b>18</b>			
	COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	68.3	12.5	2,108	2,409	2,709						
P PINE	547.7	100.0	0	5	9						
<b>TOTAL</b>	<b>68.2</b>	<b>12.5</b>	<b>2,112</b>	<b>2,413</b>	<b>2,714</b>	<b>186</b>	<b>47</b>	<b>21</b>			
	COEFF VAR.	S.E.%	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
LP PINE	66.5	12.1	537	612	686						
P PINE	547.7	100.0	2	4	4						
<b>TOTAL</b>	<b>66.5</b>	<b>12.1</b>	<b>539</b>	<b>614</b>	<b>688</b>	<b>177</b>	<b>44</b>	<b>20</b>			

TC TSTATS				STATISTICS PROJECT BRIM				PAGE 1 DATE 7/26/2002		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
27S	8E	16	VPLOT	0253	128.00	33	173			
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	33	173	5.2							
CRUISE	31	173	5.6	5,402			3.2			
DBH COUNT										
REFOREST										
COUNT										
BLANKS	2									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
P PINE	139	30.7	15.9	45		42.1	4,348	4,272	974	974
LP PINE	31	11.1	12.4	40		9.4	937	925	219	219
SUG PINE	3	.4	20.4	46		.9	114	114	22	22
<b>TOTAL</b>	<b>173</b>	<b>42.2</b>	<b>15.1</b>	<b>44</b>		<b>52.4</b>	<b>5,398</b>	<b>5,311</b>	<b>1,214</b>	<b>1,214</b>
	COEFF		SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	102.8	7.8	183	199	214					
LP PINE	264.7	20.1	15	19	23					
SUG PINE	899.4	68.4	4	12	20					
<b>TOTAL</b>	<b>90.4</b>	<b>6.9</b>	<b>214</b>	<b>230</b>	<b>245</b>		<b>327</b>	<b>82</b>	<b>36</b>	
	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	91.1	6.9	40	43	46					
LP PINE	254.0	19.3	4	4	5					
SUG PINE	888.1	67.5	1	2	4					
<b>TOTAL</b>	<b>76.8</b>	<b>5.8</b>	<b>46</b>	<b>49</b>	<b>52</b>		<b>236</b>	<b>59</b>	<b>26</b>	
	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	102.5	17.8	25	31	36					
LP PINE	155.3	27.0	8	11	14					
SUG PINE	448.1	78.0	0	0	1					
<b>TOTAL</b>	<b>77.7</b>	<b>13.5</b>	<b>36</b>	<b>42</b>	<b>48</b>		<b>241</b>	<b>60</b>	<b>27</b>	
	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	76.4	13.3	37	42	48					
LP PINE	159.5	27.8	7	9	12					
SUG PINE	321.1	55.9	0	1	1					
<b>TOTAL</b>	<b>61.1</b>	<b>10.6</b>	<b>47</b>	<b>52</b>	<b>58</b>		<b>149</b>	<b>37</b>	<b>17</b>	
	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	78.3	13.6	3,690	4,272	4,854					
LP PINE	170.0	29.6	651	925	1,199					
SUG PINE	337.7	58.8	47	114	181					
<b>TOTAL</b>	<b>61.9</b>	<b>10.8</b>	<b>4,739</b>	<b>5,311</b>	<b>5,884</b>		<b>153</b>	<b>38</b>	<b>17</b>	
	COEFF		NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
P PINE	76.7	13.4	844	974	1,104					
LP PINE	170.5	29.7	154	219	284					
SUG PINE	328.2	57.1	9	22	35					
<b>TOTAL</b>	<b>61.0</b>	<b>10.6</b>	<b>1,085</b>	<b>1,214</b>	<b>1,343</b>		<b>149</b>	<b>37</b>	<b>17</b>	

Species, Sort Grade - Board Foot Volumes (Type)

Project: BRIM

T28S R8E S21 T248

T28S R8E S21 T248

Twp Rge Sec Tract Type Acre Plots Sample Trees  
 28S 8E 21 VPLOT 248 36.00 7 42

S Spp	So T	Gr rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
LP	CU	CU			100.0	267										11		0.00	4.3	
LP	CR	CR		99	6.7	6,329	5,907	213		67	26	7	8	33	39	20	26	142	1.32	41.6
LP	CR	GP		1		75	75	3			100		100			16	110	1.69	.7	
<b>LP Totals</b>					100	10.3	6,671	5,982	215	66	27	7	9	33	38	19	24	128	1.27	46.6
<b>Type Totals</b>						10.3	6,671	5,982	215	66	27	7	9	33	38	19	24	128	1.27	46.6

