



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Sagermeister Sale 341-06-29

District: Astoria

Date: 11/8/05

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,973,959.82	\$1,816.74	\$1,975,776.56
		Project Work	(\$203,651.00)
		Advertised Value	\$1,772,125.56



Timber Sale Appraisal Timber Description Sagermeister Sale 341-06-29

"STEWARDSHIP IN FORESTRY"

District: Astoria

Location: Portions of Sections 26, 27, 34, 35, & 36, T6N, R6W, W.M., Clatsop County, Oregon.

Date: 11/8/05

Stand Stocking: 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	19	0	97
Alder (Red)	17	0	95

Volume by Grade	Douglas - Fir	Alder (Red)	Total
3P	17	0	17
SM	570	0	570
2S	2,517	0	2,517
3S	1,394	1	1,395
4S	171	5	176
Total	4,669	6	4,675

Comments: Pond Values Used: 3rd Quarter 2005.

Log Markets: Mist, Clatskanie, Tillamook, Forest Grove

Additional Costs for Areas 1-7:

Costs with P & R -

100% branding and painting: $\$1/\text{MBF} \times 4,675 \text{ MBF} = \$4,675$

Additional cutting costs (bucking tops, topping/ girdling tail lift trees, etc.) $\$5/\text{MBF} \times 4,395 = \$21,975$

Additional costs for cable corridor and skid trail layout: $\$5/\text{MBF} \times 4,395 = \$21,975$

Total Cost w/ P & R = $\$48,625$

Costs without P & R

Vacating Dirt Spurs (1A-1B@18 Sta., 1C-1D@1.6 Sta., 1E-1F@8.15 Sta., 1G-1H@10 Sta., 1I-1J@2 Sta., 1K-1L@7.9 Sta., 2A-2B@1.25 Sta., 2C-2D@1.85 Sta.) = 50.75 Sta. x $\$50/\text{Sta.} = \$2,537.50$

Snag Creation : Create 289 snags in Area 1, 33 snags in Area 4, 78 snags in Area 6, and 100 snags in Area 7 = $500 \times \$35 = \$17,500$

Additional Fuel Cost - $\$9/\text{MBF} \times 4,675 \text{ MBF} = \$42,075$

Total Non-P&R Costs = $\$62,112.50$

Western Hemlock Price:

$\$167.07 = \$380 - \$212.93$

W Hemlock Price = Pond Value minus logging cost

Western Red Cedar Price:

$\$602.07 = \$815 - \$212.93$

WRC Price = Pond Value minus logging cost



Timber Sale Appraisal Logging Conditions Sagermeister Sale 341-06-29

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	58.00%	
	Alder (Red)	58.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Manual Delimiting
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 4,500
Cost/MBF:	\$147.40		
Machines:			
	Log Loader (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	22.00%	
	Alder (Red)	22.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Felling/Delimiting
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	7		Bd. Ft./Load: 4,500
Cost/MBF:	\$103.66		
Machines:			
	Log Loader (B)		
	Track Skidder		
Combination#: 3	Douglas - Fir	20.00%	
	Alder (Red)	20.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Shovel		Process: Manual Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 4,500
Cost/MBF:	\$64.49		
Machines:			
	Shovel Logger		



Timber Sale Appraisal

Logging Costs

Sagermeister

Sale 341-06-29

"STEWARDSHIP IN FORESTRY"

Date: 11/8/05

Operating Seasons: 3.0

Profit & Risk: 13%

Project Costs: \$203,651

Other Costs (P/R): \$48,625

Slash Disposal: \$0

Other Costs: \$62,113

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

Road Maintenance: \$6.22

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	3.0	4.5
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Sagermeister Sale 341-06-29

Costs	Douglas - Fir	Alder (Red)
Logging	121.20	121.20
Road Maintenance	6.41	6.55
Fire Protection	1.74	1.74
Hauling	35.15	80.84
Other (P/R appl.)	10.40	10.40
Profit & Risk	22.74	28.69
Slash Disposal	0.00	0.00
Scaling	2.00	2.00
Other	13.29	13.29
Total	212.93	264.71

Amortization	0.00	0.00
Pond Value	635.71	567.50
Stumpage	422.78	302.79
Amortized	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Sagermeister Sale 341-06-29

Amortized

	Douglas - Fir	Alder (Red)
MBF	0.00	0.00
Value	0.00	0.00
Total	0.00	0.00

Unamortized

	Douglas - Fir	Alder (Red)
MBF	4,669.00	6.00
Value	422.78	302.79
Total	1,973,959.82	1,816.74

Gross Timber Sale Value

Recovery \$1,975,776.56

Prepared by: Jay Morey

Date: 11/8/05

District: Astoria

Phone: (503) 325-5451

Road Maintenance Cost Summary

Sale: Sagermeister
Date: 28-Sep-05
By: J. Long

MBF: 4,675
\$/MBF: \$6.22

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Production Rates	Miles/day	Distance(miles)	Days
Progressive Operations 1st Entry(6 mi.)	Grader 14G	\$570	1	30	\$84	\$3,090				
	Dump Truck 12CY x 2	\$119	2	16	\$59	\$1,182	Grader	1.5	4.5	3.0
	FE Loader C966	\$570	1	8	\$79	\$1,202				
Final Road Maintenance (14 mi.)	Grader 14G	\$570	1	70	\$84	\$6,450				
	Dump Truck 12CY x 4	\$119	4	60	\$59	\$4,016	Grader	1.5	10.3	6.9
	FE Loader C966	\$570	1	16	\$79	\$1,834	Vibratory Roller*	1.5	10.3	6.9
	Vibratory Roller	\$570	1	70	\$79	\$6,100				
	Water Truck 2,500 gallon	\$139	1	70	\$70	\$5,039				
	Labor				10	\$18				
Total										\$29,093

*Final Road Maintenance Only

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Sagermeister

NEW CONSTRUCTION:

Project No.	Road segment	Length/Sta	Cost
1	1A-1B, 1C-1D, 1E-1F, 1G-1H, 1I-11J, 1K-1L	59.85	\$22,916
	2A-2B, 2C-2D,		
	4A-4B, 4C-4D & 5A-5B		
TOTALS		59.85	\$22,916

ROAD IMPROVEMENT:

Project No.	Road segment	Length/Sta	Cost
1	11-12, 13-14, 14-15,	574.90	
	13-16, 16-111, 17-18,		\$130,343
	19-110, 111-112, & 113-114.		
TOTALS		574.90	\$130,343

SPECIAL PROJECTS:

Project No.	Description	Cost
2	Road Brushing	\$30,534
3	Road Vacating	\$4,348
	Project Work Road Maintenance	\$8,540
TOTALS		\$43,422

MOVE IN:

Equipment	Cost
Dozer (D8)	\$1,030
Dump Trucks (10 cy) X 4	\$476
Dump Trucks (20 cy) X 4	\$560
F E Loader (C966)	\$570
Grader (14G)	\$570
Vibratory Roller	\$570
Water Truck (2,500 gallon)	\$139
Excavator (C330) X 2	\$2,060
Skidder	\$525
Backhoe	\$235
Brush Cutter	\$235
TOTAL	\$6,970

GRAND TOTAL **\$203,651**

Compiled By: Long/ Morey *ra*

Date: 9/29/2005

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Sagermeister (Designed Roads)
 ROADS: 1A-1B (18.00), 1K-1L (7.9)

NEW CONSTRUCTION: 25.90 STATIONS 0.49 MILES
 IMPROVEMENT: STATIONS 0.00 MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	1.90	x	\$980.00	=	\$1,862.00
		x		=	
SUB TOTAL FOR CLEARING & GRUBBING					\$1,862

EXCAVATION					
Material	Cy/amount/station	x	Rate	=	Cost
Common Drift Excavation	3.030	x	\$1.28	=	\$3,878.40
Truck End Haul from 1A-1B	350	x	\$2.90	=	\$1,015.00
Embankment Compaction	2,742	x	\$0.45	=	\$1,233.90
Cut Slope Rounding	12.00	x	\$31.00	=	\$372.00
Landing Construction	2.00	x	\$285.00	=	\$570.00
SUB TOTAL FOR EXCAVATION					\$7,069

CULVERT MATERIALS AND INSTALLATION							
Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
Other/miscellaneous:		Description			Quantity	Rate	Cost
							\$0.00
Culvert stakes & markers:		6' FIBERGLASS MARKERS			0	\$14.10	\$0.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION							0.00

Subtotal **\$8,931**

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Sagermeister NEW CONSTRUCTION: 33.95 STATIONS 0.64 MILES
 ROAD: 1C-1D(1.6), 1E-1F(8.15), 1G-1H(10.0), 1I-1J(2.0), 2A-2B(1.25), 2C-2D(1.85), 4A-4B(1.6), 4C-4D(1.5) & 5A-5B(6.0) IMPROVEMENT: 0.00 STATIONS 0.00 MILES

Method	Acres/amount	X	Rate	=	Cost
Scatter Outside of RW	2.10	X	\$980.00	=	\$2,058.00
SUB TOTAL FOR CLEARING & GRUBBING					\$2,058

Material	Stal/amount	X	Rate	=	Cost
Common (Reg Standard Design) \$\$/sta	33.95	X	\$139.00	=	\$4,719.05
Landing Construction \$\$/landing	9.00	X	\$285.00	=	\$2,565.00
1D, 1F, 1H, 1J, 2B, 2D, 4B, 4D, 5B					
SUB TOTAL FOR EXCAVATION					\$7,284

