"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cost Summary
McKnob
Sale 341-06-076

District: Astoria **Date:** 1/30/06

	Conifer	Hardwood	Total
Gross Timber Sale Value	$2,953,526.21	$258,928.32	$3,212,454.53
		Project Work	($654,244.00)
		Advertised Value	$2,558,210.53

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Timber Description
McKnob
Sale 341-06-076

District: Astoria

Location: Portions of Sections 4, 5, 6, 7, 8, 9, and 18, T7N, R6W, and portions of Section 13, T7N, R7W, W.M., Clatsop County, Oregon.

Date: 1/30/06 **Stand Stocking:** 60%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	14	0	98
Western Hemlock / Fir	14	0	97
Sitka Spruce	16	0	95
Red Cedar	16	0	95
Alder (Red)	13	0	80

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)	Total
2S	429	5,094	1,032	0	0	6,555
2S 12"+	0	0	0	0	80	80
3S	757	7,427	1,159	1	0	9,344
3S 10" - 11"	0	0	0	0	701	701
4S	317	2,126	325	0	0	2,768
4S 8" - 9"	0	0	0	0	67	67
Total	1,503	14,647	2,516	1	848	19,515

Comments: Pond Values Used: 4th Quarter Calendar Year 2005.

Expected Log Markets: Longview and Tillamook

Hauling costs adjusted in Other Costs (No P&R) to make equivalent to $700 daily truck costs.

OTHER COSTS +P&R:
Line Pulling in Areas 6 and 7: 40hrs X $25/hr = $1,000
100% Branding and Painting of Logs: $1/MBF X 19,515 MBF = $19,515
Non-Project (Logger's Choice) Roads in Areas 1, 3, 7, and 8:
30 sta. X $89/sta. = $2,670
Non-Project (Logger's Choice) Landings in Areas 1(1), 2(1), 3(2), 7(1), and 8(7): 13 Landings X $285/Landing = $3,705
SNAG CREATION: Select and create 400 snags in Areas 2, 4, 5, and 6: Top 290 trees X $45/tree = $13,050
Girdle 110 trees X $20/tree = $2,200

TOTAL OTHER P&R COSTS = $42,140

NON-P&R COSTS:
Additional Hauling Costs = $14.49/MBF X 19,515 = $282,946
Hauling:
DF [$700/day - ($460/day x 1.15%)] / 10.5MBF/day = $16 MBF x 1,503 = $24,048
HF [$700/day - ($460/day x 1.15%)] / 12MBF/day = $14 MBF x 14,647 = $205,058
SS [$700/day - ($460/day x 1.15%)] / 10.5MBF/day = $16 MBF x 2,516 = $40,256
RC [$700/day - ($460/day x 1.15%)] / 10.5MBF/day = $16 MBF x 1 = $16
RA [$700/day - ($460/day x 1.15%)] / 10.5MBF/day = $16 MBF x 848 = $13,568

Slash Piling in Areas 2, 4, 5, and 6: 159hrs X $120/hr = $19,080
Move-in of excavator for slash piling: 2 times @ $945/move = $1,890
Additional cable landing piling in Areas 2 and 5:
6 landings X 2hrs/landing X $87.50/hr = $1,050
Close dirt spurs in Areas 2, 5, and 6:
18 hrs with C325 excavator X $120/hr = $2,160

TOTAL NON-P&R COSTS = $307,126

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Conditions
McKnob
Sale 341-06-076

Combination#: 1

	Douglas - Fir	38.11%
	Western Hemlock / Fir	38.74%
	Sitka Spruce	24.83%
	Alder (Red)	34.02%

Yarding Distance: Short (400 ft) **Downhill Yarding:** No
Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
Tree Size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
Loads/Day: 4 **Bd. Ft./Load:** 3,700
Cost/MBF: $221.80
Machines:
Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 2

	Douglas - Fir	24.37%
	Western Hemlock / Fir	24.77%
	Sitka Spruce	15.87%
	Alder (Red)	21.75%

Yarding Distance: Short (400 ft) **Downhill Yarding:** Yes
Logging System: Track Skidder **Process:** Manual Falling/Delimbing
Tree Size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
Loads/Day: 5 **Bd. Ft./Load:** 3,700
Cost/MBF: $176.51
Machines:
Log Loader (B)
Track Skidder

Combination#: 3

	Douglas - Fir	31.15%
	Western Hemlock / Fir	30.29%
	Sitka Spruce	49.22%
	Red Cedar	83.00%
	Alder (Red)	36.70%

Yarding Distance: Short (400 ft) **Downhill Yarding:** No
Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
Tree Size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
Loads/Day: 7 **Bd. Ft./Load:** 4,000
Cost/MBF: $117.24
Machines:
Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 4	Douglas - Fir	6.38%
	Western Hemlock / Fir	6.20%
	Sitka Spruce	10.08%
	Red Cedar	17.00%
	Alder (Red)	7.52%

Yarding Distance: Short (400 ft) **Downhill Yarding:** Yes
Logging System: Track Skidder **Process:** Manual Falling/Delimbing
Tree Size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
Loads/Day: 9 **Bd. Ft./Load:** 4,000
Cost/MBF: $90.71
Machines:

Log Loader (B)
Track Skidder

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Costs
McKnob
Sale 341-06-076

Date: 1/30/06

Operating Seasons: 3.0 **Profit & Risk:** 15%

Project Costs: $654,244 **Other Costs (P/R):** $42,140

Slash Disposal: $0 **Other Costs:** $307,126

Road Maintenance: $3.44

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

Hauling Costs

Species	$/MBF	Trips/Day	MBF/Load
Douglas - Fir	$0.00	3.0	3.5
Western Hemlock / Fir	$0.00	3.0	4.0
Sitka Spruce	$0.00	3.0	3.5
Red Cedar	$0.00	3.0	3.5
Alder (Red)	$0.00	3.0	3.5

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Logging Costs Breakdown
McKnob
Sale 341-06-076

Costs	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
Logging	169.84	170.78	149.93	112.73	163.72
Road Maintenance	3.51	3.55	3.62	3.62	4.30
Fire Protection	0.42	0.42	0.42	0.42	0.42
Hauling	44.69	39.54	46.11	46.11	54.75
Other (P/R appl.)	2.16	2.16	2.16	2.16	2.16
Profit & Risk	33.09	32.47	30.34	24.76	33.80
Slash Disposal	0.00	0.00	0.00	0.00	0.00
Scaling	2.00	2.00	2.00	2.00	2.00
Other	15.74	15.74	15.74	15.74	15.74
Total	271.45	266.66	250.32	207.54	276.89

Amortization	0.00	0.00	0.00	0.00	0.00
Pond Value	620.64	409.92	381.38	825.00	582.23
Stumpage	349.19	143.26	131.06	617.46	305.34
Amortized	0.00	0.00	0.00	0.00	0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary
McKnob
Sale 341-06-076

Amortized

	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
MBF	0.00	0.00	0.00	0.00	0.00
Value	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
MBF	1,503.00	14,647.00	2,516.00	1.00	848.00
Value	349.19	143.26	131.06	617.46	305.34
Total	524,832.57	2,098,329.22	329,746.96	617.46	258,928.32

Gross Timber Sale Value

Recovery $3,212,454.53

Prepared by: John Tillotson Date: 1/30/06

District: Astoria Phone: (503) 325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: McKnob
Date: December 5, 2005
By: John Tillotson

MBF: 19,500
$$/MBF: $3.44

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	
Progressive	Grader 14G	$570	3	120	$84	$11,790	
Operations	Dump Truck 12CY	$119	6	90	$59	$6,024	
Entries (3)	FE Loader C966	$570	3	20	$79	$3,290	
	Grader 14G	$570	1	140	$84	$12,330	
Final Haul	Dump Truck 12CY	$119	3	150	$59	$9,207	
Road	FE Loader C966	$570	1	50	$79	$4,520	
Maintenance	Vibratory Roller	$570	1	140	$79	$11,630	
Haul Route	Water Truck 2,500 gallon	$139	1	105	$70	$7,489	
	Labor			30	$25	$750	
Total							**$67,030**

Interim Maintenance (3)

Production Rates
Grader

Miles/day	Distance(miles)	Days	Hours
1.5	17.2	11.5	114.67

Final Road Maintenance

Production Rates

	Miles/day	Distance(miles)	Days	Hours
Grader	1.5	19.8	13.2	132.00
Vibratory Roller	1.5	19.8	13.2	132.00

***Maintenance calculations were determined as follows:**

Shingle Mill Road from Shingle Shack Quarry to Hwy 30	4.6 miles (2 progressive 1 final)
All other main haul routes	4.7 miles (1 progressive 1 final)
All spurs including Coke Shack Road and Knob Point Road	10.5 Miles (1 Final)
	5.3 Miles (2 progressive 1 final)
	2.6 Miles (1 progressive 1 final)

Total Miles: 19.8

Species	Trips/Day	MBF/Load	MBF/day	700/mbf	existing hauling price	F minus G	Percent	weighted haul
Douglas fir	3	3.5	10.5	66.66667	44.69	21.97667	0.077018	1.692591852
Western Hemlock	3	4	12	58.33333	39.54	18.79333	0.750551	14.10535246
Red cedar	3	3.5	10.5	66.66667	46.11	20.55667	5.12E-05	0.001053378
Alder	3	3.5	10.5	66.66667	54.75	11.91667	0.043454	0.517823896
Spruce	3	3.5	10.5	66.66667	46.11	20.55667	0.128926	2.650298403
								$18.97

Douglas fir	1503	0.077018				
Western Hemlock	14647					
Red cedar	1					
Alder	848					
Spruce	2516					
	19,515 MBF		X	$18.97	=	$370,143

SUMMARY OF ALL PROJECT COSTS

SALE NAME: McKnob

NEW CONSTRUCTION:

	Road segment	Length/Sta	Cost	
Project No. 1	1A to 1B, 1C to 1D, 2A to 2B, 2C to 2D, 5A to 5B, 5C to 5D, 8I to 8J	133.0	$76,359	
	6A to 6B, 6C to 6D, 7A to 7B, 7C to 7D, 7E to 7F, 7G to 7H, MSA to MSB	207.0	$143,181	
	8A to 8B, 8C to 8D, 8E to 8F, 8G to 8H	128.0	$104,383	
	TOTALS	8.86 miles / 467.98 Stations		$323,923

ROAD IMPROVEMENT:

	Road segment	Length/Sta	Cost	
Project No. 2	I1 to I2, I3 to I4, I5 to I6, I7 to I8	523.70	$84,174	
	TOTALS	9.92 miles / 523.70 Stations		$84,174

SPECIAL PROJECTS:

	Description	Cost	
Project No. 3	Shingle Shack Quarry Development and Crushing (39,920 cy)	$216,842	
	Quarry Access Roads (5.89 sta.)	$10,305	
Project No. 4	Road Vacating (17.40 sta.)	$8,187	
	Project Road Maintenance	$3,733	
	TOTALS		$239,067

MOVE IN:

Equipment	Cost	
Excavator- Medium (C325) 2 X $945	$1,890	
Dozer-Large (D8) 2 X $1030	$2,060	
Rubber Tire Skidder (C518) 1 X $525	$525	
Grader-Large (14G) 1 X $570	$570	
10-12yd^3 Highway Dump Truck 4 X $119	$476	
20yd^3 Highway Dump w/trailer 2 X $140	$280	
Water Truck 2,500 gallon 1 X $139	$139	
Vibratory Roller 1 X 570	$570	
Air Track Drill and Compressor 1 X $570	$570	
TOTAL		$7,080

GRAND TOTAL **$654,244**

Compiled By: John Tillotson Date: 1/5/2006

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: McKnob
ROAD: 1A-1B (7.3),1C-1D(11.5),2A-2B(13.63),2C-2D(1.45) 5A-5B(84.1),5C-5D(9.35),8I-8J(5.65)

NEW CONSTRUCTION: 132.98 **STATIONS** 2.52 **MILES**
IMPROVEMENT: _____ **STATIONS** _____ **MILES**

CLEARING & GRUBBING

	Method	Acres/amount	x	Rate	=	Cost
All others	Scatter Outside of R/W	9.60	x	$980.00	=	$9,408.00
8I-8J	Grub and Load	0.50	x	$660.00	=	$330.00
			x		=	

SUB TOTAL FOR CLEARING & GRUBBING $9,738

EXCAVATION

	Material	Cy/amount	x	Rate	=	Cost
	Field Design (Drift upto 200') $$/sta.	132.98	x	$139.00	=	$18,484.22
8I-8J	End Haul Organic Debris to I1-I2 $$/hr	5.00		$59.00		
8I-8J	Place Organic Debris $$/hr	3.00	x	$120.00	=	$360.00
5A-5B	End-haul Excavation $$/cy	1,990.00	x	$2.90	=	$5,771.00
	(0+00 to 1+50 on 5A to 5B)		x		=	
	Waste Area Compaction $$/cy	1,990.00	x	$0.25	=	$497.50
5A-5B	Subgrade Ripping $$/hr	3.00		$126.00		$378.00
			x		=	
	Undesigned Landing Construction $$/landing	7.00	x	$285.00	=	$1,995.00
	(1B,1D,2B,2D,5B,5D,8J)		x		=	
			x		=	
5A-5B	Cutsope Rounding $$/sta	2.00	x	$31.00	=	$62.00
	(Both Sides, 0+00 to 1+00 on 5A to 5B)		x		=	
			x		=	
			x		=	
			x		=	

SUB TOTAL FOR EXCAVATION $27,548

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
1A to 1B	0+00	18"CPP	40	$13.60	$544.00			
1C to 1D	0+00	18"CPP	40	$13.60	$544.00			
	4+00	18"CPP	30	$13.60	$408.00			
5A to 5B	0+00	18" CPP	60	$13.60	$816.00			
	2+81	18" CPP	30	$13.60	$408.00			
	8+00	18" CPP	30	$13.60	$408.00			
	13+00	18" CPP	30	$13.60	$408.00			
	18+10	18" CPP	30	$13.60	$408.00			
	26+30	18" CPP	30	$13.60	$408.00			
	34+00	18" CPP	30	$13.60	$408.00			
	38+50	18" CPP	30	$13.60	$408.00			
	42+80	18" CPP	30	$13.60	$408.00			
	47+30	18" CPP	30	$13.60	$408.00			
	51+50	18" CPP	60	$13.60	$816.00			
	59+00	18" CPP	30	$13.60	$408.00			
	60+90	18" CPP	30	$13.60	$408.00			
	63+60	18" CPP	30	$13.60	$408.00			
	67+00	18" CPP	30	$13.60	$408.00			
	72+85	18" CPP	30	$13.60	$408.00			
	75+80	18" CPP	30	$13.60	$408.00			
	83+60	18" CPP	30	$13.60	$408.00			
8I to 8J	0+00	18"CPP	40	$13.60	$544.00			
	3+00	18"CPP	30	$13.60	$408.00			

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	23	$14.10	$324.30

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $10,932

Subtotal **$48,218**

SURFACING

Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
1A-1B,1C-1D,5A-5	Grade, Shape and Ditch 16'	108.55	x	$18.20	$1,975.61
2A-2B,2C-2D,5C-5	Grade, Shape and Outslope 14'	24.43	x	$13.45	$328.58
	Subgrade Compaction	39.53	x	$14.80	$585.04

ROAD SEGMENT	1A to 1B			POINT TO POINT	1A to 1B	Sta. to Sta.	0+00 to 7+30				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	7.30	365	$3.12	$1,139	
Junctions	4"-0" Crushed	1A	8	junction	24	junctions	1	24	$3.12	$75	
Junctions	3/4"-0" Crushed	1A	N/A	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed	1+50	8	TO	22	TO's	1	22	$3.12	$69	
Turn-Arounds	4"-0" Crushed	6+10	N/A	TA	24	TA's	1	24	$3.12	$75	
Landings	6"-0" Pit-run	2B	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			1A to 1B					519			$1,625

ROAD SEGMENT	1C to 1D			POINT TO POINT	1C to 1D	Sta. to Sta.	0+00 to 11+50				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	11.50	575	$3.12	$1,794	
Junctions	4"-0" Crushed	1C	8	junction	24	junctions	1	24	$3.12	$75	
Junctions	3/4"-0" Crushed	1C	N/A	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed		8	TO	22	TO's	1	22	$3.12	$69	
Turn-Arounds	4"-0" Crushed		N/A	TA	24	TA's	1	24	$3.12	$75	
Landings	6"-0" Pit-run	2B	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			1C to 1D					729			$2,280

ROAD SEGMENT	2A			POINT TO POINT	2A	Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Junctions	4"-0" Crushed	2A	8	junction	36	junctions	1.00	36	$3.12	$112	
Junctions	3/4"-0" Crushed	2A	N/A	junction	24	junctions	1	24	$3.12	$75	
Total Rock for Road Segment:			2A					60			$187

ROAD SEGMENT	5A to 5B			POINT TO POINT	5A to 5B	Sta. to Sta.	0+00 to 84+10				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	84.10	4,205	$3.12	$13,120	
Base Rock	3/4"-0" Crushed	7+30 to 17+20	2	station	13	stations	9.90	129	$3.12	$402	
Junctions	4"-0" Crushed	5A	8	junction	36	junctions	1	36	$3.12	$112	
Junctions	3/4"-0" Crushed	5A	N/A	junction	36	junctions	1	36	$3.12	$112	
Turnouts	4"-0" Crushed	7+30,14+40,20+35,27+35,34+50	8	TO	22	TO's	5	110	$3.12	$343	
Turnouts	4"-0" Crushed	41+00,48+80,62+00,69+60,78+60	8	TO	22	TO's	5	110	$3.12	$343	
Turn-Arounds	4"-0" Crushed	35+50, 82+00	N/A	TA	24	TA's	2	48	$3.12	$150	
Landings	6"-0" Pit-run	5B	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			5A to 5B					4,734			$14,775

ROAD SEGMENT	8I to 8J			POINT TO POINT	8I to 8J	Sta. to Sta.	0+00 to 5+65				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	5.65	283	$3.12	$881	
Junctions	4"-0" Crushed	8I	8	junction	24	junctions	1	24	$3.12	$75	
Junctions	3/4"-0" Crushed	8I	N/A	junction	24	junctions	1	24	$3.12	$75	
Turn-Arounds	4"-0" Crushed	4+20	N/A	TA	24	TA's	1	24	$3.12	$75	
Landings	6"-0" Pit-run	8J	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			8I to 8J					415			$1,299

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact: 8" in one lift	108.55	$41.40	$4,494

	6"-0"pr	4"-0"	1 1/2"-0"	3/4"-0"	Total		
SUB TOTAL FOR SURFACING	240	5,956		261	6,456	6,456	**$27,561**

SPECIAL PROJECTS

	Description	Cost
0+00 to 5+65 on 8I-8J	12.5' wide 6.5 oz. woven fabric 5.65 sta X 110% @ $0.95/ft	$590.43

SUB TOTAL FOR SPECIAL PROJECTS $590

GRAND TOTAL **$76,359**

Compiled By: John Tillotson Date: 12/7/2005

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: McKnob
ROAD: 6A-6B(70.76),6C-6D(5.3),6E-6F(13.05),7A-7B(35.83) 7C-7D(51.2)7E-7F(9.12),7G-7H(4.74),MSA-MSB(17+00)

NEW CONSTRUCTION: 207.00 **STATIONS** 3.92 **MILES**
IMPROVEMENT: **STATIONS** **MILES**

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	24.80	x	$980.00	=	$24,304.00
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING $24,304

EXCAVATION

	Material	Cy/amount	x	Rate	=	Cost
	Field Design (Drift up to 200') $$/sta.	190.00	x	$139.00	=	$26,410.00
	Subgrade ripping $$/hr	17.00	x	$126.00	=	$2,142.00
	6A-6B,7A-7B,7C-7D,7G-7H,MSA-MSB					
MSA-MSB	Road prism drilling and shooting $$/cy	1,000.00	x	$4.90	=	$4,900.00
	End Haul Excavation (load & haul up to 5,000') $/cy	3,086.00		$2.90		$8,949.40
	Common Drift (≤50% slopes) $$/cy	1,948.00	x	$1.28	=	$2,493.44
	Embankment compaction $$/cy	5,034.00	x	$0.45	=	$2,265.30
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
	Undesigned Landing Construction $$/landing	7.00	x	$285.00	=	$1,995.00
	(6B,6D,6F,7B,7D,7F,7H)		x		=	
			x		=	
			x		=	

SUB TOTAL FOR EXCAVATION $49,155

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
6A-6B	5+45	18"CPP	30	$13.60	$408.00			
	11+40	18"CPP	30	$13.60	$408.00			
	15+45	18"CPP	30	$13.60	$408.00			
	22+40	18"CPP	30	$13.60	$408.00			
	28+60	18"CPP	30	$13.60	$408.00			
	34+00	18"CPP	30	$13.60	$408.00			
	39+60	18"CPP	30	$13.60	$408.00			
	46+00	18"CPP	30	$13.60	$408.00			
	52+90	18"CPP	30	$13.60	$408.00			
6C-6D	0+10	18"CPP	30	$13.60	$408.00			
	4+10	18"CPP	30	$13.60	$408.00			
7A-7B	7+29	18"CPP	30	$13.60	$408.00			
	11+80	18"CPP	30	$13.60	$408.00			
	16+90	18"CPP	30	$13.60	$408.00			
	20+00	18"CPP	30	$13.60	$408.00			
	27+05	18"CPP	30	$13.60	$408.00			
	30+95	18"CPP	30	$13.60	$408.00			
	35+25	18"CPP	30	$13.60	$408.00			
7C-7D	9+35	18"CPP	30	$13.60	$408.00			
	17+70	18"CPP	40	$13.60	$544.00			
	22+00	18"CPP	30	$13.60	$408.00			
	24+70	18"CPP	30	$13.60	$408.00			
	30+50	18"CPP	30	$13.60	$408.00			
	33+40	18"CPP	40	$13.60	$544.00			
	37+55	18"CPP	30	$13.60	$408.00			
	45+65	18"CPP	30	$13.60	$408.00			
	49+70	18"CPP	30	$13.60	$408.00			
7E-7F	2+80	18"CPP	30	$13.60	$408.00			
	8+57	18"CPP	30	$13.60	$408.00			
7G-7H	1+80	18"CPP	30	$13.60	$408.00			
MSA-MSB	0+50	18"CPP	40	$13.60	$544.00			
	4+50	18"CPP	35	$13.60	$476.00			
	10+90	18"CPP	35	$13.60	$476.00			
	17+00	18"CPP	35	$13.60	$476.00			

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	34	$14.10	$479.40

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $14,963

Subtotal **$88,423**

SURFACING

Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
6A-6B,6C-6D,7A-7B,7C-7D,7E-7F,7G-7H	Grade, Shape and Ditch 16'	190.00	x	$18.20	$3,458.00
MSA-MSB	Grade, Shape and Ditch 16'	17.00	x	$18.20	$309.40
6A-6B(56+00-70+76),6E-6F,	Grade, Shape and Outslope 14'	27.81	x	$13.45	$374.04
	Subgrade Compaction	207.00	x	$14.80	$3,063.60

ROAD SEGMENT 6A to 6B — POINT TO POINT: 6A to 6B; Sta. to Sta.: 0+00 to 56+00

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	56.00	2,800	$3.12	$8,736
Junctions	4"-0" Crushed	6A	8	junction	24	junctions	1	24	$3.12	$75
Turnouts	4"-0" Crushed	7+00, 12+40,17+40, 24+00	8	TO	22	TO's	4	88	$3.12	$275
Turnouts	4"-0" Crushed	28+90, 37+50, 43+60,50+80	8	TO	22	TO's	4	88	$3.12	$275
Turn-Arounds	4"-0" Crushed	38+00, 56+00	N/A	TA	24	TA's	2	48	$3.12	$150
Traction Rock	3/4"-0" Crushed	24+00 to 46+00	2	station	13	stations	22.00	286	$3.12	$892
Junctions	3/4"-0" Crushed	6A	N/A	junction	24	junctions	1	24	$3.12	$75
Total Rock for Road Segment:			6A to 6B					3,358		$10,477