Species, Sort Grade - Board Foot Volumes (Type)

Project: BRIM

T27S R8E S32 T250

T27S R8E S32 T250

Twp Rge Sec Tract Type Acre Plots Sample Trees  
 27S 8E 32 VPLOT 250 19.00 4 37

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
LP		CU	CU		100.0	203										5		0.00	35.6	
LP		CR	CR	91	2.6	3,753	3,655	69	100			22	25	23	29	22	54	0.61	67.2	
LP		CR	GP	9		358	358	7	100			100				14	20	0.31	17.9	
<b>LP</b>	<b>Totals</b>			100	7.0	4,314	4,014	76	100			29	23	21	26	16	33	0.51	120.7	
<b>Type</b>	<b>Totals</b>				7.0	4,314	4,014	76	100			29	23	21	26	16	33	0.51	120.7	

Species, Sort Grade - Board Foot Volumes (Type)

Project: BRIM

T27S R8E S16 T0251

T27S R8E S16 T0251

Twp Rge Sec Tract Type Acre Plots Sample Trees  
27S 8E 16 VPLOT 0251 118.00 32 176

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
PP		CU	CU		00.0	39										5		0.00	5.6	
PP		CR	CR	94	1.9	2,071	2,032	240		75	22	2	23	16	42	19	22	76	0.92	26.7
PP		CR	GP	6		137	137	16	82	18		100				16	18	0.26	7.6	
<b>PP</b>	<b>Totals</b>			55	3.5	2,246	2,169	256	5	72	21	2	28	15	39	18	18	54	0.77	39.9
LP		CU	CU		00.0	71										8		0.00	2.9	
LP		CR	CR	96	.7	1,628	1,616	191		100			20	21	40	20	23	68	0.73	23.8
LP		CR	GP	4		75	75	9	7	93		100				15	20	0.34	3.7	
<b>LP</b>	<b>Totals</b>			43	4.7	1,775	1,691	200	0	100			23	20	38	19	21	55	0.67	30.5
SP		CU	CU													3		0.00	.5	
SP		CR	CR	84	3.3	80	77	9		56		44	13	13	55	19	22	91	1.17	.8
SP		CR	GP	16		15	15	2	53	47		100				13	7	0.18	2.2	
<b>SP</b>	<b>Totals</b>			2	2.8	95	92	11	9	54		37	28	11	46	16	14	26	0.54	3.6
<b>Type Totals</b>					4.0	4,116	3,952	466	3	83	12	2	26	17	39	18	19	53	0.72	74.0

**Species, Sort Grade - Board Foot Volumes (Type)**

Project: BRIM

T27S R8E S16 T252

T27S R8E S16 T252

Twp Rge Sec Tract Type Acre Plots Sample Trees  
 27S 8E 16 VPLOT 252 153.00 30 184

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
LP	CU	CU		100.0	184											6		0.00	16.4
LP	CR	CR	97	1.2	2,360	2,332	357	96	4			31	23	18	28	22	64	0.74	36.2
LP	CR	GP	3		77	77	12	13	87			100				15	18	0.30	4.2
<b>LP</b>	<b>Totals</b>		100	8.1	2,621	2,409	369	0	96	4		33	22	17	28	17	42	0.64	56.8
PP	CR	CR	100	33.3	7	5	1	100				100				18	20	0.50	.2
<b>PP</b>	<b>Totals</b>		0	33.3	7	5	1	100				100				18	20	0.50	.2
<b>Type Totals</b>				8.2	2,628	2,413	369	0	96	4		33	22	17	28	17	42	0.64	57.1



Species, Sort Grade - Board Foot Volumes (Type)

Project: BRIM

T27S R8E S16 T0253

T27S R8E S16 T0253

Twp Rge Sec Tract Type Acre Plots Sample Trees  
 27S 8E 16 VPLOT 0253 128.00 33 173

