"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria **Date:** September 04, 2009

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$364,394.67	$43,329.57	$407,724.24
		Project Work:	$(90,004.00)
		Advertised Value:	$317,720.24

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria **Date: September 04, 2009**

timber description

Location: Portions of Section 25, T6N, R8W, & Sections 30 and 31, T6N, R7W, W.M., Clatsop County, Oregon.

Stand Stocking: 90%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	98
Western Hemlock / Fir	16	0	96
Sitka Spruce	22	0	98
Alder (Red)	16	0	95

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	582	126	32	0	740
Western Hemlock / Fir	1,585	997	225	0	2,807
Sitka Spruce	37	36	5	0	78
Alder (Red)	0	0	0	201	201
Total	2,204	1,159	262	201	3,826

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria **Date: September 04, 2009**

comments: Pond Values Used: 2nd Quarter Calendar Year 2009.

Log Markets: Mist, Clatskanie, Tillamook, Forest Grove.

Western Red Cedar Stumpage Price = Pond Value minus Logging Cost
$576.68/MBF = $740/MBF - $163.32/MBF

SCALING COST ALLOWANCE = $5.00/MBF

FUEL COST ALLOWANCE = $3.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to $700 daily truck cost.

Other Costs (with Profit & Risk to be added):
100% Brand and Paint: $1/MBF x 3,826 MBF = $ 3,826
Additional log loader piling: 3hr/landing x $65/hr x 7 landings = $1,365
Excavator Slash Piling: 46 hours x $120/hr. = $5,520
Material cost for Slash Piles: 104 piles x $5/pile = $520
Excavator move-in: $1,119
TOTAL Other Costs (with Profit and Risk to be added) =$12,350

Other Costs (No Profit & Risk added):
None.

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria **Date: September 04, 2009**

logging conditions

combination#: 1

	Douglas - Fir	46.00%
	Western Hemlock / Fir	46.00%
	Sitka Spruce	46.00%
	Alder (Red)	46.00%

yarding distance: Medium (800 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: 8.0 **bd. ft / load:** 4,500
cost / mbf: $92.89

machines:
Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 2

	Douglas - Fir	54.00%
	Western Hemlock / Fir	54.00%
	Sitka Spruce	54.00%
	Alder (Red)	54.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process**: Harvester Head Delimbing
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 12.0 **bd. ft / load:** 4,500
cost / mbf: $76.94

machines:
Forwarder
Harvester

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria

Date: September 04, 2009

logging costs

Operating Seasons:	2.00	**Profit Risk:**	12.00%
Project Costs:	$90,004.00	**Other Costs (P/R):**	$12,350.00
Slash Disposal:	$0.00	**Other Costs:**	$0.00

Miles of Road

Road Maintenance: $3.28

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	5.0
Western Hemlock / Fir	$0.00	3.0	4.5
Sitka Spruce	$0.00	2.0	5.0
Alder (Red)	$0.00	2.0	3.5

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria **Date: September 04, 2009**

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$84.28	$3.35	$2.29	$42.50	$3.23	$16.28	$0.00	$5.00	$0.00	$156.93
Western Hemlock / Fir									
$84.28	$3.41	$2.29	$48.15	$3.23	$16.96	$0.00	$5.00	$0.00	$163.32
Sitka Spruce									
$84.28	$3.35	$2.29	$63.75	$3.23	$18.83	$0.00	$5.00	$0.00	$180.73
Alder (Red)									
$84.28	$3.44	$2.29	$93.75	$3.23	$22.44	$0.00	$5.00	$0.00	$214.43

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$310.51	$153.58	$0.00
Western Hemlock / Fir	$0.00	$250.25	$86.93	$0.00
Sitka Spruce	$0.00	$267.05	$86.32	$0.00
Alder (Red)	$0.00	$430.00	$215.57	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Summit Combo
Sale 341-10-05

District: Astoria

Date: September 04, 2009

summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00
Western Hemlock / Fir	0	$0.00	$0.00
Sitka Spruce	0	$0.00	$0.00
Alder (Red)	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	740	$153.58	$113,649.20
Western Hemlock / Fir	2,807	$86.93	$244,012.51
Sitka Spruce	78	$86.32	$6,732.96
Alder (Red)	201	$215.57	$43,329.57

Gross Timber Sale Value

Recovery: $407,724.24

Prepared by: Peter Stone **Phone:** 503-325-5451

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Summit Combo

NEW CONSTRUCTION:

Project No. 1

	Road segment		Length/Sta	Cost	
Rocked Roads	1A-1B, 1C-1D		45.9	$62,812	
	TOTALS	0.87 miles	45.90		$62,812

ROAD IMPROVEMENT:

Project No. 1

Road segment		Length/Sta	Cost	
I1-I2 and Point I3		39.50	$7,879	
TOTALS	0.75 miles	39.50		$7,879

ROAD BRUSHING:

Project No. 2

Mechanical Brushing 3.3 Miles	$4,919

SPECIAL PROJECTS:

Project No. 1&2

Project Work Road Maintenance	$7,688

MOVE IN:

Equipment	Cost	
Dozer (D8)	$1,220	
Dump Trucks (10 cy x 4)	$564	
Dump Trucks (20 cy x 2)	$332	
F E Loader (C966)	$675	
Grader (14G)	$675	
Rubber Tire Skidder (C518)	$622	
Vibratory Roller	$675	
Water Truck (2,500 gallon)	$165	
Backhoe (C 580)	$279	
Excavator (C330)	$1,220	
Brush Cutter (Medium) 15' Vertical Reach	$279	
TOTAL		$6,706

GRAND TOTAL **$90,004**

Compiled By: T. Williams RL Date: 08/24/2009

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Summit Combo (Designed Roads)
ROADS: 1A-1B (39+10), & 1C-1D (6+80)

NEW CONSTRUCTION: 45.90 **STATIONS** 0.87 **MILES**
IMPROVEMENT: **STATIONS** 0.00 **MILES**

CLEARING & GRUBBING

Method	Acres/amount		Rate	=	Cost
Scatter Outside of R/W					
1A-1B & 1C-1D	4.0	x	$1,161.00	=	$4,644.00
End Haul Debris in Full Bench Sections					
1A-1B & 1C-1D (C330x10hr, 2- 24cy off hwy dump x 8hr.)	1.0	x	$3,344.00	=	$3,344.00

SUB TOTAL FOR CLEARING & GRUBBING $7,988

EXCAVATION

Material	Cy/amount/station		Rate	=	Cost
Common drift excavation $$/cy	7,124	x	$1.60	=	$11,398.40
Embankment comapaction $$/cy	7,105	x	$0.60	=	$4,263.00
Cut Slope Rounding $$/Sta	15	x	$37.00	=	$555.00
Truck End Haul 1A-1B: 2+20 to 6+80	1,630	x	$3.50		$5,705.00
Truck End Haul 1A-1B: 20+20 to 24+60	1,470	x	$3.50		$5,145.00
Landing Construction $$/landing Stations 7+80, 11+30,	5	x	$338.00	=	$1,690.00
36+60, and 39+10 Road Segment 1A to 1B & Point 1D.					