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
			\$11.00	\$0.00			
			\$11.00	\$0.00			
			\$11.00	\$0.00			
			\$11.00	\$0.00			
			\$11.00	\$0.00			
Other/miscellaneous:			Description	Quantity		Rate	Cost
			6" FIBERGLASS MARKERS			\$14.10	\$0.00
							\$0.00
							\$0.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION							\$0
Subtotal							\$9,342

SURFACING		Subgrade prep: Description						Stations/amount	x	Rate/sta/amt	Cost
		Grade, Shape and Ditch 16' (All rock roads)						9.10	x	\$18.20	\$165.62
		Subgrade Compaction (All rock roads)						9.10	x	\$14.80	\$134.68
		(dirt) Grade and Shape 14' outslope						50.75	x	\$13.45	\$682.59
ROAD SEGMENT		4A to 4B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost	
Application		Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 1+60				
Base Rock	4"-0" Crushed	4A to 4B	8	station	50	stations	1.60	80	\$4.95	\$396	
Junctions	4"-0" Crushed		8	junction	24	junctions	1	24	\$4.95	\$119	
Landing Rock	6"-0" Pit-run	1+60	N/A	landing	50	Landings	1	50	\$6.77	\$339	
Total Rock for Road Segment:								4A to 4B	154		\$853
ROAD SEGMENT		4C to 4D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost	
Application		Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 1+50				
Base Rock	4"-0" Crushed	4C to 4D	8	station	50	stations	1.50	75	\$4.95	\$371	
Junctions	4"-0" Crushed		8	junction	24	junctions	1	24	\$4.95	\$119	
Landing Rock	6"-0" Pit-run	1+60	N/A	landing	50	Landings	1	50	\$6.77	\$339	
Total Rock for Road Segment:								4C to 4D	149		\$829
ROAD SEGMENT		5A to 5B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost	
Application		Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 6+00				
Base Rock	4"-0" Crushed	5A to 5B	8	station	50	stations	6.00	300	\$4.95	\$1,485	
Junctions	4"-0" Crushed		8	junction	24	junctions	1	24	\$4.95	\$119	
Landings	6"-0" Pit-run	6+00	N/A	Landing	50	Landings	1	50	\$6.77	\$339	
Total Rock for Road Segment:								5A to 5B	374		\$1,604
Processing:											
		Description						No.sta/Jct	Rate/sta	Cost	
		Water, Process & Compact Crushed Rock:(8" roads in one lift)						9.10	\$41.10	\$374	
		24"-6"	6"-0"	4"-0"	1 1/2"-0"	3/4"-0"	Total				
		0	150	527	0	0	677			\$4,643	
SPECIAL PROJECTS											
		Description						Cost			
SUB TOTAL FOR SPECIAL PROJECTS											
GRAND TOTAL											
										\$22,915.90	
Compiled By:		Long/ Morey				Date: 8/22/2005					

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Sagermeister Road Improvement
 ROADS: I1-I2, I3-I4, I4-I5, I3-I6, I7-I8, I6-I11, I9-I10,
I11-I12, & I13-I14.

NEW CONSTRUCTION: 0.00 STATIONS 0.00 MILES
 IMPROVEMENT: 574.90 STATIONS 10.89 MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	0.00	x	\$980.00	=	\$0.00
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

\$0

EXCAVATION

Material	Quantity (hrs)	x	Rate	=	Cost
C330 excavator for fill reconstruction	36	x	\$138.00	=	\$4,968.00
D-8 cat for fill reconstruction	16	x	\$126.00	=	\$2,016.00
Skidder w/operator for fill compaction	28	x	\$62.00	=	\$1,736.00
Dump truck for fill reconstruction	23	x	\$59.00	=	\$1,357.00
Mechanical tamper w/operator	7	x	\$36.00	=	\$252.00

SUB TOTAL FOR EXCAVATION

\$10,329

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost		
I1-I2	4+64	18"CPP	32	\$12.25	\$392.00		
I1-I2	7+35	18"CPP	40	\$12.25	\$490.00		
*I1-I2	20+71	18"CPP	60	\$9.11	\$546.60		
I1-I2	26+07	18"CPP	40	\$12.25	\$490.00		
*I1-I2	31+10	18"CPP	40	\$8.75	\$350.00		
I1-I2	38+70	18"CPP	32	\$12.25	\$392.00		
I1-I2	52+56	18"CPP	32	\$12.25	\$392.00		
I1-I2	58+97	18"CPP	30	\$12.25	\$367.50		
I3-I4	5+29	18"CPP	34	\$12.25	\$416.50		
I3-I4	7+18	18"CPP	34	\$12.25	\$416.50		
I3-I4	10+80	18"CPP	32	\$12.25	\$392.00		
I3-I4	19+24	18"CPP	36	\$12.25	\$441.00		
I3-I4	26+25	18"CPP	32	\$12.25	\$392.00		
I3-I4	31+31	18"CPP	40	\$12.25	\$490.00		
I3-I4	36+36	18"CPP	40	\$12.25	\$490.00		
I3-I4	40+79	18"CPP	34	\$12.25	\$416.50		
I3-I4	68+92	18"CPP	50	\$12.25	\$612.50		
I3-I4	71+56	18"CPP	32	\$12.25	\$392.00		
*I3-I4	74+82	18"CPP	40	\$9.11	\$364.40		
I3-I4	83+00	18"CPP	40	\$12.25	\$490.00		
I7-I8	4+18	18"CPP	30	\$12.25	\$367.50		
I7-I8	9+50	18"CPP	30	\$12.25	\$367.50		
I7-I8	13+70	18"CPP	50	\$12.25	\$612.50		
I7-I8	14+95	18"CPP	40	\$12.25	\$490.00		
*I6-I11	10+25	18"CPP	40	\$9.11	\$364.40		
*I6-I11	41+55	18"CPP	40	\$9.11	\$364.40		

I11-I12	17+66	18"CPP	32	\$12.25	\$392.00		
I11-I12	22+74	18"CPP	40	\$12.25	\$490.00		
I11-I12	24+07	18"CPP	40	\$12.25	\$490.00		
I11-I12	28+80	18"CPP	40	\$12.25	\$490.00		
I11-I12	34+07	18"CPP	34	\$12.25	\$416.50		
I11-I12	40+82	18"CPP	36	\$12.25	\$441.00		
I11-I12	50+16	18"CPP	32	\$12.25	\$392.00		
I11-I12	60+69	18"CPP	32	\$12.25	\$392.00		
I11-I12	68+08	18"CPP	40	\$12.25	\$490.00		
I11-I12	85+41	18"CPP	50	\$12.25	\$612.50		

* Cost for materials only. Installation costs are included in the fill re-construction costs above.

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	50	\$14.10	\$705.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

16,610.80

Subtotal

\$26,940

SURFACING		Subgrade prep:		Description	Stations/amount	x	Rate/sta/amt	Cost	
				Grade, Shape and Ditch 16' (All rocked roads)	574.90	x	\$18.20	\$10,463.18	
				Surfacing Rock Processing & Compaction (Subgrade Leveling)	574.90	x	\$17.80	\$10,233.22	
ROAD SEGMENT		I1 to I2		POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2	0+00 to 84+35				
				Volume (CY) per	Number of				
Leveling Rock	3/4"-0" Crushed	leveling					500	\$4.96	\$2,480
Culvert Backfill	1 1/2"-0" Recycled	backfill		culvert	20	culverts	5	\$2.11	\$211
Culvert Backfill	1 1/2"-0" Recycled	backfill		culvert	30	culverts	1	\$2.11	\$63
Culvert Bedding	1 1/2"-0" Recycled	culv. Bedding		culvert	30	culverts	2	\$2.11	\$127
Fill Surfacing Rock	4"-0" Crushed	fill base		fill	40	fills	2	\$4.96	\$397
Energy Dissipator	24"-6" Riprap			dissipator	10	dissipators	3	\$6.77	\$203
Fill Armor	24"-6" Riprap	fill armor					110	\$6.77	\$745
Total Rock for Road Segment:				I1 to I2			910		\$4,226
ROAD SEGMENT		I3 to I4		POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4	0+00 to 88+70				
				Volume (CY) per	Number of				
Leveling Rock	1 1/2"-0" Crushed	I3-I4					300	\$4.96	\$1,488
Surfacing	3/4"-0" Crushed		3	station	22	stations	88.70	\$4.96	\$9,679
Curve Widening	3/4"-0" Crushed		3	curve		curves	160	\$4.96	\$794
Turnouts	3/4"-0" Crushed		3	turnout	10	turnouts	20	\$4.96	\$992
Junctions	3/4"-0" Crushed		3	junction	10	junctions	7	\$4.96	\$347
Culvert Backfill	1 1/2"-0" Recycled			culvert	20	culverts	9	\$2.11	\$380
	1 1/2"-0" Recycled			culvert	30	culverts	3	\$2.11	\$190
Fill Surfacing Rock	4"-0" Crushed	74+82		fill	40	fills	1	\$4.96	\$198
Energy Dissipator	24"-6" Riprap			dissipator	10	dissipators	4	\$6.77	\$271
Fill Armor	24"-6" Riprap	74+82					30	\$6.77	\$203
Total Rock for Road Segment:				I3 to I4			3,061		\$14,542
ROAD SEGMENT		I4 to I5		POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I4 to I5	0+00 to 154+30				
				Volume (CY) per	Number of				
Leveling Rock	1 1/2"-0" Crushed	I4-I5					600	\$4.96	\$2,976
Base Re-inforcement	4"-0" Crushed						100	\$4.96	\$496
Total Rock for Road Segment:				I4 to I5			700		\$3,472
ROAD SEGMENT		I3 to I6		POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I6	0+00 to 98+00				
				Volume (CY) per	Number of				
Leveling Rock	1 1/2"-0" Crushed	I3-I6					330	\$4.96	\$1,637
Surfacing	3/4"-0" Crushed		3	station	22	stations	98.00	\$4.96	\$10,694
Curve Widening	3/4"-0" Crushed		3				80	\$4.96	\$397
Turnouts	3/4"-0" Crushed		3	turnout	10	turnouts	7	\$4.96	\$347
Junctions	3/4"-0" Crushed		3	junction	10	junctions	5	\$4.96	\$248
Fill Armor	24"-6" Riprap	6+80					200	\$6.77	\$1,354
Total Rock for Road Segment:				I3 to I6			2,886		\$14,677
ROAD SEGMENT		I6 to I11		POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I6 to I11	0+00 to 86+25				
				Volume (CY) per	Number of				
Culvert Backfill	1 1/2"-0" Recycled	I6-I11		culvert	20	culverts	2	\$2.11	\$84
Surface Rock Replacement	3/4"-0" Crushed						40	\$4.96	\$198
Base Rock Replacement	4"-0" Crushed			culvert	40	culverts	2	\$4.96	\$397
Energy Dissipator & Armor	24"-6" Riprap						80	\$6.77	\$542
Total Rock for Road Segment:				I6 to I11			240		\$1,221