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.			Log Length				Ln Ft	Bd Ft	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
PP	CU	CU		00.0	110											6		0.00	5.3
PP	CR	CR	97	1.8	4,240	4,164	533	50	37	13		11	11	68	10	24	159	1.50	26.3
PP	CR	GP	3		108	108	14	76	24			61	39			15	16	0.34	6.6
<b>PP</b>	<b>Totals</b>		80	4.2	4,457	4,272	547	2	50	36	13	13	12	66	10	20	112	1.28	38.1
LP	CU	CU		00.0	56											5		0.00	4.0
LP	CR	CR	100	1.2	937	925	118	81	19			19	25	27	29	24	104	1.00	8.9
<b>LP</b>	<b>Totals</b>		17	6.8	993	925	118	81	19			19	25	27	29	19	71	0.91	13.0
SP	CR	CR	100		114	114	15	29	8	63		8		92		30	422	2.72	.3
<b>SP</b>	<b>Totals</b>		2		114	114	15	29	8	63		8		92		30	422	2.72	.3
<b>Type Totals</b>				4.6	5,565	5,311	680	2	55	32	11	14	14	60	13	20	103	1.20	51.4

# LOGGING PLAN

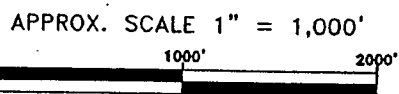
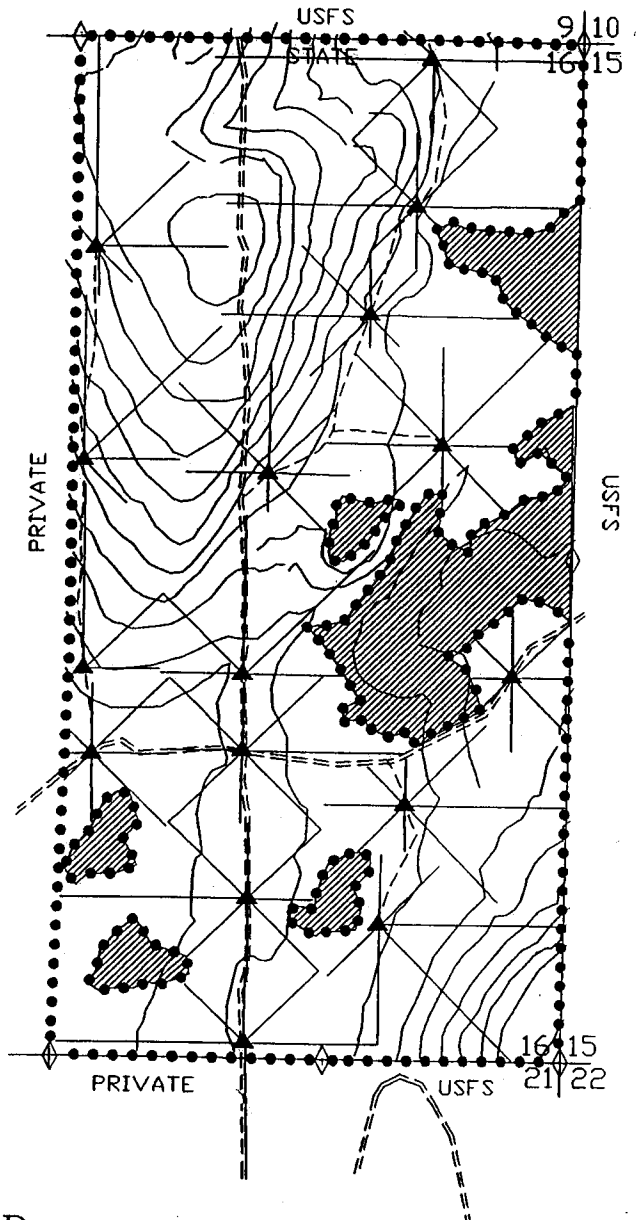
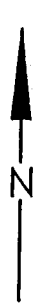
OF TIMBER SALE CONTRACT NO.  
341-03-42

