



Timber Sale Appraisal
White Noise
Sale 341-12-21

"STEWARDSHIP IN FORESTRY"

District: Astoria

Date: June 02, 2011

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,105,653.00	\$0.00	\$1,105,653.00
		Project Work:	\$(39,224.00)
		Advertised Value:	\$1,066,429.00



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timber description

Location: Portions of Sections 13, 14, 23, and 24, T8N, R7W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	97
Western Hemlock / Fir	15	0	97
Sitka Spruce	29	0	96

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	1,388	812	141	2,341
Western Hemlock / Fir	811	529	93	1,433
Sitka Spruce	6	0	0	6
Total	2,205	1,341	234	3,780



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comments: Pond Values Used: 1st Quarter Calendar Year 2011.

Expected Log Markets: Warrenton, Tillamook, Garibaldi, Forest Grove, Clatskanie, and Mist, OR; Aberdeen and Longview, WA.

Western redcedar Stumpage Price = Pond Value minus Logging Cost
 $\$747.21/\text{MBF} = \$950.00/\text{MBF} - \$202.79/\text{MBF}$

Red alder and other hardwoods Stumpage Price = Pond Value minus Logging Cost
 $\$342.21/\text{MBF} = \$545.00/\text{MBF} - \$202.79/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to \$740 daily truck cost.

Other Costs (with Profit & Risk to be added):

Additional Logging Costs:

Branding and Painting: \$1 per MBF x 3,780 MBF = \$3,780

Log Loader Slash & Landing Piling (includes Move-In and Pile Materials) = \$6,415 (see attached appraisal)

Close Dirt Spur: 3hrs @ \$120/hr = \$360

Machine Washing for Invasive Weed Compliance = \$2,000

TOTAL Other Costs (with Profit & Risk to be added) = \$12,555

Other Costs (No Profit & Risk added):

None.



"STEWARDSHIP IN FORESTRY"

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logging conditions

combination#: 1

Douglas - Fir	22.00%
Western Hemlock / Fir	22.00%
Sitka Spruce	22.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Feller Buncher
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 8.0 **bd. ft / load:** 3,000
cost / mbf: \$146.62

machines: Log Loader (B)
Stroke Delimber (B)
Feller Buncher w/ Delimber
Track Skidder

combination#: 2

Douglas - Fir	37.00%
Western Hemlock / Fir	37.00%
Sitka Spruce	37.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Manual Falling/Delimbing
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,500
cost / mbf: \$95.57

machines: Log Loader (B)
Track Skidder

combination#: 3

Douglas - Fir	4.00%
Western Hemlock / Fir	4.00%
Sitka Spruce	4.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Manual Falling/Delimbing
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,500
cost / mbf: \$120.04

machines: Log Loader (A)
Tower Yarder (Small)

combination#: 4

Douglas - Fir	37.00%
Western Hemlock / Fir	37.00%
Sitka Spruce	37.00%



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yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Track Skidder	Process:	Stroke Delimber
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	10.0	bd. ft / load:	4,500
cost / mbf:	\$31.96		
machines:	Stroke Delimber (B)		



"STEWARDSHIP IN FORESTRY"

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logging costs

Operating Seasons:	2.00	Profit Risk:	14.00%
Project Costs:	\$39,224.00	Other Costs (P/R):	\$12,555.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

Miles of Road

Road Maintenance: \$4.43

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	2.0	4.0
Western Hemlock / Fir	\$0.00	2.0	4.5
Sitka Spruce	\$0.00	1.0	5.5



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District: Astoria

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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$84.24	\$4.56	\$2.32	\$83.57	\$3.32	\$24.92	\$0.00	\$5.00	\$0.00	\$207.93
Western Hemlock / Fir									
\$84.24	\$4.56	\$2.32	\$74.28	\$3.32	\$23.62	\$0.00	\$5.00	\$0.00	\$197.34
Sitka Spruce									
\$84.24	\$4.61	\$2.32	\$122.74	\$3.32	\$30.41	\$0.00	\$5.00	\$0.00	\$252.64

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$529.25	\$321.32	\$0.00
Western Hemlock / Fir	\$0.00	\$443.18	\$245.84	\$0.00
Sitka Spruce	\$0.00	\$445.00	\$192.36	\$0.00



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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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,341	\$321.32	\$752,210.12
Western Hemlock / Fir	1,433	\$245.84	\$352,288.72
Sitka Spruce	6	\$192.36	\$1,154.16

Gross Timber Sale Value

Recovery: \$1,105,653.00

Prepared by: Jay Morey

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-12-21
Sale Name: White Noise
Date: 04/06/2011

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.5
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	4.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
4	MC	B	28	42	\$110.00	\$4,620.00	
In-unit Piling						Sub Total =	\$4,620.00
Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
4	1	\$220.00	\$220.00	126	\$5.00	\$630.00	
*Cost includes separating firewood					Materials	Sub Total =	\$630.00
Landing Piling						Sub Total =	\$220.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance			Move-In	Sub Total =	\$945.00
\$945.00	1	\$945.00					
Grand Total =						\$6,415.00	

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: White Noise
Date: 27-Apr-11
By: J. Morey

MBF: 3,780
\$/MBF: \$4.43

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates	Production Rates	Days
Progressive Operations 1 Entry	Grader 14G	\$675	1	10	\$93	\$1,605	Production Rates	Miles/day	Distance(miles)
	Dump Truck 12CY	\$141	1	8	\$73	\$725	Grader	2.5	2.5
	FE Loader C966	\$675	1	4	\$77	\$983			
Final Road Maintenance	Grader 14G	\$675	1	35	\$93	\$3,899	Production Rates	Miles/day	Distance(miles)
	Dump Truck 12CY x 2	\$141	2	16	\$73	\$1,450	Grader	1.5	5.2
	FE Loader C966	\$675	1	8	\$77	\$1,291	Vibratory Roller*	1.5	5.2
	Vibratory Roller*	\$675	1	30	\$72	\$2,835			
	Water Truck 2,500 gallon	\$165	1	25	\$83	\$2,240			
Backhoe-small	\$279	1	16	\$72	\$1,431				
Labor				8	\$38	\$304			
Total									

*Final Road maintenance on West & East Big Noise, Rock Creek, and side spur roads

\$16,763

*Final Road Maintenance Only

Projects Road Maintenance Cost Summary

Sale: White Noise
Date: 27-Apr-10
By: J. Morey

Type	Equipment/Rationale	Hours	Rate	Cost
*Final Haul Road Maintenance Haul Route	Grader 14G Dump Truck 12CY FE Loader C966 Vibratory Roller Water Truck 2,500 gallon	10 4 2 8 6	\$93 \$73 \$77 \$72 \$83	\$930 \$292 \$154 \$576 \$498
Total				\$2,450

Miles/day	Distance(miles)	Days
1.5	1.5	1.0
1.5	1.5	1.0

*Rock haul route from Hunt Creek Stockpile to Nicolai Mainline to Highway 30.
 Anticipate approximately 6 loads of patch rock and partial processing, compaction, and spot grading.

SUMMARY OF ALL PROJECT COSTS

SALE NAME: White Noise

NEW CONSTRUCTION:

Project No.1	Road segment	Length/Sta	Cost
	3A-3B (Dirt Spur)	17.50	\$4,669.00
	TOTALS	17.50	\$4,669.00

ROAD IMPROVEMENT:

Project No.2	Road segment	Length/Sta	Cost
	I1-I2, I3-I4, I5-I6, I7-I8, I9-I10, I11-I12, I13-I14, I15-I16	291.45	\$26,646.00
	TOTALS	291.45	\$26,646.00

SPECIAL PROJECTS:

	Description	Cost
	Project Work Road Maintenance	\$2,450.00
	TOTAL	\$2,450.00

MOVE IN:

	Equipment	Cost
	Excavator (C330)	\$1,220.00
	Excavator (C315)	\$699.00
	Dozer (D8)	\$1,220.00
	Vibratory Roller	\$675.00
	10-12 yd dump truck (X 1 @ \$141 each)	\$141.00
	Grader (14G)	\$675.00
	Water Truck (2,500 gal)	\$165.00
	20yd dump truck w/pup trailer (X 4 @ \$166)	\$664.00
	TOTAL	\$5,459.00

GRAND TOTAL **\$39,224.00**

Compiled By: FL Kraig Kirkpatrick Date: 04/28/2011

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: White Noise
 ROAD: 3A-3B (17.5)

NEW CONSTRUCTION: 17.50 STATIONS
 IMPROVEMENT: STATIONS
 0.33 MILES
 MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter outside of Right of Way	1.60	x	\$1,161.00	=	\$1,857.60
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING \$1,858

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
Balanced Construction - Field Design	17.50	x	\$106.00	=	\$1,855.00
Landing Construction	1.00	x	\$338.00	=	\$338.00
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION \$2,193

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost

Other/miscellaneous:	Description	Quantity	Rate	Cost
Culvert stakes & markers:				

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION \$4,051

Subtotal of Clearing, Exc., Culv.