SUB TOTAL FOR EXCAVATION $28,756

CULVERT MATERIALS AND INSTALLATION

	Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
1A to 1B	7+15	18"CPP	30	$17.64	$529.20			
1A to 1B	9+10	18"CPP	30	$17.64	$529.20			
1A to 1B	13+30	18"CPP	40	$17.64	$705.60			
1A to 1B	16+60	18"CPP	30	$17.64	$529.20			
1A to 1B	28+55	18"CPP	40	$17.64	$705.60			

Subtotal Culverts & Installation: $2,998.80

	Description	Quantity	Rate	Cost
Other/miscellaneous:	Labor 6 hrs. @$38.00 hr. for waste area	6	$38.00	$228.00
	Grass seed mix 25lbs X $1.40/lb	25	$1.40	$35.00
	Fertilizer 50lbs X $0.50/lb	50	$0.50	$25.00
	Straw bales @$10.00 ea. X 20 bales for waste area	20	$10.00	$200.00
Culvert stakes & markers:	Installed 6' Fiberglass Markers @$18.00 each	5	$18.00	$90.00

SUB TOTAL FOR WASTE AREA TREATMENT, CULVERT MATERIALS & INSTALLATION $578

Grand Total: **$40,321**

Project No. 1 New Road Construction

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Summit Combo
ROAD: 1A-1B (39+10), 1C-1D (6+80)

NEW CONSTRUCTION: 45.90 **STATIONS** 0.87 **MILES**
IMPROVEMENT: 0.00 **STATIONS** 0.00 **MILES**

SURFACING

Subgrade prep:

Description	Stations/ amount	x	Rate/ sta/amt	Cost
Grade, Shape and Ditch 16'	45.90	x	$21.55	$989.15
Subgrade Compaction	45.90	x	$17.52	$804.17

ROAD SEGMENT	1A to 1B			POINT TO POINT 1A to 1B Volume (CY) per		Sta. to Sta. 0+00 to 39+10 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)								
Base Rock	4"-0" Crushed	0+00 to 39+10	8	station	50	stations	39.10	1,955	$4.09	$7,996	
Traction Rock	3/4"-0" Crushed	1+50 to 4+50,	2	station	13	stations	28.0	364	$4.09	$1,489	
Turnouts	4"-0" Crushed		8	turnout	22	turnouts	9	198	$4.09	$810	
Turnouts	3/4"-0" Crushed		2	turnout	10	turnouts	3	30	$4.09	$123	
Curve Widening	4"-0" Crushed		8					120	$4.09	$491	
Curve Widening	3/4"-0" Crushed		2					30	$4.09	$123	
Junction	4"-0" Crushed	Pt. 1A	8	jucntion	30	junctions	1	30	$4.09	$123	
Turnaround	4"-0" Crushed		N/A		24	TA	1	24	$4.09	$98	
Landing	6"-0" Pit-run	11+30, 36+60	N/A	landing	50	landings	2	100	$7.72	$772	
Landing	6"-0" Pit-run	7+80, 39+10	N/A	landing	80	landings	2	160	$7.72	$1,235	
Total Rock for Road Segment:			3A to 3B					3,011			$13,259

ROAD SEGMENT	1C to 1D			POINT TO POINT 1C to 1D Volume (CY) per		Sta. to Sta. 0+00 to 6+80 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)								
Base Rock	4"-0" Crushed	0+00 to 6+80	8	station	50	stations	6.8	340	$4.09	$1,391	
Traction Rock	3/4"-0" Crushed	0+00 to 5+00	2	station	13	stations	5.0	65	$4.09	$266	
Turnout	4"-0" Crushed	N/A	8	turnout	22	turnouts	1	22	$4.09	$90	
Turnaround	4"-0" Crushed	N/A	8	turnaround	24	turnarounds	1	24	$4.09	$98	
Curve Widening	4"-0" Crushed		8					30	$4.09	$123	
Curve Widening	3/4"-0" Crushed		2					10	$4.09	$41	
Junction	4"-0" Crushed	Pt. 1C	8	jucntion	30	junctions	1	30	$4.09	$123	
Junction	3/4"-0" Crushed	Pt. 1C	2	jucntion	10	junctions	1	10	$4.09	$41	
Landing	6"-0" Pit-run	Sta. 6+80	N/A	landing	80	landings	1	80	$7.72	$618	
Total Rock for Road Segment:			3C to 3D					611			$2,789

Description		No.sta	Rate/sta	Cost	
Processing:	Water, Process & Compact Crushed Base Rock:	45.9	$49.02	$2,250	
Processing:	Water, Process & Compact Traction Rock: 1A-1B and 1C-1D	33.0	$49.02	$1,618	
					$3,868
SUB TOTAL FOR SURFACING					$21,709

SPECIAL PROJECTS

Description	Cost
Develop Pit-run Rock 340cy X $2.30/cy	$782

SUB TOTAL FOR SPECIAL PROJECTS $782

GRAND TOTAL **$22,491**

Project No. 1 Road Improvement

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Summit Combo — NEW CONSTRUCTION: 0.00 STATIONS 0.00 MILES
ROAD: I1-I2 (39+50) — IMPROVEMENT: 39.50 STATIONS 0.75 MILES

SURFACING

Subgrade prep:

Description	Stations/ amount	x	Rate/ sta/amt	Cost
Grade, Shape and Ditch	39.5	x	$21.55	$851.23
Scatter ditch waste materials	39.5	x	$10.78	$425.81
Surfacing Rock Processing and Compaction (Subgrade Leveling)	39.5	x	$21.08	$832.66

ROAD SEGMENT I1 to I2

Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT I1 to I2 Volume (CY) per		Sta. to Sta. 0+00 to 39+50 Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Surfacing	3/4"-0" Crushed	I1 to I2	2	station	13	stations	39.50	514	$4.09	$2,100	
Subgrade Leveling	3/4"-0" Crushed	I1 to I2	N/A					110	$4.09	$450	
Turnouts	3/4"-0" Crushed	I1 to I2	2	turnout	10	turnouts	6	60	$4.09	$245	
Junction	3/4"-0" Crushed	I1 to I2	2	junction	10	junctions	4	40	$4.09	$164	
Landing	6"-0" Pit-run	Pt I2	N/A					40	$7.72	$309	
Total Rock for Road Segment:				I1 to I2				764			$3,268

ROAD SEGMENT Pt. I3

	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT Pt. I3 Volume (CY) per		Sta. to Sta. Landing Number of		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Landing	6"-0" Pit-run	Pt I3	N/A					40	$7.72	$309	
Total Rock for Road Segment:				Pt. I3				40			$309

Description	No.sta	Rate/sta	Cost
Processing: Descripton — Water, Process & Compact Crushed Rock	39.5	$49.02	$1,936

SUB TOTAL FOR SURFACING $7,622.70

SPECIAL PROJECTS

Description						
Installed 6' Fiberglass Markers @$18.00 each	4	x	$18.00	=	$72	
Develop Pit-run Rock $/cy	80	x	$2.30	=	$184	
SUB TOTAL FOR SPECIAL PROJECTS						$256
GRAND TOTAL						$7,878.70

T. Williams 8/24/2009

CRUSHED ROCK COST

SALE NAME: Summit Combo
PROJECT: No. 1
QUARRY: Cedar Flats Stockpile (CF) 4"-0"
MATERIAL: Crushed
West Tidewater (WT) 3/4"
DATE: 07/20/2009
BY: J. Long

		Cubic Yards							
Segment	Stations	Base	Running	Turnout	Turnaround	Junction		Misc	Total
1A to 1B(4")	39.10	1,255		198	24	30		120	1,627
1C to 1D (4")	6.80	340		22	24	30		30	446
1A to 1B (3/4")	39.30		514	60		40		110	724
1C to 1D (3/4")	6.80		65			10		10	85
I1 to I2 (3/4")	39.30		514	60		40		110	724
1A to 1B(4")	39.10	700							700
Grand Total	170.40	2,295	1,093	340	48	150		380	4,306