ROAD SEGMENT 6C to 6D — POINT TO POINT: 6C to 6D; Sta. to Sta.: 0+00 to 5+30

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	5.30	265	$3.12	$827
Junctions	4"-0" Crushed	6C	8	junction	24	junctions	1	24	$3.12	$75
Turn-Arounds	4"-0" Crushed	3+50	N/A	TA	24	TA's	1	24	$3.12	$75
Landings	6"-0" Pit-run	6D	N/A	Landing	60	Landings	1	60	$3.22	$193
Total Rock for Road Segment:			6C to 6D					373		$1,170

ROAD SEGMENT 7A to 7B — POINT TO POINT: 7A to 7B; Sta. to Sta.: 0+00 to 35+83

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	35.83	1,792	$3.12	$5,589
Junctions	4"-0" Crushed	7A	8	junction	24	junctions	1	24	$3.12	$75
Junctions	3/4"-0" Crushed	7A	2	junction	24	junctions	1	24	$3.12	$75
Turnouts	4"-0" Crushed	7+50,13+50,20+60,26+53	8	TO	22	TO's	4	88	$3.12	$275
Turn-Arounds	4"-0" Crushed	10+00,33+40	N/A	TA	24	TA's	2	48	$3.12	$150
Traction Rock	3/4"-0" Crushed	6+65-9+53,14+31-19+67,27+80-30+00	2	station	13	stations	10	136	$3.12	$423
Landings	6"-0" Pit-run	7B	N/A	Landing	60	Landings	1	60	$3.22	$193
Total Rock for Road Segment:			7A to 7B					2,171		$6,780

ROAD SEGMENT 7C to 7D — POINT TO POINT: 7C to 7D; Sta. to Sta.: 0+00 to 51+20

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		N/A	station	50	stations	51.20	2,560	$3.12	$7,987
Junctions	4"-0" Crushed	7C	N/A	junction	24	junctions	1	24	$3.12	$75
Traction Rock	3/4"-0" Crushed	9+50-21+00,35+50-45+50	N/A	station	13	stations	21.50	280	$3.12	$872
Turn Outs	4"-0" Crushed	7+22,14+00,21+00,28+00,35+00,41	N/A	TO	22	TO's	6	132	$3.12	$412
Turn-Arounds	4"-0" Crushed	10+00,49+00	N/A	TA	24	TA's	2	48	$3.12	$150
Landings	6"-0" Pit-run	7D	N/A	Landing	60	Landings	1	60	$3.22	$193
Total Rock for Road Segment:			7C to 7D					3,104		$9,496

ROAD SEGMENT 7E to 7F — POINT TO POINT: 7E to 7F; Sta. to Sta.: 0+00 to 9+12

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	9.12	456	$3.12	$1,423
Junctions	4"-0" Crushed	7E	8	junction	24	junctions	1	24	$3.12	$75
Turnouts	4"-0" Crushed	6+25	8	TO	22	TO's	1	22	$3.12	$69
Turn-Arounds	4"-0" Crushed	7+25	N/A	TA	24	TA's	1	24	$3.12	$75
Landings	6"-0" Pit-run	7F	N/A	Landing	60	Landings	1	60	$3.22	$193
Total Rock for Road Segment:			7E to 7F					586		$1,834

ROAD SEGMENT 7G to 7H — POINT TO POINT: 7G to 7H; Sta. to Sta.: 0+00 to 4+74

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		5	station	50	stations	4.74	237	$3.12	$739
Junctions	4"-0" Crushed	7G	N/A	junction	24	junctions	1	24	$3.12	$75
Junctions	3/4"-0" Crushed	7G	2	junction	24	junctions	1	24	$3.12	$75
Turnouts	4"-0" Crushed	2+00	8	TO	22	TO's	1	22	$3.12	$69
Turn-Arounds	4"-0" Crushed	3+50	N/A	TA	24	TA's	1	24	$3.12	$75
Landings	6"-0" Pit-run		N/A	Landing	60	Landings	1	60	$3.22	$193
Total Rock for Road Segment:			7G to 7H					391		$1,226

ROAD SEGMENT MSA to MSB — POINT TO POINT: MSA to MSB; Sta. to Sta.: 0+00 to 17+00

Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		10	station	63	stations	17.00	1,071	$3.12	$3,342
Surface Rock	3/4"-0" Crushed		4	station	25	stations	17.00	425	$3.12	$1,326
Turnouts	4"-0" Crushed	6+35, 11+90	8	TO	37	TO's	2	74	$3.12	$231
Turnouts	3/4"-0" Crushed	6+35, 11+90	4	TO	19	TO's	2	38	$3.12	$119
Dissapator	24"-0" riprap	0+50	N/A	diss.	12	diss	1	12	$4.41	$53
Total Rock for Road Segment:			MSA to MSB					1,620		$5,070

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact:	250.00	$41.40	$10,350

	24"-6"	6"-0"pr	4"-0"	1 1/2"-0"	3/4"-0"	Total			
SUB TOTAL FOR SURFACING	12	300	10,055		1,236	11,603	11,603		$53,608

SPECIAL PROJECTS

	Description	Cost
6A-6B	12.5' wide 6.5 oz. woven fabric 4.35 sta X 110% @ $0.95/ft	$413.25
7A-7B	12.5' wide 6.5 oz. woven fabric 7.05 sta X 110% @ $0.95/ft	$737.20

SUB TOTAL FOR SPECIAL PROJECTS $1,150

GRAND TOTAL $143,181

Compiled By: John Tillotson Date: 12/6/2005

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: McKnob
ROAD: Q1-Q2, Q3-Q4

NEW CONSTRUCTION: 5.89 **STATIONS** 0.11 **MILES**
IMPROVEMENT: **STATIONS** **MILES**

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Pile & Burn	0.45	x	$1,980.00	=	$891.00
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING $891

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
Q1-Q2 (rip and haul to waste area)	1,115	x	$4.36	=	$4,861.40
Q3-Q4 (Haul to waste area)	748	x	$2.54	=	$1,899.92
Q1-Q2 embankment compaction	171	x	$0.45	=	$76.95
Q3-Q4 embankment compaction	20	x	$0.45	=	$9.00
		x		=	
Waste area compaction	1,863	x	$0.45	=	$838.35
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION $7,686

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
(Q1)) 0+00	18	50	$13.60	$680.00			

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	1	$14.10	$14.10

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $694

Subtotal **$9,271**

SURFACING

Subgrade prep:

Description	Stations/ amount	x	Rate/ sta/amt	Cost
Grade, Shape and Ditch 16'	5.89	x	$18.20	$107.20
Subgrade Compaction	5.89	x	$14.80	$87.17

ROAD SEGMENT	Q1 to Q2			POINT TO POINT		Sta. to Sta.				
				Q1 to Q2		0+00 - 3+21				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	3.21	161	$1.53	$246
Curve Widening	4"-0" Crushed		8	station	21	stations	0.80	17	$1.53	$26
Surface Rock	3/4"-0" Crushed	0+00 - 2+64	3	station	19	stations	2.64	50	$1.53	$77
Curve Widening	3/4"-0" Crushed		3	stations	8	stations	0.80	6	$1.53	$10
Total Rock for Road Segment:			Q1 to Q2					234		$358

ROAD SEGMENT	Q3 to Q4			POINT TO POINT		Sta. to Sta.				
				Q3 to Q4		0+00 - 2+68				
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed		8	station	50	stations	2.68	134	$1.53	$205
Curve Widening	4"-0" Crushed		8	station	21	stations	1.02	21	$1.53	$33
Total Rock for Road Segment:			Q3 to Q4					155		$238

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact:	5.89	$41.40	$244

	3/4"-0"	4"-0"	1 1/2"-0"		Total		
SUB TOTAL FOR SURFACING	57	333			389	389	$1,034

SPECIAL PROJECTS

Description	Cost

SUB TOTAL FOR SPECIAL PROJECTS $0

GRAND TOTAL **$10,305**

Compiled By: d.mellison Date: 11\28\05

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: McKnob
ROAD: I1-I2(414.9),I3-I4(66.50),I5-I6(15.4),I7-I8(26.9)

NEW CONSTRUCTION: _____ STATIONS _____ MILES
IMPROVEMENT: 523.70 STATIONS 9.92 MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	0.05	x	$980.00	=	$49.00
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING $49

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
End Haul $$/cy	1,093.00	x	$2.90	=	$3,169.70
Waste Area Compaction $$/cy	1,093.00	x	$0.25	=	$273.25
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
Cutsope Rounding $$/sta	4.10	x	$31.00	=	$127.10
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION $3,570

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
I1 to I2	188+42	18" CPP	35	$13.60	$476.00			
	331+40	18" CPP	35	$13.60	$476.00			

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	52	$14.10	$733.20

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $1,685

Subtotal **$5,304**

SURFACING

Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
I1-I2,I3-I4,I5-I6,I7-I	Grade, Shape and Ditch 16'	523.70	x	$18.20	$9,531.34
			x		$0.00
I1-I2,I3-I4,I5-I6,I7-I	Subgrade Compaction	523.70	x	$14.80	$7,750.76

ROAD SEGMENT	I1 to I2			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2 Volume (CY) per		0+00 to 414+90 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Leveling Rock	3/4"-0" Crushed	0+00 to 414+90	N/A	N/A		N/A		490	$3.12	$1,529	
Surface Rock	3/4"-0" Crushed	0+00 to 335+46	4	station	25	stations	335.46	8,387	$3.12	$26,166	
Surface Rock	3/4"-0" Crushed	335+46 to 414+90	3	station	19	stations	79	1,509	$3.12	$4,709	
Turnouts	4"-0" Crushed	244+40	10	TO	46	TO's	1	46	$3.12	$144	
Turnouts	3/4"-0" Crushed	244+40	4	TO	19	TO's	1	19	$3.12	$59	
Junctions	3/4"-0" Crushed		N/A	junction	24	junctions	12	288	$3.12	$899	
Turnouts	3/4"-0" Crushed		4	TO	11	TO's	68	748	$3.12	$2,334	
Culvert Backfill	3/4"-0" Crushed		N/A	culvert	36	culverts	2	72	$3.12	$225	
Total Rock for Road Segment:			I1 to I2					11,559			$34,535

ROAD SEGMENT	I3 to I4			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4 Volume (CY) per		0+00 to 66+50 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Leveling Rock	3/4"-0" Crushed		N/A	N/A		N/A		300	$3.12	$936	
Junctions	3/4"-0" Crushed		N/A	junction	24	junctions	1	24	$3.12	$75	
Turnouts	3/4"-0" Crushed		N/A	TO	24	TO's	13	312	$3.12	$973	
Total Rock for Road Segment:			I3 to I4					636			$1,984

ROAD SEGMENT	I5 to I6			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6 Volume (CY) per		0+00 to 15+40 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Leveling Rock	3/4"-0" Crushed		N/A	N/A		N/A		50	$3.12	$156	
Surface Rock	3/4"-0" Crushed	0+00 to 9+00, 13+40 to 15+40	4	station	25	stations	11.00	275	$3.12	$858	
Surface Rock	3/4"-0" Crushed	9+00 to 13+40	3	station	19	stations	4.40	84	$3.12	$261	
Junctions	3/4"-0" Crushed		N/A	junction	24	junctions	2	48	$3.12	$150	
Turnouts	3/4"-0" Crushed		N/A	TO	24	TO's	1	24	$3.12	$75	
Total Rock for Road Segment:			I5 to I6					481			$1,343

ROAD SEGMENT	I7 to I8			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 to I8 Volume (CY) per		26+90 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Leveling Rock	3/4"-0" Crushed		N/A	N/A		N/A		80	$3.12	$250	
Surface Rock	3/4"-0" Crushed		3	station	19	stations	26.90	511	$3.12	$1,595	
Junctions	3/4"-0" Crushed		N/A	junction	24	junctions	1	24	$3.12	$75	
Turnouts	3/4"-0" Crushed		N/A	TO	24	TO's	4	96	$3.12	$300	
Turnarounds	3/4"-0" Crushed		N/A	TA	24	TA's	1	24	$3.12	$75	
Total Rock for Road Segment:			I7 to I8					735			$2,044

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact:	523.70	$41.40	$21,681

	6"-0" pr	4"-0"	1 1/2"-0"	3/4"-0"	Total		
SUB TOTAL FOR SURFACING		46		13,365	13,411	13,411	**$78,870**

SPECIAL PROJECTS

Description	Cost

SUB TOTAL FOR SPECIAL PROJECTS $0

GRAND TOTAL **$84,174**

Compiled By: John Tillotson Date: 11/21/2005

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: McKnob
ROAD: 8A-8B(91.95),8C-8D(10.68),8E-8F(17.88),8G-8H(7.49)

NEW CONSTRUCTION: 128.00 **STATIONS** 2.42 **MILES**
IMPROVEMENT: _____ **STATIONS** _____ **MILES**

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	12.00	x	$980.00	=	$11,760.00
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING $11,760

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
Field Design (Drift up to 200') $$/sta.	92.45	x	$139.00	=	$12,850.55
		x		=	
Common Drift (≤50% slopes) $$/cy	4,963.00	x	$1.28		$6,352.64
End Haul Excavation (load & haul up to 5,000') $/cy	8,072.00	x	$2.90		$23,408.80
Embankment compaction $$/cy	13,035.00	x	$0.45		$5,865.75
Cut Slope Rounding $$/sta	21.70	x	$31.00		$672.70
		x		=	
Undesigned Landing Construction $$/landing	4.00	x	$285.00	=	$1,140.00
(8B,8D,8F,8H)		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION $50,290

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
8A-8B	0+00	18"CPP	40	$13.60	$544.00			
	5+00	18"CPP	30	$13.60	$408.00			
	9+00	18"CPP	30	$13.60	$408.00			
	16+00	18"CPP	30	$13.60	$408.00			
	21+62	18"CPP	40	$13.60	$544.00			
	26+00	18"CPP	30	$13.60	$408.00			
	31+00	18"CPP	40	$13.60	$544.00			
	40+00	18"CPP	30	$13.60	$408.00			
	47+00	18"CPP	30	$13.60	$408.00			
	52+00	18"CPP	30	$13.60	$408.00			
	56+00	18"CPP	30	$13.60	$408.00			
	64+00	18"CPP	30	$13.60	$408.00			
	69+00	18"CPP	30	$13.60	$408.00			
8C-8D	0+50	18"CPP	40	$13.60	$544.00			
	2+70	18"CPP	35	$13.60	$476.00			
	7+00	18"CPP	30	$13.60	$408.00			
	9+20	18"CPP	30	$13.60	$408.00			
8E-8F	3+30	18"CPP	30	$13.60	$408.00			
	6+40	18"CPP	30	$13.60	$408.00			
	17+22	18"CPP	30	$13.60	$408.00			
8G-8H	4+00	18"CPP	30	$13.60	$408.00			

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' FIBERGLASS MARKERS	21	$14.10	$296.10

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION $9,476

Subtotal **$71,527**

SURFACING

Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
8A-8B,8C-8D,8E-8F,8G-8H	Grade, Shape and Ditch 16'	128.00	x	$15.20	$1,945.60
	Subgrade Compaction	128.00	x	$12.50	$1,600.00

ROAD SEGMENT	8A to 8B			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	8A to 8B Volume (CY) per		0+00 to 91+95 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	91.95	4,598	$3.12	$14,344	
Junctions	4"-0" Crushed	8A	8	junction	24	junctions	1	24	$3.12	$75	
Junctions	3/4"-0" Crushed	8A	2	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed	7+10,14+25,25+25,36+68,39+10	8	TO	22	TO's	5	110	$3.12	$343	
Turnouts	4"-0" Crushed	45+16,53+57,64+77,74+60,82+56	8	TO	22	TO's	5	110	$3.12	$343	
Turn-Arounds	4"-0" Crushed	24+55, 57+30	N/A	TA	24	TA's	2	48	$3.12	$150	
Dissapator	24"-6" riprap	0+00, 26+00	N/A	diss	12	diss	2	24	$4.41	$106	
Traction Rock	3/4"-0" Crushed	45+90-47+60,58+90-63+00,69+00-81+40	2	station	13	stations	18	237	$3.12	$738	
Landings	6"-0" Pit-run	8B	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			8A to 8B					5,234			$16,367

ROAD SEGMENT	8C to 8D			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	8C to 8D Volume (CY) per		0+00 to 10+68 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	10.68	534	$3.12	$1,666	
Junctions	4"-0" Crushed	8C	8	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed	5+65	8	TO	22	TO's	1	22	$3.12	$69	
Turn-Arounds	4"-0" Crushed	3+30	N/A	TA	22	TA's	1	22	$3.12	$69	
Dissapator	24"-6" riprap	7+00, 9+20	N/A	diss	12	diss	2	24	$4.41	$106	
Traction Rock	3/4"-0" Crushed	4+00 to 10+30	2	station	13	stations	6	82	$3.12	$256	
Landings	6"-0" Pit-run	8D	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			8C to 8D					768			$2,433

ROAD SEGMENT	8E to 8F			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	8E to 8F Volume (CY) per		0+00 to 17+88 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	17.88	894	$3.12	$2,789	
Junctions	4"-0" Crushed	8E	8	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed	11+00	8	TO	22	TO's	1	22	$3.12	$69	
Turn-Arounds	4"-0" Crushed	16+50	N/A	TA	24	TA's	1	24	$3.12	$75	
Dissapator	24"-6" riprap	3+30	N/A	diss	12	diss	2	24	$4.41	$106	
Traction Rock	3/4"-0" Crushed	1+00 to 9+00	2	station	13	stations	8	104	$3.12	$324	
Landings	6"-0" Pit-run	8F	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			8E to 8F					1,152			$3,631

ROAD SEGMENT	8G to 8H			POINT TO POINT		Sta. to Sta.					
Application	Rock Size and Type	Location	Depth of Rock (inches)	8G to 8H Volume (CY) per		0+00 to 7+49 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Base Rock	4"-0" Crushed		8	station	50	stations	7.49	375	$3.12	$1,168	
Junctions	4"-0" Crushed	8G	8	junction	24	junctions	1	24	$3.12	$75	
Turnouts	4"-0" Crushed	4+50	8	TO	22	TO's	1	22	$3.12	$69	
Turn-Arounds	4"-0" Crushed	6+50	N/A	TA	24	TA's	1	24	$3.12	$75	
Landings	6"-0" Pit-run	8H	N/A	Landing	60	Landings	1	60	$3.22	$193	
Total Rock for Road Segment:			8G to 8H					505			$1,580

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact:	128.00	$41.40	$5,299

	24"-6" rr	6"-0" pr	4"-0"	1 1/2"-0"	3/4"-0"	Total		
SUB TOTAL FOR SURFACING	72	240	6,900		447	7,659	7,659	**$32,856**

SPECIAL PROJECTS

Description	Cost

SUB TOTAL FOR SPECIAL PROJECTS $0

GRAND TOTAL **$104,383**

Compiled By: John Tillotson Date: 12/6/2005

X:\Sunset Unit\Timber Sale Forms\Projects\Summary of Construction.xls

CRUSHED ROCK COST

SALE NAME: McKnob
PROJECT: Project No's. 1 and 2
QUARRY: Shingle Shack

ROCK TYPE: Crushed

DATE: 11/21/2005
BY: J. Tillotson

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
1A to 1B	7.30	459				0.52	0.30		0.12	0.94
1C to 1D	11.50	669				0.33	0.30	0.06	0.10	0.79
2A	0.50	60							0.15	0.15
5A to 5B	84.10	4,674					0.10	0.24	0.25	0.59
6A to 6B	56.00	3,358			1.50	0.62	0.52	0.33	0.25	3.22
6C to 6D	5.30	313			1.50	0.62	0.97	0.05	0.10	3.24
7A to 7B	35.83	2,111			1.50	0.56	0.52	0.23	0.15	2.96
7C to 7D	54.20	3,044			1.50	1.02	0.52	0.30	0.25	3.59
7E to 7F	9.12	526			1.50	1.02	1.22		0.13	3.87
7G to 7H	4.74	331			1.50	0.62	0.52		0.10	2.74
8A to 8B	91.95	5,150			1.50	1.83	0.44	0.50	0.23	4.50
8C to 8D	10.68	684			1.50	1.83	0.47		0.15	3.95
8E to 8F	17.88	1,068			1.50	1.83	0.65	0.10	0.12	4.20
8G to 8H	7.49	445			1.50	1.83	1.25		0.12	4.70
8I to 8J	5.65	355				0.87	0.25		0.10	1.22
MSA to MSB	17.00	1,608			1.50		0.30	0.06	0.15	2.01
I1 to I2	414.90	11,559			1.85	1.25	0.67	0.16	0.10	4.03
I3 to I4	66.50	636					0.45	0.10	0.08	0.63
I5 to I6	15.40	481			1.50			0.05	0.15	1.70
I7 to I8	26.90	735			1.50	1.32	0.24	0.20	0.10	3.36
TOTAL	942.94	38,266								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					**1.34**	**0.97**	**0.50**	**0.22**	**0.17**	**3.19**
								Average Round Trip Distance (miles)	6.38	

ROCK HAUL:

Truck type: D20 No. trucks: 2
Delay min.: 8 Efficiency: 85%

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

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

Ave haul: $2.47 /cy
Load: $0.25 /cy
Spread: $0.40 /cy

Production: cy/day = 1,598

CRUSHED ROCK HAUL COSTS 38,266 cy @ **$3.12 /cy**

PIT RUN ROCK COST

SALE NAME: McKnob
PROJECT: Project No's. 1 and 2
QUARRY: Shingle Shack

ROCK TYPE: Pit Run

DATE: 11/21/2005
BY: J. Tillotson

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
1A to 1B		60				0.52	0.30	0.14	0.05	1.01
1C to 1D		60				0.33	0.30	0.22	0.05	0.90
5A to 5B		60				0.50	1.09	0.10	0.05	1.74
7A to 7B		60			1.50	0.56	1.00	0.20	0.05	3.31
7C to 7D		60			1.50	0.62	1.29	0.25	0.05	3.71
7E to 7F		60			1.50	1.02	0.52	0.17	0.05	3.26
7G to 7H		60			1.50	1.02	0.52	0.09	0.05	3.18
8A to 8B		60			1.50	1.83	1.50	0.50	0.05	5.38
8C to 8D		60			1.50	1.83	0.47	0.20	0.05	4.05
8E to 8F		60			1.50	1.83	0.65	0.34	0.05	4.37
8G to 8H		60			1.50	1.83	1.35	0.14	0.05	4.87
8I to 8J		60				0.87	0.25	0.11	0.05	1.28
TOTAL		720								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					**1.00**	**1.06**	**0.77**	**0.21**	**0.05**	**3.09**

Average Round Trip Distance (miles) 6.18

ROCK HAUL:

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

Truck type: D12 No. trucks: 3
Delay min.: 6 Efficiency: 85%

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

Ave haul: $2.52 /cy
Load: $0.70 /cy
Spread: /cy

Production: cy/day = 562

PIT RUN ROCK HAUL COSTS 720 cy @ **$3.22 /cy**

RIP RAP ROCK COST

SALE NAME: McKnob
PROJECT: Project No's. 1 and 2
QUARRY: Shingle Shack

ROCK TYPE: Rip Rap

DATE: 11/21/2005
BY: J. Tillotson

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	
8A to 8B		24			1.50	0.51	0.53	0.20	0.07	2.81
8C to 8D		24			1.50	0.51	0.37	0.15	0.07	2.60
8E to 8F		24			1.50	0.51	0.65	0.06	0.07	2.79
MSA to MSB		12			1.50		0.30	0.30	0.07	2.17
TOTAL		84								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					**1.50**	**0.44**	**0.49**	**0.16**	**0.07**	**2.65**
							Average Round Trip Distance (miles)		5.31	

ROCK HAUL:

Truck type: D12 No. trucks: 1
Delay min.: 6 Efficiency: 85%

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

Ave haul: $2.16 /cy
Load: $2.25 /cy
Develop: /cy

Production: cy/day = 218

RIP RAP ROCK HAUL COSTS 84 cy @ **$4.41 /cy**

CRUSHED ROCK COST

SALE NAME: McKnob
PROJECT: Quarry Access Roads
QUARRY: Shingle Shack

ROCK TYPE: Crushed

DATE: 11\28\05
BY: d.mellison

		Cubic Yards							
Segment	Stations	4"-0"	3/4"-0"			Junction	Curves	Leveling	Total
Q1 - Q2	3.21	178	56						234
Q3 - Q4	2.68	155							155
Grand Total	5.89	333	56						389

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES 50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	Total Haul
Q1 - Q2	3.21	234							0.06	0.06
Q3 - Q4	2.68	155						0.06	0.05	0.11
TOTAL	5.89	389								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL								**0.02**	**0.06**	**0.08**
								Average Round Trip Distance (miles)	0.16	

ROCK HAUL:

Truck type: D20 No. trucks:
Delay min.: 15 Efficiency: 75%

Truck type: D12 No. trucks: 1
Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
Delay min.: 10 Efficiency: 75%

Ave haul: $0.65 /cy
*Load: $0.33 /cy
**Spread: $0.55 /cy

Production: cy/day = 727

CRUSHED ROCK HAUL COSTS 389 cy @ **$1.53 /cy**

SALE NAME: McKnob
PROJECT: Quarry Access
QUARRY:

ROCK TYPE: Waste Material

DATE: 11\28\05
BY: d.mellison

		Cubic Yards								
Segment	Stations	Waste	Running	Turnout	Subg Reinf	Stockpile	Curves	F.Widen	Total	
Q1-Q2	3.21	1,115							1,115	0
Q2-Q3	2.68	748							748	
									0	
									0	
									0	
									0	
									0	
									0	
									0	
									0	
									0	
									0	
Grand Total	5.89	1,863	0	0	0	0	0	0	1,863	

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	
Q1-Q2	3.21	1,115							0.06	0.06
Q2-Q3	2.68	748						0.06	0.05	0.11
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
0	0.00	0								0.00
TOTAL	5.89	1,863								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.06**	**0.08**
								Average Round Trip Distance (miles)	0.16	

ROCK HAUL:

Truck type: D20 No. trucks: 1
Delay min.: 8 Efficiency: 85%

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

Truck type: D10 No. trucks:
Delay min.: 10 Efficiency: 85%

Ave haul: $0.58 /cy
*Load: $0.50 /cy
**Dump: $0.18 /cy

Production: cy/day = 967

CRUSHED ROCK HAUL COSTS 1,863 cy @ **$1.26 /cy**

* Loading: (5/60)*$120/20cy=$0.50
** Dump: (3/60)*$70/20cy=$0.18

Projects Road Maintenance Cost Summary

Sale: **McKnob**
Date: December 5, 2005
By: John Tillotson

Type	Equipment/Rationale	Hours	Rate	Cost	
Post-Projects Road	Grader 14G	11	$84	$924	
	Dump Truck 12CY (2 trucks)	10	$59	$590	
	FE Loader C966	10	$79	$790	
	Vibratory Roller	11	$79	$869	
	Water Truck 2500 gallon	8	$70	$560	
					Total **$3,733**

Interim Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader				
Vibratory Roller				

Final Road Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader	1.5	1.6	1.1	10.67
Vibratory Roller	1.5	1.6	1.1	10.67

***Maintenance calculations were determined as follows:**

Maintain from Shingle Shack Quarry to "I4"

Total Miles: 1.6 miles.