SURFACING				Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:		Description		17.50	x	\$15.93	\$278.78
		Grade, Shape and Outslope 14'			x		\$0.00

ROAD SEGMENT		3A to 3B		POINT TO POINT		Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B Volume (CY) per	Sta. to Sta. 0+00 - 17+50 Number of				
Junctions	4"-0"	0+00	N/A	junction	55	junctions	1	\$6.17	\$339
Total Rock for Road Segment:				3A to 3B			55		\$339
Processing:				Description		No. sta	Rate/sta	Cost	
								\$0	
SUB TOTAL FOR SURFACING				4"-0"				Total	\$618
				55				55	\$618

SPECIAL PROJECTS		Description	Cost
SUB TOTAL FOR SPECIAL PROJECTS			\$0

Subtotal of Surfacing & Spec. Proj. \$618
Subtotal of Clearing, Exc., Culv. \$4,051

GRAND TOTAL \$4,669

Compiled By: Kraig Kirkpatrick

Date: 04/28/2011

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: White Noise NEW CONSTRUCTION: _____ STATIONS _____ MILES
 ROAD: I1-I2 (100.00), I3-I4 (56.20), I5-I6 (26.80), I7-I8 (24.0), I9-I10 (37.0), IMPROVEMENT: 291.45 STATIONS _____ MILES
I11-I12 (18.40), I13-I14 (24.20), I15-I16 (6.85) _____ 5.52 MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1-I2									
8+00	18" CPP	35	\$17.64	\$617.40					
I7-I8									
15+30	18" CPP	40	\$17.64	\$705.60					

Other/miscellaneous:	Description	Quantity	Rate	Cost
Culvert stakes & markers:	6' fiberglass markers	10	\$18.00	\$180.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION **\$1,503**
Subtotal of Clearing, Exc., Culv. **\$1,503**

CRUSHED ROCK COST

SALE NAME: White Noise
 PROJECT: No. 1 and 2
 QUARRY: _____

MATERIAL: Crushed

DATE: 04/27/2011
 BY: Kraig Kirkpatrick

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	
3A-3B	17.50	55	2	1	1	1.00	1.00	1.00	0.50	6.50
11-12	100.00	66	2	2	1	0.50	0.50		0.50	5.50
13-14	56.20	55	2	2	1	0.50	0.50		0.50	5.50
15-16	26.80	110	2	2	1	0.50	0.50	0.50	0.50	6.00
17-18	24.00	143	2	2	1	0.50	0.50	0.50	0.50	6.00
19-110	37.00	132	2	2	1	0.50	0.50	0.50	0.50	6.00
111-112	16.40	77	2	2	1	0.50	0.50	1.00	0.50	6.50
113-114	24.20	66	2	2	1	0.50	0.50	1.00	0.50	6.50
115-116	6.85	66	2	2	1	0.50	0.50	1.00	1.00	7.00
TOTAL	308.95	770								
CUBIC YARD WEIGHTED HAUL	STA./NO.	CU. YD.	2.00	1.43	0.50	0.54	0.54	0.59	0.54	AVERAGE HAUL 6.14
Average Round Trip Distance (miles) 12.27										

ROCK HAUL:

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

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

Truck type: D10 No. trucks: 1
 Delay min.: 5 Efficiency: 85%

Ave haul: \$4.60 /cy
 Load: \$0.56 /cy
 Spread: \$1.01 /cy

Production: cy/day = 780

CRUSHED ROCK HAUL COSTS 770 cy @ **\$6.17 /cy**

RIP RAP ROCK COST

SALE NAME: White Noise
 PROJECT: No. 1 and 2
 QUARRY: _____

MATERIAL: Rip Rap

DATE: 04/27/2011
 BY: Kraig Kirkpatrick

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	
17-18	24.00	11	2	1	1	0.50	0.50	0.50	0.50	6.00
TOTAL	24.00	11								
CUBIC YARD WEIGHTED HAUL	STA./NO.	CU. YD.	2.00	1.00	1.00	0.50	0.50	0.50	0.50	AVERAGE HAUL 6.00
Average Round Trip Distance (miles) 12.00										

ROCK HAUL:

Truck type: <u>D12</u>	No. trucks: _____	Ave haul: <u>\$6.13 /cy</u>
Delay min.: <u>6</u>	Efficiency: <u>85%</u>	Load: <u>\$5.04 /cy</u>
Truck type: <u>D10</u>	No. trucks: <u>1</u>	Develop: <u>\$3.70 /cy</u>
Delay min.: <u>5</u>	Efficiency: <u>85%</u>	

Production: cy/day = 95

RIP RAP ROCK HAUL COSTS 11 cy @ \$14.87 /cy

**White Noise
FY 2011
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Areas 1, 2, 3 and 4 are located in portions of Sections 13, 14, 23, and 24 T8N, R7W; W.M., Clatsop County, Oregon.

All timber sale areas are posted with ODF "Timber Sale Boundary", "Area Boundary" signs and pink ribbon. Area 5 R/W is posted with ODF "Right-of-Way Boundary" signs.

2. **Fund Distribution:** Fund: BOF (100%)
Tax Code: 4-03 (100%)

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acres	New R/W Acres	Stream Buffer Acres	Existing R/W Acres	Net Acreage
1	PC	66	0	0	-3	63
2	PC	150	0	-8	-8	134
3	PC	110	-2	-4	-4	100
4	MC	30	0	-1	-1	28
5	R/W					2
TOTALS		356		-13	-16	327

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Bryce Rodgers. Area 2 was cruised by Jay Morey, Derek Bangs, and Ed Holloran. Area 3 was cruised by Jasen McCoy and Jon Long. Area 4 was cruised by Jay Morey, Jon Long, and Ed Holloran. All areas were cruised in March 2011.
5. **Cruise Method and Computation:** Cruises used Corvallis MicroTechnology (CMT) and Juniper Allegro 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.

Areas 1 and 3 (Partial Cut), were variable plot cruised with a 33.6 BAF for conifers and hardwoods. 44 plots were sampled on a cruise grid of 4 chains by 8 chains, with a count/cruise ratio of 1:1.

Area 2 (Partial Cut), was variable plot cruised with a 40 BAF for conifers and hardwoods. 53 plots were sampled on a cruise grid of 4 chains by 6 chains, with a count/cruise ratio of 1:1.

Area 4 (Modified Clear Cut), was variable plot cruised with a 54.4 BAF for conifers and hardwoods. 21 plots were sampled on a cruise grid of 3 chains by 4 chains, with a count/cruise ratio of 1:1.

Area 5 R/W, was calculated applying road R/W acreage using cruise per acre volumes for total harvest in Areas 1 and 3.

<u>AREAS</u>	<u>PROJECT</u>	<u>TRACT</u>	<u>CRUISE TYPE</u>
1, 3	WHITENOI	A13, A13TAKE, A13LEAVE	01PC
2	WHITENOI	A2, A2TAKE, A2LEAVE	00PC
4	WHITENOI	A4, A4TAKE	01PC
5RW	WHITENOI	A5RW	01MC

6. **Timber Description:**

Areas 1 and 3 (Partial Cut) – These stands are approximately 35 to 40 years old, consisting of Douglas-fir dominant mixed conifer stands with traces of hardwoods. These stands average 16 inches in DBH,

with an average height of 47 feet to a merchantable top (6" D.I.B. or 40% of the diameter at 16 feet). The take volume averages 13 inches in DBH with an average merchantable height of 38 feet. This stand will be harvested to an SDI of approximately 31, with a basal area target of 140 ft², while retaining approximately 85 trees per acre. The average (net) volume to be harvested is 5 MBF/acre.

Area 2 (Partial Cut) – These stands are approximately 75 to 85 years old, consisting of Douglas-fir and Western Hemlock mixed conifer stands with small patches and stringers of hardwoods. These stands average 23 inches in DBH, with an average height of 84 feet to a merchantable top (6" D.I.B. or 40% of the diameter at 16 feet). The take volume averages 18 inches in DBH with an average merchantable height of 72 feet. This stand will be harvested to an SDI of approximately 34, with a basal area target of 190 ft², while retaining approximately 50 trees per acre. The average (net) volume to be harvested is 11.6 MBF/acre.

Area 4 (Modified Clearcut) – These stands are approximately 75 to 80 years old, consisting of Douglas-fir dominant mixed conifer stands with traces of hardwoods. The average "take" volume per acre is 48 MBF, tree size is 19 inches DBH and 62 feet to a merchantable top (6" D.I.B. or 40% of the diameter at 16 feet).

Area 5 R/W – The R/W is the same type timber as Areas 1 and 3. The average volume to remove from Area 5 is 19 MBF per acre. There is 2 acres of R/W total.

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

Area	Target CV	Target SE%	Actual CV	Actual SE%
1 and 3	35	13	32.5	4.9
2	60	13	44.6	6.1
4	40	10	46.6	10.4

The statistics for all areas are "Take" and "Leave" stands combined.