ROAD SEGMENT	17 to 18			POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	17 to 18 Volume (CY) per	0+00 to 19+40 Number of				
Leveling Rock	1 1/2"-0" Crushed	17-18					250	\$4.96	\$1,240
Culvert Backfill	1 1/2"-0" Recycled			culvert	20	culverts	4	\$2.11	\$169
Energy Dissipator	24"-6" Riprap			dissipator	10	dissipators	2	\$6.77	\$135
Total Rock for Road Segment:							350		\$1,544
ROAD SEGMENT	19 to 110			POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	19 to 110 Volume (CY) per	0+00 to 19+30 Number of				
Leveling Rock	1 1/2"-0" Crushed	19-110					200	\$4.96	\$992
Total Rock for Road Segment:							200		\$992
ROAD SEGMENT	111 to 112			POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	111 to 112 Volume (CY) per	0+00 to 107+90 Number of				
Leveling Rock	1 1/2"-0" Crushed	111-112					220	\$4.96	\$1,091
Culvert Backfill	1 1/2"-0" Recycled			culvert	20	culverts	7	\$2.11	\$295
Culvert Backfill	1 1/2"-0" Recycled			culvert	30	culverts	3	\$2.11	\$190
Surfacing	1 1/2"-0" Crushed		3	station	19	stations	107.90	\$4.96	\$10,168
Curve Widening	1 1/2"-0" Crushed		3				180	\$4.96	\$893
Turnouts	1 1/2"-0" Crushed		3	turnout	10	turnouts	19	\$4.96	\$942
Junctions	1 1/2"-0" Crushed		3	junction	10	junctions	9	\$4.96	\$446
Energy Dissipator	24"-6" Riprap			dissipator	10	dissipators	6	\$6.77	\$406
Total Rock for Road Segment:							3,020		\$14,433
ROAD SEGMENT	113 to 114			POINT TO POINT	Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Cy/ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	113 to 114 Volume (CY) per	0+00 to 3+00 Number of				
Leveling Rock	1 1/2"-0" Recycled	113-114					80	\$2.11	\$169
Total Rock for Road Segment:							80		\$169
\$75,971									
Processing:							No.sta/Jct	Rate/sta	
Water, Process & Compact Crushed Rock							574.90	\$41.40	\$23,801
							24"-6"	6"-0"	4"-0"
							570	0	300
							11/2"-0"	3/4"-0"	Total
							5,300	5,277	11,448
SPECIAL PROJECTS									
Description							Cost		
Development of 24"-6" riprap rock. 570 cy x \$3.10/cy.							\$1,767.00		
Placement of 24"-6" Dissipator Rock on Surface Culverts 8 Hrs. x \$68/Hr.							\$544.00		
Crush and load old culverts to be hauled away. 9 Hrs. x 68/Hr.							\$612.00		
Haul away old culverts. (includes 2 old scrap culverts on 13 to 14) 12 Hrs. x \$59/Hr.							\$708.00		
SUB TOTAL FOR SPECIAL PROJECTS									\$3,631.00
GRAND TOTAL									\$130,343
Compiled By: Long/ Morey					Date: 9/29/2005				

CRUSHED ROCK COST

SALE NAME: Sagermeister
 PROJECT: No. 1 New Road Const.
 QUARRY: Northrup

ROCK TYPE: 4" Crushed

DATE: 8/22/2005
 BY: J. Long

Segment	Stations	Cubic Yards							Total
		Base	Traction	Turnout	Turnaround	Junction	Curves	Misc	
4A-4B	1.60	80				24			104
4C-4D	1.50	75				24			99
5A-5B	6.00	300				24			324
Grand Total	9.10	455				72			527

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
4A-4B	1.60	104	1.00	1.00	4.00	3.00	1.80	0.20	0.10	11.10
4C-4D	1.50	99	1.00	1.00	4.00	3.00	1.90	0.20	0.10	11.20
5A-5B	6.00	324	1.00	1.00	2.00	1.20	1.50	0.40	0.10	7.20
TOTAL	9.10	527								
	STA./NO.	CU. YD.	1.00	1.00	2.77	1.89	1.63	0.32	0.10	AVERAGE HAUL 8.72

Average Round Trip Distance (miles) **17.44**

ROCK HAUL:

Truck type D20 No. trucks: 3
 Delay min. 8 Efficiency: 85%

Ave haul: \$4.57 /cy
 Load: \$0.70 /cy
 Spread: \$1.05 /cy

Truck type D12 No. trucks:
 Delay min. 6 Efficiency: 85%

Truck type D10 No. trucks: 3
 Delay min. 5 Efficiency: 85%

Production: cy/day = 651

CRUSHED ROCK HAUL COSTS 527 cy @ \$6.32 /cy

CRUSHED ROCK COST

SALE NAME: Sagermeister
 PROJECT: No. 1
 QUARRY: Northrup

ROCK TYPE: Pit and Riprap

DATE: 8/22/2005
 BY: J. Long

Segment	Stations	Cubic Yards							Total
		Landing	Running	Turnout	Turnaround	Junction	Curves	Misc	
4A-4B	1.60	50							50
4C-4D	1.50	50							50
5A-5B	6.00	50							50
I1-I2	84.35							140	140
I3-I4	88.70							70	70
I3-I6	98.00							200	200
I6-I11	86.25							80	80
I7-I8	19.40							20	20
I11-I12	107.90							60	60
Grand Total	493.70	150						570	720

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
4A-4B	1.60	50	1.00	1.00	4.00	4.40	1.80	0.30	0.10	12.60
4C-4D	1.50	50	1.00	1.00	4.00	4.40	1.90	0.30	0.10	12.70
5A-5B	6.00	50	1.00	1.00	2.00	2.60	1.80	0.30	0.10	8.80
I1-I2	84.35	140	1.00	1.00	1.00	1.00	0.50	0.20	0.10	4.80
I3-I4	88.70	70	1.00	1.00	3.10	3.00	0.50	0.20	0.10	8.90
I3-I6	98.00	200	1.40	1.40	2.00	1.10	0.50	0.20	0.10	6.70
I6-I11	86.25	80	1.40	1.40	3.00	1.90	0.50	0.20	0.10	8.50
I7-I8	19.40	20	1.40	1.40	2.40	1.90	0.50	0.20	0.10	7.90
I11-I12	107.90	60	1.40	1.40	4.00	3.70	0.50	0.20	0.10	11.30
TOTAL	493.70	720								
CUBIC YARD WEIGHTED HAUL			1.20	1.20	2.48	2.16	0.78	0.22	0.10	AVERAGE HAUL 8.13
Average Round Trip Distance (miles) 16.27										

ROCK HAUL:

Truck type D20 No. trucks: _____
 Delay min. 8 Efficiency: 85%

Ave haul: \$5.37 /cy
 Load: \$1.20 /cy
 Spread: \$0.20 /cy

Truck type D12 No. trucks: _____
 Delay min. 6 Efficiency: 85%

Truck type D10 No. trucks: 4
 Delay min. 5 Efficiency: 85%

Production: cy/day = 339

CRUSHED ROCK HAUL COSTS 720 cy @ **\$6.77 /cy**

CRUSHED ROCK COST

SALE NAME: Sagermeister
 PROJECT: No. 1 Road Improvement
 QUARRY: Recycled Stockpile

