



Timber Sale Appraisal
South Nic Part Deux
Sale 341-12-48

"STEWARDSHIP IN FORESTRY"

District: Astoria

Date: April 11, 2012

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$510,397.39	\$53,273.76	\$563,671.15
		Project Work:	\$(128,013.00)
		Advertised Value:	\$435,658.15



"STEWARDSHIP IN FORESTRY"

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timber description

Location: Portions of Sections 19, 29, & 30, T7N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 40%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	97
Western Hemlock / Fir	17	0	96
Alder (Red)	15	0	95

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	736	459	83	0	1,278
Western Hemlock / Fir	306	292	37	0	635
Alder (Red)	0	0	0	164	164
Total	1,042	751	120	164	2,077



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comments: Pond Values Used: 1st Quarter Calendar Year 2012.

Expected Log Markets: Clatskanie, Tillamook, Longview, Mist, Warrenton.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$727.25/\text{MBF} = \$945/\text{MBF} - \$217.75/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

100% Brand and Paint: $\$1/\text{MBF} \times 2,077 \text{ MBF} = \$2,077$

Machine washing for invasive weed compliance = \$4,000

TOTAL Other Costs (with Profit & Risk to be added) = \$6,077

Other Costs (No Profit & Risk added):

Clearing alder whips and debris on old landings with D6 or log loader: $0.5 \text{ hr} \times \$105/\text{hr.} \times 5 \text{ landings} = \263

Extra cost for intermediate supports:

5 supports @ 2 hr/support @ \$38/hr = \$380

Waterbar and block dirt road segments after harvest:

2 hrs @ \$94/hr = \$188

TOTAL Other Costs (No Profit & Risk added) = \$831



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logging conditions

combination#: 1 Douglas - Fir 63.00%
 Western Hemlock / Fir 63.00%
 Alder (Red) 63.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Manual Falling/Delimiting
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,500
cost / mbf: \$120.04

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

combination#: 2 Douglas - Fir 37.00%
 Western Hemlock / Fir 37.00%
 Alder (Red) 37.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Manual Falling/Delimiting
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,500
cost / mbf: \$95.57

machines: Log Loader (B)
 Track Skidder



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District: Astoria

Date: April 11, 2012

logging costs

Operating Seasons:	2.00	Profit Risk:	11.00%
Project Costs:	\$128,013.00	Other Costs (P/R):	\$6,077.00
Slash Disposal:	\$0.00	Other Costs:	\$831.00

Miles of Road

Road Maintenance: \$10.98

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.9
Western Hemlock / Fir	\$0.00	3.0	4.0
Alder (Red)	\$0.00	3.0	3.6



"STEWARDSHIP IN FORESTRY"

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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									
\$110.99	\$11.31	\$4.22	\$61.86	\$2.93	\$21.04	\$0.00	\$5.00	\$0.40	\$217.75
Western Hemlock / Fir									
\$110.99	\$11.42	\$4.22	\$60.90	\$2.93	\$20.95	\$0.00	\$5.00	\$0.40	\$216.81
Alder (Red)									
\$110.99	\$11.53	\$4.22	\$68.31	\$2.93	\$21.78	\$0.00	\$5.00	\$0.40	\$225.16

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$516.63	\$298.88	\$0.00
Western Hemlock / Fir	\$0.00	\$419.06	\$202.25	\$0.00
Alder (Red)	\$0.00	\$550.00	\$324.84	\$0.00



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Sale 341-12-48

District: Astoria

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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
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,278	\$298.88	\$381,968.64
Western Hemlock / Fir	635	\$202.25	\$128,428.75
Alder (Red)	164	\$324.84	\$53,273.76

Gross Timber Sale Value

Recovery: \$563,671.15

Prepared by: Jon Long

Phone: 503-325-5451

SUMMARY OF ALL PROJECT COSTS

SALE NAME: South Nic Part Deux

NEW CONSTRUCTION:

Project No. 1

<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
1A-1B & 1C-1D, & 1 E-1F.	7.00	\$7,395
<hr/>		
TOTALS	7.00 0.13 mile	\$7,395

ROAD IMPROVEMENT:

Project No. 1

<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
11-12, 13-14.	10.10	\$7,974
<hr/>		
TOTALS	10.10 0.19 mile	\$7,974

SPECIAL PROJECTS:

Project No. 2

<u>Description</u>	<u>Cost</u>
Knob Point Rock Crushing	\$105,361
<hr/>	
Project Work Road Maintenance	\$2,352
<hr/>	
TOTAL	\$107,713

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
Dozer (D6)	\$675
Dump Trucks (12 cy x 6)	\$846
F E Loader (C966)	\$675
Grader (14G)	\$675
Vibratory Roller	\$675
Excavator (C330)	\$1,220
Water Truck, 2,500 gallon	\$165.00
<hr/>	
TOTAL	\$4,931

GRAND TOTAL **\$128,013**

Compiled By: J. Long / E. Holloran

Date: 02/09/2012

FL

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: South Nic Part Deux
 ROAD Const. 1A-1B (2.5), 1C-1D (3.5), 1E-1F (1.0)
 Road Imp: I1-I2 (0.7), I3-I4 (9.4)

NEW CONSTRUCTION: 7.00 STATIONS 0.13 MILES
 IMPROVEMENT: 10.10 STATIONS 0.19 MILES

CLEARING & GRUBBING						
	Method	Acres/amount	x	Rate	=	Cost
	Scatter Outside of R/W					
	1A-1B, 1C-1D, & 1E-1F	0.70	x	\$1,161.00	=	\$812.70
	I1-I2, & I3-I4	1.00	x	\$782.00	=	\$782.00
	Endhaul Old Debris to W/A (I5 & I7)					
I5 & I7	C330x4hr, 1 12cy dump x 4hr.	1.00	x	\$868.00	=	\$868.00
SUB TOTAL FOR CLEARING & GRUBBING						\$2,463

EXCAVATION						
	Material	Cy/amount	x	Rate	=	Cost
	Balance Construction					
	1A-1B, 1C-1D, & 1E-1F \$\$/Sta.	7.00	x	\$106.00	=	\$742.00
	Landing Construction \$\$/Landing					
	1B, 1D, 1F	3.00	x	\$338.00	=	\$1,014.00
SUB TOTAL FOR EXCAVATION						\$1,756