8. **Take Volumes by Species and Log Grades for All Sale Areas by MBF:** (See "Species, Sort Grade-Board Feet Volumes (Project)" and the "Stand Table Summary" 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	Camp Run	% D & B	% Sale
Douglas-fir	16.2	2,341	1,388	812	141	-	3.5	62
Hemlock	14.9	1,433	811	529	93	-	5.5	37
Spruce	29.0	6	6	-	-	-	-	1
TOTAL		3,780					4.3	100

9. Prepared by: Jay Morey

Date: April 5, 2011

10. Approved by: *[Signature]*

Date: 4/6/11

11. Attachments: Cruise Plans & Maps (4 pages)
 Species, Sort, Grade Reports (5 pages)
 Statistics Reports (8 pages)
 Stand Table Summary Reports (2 pages)
 Take - Log Stock Table Reports (3 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: White Noise **Area(s)** 1 & 3 **Harvest Type:** **(PC) "Automark Thinning"**

Approx. Cruise Acres: 162 **Estimated CV%** 35 Net BF/Acre **SE% Objective** 13 Net BF/Acre

Planned Sale Volume : 1,935 MBF **Estimated Sale Area Value/Acre:** \$1,325/Ac
(Areas 1 & 3) (5 MBF/Ac.)

- A. Cruise Goals:** (a) Grade minimum 80 conifer and 10 hardwood trees:
(b) Sample 50 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 is 140 sq. ft. Cruiser needs to select 4.5 leave trees per plot. Cruise all take and leave trees. All merchantable Alder will be reserved. All cedar greater than 8" are leave trees and count towards the leave tree basal area. Record all snags as SNL. Grade all alder as CampRun. All tree greater than 30" DBH are leave trees. All minor species (hemlock, alder, and spruce) should be favored over Doug-fir if they are of good quality. Take notes of which trees on each plot have been pruned.

B. Cruise Design:

1. **Plot Cruises:** BAF 33.61 (Full point Half point) (circle one)
Cruise Line Direction(s) (45° / 225°)
Cruise Line Spacing 8 (chains)
Cruise Plot Spacing 4 (chains)
Grade/Count Ratio 1/1

2.

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
3. **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.
4. **Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifer 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.
5. **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.
6. **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: Jay Morey
Approved by: [Signature]
Date: 3-14-11

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: White Noise **Area(s)** 2

Harvest Type: (PC) "Automark Thinning"

Approx. Cruise Acres: 134 **Estimated CV%** 60 Net BF/Acre **SE% Objective** 13 Net BF/Acre

Planned Sale Volume : 1,650 MBF **Estimated Sale Area Value/Acre:** \$2,500/Ac
(Area 2) (12 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 80 conifer and 10 hardwood trees
(b) Sample 52 cruise plots (1 grade/1 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 40.0 (Full point) Half point) (circle one)
Cruise Line Direction(s) (45° / 225°)
Cruise Line Spacing 6 (chains)
Cruise Plot Spacing 4 (chains)
Grade/Count Ratio 1/1

Basal Area leave target is 180 sq. ft. Cruiser needs to select 4.5 leave trees per plot. Cruise all take and leave trees. All merchantable Alder will be reserved. All cedar greater than 8" are leave trees and count towards the leave tree basal area. Record all snags as SNL. Grade all alder as CampRun. All tree greater than 30" DBH are leave trees.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods.
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 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; R = Camp Run; 0 = Cull
Hardwoods: R = CampRun

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: Jay Morey
Approved by: [Signature]
Date: 3/11/2011

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: White Noise Area 4

Harvest Type: (CC) Clearcut

Approx. Cruise Acres: 28 Estimated CV% 40 Net BF/Acre SE% Objective 10 Net BF/Acre

Planned Sale Volume : 1,400 MBF Estimated Sale Area Value/Acre: \$13,250/Ac
(53 MBF/Ac.)

A. **Cruise Goals:** (a) Grade minimum 75 conifer and 10 hardwood trees:
(b) Sample 23 cruise plots (1 grade/ 1 count); (c) Other goals (X Determine volume and quality; ___ Determine pole density for sale value

B. Cruise Design:

1. **Plot Cruises:** BAF 54.44 (Full point) Half point) (circle one)
Cruise Line Direction(s) (45° / 225°)
Cruise Line Spacing 4 (chains)
Cruise Plot Spacing 3 (chains)
Grade/Count Ratio 1/1

If a cruise plot ends up near a buffer adjust where feasible by ½ chain or one chain. If plot falls clearly inside a buffer, and major adjustment is necessary, drop the plot. Take plots as marked on map. All cedar are leave trees. Record all snags as SNL. Grade all hardwoods as CampRun.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24".
- 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 merchantable segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

6. Species, Sort, and Grade Codes:

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

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.

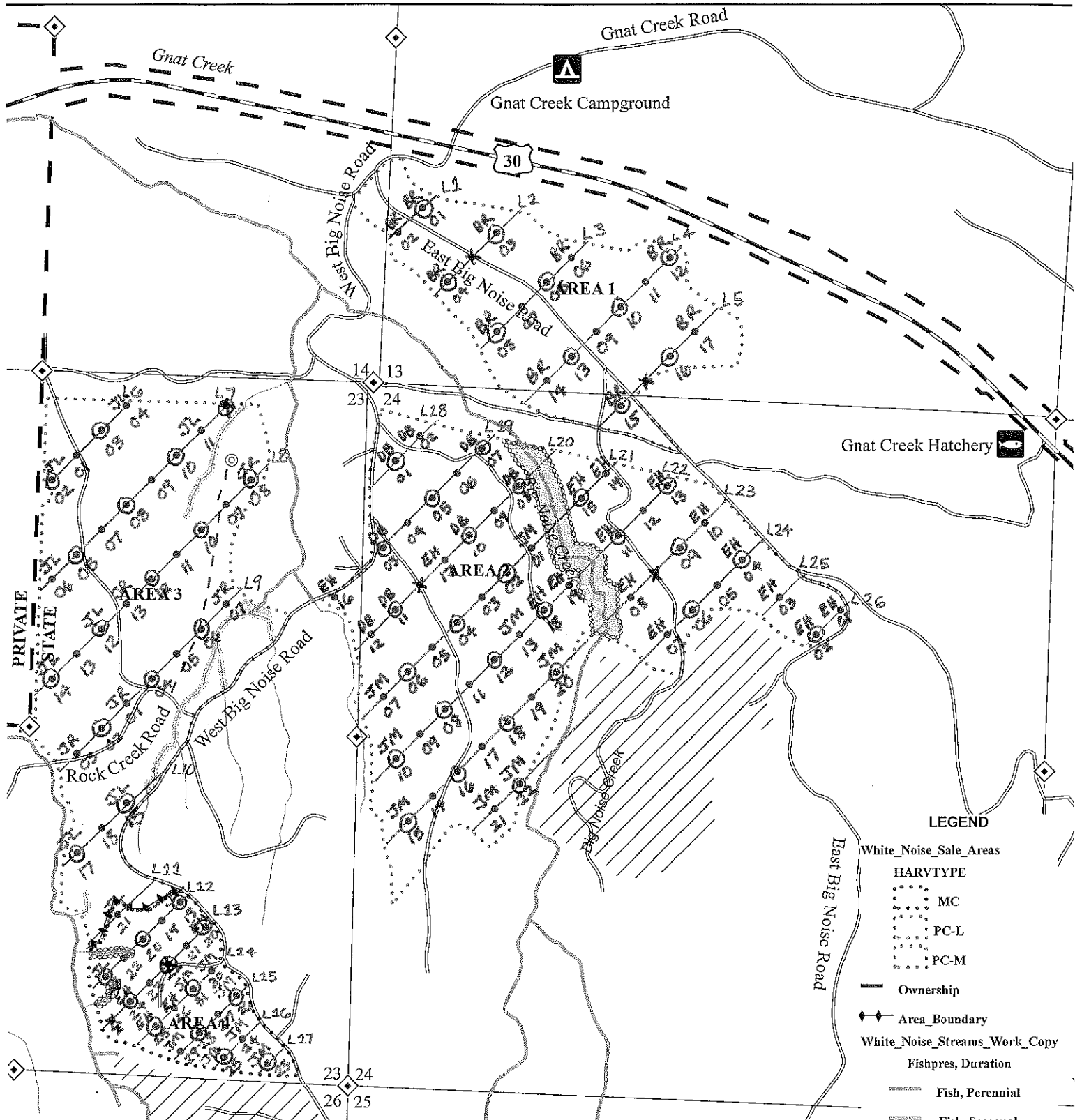
8. Standard Field Procedures: Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden 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: Jay Morey Approved by:  Date: 3/11/11

X:\Sunset Unit\2011 FY Sales\White Noise\Sale Prep\Cruise\Cruise Design White Noise Area 4.doc



LEGEND

- White_Noise_Sale_Areas
- HARVTYPE
 - MC
 - PC-L
 - PC-M
- Ownership
- Area_Boundary
- White_Noise_Streams_Work_Copy
 - Fishpres, Duration
 - Fish, Perennial
 - Fish, Seasonal
 - Fish, Unknown
 - Nonfish, Perennial
- Posted_Buffer
- Nonposted_Buffer
- White_Noise_Sale_Roads
 - Surface
 - Paved
 - Surfaced
 - New_Road_Construction
 - Reforestation_Area

**White Noise
Cruise Map**

Portions of Sections 13, 14, 23, & 24 of
T8N, R7W, W.M., Clatsop County, OR.