Project No. 4 Road Vacating

McKNob 341-06-076

Location/Description	C325 #1	C325 #2	12 CY Truck	12 CY Truck	Labor	Straw Mulch	Total
V1 Remove Fill, Develop 5 foot channel	3				2	5	
V2 Remove Fill, Develop 5 foot channel	5				3	10	
V3-V4 Reclaim Rock Surfacing, Haul crushed rock to Knob Pt. Stockpile. Remove culverts, pull subgrade material into ditch and outslope 10%.	6	896	896		20	173	
V5-V6 Reclaim Rock Surfacing, Haul crushed rock to Knob Pt. Stockpile. pull subgrade material into ditch and outslope 10%.	4	89	89		3	24	
Haul Culverts off State land				1			
Total	18 hr	985 cy	985 cy	1 hr	28 hr	212 bales	
Rate	$120 /hr	$1.60 /cy	$2.78 /cy	$59 /hr	$25 /hr	$4.50	
Cost	$2,160	$1,576	$2,738	$59	$700	$954	$8,187

J. Tillotson 12/7/2005

RECLAIMED ROCK HAUL

~~PIT RUN ROCK COST~~

SALE NAME: McKnob
PROJECT: N/A
QUARRY: N/A

ROCK TYPE: Reclaimed

DATE: 12/5/2005
BY: J. Tillotson

		Cubic Yards							
Segment	Stations	Base	Borrow	Turnout	Turnaround	Junction	Curves	Misc	Total
Grand Total									

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	
V3-V4	14.40	896				1.32	0.38	0.10	0.04	1.84
V5-V6	2.00	89				1.32	0.38	0.30	0.04	2.04
TOTAL	16.40	985								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL						**1.32**	**0.38**	**0.12**	**0.04**	**1.86**
								Average Round Trip Distance (miles)		3.72

ROCK HAUL:

Truck type: D20 No. trucks:
Delay min.: 15 Efficiency: 75%

Truck type: D12 No. trucks: 2
Delay min.: 6 Efficiency: 75%

Truck type: D10 No. trucks:
Delay min.: 10 Efficiency: 75%

Ave haul: $1.95 /cy
*Load: $0.83 /cy
**Spread: /cy

Production: cy/day = 484

PIT RUN ROCK HAUL COSTS cy @ **$2.78 /cy**

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3 **Timber Sale Name: 341-06-076**

Quarry:	Shingle Shack	Swell:	
Location:	SW1/4, Sec 5, T7N,R6W	Shrink:	16%
County:	Clatsop		
By:	d.mellison		
Date:	11\28\05		

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"	1%	CR		15,366	15,366
1-1/2"-0"		CR			
4"-0"		CR		23,290	23,290
6"-0"		PR		1,180	1,180
24"-6"		RR		84	84
36"		RR			
TOTAL CUBIC YARDS OF ROCK:				39,920	**39,920**

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	$2,353	$3,294
Screening Plants (2)	75	1.40	$954	$1,336
D8 Cat & D6 Cat	75	1.40	$1,600	$2,240
Loader	75	1.40	$590	$826
Drill & Compressor (2)	75	1.40	$1,080	$1,512
Powder	75	1.40	$270	$378
3 Dump Trucks	75	1.40	$357	$500
Excavator	75	1.40	$945	$1,323
SUB TOTAL FOR MOBILIZATION				$11,409

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher		$2,682	$2,682
Screening Plants (2)		$451	$451
Change Gradation		$424	$424
SUB TOTAL FOR SET UP COSTS			$3,557

TOTAL MOBILIZATION & SET UP COSTS $14,966

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Pile & Burn Rock Source	0.48	acres	$1,980	$950
Pile & Burn Crusher Site	0.22	acres	$1,980	$436
Fire Truck Mobilization	1	each	$119	$119
Logging costs of Rock Source and				
Crusher site are included in RW logging.				

TOTAL CLEARING & GRUBBING COSTS $1,505

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST
Crusher Site Excavation	1,515	bcy	$1.28	$1,939
Crusher Site Embankment	1,034	bcy	$0.45	$465

TOTAL EXCAVATION COSTS $2,405

4) DEVELOP ROCK

ROCK SUMMARY

Type	Cu. yd. Vol.	Weight
crushed	38,656	97%
pit run	1,180	3%
rip rap	84	0%
Total	39,920	
reject	154	0.4%

METHOD	%	QUANTITY	RATE	COST
Ripping	10%	3,992	$1.85	$7,385
Drill & shoot	90%	36,066	$1.90	$68,526
Oversize red	3%	1,195	$5.04	$6,023
Other				

TOTAL ROCK DEVELOPMENT COSTS $81,934

5) CALIBRATION & TESTING

DESCRIPTION	NO.	$/TEST	COST
Calibrate	2	$400	$800
Calibrate			
Test	20	$50	$1,000
Test			

TOTAL CALIBRATION & TESTING COSTS $1,800

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	38,810	$0.70	$27,272

TOTAL FEEDING & LOADING COSTS $27,272

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	15,366	3 stage w/s	110	$2.95	$45,400
1-1/2"-0"	crushed		3 stage w/s			
4"-0"	crushed	23,290	2 stage	140	$1.71	$39,926

TOTAL ROCK CRUSHING COSTS $85,325

8) STOCKPILING

STOCKPILE PREPARATION OR CONST	COST
(See Footnote)	

SUB TOTAL

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1.					
2.					
3.					
4.					
5.					
6.					

SUB TOTAL

TOTAL STOCKPILING COSTS

9) MISCELLANEOUS COSTS

DESCRIPTION			COST
Load, Haul, and Spread the reject material at the waste area.			
$1.26	154 CY		$194
Final Quarry Dev.,Waterbarring, Drainage, and Block Equip access road			
3 hrs D8 Cat	@	$126	$378
Grade, and shape access roads			
1 hr grader	@	$84	$84
Pit run Crusher site 400 cy @ ($1.28/cy +$0.30/cy, $0.87/cy) =			$980

TOTAL MISCELLANEOUS COSTS $1,636

10) GRAND TOTAL: **$216,842**

$/Cubic Yard $5.61

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer		$120.00	
Compactor		$75.00	
Grader		$80.00	
Excavator		$130.00	

Rock for Floor (CY)	$/CY Haul	Total

Total Construct Stockpile Floor

McKnob
FY 2006
TIMBER CRUISE REPORT

1. **Sale Area Location:** Areas 1, 2, 3, 4, 5, 6, 7, and 8 are located in portions of Sections 4, 5, 6, 7, 8, 9, and 18, T7N, R6W, and portions of Section 13, T7N, R7W; W.M., Clatsop County, Oregon. Sale Area 9 R/W is located within Areas 1, 2, 6, 7, 9, and 10. Area 10 R/W is located in portions of Section 5, T7N, R7W.

   All timber sale areas are posted with ODF "Timber Sale Boundary" signs, pink ribbon. Areas 9 and 10 R/W are posted with ODF "Right-of-Way Boundary" signs.

2. **Fund Distribution:** **Fund:** BOF (98.69%) CSL (1.31%)
   Tax Code: 1-02 (97.49%) 30-05 (2.51%)

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acreage	New R/W Acreage	Existing R/W Acreage	Stream Buffer Acreage	Wildlife Tree Area/ **Rehab	Net Acreage
1	PC	118.5	-1.7	0.0	-1.7	0.0	115.1
2	MC	54.4		0.0	-0.5	0.3	54.2
3	PC	83.0	-4.8	0.0	0.0	0.0	78.2
4	MC	52.9		0.0	0.0	-3.4	49.5
5	MC	43.6		0.0	0.0	-0.6	43.0
6	MC	64.6		0.0	0.0	0.0	64.6
7	PC	272.9	-12.5	0.0	-7.3	-2.1	251.0
8	PC	386.2	-12.2	0.0	0.0	0.0	374.0
9	R/W	3.0					34.2
10	R/W	1.3					1.3
TOTALS		**1,080.4**	**34.2***	**0.0**	**-9.5**	**-5.8**	**1,065.1**

**Additional 3.0 acres of R/W located outside of sale area in between Areas 4 and 5.*
***Area 4 has 3.4 acres of unstocked ground which is to be rehabbed.*

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Bryce Rodgers, Dave Horning, and John Tillotson. Areas 2, 4, 5, and 6 were cruised by Bryce Rodgers, Dave Horning, John Tillotson, and Dan Goody. Area 3 was cruised by Bryce Rodgers, Dave Horning, and Eric Perkins. Areas 7 and 8 were cruised by Bryce Rodgers, Dave Horning, Eric Perkins, and Kevin Berry. Cruise for Area 9 R/W was calculated using total cruise per acre volumes for partial harvest Areas 1, 3, 7, and 8, and applying road R/W acreage. Acreage for R/W in modified-clearcut Areas 2, 4, 5, and 6 were included in the total net acreage for those sale areas.

5. **Cruise Method and Computation:** 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.
   Area 1 (Partial Cut), was variable plot cruised with a 33.61 BAF. 27 plots were sampled on a cruise grid of 7 chains by 6 chains, with a count/cruise plot ratio of 2:1.

   Areas 2, 4, 5, and 6 (Partial Cut), were variable plot cruised with a 40 BAF. 106 plots were sampled on a cruise grid of 5 chains by 4 chains, with a count/cruise plot ratio of 3:1.

   Area 3 (Partial Cut), was variable plot cruised with a 33.61 BAF. 19 plots were sampled on a cruise grid of 7 chains by 6 chains, with a count/cruise plot ratio of 2:1.

Area 7 (Partial Cut), were variable plot cruised with a 27.78 BAF. 84 plots were sampled on a cruise grid of 6 chains by 5 chains, with a count/cruise plot ratio of 3:1.

Area 8 (Partial Cut), was variable plot cruised with a 40 BAF. 48 plots were sampled on a cruise grid of 9 chains by 9 chains, with a count/cruise plot ratio of 2:1.

All "take" and "leave" trees were measured and graded.

AREAS	PROJECT	CRUISE TYPE
1	MCKNOB	0001, LV01, TK01
2, 4, 5, and 6	MCKNOB	MCTK, MCLV
3	MCKNOB	0003, LV03, TK03
7	MCKNOB	0007, LV07, TK07
8	MCKNOB	0008, LV08, TK08
9 and 10 R\W	MCKNOB	RW13, RW07, RW10, RW08

6. Timber Description:

Area 1 (Partial Cut) – This stand is a "auto-mark" thinning unit, about 42 to 67 years old, consisting of hemlock dominated mixed conifer stands with patches of alder. This stand will be harvested to an SDI of 34, with a basal area target of 190ft^2 in the conifer portions and also harvesting all of the hardwoods, Approximately 131 trees per acre and 15.5 MBF/acre will be removed. The average "take" tree size is 14" DBH and 47 feet to a merchantable top (6" d.i.b.).

Areas 2, 4, 5, and 6 (Modified Clearcut) – These stands range from 43 to 68 years old, consisting of mixed hemlock and Sitka spruce stands with some Douglas-fir, alder, and true fir. These stands average 15 inches in DBH, with an average merchantable height of 47 feet to a merchantable top. The average volume (net) is 31.3 MBF/acre.

Area 3 (Partial Cut) – This stand is a "auto-mark" thinning unit, about 52 to 54 years old, consisting of a mixed conifer stands of hemlock, Douglas-fir, and spruce stands with isolated clumps of hardwoods. This stand will be harvested to an SDI of 37, with a target basal area of 190 ft^2, while removing approximately 93 trees per acre and 8.0 MBF/acre. The average "take" tree size is 14" DBH and 43 feet to a merchantable top (6" d.i.b.).

Area 7 (Partial Cut) – This stand is a "auto-mark" thinning unit, about 48 to 54 years old, consisting of a mixed conifer stands of hemlock, Douglas-fir, and spruce stands with some true fir and hardwoods. This stand will be harvested to an SDI of 25, with a target basal area of 120 ft^2, while removing approximately 75 trees per acre and 7.6 MBF/acre. The average "take" tree size is 16" DBH and 40 feet to a merchantable top (6" d.i.b.).

Area 8 (Partial Cut) – These stands are approximately 56 years old, and consist of hemlock dominated mixed conifer stands. These stands will be harvested to an SDI of 27, with a target basal area of 150 ft^2, while removing approximately 197 trees per acre and 19.8 MBF/acre. The average "take" tree size is 12.4" DBH and 46 feet to a merchantable top (6" d.i.b.).

7. Statistical Analysis: (See also "Statistics Reports," attached.)

Area	Target CV	Target SE%	Actual CV	Actual SE%
1	38	12	47.7	9.2
2, 4, 5, and 6	50	12	66.2	6.4
3	38	12	33.8	7.8
7	40	10	53.4	5.8
8	35	10	48.6	7.0

The statistics for Areas 1, 3, 7, and 8 are "Take" and "Leave" stands combined.

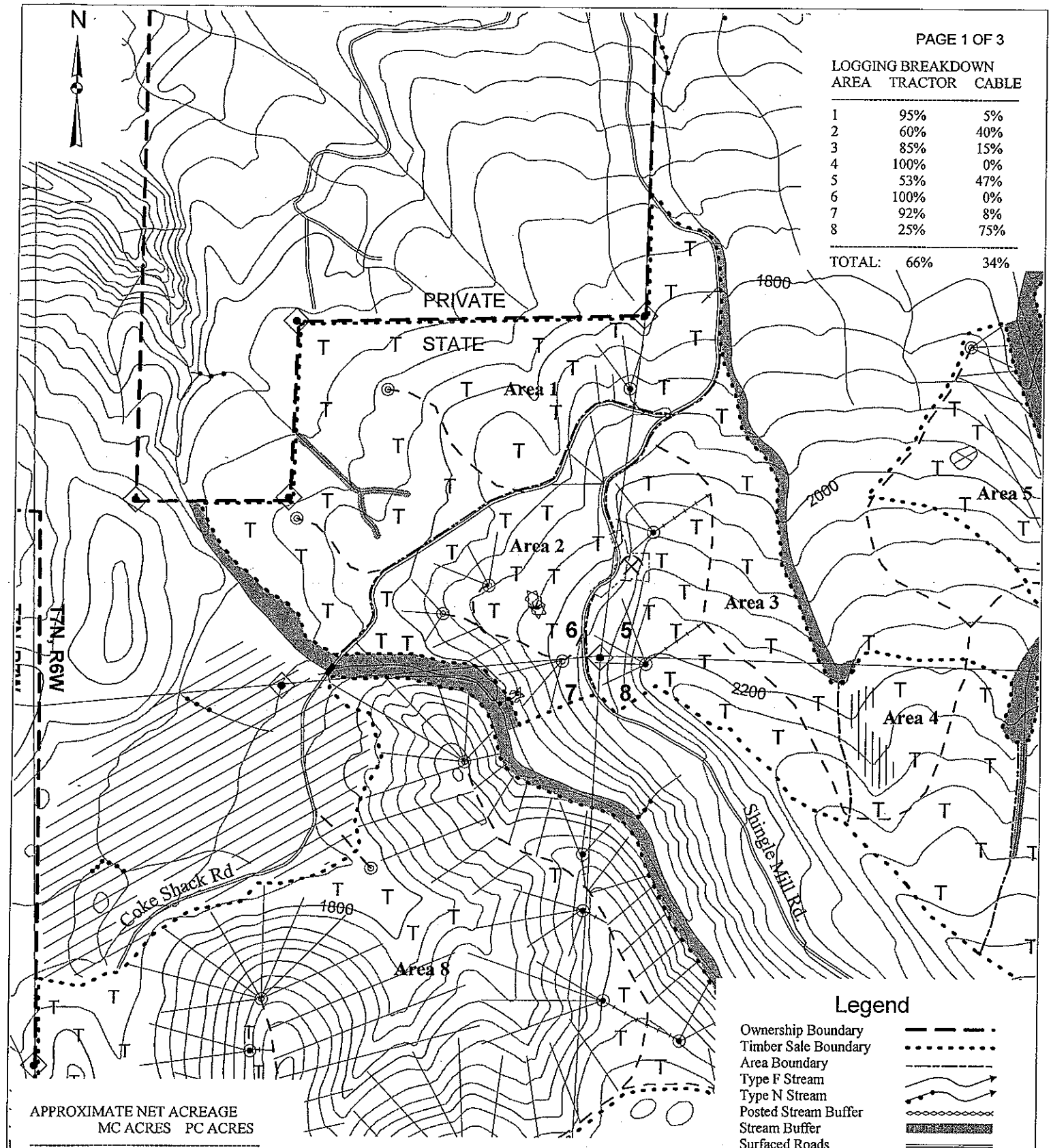
8. **Volumes by Species and Log Grades for All Sale Areas by MBF:** (See "Species, Sort, Grade, Length % Type Reports" attached, of the thinning and regeneration harvest areas combined.) Volumes do not include "ingrowth." The majority of defect and breakage was culled out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	% D & B	% Sale
Hemlock/True fir	13.5"	14,647	5,095	7,427	2,126	5	75
Douglas-fir	14.4"	1,503	429	758	316	13	8
Sitka spruce	15.6"	2,516	1,033	1,159	326	4	13
Alder	12.9"	848	80	701	67	18	4
Cedar	16.0"	1		1			<1%
TOTAL		**19,515**					**100**

9. **Prepared by:** Dan Goody **Date:** December 6, 2005

10. **Attachments:**
Species, Sort, Grade Reports (8 pages)
Statistics Stand Summary Reports (20 pages)
Log Stock Table Reports (8 pages)
Leave Tree Stand Table Reports (5 pages)
Cruise Plans & Maps (12 pages)

X:\Sunset Unit\2006 FY Sales\McKnob\Sale Prep\Cruise Report - McKnob.doc



LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
1	95%	5%
2	60%	40%
3	85%	15%
4	100%	0%
5	53%	47%
6	100%	0%
7	92%	8%
8	25%	75%
TOTAL:	66%	34%

APPROXIMATE NET ACREAGE

	MC ACRES	PC ACRES
AREA 1		115.1
AREA 2	54.2	
AREA 3		78.2
AREA 4	49.5	
AREA 5	43.0	
AREA 6	64.6	
AREA 7		251.0
AREA 8		374.0
AREA 9 (R/W)	34.2	
AREA 10 (R/W)	1.3	
TOTAL	246.8	818.3

TOTAL ALL AREAS = 1,065.1 ACRES

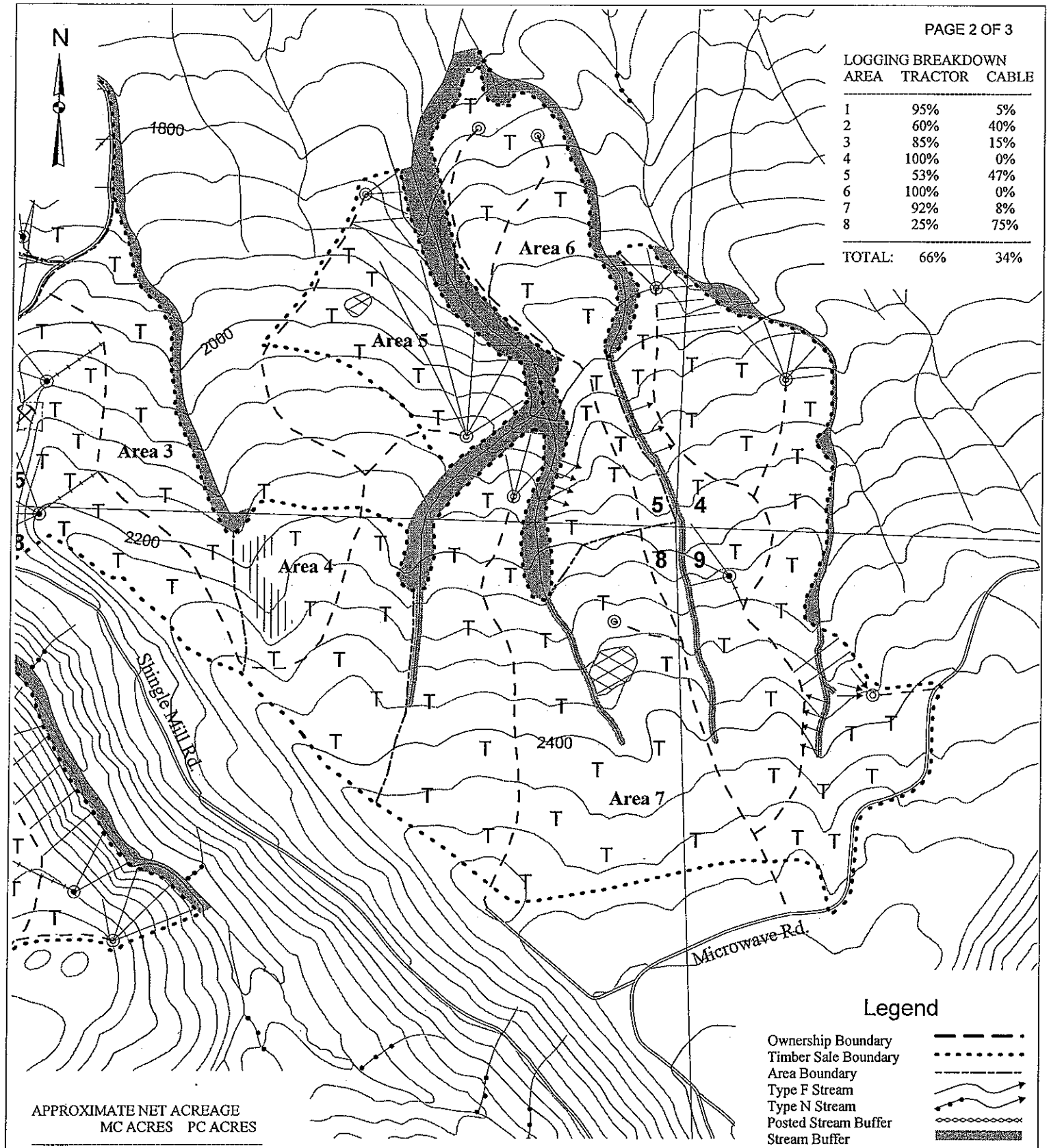
LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-06-76
MCKNOB
PORTIONS OF SECTIONS 4, 5, 6, 7, 8, 9, and 18, T7N, R6W,
and PORTIONS OF SECTION 13, T7N, R7W,
W.M., CLATSOP COUNTY, OREGON.
Approximate scale 1" = 1000'