CULVERT MATERIALS AND INSTALLATION												
	Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost		
I1-I2	0+00	18" CPP	40	\$17.64	\$705.60					\$0.00		
					\$0.00					\$0.00		
					\$0.00					\$0.00		
					\$0.00					\$0.00		
					\$0.00					\$0.00		
					\$0.00					\$0.00		
					\$0.00					\$0.00		
Description										Quantity	Rate	Cost
Other/miscellaneous:												\$0.00
Culvert stakes & markers:												\$0.00
Installed 6' Fiberglass Markers										1	\$18.00	\$18.00
												\$0.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION											\$724	

Subtotal of Clearing, Exc., Culv. **\$4,942**

SUMMARY OF CONSTRUCTION COSTS

Project No. 1

SALE NAME: South Nic Part Deux
 ROAD SEGMENTS A-1B (2+50), 1C-1D (3+50), 1I-12 (0+70)
13-14 (9+40)

NEW CONSTRUCTION: 7.00 STATIONS 0.13 MILES
 IMPROVEMENT: 10.10 STATIONS 0.19 MILES

SURFACING		Subgrade prep:	Description	Stations/amount		Rate/sta/amt	Cost	
			Grade, Shape and Ditch	17.10	x	\$21.55	\$368.51	
			Subgrade Compaction	17.10	x	\$17.52	\$299.59	
Subtotal Subgrade Prep.:								\$668.10
ROAD SEGMENT 1A to 1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B Volume (CY) per	0+00 to 2+50 Number of			
Base Rock	6"-0" Pit-run	0+00 to 2+50	12	station 75	stations 2.50	188	\$5.04	\$945
Landing	6"-0" Pit-run	1B	N/A	landing 50	landings 1	50	\$5.04	\$252
Total Rock for Road Segment:				1A to 1B		238		\$1,197
ROAD SEGMENT 1C to 1D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1C to 1D Volume (CY) per	0+00 to 3+50 Number of			
Base Rock	6"-0" Pit-run	0+00 to 3+50	12	station 75	stations 3.50	263	\$5.04	\$1,323
Junction Rock	6"-0" Pit-run	0+00	12	junction 22	junctions 1	22	\$5.04	\$111
Landing	6"-0" Pit-run	1D	N/A	landing 50	landings 1	50	\$5.04	\$252
Total Rock for Road Segment:				1C to 1D		335		\$1,686
ROAD SEGMENT 1E to 1F		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1E to 1F Volume (CY) per	0+00 to 1+00 Number of			
Base Rock	6"-0" Pit-run	0+00 to 1+00	12	station 75	stations 1.00	75	\$5.04	\$378
Junction Rock	6"-0" Pit-run	0+00	12	junction 22	junctions 1	22	\$5.04	\$111
Landing	6"-0" Pit-run	1F	N/A	landing 50	landings 1	50	\$5.04	\$252
Total Rock for Road Segment:				1E to 1F		147		\$741
ROAD SEGMENT 1I to 12		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1I to 12 Volume (CY) per	0+00 to 0+70 Number of			
Base Rock	6"-0" Pit-run	0+00 to 0+70	12	station 75	stations 0.70	53	\$5.04	\$265
Junction Rock	6"-0" Pit-run	0+00	12	junction 22	junctions 1	22	\$5.04	\$111
Landing	6"-0" Pit-run	12	N/A	landing 50	landings 1	50	\$5.04	\$252
Total Rock for Road Segment:				1I to 12		125		\$627
ROAD SEGMENT 13 to 14		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	13 to 14 Volume (CY) per	0+00 to 9+40 Number of			
Base Rock	6"-0" Pit-run	0+00 to 9+40	12	station 75	stations 9.40	705	\$5.04	\$3,553
Turnouts	6"-0" Pit-run	5+00	12	turnout 33	turnouts 1	33	\$5.04	\$166
Junction Rock	6"-0" Pit-run	0+00	12	junction 22	junctions 1	22	\$5.04	\$111
Turnaround	6"-0" Pit-run	9+00	N/A	turnaround 33	turnarounds 1	33	\$5.04	\$166
Total Rock for Road Segment:				13 to 14		793		\$3,997
ROAD SEGMENT 15, 16, 17, & 18		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	15, 16, 17, & 18 Volume (CY) per	Number of			
Landing	6"-0" Pit-run	15, 16, 17, 18	N/A	landing 50	landings 4	200	\$5.04	\$1,008
Total Rock for Landings:				15, 16, 17, & 18		200		\$1,008
						1,837		
		Description		No.sta	Rate/sta	Cost		
Processing:		Spread & Compact Pit Run Rock w/D8		17.1	\$29.40	\$503		\$503
ROCK SUMMARY								
		24"-6"rr	6"-0"pr	4"-0"	1 1/2"-0"	3/4"-0"	Total	
			1,837				1,837	
SUB TOTAL FOR SURFACING								\$10,427
SPECIAL PROJECTS								
		Description				Cost		
SUB TOTAL FOR SPECIAL PROJECTS							\$0	\$0
GRAND TOTAL								\$15,369

Road Maintenance Cost Summary

Sale: South Nic Part Deux
 Date: 09-Feb-12
 By: Jon Long

MBF: 2,077
 \$\$/MBF: \$10.98

PL

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Miles/day	Distance(miles)	Days	
Progressive Operations 1st Entry	Grader 14G	\$675	1	16	\$90	\$2,115	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 10CY	\$141	1	8	\$73	\$725	Grader	2.5	4.0	1.6
	FE Loader C966	\$675	1	4	\$74	\$971				
Final Road Maintenance	Grader 14G	\$675	1	70	\$90	\$6,975	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 10CY x 2	\$141	2	16	\$73	\$1,450	Grader	1.5	10.4	6.9
	FE Loader C966	\$675	1	8	\$74	\$1,267	Vibratory Roller*	1.5	10.4	6.9
	Vibratory Roller	\$675	1	70	\$72	\$5,715				
	Water Truck 2,500 gallon Labor	\$165	1	40	\$78	\$3,285				
Total										\$22,799