## BEAVER RIM


AREA 1

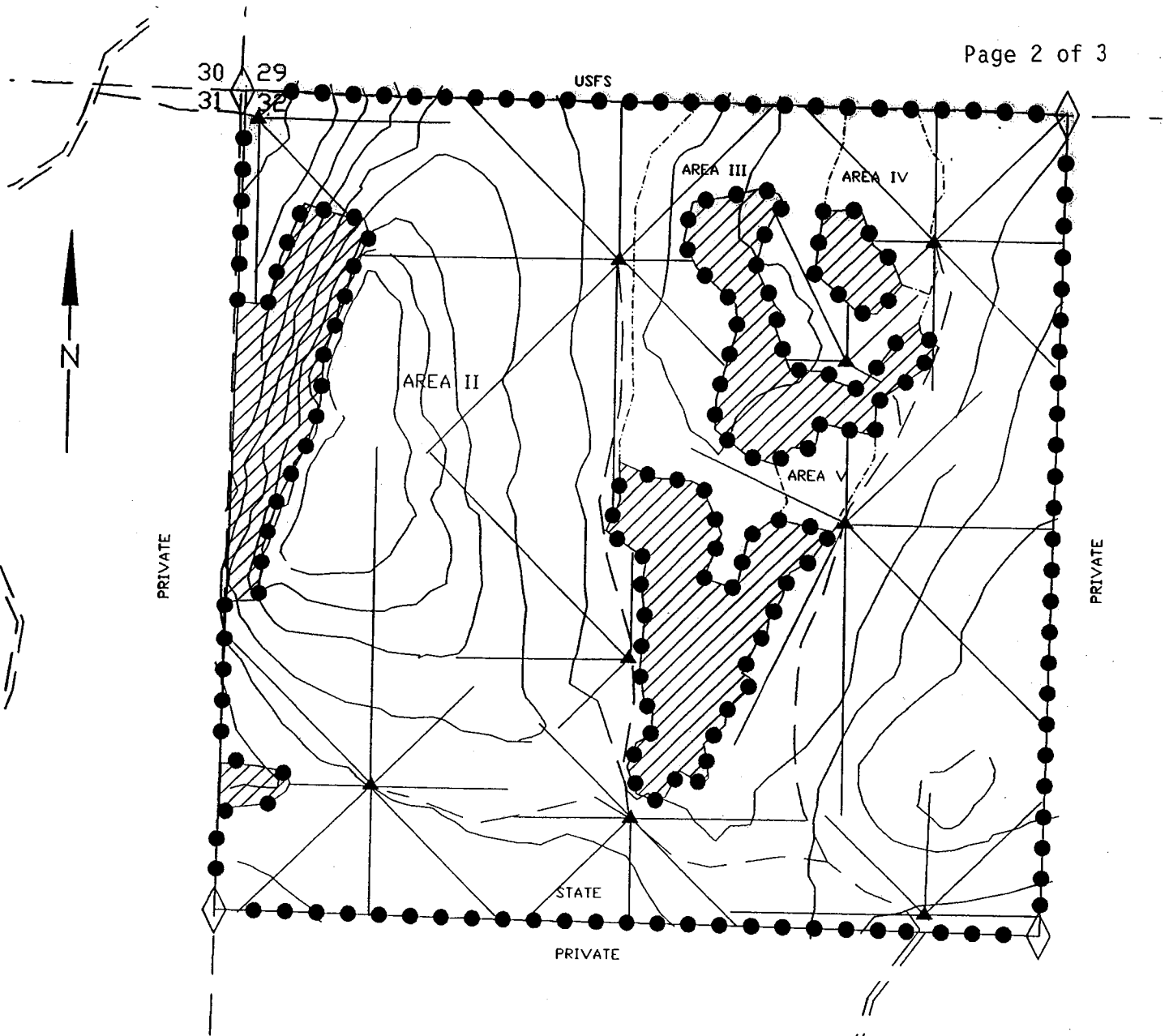
APPROXIMATELY 281 ACRES

W 1/2 SECTION 16, T27S, R8E, W.M.  
KLAMATH COUNTY, OREGON



### LEGEND

- TIMBER SALE BOUNDARY
- SECTION LINE
- ◇ KNOWN LAND SURVEY CORNER
-  EXCLUSION AREA
- ==== UNSURFACED EXISTING ROAD
- - - - UNSURFACED ROAD [CONST. REQUIRED]
- POINT POINT FOR PROJECT WORK



# LOGGING PLAN

OF TIMBER SALE CONTRACT NO.