1000 0 1000 Feet

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Type F Stream
- Type N Stream
- Posted Stream Buffer
- Stream Buffer
- Surfaced Roads
- New Road Construction
- Loggers Choice Roads
- Landings to Construct
- Logger's Choice Landings
- Tractor Yarding
- Line Pull Area
- Cable Yarding
- Known Survey Corner
- Reforestation
- Wildlife Tree Area
- Rehabilitation Area
- Seasonal Wet Area
- Bridge



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TOTAL	246.8	818.3

TOTAL ALL AREAS = 1,065.1 ACRES

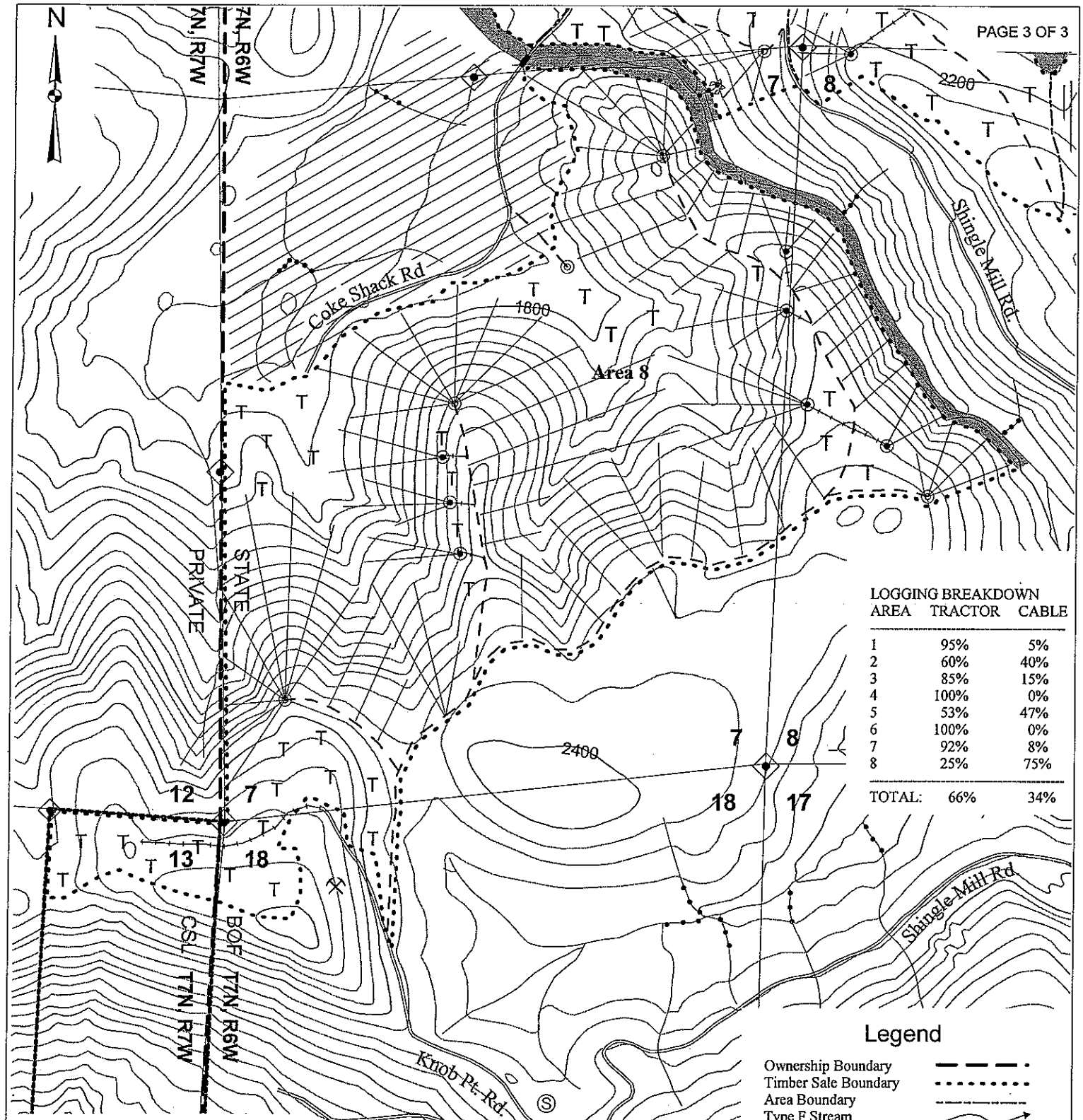
LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-06-76
MCKNOB
PORTIONS OF SECTIONS 4, 5, 6, 7, 8, 9, and 18 of T7N, R6W,
and PORTION OF SECTION 13, T7N, R7W,
W.M., CLATSOP COUNTY, OREGON.
Approximate scale 1" = 1000'

1000 0 1000 Feet

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Type F Stream
- Type N Stream
- Posted Stream Buffer
- Stream Buffer
- Surfaced Roads
- New Road Construction
- Loggers Choice Roads
- Landings to Construct
- Logger's Choice Landings
- Tractor Yarding
- Line Pull Area
- Cable Yarding
- Known Survey Corner
- Reforestation
- Wildlife Tree Area
- Rehabilitation Area
- Seasonal Wet Area
- Bridge



LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
1	95%	5%
2	60%	40%
3	85%	15%
4	100%	0%
5	53%	47%
6	100%	0%
7	92%	8%
8	25%	75%
TOTAL:	66%	34%

APPROXIMATE NET ACREAGE

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AREA 1		115.1
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AREA 3		78.2
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AREA 7		251.0
AREA 8		374.0
AREA 9 (R/W)	34.2	
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TOTAL	246.8	818.3

TOTAL ALL AREAS = 1,065.1 ACRES

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-06-76
MCKNOB
PORTIONS OF SECTIONS 4, 5, 6, 7, 8, 9, and 18 of T7N, R6W,
and PORTION OF SECTION 13, T7N, R7W,
W.M., CLATSOP COUNTY, OREGON.
Approximate scale 1" = 1000'

1000 0 1000 Feet

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Type F Stream
- Type N Stream
- Posted Stream Buffer
- Stream Buffer
- Surfaced Roads
- New Road Construction
- Loggers Choice Roads
- Landings to Construct
- Logger's Choice Landings
- Tractor Yarding (T)
- Line Pull Area (111)
- Cable Yarding
- Known Survey Corner
- Reforestation
- Wildlife Tree Area
- Rehabilitation Area
- Seasonal Wet Area
- Bridge

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:32:39AM

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
S			4S																0.00	.0
S	?	?			100.0	99											10		0.00	3.8
S	?	2S		5	.3	972	970	1,033		3	79	18	12	16	42	31	31	225	1.90	4.3
S	?	3S		6	1.0	1,099	1,088	1,159	0	93	2	5	4	12	53	31	33	82	0.86	13.2
S	?	4S		2		306	306	326		95	5		46	44	9	2	20	29	0.54	10.5
S Totals				13	4.5	2,475	2,363	2,517	0	56	34	10	13	18	43	27	26	74	0.91	31.9
D	?	?			100.0	187											13		0.00	3.7
D	?0	2S		2	1.6	410	403	429		1	87	13	11	14	63	12	29	187	1.64	2.1
D	?0	3S		4	2.6	731	711	758		98	2		4	5	47	43	35	84	0.77	8.5
D	?0	4S		2	.6	299	297	316	3	97			38	47	8	6	21	27	0.44	11.1
D Totals				8	13.2	1,626	1,411	1,503	1	70	26	4	13	17	44	27	25	56	0.68	25.4
H	?	?			100.0	673											11		0.00	15.2
H	?	2S		23	.6	4,224	4,199	4,473		1	71	28	10	9	40	41	32	246	1.74	17.1
H	?	3S		37	.3	6,865	6,843	7,288		99	1		1	7	52	40	34	87	0.69	78.5
H	?	4S		10	.4	1,927	1,919	2,044	1	99	0		45	49	6		21	27	0.41	70.8
H Totals				71	5.3	13,688	12,962	13,806	0	68	23	9	11	14	41	35	27	71	0.70	181.6
SN	?0	?			100.0	7											26		0.00	.1
SN Totals					100.0	7											26		0.00	.1
A	?	?			100.0	170											26		0.00	4.6
A	?	2S		0		75	75	80			76	24	44	56			23	208	2.01	.4
A	?	3S		4	.7	663	658	701		93	7		19	29	29	23	28	74	0.78	8.9
A	?	4S		0		63	63	67		100			48	38	14		21	39	0.56	1.6
A Totals				4	18.0	970	796	848		85	13	2	24	32	25	19	27	51	0.56	15.5
SF	?	?			100.0	41											6		0.00	.4
SF	?	2S		3	.9	589	584	622			59	41	0	2	47	52	34	318	2.14	1.8
SF	?	3S		1		131	131	139		99	1		1	1	85	13	33	84	0.73	1.6
SF	?	4S		0		77	77	82		100			72	28			18	28	0.50	2.8
SF Totals				4	5.5	838	792	843		26	44	30	7	4	48	40	25	121	1.19	6.6
C	?	3S		0		1	1	1		100			34	34		31	22	40	0.77	.0
C	?	4S		0		0	0	0		100			35	65			21	26	0.70	.0
C Totals				0		1	1	1		100			34	39		27	22	37	0.76	.0
Totals					6.5	19,605	18,325	19,518	0	65	25	9	11	15	41	32	27	70	0.72	261.0

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Date 11/23/2005

Time 10:38:38AM

T07N R06W S05 TTK01

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	05	AREA 1-TK	TK01	115.10	27	58	1	W

T07N R06W S05 TTK01

Spp	ST	So	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
H		DO	CU		100.0	615											12		0.00	14.3
H		DO	2S	27	.7	3,014	2,994	345			71	29	21	4	65	10	29	204	1.56	14.7
H		DO	3S	62		7,027	7,027	809		100					52	48	35	88	0.66	80.3
H		DO	4S	11	.0	1,265	1,265	146	4	96			35	65			23	28	0.40	45.5
H	**Totals**			72	5.3	11,921	11,286	1,299	0	73	19	8	9	8	50	32	29	73	0.66	154.8
A		DO	CU		100.0	247											23		0.00	5.6
A		DO	2S	18		572	572	66			71	29	35	65			25	219	2.03	2.6
A		DO	3S	82	1.6	2,658	2,615	301		84	16		21	34	12	33	28	75	0.78	35.1
A	**Totals**			20	8.3	3,477	3,187	367		69	26	5	24	39	10	27	27	74	0.76	43.2
SF		DO	CU		100.0	63											6		0.00	.6
SF		DO	2S	74		633	633	73			100				34	66	37	284	1.69	2.2
SF		DO	3S	23		201	201	23		100					78	22	34	90	0.83	2.2
SF		DO	4S	3		23	23	3		100			100				18	30	0.56	.8
SF	**Totals**			6	6.8	920	857	99		26	74		3		43	54	30	146	1.19	5.9
D		DO	CU		100.0	80											4		0.00	2.7
D		DO	4S	100		107	107	12		100				100			30	40	0.67	2.7
D	**Totals**			1	42.9	187	107	12		100				100			17	20	0.59	5.3
S		DO	2S	86		119	119	14			100			100			30	300	2.57	.4
S		DO	3S	14		20	20	2		100				100			26	50	0.96	.4
S	**Totals**			1		139	139	16		14	86			100			28	175	1.82	.8
Type Totals					6.4	16,643	15,575	1,793	0	69	24	7	12	16	41	32	28	74	0.70	210.1

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Page 1
Date 12/6/2005
Time 10:33:20AM

T07N R06W S05 TMCTK

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	05	A 2456-TK	MCTK	211.30	106	257	1	W

T07N R06W S05 TMCTK

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
H		?	?		100.0	1,441											10		0.00	30.1
H		?	2S	58	.3	11,567	11,532	2,437		0	64	35	8	13	34	45	32	266	1.86	43.3
H		?	3S	33	.4	6,656	6,629	1,401		100			5	16	31	48	34	83	0.69	80.3
H		?	4S	9		1,711	1,711	361	1	99			44	50	6		21	27	0.46	63.3
H	**Totals**			63	7.0	21,374	19,871	4,199	0	42	37	20	10	17	31	42	26	92	0.88	217.0
S		?	?		100.0	87											10		0.00	5.7
S		?	2S	35		2,300	2,300	486			82	18	10	10	33	47	34	247	1.92	9.3
S		?	3S	51	.5	3,332	3,317	701		95	1	4	6	6	60	28	32	87	0.86	38.1
S		?	4S	14		881	881	186		100			39	43	15	3	21	28	0.50	31.7
S	**Totals**			21	1.6	6,601	6,498	1,373		62	29	8	12	12	44	32	27	77	0.88	84.8
A		?	?		100.0	279											21		0.00	12.7
A		?	2S	3		55	55	12			100		100				16	160	1.88	.3
A		?	3S	78		1,289	1,289	272		100			26	18	36	20	27	70	0.77	18.4
A		?	4S	19		315	315	67		100			48	39	14		21	39	0.55	8.0
A	**Totals**			5	14.4	1,939	1,660	351		97	3		32	21	31	16	24	42	0.52	39.5
D		?	?		100.0	275											16		0.00	4.2
D		?	2S	43	.7	891	885	187			74	26	15	16	60	9	28	229	1.89	3.9
D		?	3S	39	2.9	838	813	172		90	10		10	7	67	17	32	93	0.90	8.7
D		?	4S	18	2.3	371	362	77		100			35	31	34		23	30	0.46	12.1
D	**Totals**			7	13.2	2,375	2,060	435		53	36	11	16	15	58	10	25	71	0.80	28.9
SF		?	?		100.0	57											4		0.00	.3
SF		?	2S	95		1,176	1,176	248			12	88		3		97	38	538	3.05	2.2
SF		?	3S	4		45	45	9		100						100	36	140	1.64	.3
SF		?	4S	2		20	20	4		100			100				20	40	0.65	.5
SF	**Totals**			4	4.4	1,298	1,241	262		5	11	83	2	3		95	32	376	2.64	3.3
Type Totals					6.7	33,585	31,330	6,620	0	48	33	19	12	16	34	38	26	84	0.86	373.5

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Date 12/6/2005
Time 10:34:13AM

T07N R06W S05 TTK03

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	05	AREA 3-TK	TK03	78.20	19	36	1	W

T07N R06W S05 TTK03

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
H		DO	CU		100.0	752											10		0.00	16.1
H		DO	2S	19		678	678	53			100				100		32	205	1.67	3.3
H		DO	3S	58		2,056	2,056	161		100				44	39	17	31	94	0.81	21.8
H		DO	4S	23		830	830	65	10	90			80	20			17	22	0.46	37.4
H	**Totals**			44	17.4	4,316	3,564	279	2	79	19		19	30	42	10	20	45	0.65	78.6
D		DO	CU		100.0	324											14		0.00	5.7
D		DO	3S	72	3.4	1,741	1,682	132		100					70	30	34	82	0.74	20.6
D		DO	4S	28		641	641	50		100			17	46		37	23	30	0.41	21.5
D	**Totals**			29	14.2	2,706	2,323	182		100			5	13	51	32	27	49	0.57	47.8
S		DO	2S	23	1.3	518	511	40		64	36				36	64	38	205	1.44	2.5
S		DO	3S	62	1.2	1,369	1,353	106	3	80	18				75	25	35	80	0.63	16.9
S		DO	4S	14		313	313	24		100			4	96			23	29	0.42	10.7
S	**Totals**			27	1.0	2,200	2,177	170	2	79	20		1	14	55	31	31	72	0.65	30.1
A		DO	CU		100.0	197											21		0.00	4.9
A	**Totals**				100.0	197											21		0.00	4.9
Type Totals					14.4	9,420	8,064	631	1	85	14		10	21	48	22	24	50	0.61	161.5

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Date 12/6/2005

Time 10:34:41AM

T07N R06W S04 TTK07

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	04	AREA 7-TK	TK07	251.00	84	89	1	W

T07N R06W S04 TTK07

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
S		?0	CU		100.0	317											10		0.00	10.6
S		?0	2S	42	.6	1,076	1,070	269			70	30	25	33	27	14	25	183	1.99	5.8
S		?0	3S	44	1.2	1,149	1,135	285		91		9		32	31	37	33	77	0.85	14.8
S		?0	4S	14		362	362	91		82	18		77	23			17	30	0.65	12.0
S	**Totals**			34	11.6	2,904	2,567	644		52	32	16	21	31	25	22	22	59	0.90	43.3
H		?0	CU		100.0	398											8		0.00	6.2
H		?0	2S	53	.9	1,392	1,380	346			63	37	25	8	34	32	31	267	2.04	5.2
H		?0	3S	39		1,011	1,011	254		100				6	46	48	34	96	0.87	10.6
H		?0	4S	8		205	205	51		100			41	59			21	29	0.55	7.1
H	**Totals**			34	13.6	3,007	2,597	652		47	34	19	17	11	36	36	25	89	1.00	29.1
D		?0	CU		100.0	263											15		0.00	5.6
D		?0	2S	25	4.3	361	346	87			100		14	30	36	20	27	153	1.59	2.3
D		?0	3S	54	2.9	778	755	190		100			6	13	46	35	34	74	0.82	10.1
D		?0	4S	21		298	298	75	12	88			65	35			19	23	0.45	12.9
D	**Totals**			18	17.7	1,700	1,399	351	3	73	25		21	22	34	24	24	45	0.67	30.9
A		DO	CU		100.0	282											40		0.00	4.0
A		DO	3S	100		421	421	106		100				44	56		30	80	0.78	5.3
A	**Totals**			6	40.1	703	421	106		100				44	56		34	45	0.39	9.3
SF		?0	2S	85		519	519	130			100				100		32	230	2.00	2.3
SF		?0	4S	15		90	90	23		100			100				20	40	0.80	2.3
SF	**Totals**			8		609	609	153		15	85		15		85		26	135	1.54	4.5
Type Totals					14.9	8,923	7,593	1,906	0	54	34	12	18	21	37	24	24	65	0.83	117.0

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Date 11/23/2005

Time 10:28:51AM

T07N R06W S07 TTK08

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	07	AREA 8 -TK	TK08	374.00	48	123	1	W

T07N R06W S07 TTK08

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
H		?	?		00.0	410											13		0.00	13.0
H		?	2S	14	1.2	2,481	2,450	916	5	87	7		7	4	43	46	33	211	1.45	11.6
H		?	3S	66	.4	11,619	11,575	4,329	99	1			1	4	59	37	34	88	0.68	131.6
H		?	4S	20	.6	3,582	3,562	1,332	100				45	48	7		22	27	0.40	130.7
H	**Totals**			89	2.8	18,092	17,587	6,578	86	13	1		10	13	46	31	27	61	0.60	286.9
D		?	?		00.0	74											8		0.00	1.7
D		?	2S	25		266	266	99		100					100		32	160	1.31	1.7
D		?	3S	53	1.9	573	562	210	100						18	82	38	89	0.65	6.3
D		?	4S	21		225	225	84	100				35	65			20	26	0.40	8.8
D	**Totals**			5	7.5	1,138	1,053	394	75	25			7	14	35	44	26	57	0.61	18.5
S		?	2S	79		412	412	154		100					100		32	255	1.70	1.6
S		?	3S	14	9.8	83	75	28	100						54	46	35	58	1.68	1.3
S		?	4S	6		32	32	12	100					100			26	40	0.65	.8
S	**Totals**			3	1.5	527	519	194	21	79				6	87	7	32	139	1.51	3.7
SF		?	?		00.0	46											6		0.00	.6
SF		?	2S	43	4.8	294	280	105		100					100		32	219	1.51	1.3
SF		?	3S	38		246	246	92	100						100		32	78	0.64	3.2
SF		?	4S	20		128	128	48	100				55	45			17	23	0.38	5.4
SF	**Totals**			3	8.4	714	654	245	57	43			11	9	80		23	63	0.68	10.5
Type Totals					3.2	20,472	19,813	7,410	83	16	1		10	13	48	30	27	62	0.62	319.5

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S04 TyRW07	13.50
T07N R06W S05 TyRW13	7.50
T07N R06W S07 TyRW08	13.20

Project: MCKNOB
Acres 34.20

Date 11/23/2005
Time 10:53:02AM

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
S			4S																0.00	.5
S	?	?			100.0	204											9		0.00	5.5
S	?	2S		6	1.1	1,952	1,931	66		2	65	33	15	17	40	28	30	230	2.06	8.4
S	?	3S		3	.9	1,018	1,009	35	0	91	5	3	3	15	42	39	34	78	0.91	13.0
S	?	4S		1		329	329	11		93	7		54	46			19	31	0.64	10.7
S Totals				10	6.7	3,503	3,269	112	0	39	40	21	15	19	37	29	25	86	1.11	38.0
D	?	?			100.0	339											12		0.00	7.0
D	?0	2S		5	3.2	1,588	1,536	53		4	82	13	10	9	48	33	30	198	1.78	7.8
D	?0	3S		4	1.9	1,483	1,455	50		100			6	7	46	41	34	81	0.80	18.0
D	?0	4S		1		487	487	17	5	95			44	51		6	20	26	0.46	19.1
D Totals				11	10.7	3,897	3,479	119	1	57	36	6	13	14	41	33	25	67	0.82	51.9
H	?	?			100.0	800											10		0.00	15.0
H	?	2S		32	.4	10,583	10,544	361		1	74	25	4	5	42	49	34	256	1.75	41.1
H	?	3S		29	.4	9,680	9,645	330		98	2		1	5	56	39	34	88	0.72	109.5
H	?	4S		8	.3	2,556	2,548	87	1	99	1		43	50	6		21	28	0.43	91.3
H Totals				70	3.7	23,618	22,737	778	0	53	36	11	7	10	44	39	28	89	0.83	256.9
SN	?0	?			100.0	225											26		0.00	1.8
SN Totals					100.0	225											26		0.00	1.8
A	?	?			100.0	188											31		0.00	3.4
A	?	2S		0		67	67	2			71	29	35	65			25	219	2.03	.3
A	?	3S		2	.8	640	635	22		92	8		10	42	32	16	29	86	0.85	7.3
A	?0	4S		0		11	11	0		100			100				10	20	0.70	.6
A Totals				2	21.3	906	713	24		84	14	3	14	43	28	14	29	62	0.61	11.6
SF	?	?			100.0	202											8		0.00	1.5
SF	?	2S		6	.7	1,913	1,900	65			48	52	2	1	47	49	34	345	2.24	5.5
SF	?	3S		1		420	420	14		95	5		8	9	56	27	32	99	0.84	4.2
SF	?	4S		0		150	150	5		100			64	36			18	29	0.57	5.2
SF Totals				8	8.0	2,686	2,471	85		22	38	40	7	5	46	43	26	150	1.37	16.4
C	?	3S		0		29	29	1		100			34	34		31	22	40	0.77	.7
C	?	4S		0		5	5	0		100			35	65			21	26	0.70	.2
C Totals				0		34	34	1		100			34	39		27	22	37	0.76	.9
Totals					6.2	34,869	32,704	1,118	0	50	36	14	9	12	43	37	27	87	0.86	377.5