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	
1A to 1B(4")	39.10	1,627			1	0.20	0.20	0.10	0.10	1.60
1C to 1D (4")	6.80	446			1	0.40	0.20	0.20	0.20	2.00
1A to 1B (3/4")	39.30	724		2		2.50	0.20	0.20	0.10	5.00
1C to 1D (3/4")	6.80	85		2		2.50	0.30	0.30	0.30	5.40
I1 to I2 (3/4")	39.30	724		1		2.50	0.40	0.20	0.10	4.20
1A to 1B(4")	39.10	700		2		0.50	0.80	0.30	0.10	3.70
TOTAL	170.40	4,306								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL				**0.87**	**0.48**	**1.09**	**0.33**	**0.18**	**0.11**	**3.07**
							Average Round Trip Distance (miles)		6.13	

ROCK HAUL:

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

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

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

Ave haul: $2.91 /cy
Load: $0.45 /cy
Spread: $0.73 /cy

Production: cy/day = 1,118

CRUSHED ROCK HAUL COSTS 4,306 cy @ **$4.09 /cy**

PIT RUN ROCK COST

SALE NAME: Summit Combo
PROJECT: No. 1
QUARRY: West Tidewater
MATERIAL: Pit Run
DATE: 07/20/2009
BY: J. Long

		Cubic Yards							
Segment	Stations	Base	Landing	Turnout	Turnaround	Junction		Misc	Total
1A to 1B	39.10		260						260
1C to 1D	6.80		80						80
I1 to I2	39.50		40						40
I3			40						40
Grand Total	85.40		420						420

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	
1A to 1B	39.10	260		1	1	1.00	1.20	0.20	0.10	4.50
1C to 1D	6.80	80		1	1	1.40	1.40	0.20	0.10	5.10
I1 to I2	39.50	40		1	1	1.00	1.20	0.20	0.10	4.50
I3		40		1	1	1.30	1.20	0.20	0.10	4.80
TOTAL	85.40	420								AVERAGE HAUL
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL				**1.00**	**1.00**	**1.10**	**1.24**	**0.20**	**0.10**	**4.64**
							Average Round Trip Distance (miles)		9.29	

ROCK HAUL:

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

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

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

Ave haul: $4.92 /cy
Load: $1.01 /cy
Spread: $1.79 /cy

Production: cy/day = 474

PIT RUN ROCK HAUL COSTS 420 cy @ **$7.72 /cy**

Project No. 2 Summit Combo Roadside Brushing

Segment	Length (Miles)	Brush Type	Cost/Mile	Cost
B1-B2	1.43	L	1,362.00	$1,947.66
I1-I2	0.76	M	1,599.00	$1,215.24
B3	0.08	L	1,362.00	108.96
B4-I3	0.06	M	1,599.00	$95.94
B5	0.17	M	1,599.00	$271.83
B6	0.03	M	1,599.00	$47.97
B7	0.27	M	1,599.00	$431.73
B8	0.05	M	1,599.00	$79.95
B9	0.45	M	1,599.00	$719.55

Total Miles 3.30 **Total Project Cost** **$4,919**

L = Light brushing, red alder, salmonberry	$1,362.00 / mile
M = Medium brushing (mixed brush & conifer reproduction)	$1,599.00 / mile
H = Heavy brushing (dense conifer reproduction and saplings)	$1,954.00 / mile
VH = Very Heavy	$2,724.00 / mile

(1-14-08)

X/jewell_unit/timber sales/2010/Summit Combo/Projects/road_brushing_summit_combo

Road Maintenance after completion of Projects

Sale: Summit Combo
Date: 25-Aug-09
By: T. Williams

Type	Equipment/Rationale			Hours	Rate	Cost	
	Grader 14G			24	$93	$2,232	
Final Haul	Dump Truck 12CY			16	$73	$1,168	
Road	FE Loader C966			16	$77	$1,232	
Maintenance	Vibratory Roller			24	$72	$1,728	
Haul Route	Water Truck 2,500 gallon			16	$83	$1,328	
Total							$7,688

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	4.0	2.7
Vibratory Roller	1.5	4.0	2.7

Road Maintenance Cost Summary

Sale: Summit Combo
Date: 20-Jul-09
By: Peter Stone

MBF: 3,826
$$/MBF: $3.28

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	$675	1	8	$93	$1,419
	Dump Truck 12CY x 1	$141	1	8	$73	$725
	FE Loader C966	$675	1	8	$77	$1,291
Final Road Maintenance	Grader 14G	$675	1	20	$93	$2,535
	Dump Truck 12CY x 2	$141	2	20	$73	$1,742
	FE Loader C966	$675	1	10	$77	$1,445
	Vibratory Roller*	$675	1	20	$72	$2,115
	Water Truck 2,500 gallon	$165	1	10	$83	$995
	Labor			8	$37	$296
Total						$12,563

Production Rates

Production Rates	Miles/day	Distance(miles)	Days
Grader	2.5	2.1	0.8

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	3.2	2.1
Vibratory Roller*	1.5	3.2	2.1

*Final Road Maintenance Only

TIMBER CRUISE REPORT
Summit Combo
FY 2010

1. **Sale Area Location:** Areas are located in Portions of Sections 25 of T6N, R8W, and Sections 30 and 31, T6N, R7W; W.M., Clatsop County, Oregon.

2. **Fund Distribution:** BOF 100%
   Tax Code 1-02 (72%), 8-01 (28%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	New R/W	Stream Buffer	Net Acres	Survey Method
1 and 2	Modified CC	60.0	3.0	2.0	55.0	GIS
3	Modified CC	37.0	0.0	1.0	36.0	GIS
4 R/W	Right-of-way	5.0	0.0	0.0	5.0	GIS
TOTALS		**102**	**3.0**	**3.0**	**96.0**	

4. Cruisers and Cruise Dates: Areas were cruised by Peter Stone, Jasen McCoy, Jon Long, Lanny Freeman, and Ty Williams in June 2009.

5. Cruise Method and Computation: Areas 1 and 2 were combined because of the similar timber type. Area 4 R/W was extrapolated from the Areas 1 and 2 data. Area 3 was cruised separately.

Areas 1 and 2 total 55 acres and were variable plot cruised using a 54.45 BAF. A total of 31 plots were sampled, with 12 measured and graded plots, and 19 count plots. These plots are located on a 3 by 6 chain grid, with every third plot measured and graded. Wildlife trees were not included in the net volume.

Area 3 is 36 acres and was variable plot cruised using a 40 BAF. A total of 16 plots were sampled, with 8 measured and graded plots, and 8 count plots. These plots are located on a 4 by 6 chain grid, with every other plot measured and graded. Wildlife trees were not included in the net volume.

Area 4 R/W The Right-of-way area (5 acres) was extrapolated from the Areas 1 and 2 cruise data.

All cruisers 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	CRUISE	TRACT	TYPE
1&2	06N07W SEC 25	1	TAKE
3	06N07W SEC 30 & 31	3	TAKE
4 R/W	06N07W SEC 25	4R/W	4RW

6. Timber Description: Areas 1 and 2 are modified clear cut units, approximately 65 years old, consisting mostly of western hemlock with scattered spruce and Douglas-fir, and red alder near the streams. Areas 1 and 2 contain densely stocked timber. The average volume (net) is approximately 46 MBF/acre.