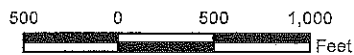
- Area 1(PC) - 63 Ac.
- Area 2 (PC) - 134 Ac.
- Area 3 (PC) - 100 Ac.
- Area 4 (MC) - 28 Ac.

Total Sale Acreage = 325
1:12,000



Areas 1 and 3: 4 x 8 chain grid, 26 Grade, 24 Count
Area 2: 4 x 6 chain grid, 25 Grade, 27 Count
Area 4: 3 x 4 chain grid, 12 Grade, 11 Count

⊙ Grade Plot
• Count Plot



Species, Sort Grade - Board Foot Volumes (Project)

T08N R07W S13 Ty01PC THRU T08N R07W S24 Ty00PC	Project: WHITENOI Acres 327.00	Page 1 Date 4/6/2011 Time 8:29:29AM
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S Spp	So T	Gr rt	ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
H	DOCU				100.0	163										10		0.00	5.3		
H	DO2S	56			2.3	2,539	2,481	811		1	56	43		0	9	38	52	35	296	1.93	8.4
H	DO3S	37			1.8	1,647	1,618	529		97	3			0	10	38	52	35	78	0.70	20.8
H	DO4S	7			2.3	290	283	93		0	100			80	20			17	22	0.42	12.7
H	Totals			38	5.5	4,639	4,382	1,433		0	43	33	24	6	10	36	49	27	93	0.91	47.1
D	DOCU				100.0	118												9		0.00	4.0
D	DO2S	59			.8	4,280	4,244	1,388		1	45	54		1	2	53	43	34	329	2.12	12.9
D	DO3S	34			2.9	2,559	2,484	812		100	0			3	1	42	54	35	82	0.73	30.1
D	DO4S	7			6.3	459	430	141		5	95			49	51			20	25	0.45	17.4
D	Totals			62	3.5	7,416	7,158	2,341		0	41	27	32	5	5	46	44	29	111	0.99	64.4
A	DOCR	100				1	1	0						32	68			20	50	0.66	.0
A	Totals			0		1	1	0						32	68			20	50	0.66	.0
NF	DOCU				100.0	0												4		0.00	.0
NF	DO2S	90				0	0	0			100				100			30	180	1.60	.0
NF	DO4S	10				0	0	0		100				100				16	20	0.56	.0
NF	Totals			0	9.1	0	0	0		10	90			10	90			17	67	1.14	.0
S	DO2S	100				18	18	6				100		100				20	270	3.70	.1
S	Totals			0		18	18	6				100		100				20	270	3.70	.1
Totals					4.3	12,075	11,560	3,780		0	42	29	29	5	7	42	46	28	104	0.96	111.7

T08N R07W S13 T01PC										T08N R07W S13 T01PC			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
08N	07W	13	A13TAKE	01PC	163.00	44	55	1	W				

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D		DO	CU		00.0	135											9		0.00	6.0		
D		DO	2S	17	1.0	681	675	110			100			11	29	60		28	150	1.39	4.5	
D		DO	3S	63	4.1	2,563	2,457	401			100			4		36	60	35	84	0.78	29.3	
D		DO	4S	20	7.2	800	742	121			5	95		45	55			20	25	0.45	29.8	
D		Totals		77	7.3	4,179	3,874	632			1	82	17		13	16	33	38	26	56	0.69	69.7
H		DO	CU		00.0	29											3		0.00	1.0		
H		DO	3S	74	1.1	877	867	141			100				12	52	36	34	77	0.72	11.3	
H		DO	4S	26		300	300	49			100			76	24			17	22	0.39	13.9	
H		Totals		23	3.2	1,206	1,167	190			100			19	15	38	27	24	45	0.59	26.1	
Type Totals					6.4	5,385	5,042	822			1	86	13		15	15	34	35	25	53	0.66	95.8

T08N R07W S24 T00PC										T08N R07W S24 T00PC			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
08N	07W	24	A2TAKE	00PC	134.00	53	41	1	W				

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
H		DO	CU		00.0	182											12		0.00	6.0	
H		DO	2S	63	2.8	4,186	4,067	545			58	42			11	37	52	35	296	1.96	13.7
H		DO	3S	34	2.4	2,205	2,151	288		95	5				10	32	58	36	82	0.72	26.2
H		DO	4S	3		165	165	22		100							100	15	23	0.50	7.3
H	Totals			55	5.3	6,738	6,383	855		35	39	26		3	10	35	53	30	120	1.05	53.2
D		DO	2S	65	.5	3,467	3,449	462			48	52			64	36		34	327	2.06	10.5
D		DO	3S	35	2.0	1,854	1,817	243		100					41	59		36	80	0.62	22.6
D	Totals			45	1.0	5,321	5,266	706		35	32	34			56	44		36	159	1.06	33.2
S		DO	2S	100		44	44	6			100			100				20	270	3.70	.2
S	Totals			0		44	44	6			100			100				20	270	3.70	.2
Type Totals					3.4	12,103	11,694	1,567		34	36	30		2	6	44	48	32	135	1.06	86.6

T08N R07W S23 T01MC	T08N R07W S23 T01MC
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
08N 07W 23 A4TAKE 01MC 28.00 21 61 1	W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D		DO	CU		00.0	580											8	0.00	11.2		
D		DO	2S	82	1.0	29,163	28,866	808		1	36	63		1		46	53	36	397	2.38	72.7
D		DO	3S	16	1.3	5,573	5,503	154		100				6	4	59	31	32	81	0.76	67.6
D		DO	4S	2		584	584	16		100				80	20			17	24	0.43	24.5
D	Totals			72	2.6	35,899	34,953	979		18	29	52		3	1	47	49	30	199	1.53	176.0
H		DO	CU		00.0	860												9	0.00	27.3	
H		DO	2S	69	1.1	9,456	9,355	262		4	51	45		2	5	39	54	35	298	1.88	31.4
H		DO	3S	25	.7	3,359	3,335	93		100				1	10	31	57	33	69	0.60	48.4
H		DO	4S	6	9.7	794	717	20		100				71	29			18	23	0.43	30.8
H	Totals			28	7.3	14,469	13,407	375		33	35	31		5	8	35	52	25	97	0.93	138.0
Type Totals					4.0	50,369	48,360	1,354		22	31	47		4	3	44	50	28	154	1.29	314.0

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)								Page 1											
		Project: WHITENOI								Date 4/6/2011											
										Time 8:31:53AM											
T08N R07W S13 T01PC										T08N R07W S13 T01PC											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
08N	07W	13	A5RW	01PC	2.00	44	158	1	W												
Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs	
					Net	Def%	Gross		Net	Log Scale Dia.				Log Length				Ln	Bd		CF/Lf
				BdFt				Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft		/Acre	
D	DO	CU			00.0	163											8		0.00	9.1	
D	DO	2S	29	29	.7	3,632	3,605	7			100			2	6	44	48	34	190	1.56	19.0
D	DO	3S	57	57	2.2	7,268	7,106	14		99	1			4	2	29	65	35	96	0.86	74.0
D	DO	4S	14	14	3.8	1,747	1,680	3	6	94				44	56			20	25	0.47	68.1
D	Totals			66	3.3	12,810	12,391	25	1	69	30			9	11	30	51	28	73	0.83	170.2
H	DO	CU			00.0	70											3		0.00	1.8	
H	DO	2S	36	36	5.6	2,325	2,194	4		6	77	17				71	29	34	199	1.62	11.0
H	DO	3S	51	51	1.2	3,121	3,082	6		91	9			1	4	67	28	33	89	0.84	34.7
H	DO	4S	13	13		754	754	2	3	97				74	26			18	23	0.45	32.9
H	Totals			32	3.8	6,270	6,030	12	0	61	33	6		10	5	60	25	26	75	0.87	80.5
A	DO	CR	100	100		162	162	0		32	68			32	68			20	50	0.66	3.2
A	Totals			1		162	162	0		32	68			32	68			20	50	0.66	3.2
NF	DO	CU			00.0	7											4		0.00	.4	
NF	DO	2S	90	90		63	63	0			100				100			30	180	1.60	.4
NF	DO	4S	10	10		7	7	0		100				100				16	20	0.56	.4
NF	Totals			0	9.1	77	70	0		10	90			10	90			17	67	1.14	1.1
Type Totals					3.4	19,319	18,654	37	1	66	31	2		9	10	39	42	27	73	0.84	255.0

STATISTICS
PROJECT **WHITENOI**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
08N	07W	13	A13	01PC	163.00	44	281	1	W
CL:	68.1%	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL		32.5	4.9	17,834	18,753	19,671	42	11	5