TC TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MCKNOB

Date 12/6/2005

Time 10:35:17AM

T07N R06W S05 TRW10

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt
07N	06W	05	AREA 10 ROW	RW10	1.30	19	98	1	W

T07N R06W S05 TRW10

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
H		?	?		100.0	1,513											9		0.00	23.6
H		?	2S	68	.1	11,599	11,588	15		1	67	31	2	5	57	36	34	286	1.95	40.5
H		?	3S	24		4,166	4,166	5		100			2	36	42	20	32	80	0.85	52.2
H		?	4S	8		1,281	1,281	2	7	93			70	30			17	24	0.51	53.2
H	**Totals**			55	8.2	18,559	17,035	22	1	32	46	21	7	14	49	29	24	100	1.10	169.5
D		?	?		100.0	610											14		0.00	8.0
D		?	2S	36	4.4	2,814	2,690	3			89	11	4		83	13	30	184	1.77	14.6
D		?	3S	49	2.6	3,752	3,656	5		100				2	68	30	34	84	0.79	43.6
D		?	4S	15		1,131	1,131	1	5	95			22	52		26	23	29	0.44	39.3
D	**Totals**			24	10.0	8,308	7,477	10	1	63	32	4	5	9	63	23	28	71	0.80	105.5
S		?	?		100.0	133											4		0.00	2.1
S		?	2S	58	.5	3,425	3,408	4		10	52	38		6	35	58	36	305	2.11	11.2
S		?	3S	32	.8	1,917	1,901	2	2	85	13			3	75	22	34	81	0.71	23.5
S		?	4S	9		541	541	1		100			15	85			22	30	0.49	17.8
S	**Totals**			19	2.8	6,016	5,849	8	1	43	34	22	1	12	45	41	29	107	1.00	54.6
A		?	?		100.0	414											25		0.00	8.5
A	**Totals**				100.0	414											25		0.00	8.5
SF		?	2S	93		334	334	0			32	68			100		32	495	3.19	.7
SF		?	3S	7		24	24	0		100			100				16	70	1.19	.3
SF	**Totals**			1		358	358	0		7	30	63	7		93		27	353	2.79	1.0
Type Totals					8.7	33,655	30,719	40	1	42	40	18	6	12	52	30	26	91	0.96	339.2

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 1	0001	115.10	27	271	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	27	271	10.0		
CRUISE	17	145	8.5	27,106	.5
DBH COUNT					
REFOREST					
COUNT	10	100	10.0		
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
HEMLEAV	47	62.1	19.3	74		125.7	22,491	21,749	5,524	5,409
WHEMLOCK	43	103.7	13.5	52		103.3	14,095	13,369	3,667	3,477
R ALDER	16	33.0	13.9	37		34.9	3,437	3,187	967	906
SFIRLEAV	18	9.0	25.2	93	4	31.1	6,769	6,166	1,436	1,328
SPRUCELV	4	5.9	17.5	49		10.0	1,041	1,009	304	296
DOUGLEAV	4	7.2	15.9	44		10.0	809	728	255	234
SNAG	6	5.6	16.8	29		8.7	556		144	
PS FIR	3	2.8	20.2	82	1	6.2	1,150	1,071	274	261
DOUG FIR	1	3.5	14.0	23		3.7	140	70	49	35
CEDLEAV	3	2.6	16.2	39		3.7	189	189	84	84
TOTAL	*145*	*235.5*	*16.2*	*56*		*337.3*	*50,677*	*47,539*	*12,705*	*12,030*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	59.0	11.4	55	62	69			
WHEMLOCK	91.2	17.6	85	104	122			
R ALDER	193.3	37.2	21	33	45			
SFIRLEAV	184.6	35.5	6	9	12			
SPRUCELV	293.3	56.4	3	6	9			
DOUGLEAV	210.4	40.5	4	7	10			
SNAG	306.7	59.0	2	6	9			
PS FIR	268.6	51.7	1	3	4			
DOUG FIR	381.3	73.4	1	3	6			
CEDLEAV	291.7	56.1	1	3	4			
TOTAL	*33.3*	*6.4*	*220*	*235*	*251*	*44*	*11*	*5*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	56.3	10.8	112	126	139			
WHEMLOCK	88.8	17.1	86	103	121			
R ALDER	199.2	38.3	21	35	48			
SFIRLEAV	186.9	36.0	20	31	42			
SPRUCELV	293.3	56.4	4	10	16			
DOUGLEAV	205.4	39.5	6	10	14			
SNAG	274.7	52.9	4	9	13			
PS FIR	261.0	50.2	3	6	9			
DOUG FIR	381.3	73.4	1	4	6			
CEDLEAV	288.2	55.5	2	4	6			
TOTAL	*30.0*	*5.8*	*318*	*337*	*357*	*36*	*9*	*4*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	63.2	12.2	19,102	21,749	24,396			
WHEMLOCK	93.9	18.1	10,953	13,369	15,785			
R ALDER	212.1	40.8	1,886	3,187	4,488			
SFIRLEAV	189.0	36.4	3,923	6,166	8,408			
SPRUCELV	293.3	56.4	440	1,009	1,579			

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 1	0001	115.10	27	271	1	W

SD: 1	COEFF VAR.	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUGLEAV	227.2	43.7	410	728	1,046			
SNAG								
PS FIR	263.4	50.7	528	1,071	1,615			
DOUG FIR	381.3	73.4	19	70	121			
CEDLEAV	316.6	60.9	74	189	305			
TOTAL	*47.7*	*9.2*	*43,173*	*47,539*	*51,905*	*91*	*23*	*10*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 1-LV	LV01	115.10	27	164	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	27	164	6.1		
CRUISE	15	89	5.9	12,304	.7
DBH COUNT					
REFOREST					
COUNT	10	61	6.1		
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
HEMLEAV	53	74.8	18.4	72		138.2	24,559	23,723	6,033	5,897
SFIRLEAV	18	9.4	25.2	93	5	32.4	7,040	6,412	1,494	1,381
DOUGLEAV	5	8.6	15.5	39		11.2	812	697	259	231
SPRUCELV	4	5.9	17.5	49		10.0	1,041	1,009	304	296
SNAG	6	5.6	16.8	29		8.7	556		144	
CEDLEAV	3	2.6	16.2	39		3.7	189	189	84	84
TOTAL	*89*	*106.9*	*18.7*	*67*		*204.1*	*34,197*	*32,031*	*8,319*	*7,890*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	63.0	12.1	66	75	84			
SFIRLEAV	181.1	34.8	6	9	13			
DOUGLEAV	210.2	40.5	5	9	12			
SPRUCELV	293.3	56.4	3	6	9			
SNAG	306.7	59.0	2	6	9			
CEDLEAV	291.7	56.1	1	3	4			
TOTAL	*40.5*	*7.8*	*99*	*107*	*115*	*65*	*16*	*7*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	57.4	11.0	123	138	153			
SFIRLEAV	183.3	35.3	21	32	44			
DOUGLEAV	203.8	39.2	7	11	16			
SPRUCELV	293.3	56.4	4	10	16			
SNAG	274.7	52.9	4	9	13			
CEDLEAV	288.2	55.5	2	4	6			
TOTAL	*36.8*	*7.1*	*190*	*204*	*219*	*54*	*14*	*6*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	64.5	12.4	20,777	23,723	26,668			
SFIRLEAV	185.2	35.6	4,126	6,412	8,698			
DOUGLEAV	219.0	42.1	403	697	991			
SPRUCELV	293.3	56.4	440	1,009	1,579			
SNAG								
CEDLEAV	316.6	60.9	74	189	305			
TOTAL	*49.8*	*9.6*	*28,959*	*32,031*	*35,102*	*99*	*25*	*11*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 1-TK	TK01	115.10	27	109	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	27	109	4.0		
CRUISE	14	58	4.1	15,067	.4
DBH COUNT					
REFOREST					
COUNT	12	51	4.3		
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
WHEMLOCK	37	92.6	13.4	50		90.9	11,921	11,286	3,136	2,964
R ALDER	16	33.0	13.9	37		34.9	3,477	3,187	971	906
PS FIR	3	2.2	20.2	82	1	5.0	920	857	219	209
DOUG FIR	1	2.7	16.0	35		3.7	187	107	70	53
S SPRUCE	1	.4	24.0	58		1.2	139	139	40	40
TOTAL	*58*	*130.9*	*13.8*	*47*		*135.7*	*16,643*	*15,575*	*4,436*	*4,173*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	97.5	18.8	75	93	110			
R ALDER	193.3	37.2	21	33	45			
PS FIR	317.9	61.2	1	2	4			
DOUG FIR	381.3	73.4	1	3	5			
S SPRUCE	519.6	100.0	0	0	1			
TOTAL	*57.4*	*11.1*	*116*	*131*	*145*	*132*	*33*	*15*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	93.9	18.1	74	91	107			
R ALDER	199.2	38.3	21	35	48			
PS FIR	307.8	59.2	2	5	8			
DOUG FIR	381.3	73.4	1	4	6			
S SPRUCE	519.6	100.0	0	1	2			
TOTAL	*55.2*	*10.6*	*121*	*136*	*150*	*122*	*30*	*14*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	97.8	18.8	9,162	11,286	13,409			
R ALDER	212.1	40.8	1,886	3,187	4,488			
PS FIR	311.0	59.9	344	857	1,370			
DOUG FIR	381.3	73.4	28	107	185			
S SPRUCE	519.6	100.0		139	277			
TOTAL	*66.0*	*12.7*	*13,597*	*15,575*	*17,553*	*174*	*44*	*19*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	A 2456-LV	MCLV	211.30	106	66	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	106	66	.6		
CRUISE	37	42	1.1	3,566	1.2
DBH COUNT					
REFOREST					
COUNT	14	24	1.7		
BLANKS	55				
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
WHEMLOCK	11	5.4	13.9	40		5.7	714	676	190	179
HEMLEAV	7	2.2	20.8	66		5.3	768	560	186	144
SNAG	10	2.7	18.1	33		4.9	266		60	
SPRUCELV	4	3.1	12.5	21		2.6	172	156	49	46
S SPRUCE	4	1.2	15.4	40		1.5	121	121	43	43
CEDLEAV	1	1.4	12.0	40		1.1	86	86	32	32
SFIRLEAV	1	.1	31.0	99	0	.8	160	160	35	35
PS FIR	2	.2	29.9	93	0	.8	132	132	34	34
R ALDER	2	.5	13.9	41		.5	52	49	14	13
TOTAL	*42*	*16.9*	*15.9*	*40*		*23.2*	*2,472*	*1,941*	*644*	*526*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	357.3	34.7	4	5	7			
HEMLEAV	366.5	35.6	1	2	3			
SNAG	396.0	38.5	2	3	4			
SPRUCELV	527.3	51.2	2	3	5			
S SPRUCE	548.7	53.3	1	1	2			
CEDLEAV	588.7	57.2	1	1	2			
SFIRLEAV	724.5	70.4	0	0	0			
PS FIR	743.2	72.2	0	0	0			
R ALDER	732.0	71.1	0	0	1			
TOTAL	*170.1*	*16.5*	*14*	*17*	*20*	*1,157*	*289*	*129*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	299.6	29.1	4	6	7			
HEMLEAV	363.1	35.3	3	5	7			
SNAG	312.3	30.3	3	5	6			
SPRUCELV	431.8	41.9	2	3	4			
S SPRUCE	507.4	49.3	1	2	2			
CEDLEAV	588.7	57.2	0	1	2			
SFIRLEAV	724.5	70.4	0	1	1			
PS FIR	724.5	70.4	0	1	1			
R ALDER	724.5	70.4	0	1	1			
TOTAL	*138.4*	*13.4*	*20*	*23*	*26*	*766*	*191*	*85*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	321.3	31.2	465	676	887			
HEMLEAV	361.1	35.1	364	560	756			
SNAG								
SPRUCELV	424.7	41.2	92	156	221			
S SPRUCE	560.2	54.4	55	121	187			
CEDLEAV	588.7	57.2	37	86	136			
SFIRLEAV	724.5	70.4	47	160	272			
PS FIR	728.9	70.8	38	132	225			

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	A 2456-LV	MCLV	211.30	106	66	1	W

SD: 1	COEFF VAR.	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	778.9	75.6	12	49	86			
TOTAL	*168.9*	*16.4*	*1,622*	*1,941*	*2,259*	*1,141*	*285*	*127*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	A 2456-TK	MCTK	211.30	106	730	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	106	730	6.9		
CRUISE	36	257	7.1	45,554	.6
DBH COUNT					
REFOREST					
COUNT	69	473	6.9		
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
WHEMLOCK	155	113.6	15.3	52		144.9	21,374	19,871	5,327	5,022
S SPRUCE	46	52.8	15.1	45		65.7	6,601	6,498	2,014	1,989
R ALDER	33	31.4	12.0	31		24.8	1,939	1,660	578	489
DOUG FIR	20	16.7	16.0	45		23.4	2,375	2,060	669	589
PS FIR	3	1.1	31.6	98	1	6.0	1,298	1,241	290	281
TOTAL	*257*	*215.6*	*15.0*	*47*		*264.8*	*33,586*	*31,330*	*8,879*	*8,370*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	122.4	11.9	100	114	127			
S SPRUCE	150.9	14.7	45	53	61			
R ALDER	231.5	22.5	24	31	38			
DOUG FIR	165.9	16.1	14	17	19			
PS FIR	315.4	30.6	1	1	1			
TOTAL	*52.8*	*5.1*	*205*	*216*	*227*	*112*	*28*	*12*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	110.6	10.7	129	145	160			
S SPRUCE	149.3	14.5	56	66	75			
R ALDER	227.4	22.1	19	25	30			
DOUG FIR	159.8	15.5	20	23	27			
PS FIR	314.0	30.5	4	6	8			
TOTAL	*46.7*	*4.5*	*253*	*265*	*277*	*87*	*22*	*10*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	120.6	11.7	17,543	19,871	22,199			
S SPRUCE	153.1	14.9	5,531	6,498	7,464			
R ALDER	235.1	22.8	1,281	1,660	2,038			
DOUG FIR	156.8	15.2	1,746	2,060	2,374			
PS FIR	315.0	30.6	861	1,241	1,620			
TOTAL	*66.2*	*6.4*	*29,315*	*31,330*	*33,344*	*175*	*44*	*19*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 3	0003	78.20	19	160	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	160	8.4		
CRUISE	11	98	8.9	13,532	.7
DBH COUNT					
REFOREST					
COUNT	8	62	7.8		
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
HEMLEAV	35	39.5	21.6	67		100.8	14,339	13,586	3,693	3,570
DOUGLEAV	14	25.9	19.7	66		54.8	5,985	5,596	1,784	1,743
WHEMLOCK	17	43.8	13.9	37		46.0	4,316	3,564	1,189	1,017
SPRUCELV	11	11.1	21.6	62		28.3	3,819	3,674	1,013	990
DOUG FIR	9	26.2	13.6	47		26.5	2,418	2,019	737	636
S SPRUCE	7	17.6	13.6	54		17.7	2,200	2,177	612	612
R ALDER	2	4.9	11.5	22		3.5	197		58	
ALDRLEAV	2	3.6	13.5	31		3.5	217		77	
SFIRLEAV	1	.3	31.0	83	0	1.8	358	358	74	74
TOTAL	*98*	*173.0*	*17.3*	*53*		*283.0*	*33,850*	*30,973*	*9,238*	*8,640*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	70.5	16.2	33	40	46			
DOUGLEAV	93.6	21.5	20	26	32			
WHEMLOCK	112.8	25.9	32	44	55			
SPRUCELV	165.2	37.9	7	11	15			
DOUG FIR	121.9	28.0	19	26	34			
S SPRUCE	235.2	54.0	8	18	27			
R ALDER	435.9	100.0	0	5	10			
ALDRLEAV	435.9	100.0	0	4	7			
SFIRLEAV	435.9	100.0	0	0	1			
TOTAL	*51.6*	*11.8*	*153*	*173*	*194*	*107*	*27*	*12*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	64.8	14.9	86	101	116			
DOUGLEAV	96.3	22.1	43	55	67			
WHEMLOCK	112.2	25.7	34	46	58			
SPRUCELV	144.2	33.1	19	28	38			
DOUG FIR	116.2	26.7	19	27	34			
S SPRUCE	183.2	42.0	10	18	25			
R ALDER	435.9	100.0	0	4	7			
ALDRLEAV	435.9	100.0	0	4	7			
SFIRLEAV	435.9	100.0	0	2	4			
TOTAL	*30.2*	*6.9*	*263*	*283*	*303*	*37*	*9*	*4*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	67.2	15.4	11,491	13,586	15,680			
DOUGLEAV	94.7	21.7	4,380	5,596	6,812			
WHEMLOCK	112.8	25.9	2,642	3,564	4,486			
SPRUCELV	147.4	33.8	2,431	3,674	4,916			
DOUG FIR	133.8	30.7	1,399	2,019	2,639			
S SPRUCE	198.9	45.6	1,183	2,177	3,170			
R ALDER								
ALDRLEAV								

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 3	0003	78.20	19	160	1	W

		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
SFIRLEAV		435.9	100.0		358	715			
TOTAL		*33.8*	*7.8*	*28,568*	*30,973*	*33,378*	*46*	*11*	*5*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 3-LV	LV03	78.20	19	107	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	107	5.6		
CRUISE	11	63	5.7	6,294	1.0
DBH COUNT					
REFOREST					
COUNT	8	44	5.5		
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
HEMLEAV	35	39.5	21.6	67		100.8	14,339	13,586	3,693	3,570
DOUGLEAV	14	25.9	19.7	66		54.8	5,985	5,596	1,784	1,743
SPRUCELV	11	11.1	21.6	62		28.3	3,819	3,674	1,013	990
ALDRLEAV	2	3.6	13.5	31		3.5	217		77	
SFIRLEAV	1	.3	31.0	83	0	1.8	358	358	74	74
TOTAL	*63*	*80.5*	*20.8*	*64*		*189.3*	*24,718*	*23,213*	*6,642*	*6,376*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	70.5	16.2	33	40	46			
DOUGLEAV	93.6	21.5	20	26	32			
SPRUCELV	165.2	37.9	7	11	15			
ALDRLEAV	435.9	100.0	0	4	7			
SFIRLEAV	435.9	100.0	0	0	1			
TOTAL	*24.0*	*5.5*	*76*	*80*	*85*	*23*	*6*	*3*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	64.8	14.9	86	101	116			
DOUGLEAV	96.3	22.1	43	55	67			
SPRUCELV	144.2	33.1	19	28	38			
ALDRLEAV	435.9	100.0	0	4	7			
SFIRLEAV	435.9	100.0	0	2	4			
TOTAL	*13.5*	*3.1*	*183*	*189*	*195*	*7*	*2*	*1*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	67.2	15.4	11,491	13,586	15,680			
DOUGLEAV	94.7	21.7	4,380	5,596	6,812			
SPRUCELV	147.4	33.8	2,431	3,674	4,916			
ALDRLEAV								
SFIRLEAV	435.9	100.0		358	715			
TOTAL	*21.2*	*4.9*	*22,084*	*23,213*	*24,342*	*18*	*4*	*2*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	05	AREA 3-TK	TK03	78.20	19	54	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	54	2.8		
CRUISE	11	36	3.3	7,281	.5
DBH COUNT					
REFOREST					
COUNT	6	18	3.0		
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
WHEMLOCK	17	43.8	13.9	37		46.0	4,316	3,564	1,189	1,017
DOUG FIR	10	26.8	13.9	49		28.3	2,706	2,323	821	724
S SPRUCE	7	17.6	13.6	54		17.7	2,200	2,177	612	612
R ALDER	2	4.9	11.5	22		3.5	197		58	
TOTAL	*36*	*93.1*	*13.7*	*43*		*95.5*	*9,420*	*8,064*	*2,681*	*2,352*

SD: 1	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	112.8	25.9	32	44	55			
DOUG FIR	115.7	26.5	20	27	34			
S SPRUCE	235.2	54.0	8	18	27			
R ALDER	435.9	100.0	0	5	10			
TOTAL	*78.5*	*18.0*	*76*	*93*	*110*	*247*	*62*	*27*

SD: 1	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	112.2	25.7	34	46	58			
DOUG FIR	106.7	24.5	21	28	35			
S SPRUCE	183.2	42.0	10	18	25			
R ALDER	435.9	100.0	0	4	7			
TOTAL	*68.7*	*15.7*	*80*	*96*	*111*	*189*	*47*	*21*

SD: 1	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	112.8	25.9	2,642	3,564	4,486			
DOUG FIR	119.1	27.3	1,688	2,323	2,957			
S SPRUCE	198.9	45.6	1,183	2,177	3,170			
R ALDER								
TOTAL	*81.6*	*18.7*	*6,554*	*8,064*	*9,573*	*266*	*67*	*30*

TC TSTATS

STATISTICS

PROJECT MCKNOB

DATE 12/6/2005

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	04	AREA 7	0007	251.00	84	683	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	84	683	8.1		
CRUISE	31	216	7.0	33,150	.7
DBH COUNT					
REFOREST					
COUNT	53	446	8.4		
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
HEMLEAV	42	19.7	19.6	53		41.0	4,983	4,840	1,375	1,353
S SPRUCE	33	28.5	15.6	35		37.7	2,904	2,567	934	853
SPRUCELV	39	14.1	20.6	50		32.7	3,075	2,863	972	931
DOUGLEAV	24	14.3	20.2	56		31.7	3,068	2,785	912	860
WHEMLOCK	21	14.1	18.1	53		25.1	3,007	2,597	805	720
DOUG FIR	30	20.8	14.6	38		24.1	1,733	1,427	578	504
SFIRLEAV	11	3.0	24.9	63	1	10.3	1,327	1,206	339	321
R ALDER	3	9.3	12.0	35		7.3	703	421	200	124
PS FIR	1	2.3	22.0	55	1	6.0	609	609	180	180
SNAG	8	1.7	20.8	37		4.0	111		21	
ALDRLEAV	2	2.9	15.9	37		4.0	412	412	110	110
CEDLEAV	2	1.4	15.9	20		2.0	25	25	11	11
TOTAL	*216*	*132.1*	*17.7*	*45*		*225.9*	*21,956*	*19,751*	*6,436*	*5,967*

SD: 1	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	119.0	13.0	17	20	22			
S SPRUCE	137.2	15.0	24	29	33			
SPRUCELV	116.8	12.7	12	14	16			
DOUGLEAV	124.6	13.6	12	14	16			
WHEMLOCK	204.7	22.3	11	14	17			
DOUG FIR	138.7	15.1	18	21	24			
SFIRLEAV	281.4	30.7	2	3	4			
R ALDER	432.0	47.1	5	9	14			
PS FIR	579.8	63.3	1	2	4			
SNAG	320.5	35.0	1	2	2			
ALDRLEAV	462.8	50.5	1	3	4			
CEDLEAV	547.8	59.8	1	1	2			
TOTAL	*49.8*	*5.4*	*125*	*132*	*139*	*99*	*25*	*11*

SD: 1	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	90.7	9.9	37	41	45			
S SPRUCE	131.7	14.4	32	38	43			
SPRUCELV	112.7	12.3	29	33	37			
DOUGLEAV	122.4	13.3	28	32	36			
WHEMLOCK	201.3	22.0	20	25	31			
DOUG FIR	127.3	13.9	21	24	27			
SFIRLEAV	268.6	29.3	7	10	13			
R ALDER	432.0	47.1	4	7	11			
PS FIR	579.8	63.3	2	6	10			
SNAG	290.4	31.7	3	4	5			
ALDRLEAV	462.8	50.5	2	4	6			
CEDLEAV	522.7	57.0	1	2	3			
TOTAL	*42.3*	*4.6*	*215*	*226*	*236*	*71*	*18*	*8*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	04	AREA 7	0007	251.00	84	683	1	W