Area 3 is a modified clear cut unit, approximately 60 years old, consisting mostly of western hemlock and Douglas-fir with red alder near the streams. This stand was thinned in 1998 to 130 square feet of basal area. The average volume (net) is approximately 29 MBF/acre.

Area 4 R/W consists of western hemlock with scattered spruce and Douglas-fir similar to Areas 1 and 2. The average volume (net) is approximately 46 MBF/acre.

TIMBER CRUISE REPORT
Summit Combo

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

Statistics for Net B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 & 2 (MC)	50%	11%	37.7%	6.8%
3 (MC)	40%	11%	37.0%	9.5%

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

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	Camp Run	% D & B	% Sale
Hemlock	16"	2,807	1,585	997	225	0	1.3	73
Douglas-fir	22"	740	582	126	32	0	2.7	20
Alder	16"	201	0	0	0	201	<1	5
Spruce	22"	78	37	36	5	0	3.6	2
TOTALS		**3,826**	**2,204**	**1,159**	**262**	**201**		

9. Approvals:

Prepared by: Peter Stone **Date:** June 11, 2009

Unit Forester Approval: [signature] **Date:** 8/13/09

10. Attachments:

Cruise Designs - 4 pages
Cruise Maps - 1 page
Volume Reports - 4 pages
Statistics Reports - 3 pages
Log Stock Tables - 3 pages

X:\Jewell_Unit\Timber Sales\2010\Summit Combo\Cruise\Cruise Report

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Summit Combo **Area(s)** 1 & 2

Harvest Type: (MC)

Approx. Cruise Acres: 60 **Estimated CV%** 50 Net BF **SE% Objective** 11 Net BF

Planned Sale Volume: 2,440 MBF (Areas 1 & 2) **Estimated Sale Area Value/Acre:** $8,000/Ac (40 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 66 conifer:
(b) Sample 29 cruise plots (11 grade/ 20 count); (c) Other goals (____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 54 (Full point; Half point) (circle one)
Cruise Line Direction(s) AZ= 180° (South/North)
Cruise Line Spacing 6 (chains)
Cruise Plot Spacing 3 (chains)
Grade/Count Ratio 1:2

Cruise and record wildlife trees as leave trees. If a cruise line ends up paralleling in a buffer offset by 1 chain and continue, do not take plots in buffers. All cedar are leave trees. Grade sawlog alder as camprun (30 bf net minimum). Record all snags as SN and estimate **total** height and diameter. Cruise lines are flagged from new construction R/W.

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 is 7" for conifers and 7" 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.

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; 0 = Cull

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 inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

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

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Peter Stone
Approved by: Jon Long
Date: 6-09-09

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Summit Combo **Area(s)** 3

Harvest Type: (MC)

Approx. Cruise Acres: 36 **Estimated CV%** 40 Net BF **SE% Objective** 11 Net BF

Planned Sale Volume: 2,910MBF (Area 3) **Estimated Sale Area Value/Acre:** $6,000/Ac (30 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 40 conifer:
(b) Sample 16 cruise plots (8 grade/ 8 count); (c) Other goals (____ Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. **Plot Cruises:** BAF 40 (Full point; Half point) (circle one)
   Cruise Line Direction(s) AZ= 180° (North/South)
   Cruise Line Spacing 6 (chains)
   Cruise Plot Spacing 4 (chains)
   Grade/Count Ratio 1:1

Cruise and record wildlife trees as leave trees. If a cruise line ends up paralleling in a buffer offset by 1 chain and continue, do not take plots in buffers. All cedar are leave trees. Grade sawlog alder as camprun (30 bf net minimum). Record all snags as SN and estimate **total** height and diameter. Cruise lines 1 and 3 are flagged from existing roads.

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 is 7" for conifers and 7" 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.

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; 0 = Cull

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 inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

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

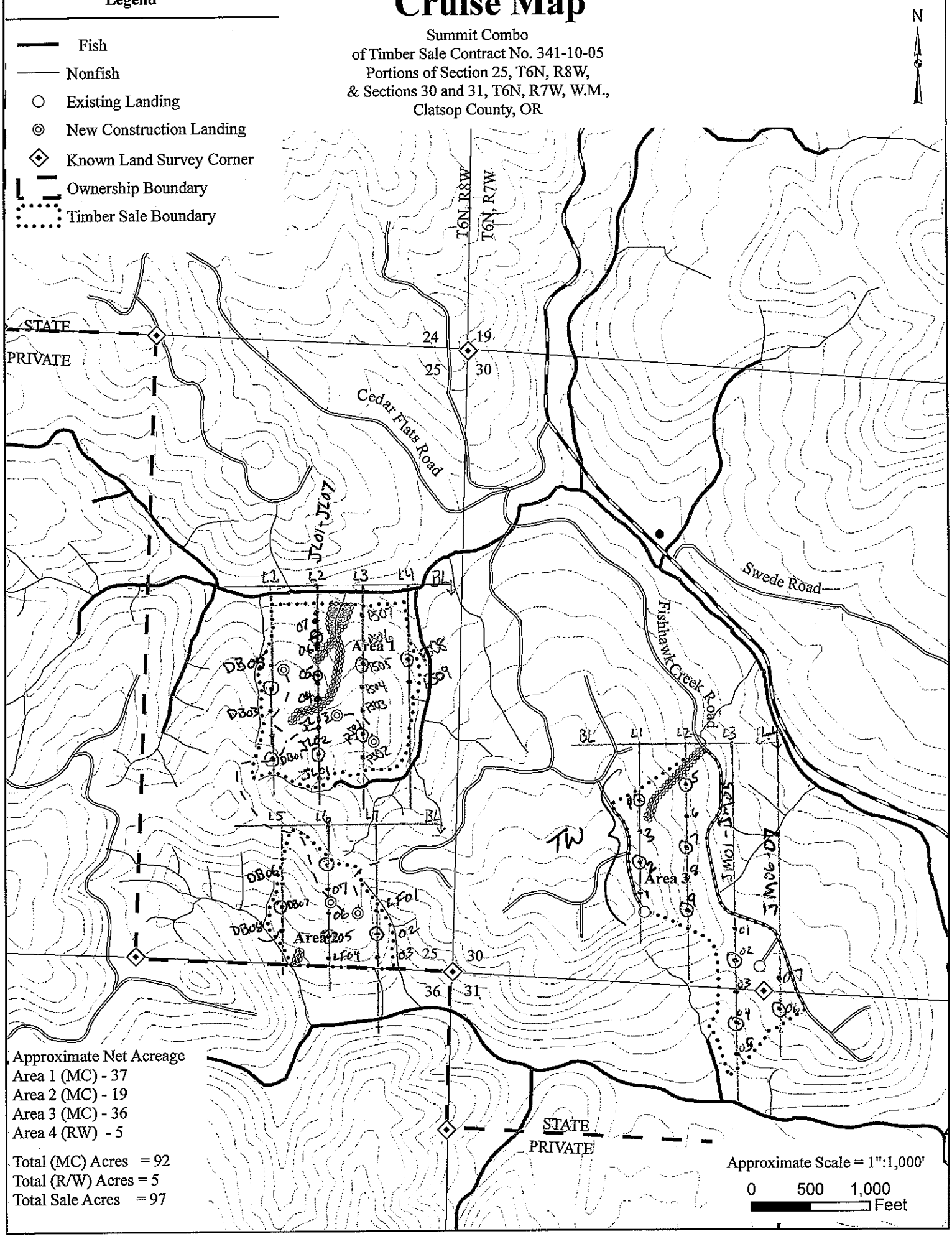
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Peter Stone
Approved by: Jon Long
Date: 6-09-09