*Maintenance calculations were determined as follows:
 Haul Route is determined from sale area south to Northrup Creek County Road

*Final Road Maintenance Only

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 2 Timber Sale Name: South Nic Part Deux
 Quarry: Knob Point Swell: _____
 Location: NW 1/4,NW 1/4, Sec. 18, T7N, R6W Shrink: 16%
 County: Clatsop
 By: d.mellison / E. Holloran Loading Hopper: Yes
 Date: 01/18/2012 & 1-27-2012

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR	6,000		6,960
1-1/2"-0"		CR			
4"-0"		CR	3,000		3,480
6"-0"		PR		1,837	1,837
24"-6"		RR			
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			9,000	1,837	12,277

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
Dump Trucks		\$141		Off Highway Dump Truck		\$515	
Screening Plants		\$515		Screening Plant		\$515	
D8 Cat		\$1,220		Loading Hopper	1	\$515	\$515
D6 Cat	1	\$675	\$675	Loader		\$699	
Drill & Compressor	1	\$1,180	\$1,180				
Powder	1	\$327	\$327	3 Stage Crusher	1	\$2,694	\$2,694
Dump Trucks		\$141					
Excavator	1	\$1,220	\$1,220	Excavator		\$1,220	
SUB TOTAL FOR MOBILIZATION				\$6,612			

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$3,205	\$3,205
Screening Plants		\$273	
Loading Hopper	1	\$273	\$273
Original Calibration	1	\$507	\$507
SUB TOTAL FOR SET UP COSTS			\$3,985

TOTAL MOBILIZATION & SET UP COSTS **\$10,597**

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Pile & Burn Slash and Stumps(C330)	4	hr	\$144	\$576
Move-in Fire Truck for the burning of the Clearing Debris	1	ea	\$165	\$165

TOTAL CLEARING & GRUBBING COSTS **\$741**

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load haul, spread)	368	bcy		
Windrowed C330	2	hours	\$144.00	\$288

TOTAL EXCAVATION COSTS \$288

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping			\$2.20	
crushed	10,440	85%	Drill & shoot	100%	12,277	\$2.30	\$28,237
pit run	1,837	15%	Oversize red	1%	123	\$5.80	\$712
rip rap	0	0	Other				
Total	12,277						
reject							

TOTAL ROCK DEVELOPMENT COSTS \$28,949

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	1	\$507.00	\$507
Calibrate			
Test	4	\$57.30	\$229
Test			

TOTAL CALIBRATION & TESTING COSTS \$736

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	10,440	\$0.76	\$7,934

TOTAL FEEDING & LOADING COSTS \$7,934

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	6,960	3 stage w/s	115	\$3.38	\$23,543
1-1/2"-0"	crushed					
4"-0"	crushed	3,480	3 stage w/s	145	\$2.68	\$9,336

TOTAL ROCK CRUSHING COSTS \$32,879

8) STOCKPILING

STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer		\$105.00	
Compactor		\$72.00	
Grader	1	\$93.00	\$93.00
Excavator		\$144.00	
SUB TOTAL			

Rock for Floor (CY)	\$/CY Haul	Total
\$93.00		\$93

HAUL & STOCKPILE

STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. Knob Point	3/4"-0"	3	6,960	\$2.14	\$14,887
2.					
3. Knob Point	4"-0"	3	3,480	\$2.14	\$7,444
4.					
5.					
6.					

SUB TOTAL \$22,331

TOTAL STOCKPILING COSTS \$22,424

9) MISCELLANEOUS COSTS

DESCRIPTION				COST
Load, Haul, and Spread the reject material at the waste area.	/CY	CY		
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	C330	\$144	2	\$288
Stockpile shaping:	D6 Cat	\$105	5	\$525

TOTAL MISCELLANEOUS COSTS \$813

10) GRAND TOTAL: \$105,361

\$/Cubic Yard \$10.09

Footnotes:

Projects Road Maintenance Cost Summary

Sale: South Nic Part Deux
Date: 24-Jan-12
By: J. Long

Type	Equipment/Rationale	Hours	Rate	Cost
Final Haul	Grader 14G	10	\$93	\$930
Road	Dump Truck 12CY	2	\$73	\$146
Maintenance	FE Loader C966	2	\$77	\$154
Rock Haul				\$1,230
Final Haul	Grader 14G	4	\$93	\$372
Road	Dump Truck 12CY	1	\$73	\$73
Maintenance	FE Loader C966	1	\$77	\$77
Rock Haul	Vibratory Roller	4	\$72	\$288
to Stockpile	Water Truck 2,500 gallon	4	\$78	\$312
Total				\$1,122
				\$2,352

Knob Point to sale area
Light grading (or spot grading)
 Production Rates
 Grader

Miles/day	Distance(miles)	Days
3.0	4.2	1.4

Knob Point Quarry to Stockpile Site
 Production Rates
 Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	0.6	0.4
1.5	0.6	0.4

**South Nic Part Deux
FY 2012
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Area 1 is located in portions of Section 19, 29, and 30, T7N, R6W, W.M., Clatsop County, Oregon.

All timber sale areas are posted with ODF "Timber Sale Boundary" signs and pink ribbon.

2. **Fund Distribution: Fund:** BOF 280 Ac. (100%)
Tax Code: 30-05 100%

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acres	Non-Merch Areas	New R/W Acres	Stream Buffer Acres	Existing R/W Acres	Net Acreage
1	PC	301	3	0.5 *	7.5	21	269

* Negligible amount of volume exists on the Right-of-way.

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Andrew Arvin, Bryce Rogers, and Jon Long on January 11 and 13, 2012.
5. **Cruise Method and Computation:** Cruises used Corvallis MicroTechnology (CMT), and were downloaded to the Atterbury Super A.C.E. program at the Astoria 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.

A variable plot cruise with a 33.6 BAF for conifers and hardwoods was used. 47 plots were sampled on a 5 by 12 chain grid, with a count/cruise plot ratio of 2 counts to 1 grade.

There is approximately 0.5 acre of new right-of-way located in Area 1 with a negligible volume.