341-03-42

## BEAVER RIM

AREAS II, III, IV, & V

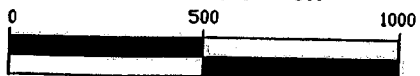
NW 1/4 SECTION 32, T27S, R8E, W.M.

KLAMATH COUNTY, OREGON

APPROXIMATE ACREAGE:

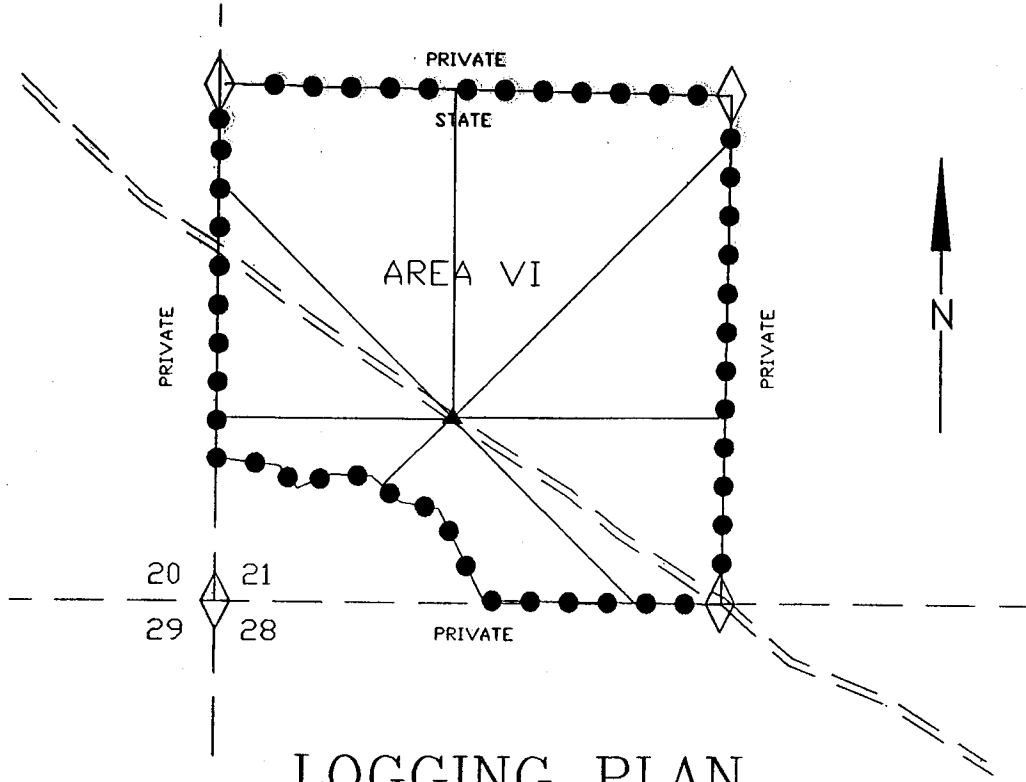
AREA II	118 ACRES
AREA III	14 ACRES
AREA IV	3 ACRES
AREA V	2 ACRES
EXCLUSION AREAS	23 ACRES

APPROX. SCALE 1" = 500'



### LEGEND

- ● ● ● ● TIMBER SALE BOUNDARY
- — — SECTION LINE
- ◇ KNOWN LAND SURVEY CORNER
- ▨ EXCLUSION AREA
- - - AREA BOUNDARY
- == == == UNSURFACED EXISTING ROAD
- - - UNSURFACED ROAD (CONST. REQUIRED)
- POINT POINT FOR PROJECT WORK



# LOGGING PLAN

OF TIMBER SALE CONTRACT NO.

341-03-42

## BEAVER RIM

AREA VI

APPROXIMATELY 36 ACRES

PORTION OF SECTION 21, T28S, R8E, W.M.

KLAMATH COUNTY, OREGON

APPROX. SCALE 1" = 500'



### LEGEND

- ● ● ● ● TIMBER SALE BOUNDARY
- SECTION LINE
- ◇ KNOWN LAND SURVEY CORNER
- === UNSURFACED EXISTING ROAD
- POINT FOR PROJECT WORK