X:\Jewell_Unit\Timber Sales\2009\Summit Combo\Cruise\Area 3.doc

Cruise Map

Summit Combo
of Timber Sale Contract No. 341-10-05
Portions of Section 25, T6N, R8W,
& Sections 30 and 31, T6N, R7W, W.M.,
Clatsop County, OR



TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T06N R07W S25 Ty4R/W	5.00
T06N R07W S25 TyTAKE	55.00
T06N R07W S30 TyTAKE	36.00

Project: SUMMIT
Acres 96.00

Page 1
Date 7/7/2009
Time 8:31:41AM

Spp	S T	So Grt 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
H		DO0														7		0.00	18.3
H		DO2	56	.9	16,665	16,509	1,585			90	10			35	65	37	248	1.60	66.7
H		DO3	35	1.7	10,557	10,382	997	0	94	6		3	0	44	53	35	86	0.72	121.2
H		DO4	9	2.8	2,413	2,347	225	4	96			21	64	10	4	24	30	0.43	78.5
H	**Totals**		73	1.3	29,635	29,238	2,807	0	41	53	5	3	5	36	56	30	103	0.90	284.6
D		DO0														6		0.00	4.5
D		DO2	78	3.0	6,246	6,059	582			48	52	4	4	59	33	33	329	2.19	18.4
D		DO3	17		1,309	1,309	126		100			2	11	27	60	34	102	0.86	12.9
D		DO4	5	6.6	367	343	33		100			32	44	10	15	23	34	0.63	10.1
D	**Totals**		19	2.7	7,922	7,711	740		21	38	40	5	7	51	37	29	168	1.42	45.8
A		DOCR	100	.6	2,103	2,090	201		39	61		2	7	62	29	31	101	0.95	20.6
A	**Totals**		5	.6	2,103	2,090	201		39	61		2	7	62	29	31	101	0.95	20.6
S		DO0														10		0.00	2.6
S		DO2	47	4.5	401	383	37			40	60	60			40	29	282	2.14	1.4
S		DO3	46	3.2	390	378	36		100				8		92	37	145	1.10	2.6
S		DO4	7		52	52	5		100			29	71			21	26	0.51	2.0
S	**Totals**		2	3.6	844	814	78		53	19	28	30	8		62	24	95	1.04	8.6
Totals				1.6	40,504	39,853	3,826	0	37	50	12	4	6	40	51	30	111	0.96	359.6

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: SUMMIT

Page 1
Date 7/6/2009
Time 2:24:31PM

T06N R07W S25 TTAKE

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	07W	25	1&2	TAKE	55.00	31	64	1	W

T06N R07W S25 TTAKE

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	0														7		0.00	24.3
H		DO	2	50	1.3	18,888	18,638	1,025			95	5			38	62	36	227	1.50	82.1
H		DO	3	40	1.9	14,981	14,701	809		94	6		2	1	43	54	35	88	0.71	167.3
H		DO	4	10	3.0	3,546	3,440	189		100			19	70	11		24	30	0.42	115.6
H	**Totals**			80	1.7	37,415	36,779	2,023		47	51	2	3	7	38	53	30	94	0.83	389.3
D		DO	0														7		0.00	5.8
D		DO	2	73	4.0	5,783	5,554	305			49	51	4	4	76	16	32	312	2.15	17.8
D		DO	3	19		1,454	1,454	80		100				10	32	58	36	117	0.85	12.4
D		DO	4	8	6.7	572	533	29		100			30	45	10	15	24	35	0.63	15.4
D	**Totals**			16	3.4	7,808	7,541	415		26	36	37	5	8	63	24	28	147	1.29	51.3
S		DO	0														10		0.00	4.2
S		DO	2	47	4.5	642	613	34			40	60	60			40	29	282	2.14	2.2
S		DO	3	46	3.2	625	605	33		100				8		92	37	145	1.10	4.2
S		DO	4	7		84	84	5		100			29	71			21	26	0.51	3.2
S	**Totals**			3	3.6	1,350	1,302	72		53	19	28	30	8		62	24	95	1.04	13.7
A		DO	CR	100	3.4	611	590	32		41	59				73	27	35	86	0.76	6.9
A	**Totals**			1	3.4	611	590	32		41	59				73	27	35	86	0.76	6.9
Type Totals					2.1	47,185	46,212	2,542		44	48	9	4	7	41	48	30	100	0.88	461.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: SUMMIT

Page 1
Date 7/6/2009
Time 2:25:56PM

T06N R07W S30 TTAKE

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	07W	30	3	TAKE	36.00	16	37	1	W

T06N R07W S30 TTAKE

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	0														6		0.00	8.4
H		DO	2	77		12,960	12,960	467			79	21			27	73	38	316	1.94	41.0
H		DO	3	19		3,183	3,183	115	3	97			4		52	43	34	72	0.79	44.2
H		DO	4	4		525	525	19	53	47			47			53	23	32	0.54	16.5
H	**Totals**			57		16,668	16,668	600	2	20	61	17	2		31	67	31	151	1.26	110.1
D		DO	0														6		0.00	2.3
D		DO	2	86	1.7	7,017	6,900	248			47	53	3	5	35	56	34	356	2.26	19.4
D		DO	3	13		1,069	1,069	38		100			5	16	16	63	33	78	0.88	13.6
D		DO	4	1		26	26	1		100			100				12	20	0.50	1.3
D	**Totals**			27	1.4	8,112	7,995	288		14	41	45	4	7	33	57	31	218	1.67	36.7
A		DO	CR	100		4,590	4,590	165		39	61		2	9	60	30	30	105	1.00	43.5
A	**Totals**			16		4,590	4,590	165		39	61		2	9	60	30	30	105	1.00	43.5
Type Totals					.4	29,370	29,253	1,053	1	21	56	22	3	3	36	58	31	154	1.28	190.3

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: SUMMIT

Page 1
Date 7/7/2009
Time 8:30:43AM

T06N R07W S25 T4R/W

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	07W	25	1&2	4R/W	5.00	31	64	1	W

T06N R07W S25 T4R/W

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	0														7		0.00	24.3
H		DO	2	50	1.3	18,888	18,638	93			95	5			38	62	36	227	1.50	82.1
H		DO	3	40	1.9	14,981	14,701	74		94	6		2	1	43	54	35	88	0.71	167.3
H		DO	4	10	3.0	3,546	3,440	17		100			19	70	11		24	30	0.42	115.6
H	**Totals**			80	1.7	37,415	36,779	184		47	51	2	3	7	38	53	30	94	0.83	389.3
D		DO	0														7		0.00	5.8
D		DO	2	73	4.0	5,783	5,554	28			49	51	4	4	76	16	32	312	2.15	17.8
D		DO	3	19		1,454	1,454	7		100				10	32	58	36	117	0.85	12.4
D		DO	4	8	6.7	572	533	3		100			30	45	10	15	24	35	0.63	15.4
D	**Totals**			16	3.4	7,808	7,541	38		26	36	37	5	8	63	24	28	147	1.29	51.3
S		DO	0														10		0.00	4.2
S		DO	2	47	4.5	642	613	3			40	60	60			40	29	282	2.14	2.2
S		DO	3	46	3.2	625	605	3		100				8		92	37	145	1.10	4.2
S		DO	4	7		84	84	0		100			29	71			21	26	0.51	3.2
S	**Totals**			3	3.6	1,350	1,302	7		53	19	28	30	8		62	24	95	1.04	13.7
A		DO	CR	100	3.4	611	590	3		41	59				73	27	35	86	0.76	6.9
A	**Totals**			1	3.4	611	590	3		41	59				73	27	35	86	0.76	6.9
Type Totals					2.1	47,185	46,212	231		44	48	9	4	7	41	48	30	100	0.88	461.2