		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15

	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
HEMLEAV	100.1	10.9	4,311	4,840	5,369			
S SPRUCE	129.4	14.1	2,204	2,567	2,929			
SPRUCELV	114.5	12.5	2,505	2,863	3,221			
DOUGLEAV	121.1	13.2	2,417	2,785	3,153			
WHEMLOCK	214.9	23.5	1,988	2,597	3,206			
DOUG FIR	140.6	15.3	1,208	1,427	1,645			
SFIRLEAV	269.4	29.4	852	1,206	1,561			
R ALDER	432.0	47.1	223	421	619			
PS FIR	579.8	63.3	224	609	994			
SNAG								
ALDRLEAV	462.8	50.5	204	412	619			
CEDLEAV	566.1	61.8	10	25	41			
TOTAL	*53.4*	*5.8*	*18,600*	*19,751*	*20,901*	*114*	*29*	*13*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	04	AREA 7-LV	LV07	251.00	84	380	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	84	380	4.5		
CRUISE	31	128	4.1	14,333	.9
DBH COUNT					
REFOREST					
COUNT	53	239	4.5		
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
HEMLEAV	42	19.7	19.6	53		41.0	4,983	4,840	1,375	1,353
SPRUCELV	39	14.1	20.6	50		32.7	3,075	2,863	972	931
DOUGLEAV	24	14.3	20.2	56		31.7	3,068	2,785	912	860
SFIRLEAV	11	3.0	24.9	63	1	10.3	1,327	1,206	339	321
ALDRLEAV	2	2.9	15.9	37		4.0	412	412	110	110
SNAG	8	1.7	20.8	37		4.0	111		21	
CEDLEAV	2	1.4	15.9	20		2.0	25	25	11	11
TOTAL	*128*	*57.1*	*20.1*	*51*		*125.7*	*13,000*	*12,131*	*3,739*	*3,586*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	119.0	13.0	17	20	22			
SPRUCELV	116.8	12.7	12	14	16			
DOUGLEAV	124.6	13.6	12	14	16			
SFIRLEAV	281.4	30.7	2	3	4			
ALDRLEAV	462.8	50.5	1	3	4			
SNAG	320.5	35.0	1	2	2			
CEDLEAV	547.8	59.8	1	1	2			
TOTAL	*29.9*	*3.3*	*55*	*57*	*59*	*36*	*9*	*4*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	90.7	9.9	37	41	45			
SPRUCELV	112.7	12.3	29	33	37			
DOUGLEAV	122.4	13.3	28	32	36			
SFIRLEAV	268.6	29.3	7	10	13			
ALDRLEAV	462.8	50.5	2	4	6			
SNAG	290.4	31.7	3	4	5			
CEDLEAV	522.7	57.0	1	2	3			
TOTAL	*15.1*	*1.7*	*124*	*126*	*128*	*9*	*2*	*1*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	100.1	10.9	4,311	4,840	5,369			
SPRUCELV	114.5	12.5	2,505	2,863	3,221			
DOUGLEAV	121.1	13.2	2,417	2,785	3,153			
SFIRLEAV	269.4	29.4	852	1,206	1,561			
ALDRLEAV	462.8	50.5	204	412	619			
SNAG								
CEDLEAV	566.1	61.8	10	25	41			
TOTAL	*30.4*	*3.3*	*11,728*	*12,131*	*12,534*	*37*	*9*	*4*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	04	AREA 7-TK	TK07	251.00	84	304	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	84	304	3.6		
CRUISE	26	89	3.4	18,879	.5
DBH COUNT					
REFOREST					
COUNT	47	215	4.6		
BLANKS	11				
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
S SPRUCE	33	28.5	15.6	35		37.7	2,904	2,567	934	853
WHEMLOCK	21	14.1	18.1	53		25.1	3,007	2,597	805	720
DOUG FIR	31	21.1	14.6	37		24.5	1,700	1,399	567	495
R ALDER	3	9.3	12.0	35		7.3	703	421	200	124
PS FIR	1	2.3	22.0	55	1	6.0	609	609	180	180
TOTAL	*89*	*75.2*	*15.7*	*40*		*100.5*	*8,923*	*7,593*	*2,686*	*2,372*

SD: 1	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
S SPRUCE	137.2	15.0	24	29	33			
WHEMLOCK	204.7	22.3	11	14	17			
DOUG FIR	136.5	14.9	18	21	24			
R ALDER	432.0	47.1	5	9	14			
PS FIR	579.8	63.3	1	2	4			
TOTAL	*81.7*	*8.9*	*69*	*75*	*82*	*267*	*67*	*30*

SD: 1	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
S SPRUCE	131.7	14.4	32	38	43			
WHEMLOCK	201.3	22.0	20	25	31			
DOUG FIR	125.1	13.6	21	24	28			
R ALDER	432.0	47.1	4	7	11			
PS FIR	579.8	63.3	2	6	10			
TOTAL	*82.6*	*9.0*	*91*	*101*	*110*	*273*	*68*	*30*

SD: 1	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
S SPRUCE	129.4	14.1	2,204	2,567	2,929			
WHEMLOCK	214.9	23.5	1,988	2,597	3,206			
DOUG FIR	141.5	15.4	1,183	1,399	1,615			
R ALDER	432.0	47.1	223	421	619			
PS FIR	579.8	63.3	224	609	994			
TOTAL	*102.5*	*11.2*	*6,743*	*7,593*	*8,442*	*421*	*105*	*47*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	07	AREA 8	0008	374.00	48	376	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	48	376	7.8		
CRUISE	27	223	8.3	108,585	.2
DBH COUNT					
REFOREST					
COUNT	21	147	7.0		
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
WHEMLOCK	109	176.4	12.2	46		144.2	18,092	17,587	4,825	4,706
HEMLEAV	81	75.4	16.5	69		112.5	18,778	18,400	4,806	4,738
DOUGLEAV	8	8.3	18.7	61		15.8	1,963	1,836	538	518
DOUG FIR	7	12.8	12.5	39		10.8	1,138	1,053	314	298
SPRUCELV	4	4.6	16.4	50		6.7	564	564	201	201
SFIRLEAV	4	2.9	19.2	82	1	5.8	974	918	235	223
S SPRUCE	3	2.1	22.5	58		5.8	527	519	178	178
SNAG	3	1.8	24.3	44		5.8	285		94	
PS FIR	4	6.0	12.4	41	1	5.0	714	654	171	164
TOTAL	*223*	*290.3*	*14.0*	*53*		*312.5*	*43,036*	*41,531*	*11,362*	*11,026*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	69.8	10.1	159	176	194			
HEMLEAV	55.8	8.0	69	75	82			
DOUGLEAV	190.3	27.5	6	8	11			
DOUG FIR	210.5	30.4	9	13	17			
SPRUCELV	338.5	48.9	2	5	7			
SFIRLEAV	315.7	45.6	2	3	4			
S SPRUCE	342.4	49.4	1	2	3			
SNAG	271.1	39.1	1	2	3			
PS FIR	396.1	57.2	3	6	9			
TOTAL	*48.3*	*7.0*	*270*	*290*	*311*	*93*	*23*	*10*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	67.4	9.7	130	144	158			
HEMLEAV	42.6	6.1	106	113	119			
DOUGLEAV	178.6	25.8	12	16	20			
DOUG FIR	197.7	28.5	8	11	14			
SPRUCELV	335.2	48.4	3	7	10			
SFIRLEAV	282.5	40.8	3	6	8			
S SPRUCE	346.2	50.0	3	6	9			
SNAG	244.6	35.3	4	6	8			
PS FIR	314.2	45.4	3	5	7			
TOTAL	*35.6*	*5.1*	*296*	*313*	*329*	*51*	*13*	*6*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	75.9	11.0	15,659	17,587	19,515			
HEMLEAV	53.3	7.7	16,983	18,400	19,816			
DOUGLEAV	180.0	26.0	1,359	1,836	2,313			
DOUG FIR	205.9	29.7	740	1,053	1,366			
SPRUCELV	341.0	49.2	286	564	841			
SFIRLEAV	299.1	43.2	522	918	1,314			
S SPRUCE	371.1	53.6	241	519	797			
SNAG								

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	07	AREA 8	0008	374.00	48	376	1	W

		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
PS FIR		303.6	43.8	367	654	941			
TOTAL		*48.6*	*7.0*	*38,617*	*41,531*	*44,446*	*95*	*24*	*11*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	07	AREA 8- LV	LV08	374.00	48	177	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	48	177	3.7		
CRUISE	27	100	3.7	34,797	.3
DBH COUNT					
REFOREST					
COUNT	21	73	3.5		
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
HEMLEAV	81	75.4	16.5	69		112.5	18,778	18,400	4,806	4,738
DOUGLEAV	8	8.3	18.7	61		15.8	1,963	1,836	538	518
SPRUCELV	4	4.6	16.4	50		6.7	564	564	201	201
SFIRLEAV	4	2.9	19.2	82	1	5.8	974	918	235	223
SNAG	3	1.8	24.3	44		5.8	285		94	
TOTAL	*100*	*93.0*	*17.0*	*67*		*146.7*	*22,565*	*21,718*	*5,874*	*5,680*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	55.8	8.0	69	75	82			
DOUGLEAV	190.3	27.5	6	8	11			
SPRUCELV	338.5	48.9	2	5	7			
SFIRLEAV	315.7	45.6	2	3	4			
SNAG	271.1	39.1	1	2	3			
TOTAL	*35.9*	*5.2*	*88*	*93*	*98*	*51*	*13*	*6*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	42.6	6.1	106	113	119			
DOUGLEAV	178.6	25.8	12	16	20			
SPRUCELV	335.2	48.4	3	7	10			
SFIRLEAV	282.5	40.8	3	6	8			
SNAG	244.6	35.3	4	6	8			
TOTAL	*17.2*	*2.5*	*143*	*147*	*150*	*12*	*3*	*1*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
HEMLEAV	53.3	7.7	16,983	18,400	19,816			
DOUGLEAV	180.0	26.0	1,359	1,836	2,313			
SPRUCELV	341.0	49.2	286	564	841			
SFIRLEAV	299.1	43.2	522	918	1,314			
SNAG								
TOTAL	*38.5*	*5.6*	*20,512*	*21,718*	*22,924*	*59*	*15*	*7*

STATISTICS

PROJECT MCKNOB

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	07	AREA 8 -TK	TK08	374.00	48	199	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	48	199	4.1		
CRUISE	25	123	4.9	73,787	.2
DBH COUNT					
REFOREST					
COUNT	19	76	4.0		
BLANKS	4				
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
WHEMLOCK	109	176.4	12.2	46		144.2	18,092	17,587	4,825	4,706
DOUG FIR	7	12.8	12.5	39		10.8	1,138	1,053	314	298
S SPRUCE	3	2.1	22.5	58		5.8	527	519	178	178
PS FIR	4	6.0	12.4	41	1	5.0	714	654	171	164
TOTAL	*123*	*197.3*	*12.4*	*46*		*165.8*	*20,472*	*19,813*	*5,488*	*5,346*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	69.8	10.1	159	176	194			
DOUG FIR	210.5	30.4	9	13	17			
S SPRUCE	342.4	49.4	1	2	3			
PS FIR	396.1	57.2	3	6	9			
TOTAL	*63.4*	*9.2*	*179*	*197*	*215*	*161*	*40*	*18*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	67.4	9.7	130	144	158			
DOUG FIR	197.7	28.5	8	11	14			
S SPRUCE	346.2	50.0	3	6	9			
PS FIR	314.2	45.4	3	5	7			
TOTAL	*57.4*	*8.3*	*152*	*166*	*180*	*132*	*33*	*15*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	75.9	11.0	15,659	17,587	19,515			
DOUG FIR	205.9	29.7	740	1,053	1,366			
S SPRUCE	371.1	53.6	241	519	797			
PS FIR	303.6	43.8	367	654	941			
TOTAL	*68.9*	*9.9*	*17,843*	*19,813*	*21,783*	*190*	*47*	*21*

TC PSTATS

PROJECT STATISTICS

PROJECT MCKNOB

DATE 11/23/2005

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	04	AREA 7 RW	RW07	34.20	178	1,490	1	W
07N	06W	05	AREA1&3 RW	RW13					
07N	06W	07	AREA 8 RW	RW08					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	178	1490	8.4		
CRUISE	86	682	7.9	7,247	9.4
DBH COUNT					
REFOREST					
COUNT	92	755	8.2		
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
WHEMLOCK	395	140.1	14.8	54		168.0	23,618	22,737	6,169	5,989
DOUG FIR	97	29.8	16.0	46		41.5	3,897	3,479	1,169	1,083
S SPRUCE	101	22.1	17.8	44		38.1	3,503	3,269	1,097	1,048
PS FIR	42	7.0	20.2	64	2	15.5	2,686	2,471	626	591
R ALDER	25	9.8	13.4	35		9.6	906	713	256	201
SNAG	17	2.1	20.8	36		4.9	225		63	
WR CEDAR	5	.9	16.0	27		1.3	34	34	15	15
TOTAL	*682*	*211.9*	*15.5*	*51*		*278.8*	*34,869*	*32,704*	*9,395*	*8,927*

TREES/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	129.2	9.7	127	140	154			
DOUG FIR	139.0	10.4	27	30	33			
S SPRUCE	161.4	12.1	19	22	25			
PS FIR	388.8	29.1	5	7	9			
R ALDER	369.9	27.7	7	10	13			
SNAG	358.5	26.9	2	2	3			
WR CEDAR	576.3	43.2	1	1	1			
TOTAL	*80.3*	*6.0*	*199*	*212*	*225*	*258*	*64*	*29*

BASAL AREA/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	104.8	7.9	155	168	181			
DOUG FIR	129.6	9.7	37	41	46			
S SPRUCE	154.0	11.5	34	38	42			
PS FIR	297.3	22.3	12	16	19			
R ALDER	374.6	28.1	7	10	12			
SNAG	302.2	22.7	4	5	6			
WR CEDAR	552.6	41.4	1	1	2			
TOTAL	*54.4*	*4.1*	*267*	*279*	*290*	*118*	*30*	*13*

NET BF/ACRE

SD: 1	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	116.6	8.7	20,750	22,737	24,724			
DOUG FIR	139.1	10.4	3,116	3,479	3,841			
S SPRUCE	150.2	11.3	2,901	3,269	3,637			
PS FIR	299.5	22.4	1,916	2,471	3,026			
R ALDER	411.8	30.9	493	713	933			
SNAG								
WR CEDAR	635.8	47.7	18	34	51			
TOTAL	*79.0*	*5.9*	*30,766*	*32,704*	*34,641*	*250*	*62*	*28*

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
S		?	?	2	6	100.0														
S		?	?	4	12	100.0														
S		?0	?	6	6	100.0														
S		?0	?	8	12	100.0														
S		?0	?	10	10	100.0														
S		?	?	12	22	100.0														
S		?0	?	16	24	100.0														
S		?0	?	18	5	100.0														
S		?0	?	22	6	100.0														
S		?0	CU	27	0	100.0														
S		?0	CU	28	1	100.0														
S		?0	CU	30	0	100.0														
S		?0	2S	12	34		34	1.3							17	15	2			
S		?	2S	16	48		48	1.9								21	27			
S		?0	2S	18	23		23	.9								23				
S		?	2S	20	21		21	.8						19		2				
S		?	2S	22	1		1	.0										1		
S		?	2S	24	27		27	1.1						1		26				
S		?0	2S	26	1		1	.0								1				
S		?	2S	30	135	1.3	133	5.3						64	32	37				
S		?	2S	32	431		430	17.1						201	47	142	39			
S		?0	2S	34	0		0	.0				0								
S		?	2S	40	315		315	12.5					27	104	136	6	42			
S		?	3S	17	6		6	.2					6							
S		?	3S	20	37		37	1.5				23	15							
S		?0	3S	21	14		14	.5			14									
S		?0	3S	22	4		4	.2				0		4						
S		?0	3S	24	35		35	1.4				20	15							
S		?	3S	26	26		26	1.0				2	24							
S		?	3S	28	1		1	.0			0		0							
S		?	3S	30	61		61	2.4				30	31							
S		?0	3S	31	6		6	.2			6									
S		?	3S	32	600	1.4	591	23.5			78	216	251	20	1	26				
S		?	3S	34	21		21	.8			13		7							
S		?	3S	36	55	6.0	51	2.0		3	31	17	0							
S		?0	3S	38	36		36	1.4			17	20								
S		?	3S	40	268		268	10.7			207	2	31				29			

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
S		?	4S	12	11		11	.4			5	2	4							
S		?	4S	13	0		0	.0				0								
S		?	4S	14	50		50	2.0			22	11		17						
S		?0	4S	15	11		11	.4				11								
S		?	4S	16	39		39	1.6			39									
S		?	4S	18	19		19	.7			18	0								
S		?0	4S	19	2		2	.1			2									
S		?	4S	20	17		17	.7			17	0								
S		?	4S	21	0		0	.0			0									
S		?	4S	22	31		31	1.2			31									
S		?	4S	24	71		71	2.8			71	0								
S		?	4S	26	31		31	1.2			31									
S		?	4S	28	9		9	.3			9									
S		?	4S	32	18		18	.7			18									
S		?	4S	34	11		11	.4			11									
S		?	4S	38	5		5	.2			5									
S		Totals			2,637	4.5	2,517	12.9		3	646	354	412	429	233	300	139	1		
D		?0	?	2	1	100.0														
D		?	?	4	37	100.0														
D		?0	?	5	5	100.0														
D		?	?	6	36	100.0														
D		?	?	8	18	100.0														
D		?	?	10	24	100.0														
D		?	?	12	38	100.0														
D		?	?	14	3	100.0														
D		?0	CU	16	1	100.0														
D		?	?	24	0	100.0														
D		?0	?	25	7	100.0														
D		?	?	32	0	100.0														
D		?	?	34	13	100.0														
D		?0	?	42	7	100.0														
D		?0	?	52	8	100.0														
D		?	2S	12	1	6.5	1	.1						1		1				
D		?	2S	14	19		19	1.3						1		18				
D		?	2S	16	24		24	1.6							24					
D		?0	2S	20	2		2	.1						1		1				
D		?	2S	22	1	7.7	1	.0						1						

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
D		?0	2S	24	31	7.8	28	1.9						17	11					
D		?	2S	26	30		30	2.0									30			
D		?0	2S	30	1	6.7	1	.1						1						
D		?	2S	32	275	1.1	272	18.1					2	184	37	49				
D		?	2S	38	2		2	.1						2						
D		?0	2S	40	51	3.2	50	3.3						38	5	7				
D		?	3S	16	1		1	.1					1							
D		?	3S	20	30		30	2.0				12	1	17						
D		?0	3S	26	0		0	.0				0								
D		?	3S	30	43	9.3	39	2.6			1	13	25							
D		?	3S	32	296	2.9	287	19.1			28	103	156							
D		?	3S	34	72		72	4.8			55	17								
D		?0	3S	36	33	3.6	32	2.1			31	1								
D		?	3S	38	8		8	.5			8									
D		?0	3S	40	295	2.1	289	19.2			129	1	158							
D		?	4S	12	0		0	.0			0									
D		?	4S	14	37		37	2.5			37	0								
D		?	4S	15	11		11	.7			11									
D		?	4S	16	31		31	2.1			29	3								
D		?	4S	18	24		24	1.6		10	15									
D		?0	4S	20	17		17	1.1			17									
D		?0	4S	21	0		0	.0			0									
D		?	4S	22	16		16	1.1			16									
D		?	4S	24	56		56	3.7			56									
D		?0	4S	26	22		22	1.5			22									
D		?0	4S	28	37		37	2.5		0	37									
D		?	4S	30	18		18	1.2			18									
D		?	4S	32	19		19	1.2			19									
D		?	4S	34	9	20.0	7	.5			7									
D		?	4S	40	20		20	1.3			20									
D		Totals			1,731	13.2	1,503	7.7		10	555	151	343	261	77	75	30			
H		?	?	1	1	100.0														
H		?	?	2	16	100.0														
H		?	?	4	136	100.0														
H		?	?	5	7	100.0														
H		?	?	6	64	100.0														
H		?	?	8	65	100.0														

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
H		?	?	9	11	100.0														
H		?	?	10	25	100.0														
H		?	?	12	62	100.0														
H		?	?	15	20	100.0														
H		?	?	16	78	100.0														
H		?	?	18	55	100.0														
H		?	?	20	14	100.0														
H		?	?	24	43	100.0														
H		?	?	27	18	100.0														
H		?	?	30	29	100.0														
H		?	?	32	40	100.0														
H		?0	?	36	14	100.0														
H		?	?	39	17	100.0														
H		?	2S	12	69		69	.5						10		45	14			
H		?	2S	14	42	8.5	38	.3							13	25				
H		?	2S	16	61		61	.4						11	16	12	22			
H		?	2S	18	0		0	.0						0						
H		?	2S	20	278	1.5	273	2.0						70	27	151	27			
H		?	2S	22	31		31	.2						16	13	1				
H		?	2S	24	43		43	.3						1	9	33				
H		?	2S	26	66		66	.5						42			23			
H		?	2S	28	78	3.2	75	.5						16	1	32	26			
H		?	2S	30	202	2.4	197	1.4						50	54	64	29			
H		?	2S	32	1,655		1,652	12.0					63	695	349	474	70	2		
H		?	2S	34	137	1.1	136	1.0						2	33	100				
H		?	2S	36	4		4	.0					1	1		2				
H		?	2S	38	35		35	.3						4		30				
H		?0	2S	40	1,799		1,793	13.0					1	444	834	430	84			
H		?	3S	14	9	20.0	7	.1					7							
H		?	3S	16	3		3	.0					3							
H		?	3S	18	15		15	.1					15							
H		?	3S	20	78	8.3	72	.5			0	26	46							
H		?	3S	21	1		1	.0				1								
H		?	3S	22	3		3	.0				3	0							
H		?	3S	23	0		0	.0				0								
H		?	3S	24	106	4.5	101	.7				39	62							
H		?	3S	25	3		3	.0				3								

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
H		?	3S	26	28		28	.2			0	28	0							
H		?	3S	28	37		37	.3			8	25	4							
H		?	3S	29	8		8	.1			8									
H		?	3S	30	300		300	2.2			65	104	131							
H		?	3S	31	4		4	.0			4									
H		?	3S	32	3,360		3,360	24.3			392	1713	1220	34	1					
H		?	3S	33	12		12	.1			12									
H		?	3S	34	395		395	2.9			283	42	69							
H		?	3S	35	10		10	.1			10									
H		?	3S	36	395		395	2.9			373	21								
H		?	3S	37	12		12	.1			12									
H		?	3S	38	112		111	.8			87	25								
H		?	3S	40	2,422		2,413	17.5			377	680	1354	2						
H		?	4S	11	3		3	.0			3									
H		?	4S	12	49		49	.4			44	4								
H		?0	4S	14	142		142	1.0			135	7	0							
H		?	4S	15	13		13	.1			13									
H		?0	4S	16	320		320	2.3			287	33								
H		?	4S	17	0		0	.0				0								
H		?	4S	18	75		75	.5		10	61	4								
H		?	4S	19	3		3	.0			3									
H		?	4S	20	314		314	2.3		3	282	28								
H		?	4S	21	4		4	.0			4									
H		?0	4S	22	98		98	.7		3	94	1		1						
H		?	4S	23	3		3	.0				3								
H		?	4S	24	163		163	1.2			142	21								
H		?	4S	26	223		223	1.6			223									
H		?	4S	27	0		0	.0			0									
H		?0	4S	28	149		149	1.1			149									
H		?	4S	29	31		31	.2			31									
H		?0	4S	30	338	2.3	330	2.4			330									
H		?0	4S	32	115		115	.8			115									
H		?	4S	34	10		10	.1			10									
H		?	4S	35	1		1	.0			1									
H		Totals			14,579	5.3	13,806	70.7		17	3558	2810	2976	1399	1351	1398	296	2		
SN		?	?	15	1	100.0														
SN		?	?	24	1	100.0														