<u>AREA</u>	<u>PROJECT</u>	<u>TRACT</u>	<u>CRUISE TYPE</u>
1	SONIC	AREA 1	00PC, TAKE, LEAV

6. **Timber Description:** Area 1 – This stand is approximately 60 years old, consisting of Douglas-fir dominant mixed conifer stands with western hemlock and some red alder. This stand has been commercially thinned in 1997/1998. The average "take" volume per acre is approximately 7.7 MBF, the average tree size is approximately 16 inches DBH and 52 feet to a merchantable top (6" D.I.B. or 40% of the diameter at 16 feet). This stand will be harvested to an SDI of approximately 30%, with a basal area target of 140 ft², while retaining approximately 46 trees per acre with an average diameter of 24 inches.

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

Area	Type	Target CV	Target SE%	Actual CV	Actual SE%
1	00PC	40	7	28.1	4.1
1	TAKE	50	13	66.8	9.7

The statistics are for the Total Stand (00PC) and for the TAKE Stand (TAKE).

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). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	Camp Run	% D & B	% Sale
Douglas-fir	16	1,278	736	459	83		2.8	61
Western Hemlock	17	635	306	292	37		3.7	31
Red alder	15	164				164	4.3	8
TOTAL	16	2,077	1,042	751	120	164	3.2	100

9. Prepared by: Jon Long

Date: January 20, 2012

10. Approved by: 

Date: 2-10-12

11. **Attachments:**
- Cruise Plans & Maps (3 pages)
 - Species, Sort, Grade Reports (1 pages)
 - Statistics Reports (3 pages)
 - Stand Table Summary Reports (2 pages)
 - Log Stock Table Report (1 page)

X:\Sunset Unit\2012 FY Sales\South Nic Part Deux\Sale Prep\Cruise\Cruise Report_South Nic.doc

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: South Nic Part Deux **Area(s)** 1

Harvest Type: (PC) "Automark Thinning"

Approx. Cruise Acres: 280 **Estimated CV%** 40 Net BF/Acre **SE% Objective** 13 Net BF/Acre

Planned Sale Volume : 3,600 MBF **Estimated Sale Area Value/Acre:** \$2,400/Ac
(Area 1) (12 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 100 conifer and 10 hardwood trees
(b) Sample 48 cruise plots (1 grade/2 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 33.4 (Full point; Half point) (circle one)
Cruise Line Direction(s) (North/South)
Cruise Line Spacing 12 (chains)
Cruise Plot Spacing 5 (chains)
Grade/Count Ratio 1/2

Basal Area leave target is 150 sq. ft. Cruiser needs to select 4 or 5 leave trees per plot. Cruise all take and leave trees. All conifer less than 8" DBH and all cedar will be reserved. Record all snags as SN. Grade all alder as Camp Run. Leave 20 sq. ft. of alder basal area per plot greater than 12" DBH where available. Leave on average 150 sq. ft. basal area, biggest and best, regardless of species (thinning through alder and leaving all cedar).

C. Tree Measurements:

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

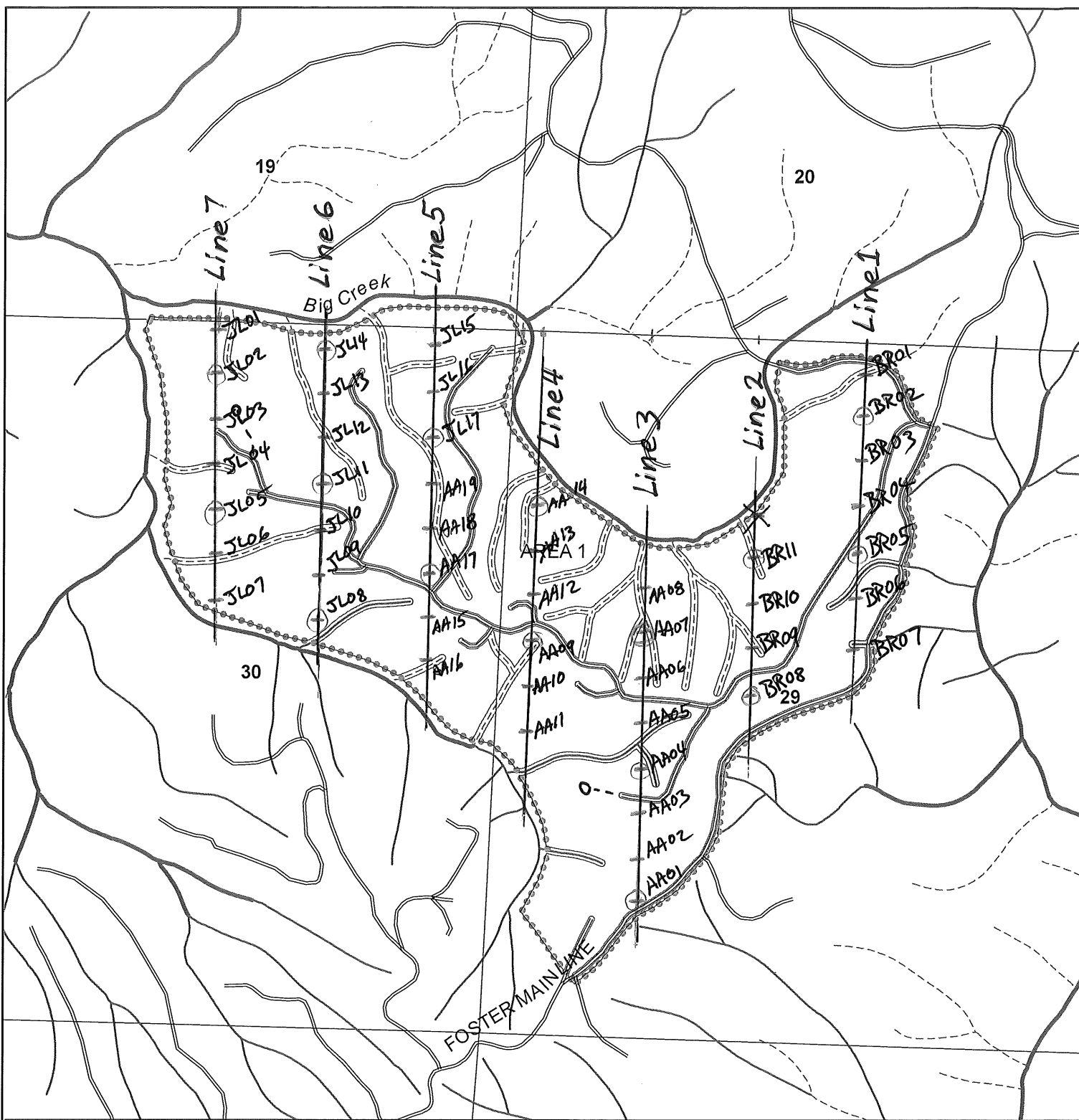
7. Deductions: Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results 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: Jon Long
Approved by: [Signature]
Date: 1/10/2012