TC TSTATS		STATISTICS							PAGE	1
		PROJECT					WHITENOI		DATE	4/6/2011
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	13	A13TAKE	01PC	163.00	44	87	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		44	87	2.0						
CRUISE		19	55	2.9	10,931	.5				
DBH COUNT										
REFOREST										
COUNT		16	32	2.0						
BLANKS		9								
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
DOUG FIR	43	47.0	13.9	40		49.7	4,179	3,874	1,270	1,238
WHEMLOCK	12	20.1	12.1	32		16.0	1,206	1,167	370	366
TOTAL	55	67.1	13.4	38		65.7	5,385	5,042	1,641	1,604
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	87.5	13.2	41	47	53					
WHEMLOCK	172.3	26.0	15	20	25					
TOTAL	73.6	11.1	60	67	75	217	54	24		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	88.2	13.3	43	50	56					
WHEMLOCK	172.0	25.9	12	16	20					
TOTAL	75.6	11.4	58	66	73	229	57	25		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	96.5	14.6	3,310	3,874	4,438					
WHEMLOCK	173.1	26.1	863	1,167	1,472					
TOTAL	80.1	12.1	4,433	5,042	5,650	256	64	28		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHITENOI		DATE 4/6/2011				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	13	A13LEAVE	01PC	163.00	44	194	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL		44	194	4.4						
CRUISE		26	108	4.2	14,108	.8				
DBH COUNT										
REFOREST										
COUNT		18	83	4.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUGLEAV	70	55.8	17.2	55		90.1	8,673	8,578	2,688	2,681
HEMLEAV	28	27.4	17.7	57		46.6	5,162	4,955	1,520	1,512
SNAG	6	.5	55.1	13		8.4	604		102	
ALDRLEAV	2	2.2	11.4	21		1.5	108	108	29	29
NFIRLEAV	1	.4	20.0	52	0	.8	77	70	20	19
SNAG	1	.4	18.0	40		.8	26		15	
TOTAL	108	86.6	17.7	54		148.2	14,651	13,711	4,374	4,240
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	51.4	7.7	51	56	60					
HEMLEAV	97.8	14.7	23	27	31					
SNAG	416.5	62.8	0	1	1					
ALDRLEAV	544.0	82.0	0	2	4					
NFIRLEAV	663.3	100.0	0	0	1					
SNAG	663.3	100.0	0	0	1					
TOTAL	23.7	3.6	83	87	90	23	6	3		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	44.6	6.7	84	90	96					
HEMLEAV	99.9	15.1	40	47	54					
SNAG	423.7	63.9	3	8	14					
ALDRLEAV	463.6	69.9	0	2	3					
NFIRLEAV	663.3	100.0	0	1	2					
SNAG	663.3	100.0	0	1	2					
TOTAL	31.1	4.7	141	148	155	39	10	4		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	47.4	7.1	7,965	8,578	9,191					
HEMLEAV	105.2	15.9	4,170	4,955	5,741					
SNAG										
ALDRLEAV	494.0	74.5	28	108	189					
NFIRLEAV	663.3	100.0	0	70	140					
SNAG										
TOTAL	23.8	3.6	13,219	13,711	14,203	23	6	3		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHITENOI				DATE 4/6/2011		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	24	A2	00PC	134.00	53	355	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL		53	355	6.7						
CRUISE		27	182	6.7	12,490		1.5			
DBH COUNT										
REFOREST										
COUNT		25	168	6.7						
BLANKS		1								
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUGLEAV	63	17.8	30.7	114		91.3	25,257	24,650	5,062	5,004
HEMLEAV	61	27.7	24.2	91		88.3	19,927	19,028	4,424	4,300
WHEMLOCK	24	24.3	17.5	68		40.8	6,738	6,383	1,713	1,672
DOUG FIR	16	15.5	17.9	80		27.2	5,321	5,266	1,249	1,249
SNAG	8	3.3	23.3	51		9.8	136		56	
SPRUCELV	4	.8	36.4	77		6.0	1,503	1,419	292	292
ALDRLEAV	6	3.8	14.9	49		4.5	526	490	150	136
TOTAL	182	93.2	23.0	84		267.9	59,409	57,237	12,945	12,653
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	85.1	11.7	16	18	20					
HEMLEAV	75.0	10.3	25	28	31					
WHEMLOCK	148.7	20.4	19	24	29					
DOUG FIR	220.3	30.3	11	15	20					
SNAG	222.2	30.5	2	3	4					
SPRUCELV	264.5	36.3	1	1	1					
ALDRLEAV	373.2	51.3	2	4	6					
TOTAL	67.7	9.3	85	93	102	183	46	20		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	79.8	11.0	81	91	101					
HEMLEAV	64.3	8.8	81	88	96					
WHEMLOCK	145.9	20.0	33	41	49					
DOUG FIR	186.6	25.6	20	27	34					
SNAG	194.3	26.7	7	10	12					
SPRUCELV	272.4	37.4	4	6	8					
ALDRLEAV	412.2	56.6	2	5	7					
TOTAL	43.1	5.9	252	268	284	74	19	8		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	81.0	11.1	21,909	24,650	27,392					
HEMLEAV	67.8	9.3	17,257	19,028	20,800					
WHEMLOCK	147.1	20.2	5,093	6,383	7,673					
DOUG FIR	187.8	25.8	3,908	5,266	6,625					
SNAG										
SPRUCELV	306.1	42.0	822	1,419	2,015					
ALDRLEAV	526.9	72.4	135	490	845					
TOTAL	44.6	6.1	53,734	57,237	60,741	79	20	9		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHITENOI		DATE 4/6/2011				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	24	A2TAKE	00PC	134.00	53	91	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		53	91	1.7						
CRUISE		18	41	2.3	5,354		.8			
DBH COUNT										
REFOREST										
COUNT		15	50	3.3						
BLANKS		20								
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	24	24.3	17.5	68		40.8	6,738	6,383	1,713	1,672
DOUG FIR	16	15.5	17.9	80		27.2	5,321	5,266	1,249	1,249
S SPRUCE	1	.2	29.0	22		.8	44	44	12	12
TOTAL	41	40.0	17.8	72		68.7	12,103	11,694	2,974	2,933
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	148.7	20.4	19	24	29					
DOUG FIR	220.3	30.3	11	15	20					
S SPRUCE	728.0	100.0	0	0	0					
TOTAL	128.8	17.7	33	40	47	663	166	74		
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	145.9	20.0	33	41	49					
DOUG FIR	186.6	25.6	20	27	34					
S SPRUCE	728.0	100.0	0	1	2					
TOTAL	113.9	15.6	58	69	79	519	130	58		
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	147.1	20.2	5,093	6,383	7,673					
DOUG FIR	187.8	25.8	3,908	5,266	6,625					
S SPRUCE	728.0	100.0	0	44	89					
TOTAL	119.1	16.4	9,781	11,694	13,607	567	142	63		

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				WHITENOI				DATE	4/6/2011
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
08N	07W	24	A2LEAVE	00PC	134.00	53	265	1	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		53	265	5.0							
CRUISE		27	142	5.3	7,157	2.0					
DBH COUNT											
REFOREST											
COUNT		25	120	4.8							
BLANKS		1									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REV DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUGLEAV	63	17.8	30.7	114	.1538	91.3	25,257	24,650	5,062	5,004	
HEMLEAV	61	27.7	24.2	91	.1635	88.3	19,927	19,028	4,424	4,300	
SNAG	8	3.3	23.3	51		9.8	136		56		
SPRUCELV	4	.8	36.4	77	.0091	6.0	1,503	1,419	292	292	
ALDRLEAV	6	3.8	14.9	49	.0103	4.5	526	490	150	136	
TOTAL	142	53.4	26.2	93		200.0	47,350	45,588	9,984	9,732	
CONFIDENCE LIMITS OF THE SAMPLE					.3367 = 34%						
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUGLEAV	85.1	11.7	16	18	20						
HEMLEAV	75.0	10.3	25	28	31						
SNAG	222.2	30.5	2	3	4						
SPRUCELV	264.5	36.3	1	1	1						
ALDRLEAV	373.2	51.3	2	4	6						
TOTAL	42.8	5.9	50	53	57	73	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			
DOUGLEAV	79.8	11.0	81	91	101						
HEMLEAV	64.3	8.8	81	88	96						
SNAG	194.3	26.7	7	10	12						
SPRUCELV	272.4	37.4	4	6	8						
ALDRLEAV	412.2	56.6	2	5	7						
TOTAL	28.6	3.9	192	200	208	33	8	4			
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUGLEAV	81.0	11.1	21,909	24,650	27,392						
HEMLEAV	67.8	9.3	17,257	19,028	20,800						
SNAG											
SPRUCELV	306.1	42.0	822	1,419	2,015						
ALDRLEAV	526.9	72.4	135	490	845						
TOTAL	32.8	4.5	43,535	45,588	47,640	43	11	5			