TC TSTATS

STATISTICS

PROJECT SUMMIT

DATE 7/6/2009

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	25	1&2	TAKE	55.00	31	177	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	31	177	5.7		
CRUISE	12	64	5.3	12,623	.5
DBH COUNT					
REFOREST					
COUNT	19	111	5.8		
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
WHEMLOCK	44	200.7	15.0	61		245.9	37,415	36,779	9,821	9,821
DOUG FIR	14	19.9	21.3	74		49.2	7,808	7,541	1,836	1,836
S SPRUCE	3	4.2	21.6	80		10.5	1,350	1,302	335	335
R ALDER	3	4.8	14.2	52		5.3	611	590	183	183
TOTAL	*64*	*229.5*	*15.8*	*62*		*310.9*	*47,185*	*46,212*	*12,175*	*12,175*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	67.5	10.2	231	257	283			
DOUG FIR	63.8	17.7	402	489	575			
S SPRUCE	45.1	31.2	232	337	442			
R ALDER	54.3	37.6	98	157	216			
TOTAL	*74.2*	*9.3*	*278*	*307*	*335*	*220*	*55*	*24*

CL: 68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	47.5	8.5	184	201	218			
DOUG FIR	128.1	23.0	15	20	24			
S SPRUCE	284.7	51.1	2	4	6			
R ALDER	389.9	70.0	1	5	8			
TOTAL	*35.6*	*6.4*	*215*	*230*	*244*	*50*	*13*	*6*

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	48.1	8.6	225	246	267			
DOUG FIR	129.0	23.1	38	49	61			
S SPRUCE	280.4	50.3	5	11	16			
R ALDER	409.4	73.5	1	5	9			
TOTAL	*33.6*	*6.0*	*292*	*311*	*330*	*45*	*11*	*5*

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	51.6	9.3	33,376	36,779	40,182			
DOUG FIR	141.4	25.4	5,628	7,541	9,454			
S SPRUCE	272.7	48.9	665	1,302	1,939			
R ALDER	428.4	76.9	136	590	1,044			
TOTAL	*37.7*	*6.8*	*43,082*	*46,212*	*49,343*	*57*	*14*	*6*

TC TSTATS

STATISTICS

PROJECT SUMMIT

DATE 7/6/2009

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	30	3	TAKE	36.00	16	79	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	16	79	4.9		
CRUISE	8	37	4.6	3,308	1.1
DBH COUNT					
REFOREST					
COUNT	8	42	5.3		
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	17	50.9	19.9	70		110.0	16,668	16,668	4,357	4,357
DOUG FIR	12	13.6	24.6	87		45.0	8,112	7,995	1,908	1,908
R ALDER	8	27.3	16.4	50		40.0	4,590	4,590	1,328	1,328
TOTAL	*37*	*91.9*	*19.7*	*67*		*195.0*	*29,370*	*29,253*	*7,593*	*7,593*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	61.4	15.3	344	406	468			
DOUG FIR	41.5	12.5	559	638	718			
R ALDER	60.1	22.6	163	211	259			
TOTAL	*63.4*	*10.4*	*393*	*439*	*485*	*160*	*40*	*18*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	77.8	20.1	41	51	61			
DOUG FIR	102.2	26.4	10	14	17			
R ALDER	154.8	39.9	16	27	38			
TOTAL	*40.8*	*10.5*	*82*	*92*	*102*	*71*	*18*	*8*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	69.6	18.0	90	110	130			
DOUG FIR	102.0	26.3	33	45	57			
R ALDER	150.6	38.8	24	40	56			
TOTAL	*36.6*	*9.4*	*177*	*195*	*213*	*57*	*14*	*6*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	65.0	16.8	13,875	16,668	19,461			
DOUG FIR	105.0	27.1	5,830	7,995	10,160			
R ALDER	159.3	41.1	2,704	4,590	6,476			
TOTAL	*37.0*	*9.5*	*26,463*	*29,253*	*32,043*	*58*	*15*	*6*

TC PSTATS

PROJECT STATISTICS

PROJECT SUMMIT

DATE 7/7/2009

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07	25	1&2	TAKE	91.00	47	256	1	W
06N	07W	30	3	TAKE					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	47	256	5.4		
CRUISE	20	101	5.1	15,931	.6
DBH COUNT					
REFOREST					
COUNT	27	153	5.7		
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	61	141.4	15.8	62		192.1	29,208	28,823	7,659	7,659
DOUG FIR	26	17.4	22.4	78		47.5	7,928	7,721	1,865	1,865
R ALDER	11	13.7	15.9	50		19.0	2,185	2,173	636	636
S SPRUCE	3	2.5	21.6	80		6.4	816	787	202	202
TOTAL	*101*	*175.1*	*16.7*	*63*		*265.0*	*40,137*	*39,503*	*10,362*	*10,362*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK	69.2	8.9	272	299	325			
DOUG FIR	52.9	10.6	499	558	617			
R ALDER	58.9	18.6	160	196	233			
S SPRUCE	45.1	31.2	232	337	442			
TOTAL	*71.5*	*7.1*	*330*	*355*	*381*	*204*	*51*	*23*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	67.9	9.9	127	141	155			
DOUG FIR	120.8	17.6	14	17	20			
R ALDER	247.6	36.1	9	14	19			
S SPRUCE	356.1	51.9	1	3	4			
TOTAL	*46.8*	*6.8*	*163*	*175*	*187*	*88*	*22*	*10*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	58.0	8.5	176	192	208			
DOUG FIR	118.0	17.2	39	48	56			
R ALDER	249.5	36.4	12	19	26			
S SPRUCE	351.0	51.1	3	6	10			
TOTAL	*35.8*	*5.2*	*251*	*265*	*279*	*51*	*13*	*6*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK	59.7	8.7	26,317	28,823	31,329			
DOUG FIR	125.9	18.4	6,303	7,721	9,138			
R ALDER	261.7	38.1	1,344	2,173	3,001			
S SPRUCE	341.7	49.8	395	787	1,179			
TOTAL	*38.7*	*5.6*	*37,273*	*39,503*	*41,733*	*60*	*15*	*7*

TC TLOGSTVB

Log Stock Table - MBF

Project: SUMMIT

T06N R07W S25 TTAKE

T06N R07W S25 TTAK

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
06N	07W	25	1&2	TAKE	55.00	31	64