Legend

- | | |
|------------------|----------------|
| Roads | Streams |
| Rocked | Fish |
| Unsurfaced | Nonfish |
| Cruise_Net_Acres | Unknown |
| Sale Area | Ownership |
| New Const. | Sections |

5 x 12 CH. SPACING
 16 Grade Plots
 32 Count Plots
 48 Total

FY 2012
South Nic Part Deux
Cruise Map
 Portions of Sections 19, 20, 29, and 30,
 T7N, R6W, W.M., Clatsop County, Oregon.

Area 1 (PC) - 271 Ac.

Total (PC) = 271 Acres
 Total Sale Acres = 327 (gross)

Approximate Scale 1" = 1,000



Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S29 TyTAKE 269.00

Project: SONIC
Acres 269.00

Page 1
Date 1/20/2012
Time 2:52:50PM

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
D		CU																0.00	.8
D		DOCU		100.0	41										3			0.00	.8
D		DO2S	57	1.2	2,767	2,735	736		13	77	10				37	253		1.72	10.8
D		DO3S	36	2.3	1,745	1,705	459		100						35	69		0.68	24.6
D		DO4S	7	6.1	332	312	84	12	88			63	37		18	19		0.40	16.2
D Totals			62	2.8	4,886	4,752	1,278	1	49	44	6	4	2	41	52	29	89	0.89	53.3
H		CU																0.00	.6
H		DOCU		100.0	67										6			0.00	.6
H		DO2S	48	.9	1,148	1,138	306		100						34	222		1.60	5.1
H		DO3S	46	1.2	1,099	1,085	292		53	47					39	111		0.82	9.8
H		DO4S	6		140	140	38	100				17	83		23	29		0.50	4.8
H Totals			31	3.7	2,454	2,362	635	30	70			1	5	38	56	32	113	0.96	20.9
A		DOCU		100.0	27										4			0.00	.7
A		DOCR	100		609	609	164		82	18		14	15	32	40	29	69	0.77	8.8
A Totals			8	4.3	636	609	164		82	18		14	15	32	40	27	64	0.76	9.5
Totals				3.2	7,976	7,723	2,077	0	46	50	4	4	4	40	52	30	92	0.89	83.7

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SONIC		DATE	1/18/2012		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	29	AREA 1	00PC	280.00	47	299	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL		47	299	6.4						
CRUISE		16	107	6.7	27,716		.4			
DBH COUNT										
REFOREST										
COUNT		31	192	6.2						
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	47	30.5	24.3	82		97.9	16,149	15,386	4,028	3,920
DOUG FIR	20	32.6	15.7	50		43.6	4,886	4,752	1,396	1,389
HEMLEAV	17	11.0	22.9	78		31.5	5,769	5,291	1,344	1,280
WHEMLOCK	9	11.2	16.7	61		17.2	2,454	2,362	658	646
SNAG	4	3.5	20.3	45		7.9	387		130	
ALDRLEAV	3	4.1	17.8	55		7.1	760	746	234	234
R ALDER	6	5.4	14.8	49		6.4	636	609	198	193
CEDLEAV	1	.6	21.0	32		1.4	30	30	24	24
TOTAL	107	99.0	19.9	64		213.0	31,070	29,176	8,012	7,686
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		
DOUGLEAV	53.3	7.8	580	629	678					
DOUG FIR	77.1	17.7	191	232	273					
HEMLEAV	45.4	11.3	491	554	616					
WHEMLOCK	53.8	19.0	211	260	309					
SNAG										
ALDRLEAV	17.5	12.1	161	183	206					
R ALDER	50.2	22.3	96	123	151					
CEDLEAV										
TOTAL	75.3	7.3	410	442	474	226	57	25		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	43.2	6.3	29	31	32					
DOUG FIR	97.9	14.3	28	33	37					
HEMLEAV	127.8	18.6	9	11	13					
WHEMLOCK	167.2	24.4	8	11	14					
SNAG	222.5	32.4	2	3	5					
ALDRLEAV	259.0	37.8	3	4	6					
R ALDER	332.6	48.5	3	5	8					
CEDLEAV	479.5	69.9	0	1	1					
TOTAL	41.5	6.1	93	99	105	69	17	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	39.1	5.7	92	98	104					
DOUG FIR	83.3	12.1	38	44	49					
HEMLEAV	118.7	17.3	26	31	37					
WHEMLOCK	162.7	23.7	13	17	21					
SNAG	239.3	34.9	5	8	11					
ALDRLEAV	258.1	37.6	4	7	10					
R ALDER	320.0	46.6	3	6	9					
CEDLEAV	479.5	69.9	0	1	2					