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHITENOI		DATE 4/6/2011				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	23	A4	01MC	28.00	21	118	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		21	118	5.6						
CRUISE		13	68	5.2	4,413		1.5			
DBH COUNT										
REFOREST										
COUNT		8	34	4.3						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	38	69.8	21.5	78		176.3	35,899	34,953	8,131	8,015
WHEMLOCK	23	77.6	14.4	47		88.1	14,469	13,407	3,437	3,256
DOUGLEAV	1	2.8	39.0	125		23.3	7,144	7,003	1,372	1,372
SNAG	2	4.4	17.9	43		7.8	296		158	
SNAG	3	2.5	24.0	48		7.8				
HEMLEAV	1	.4	34.0	95		2.6	481	436	120	120
TOTAL	68	157.6	18.9	62		305.9	58,290	55,799	13,218	12,762
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	98.2	22.0	54	70	85					
WHEMLOCK	117.6	26.3	57	78	98					
DOUGLEAV	271.8	60.8	1	3	5					
SNAG	252.2	56.4	2	4	7					
SNAG	303.6	67.9	1	2	4					
HEMLEAV	458.3	102.5		0	1					
TOTAL	69.4	15.5	133	158	182	203	51	23		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	83.4	18.7	143	176	209					
WHEMLOCK	94.6	21.2	69	88	107					
DOUGLEAV	271.8	60.8	9	23	38					
SNAG	251.0	56.1	3	8	12					
SNAG	251.0	56.1	3	8	12					
HEMLEAV	458.3	102.5		3	5					
TOTAL	35.8	8.0	281	306	330	54	13	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		
DOUG FIR	83.3	18.6	28,437	34,953	41,468					
WHEMLOCK	98.3	22.0	10,459	13,407	16,355					
DOUGLEAV	271.8	60.8	2,745	7,003	11,261					
SNAG										
SNAG										
HEMLEAV	458.3	102.5		436	883					
TOTAL	46.6	10.4	49,980	55,799	61,618	91	23	10		

TC PSTNDSUM		Stand Table Summary								Page 1						
										Date: 4/6/2011						
T08N R07W S13 Ty01PC THRU T08N R07W S24 Ty00PC		Project WHITENOI				Time: 9:26:32AM										
		Acres 327.00				Grown Year:										
S Sp	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D	9	3	85	19	2.379	.98	2.38	5.0	13.8		12	33		39	11	
D	10	11	86	56	6.737	3.61	5.67	11.5	42.4		65	240		213	79	
D	11	5	84	50	2.369	1.56	2.37	13.6	45.1		32	107		106	35	
D	12	3	88	54	.029	.02	.03	17.0	50.0		0	1		2	0	
D	13	11	86	81	4.049	3.73	6.20	18.3	59.4		114	368		372	120	
D	14	12	86	47	2.210	2.36	3.31	13.4	40.2		44	133		145	43	
D	15	21	86	64	4.248	5.21	5.64	23.3	68.0		131	384		430	125	
D	16	17	87	87	2.212	3.09	4.41	23.9	85.1		106	376		345	123	
D	17	20	85	80	2.145	3.38	4.29	23.0	77.8		99	333		322	109	
D	18	27	85	79	2.687	4.75	5.37	28.1	88.8		151	476		493	156	
D	19	15	86	106	1.289	2.54	3.34	31.0	118.1		104	394		339	129	
D	20	16	87	97	1.428	3.11	3.67	32.1	116.6		118	427		385	140	
D	21	9	88	120	.514	1.24	1.52	38.1	157.0		58	239		190	78	
D	22	5	87	124	.275	.73	.81	41.6	178.2		34	145		111	47	
D	23	1	86	85	.003	.01	.00	79.0	290.0		0	1		1	0	
D	24	6	87	126	.920	2.89	2.76	49.2	210.2		136	579		444	189	
D	25	3	86	120	.437	1.49	1.20	55.3	230.0		66	275		216	90	
D	26	2	87	139	.296	1.09	.89	63.2	295.8		56	263		184	86	
D	27	6	86	139	.750	2.98	2.25	67.6	299.3		152	673		497	220	
D	28	3	87	134	.279	1.19	.84	71.8	338.9		60	283		196	93	
D	29	4	86	141	.412	1.89	1.32	73.5	339.4		97	448		317	147	
D	30	3	85	130	.243	1.19	.65	89.0	380.0		58	246		188	80	
D	31	1	86	146	.076	.40	.23	96.0	453.3		22	103		71	34	
D	32	3	88	136	.213	1.19	.64	96.7	486.7		62	312		202	102	
D	33	1	84	128	.067	.40	.20	91.0	426.7		18	86		60	28	
D	34	2	86	157	.126	.79	.44	101.6	525.7		45	232		146	76	
D	Totals	210	86	74	36.392	51.83	60.40	30.4	118.5		1,839	7,158		6,013	2,341	
H	8	2	89	20	1.936	.68	1.94	5.0	20.0		10	39		32	13	
H	9	2	85	20	1.575	.66	.74	5.0	20.0		4	15		12	5	
H	10	7	87	32	4.283	2.34	4.28	8.4	28.5		36	122		118	40	
H	11	2	87	70	1.600	1.02	1.60	15.3	56.6		24	91		80	30	
H	12	4	83	66	2.633	2.07	4.38	11.0	36.0		48	157		157	51	
H	13	5	86	65	1.852	1.68	2.24	19.9	61.7		45	138		146	45	
H	14	8	85	59	1.942	2.08	3.24	17.2	54.1		56	176		183	57	
H	15	11	87	83	3.369	4.13	6.19	23.9	86.5		148	535		484	175	
H	16	8	89	86	2.193	3.06	3.90	29.5	102.5		115	400		376	131	
H	17	7	89	99	.680	1.07	1.36	35.5	120.0		48	163		158	53	
H	18	7	87	108	.398	.70	.98	32.7	118.5		32	116		104	38	
H	19	5	85	110	.186	.37	.54	31.6	116.4		17	63		56	21	
H	20	8	86	96	.642	1.40	1.43	39.8	144.7		57	207		187	68	
H	21	4	86	105	1.157	2.78	2.60	49.2	180.0		128	469		419	153	
H	22	2	87	98	.527	1.39	1.32	43.4	178.0		57	235		187	77	
H	23	4	90	109	.472	1.36	1.30	49.2	215.6		64	280		209	92	
H	24	1	83	78	.003	.01	.01	53.0	160.0		0	1		1	0	
H	25	3	88	123	.411	1.40	1.23	59.7	274.9		73	338		240	111	
H	26	2	87	96	.278	1.02	.56	76.7	281.0		43	156		139	51	
H	27	3	85	122	.433	1.72	1.12	76.1	314.6		85	353		279	115	
H	29	1	88	66	.152	.70	.30	57.5	260.0		17	79		57	26	
H	31	2	90	114	.125	.66	.38	78.8	386.7		30	145		97	47	
H	32	1	88	138	.059	.33	.24	81.7	447.5		19	105		63	34	
H	Totals	99	87	66	26.907	32.63	41.87	27.6	104.7		1,157	4,382		3,785	1,433	
S	29	1	71	37	.067	.31	.07	74.0	270.0		5	18		16	6	

T08N R07W S13 Ty01PC THRU T08N R07W S24 Ty00PC	Project WHITENOI Acres 327.00	Time: 9:26:32AM Grown Year:	
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S Spec T	Sample DBH	Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
S	Totals	1	71	37	.067	.31	.07	74.0	270.0		5	18		16	6
A	9	1	86	29	.016	.01	.02	6.0	20.0		0	0		0	0
A	18	1	86	58	.004	.01	.00	42.0	170.0		0	1		1	0
A	Totals	2	86	35	.020	.01	.02	13.2	50.0		0	1		1	0
NF	20	1	88	61	.002	.00	.00	28.5	100.0		0	0		0	0
NF	Totals	1	88	61	.002	.00	.00	28.5	100.0		0	0		0	0
Totals		313	86	71	63.388	84.79	102.36	29.3	112.9		3,002	11,560		9,816	3,780