Page 1
Date 7/6/2009
Time 2:29:12PM

Spp	S T	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		DO	0	2										
H		DO	0	3										
H		DO	0	6										
H		DO	0	19										
H		DO	2	32	361	1.7	355	17.5			240	115		
H		DO	2	34	37		37	1.9			37			
H		DO	2	40	640	1.2	633	31.3			288	204 141		
H		DO	3	16	20		20	1.0		4	16			
H		DO	3	26	5		5	.2		5				
H		DO	3	31	8	25.0	6	.3		6				
H		DO	3	32	195	2.4	191	9.4		44 40	71 35			
H		DO	3	33	29	6.7	27	1.4		27				
H		DO	3	34	94		94	4.6		18 59	17			
H		DO	3	35	31		31	1.5		31				
H		DO	3	36	13		13	.7		13				
H		DO	3	38	22		22	1.1		22				
H		DO	3	39	12		12	.6		12				
H		DO	3	40	396	1.7	389	19.2		46 119	224			
H		DO	4	11	2		2	.1		2				
H		DO	4	13	3		3	.1		3				
H		DO	4	14	4		4	.2		4				
H		DO	4	15	2		2	.1		2				
H		DO	4	16	4		4	.2		4				
H		DO	4	18	13		13	.6		13				
H		DO	4	20	8		8	.4		8				
H		DO	4	21	3		3	.2		3				
H		DO	4	24	54		54	2.7		54				
H		DO	4	26	14		14	.7		14				
H		DO	4	29	6		6	.3		6				
H		DO	4	30	56	3.5	54	2.7		54				
H		DO	4	31	6		6	.3		6				
H		DO	4	35	20	20.0	16	.8		16				
H		Totals			2,058	1.7	2,023	79.6		412 222	313 616	319 141		
D		DO	0	6										
D		DO	0	12										
D		DO	2	20	14	8.7	13	3.1				13		
D		DO	2	22	11		11	2.6				11		
D		DO	2	32	240	2.9	234	56.3			34	34 119	46	
D		DO	2	40	53	8.3	48	11.6				48		
D		DO	3	28	4		4	.9			4			
D		DO	3	29	4		4	.9			4			
D		DO	3	32	26		26	6.3		14	12			
D		DO	3	40	46		46	11.2		8	38			
D		DO	4	16	3		3	.8		3				
D		DO	4	18	1		1	.3		1				
D		DO	4	19	2		2	.5		2				
D		DO	4	20	2		2	.5		2				
D		DO	4	22	6	25.0	4	1.0		4				
D		DO	4	23	2		2	.6		2				

TC TLOGSTVB

Log Stock Table - MBF

Project: SUMMIT

T06N R07W S25 TTAKE

T06N R07W S25 TTAK

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
06N	07W	25	1&2	TAKE	55.00	31	64

Page 2
Date 7/6/2009
Time 2:29:12PM

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		DO	4	28	3		3	.6				3								
D		DO	4	29	4		4	.9			4									
D		DO	4	32	4	20.0	3	.7			3									
D		DO	4	40	4		4	1.1			4									
D		Totals			429	3.4	415	16.3			30	22	57	34	82	143	46			
S		DO	0	6																
S		DO	0	10																
S		DO	0	14																
S		DO	2	20	20		20	28.1								20				
S		DO	2	40	15	10.3	14	19.0							14					
S		DO	3	26	3		3	3.7				3								
S		DO	3	40	32	3.4	31	42.8					31							
S		DO	4	15	1		1	1.9			1									
S		DO	4	24	3		3	4.6			3									
S		Totals			74	3.6	72	2.8			5	3	31		14	20				
A		DO	CR	31	5		5	14.3			5									
A		DO	CR	32	20	5.7	19	58.6						19						
A		DO	CR	40	9		9	27.1			9									
A		Totals			34	3.4	32	1.3			13			19						
Total All Species					2,595	2.1	2,542	100.0			460	246	401	669	414	304	46			

TC TLOGSTVB

Log Stock Table - MBF

Project: SUMMIT

T06N R07W S30 TTAKE

T06N R07W S30 TTAK

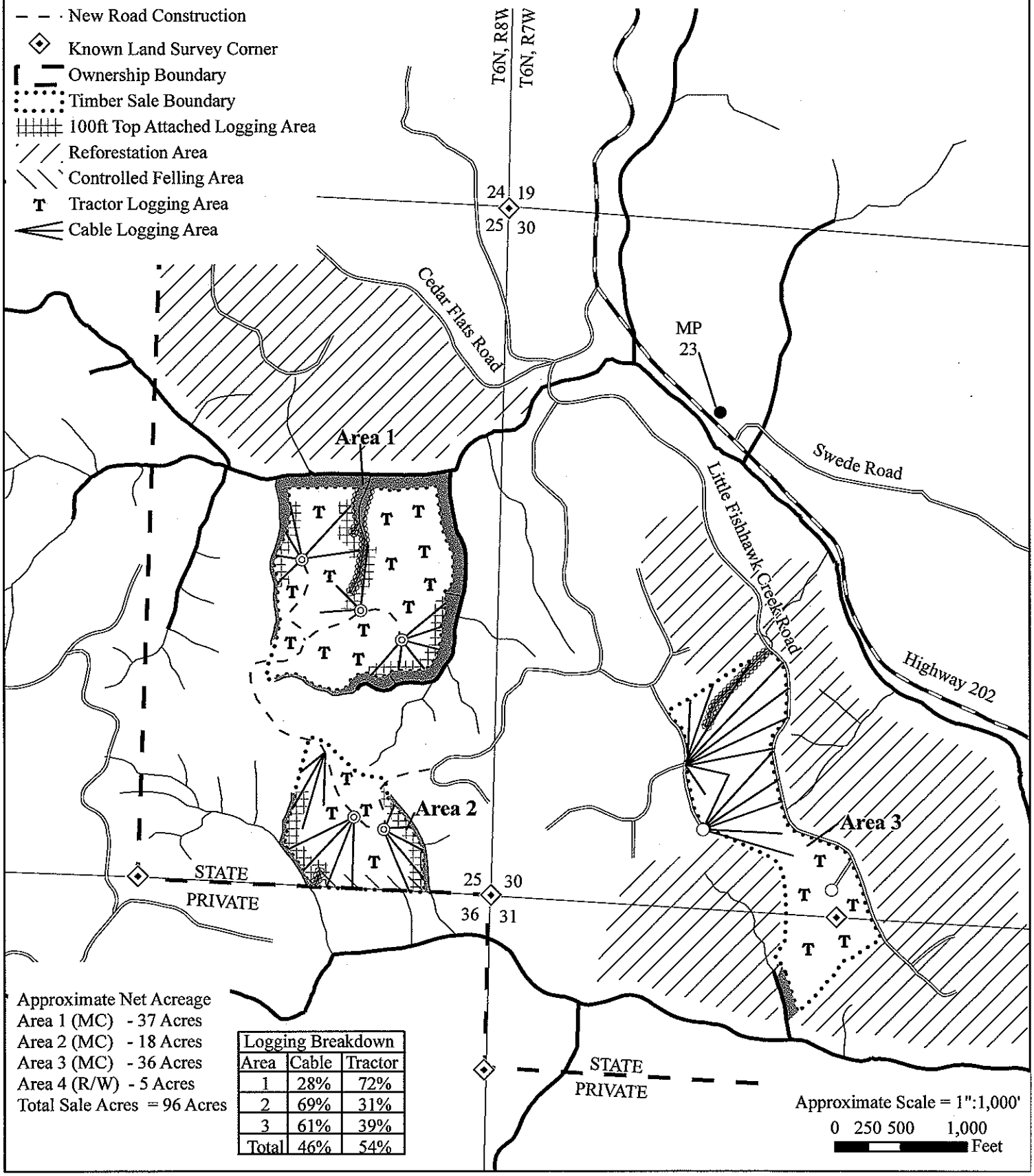
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
06N	07W	30	3	TAKE	36.00	16	37