STATISTICS
PROJECT SONIC

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	29	AREA 1	00PC	280.00	47	299	1	W
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
TOTAL	24.2	3.5	206	213	221	23	6	3	
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	41.7	6.1	14,452	15,386	16,321				
DOUG FIR	85.9	12.5	4,157	4,752	5,346				
HEMLEAV	119.9	17.5	4,366	5,291	6,215				
WHEMLOCK	171.3	25.0	1,773	2,362	2,952				
SNAG									
ALDRLEAV	258.5	37.7	465	746	1,027				
R ALDER	315.5	46.0	329	609	889				
CEDLEAV	479.5	69.9	9	30	50				
TOTAL	28.1	4.1	27,983	29,176	30,369	31	8	3	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SONIC		DATE	1/18/2012		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	29	AREA 1	LEAV	280.00	47	204	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		47	204	4.3						
CRUISE		16	72	4.5	13,922		.5			
DBH COUNT										
REFOREST										
COUNT		31	132	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
DOUGLEAV	47	30.5	24.3	82	21	97.9	16,149	15,386	4,028	3,920
HEMLEAV	17	11.0	22.9	78	7	31.5	5,769	5,291	1,344	1,280
SNAG	4	3.5	20.3	45		7.9	387		130	
ALDRLEAV	3	4.1	17.8	55	2	7.1	760	746	234	234
CEDLEAV	1	.6	21.0	32		1.4	30	30	24	24
TOTAL	72	49.7	23.2	76	30	145.8	23,094	21,453	5,760	5,458
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		
DOUGLEAV	53.3	7.8	580	629	678					
HEMLEAV	45.4	11.3	491	554	616					
SNAG										
ALDRLEAV	17.5	12.1	161	183	206					
CEDLEAV										
TOTAL	62.3	7.3	509	549	590	155	39	17		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	43.2	6.3	29	31	32					
HEMLEAV	127.8	18.6	9	11	13					
SNAG	222.5	32.4	2	3	5					
ALDRLEAV	259.0	37.8	3	4	6					
CEDLEAV	479.5	69.9	0	1	1					
TOTAL	28.4	4.1	48	50	52	32	8	4		
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	39.1	5.7	92	98	104					
HEMLEAV	118.7	17.3	26	31	37					
SNAG	239.3	34.9	5	8	11					
ALDRLEAV	258.1	37.6	4	7	10					
CEDLEAV	479.5	69.9	0	1	2					
TOTAL	19.4	2.8	142	146	150	15	4	2		
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	41.7	6.1	14,452	15,386	16,321					
HEMLEAV	119.9	17.5	4,366	5,291	6,215					
SNAG										
ALDRLEAV	258.5	37.7	465	746	1,027					
CEDLEAV	479.5	69.9	9	30	50					
TOTAL	22.5	3.3	20,749	21,453	22,157	20	5	2		

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				SONIC				DATE	1/18/2012	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	29	AREA 1	TAKE	280.00	47	94	1	W	
				TREES	ESTIMATED		PERCENT			
				PER PLOT	TOTAL		SAMPLE			
					TREES		TREES			
TOTAL		47	94	2.0						
CRUISE		16	35	2.2	13,795		.3			
DBH COUNT										
REFOREST										
COUNT		26	59	2.3						
BLANKS		5								
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	20	32.6	15.7	50		43.6	4,886	4,752	1,396	1,389
WHEMLOCK	9	11.2	16.7	61		17.2	2,454	2,362	658	646
R ALDER	6	5.4	14.8	49		6.4	636	609	198	193
TOTAL	35	49.3	15.8	52		67.2	7,976	7,723	2,252	2,227
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		
DOUG FIR	77.1	17.7	191	232	273					
WHEMLOCK	53.8	19.0	211	260	309					
R ALDER	50.2	22.3	96	123	151					
TOTAL	72.0	12.2	194	221	247		207	52	23	
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	97.9	14.3	28	33	37					
WHEMLOCK	167.2	24.4	8	11	14					
R ALDER	332.6	48.5	3	5	8					
TOTAL	76.5	11.1	44	49	55		233	58	26	
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	83.3	12.1	38	44	49					
WHEMLOCK	162.7	23.7	13	17	21					
R ALDER	320.0	46.6	3	6	9					
TOTAL	65.1	9.5	61	67	74		169	42	19	
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	85.9	12.5	4,157	4,752	5,346					
WHEMLOCK	171.3	25.0	1,773	2,362	2,952					
R ALDER	315.5	46.0	329	609	889					
TOTAL	66.8	9.7	6,971	7,723	8,475		178	45	20	

TC TSTNDSUM		Stand Table Summary																		
Project SONIC											T07N R06W S29 TLEAV									
Twp Rge Sec Tract		Type		Acres		Plots		Sample Trees		Page: 1										
07N 06W 29 AREA 1		LEAV		280.00		47		72		Date: 01/18/20										
										Time: 11:36:05AM										
S Spec	T	Sample		Av		Trees/		BA/		Logs		Average Log		Net		Net		Totals		
		DBH	Trees	FF	Ht	Acres	Acres	Acres	Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF				
DL		16	2	82	75	2.985	4.17	4.48	26.7	80.0		119	358				334	100		
DL		17	1	88	109	1.322	2.08	2.64	32.5	120.0		86	317				241	89		
DL		18	1	88	87	1.179	2.08	2.36	30.5	105.0		72	248				201	69		
DL		19	1	88	99	1.058	2.08	2.12	38.0	130.0		80	275				225	77		
DL		20	4	84	85	3.821	8.34	7.64	35.7	113.8		273	869				765	243		
DL		21	2	85	103	1.733	4.17	3.47	45.5	150.0		158	520				441	146		
DL		22	1	85	95	.789	2.08	1.58	49.5	175.0		78	276				219	77		
DL		23	3	88	113	2.167	6.25	5.78	48.1	202.5		278	1,170				779	328		
DL		24	5	87	115	3.317	10.42	9.29	49.7	205.7		462	1,910				1,293	535		
DL		25	2	85	112	1.223	4.17	3.06	57.2	218.0		175	666				490	187		
DL		26	4	82	108	2.261	8.34	5.65	52.0	193.0		294	1,091				823	305		
DL		28	8	84	112	3.899	16.67	10.72	64.2	252.3		689	2,705				1,928	757		
DL		29	1	85	130	.454	2.08	1.36	77.3	340.0		105	463				295	130		
DL		30	2	83	119	.849	4.17	2.12	65.2	290.0		138	616				387	172		
DL		31	3	84	131	1.193	6.25	3.58	85.1	378.9		305	1,356				853	380		
DL		33	3	83	121	1.053	6.25	3.16	89.3	385.6		282	1,217				790	341		
DL		34	2	84	115	.661	4.17	1.65	106.0	424.0		175	701				490	196		
DL		36	1	86	93	.295	2.08	.59	103.0	445.0		61	262				170	73		
DL		37	1	83	116	.279	2.08	.84	108.0	436.7		90	366				253	102		
DL	Totals	47	85	104		30.536	97.94	72.08	54.4	213.5		3,920	15,386				10,977	4,308		
HL		15	1	96	101	1.508	1.85	3.02	28.5	120.0		86	362				241	101		
HL		17	1	91	69	1.174	1.85	2.35	25.5	95.0		60	223				168	62		
HL		21	1	88	101	.769	1.85	2.31	37.7	153.3		87	354				243	99		
HL		22	2	87	83	1.402	3.70	2.80	42.3	160.0		118	449				332	126		
HL		23	1	89	103	.641	1.85	1.28	64.5	225.0		83	289				232	81		
HL		24	1	86	78	.589	1.85	1.18	41.0	130.0		48	153				135	43		
HL		25	3	87	103	1.628	5.55	4.34	57.3	242.5		249	1,053				696	295		
HL		26	4	88	103	2.007	7.40	5.52	59.3	256.4		327	1,415				916	396		
HL		28	2	87	104	.865	3.70	2.16	68.2	304.0		148	658				413	184		
HL		30	1	82	103	.377	1.85	1.13	66.0	296.7		75	335				209	94		
HL	Totals	17	89	95		10.961	31.46	26.09	49.1	202.8		1,280	5,291				3,585	1,481		
AL		16	1	86	71	1.707	2.38	3.41	24.0	85.0		82	290				229	81		
AL		18	1	87	59	1.348	2.38	2.70	26.0	80.0		70	216				196	60		
AL		20	1	87	74	1.092	2.38	2.18	37.5	110.0		82	240				229	67		
AL	Totals	3	87	68		4.147	7.15	8.29	28.2	90.0		234	746				655	209		
CL		21	1	81	39	.594	1.43	.59	40.0	50.0		24	30				67	8		
CL	Totals	1	81	39		.594	1.43	.59	40.0	50.0		24	30				67	8		
SN		15	2	85	52	3.204	3.93													
SN		45	1	86	47	.178	1.97													
SN		60	1	70	60	.100	1.97													
SN	Totals	4	85	52		3.482	7.86													
Totals		72	86	95		49.721	145.84	107.06	51.0	200.4		5458	21,453				15,284	6,007		