ROCK TYPE: Recycled

DATE: 9/28/2005
 BY: J. Long

		Cubic Yards								
Segment	Stations	Base	Running	Turnout	Backfill	Junction	Curves	Misc	Total	
I1-I2	84.35				190				190	
I3-I4	88.70				270				270	
I6-I11	86.25				40				40	
I7-I8	19.40				80				80	
I11-I12	107.90				230				230	
I13-I14	3.00	80							80	
Grand Total	389.60	80			810				890	
		ONE WAY HAUL IN MILES								Total Haul
Road Segment	Stations	Cubic Yards	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
I1-I2	84.35	190				0.20	0.20	0.10	0.10	0.60
I3-I4	88.70	270				0.40	0.50	0.20	0.10	1.20
I6-I11	86.25	40				0.50	0.40	0.30	0.10	1.30
I7-I8	19.40	80				0.40	0.30	0.20	0.10	1.00
I11-I12	107.90	230				0.10	0.10	0.10	0.10	0.40
I13-I14	3.00	80				0.40	0.30	0.20	0.10	1.00
TOTAL	389.60	890								
CUBIC YARD WEIGHTED HAUL						0.28	0.29	0.16	0.10	AVERAGE HAUL 0.83
Average Round Trip Distance (miles)									1.67	

ROCK HAUL:

Truck type D20 No. trucks: _____
 Delay min. 8 Efficiency: 85%

Truck type D12 No. trucks: _____
 Delay min. 6 Efficiency: 85%

Truck type D10 No. trucks: 2
 Delay min. 5 Efficiency: 85%

Ave haul: \$1.41 /cy
 Load: \$0.70 /cy
 Spread: /cy

Production: cy/day = 648

CRUSHED ROCK HAUL COSTS 890 cy @ **\$2.11 /cy**

CRUSHED ROCK COST

SALE NAME: Sagermeister
 PROJECT: No. 1 New Const. & Improve
 QUARRY: Northrup & Cow Creek Stockpiles

ROCK TYPE: Crushed

DATE: 9/8/2005
 BY: J. Long

Segment	Stations	Cubic Yards							Total
		Base	Running	Turnout	Backfill	Junction	Curves	Misc	
I1-I2	84.35	500						80	580
I3-I4	88.70	300	1,951	200		70	160	40	2,721
I4-I5	154.30	600						100	700
I3-I6	98.00	330	2,156	70		50	80		2,686
I6-I11	86.25							120	120
I7-I8	19.40	250							250
I9-I10	19.30	200							200
I11-I12	107.90	220	2,050	190		90	180		2,730
I13-I14	3.00								
4A-4B	1.60	80				24			104
4C-4D	1.50	75				24			99
5A-5B	6.00	300				24			324
Grand Total	670.30	2,855	6,157	460		282	420	340	10,514

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
I1-I2	84.35	580	1.00	1.00	1.00	1.00	0.50	0.20	0.10	4.80
I3-I4	88.70	2,721	1.00	1.00	2.20	1.40	0.50	0.20	0.10	6.40
I4-I5	154.30	700	1.00	1.00	3.10	3.00	0.50	0.20	0.10	8.90
I3-I6	98.00	2,686	1.40	1.40	2.00	1.10	0.50	0.20	0.10	6.70
I6-I11	86.25	120	1.40	1.40	3.00	1.90	0.50	0.20	0.10	8.50
I7-I8	19.40	250	1.40	1.40	2.40	1.90	0.50	0.20	0.10	7.90
I9-I10	19.30	200	1.40	1.40	2.40	2.10	0.50	0.20	0.10	8.10
I11-I12	107.90	2,730	1.40	1.40	4.00	3.70	0.50	0.20	0.10	11.30
I13-I14	3.00		1.00	1.00	2.10	1.50	0.50	0.20	0.10	6.40
4A-4B	1.60	104	1.00	1.00	4.00	3.00	1.80	0.20	0.10	11.10
4C-4D	1.50	99	1.00	1.00	4.00	3.00	1.70	0.40	0.10	11.20
5A-5B	6.00	324	1.00	1.00	2.00	1.50	1.70	0.20	0.10	7.50
TOTAL	670.30	10,514								
	STA./NO.	CU. YD.								AVERAGE HAUL
			1.23	1.23	2.66	2.07	0.56	0.20	0.10	8.04
Average Round Trip Distance (miles)									16.09	

ROCK HAUL:

Truck type D20 No. trucks: 4
 Delay min. 8 Efficiency: 85%

Ave haul: \$3.91 /cy
 Load: \$0.40 /cy
 Spread: \$0.65 /cy

Truck type D12 No. trucks:
 Delay min. 6 Efficiency: 85%

Truck type D10 No. trucks: 4
 Delay min. 5 Efficiency: 85%

Production: cy/day = 1,014

CRUSHED ROCK HAUL COSTS 10,514 cy @ \$4.96 /cy

Sagermeister

**Project No. 1
Road Improvement**

Location/Description	Excavator C 330	Rubber Tire	D8 Cat	Mechanical Tamper	Dump Truck	Total
Fill Re-construction * I1 to I2, Sta. 20+71 12' Fill	16 hr	Skidder 12 hr	12 hr	w/Operator 2 hr	12 hr	
Fill Re-construction * I1 to I2, Sta. 31+10 8' Fill	8 hr	Skidder 4 hr	4 hr	w/Operator 2 hr	6 hr	
Fill Re-construction * I3 to I4, Sta. 74+82 5' Fill	2 hr	Skidder 1 hr	hr	w/Operator 1 hr	2 hr	
Fill Re-construction * I6 to I11, Sta. 10+25 4' Fill	2 hr	Skidder 1 hr	hr	w/Operator 1 hr	hr	
Fill Re-construction * I6 to I11, Sta. 41+55 3' Fill	2 hr	Skidder 1 hr	hr	w/Operator 1 hr	hr	
Slide Repair & armor I3 to I6, Sta. 57+41	6 hr				3 hr	
Total	36 hr	19 hr	16 hr	7 hr	23 hr	
Rate	\$138 /hr	\$62 /hr	\$126 /hr	\$36 /hr	\$59 /hr	
Cost	\$4,968	\$1,178	\$2,016	\$252	\$1,357	\$9,771

* Cost includes placement of riprap fill armor.

J. Long

9/28/2005

Project No. 2 Sagermeister Brushing

Segment	Length (Miles)	Brush Type	Cost/Mile	Cost
B1	0.90	M	\$1,350	\$1,215.00
B2	0.28	M	\$1,350	\$378.00
B3-B4	1.50	M	\$1,350	\$2,025.00
B5	0.16	L	\$1,150	\$184.00
B6	0.33	M	\$1,350	\$445.50
B7	0.25	M	\$1,350	\$337.50
B8	0.25	H	\$1,650	\$412.50
B9 - B39	1.20	M	\$1,350	\$1,620.00
B10-B11	0.10	M	\$1,350	\$135.00
B12	0.40	H	\$1,650	\$660.00
B13	0.04	H	\$1,650	\$66.00
B14	0.50	M	\$1,350	\$675.00
B15	0.15	M	\$1,350	\$202.50
B16	0.40	H	\$1,650	\$660.00
B17	0.25	M	\$1,350	\$337.50
B18	0.20	M	\$1,350	\$270.00
B19	0.30	H	\$1,650	\$495.00
B20	0.25	H	\$1,650	\$412.50
B21	0.60	M	\$1,350	\$810.00
B22	0.10	H	\$1,650	\$165.00
I3-B23	3.50	M	\$1,350	\$4,725.00
B24	0.10	H	\$1,650	\$165.00
B25	0.25	H	\$1,650	\$412.50
B26	0.10	H	\$1,650	\$165.00
B27	0.70	H	\$1,650	\$1,155.00
B28	0.45	H	\$1,650	\$742.50
B29	0.60	H	\$1,650	\$990.00
B30	0.40	H	\$1,650	\$660.00
I7-B31	0.85	M	\$1,350	\$1,147.50
B32	0.50	H	\$1,650	\$825.00
B33-B34	0.45	M	\$1,350	\$607.50
B35	0.75	H	\$1,650	\$1,237.50
B36	0.45	H	\$1,650	\$742.50
B37-B38	0.10	L	\$1,150	\$115.00
I1-I2	1.60	L	\$1,150	\$1,840.00
I11-I12	2.25	M	\$1,350	\$3,037.50
I9-I10	0.40	L	\$1,150	\$460.00
I13-I14	0.10	H	\$1,650	\$165.00
Total Miles	21.61		Total Project Cost	\$30,534

L = Light Brush \$1,150
 M = Medium Brush \$1,350
 H = Heavy Brush \$1,650
 VH= Very Heavy \$ 2,300
 (1-11-05)

Sagermeister

Project No. 3 Road Vacating

Location/Description	C330 #1	C330 #2	D-7 CAT	10 CY Truck	Labor	Straw Mulch & Seed*	Total
V1 to V2 Sta. 0+00 to 12+20 Waterbar/Block Road	2						
V1 to V2 Sta. 0+95 Remove Culvert/Fill (15' fill ht.) Develop 6' stream channel	8				2	15	
V1 to V2 STA. 2+55 Remove Culvert/Fill (16' fill ht.) Develop 6' stream channel	8				2	15	
V1 to V2 STA. 6+35 Remove Culvert Re-establish natural drainage contours	1					2	
V1 to V2 STA. 12+20 Remove Culvert/Fill (6' fill ht.) Re-establish natural drainage contours	3					6	
Point V3 Remove Culvert/Fill (12' fill ht.) Re-establish natural drainage contours	6					8	
Haul away old culverts				2	1		
Total	28 hr	0 hr	0 hr	2 hr	5 hr	46	
Rate	\$138 /hr	\$136 /hr	\$94 /hr	\$59 /hr	\$18 /hr	\$6.00	
Cost	\$3,864	\$0	\$0	\$118	\$90	\$276	\$4,348

Project No. 3 Total Cost

\$4,348

*Cost for bales/seed includes bales of straw and grass seed @ 100 lbs/ac.