Page 1
Date 7/6/2009
Time 2:29:38PM

Spp	S T	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		DO	0	6																
H		DO	2	32	126		126	21.0						9	81	36				
H		DO	2	40	341		341	56.8						53	191	63	33			
H		DO	3	15	1		1	.2				1								
H		DO	3	18	3		3	.6		3										
H		DO	3	32	60		60	10.0			11	5	44							
H		DO	3	38	6		6	1.0			6									
H		DO	3	40	43		43	7.2			36	8								
H		DO	4	12	4		4	.6					4							
H		DO	4	15	5		5	.8			4	1								
H		DO	4	36	10		10	1.7		10										
H		Totals			600		600	57.0		13	56	16	48	62	272	99	33			
D		DO	0	6																
D		DO	2	12	8		8	2.9									8			
D		DO	2	24	13		13	4.6								13				
D		DO	2	32	92	4.6	88	30.5						15		38	35			
D		DO	2	40	139		139	48.4						13	49	56	20			
D		DO	3	13	1		1	.3					1							
D		DO	3	18	1		1	.4				1								
D		DO	3	26	4		4	1.3				4								
D		DO	3	28	2		2	.8			2									
D		DO	3	32	3		3	1.1				3								
D		DO	3	34	3		3	1.1			3									
D		DO	3	36	3		3	1.0			3									
D		DO	3	40	21		21	7.5			3	6	13							
D		DO	4	12	1		1	.3			1									
D		Totals			292	1.4	288	27.3			13	13	13	29	49	107	63			
A		DO	CR	18	3		3	2.1			3									
A		DO	CR	24	14		14	8.6			14									
A		DO	CR	32	92		92	55.7			19		16	57						
A		DO	CR	34	6		6	3.9			6									
A		DO	CR	40	49		49	29.7			5			20	25					
A		Totals			165		165	15.7			48		16	77	25					
Total All Species					1,057		1,053	100.0		13	117	29	77	168	346	206	96			

Logging Plan

OF TIMBER SALE CONTRACT NO. 341-10-05
SUMMIT COMBO
PORTIONS OF SECTION 25, T6N, R8W,
& SECTIONS 30 AND 31, T6N, R7W, W.M.,
CLATSOP COUNTY, OR



Approximate Net Acreage
Area 1 (MC) - 37 Acres
Area 2 (MC) - 18 Acres
Area 3 (MC) - 36 Acres
Area 4 (R/W) - 5 Acres
Total Sale Acres = 96 Acres

Logging Breakdown		
Area	Cable	Tractor
1	28%	72%
2	69%	31%
3	61%	39%
Total	46%	54%

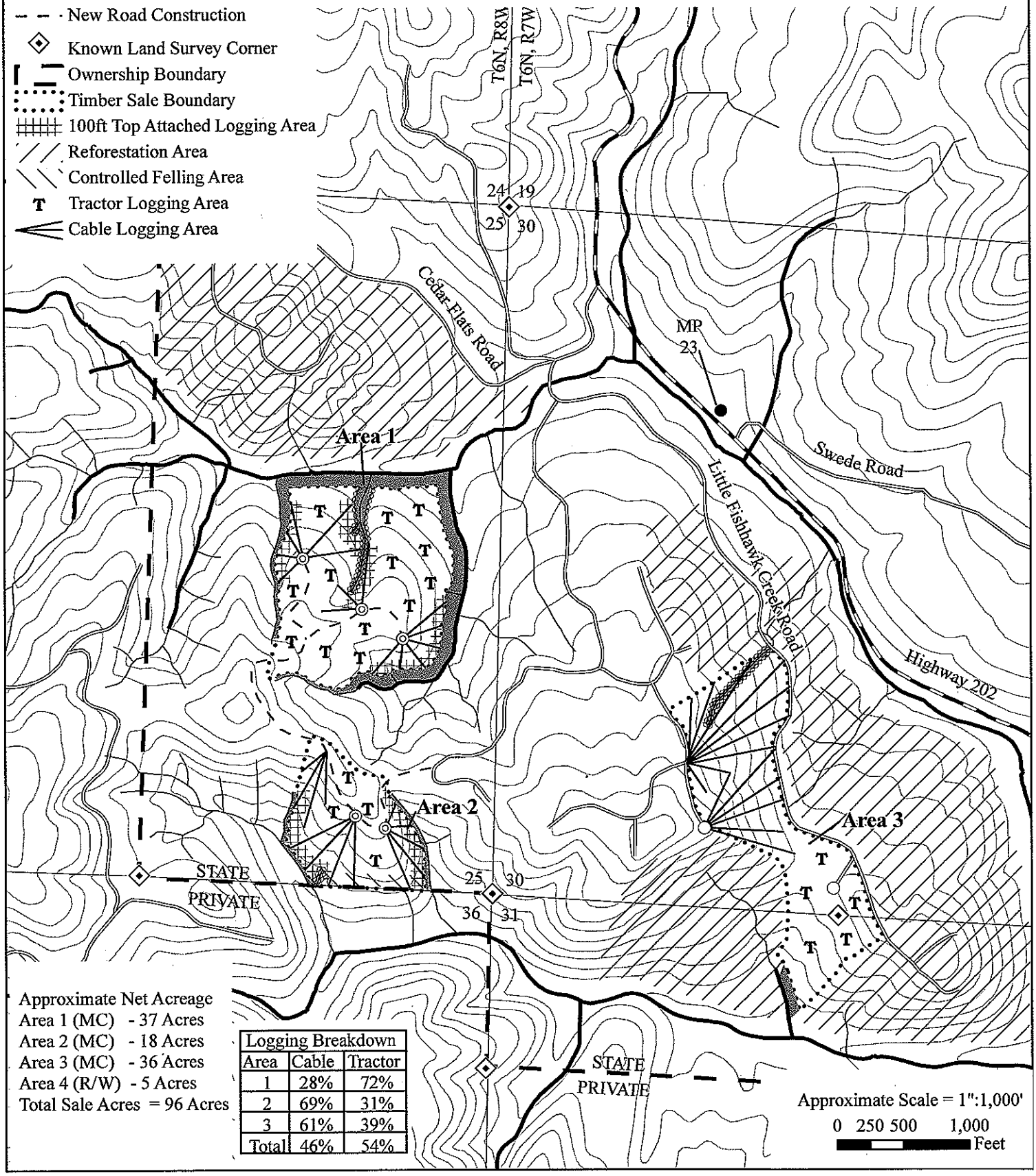
Logging Plan

OF TIMBER SALE CONTRACT NO. 341-10-05
SUMMIT COMBO
PORTIONS OF SECTION 25, T6N, R8W,
& SECTIONS 30 AND 31, T6N, R7W, W.M.,
CLATSOP COUNTY, OR

N

Legend

- Type F Stream
- Type N Stream
- Existing Landing
- New Construction Landi
- Paved Road
- Existing Surfaced Road
- New Road Construction
- Known Land Survey Corner
- Ownership Boundary
- Timber Sale Boundary
- 100ft Top Attached Logging Area
- Reforestation Area
- Controlled Felling Area
- T Tractor Logging Area
- Cable Logging Area



Approximate Net Acreage
Area 1 (MC) - 37 Acres
Area 2 (MC) - 18 Acres
Area 3 (MC) - 36 Acres
Area 4 (R/W) - 5 Acres
Total Sale Acres = 96 Acres

Logging Breakdown		
Area	Cable	Tractor
1	28%	72%
2	69%	31%
3	61%	39%
Total	46%	54%

Approximate Scale = 1":1,000'
0 250 500 1,000
Feet