Log Stock Table - CCF

Project: SONIC

T07N R06W S29 TTAKE

T07N R06W S29 TTAK

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1
07N	06W	29	AREA 1	TAKE	280.00	47	35	Date	1/18/2012
								Time	11:58:07AM

S Spp	So T	Gr rt	Log de	Len	Gross CCF	% Def	Net CCF	% 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			CU																		
D			DO	CU	3	21	100.0														
D			DO	2S	32	447		447	11.5					290		157					
D			DO	2S	34	151		151	3.9					151							
D			DO	2S	40	1,317		1,317	33.9					104	164	1049					
D			DO	3S	32	386		386	9.9			121	266								
D			DO	3S	34	610		610	15.7			452		157							
D			DO	3S	40	655		655	16.8			399	166	90							
D			DO	4S	13	23		23	.6			23									
D			DO	4S	14	16		16	.4			16									
D			DO	4S	16	94		94	2.4			25	69								
D			DO	4S	18	29		29	.7			29									
D			DO	4S	20	23		23	.6				23								
D			DO	4S	24	102		102	2.6				102								
D			DO	4S	26	37		37	1.0				37								
D			Totals			3,910		3,889	62.4			53	1242	431	502	454	1049	157			
H			CU																		
H			DO	CU	6	34	100.0														
H			DO	2S	32	454		454	25.1					211	102	142					
H			DO	2S	34	145		145	8.0					145							
H			DO	2S	40	175		175	9.7						175						
H			DO	3S	34	57		57	3.2			57									
H			DO	3S	40	822		822	45.4			298		176	348						
H			DO	4S	20	37		37	2.1			37									
H			DO	4S	24	117		117	6.5			117									
H			Totals			1,842	1.8	1,808	29.0			510		176	704	277	142				
A			DO	CU	4	15	100.0														
A			DO	CR	16	47		47	8.8			47									
A			DO	CR	20	29		29	5.4			29									
A			DO	CR	30	65		65	12.0					65							
A			DO	CR	32	157		157	29.2				157								
A			DO	CR	40	241		241	44.6			149			91						
A			Totals			555	2.7	539	8.6			226	157	65	91						
Total All Species						6,307	1.1	6,237	100.0			53	1977	589	743	1250	1326	298			