9/28/2005

Road Maintenance after completion of Projects

Sale: Sagermeister
Date: 28-Jul-05
By: Long

Type	Equipment/Rationale	Hours	Rate	Cost
Final Haul Road Maintenance Haul Route	Grader 14G	30	\$84	\$2,520
	Dump Truck 12CY x 2	20	\$59	\$1,180
	FE Loader C966	10	\$79	\$790
	Vibratory Roller	30	\$79	\$2,370
	Water Truck 2,500 gallon	24	\$70	\$1,680
Total				\$8,540

Production Rates
 Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	4.2	2.8
1.5	4.2	2.8

X:\Jewell Unit\timber sales\2006\Sagermeister\Projects\Roadcosts.xls

Road Maintenance Cost Summary

Sale: Sagermeister
Date: 28-Sep-05
By: J. Long

MBF: 4,675
\$\$/MBF: \$6.22

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Production Rates	Miles/day	Distance(miles)	Days
Progressive Operations 1st Entry(6 mi.)	Grader 14G	\$570	1	30	\$84	\$3,090	Grader	1.5	4.5	3.0
	Dump Truck 12CY x 2	\$119	2	16	\$59	\$1,182				
	FE Loader C966	\$570	1	8	\$79	\$1,202				
Final Road Maintenance (14 mi.)	Grader 14G	\$570	1	70	\$84	\$6,450	Vibratory Roller*	1.5	10.3	6.9
	Dump Truck 12CY x 4	\$119	4	60	\$59	\$4,016				
	FE Loader C966	\$570	1	16	\$79	\$1,834				
	Vibratory Roller	\$570	1	70	\$79	\$6,100				
	Water Truck 2,500 gallon	\$139	1	70	\$70	\$5,039				
	Labor			10	\$18	\$180				
Total										\$29,093

*Final Road Maintenance Only

TIMBER CRUISE REPORT
Sagermeister
FY 2006

1. Sale Area Location: Areas 1 – 7 are located in portions of Sections 26, 27, 34, 35, and 36 of T6N, R6W, W.M., Clatsop County, Oregon.

2. Fund Distribution: BOF 89% and CSL 11%
 Tax Code 8-01 (100%)

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Existing R/W	New R/W	Stream Buffer	Net Acres	Survey Method	Closure
1	SDI 37 Thinning	143.0	2.8	3.3	14.9	122.0	GIS	N/A
2	SDI 37 Thinning	27.0	0	0.2	3.8	23.0	GIS	N/A
3	SDI 37 Thinning	26.0	0	0	3.0	23.0	GIS	N/A
4	SDI 37 Thinning	37.0	0	0.2	3.8	33.0	GIS	N/A
5	SDI 37 Thinning	33.0	0	0.3	2.7	30.0	GIS	N/A
6	Topping	28.0	0	0	3.0	25.0	GIS	N/A
7	SDI 37 Thinning	25.0	1.4	0	2.6	21.0	GIS	N/A
8 (R/W)	New Roads	4.0	0.0	0.0	0.0	4.0	Road Eng/GIS	N/A
TOTALS		323.0	4.2	4.0	33.8	281.0		

4. Cruisers and Cruise Dates: Sale Areas 1 - 5 and 7 were cruised by Lanny Freeman, Jon Long, Bryce Rodgers, Derek Bangs, Kevin Berry, Jay Morey, and Dave Wolfram on May 25 and 26, 2005.

5. Cruise Method and Computation: Areas 1 - 5 and 7 are "auto-mark" thinning units (SDI 37), and were variable plot cruised using a 54.44 BAF. A total of 88 plots were sampled, with 34 measured and graded plots, and 54 count plots. These plots are located on a 7.5 chain by 4 chain grid with every third plot being measured and graded. Western red cedar are "Reserved Timber," and were recorded as leave trees. All hardwood species were recorded as leave trees. Areas 1-5, and 7 were combined because of similarities in timber types and prescription.

AREA 8 R/W, in-sale right-of-way, volume was calculated by multiplying R/W acreage and the average volume per acre from the plots in Areas 1– 5, and 7.

All cruises used Corvallis MicroTechnology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

<u>AREA</u>	<u>CRUISE</u>	<u>CRUISE TYPE</u>
1 & 7	SAGERMEI	06N 06W SEC 00 TRACT: SAGERMEI TYPE:00PC
2 - 5	SAGERMEI	06N 06W SEC 00 TRACT: SAGERMEI TYPE:00PC2
8 R/W	In-Sale Right-of-Way	7N 6W SEC 33 TRACT:RW TYPE:RW

6. Timber Description: Areas 1 – 5 and 7 consist of well stocked Douglas-fir with small components of mixed conifer and red alder. The trees range from 81 to 99 years old. The Douglas-fir will be thinned to an SDI of 37, with a target basal area of 180 ft². All hardwoods and western redcedar will be reserved. Approximately 47 trees per acre and 17.4 MBF/acre (net) will be harvested from these stands. The average Douglas-fir "take" tree size is 18.5" DBH and 83 feet to a merchantable top (7" d.i.b.).

Area 6 consists of well stocked Douglas-fir with small components of mixed conifer and red alder. This stand has been salvage logged in the past. The average age of this stand is 110 years old. No commercial harvest will occur in this sale area with this operation. All activities occurring in this area will involve topping of trees for snag and down wood creation. This stand currently has an average SDI of 51 and average DBH of 24 inches.

Area 8 R/W (In-Sale R/W) is similar to the timber description mentioned above for Areas 1 – 5 and 7. The average volume (net) is 70 MBF/acre.

7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)

Statistics for total stand (Take and Leave trees combined) B.F. volumes

Area	Estimated CV	Target SE%	Actual CV*	Actual SE%*
1 - 5 and 7	45%	7%	46.7	5.0%

*Based on Net Board Feet Per Acre.

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade - Type and Project Reports, attached, of individual sale areas and combined areas and three cruise types). Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	Special Mill	No. 3 Peeler	2 Saw	3Saw	4 Saw	D & B	% Sale
Douglas-fir	18.5	4,669	570	17	2,517	1,394	171	80	99
Hemlock	13	<1	0	0	0	0	<1	<1	<1
Alder	17	6	0	0	0	1	5	<1	<1
Cedar	13	<1	0	0	0	0	<1	<1	<1
TOTALS		4,675	570	17	2,517	1,395	176	80	100

9. Approvals:

Prepared by: Jay Morey
 Reviewed by: *Jon Long*

Date: July 21, 2005
 Date: 8-24-05

10. Attachments:

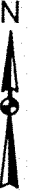
- Cruise Design – 2 pages
- Cruise Map
- Volume Reports - 3 pages
- Statistics Reports - 5 pages
- Stand Tables - 2 pages
- Log Stock Table (MBF)

LOGGING BREAKDOWN

Area	Tractor	Cable
1	52%	48%
2	9%	91%
3	80%	20%
4	30%	70%
5	30%	70%
6	n/a	n/a
7	29%	71%

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-06-29
 SAGERMEISTER
 PORTIONS OF SECTIONS 26, 27,
 34, 35, & 36 of T6N, R6W, W.M.,
 CLATSOP COUNTY, OREGON