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
SN		?0	?	29	1	100.0														
SN		?0	?	30	2	100.0														
SN		?0	CU	32	0	100.0														
SN		?0	CU	34	1	100.0														
SN		?	?	35	1	100.0														
SN		Totals			8	100.0														
A		?	?	2	4	100.0														
A		?	?	4	3	100.0														
A		?	?	5	4	100.0														
A		?	?	6	6	100.0														
A		?	?	16	9	100.0														
A		?	?	18	9	100.0														
A		?	?	19	9	100.0														
A		?	?	23	8	100.0														
A		?	?	24	8	100.0														
A		?	?	26	1	100.0														
A		?	?	28	8	100.0														
A		?	?	30	24	100.0														
A		?	?	33	1	100.0														
A		?	?	34	14	100.0														
A		?0	?	40	74	100.0														
A		?	2S	16	12		12	1.4								12				
A		?	2S	20	24		24	2.8							24					
A		?	2S	24	19		19	2.3								19				
A		?	2S	30	25		25	2.9							25					
A		?	3S	16	18		18	2.2				8	10							
A		?	3S	18	34		34	4.0				13		20						
A		?	3S	20	84		84	9.9				65	18							
A		?	3S	24	76		76	9.0				44	32							
A		?	3S	28	54		54	6.4				54								
A		?	3S	30	77	4.3	74	8.7				44	30							
A		?	3S	31	6		6	.8				6								
A		?	3S	32	194		194	22.9				144	20		30					
A		?	3S	38	31		31	3.7				31								
A		?	3S	40	130	1.4	128	15.1				100	28							
A		?0	4S	10	0		0	.0				0								

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
A		?	4S	16	19		19	2.2				9	10							
A		?	4S	20	13		13	1.5					13							
A		?	4S	24	26		26	3.0					26							
A		?	4S	32	9		9	1.1					9							
A		Totals			1,033	18.0	848	4.3				9	569	139	20	79	31			
SF		?0	CU	3	0	100.0														
SF		?	?	4	13	100.0														
SF		?	?	6	28	100.0														
SF		?	?	8	1	100.0														
SF		?	?	10	0	100.0														
SF		?	?	40	1	100.0														
SF		?	2S	16	1		1	.1							0		1			
SF		?	2S	20	0		0	.1								0				
SF		?	2S	22	1		1	.1										1		
SF		?	2S	28	8		8	1.0						8						
SF		?	2S	32	296	1.9	291	34.5						4	271	10	6			
SF		?	2S	38	23		23	2.8						23						
SF		?	2S	40	297		297	35.2						24	33	105	64	72		
SF		?	3S	12	0		0	.0					0							
SF		?	3S	16	0		0	.0					0							
SF		?	3S	20	1		1	.1				0	1							
SF		?	3S	26	0		0	.0				0								
SF		?	3S	30	1		1	.1				0	0			1				
SF		?	3S	32	107		107	12.7			6	51	49							
SF		?	3S	34	11		11	1.3			11	0								
SF		?	3S	36	9		9	1.1					9							
SF		?	3S	38	1		1	.1			1									
SF		?	3S	40	8		8	1.0			5		3							
SF		?	4S	12	0		0	.0				0								
SF		?	4S	14	6		6	.7			0	5								
SF		?	4S	15	22		22	2.6			22									
SF		?	4S	16	1		1	.1			0	0	0							
SF		?	4S	17	0		0	.0				0								
SF		?	4S	18	3		3	.4			3	0								
SF		?	4S	20	28		28	3.3			0	28								
SF		?	4S	22	23		23	2.7			22	0								

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S04 TyRW07
THRU
T07N R06W S07 TyTK08

Project: MCKNOB
Acres 1,065.10

Date 12/6/2005
Time 10:39:45AM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
SF		?	4S	24	0		0	.0			0	0								
SF		Totals			892	5.5	843	4.3			71	87	63	60	304	116	71	72		
C		?0	3S	16	0		0	29.0			0									
C		?	3S	30	0		0	29.0					0							
C		?	3S	40	0		0	26.6			0									
C		?	4S	15	0		0	5.3			0									
C		?	4S	26	0		0	10.0			0									
C		Totals			1		1	.0			1		0							
Total		All Species			20,881	6.5	19,518	100.0		29	4839	3971	3933	2170	2044	1920	536	75		

TC TSTNDSUM

Stand Table Summary

Project MCKNOB

T07N R06W S05 TLV01

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
07N	06W	05	AREA 1-LV	LV01	115.10	27	89

T07N R06W S05 TLV01

Date: 11/23/20(

Time: 11:17:55AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
HL		10	1	91	103	4.780	2.61	9.56	10.0	45.0		96	430		110	50
HL		12	2	87	41	6.639	5.21	6.64	15.0	40.0		100	266		115	31
HL		13	1	83	55	2.828	2.61	2.83	21.0	60.0		59	170		68	20
HL		14	3	86	65	7.316	7.82	9.76	22.3	65.0		217	634		250	73
HL		16	4	89	92	7.469	10.43	14.94	28.3	105.0		422	1,568		486	181
HL		18	7	91	110	10.327	18.25	28.03	30.7	123.2		862	3,452		992	397
HL		19	6	89	99	7.945	15.64	18.54	36.6	139.3		679	2,582		782	297
HL		20	8	91	107	9.560	20.86	25.09	39.4	166.2		988	4,171		1,137	480
HL		21	2	87	105	2.168	5.21	5.42	41.2	164.0		223	889		257	102
HL		22	4	88	97	3.950	10.43	9.88	43.9	178.0		434	1,758		499	202
HL		23	6	86	113	5.422	15.64	15.36	48.1	200.6		739	3,081		851	355
HL		24	4	88	103	3.319	10.43	8.30	54.2	232.0		450	1,925		518	222
HL		26	1	85	112	.707	2.61	2.12	59.0	210.0		125	445		144	51
HL		27	1	81	116	.656	2.61	1.97	63.3	253.3		125	498		143	57
HL		28	1	91	116	.610	2.61	1.83	74.0	380.0		135	695		156	80
HL		30	2	88	106	1.062	5.21	2.66	91.8	436.0		244	1,158		281	133
HL		Totals	53	88	93	74.758	138.17	162.91	36.2	145.6		5,897	23,723		6,788	2,730
SFL		21	2	93	117	1.495	3.60	4.49	38.3	176.7		172	792		198	91
SFL		22	1	91	107	.681	1.80	1.36	51.0	215.0		69	293		80	34
SFL		23	2	91	109	1.246	3.60	3.12	34.4	150.0		107	467		123	54
SFL		24	3	87	113	1.717	5.39	5.15	39.9	182.2		205	939		236	108
SFL		26	3	90	109	1.463	5.39	4.39	54.7	248.9		240	1,092		276	126
SFL		28	3	86	117	1.261	5.39	3.78	65.9	296.7		249	1,123		287	129
SFL		29	2	91	116	.784	3.60	2.35	70.2	358.3		165	843		190	97
SFL		30	1	92	121	.366	1.80	1.10	82.3	420.0		90	462		104	53
SFL		31	1	91	122	.343	1.80	1.03	79.7	390.0		82	401		94	46
SFL		Totals	18	90	113	9.358	32.37	26.77	51.6	239.5		1,381	6,412		1,589	738
SL		16	2	85	60	3.566	4.98	5.35	26.3	86.7		141	464		162	53
SL		17	1	86	73	1.579	2.49	3.16	23.5	85.0		74	269		85	31
SL		24	1	82	69	.792	2.49	1.58	51.0	175.0		81	277		93	32
SL		Totals	4	85	64	5.938	9.96	10.09	29.3	100.0		296	1,009		341	116
DL		13	1	80	66	2.431	2.24	2.43	18.0	60.0		44	146		50	17
DL		14	1	89	27	2.096	2.24	2.10	10.0	20.0		21	42		24	5
DL		16	2	88	43	3.210	4.48	3.21	22.5	45.0		72	144		83	17
DL		22	1	90	103	.849	2.24	1.70	55.5	215.0		94	365		108	42
DL		Totals	5	86	51	8.585	11.20	9.43	24.5	73.9		231	697		266	80
CL		15	1	78	71	1.014	1.24	1.01	32.0	70.0		32	71		37	8
CL		16	1	72	36	.892	1.24	.89	21.0	30.0		19	27		22	3
CL		18	1	78	67	.704	1.24	1.41	23.5	65.0		33	92		38	11
CL		Totals	3	76	58	2.610	3.73	3.31	25.4	57.1		84	189		97	22
SN		13	1	89	40	1.576	1.45									
SN		14	2	88	39	2.717	2.90									
SN		18	1	87	17	.822	1.45									
SN		27	1	89	42	.365	1.45									
SN		40	1	89	17	.166	1.45									
SN		Totals	6	88	35	5.646	8.71									
Totals			89	88	86	106.895	204.15	212.52	37.1	150.7		7890	32,031		9,081	3,687

TC TSTNDSUM

Stand Table Summary

Project MCKNOB

T07N R06W S05 TLV03

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
07N	06W	05	AREA 3-LV	LV03	78.20	19	63

Date: 12/6/200
Time: 10:45:22AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
HL		15	1	90	67	2.348	2.88	4.70	17.5	70.0		82	329		64	26
HL		16	1	92	87	2.063	2.88	4.13	27.5	105.0		113	433		89	34
HL		17	1	90	80	1.828	2.88	3.66	27.5	100.0		101	366		79	29
HL		19	4	82	83	5.853	11.52	10.24	36.4	110.0		373	1,127		292	88
HL		20	6	90	82	7.923	17.29	15.85	41.1	152.5		651	2,416		509	189
HL		21	4	88	83	4.791	11.52	10.78	39.7	156.7		428	1,689		334	132
HL		22	4	89	79	4.365	11.52	9.82	40.2	148.9		395	1,462		309	114
HL		24	5	87	97	4.585	14.40	10.09	55.7	220.9		562	2,228		440	174
HL		25	1	88	116	.845	2.88	2.54	57.0	243.3		145	617		113	48
HL		26	1	85	77	.781	2.88	1.56	63.0	265.0		98	414		77	32
HL		27	1	86	67	.725	2.88	1.45	62.5	235.0		91	341		71	27
HL		28	2	89	82	1.347	5.76	3.37	54.0	256.0		182	862		142	67
HL		31	2	82	62	1.099	5.76	2.20	68.8	247.5		151	544		118	43
HL		32	1	83	77	.516	2.88	1.03	96.5	340.0		100	351		78	27
HL		34	1	83	92	.457	2.88	.91	108.5	445.0		99	407		78	32
HL		Totals	35	88	83	39.526	100.83	82.31	43.4	165.0		3,570	13,586		2,792	1,062
DL		16	1	86	81	2.805	3.92	5.61	22.0	70.0		123	393		97	31
DL		17	1	83	89	2.485	3.92	4.97	27.5	90.0		137	447		107	35
DL		18	3	81	89	6.650	11.75	15.52	24.9	82.9		386	1,286		302	101
DL		19	1	89	80	1.989	3.92	3.98	33.0	110.0		131	438		103	34
DL		20	2	82	80	3.591	7.83	7.18	35.0	107.5		251	772		197	60
DL		21	3	85	81	4.885	11.75	11.40	33.1	104.3		378	1,189		295	93
DL		22	1	83	86	1.484	3.92	2.97	44.0	135.0		131	401		102	31
DL		26	1	82	88	1.062	3.92	2.12	63.5	200.0		135	425		106	33
DL		27	1	83	74	.985	3.92	1.97	36.0	125.0		71	246		55	19
DL		Totals	14	83	84	25.937	54.84	55.72	31.3	100.4		1,743	5,596		1,363	438
SL		14	1	82	80	2.407	2.57	4.81	18.0	60.0		87	289		68	23
SL		19	2	87	72	2.614	5.15	5.23	34.0	120.0		178	627		139	49
SL		21	2	87	67	2.139	5.15	4.28	38.7	130.0		166	556		130	43
SL		22	1	85	79	.975	2.57	1.95	42.5	165.0		83	322		65	25
SL		23	1	83	89	.892	2.57	1.78	56.5	205.0		101	366		79	29
SL		26	1	86	84	.698	2.57	1.40	74.0	260.0		103	363		81	28
SL		28	1	85	93	.602	2.57	1.20	90.5	360.0		109	433		85	34
SL		31	1	88	97	.491	2.57	.98	114.5	500.0		112	491		88	38
SL		40	1	80	42	.295	2.57	.59	87.0	385.0		51	227		40	18
SL		Totals	11	85	77	11.112	28.30	22.22	44.5	165.3		990	3,674		774	287
SFL		31	1	86	105	.337	1.77	1.01	72.7	353.3		74	358		58	28
SFL		Totals	1	86	105	.337	1.77	1.01	72.7	353.3		74	358		58	28
AL		13	1	86	62	1.919	1.77									
AL		14	1	87	39	1.655	1.77									
AL		Totals	2	86	51	3.574	3.54									
Totals			63	86	81	80.486	189.28	161.27	39.5	143.9		6376	23,213		4,986	1,815

TC TSTNDSUM

Stand Table Summary

Project MCKNOB

T07N R06W S04 TLV07

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
07N	06W	04	AREA 7-LV	LV07	251.00	84	129

T07N R06W S04 TLV07

Date: 12/6/200!

Time: 10:40:32AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
HL		10	2	83	47	3.774	1.95	3.77	9.9	30.0		38	113		94	28
HL		12	1	84	57	1.243	.98	1.24	20.0	60.0		25	75		62	19
HL		14	1	86	54	.982	.98	.98	23.0	60.0		23	59		57	15
HL		16	1	88	74	.699	.98	1.40	23.0	85.0		32	119		81	30
HL		18	2	86	77	1.105	1.95	2.21	30.0	97.5		66	215		166	54
HL		19	4	86	66	1.984	3.91	3.97	29.9	98.7		119	392		297	98
HL		20	4	85	72	1.790	3.91	3.58	35.4	123.8		127	443		318	111
HL		21	2	87	76	.812	1.95	1.62	42.0	152.5		68	248		171	62
HL		22	5	84	71	1.849	4.88	3.70	41.6	142.0		154	525		386	132
HL		23	2	82	90	.677	1.95	1.69	45.2	166.0		76	281		192	71
HL		24	2	87	79	.622	1.95	1.55	41.0	170.0		64	264		160	66
HL		25	6	82	79	1.719	5.86	3.72	55.9	190.0		208	707		523	178
HL		26	3	78	70	.794	2.93	1.85	46.6	144.3		86	267		217	67
HL		27	2	87	96	.491	1.95	1.23	67.0	296.0		82	363		206	91
HL		28	4	84	97	.913	3.91	2.51	62.5	263.6		157	662		394	166
HL		30	1	83	79	.199	.98	.40	70.5	265.0		28	105		70	26
HL		Totals	42	84	68	19.653	41.01	35.44	38.2	136.6		1,353	4,840		3,395	1,215
SL		14	2	84	42	1.571	1.68	1.57	22.5	55.0		35	86		89	22
SL		15	1	86	57	.684	.84	.68	32.0	70.0		22	48		55	12
SL		16	2	83	63	1.203	1.68	1.80	26.3	70.0		47	126		119	32
SL		17	3	86	59	1.598	2.52	2.66	26.4	80.0		70	213		176	53
SL		18	1	78	63	.475	.84	.95	23.5	70.0		22	67		56	17
SL		19	4	85	57	1.705	3.36	3.41	27.6	91.3		94	311		237	78
SL		20	2	76	60	.770	1.68	1.15	42.7	96.7		49	112		124	28
SL		21	1	85	81	.349	.84	.70	44.0	140.0		31	98		77	25
SL		22	5	83	59	1.590	4.20	2.86	41.2	126.7		118	363		296	91
SL		23	2	84	68	.582	1.68	1.16	45.8	145.0		53	169		134	42
SL		24	4	80	57	1.069	3.36	1.87	46.4	141.4		87	265		218	66
SL		25	3	82	74	.739	2.52	1.48	47.7	183.3		70	271		177	68
SL		26	2	79	77	.455	1.68	1.14	51.4	186.0		59	212		147	53
SL		27	1	74	64	.211	.84	.42	62.0	180.0		26	76		66	19
SL		28	3	82	77	.589	2.52	.98	68.8	256.0		68	251		170	63
SL		30	3	76	66	.513	2.52	.86	91.8	230.0		78	197		197	49
SL		Totals	39	83	60	14.102	32.74	23.71	39.3	120.8		931	2,863		2,336	719
DL		15	2	83	67	2.156	2.65	3.23	22.3	70.0		72	226		181	57
DL		16	2	83	63	1.895	2.65	3.79	18.0	62.5		68	237		171	59
DL		18	3	83	75	2.246	3.97	4.49	26.5	83.3		119	374		299	94
DL		19	2	86	59	1.344	2.65	2.69	25.5	87.5		69	235		172	59
DL		20	1	86	55	.606	1.32	1.21	25.5	75.0		31	91		78	23
DL		21	1	75	68	.550	1.32	.55	42.0	120.0		23	66		58	17
DL		22	5	86	83	2.506	6.61	6.51	31.9	121.5		208	792		522	199
DL		23	2	80	54	.917	2.65	.92	49.0	65.0		45	60		113	15
DL		24	1	86	97	.421	1.32	.84	58.5	210.0		49	177		124	44
DL		25	1	76	80	.388	1.32	.78	50.5	140.0		39	109		98	27
DL		26	2	84	86	.718	2.65	1.44	49.0	165.0		70	237		177	59
DL		29	1	66	55	.288	1.32	.58	55.0	105.0		32	61		80	15
DL		30	1	83	63	.269	1.32	.54	65.0	225.0		35	121		88	30
DL		Totals	24	83	70	14.304	31.75	27.57	31.2	101.0		860	2,785		2,160	699
SFL		16	1	89	60	.668	.93	1.34	19.0	70.0		25	93		64	23
SFL		20	1	86	85	.427	.93	1.28	25.0	93.3		32	120		80	30

TC TSTNDSUM

Stand Table Summary

Project MCKNOB

T07N R06W S04 TLV07

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
07N	06W	04	AREA 7-LV	LV07	251.00	84	129

Date: 12/6/200
Time: 10:40:32AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
SFL		25	2	85	77	.547	1.86	1.09	54.2	182.5		59	200		149	50
SFL		26	2	86	76	.506	1.86	1.01	59.5	215.0		60	217		151	55
SFL		28	1	86	66	.218	.93	.44	53.0	205.0		23	89		58	22
SFL		29	2	85	84	.406	1.86	.81	67.8	280.0		55	228		138	57
SFL		34	1	79	91	.148	.93	.30	114.0	400.0		34	118		85	30
SFL		38	1	83	107	.118	.93	.24	134.5	595.0		32	141		80	35
SFL		Totals	11	86	76	3.038	10.25	6.50	49.3	185.5		321	1,206		805	303
AL		15	1	87	62	1.617	1.98	1.62	32.0	130.0		52	210		130	53
AL		17	1	86	67	1.259	1.98	2.52	23.0	80.0		58	201		145	51
AL		Totals	2	87	64	2.876	3.97	4.13	26.5	99.6		110	412		275	103
CL		12	1	83	17	1.263	.99	1.26	9.0	20.0		11	25		29	6
CL		32	1	71	47	.178	.99									
CL		Totals	2	82	21	1.441	1.98	1.26	9.0	20.0		11	25		29	6
SN		15	2	89	36	.808	.99									
SN		18	1	89	52	.281	.50									
SN		19	1	88	68	.252	.50									
SN		20	1	89	39	.227	.50									
SN		32	1	89	20	.089	.50									
SN		70	1	88	67	.019	.50									
SN		83	1	88	104	.013	.50									
SN		Totals	8	89	44	1.689	3.97									
Totals			128	84	65	57.103	125.67	98.61	36.4	123.0		3586	12,131		9,000	3,045

TC TSTNDSUM

Stand Table Summary

Project MCKNOB

T07N R06W S07 TLV08

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
07N	06W	07	AREA 8- LV	LV08	374.00	48	100

Date: 11/23/20(
Time: 11:17:55AM

Spc	S T	Sample DBH	Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
HL		10	1	92	73	2.546	1.39	2.55	15.0	60.0		38	153		143	57
HL		12	5	90	80	8.999	6.94	16.23	14.9	55.4		243	898		907	336
HL		13	7	85	72	10.793	9.72	16.82	18.5	60.7		311	1,021		1,165	382
HL		14	5	88	76	6.692	6.94	11.99	19.8	71.0		237	851		887	318
HL		15	4	89	86	4.606	5.56	9.21	23.0	87.5		212	807		792	302
HL		16	8	87	97	7.958	11.11	18.90	23.4	86.8		443	1,641		1,656	614
HL		17	10	89	103	8.866	13.89	21.26	30.0	112.1		637	2,383		2,383	891
HL		18	9	89	98	7.074	12.50	15.72	35.2	129.5		553	2,036		2,066	761
HL		19	9	90	99	6.349	12.50	15.52	35.9	144.1		557	2,236		2,084	836
HL		20	4	91	114	2.546	5.56	7.00	35.3	156.4		247	1,095		924	410
HL		21	6	87	116	3.465	8.33	10.39	39.2	165.0		408	1,715		1,525	641
HL		22	2	89	116	1.052	2.78	2.63	54.2	234.0		143	616		533	230
HL		23	2	88	111	.963	2.78	2.41	54.8	224.0		132	539		493	202
HL		24	4	83	120	1.768	5.56	5.31	51.0	203.3		271	1,079		1,012	403
HL		25	1	86	78	.407	1.39	.81	58.5	205.0		48	167		178	62
HL		26	2	90	104	.753	2.78	2.26	57.7	268.3		130	606		487	227
HL		27	1	89	101	.349	1.39	.70	88.5	360.0		62	252		231	94
HL		32	1	82	116	.249	1.39	.75	90.7	410.0		68	306		253	114
HL		Totals	81	88	91	75.436	112.50	160.45	29.5	114.7		4,738	18,400		17,719	6,882
DL		12	1	89	63	2.520	1.98	2.52	19.0	60.0		48	151		179	57
DL		17	1	85	86	1.256	1.98	3.77	15.7	56.7		59	213		221	80
DL		18	1	71	56	1.120	1.98	1.12	23.0	70.0		26	78		96	29
DL		21	1	90	84	.823	1.98	1.65	40.0	135.0		66	222		246	83
DL		22	2	87	106	1.499	3.96	4.50	36.5	138.3		164	622		614	233
DL		25	1	89	102	.581	1.98	1.16	70.0	260.0		81	302		304	113
DL		26	1	81	97	.537	1.98	1.07	69.0	230.0		74	247		277	92
DL		Totals	8	85	80	8.335	15.83	15.79	32.8	116.3		518	1,836		1,937	687
SFL		15	1	91	106	1.188	1.46	3.57	17.3	70.0		62	250		231	93
SFL		19	1	91	106	.741	1.46	2.22	28.3	123.3		63	274		235	102
SFL		23	1	89	106	.505	1.46	1.52	42.7	186.7		65	283		242	106
SFL		24	1	77	87	.464	1.46	.93	36.5	120.0		34	111		127	42
SFL		Totals	4	88	103	2.899	5.83	8.23	27.1	111.5		223	918		835	343
SL		15	1	83	54	1.358	1.67	1.36	30.0	60.0		41	81		152	30
SL		16	1	82	59	1.194	1.67	2.39	18.5	45.0		44	107		165	40
SL		17	1	82	51	1.057	1.67	1.06	36.0	60.0		38	63		142	24
SL		18	1	89	96	.943	1.67	2.83	27.7	110.0		78	311		293	116
SL		Totals	4	84	63	4.552	6.67	7.63	26.4	73.8		201	564		753	211
SN		18	1	89	79	1.100	1.94									
SN		24	1	88	17	.619	1.94									
SN		60	1	89	42	.099	1.94									
SN		Totals	3	89	56	1.818	5.83									
Totals			100	88	89	93.041	146.67	192.10	29.6	113.1		5680	21,718		21,245	8,123

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: McKnob **Area(s)** 1 and 3

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

Approx. Cruise Acres: 197 **Estimated CV%** 38 (Net BF or) BA/Acre **SE% Objective** 12 (Net BF or) BA/Acre

Planned Sale Volume: 2.2 MMBF **Estimated Sale Area Value/Acre:** $_____

A. Cruise Goals: (a) Grade minimum 100 conifer and 50 hardwood trees: (b) Sample X cruise plots; (c) Other goals (X Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes; ____ Determine LWD (down wood) cubic feet and decay classes; X Determine "diameter limit" harvest parameters;)
Basal Area leave target 140 sq. ft. Cruiser needs to select 4 or 5 leave trees per plot.