Stand Table Summary

Project **SONIC**

T07N R06W S29 TTAKE

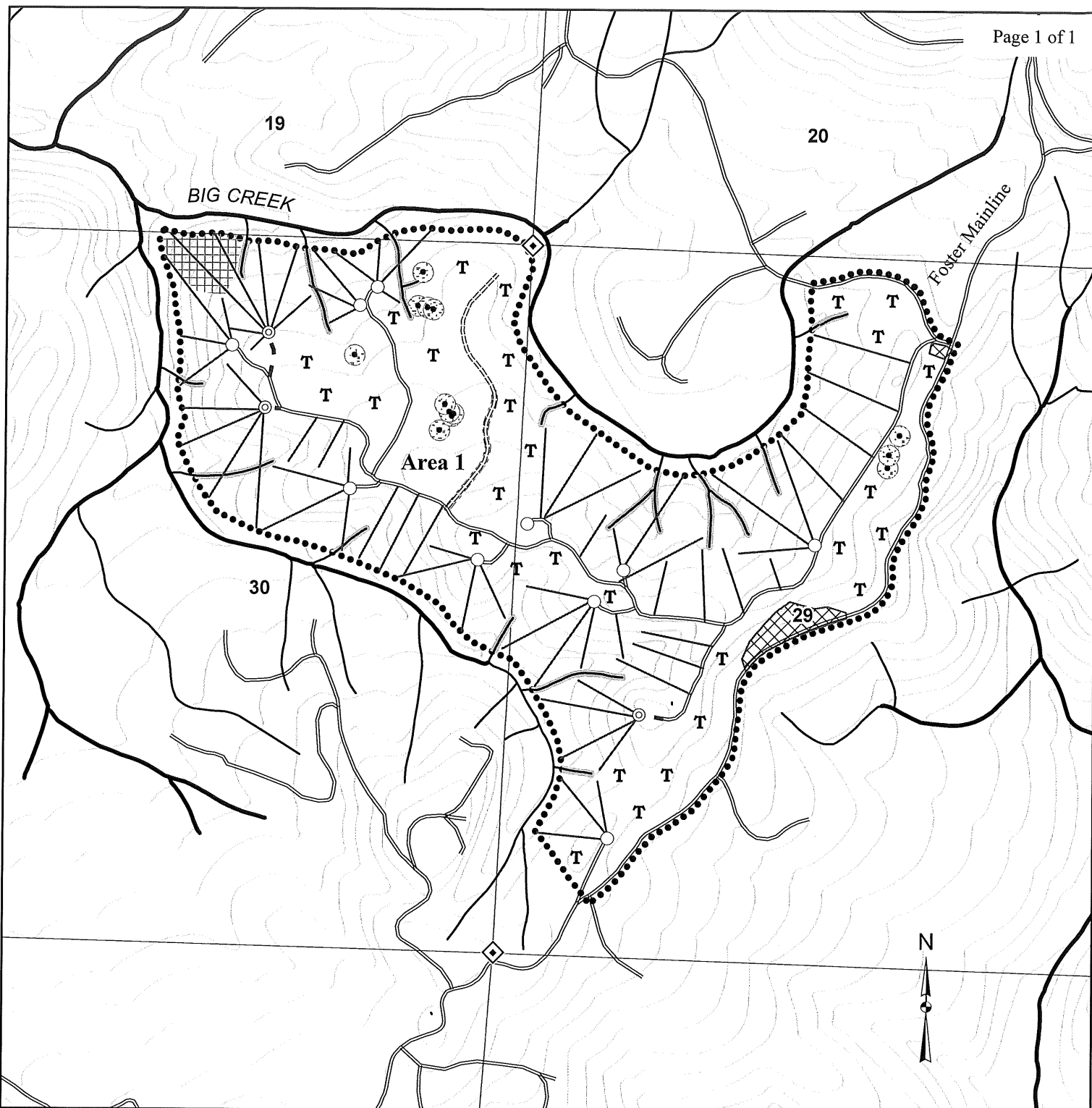
T07N R06W S29 TTAK

Twp Rge Sec Tract
07N 06W 29 AREA 1

Type Acres Plots Sample Trees
TAKE 280.00 47 35

Page: 1
Date: 01/18/20
Time: 11:58:33AM

Spc	T	Sample			Av			Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF	Ht	16'	Tot	Trees/ Acre	BA/ Acre				Logs Acre	Net Cu.Ft.	Net Bd.Ft.
D		9	1	89	20	4.935	2.18	4.94	5.0	20.0	25	99		69	28
D		12	2	84	45	5.799	4.36	5.80	14.4	39.6	83	229		234	64
D		13	1	85	50	2.366	2.18	2.37	19.0	50.0	45	118		126	33
D		14	3	86	63	6.119	6.54	10.20	16.4	42.0	167	428		468	120
D		15	1	88	59	1.777	2.18	3.55	16.0	50.0	57	178		159	50
D		16	1	85	96	1.562	2.18	3.12	26.5	100.0	83	312		232	87
D		17	1	88	89	1.383	2.18	2.77	27.5	100.0	76	277		213	77
D		18	2	87	91	2.468	4.36	4.94	30.7	102.5	152	506		425	142
D		21	1	86	105	.907	2.18	1.81	50.0	180.0	91	326		254	91
D		22	2	87	104	1.652	4.36	4.13	41.6	160.0	172	661		481	185
D		23	3	87	108	2.267	6.54	5.29	51.4	192.9	272	1,020		762	286
D		24	2	85	102	1.388	4.36	2.78	60.0	215.0	167	597		466	167
D		Totals	20	86	65	32.622	43.61	51.69	26.9	91.9	1,389	4,752		3,889	1,330
H		11	1	91	33	2.889	1.91	2.89	11.0	30.0	32	87		89	24
H		16	2	91	106	2.731	3.81	5.46	33.0	122.5	180	669		505	187
H		17	2	90	84	2.419	3.81	4.84	31.0	110.0	150	532		420	149
H		18	1	85	88	1.079	1.91	2.16	33.5	105.0	72	227		202	63
H		21	1	89	98	.793	1.91	1.59	54.5	210.0	86	333		242	93
H		22	1	89	109	.722	1.91	2.17	41.0	173.3	89	376		249	105
H		24	1	86	68	.607	1.91	.61	60.0	230.0	36	140		102	39
H		Totals	9	90	78	11.239	17.16	19.70	32.8	119.9	646	2,362		1,808	661
A		13	1	86	82	1.163	1.07	2.33	17.0	60.0	40	140		111	39
A		14	2	87	65	2.082	2.14	3.09	19.8	60.2	61	186		171	52
A		15	1	86	53	.935	1.07	.94	27.0	60.0	25	56		71	16
A		17	1	87	63	.680	1.07	1.36	21.0	75.0	29	102		80	29
A		19	1	86	73	.545	1.07	1.09	35.0	115.0	38	125		107	35
A		Totals	6	87	67	5.405	6.43	8.80	21.9	69.2	193	609		539	170
Totals			35	87	68	49.266	67.20	80.19	27.8	96.3	2227	7,723		6,237	2,162



LEGEND

- | | | | |
|--|---------------------------|--|-------------------------|
| | Survey Corners | | Tractor Yarding Area |
| | Sale Area | | Cable Yarding Area |
| | Rocked Roads | | Intermediate Support |
| | Unsurfaced Roads | | Non-Thinnable |
| | Existing Landing | | Nonposted Stream Buffer |
| | New Road Construction | | Patch Cut |
| | New Construction Landings | | |

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-12-48
 SOUTH NIC PART DEUX
 PORTIONS OF SECTIONS 19, 29, AND 30,
 T7N, R6W, W.M., CLATSOP COUNTY, OREGON.

Area 1 (PC) - 269 Acres

Total (PC) = 269 Acres

Approximate Scale 1" = 1,000'