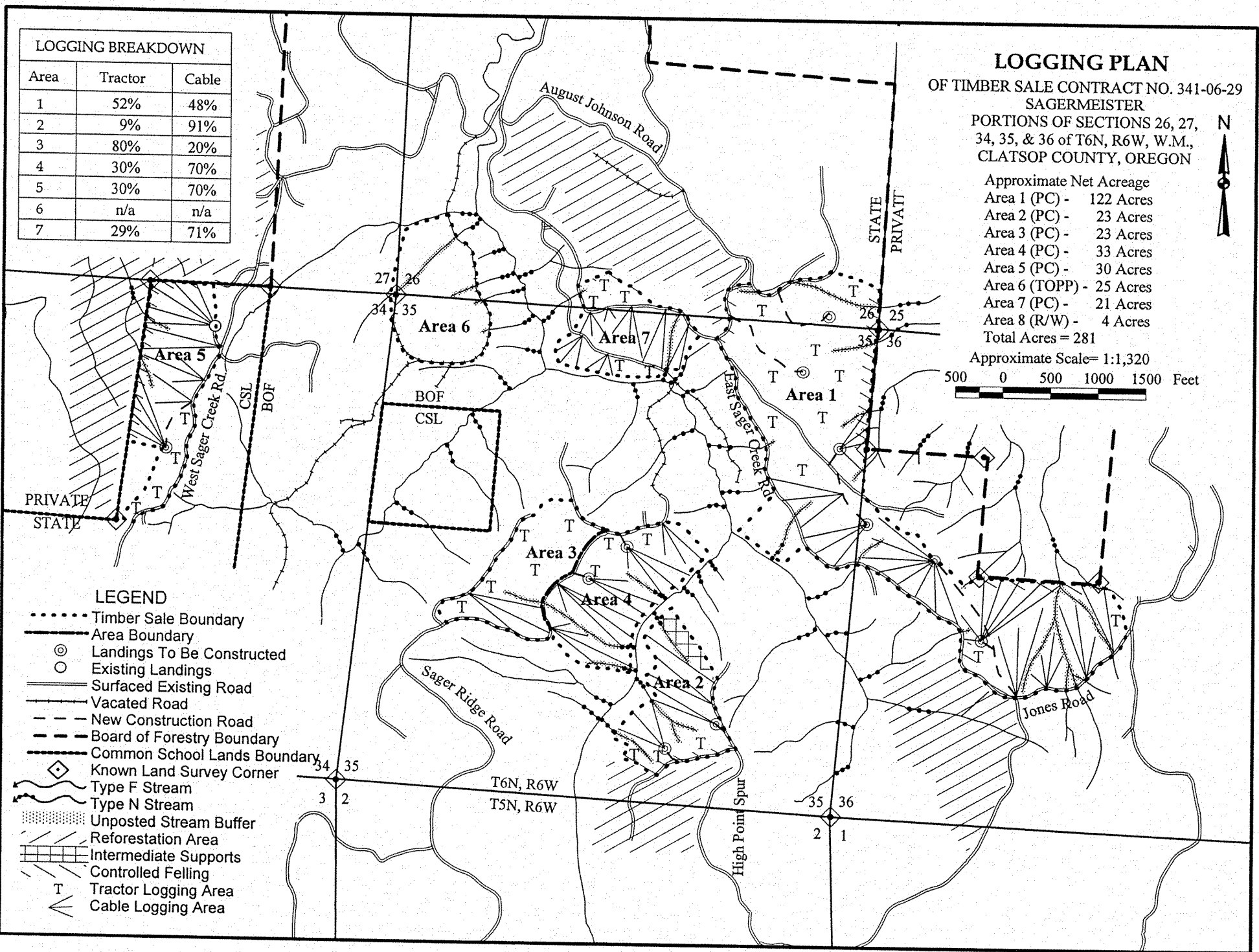
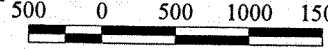


Approximate Net Acreage

- Area 1 (PC) - 122 Acres
- Area 2 (PC) - 23 Acres
- Area 3 (PC) - 23 Acres
- Area 4 (PC) - 33 Acres
- Area 5 (PC) - 30 Acres
- Area 6 (TOPP) - 25 Acres
- Area 7 (PC) - 21 Acres
- Area 8 (R/W) - 4 Acres
- Total Acres = 281

Approximate Scale = 1:1,320

500 0 500 1000 1500 Feet



LEGEND

- Timber Sale Boundary
- Area Boundary
- ⊙ Landings To Be Constructed
- Existing Landings
- Surfaced Existing Road
- Vacated Road
- - - New Construction Road
- - - Board of Forestry Boundary
- - - Common School Lands Boundary
- ◊ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- ▨ Unposted Stream Buffer
- ▨ Reforestation Area
- ▨ Intermediate Supports
- ▨ Controlled Felling
- T Tractor Logging Area
- ▨ Cable Logging Area

CRUISE DESIGN ASTORIA DISTRICT

Sale Name: Sagermeister Area(s) 1 & 7

Harvest Type: CO PC CT "Automark Thinning" (circle one)

Net BF or

Net BF or

Approx. Cruise Acres: 168 Estimated CV% 45 BA/Acre SE% Objective 7 BA/Acre

Planned Sale Volume: 5,280 MMBF Estimated Sale Area Value/Acre: \$ 7,650/Ac
(All Areas) (17 MBF/Ac)

- A. **Cruise Goals:** (a) Grade minimum 100 conifer and _____ hardwood trees:
(b) Sample 58 cruise plots (1 grade/ 2 count); (c) Other goals (____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. **Cruise Design:**

1. **Plot Cruises:** BAF 54.44 (Full point; Half point) (circle one)

Cruise Line Direction(s) See Map

Cruise Line Spacing See Attached Map (chains) (feet)

Cruise Plot Spacing See Attached Map (chains) (feet)

Grade/Count Ratio 1/2

All cedar and hardwoods are leave trees and are recorded as leave trees. Hardwoods do not count towards residual stand basal area.

C. **Tree Measurements:**

- Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest $\frac{1}{2}$ " for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 8" hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum

merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

6. Species, Sort, and Grade Codes:

- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

7. Deductions: Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. Standard Field Procedures: Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at intervisible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. Cruising Equipment: Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. Attachments: A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, north arrow, and scale.

Cruise Design by: Jay Morey
Approved by: *[Signature]*
Date: 5/24/05

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Sagermeister Area(s) 2-5

Harvest Type: CC PC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 123 Estimated CV% 45 BA/Acre Net BF or Net BF or SE% Objective 7 BA/Acre

Planned Sale Volume: 5,280 MMBF Estimated Sale Area Value/Acre: \$ 11,700/Ac
(All Areas) (26 MBF/Ac)

A. **Cruise Goals:** (a) Grade minimum 70 conifer and _____ hardwood trees:
(b) Sample 39 cruise plots (1 grade/ 2 count); (c) Other goals (____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. **Plot Cruises:** BAF 54.44 (Full point) Half point) (circle one)
Cruise Line Direction(s) See Map
Cruise Line Spacing See Attached Map (chains) (feet)
Cruise Plot Spacing See Attached Map (chains) (feet)
Grade/Count Ratio 1/2

All cedar and hardwoods are leave trees and are recorded as leave trees. Hardwoods do not count towards residual stand basal area.

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. **Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. **Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 8" hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.

4. **Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum

merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

6. Species, Sort, and Grade Codes:

- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

7. **Deductions**: Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures: Plot Type Cruises**: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at intervisible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. **Cruising Equipment**: Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments**: A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, north arrow, and scale.

Cruise Design by: Jay Morey
Approved by: *Jon Long*
Date: 5/24/05

⊙ = Grade

Sagermeister Cruise Map Master

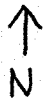
□ Sagermeister.shp

△ New const3.shp

∩ Streams_clipped.shp

∩ Roads.shp

x = Dropped



Scale
1" = 1,500'
1:18,000

Area 5

Area 6

Area 7

Area 1

Area 3

Area 4

Area 2

Sagermeister Cruise Map Areas 1-5, 7

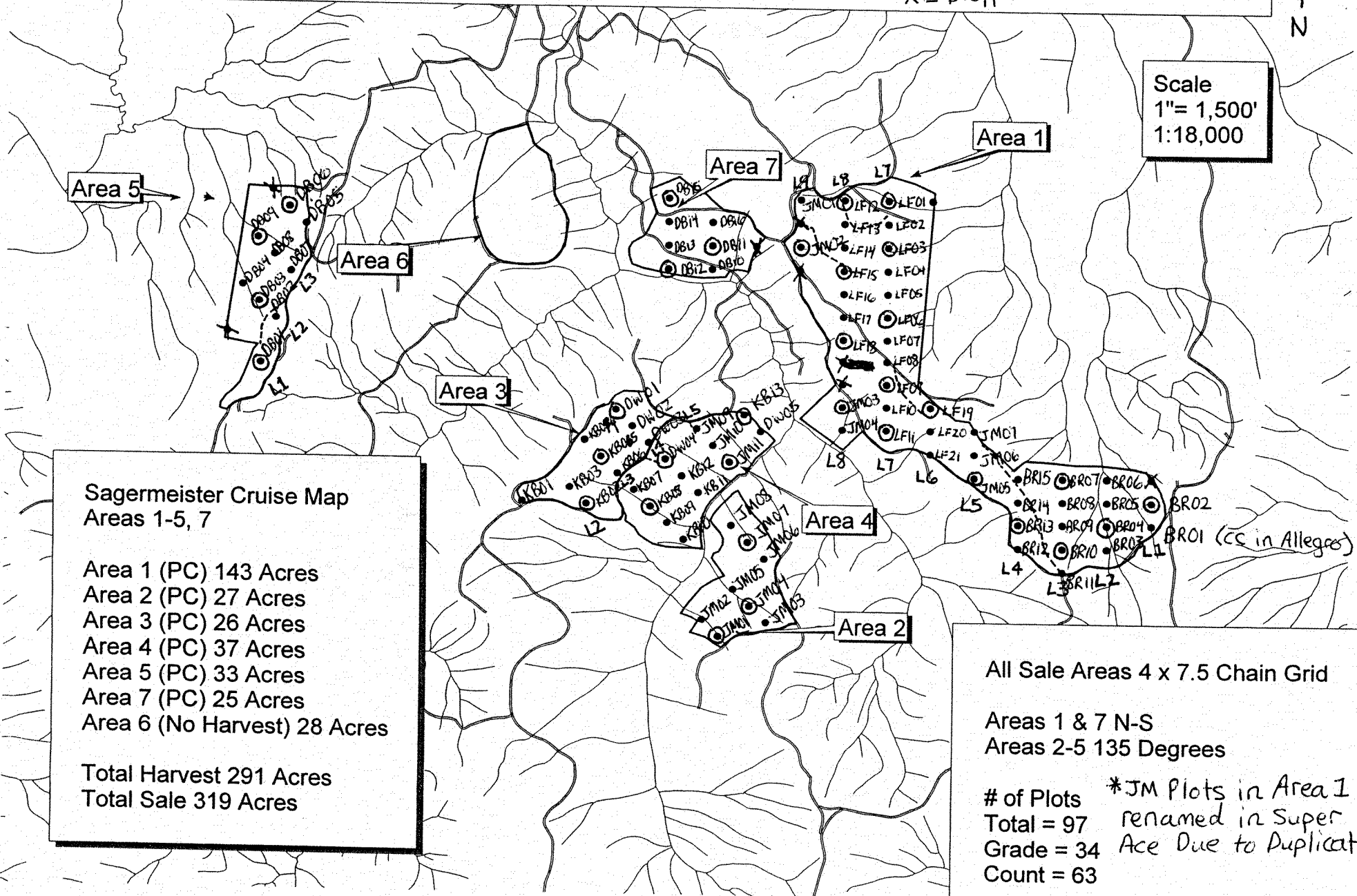
- Area 1 (PC) 143 Acres
- Area 2 (PC) 27 Acres
- Area 3 (PC) 26 Acres
- Area 4 (PC) 37 Acres
- Area 5 (PC) 33 Acres
- Area 7 (PC) 25 Acres
- Area 6 (No Harvest) 28 Acres