B. Cruise Design:

1. **Plot Cruises:** BAF 33.6 (Full point; Half point) (circle one)
   Fixed Plot Size _____ Plot Radius _____ feet
   Cruise Line Direction(s) N45W
   Cruise Line Spacing 7 (chains) (feet)
   Cruise Plot Spacing 6 (chains) (feet)
   Grade/Count Ratio 1:2
2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir ____ Hemlock _____
   Spruce _____ True Fir _____Cedar _____ Hardwood ____

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest ½" 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 for conifer is 7", 9" for 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.

RESERVE ALL CEDAR
REMOVE ALL MERCH. ALDER EXCEPT WITHIN 25' OF STREAMS

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 ; 9 = Utility
   Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

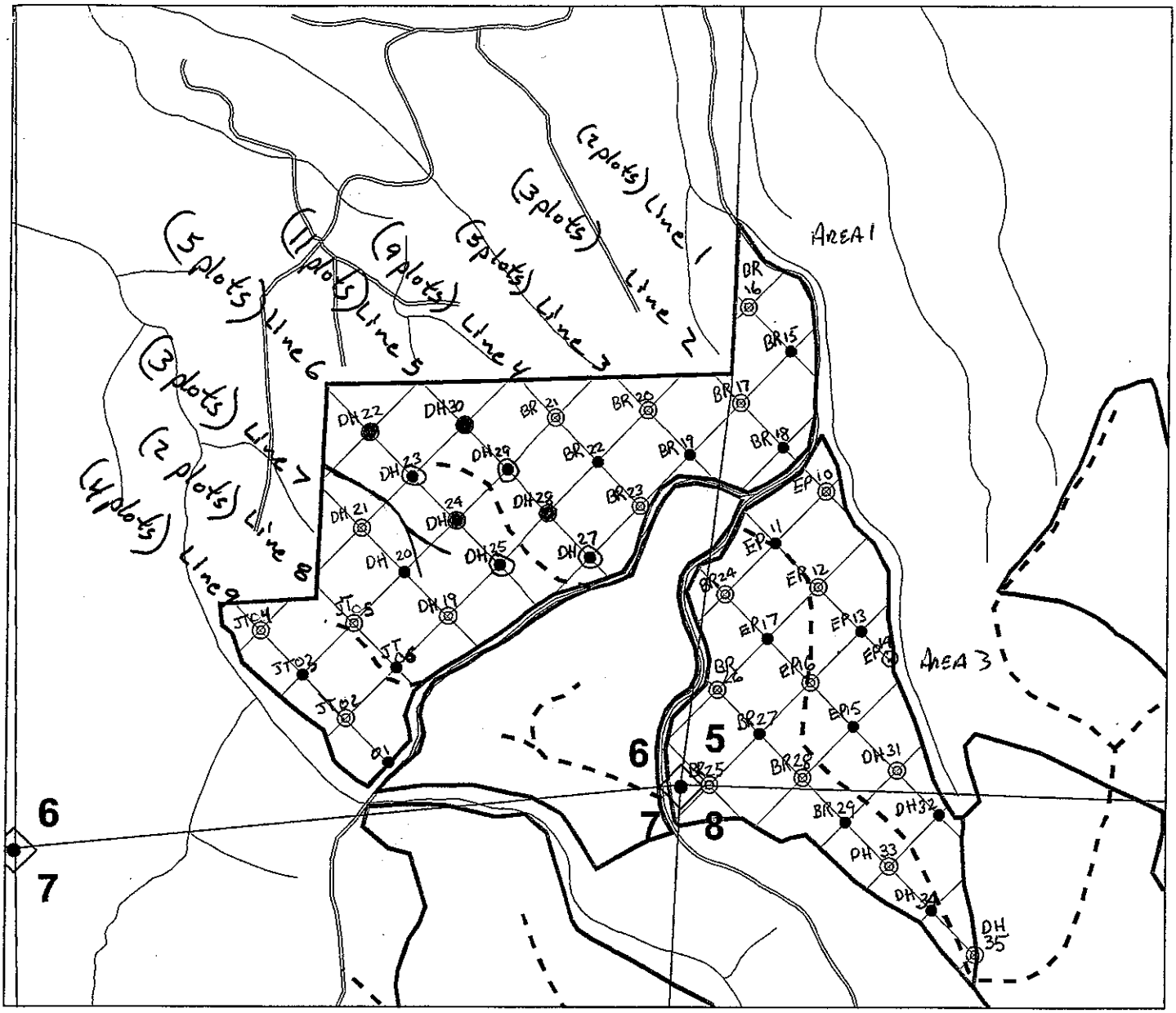
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally 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.
   ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.

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, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: John Tillotson
Approved by: _____
Date: _____



Areas 1 and 3
Cruise Map

Sections 5, 6 amd 8, T07N, R06W, W.M.
Clatsop County, OR

"STEWARDSHIP IN FORESTRY"

N

Crupts1and3.shp
- Count
- Cruise

Clpgrd1and3.shp
Ast_roads.shp
Sale_area_streams.shp
Sgpls
Gross_tsb.shp
New_roads.shp

600 0 600 Feet

Cruise grid info:
Line spacing = 7 chains
Line bearing = N45W
Plot spacing = 6 chains
Cruiser names/dates
etc.

Oregon
DEPARTMENT OF
FORESTRY
Sunset Unit
Astoria District

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: McKnob **Area(s)** 2, 4, 5, 6

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

Approx. Cruise Acres: *221* **Estimated CV%** *50* Net BF or BA/Acre **SE% Objective** *12* Net BF or BA/Acre

Planned Sale Volume: *6.1* MMBF **Estimated Sale Area Value/Acre:** $_____

A. Cruise Goals: (a) Grade minimum *100* conifer and *50* hardwood trees: (b) Sample X cruise plots; (c) Other goals (____ Determine "automark" thinning standards; √ Determine log grades for sale value; √ Determine snag and leave tree species and sizes; ____ Determine LWD (down wood) cubic feet and decay classes; ____ Determine "diameter limit" harvest parameters;)
Basal Area leave target 0 sq. ft. Cruiser needs to select or leave trees per plot.

B. Cruise Design:

1. **Plot Cruises:** BAF *40* (Full point; Half point) (circle one)
   Fixed Plot Size ____ Plot Radius _____ feet
   Cruise Line Direction(s) *See map*
   Cruise Line Spacing *5* (chains) (feet)
   Cruise Plot Spacing *4* (chains) (feet)
   Grade/Count Ratio *1:3*
2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir _____ Hemlock _____
   Spruce _____ True Fir _____ Cedar _____ Hardwood ____

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is *8"* for conifers and *10"* for hardwoods. Record dbh to nearest ½" 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 for conifer is *7"*, *9"* for 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.
   LEAVE ALL CEDAR

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 ; 9 = Utility
   Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

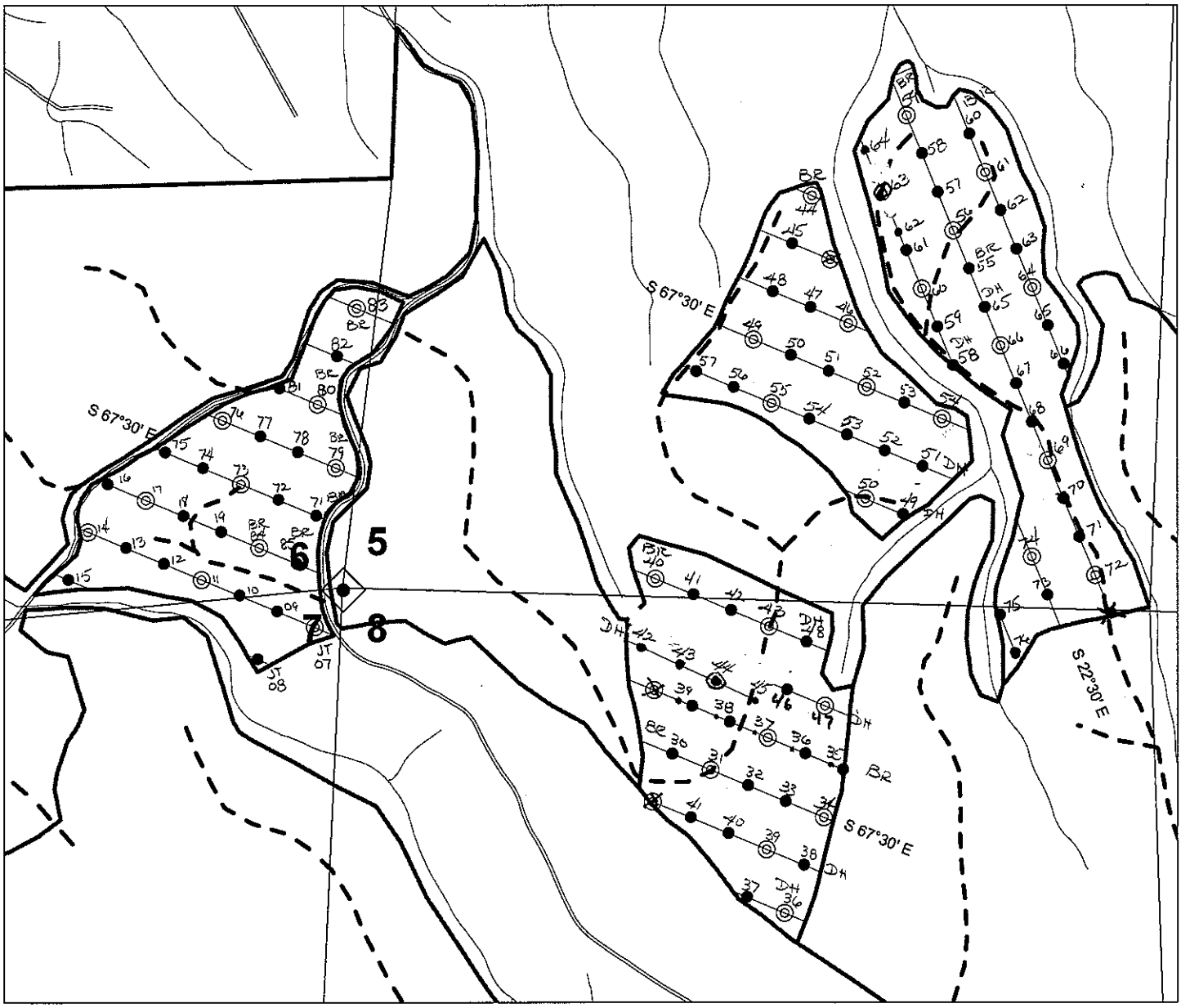
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally 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.
   ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.

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, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: John Tillotson
Approved by: _____
Date: _____



Mcknob
Areas 2, 4, 5 and 6
Cruise Map

Sections 5, 6, 7 and 8, T07N, R06W, W.M.
Clatsop County, OR

N

"STEWARDSHIP IN FORESTRY"

Plots
- Count
- Cruise
- New_roads.shp
- Ast_roads.shp
- Sale_area_streams.shp
- Sgpls
- Gross_tsb.shp

500 0 500 Feet

Cruise grid info:
Line spacing = 5 chains
Line bearing = see map
Plot Spacing = 4 chains
Cruiser names/dates

Oregon
DEPARTMENT OF
FORESTRY
Sunset Unit
Astoria District

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: McKnob **Area(s)** 7

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

Approx. Cruise Acres: *270* **Estimated CV%** 40 Net BF or BA/Acre **SE% Objective** 10 Net BF or BA/Acre

Planned Sale Volume: *2.6* MMBF **Estimated Sale Area Value/Acre:** $_____

A. Cruise Goals: (a) Grade minimum **100** conifer and **50** hardwood trees: (b) Sample *X* cruise plots; (c) Other goals (*X* Determine "automark" thinning standards; *X* Determine log grades for sale value; *X* Determine snag and leave tree species and sizes; ____ Determine LWD (down wood) cubic feet and decay classes; ____ Determine "diameter limit" harvest parameters;)
Basal Area leave target ***110*** sq. ft. Cruiser needs to select ***4*** leave trees per plot.

B. Cruise Design:

1. **Plot Cruises:** BAF **27.78** (***Full point***; Half point) (circle one)
   Fixed Plot Size ____ Plot Radius _____ feet
   Cruise Line Direction(s) **S45W**
   Cruise Line Spacing **6** (***chains***) (feet)
   Cruise Plot Spacing **5** (***chains***) (feet)
   Grade/Count Ratio **1:3**
2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir _____ Hemlock _____
   Spruce _____ True Fir _____ Cedar _____ Hardwood ____

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is **8** " for conifers and **10** " for hardwoods. Record dbh to nearest ½" 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 for conifer is **7** ", **9** " for 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.

   Leave All Cedar

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 ; 9 = Utility
   Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

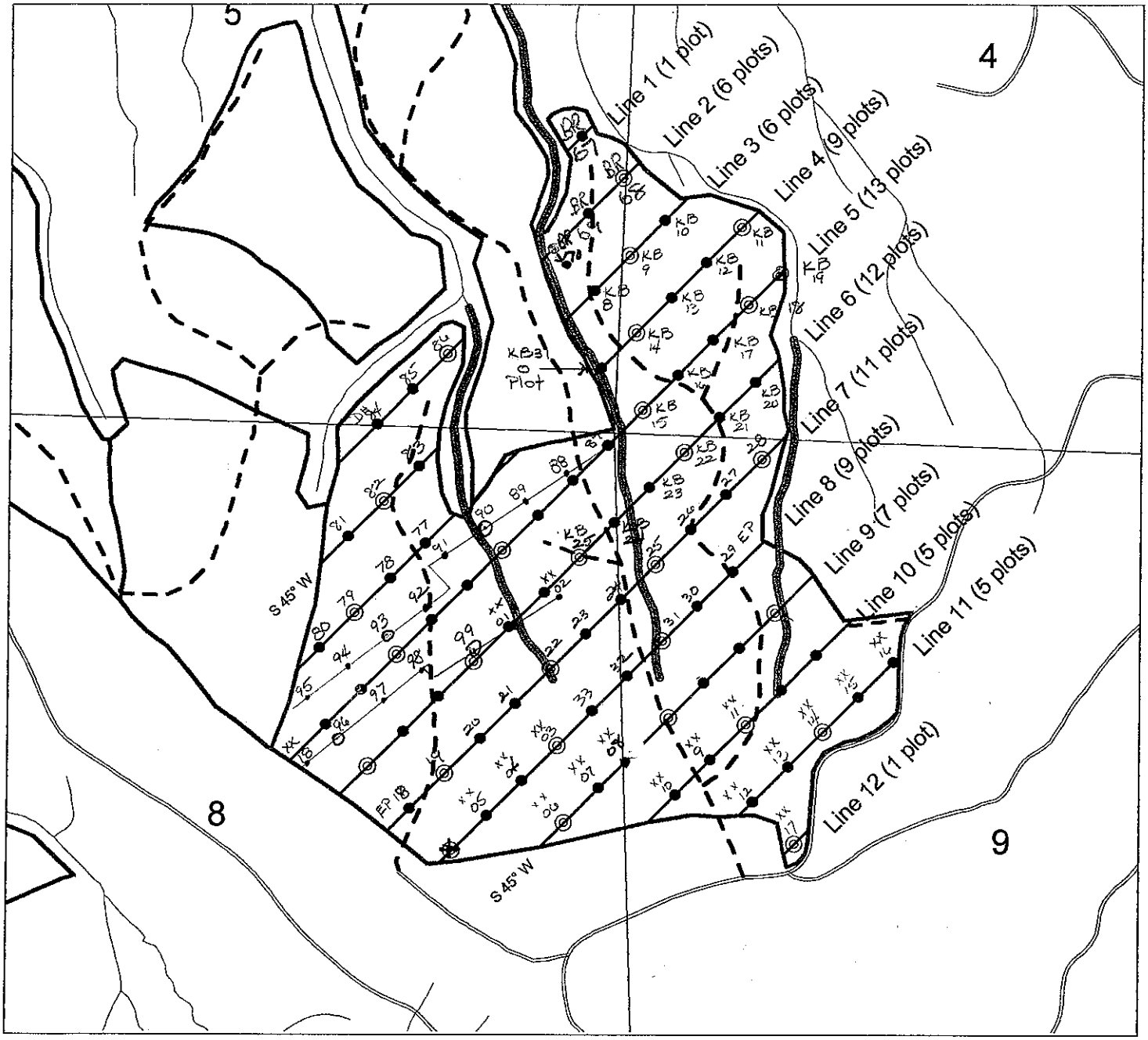
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally 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.
   ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.

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, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: John Tillotson
Approved by: _____
Date: _____



N

McKnob Area 7
Cruise Map

Sections 4, 5, 8 and 9, T7N, R6W, W.M.
Clatsop County, OR

"STEWARDSHIP IN FORESTRY"

Cruise Area 7
- Count
- Cruise
- Cruise line
- New_roads.shp
- Ast_roads.shp
- Sale_area_streams.shp
- Buffer a7.shp
- Sgpls
- Gross_tsb.shp

500 0 500 Feet

Cruise grid info:
Line spacing = 6 chains
Line bearing = S45W
Plot spacing = 5 chains
Cruiser names/dates

Oregon
DEPARTMENT OF
FORESTRY
Sunset Unit
Astoria District

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: McKnob **Area(s)** 8

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

Approx. Cruise Acres: 387 **Estimated CV%** 35 (Net BF or) BA/Acre **SE% Objective** 10 (Net BF or) BA/Acre

Planned Sale Volume: 3.1 MMBF **Estimated Sale Area Value/Acre:** $ _____

A. Cruise Goals: (a) Grade minimum 100 conifer and 50 hardwood trees: (b) Sample ✓ cruise plots; (c) Other goals (✓ Determine "automark" thinning standards; ✓ Determine log grades for sale value; ✓ Determine snag and leave tree species and sizes; ____ Determine LWD (down wood) cubic feet and decay classes; ____ Determine "diameter limit" harvest parameters;)
Basal Area leave target 140 sq. ft. Cruiser needs to select ~~X~~ or ~~X~~ 3 or 4 leave trees per plot.

B. Cruise Design:

1. **Plot Cruises:** BAF 40 (*Full point*) Half point) (circle one)
   Fixed Plot Size ____ Plot Radius _____ feet
   Cruise Line Direction(s) N90W
   Cruise Line Spacing 9 (*chains*) (feet)
   Cruise Plot Spacing 9 (*chains*) (feet)
   Grade/Count Ratio 1:2
2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir _____ Hemlock _____
   Spruce _____ True Fir _____ Cedar _____ Hardwood ____

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is 8 " for conifers and 10 " for hardwoods. Record dbh to nearest ½" 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 for conifer is 7 ", 9 " for 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.

RESERVE ALL CEDAR

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 ; 9 = Utility
   Hardwoods: #2 Sawmill = 12" + scaling diameter; #3 Sawmill = 10 and 11"; #4 Sawmill = 8 and 9"

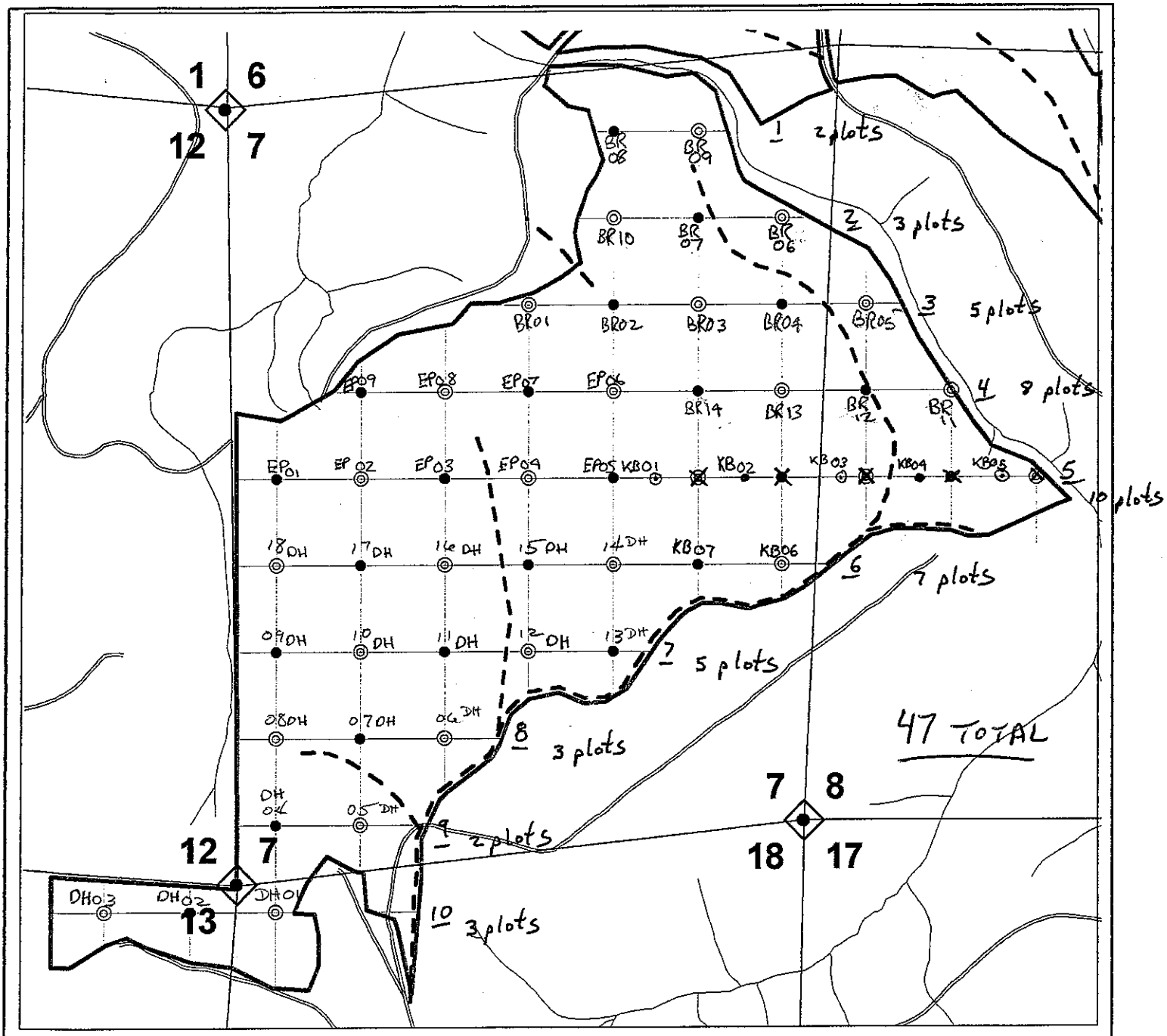
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally 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.
   ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.

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, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: John Tillotson
Approved by: _____
Date: _____



McKnob
Area 8

Sections 7, 8 & 18, T7N, R6W,
Section 13 T7N, R7W,
W.M., Clatsop County, OR

N

"STEWARDSHIP IN FORESTRY"

Crupts8.shp
- Count
- Cruise

Clpgrd8.shp
Ast_roads.shp
Sale_area_streams.shp
Sgpls
Gross_tsb.shp
New_roads.shp

1000 0 1000 Feet

Cruise grid info:
Plot spacing = 9 chains
Line bearing = N90E
Line spacing = 9 chains
Cruiser names/dates =

Oregon
DEPARTMENT OF
FORESTRY
Sunset Unit
Astoria District