TC TSTNDSUM				Stand Table Summary												
Project										WHITENOI						
T08N R07W S13 T01PC										T08N R07W S13 T01PC						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1							
08N	07W	13	A13LEAVE	01PC	163.00	44	109	Date:	04/06/20							
								Time:	9:28:08AM							
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
DL		12	3	89	54	4.918	3.86	4.92	17.0	50.0		84	246		136	40
DL		13	1	88	83	1.397	1.29	2.79	15.5	55.0		43	154		71	25
DL		14	4	86	64	4.818	5.15	6.02	21.2	58.0		128	349		208	57
DL		15	5	85	70	5.246	6.44	9.44	18.8	63.3		177	598		289	97
DL		16	8	86	72	7.378	10.30	12.91	22.5	72.1		290	931		474	152
DL		17	9	86	75	7.352	11.59	13.89	25.8	85.9		359	1,193		585	194
DL		18	11	87	71	8.015	14.16	14.57	28.7	90.5		419	1,319		683	215
DL		19	9	86	75	5.886	11.59	11.77	30.4	97.8		358	1,151		584	188
DL		20	8	87	77	4.722	10.30	8.85	36.8	123.3		326	1,092		531	178
DL		21	6	86	85	3.212	7.73	6.42	41.3	127.5		266	819		433	134
DL		22	4	85	75	1.951	5.15	3.90	40.0	115.0		156	449		254	73
DL		23	1	86	85	.446	1.29	.45	79.0	290.0		35	129		57	21
DL		24	1	89	71	.410	1.29	.82	48.5	180.0		40	148		65	24
DL	Totals		70	86	72	55.752	90.14	96.77	27.7	88.6		2,681	8,578		4,370	1,398
HL		14	3	88	67	4.670	4.99	7.78	19.0	64.0		148	498		241	81
HL		15	2	86	66	2.712	3.33	5.42	19.0	62.5		103	339		168	55
HL		16	1	85	71	1.192	1.66	2.38	24.0	85.0		57	203		93	33
HL		17	5	86	68	5.279	8.32	10.56	25.0	85.0		264	897		430	146
HL		18	5	87	68	4.709	8.32	8.48	30.2	90.0		256	763		418	124
HL		19	4	86	80	3.381	6.66	6.76	34.8	112.5		235	761		383	124
HL		20	5	86	73	3.814	8.32	7.63	35.0	113.0		267	862		435	140
HL		23	1	92	78	.577	1.66	1.15	53.0	190.0		61	219		100	36
HL		24	1	83	78	.530	1.66	1.06	53.0	160.0		56	170		92	28
HL		25	1	92	85	.488	1.66	.98	66.0	250.0		64	244		105	40
HL	Totals		28	87	71	27.351	46.60	52.20	29.0	94.9		1,512	4,955		2,464	808
AL		9	1	87	29	1.729	.76	1.73	6.0	20.0		10	35		17	6
AL		18	1	87	58	.432	.76	.43	42.0	170.0		18	73		30	12
AL	Totals		2	87	35	2.161	1.53	2.16	13.2	50.0		29	108		47	18
NFL		20	1	88	61	.350	.76	.70	27.0	100.0		19	70		31	11
NFL	Totals		1	88	61	.350	.76	.70	27.0	100.0		19	70		31	11
SN		18	1	89	48	.432	.76									
SN	Totals		1	89	48	.432	.76									
SNL		50	2	85	17	.205	2.80									
SNL		55	2	85	18	.170	2.80									
SNL		60	1	86	21	.071	1.40									
SNL		65	1	85	17	.061	1.40									
SNL	Totals		6	85	18	.507	8.40									
Totals			108	87	70	86.554	148.19	151.83	27.9	90.3		4240	13,711		6,912	2,235

TC TSTNDSUM		Stand Table Summary														
Project											WHITENOI					
T08N R07W S24 T00PC								T08N R07W S24 T00PC								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1							
08N	07W	24	A2LEAVE	00PC	134.00	53	142	Date:	04/06/20							
								Time:	9:28:33AM							
Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DL		15	1	85	119	1.181	1.45	2.36	26.5	105.0		63	248		84	33
DL		20	1	92	125	.664	1.45	1.99	37.3	166.7		74	332		100	45
DL		22	2	86	125	1.098	2.90	3.29	41.2	170.0		136	560		182	75
DL		24	1	87	146	.461	1.45	1.38	56.7	260.0		78	360		105	48
DL		26	4	87	145	1.573	5.80	4.72	66.3	300.0		313	1,415		419	190
DL		27	3	87	139	1.094	4.35	3.28	69.3	324.4		227	1,065		305	143
DL		28	2	87	152	.678	2.90	2.03	80.3	393.3		163	800		219	107
DL		29	3	83	143	.948	4.35	2.84	72.3	332.2		206	945		276	127
DL		30	5	86	141	1.476	7.25	4.43	85.2	392.0		377	1,736		506	233
DL		31	4	86	156	1.106	5.80	3.32	100.6	475.0		334	1,576		447	211
DL		32	3	85	148	.779	4.35	2.60	91.1	437.0		236	1,134		317	152
DL		33	8	87	157	1.952	11.60	6.59	98.3	497.8		648	3,280		868	440
DL		34	5	85	155	1.150	7.25	3.45	118.4	570.7		408	1,968		547	264
DL		35	3	87	142	.651	4.35	1.95	118.9	610.0		232	1,191		311	160
DL		36	4	85	151	.820	5.80	2.46	128.0	640.8		315	1,577		422	211
DL		38	4	86	163	.736	5.80	2.94	116.4	632.5		343	1,863		459	250
DL		40	3	86	166	.498	4.35	1.66	157.2	840.0		261	1,395		350	187
DL		43	1	82	157	.144	1.45	.43	184.7	850.0		80	367		107	49
DL		44	4	89	164	.549	5.80	1.92	171.4	945.7		329	1,818		441	244
DL		48	1	88	173	.115	1.45	.46	201.8	1155.0		93	533		125	71
DL		52	1	91	158	.098	1.45	.29	292.3	1653.3		86	488		116	65
DL		Totals	63	86	146	17.773	91.32	54.42	91.9	453.0		5,004	24,650		6,705	3,303
HL		14	1	88	94	1.354	1.45	2.71	21.5	85.0		58	230		78	31
HL		15	1	89	97	1.180	1.45	2.36	26.5	100.0		63	236		84	32
HL		16	2	88	110	2.073	2.90	4.15	32.0	120.0		133	498		178	67
HL		17	1	88	105	.918	1.45	1.84	37.0	130.0		68	239		91	32
HL		18	3	88	110	2.457	4.34	5.73	36.9	140.0		211	803		283	108
HL		19	2	88	118	1.470	2.90	4.41	34.2	141.7		151	625		202	84
HL		20	1	86	99	.664	1.45	1.33	49.0	175.0		65	232		87	31
HL		21	6	85	99	3.611	8.69	7.82	48.5	171.5		379	1,342		508	180
HL		22	3	85	114	1.645	4.34	4.39	47.4	178.7		208	784		278	105
HL		23	3	87	98	1.505	4.34	3.01	62.5	238.3		188	717		252	96
HL		25	3	87	123	1.274	4.34	3.82	58.7	246.7		224	943		300	126
HL		26	5	87	127	1.963	7.24	5.89	66.3	302.0		390	1,779		523	238
HL		27	2	87	109	.728	2.90	1.82	77.0	336.0		140	612		188	82
HL		28	2	87	138	.677	2.90	2.03	81.5	398.3		166	809		222	108
HL		29	3	83	105	.947	4.34	1.58	68.4	282.0		108	445		145	60
HL		30	2	89	132	.590	2.90	1.77	88.8	428.3		157	758		211	102
HL		31	2	84	121	.552	2.90	1.38	77.6	370.0		107	511		144	68
HL		32	3	87	136	.778	4.34	2.33	105.0	510.0		245	1,190		328	159
HL		33	2	88	138	.487	2.90	1.46	117.8	626.7		172	916		231	123
HL		34	3	86	132	.689	4.34	2.07	116.4	582.2		241	1,203		322	161
HL		35	2	87	128	.433	2.90	1.30	120.0	616.7		156	802		209	107
HL		36	4	87	124	.819	5.79	2.25	128.8	653.6		290	1,472		389	197
HL		37	3	88	117	.582	4.34	1.55	140.4	668.7		218	1,037		292	139
HL		39	1	88	143	.174	1.45	.52	162.0	850.0		85	445		114	60
HL		41	1	88	126	.158	1.45	.47	162.7	846.7		77	401		103	54
HL		Totals	61	87	113	27.730	88.30	68.00	63.2	279.8		4,300	19,028		5,762	2,550
SL		29	1	71	37	.329	1.51	.33	74.0	270.0		24	89		33	12
SL		36	1	85	127	.214	1.51	.64	127.0	606.7		81	389		109	52
SL		38	1	86	141	.192	1.51	.57	154.7	716.7		89	412		119	55

TC TSINDSUM		Stand Table Summary													
		Project									WHITENOI				
T08N R07W S24 T00PC							T08N R07W S24 T00PC								
Twp	Rge	Sec	Tract		Type	Acres	Plots	Sample Trees		Page:	2				
08N	07W	24	A2LEAVE		00PC	134.00	53	142		Date:	04/06/20				
										Time:	9:28:33AM				
S Spe	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits
SL		52	1	86	158	.102	1.51	.31	317.7	1723.3	98	529	131	71	
SL	Totals	4	80	99	.837	6.04	1.85	157.8	766.2	292	1,419	392	190		
AL		12	1	86	25	1.046	.75	1.05	10.0	40.0	10	42	14	6	
AL		14	1	87	40	.706	.75								
AL		15	1	87	86	.615	.75	1.23	24.5	90.0	30	111	40	15	
AL		16	1	87	95	.541	.75	1.08	31.0	115.0	34	124	45	17	
AL		18	2	87	92	.854	1.51	1.71	36.5	125.0	62	214	84	29	
AL	Totals	6	87	63	3.762	4.53	5.07	26.9	96.8	136	490	183	66		
SN		14	1	86	82	1.147	1.23								
SN		19	1	86	28	.623	1.23								
SN		26	1	86	17	.333	1.23								
SN		28	4	88	53	1.147	4.91								
SN		60	1	69	25	.062	1.23								
SN	Totals	8	86	54	3.312	9.81									
Totals		142	87	116	53.413	200.00	129.34	75.2	352.5	9732	45,588	13,041	6,109		

Log Stock Table - MBF

T08N R07W S13 Ty01PC
THRU
T08N R07W S24 Ty00PC

Project: WHITENOI
Acres 327.00

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Date 4/6/2011
Time 9:30:54AM