Total Harvest 291 Acres
Total Sale 319 Acres

All Sale Areas 4 x 7.5 Chain Grid

Areas 1 & 7 N-S
Areas 2-5 135 Degrees

of Plots *JM Plots in Area 1
Total = 97 renamed in Super
Grade = 34 Ace Due to Duplication
Count = 63



Sagermeister Cruise Map



Sagermeister.shp



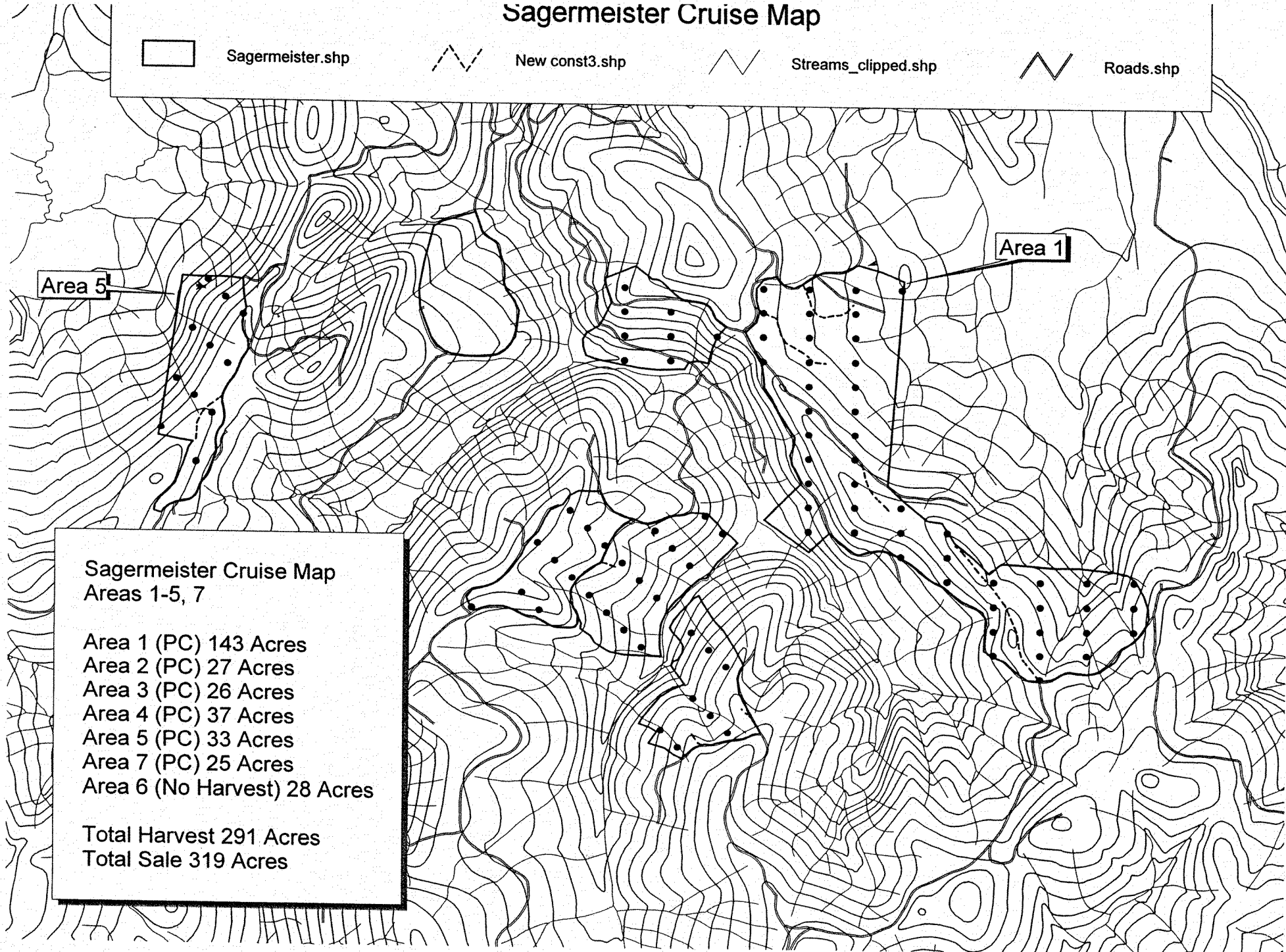
New const3.shp



Streams_clipped.shp



Roads.shp



Sagermeister Cruise Map Areas 1-5, 7

Area 1 (PC) 143 Acres

Area 2 (PC) 27 Acres

Area 3 (PC) 26 Acres

Area 4 (PC) 37 Acres

Area 5 (PC) 33 Acres

Area 7 (PC) 25 Acres

Area 6 (No Harvest) 28 Acres

Total Harvest 291 Acres

Total Sale 319 Acres

TC PSCSTGR **Species, Sort Grade - Board Foot Volumes (Project)**

T06N R06W S00 Ty8R/W 4.00 T06N R06W S00 TyTAK3 252.00	Project: SAGERMEI Acres 256.00	Page 1 Date 7/21/2005 Time 7:28:09AM
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Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of 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					
D		DO0															12		0.00	4.5	
D		DO2		54	3.0	10,136	9,831	2,517		0	64	36			0	36	64	36	311	1.85	31.7
D		DO3		30	.1	5,454	5,446	1,394		95	5	0		0	4	61	35	34	96	0.74	56.5
D		DO4		4	.0	669	669	171		0	100	0		12	77	10	0	23	33	0.53	20.0
D		DO3P		0		66	66	17				100				35	65	37	1141	5.16	.1
D		DOSM		12	.0	2,226	2,225	570			37	63				1	99	40	512	2.58	4.3
D	Totals			100	1.7	18,550	18,237	4,669		0	32	41	28	0	4	38	57	32	156	1.13	117.0
A		DO3		0		6	6	1			100					100		32	160	1.22	.0
A		DO4		0		19	19	5		100				10	44	26	20	28	56	0.60	.3
A	Totals			0		25	25	6		77	23			8	34	43	15	29	65	0.66	.4
H		DO4		0		2	2	0		40	60			100				17	25	0.58	.1
H	Totals			0		2	2	0		40	60			100				17	25	0.58	.1
C		DO0																16		0.00	.0
C		DO3		0		1	1	0		100					37	63		31	56	0.99	.0
C	Totals			0		1	1	0		100					37	63		21	20	0.51	.1
Totals					1.7	18,578	18,265	4,676		0	32	40	27	0	4	38	57	32	155	1.13	117.5

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Page 1

Project: SAGERMEI

Date 7/21/2005

Time 7:28:10AM

T06N R06W S00 TTAk3

T06N R06W S00 TTAk3

Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt
 06N 06W 00 SAGERMEI TAK3 252.00 88 32 1

BdFt
W

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					
D		DO	0														12		0.00	4.4	
D		DO	2	53	3.2	9,573	9,269	2,336			67	33			37	63	36	302	1.82	30.7	
D		DO	3	31	.1	5,392	5,385	1,357		95	5			3	62	35	34	96	0.73	56.0	
D		DO	4	4		661	661	167		100				11	78	10	23	34	0.54	19.7	
D		DO	SM	12		2,128	2,128	536			39	61			100		40	506	2.56	4.2	
D	Totals			100	1.8	17,754	17,442	4,395		33	42	25		0	4	39	56	32	152	1.11	115.1
Type Totals					1.8	17,754	17,442	4,395		33	42	25		0	4	39	56	32	152	1.11	115.1

T06N R06W S00 T8R/W										T06N R06W S00 T8R/W											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
06N	06W	00	SAGERMEI	8R/W	4.00	88	173	1	W												
Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln	Bd	CF/Lf		
				Net	Def%	Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft	Lf		
D		DO	0														12		0.00		9.5
D		DO	2	66	.7	45,600	45,271	181		0	27	72		2	21	78	37	506	2.62		89.4
D		DO	3	14	.0	9,316	9,312	37		76	18	7	3	10	31	56	34	110	0.86		84.7
D		DO	4	2	.2	1,206	1,203	5	8	85	7		41	46	10	3	20	30	0.50		39.8
D		DO	3P	6		4,193	4,193	17				100					37	1141	5.16		3.7
D		DO	SM	12	.8	8,406	8,342	33			11	89					38	642	3.16		13.0
D	Totals			97	.6	68,720	68,322	273	0	12	22	66	1	3	22	74	32	285	1.79		240.0
A		DO	3	23		366	366	1			100				100		32	160	1.22		2.3
A		DO	4	77		1,226	1,226	5		100			10	44	26	20	28	56	0.60		22.0
A	Totals			2		1,593	1,593	6		77	23		8	34	43	15	29	65	0.66		24.3
H		DO	4	100		98	98	0	40	60			100				17	25	0.58		3.9
H	Totals			0		98	98	0	40	60			100				17	25	0.58		3.9
C		DO	0														16		0.00		2.3
C		DO	3	100		70	70	0		100				37	63		31	56	0.99		1.3
C	Totals			0		70	70	0		100				37	63		21	20	0.51		3.6
Type	Totals				.6	70,482	70,083	280	0	14	22	64	1	4	22	72	32	258	1.67		271.9

PROJECT STATISTICS
PROJECT SAGERMEI

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	06W	00	SAGERMEI	00PC	252.00	88	468	1	W
06N	06W	00	SAGERMEI	0PC2					
			COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1		VAR.	S.E.%	LOW	AVG	HIGH	5	10
DOUGLEAV			47.2	5.0	45,086	47,472	49,859		
DOUG FIR			121.6	13.0	17,069	19,610	22,151		
ALDRLEAV			341.6	36.4	953	1,499	2,045		
SNAG									
HEMLEAV			542.7	57.8	25	59	93		
CEDLEAV			681.4	72.6	12	42	73		
SNAG									
TOTAL			46.7	5.0	65,267	68,683	72,099	87	22
								10	

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT SAGERMEI		DATE 7/21/2005				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	00	SAGERMEI	TAK3	252.00	88	143	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	88	143	1.6							
CRUISE	15	32	2.1	11,811			3			
DBH COUNT										
REFOREST										
COUNT	36	111	3.1							
BLANKS	37									
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
DOUG FIR	32	46.9	18.5	83		87.8	17,754	17,442	4,121	4,121
TOTAL	32	46.9	18.5	83		87.8	17,754	17,442	4,121	4,121
	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	70.7	12.5		472	539	606				
TOTAL	70.7	12.5		472	539	606	200	50	22	
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	133.8	14.3		40	47	54				
TOTAL	133.8	14.3		40	47	54	716	179	80	
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	123.7	13.2		76	88	99				
TOTAL	123.7	13.2		76	88	99	612	153	68	
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	118.2	12.6		15,244	17,442	19,640				
TOTAL	118.2	12.6		15,244	17,442	19,640	559	140	62	

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT SAGERMEI				DATE 7/21/2005		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	00	SAGERMEI	8R/W	4.00	88	460	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	88	460	5.2							
CRUISE	34	173	5.1	494		35.1				
DBH COUNT										
REFOREST										
COUNT	54	287	5.3							
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
DOUG FIR	162	93.8	22.5	87		259.2	68,720	68,322	13,910	13,910
R ALDER	6	22.0	12.6	32		19.2	1,593	1,593	462	462
WHEMLOCK	2	3.9	12.0	18		3.1	98	98	37	37
WR CEDAR	3	3.6	12.6	23		3.1	70	70	39	39
TOTAL	173	123.4	20.6	73		284.6	70,482	70,083	14,448	14,448
	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	80.1	6.1	1,255	1,336	1,417					
R ALDER	785.0	59.7	1	3	5					
WHEMLOCK	945.9	71.9	0	0	0					
WR CEDAR	931.2	70.8	0	1	1					
TOTAL	79.5	6.0	1,259	1,340	1,421	253	63	28		
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	96.2	10.3	84	94	103					
R ALDER	315.4	33.6	15	22	29					
WHEMLOCK	409.8	43.7	2	4	6					
WR CEDAR	549.4	58.6	1	4	6					
TOTAL	85.7	9.1	112	123	135	294	73	33		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	56.3	6.0	244	259	275					
R ALDER	313.5	33.4	13	19	26					
WHEMLOCK	409.8	43.7	2	3	4					
WR CEDAR	489.0	52.1	1	3	5					
TOTAL	48.3	5.2	270	285	299	93	23	10		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	52.8	5.6	64,475	68,322	72,169					
R ALDER	311.3	33.2	1,064	1,593	2,121					
WHEMLOCK	413.2	44.1	55	98	142					
WR CEDAR	481.6	51.3	34	70	107					
TOTAL	48.9	5.2	66,426	70,083	73,740	96	24	11		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT SAGERMEI				DATE 7/20/2005		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	00	SAGERMEI	LEA3	252.00	88	325	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		88	325	3.7						
CRUISE		34	146	4.3	21,820		7			
DBH COUNT										
REFOREST										
COUNT		54	179	3.3						
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
DOUGLEAV	130	54.7	24.0	88		171.4	48,128	47,952	9,486	9,486
ALDRLEAV	6	22.0	12.6	32		19.2	1,593	1,593	462	462
SNAG	3	2.8	15.7	32		3.7				
CEDLEAV	3	3.6	12.6	23		3.1	70	70	39	39
HEMLEAV	2	3.2	12.0	18		2.5	79	79	30	30
SNAG	2	.3	27.5	62		1.2				
TOTAL	146	86.6	20.6	67		201.1	49,870	49,694	10,016	10,016
	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
DOUGLEAV	75.9	6.3	1,375	1,467	1,559					
ALDRLEAV	720.4	59.6	1	4	6					
SNAG										
CEDLEAV	855.0	70.8	0	1	1					
HEMLEAV	868.5	71.9	0	0	1					
SNAG										
TOTAL	75.2	6.2	1,380	1,472	1,563		226	57		25
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
DOUGLEAV	93.3	9.9	49	55	60					
ALDRLEAV	315.4	33.6	15	22	29					
SNAG	466.6	49.7	1	3	4					
CEDLEAV	549.4	58.6	1	4	6					
HEMLEAV	460.9	49.1	2	3	5					
SNAG	659.9	70.4	0	0	1					
TOTAL	92.3	9.8	78	87	95		341	85		38
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
DOUGLEAV	46.8	5.0	163	171	180					
ALDRLEAV	313.5	33.4	13	19	26					
SNAG	371.8	39.6	2	4	5					
CEDLEAV	489.0	52.1	1	3	5					
HEMLEAV	460.9	49.1	1	2	4					
SNAG	659.5	70.3	0	1	2					
TOTAL	38.6	4.1	193	201	209		60	15		7
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
DOUGLEAV	48.0	5.1	45,501	47,952	50,404					
ALDRLEAV	311.3	33.2	1,064	1,593	2,121					
SNAG										
CEDLEAV	481.6	51.3	34	70	107					
HEMLEAV	465.7	49.6	40	79	118					
SNAG										
TOTAL	42.8	4.6	47,430	49,694	51,959		73	18		8

TC TSTNDSUM

Stand Table Summary

Project SAGERMEI

T06N R06W S00 TLEA3

T06N R06W S00 TLEA3

Twp Rge Sec Tract Type Acres Plots Sample Trees
06N 06W 00 SAGERMEI LEA3 252.00 88 146

Page: 2
Date: 7/20/2001
Time: 2:44:51PM

S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
SN	Totals	3	89	51	2.765	3.71											
SNL	27	1	88	115	.156	.62											
SNL	28	1	83	37	.145	.62											
SNL	Totals	2	86	77	.300	1.24											
Totals		146	87	91	86.588	201.06	165.37	60.6	300.5	10016	49,694		25,241	12,523			

Log Stock Table - MBF
Project: SAGERMEI

T06N R06W S00 TTAK3

T06N R06W S00

Twp Rge Sec Tract
06N 06W 00 SAGERMEI

Type Acres Plots Sample Trees
TAK3 252.00 88 32

Page 1
Date 7/21/2005
Time 7:30:40AM

Spp	T	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches												
										MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39
D		DO	0	6																		
D		DO	0	14																		
D		DO	2	32		862	.3	860	19.6					316	260	194	91					
D		DO	2	40		1,550	4.8	1,476	33.6					307	383	653	132					
D		DO	3	24		10		10	.2													
D		DO	3	27		10		10	.2													
D		DO	3	30		26		26	.6													
D		DO	3	32		790		790	18.0													
D		DO	3	34		50		50	1.1													
D		DO	3	37		21	9.1	19	.4													
D		DO	3	40		452		452	10.3													
D		DO	4	14		8		8	.2													
D		DO	4	16		11		11	.3													
D		DO	4	21		7		7	.2													
D		DO	4	22		16		16	.4													
D		DO	4	24		41		41	.9													
D		DO	4	25		10		10	.2													
D		DO	4	26		35		35	.8													
D		DO	4	27		21		21	.5													
D		DO	4	34		17		17	.4													
D		DO	SM	40		536		536	12.2								414	122				
D		Totals				4,474	1.8	4,395	100.0			422	311	725	687	643	1261	345				
Total All Species						4,474	1.8	4,395	100.0			422	311	725	687	643	1261	345				