S T	So rt	Gr de	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
H	DO	4S	22	4		4	.3		0	4							
H	DO	4S	24	14		14	1.0			14							
H	DO	4S	28	0		0	.0			0							
H	Totals			1,517	5.5	1,433	37.9		0	288	162	167	171	293	271	50	31
D	DO	CU	2	2	100.0												
D	DO	CU	4	4	100.0												
D	DO	CU	6	13	100.0												
D	DO	CU	8	4	100.0												
D	DO	CU	9	0	100.0												
D	DO	CU	12	6	100.0												
D	DO	CU	16	10	100.0												
D	DO	2S	16	19		19	.8					12		7			
D	DO	2S	24	15		15	.6					15					
D	DO	2S	28	17		17	.7					17					
D	DO	2S	32	663	1.0	657	28.1				8	160	127	280	63	19	
D	DO	2S	34	82	1.1	81	3.5							10	71		
D	DO	2S	40	603		599	25.6					107	90	223	135	44	
D	DO	3S	11	0		0	.0			0							
D	DO	3S	16	17	10.8	15	.6			1		14					
D	DO	3S	18	2		2	.1			2		0					
D	DO	3S	20	10		10	.4				10	0					
D	DO	3S	21	1		1	.1				1						
D	DO	3S	22	0	13.1	0	.0			0							
D	DO	3S	24	2		2	.1			2							
D	DO	3S	28	0		0	.0			0							
D	DO	3S	30	3		3	.1			3							
D	DO	3S	31	2	9.1	2	.1					2					
D	DO	3S	32	326	5.4	308	13.2			71	98	139	0				
D	DO	3S	33	3		3	.1				3						
D	DO	3S	34	23		23	1.0			20		3					
D	DO	3S	35	3		3	.1					3					
D	DO	3S	36	57		57	2.5			40		17					
D	DO	3S	38	9		9	.4			9							
D	DO	3S	40	377	1.3	372	15.9			116	111	145					
D	DO	4S	8	0		0	.0			0							
D	DO	4S	12	1		1	.0			1							

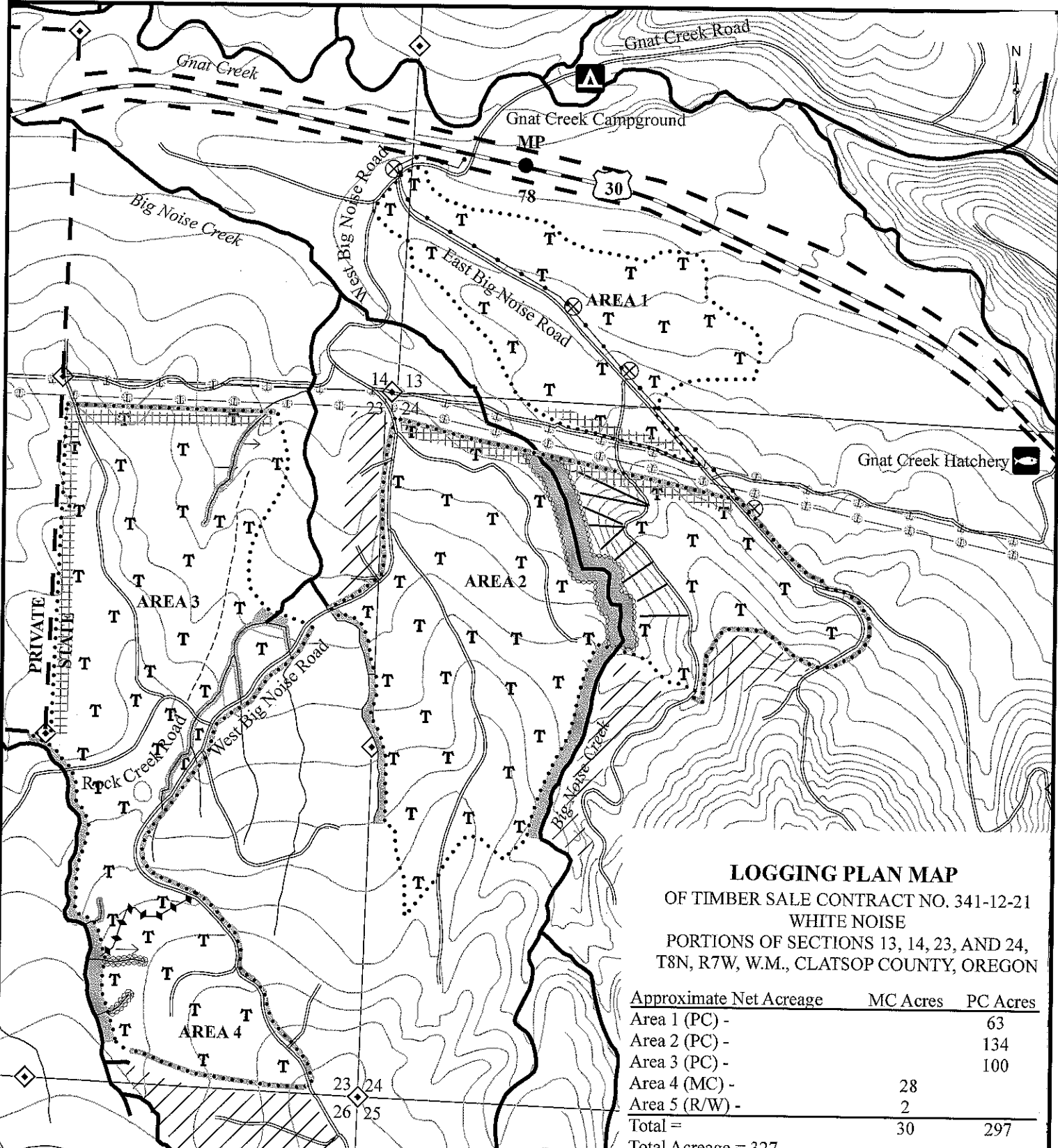
Log Stock Table - MBF

T08N R07W S13 Ty01PC
 THRU
 T08N R07W S24 Ty00PC

Project: **WHITENOI**
 Acres **327.00**

Page **3**
 Date **4/6/2011**
 Time **9:30:54AM**

S T	So Gr rt de	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 4S	13	2		2	.1			2									
D	DO 4S	14	20	23.9	15	.7			15									
D	DO 4S	16	27		27	1.2			22	5								
D	DO 4S	17	1		1	.0				1								
D	DO 4S	18	5		5	.2			5									
D	DO 4S	19	1		1	.1				1								
D	DO 4S	20	15		15	.7			9		6							
D	DO 4S	21	3		3	.1			3									
D	DO 4S	22	21	17.1	17	.7		4	13									
D	DO 4S	23	0	33.3	0	.0			0									
D	DO 4S	24	27	4.0	26	1.1		2	22	1								
D	DO 4S	26	10		10	.4		0	10									
D	DO 4S	27	10		10	.4			10									
D	DO 4S	28	0		0	.0		0	0									
D	DO 4S	30	5		5	.2			5									
D	Totals		2,425	3.5	2,341	61.9		7	383	233	337	293	234	521	269	63		
A	DO CR	18	0		0	32.0			0									
A	DO CR	28	0		0	68.0					0							
A	Totals		0		0	.0			0		0							
NF	DO CU	4	0	100.0														
NF	DO 2S	30	0		0	90.0					0							
NF	DO 4S	16	0		0	10.0			0									
NF	Totals		0	9.1	0	.0			0		0							
S	DO 2S	20	6		6	100.0							6					
S	Totals		6		6	.2							6					
Total	All Species		3,948	4.3	3,780	100.0		7	671	396	504	464	528	798	319	94		



LOGGING PLAN MAP
 OF TIMBER SALE CONTRACT NO. 341-12-21
 WHITE NOISE
 PORTIONS OF SECTIONS 13, 14, 23, AND 24,
 T8N, R7W, W.M., CLATSOP COUNTY, OREGON

Approximate Net Acreage	MC Acres	PC Acres
Area 1 (PC) -		63
Area 2 (PC) -		134
Area 3 (PC) -		100
Area 4 (MC) -	28	
Area 5 (R/W) -	2	
Total =	30	297
Total Acreage = 327		

LEGEND

- Ownership Boundary
- Timber Sale Boundary
- - - - Nonposted Timber Sale Boundary
- ◆◆ Area Boundary
- Paved Road
- Rocked Road
- - - - New Road Construction
- ~ Fish Stream
- ~ Nonfish Stream
- ▨ Posted Stream Buffer
- ▩ Nonposted Stream Buffer
- ◆ Survey Monument
- ▧ Controlled Felling
- ⊗ Existing Wells
- Underground Utility Lines
- ⊕— Overhead Utility Lines
- /// Reforestation Area
- T Tractor Logging
- Line Pull Logging
- Cable Logging

LOGGING BREAKDOWN

	Tractor	Cable
Area 1 (PC) -	100%	0%
Area 2 (PC) -	90%	10%
Area 3 (PC) -	100%	0%
Area 4 (PC) -	100%	0%
Area 5 R/W	100%	0%
Total =	96%	4%

