



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Bert & Ernie  
Sale 341-11-02

District: Astoria

Date: February 14, 2011

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**cost summary**

	<b>Conifer</b>	<b>Hardwood</b>	<b>Total</b>
<b>Gross Timber Sale Value</b>	\$917,314.73	\$194,605.96	\$1,111,920.69
		<b>Project Work:</b>	\$(86,669.00)
		<b>Advertised Value:</b>	\$1,025,251.69



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**timber description**

**Location:** Portions of Sections 31 & 32, T7N, R6W, and portions of Section 6, T6N, R6W, W.M., Clatsop County, Oregon.

**Stand Stocking:** 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	97
Western Hemlock / Fir	21	0	97
Alder (Red)	16	0	95
Maple	18	0	95

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	2,162	295	38	0	2,495
Western Hemlock / Fir	283	39	11	0	333
Alder (Red)	0	0	0	565	565
Maple	0	0	0	28	28
Total	2,445	334	49	593	3,421



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comments: Pond Values Used: 4th Quarter Calendar Year 2010.

Expected Log Markets: Mist, Clatskanie, Tillamook, Forest Grove, Longview, and Garibaldi.

Western redcedar and Other Cedars Stumpage Price = Pond Value  
minus Logging Cost  
 $\$867.11/\text{MBF} = \$960.00/\text{MBF} - \$92.89/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$700 daily truck cost.

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

100% Brand and Paint:  $\$1/\text{MBF} \times 3,421/\text{MBF} = \$3,421$

Log Loader Slash & Landing Piling (includes Move-In and Pile Materials): (see attached appraisal) = \$6,109

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

TOTAL Other Costs (with Profit & Risk to be added) = \$13,530

Other Costs (No Profit & Risk added):

Snag Creation: Create 45 snags  $\times \$40.00/\text{snag} = \$1,800$

TOTAL Other Costs (No Profit & Risk added) = \$1,800



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**logging conditions**

**combination#: 1**

Douglas - Fir	81.00%
Western Hemlock / Fir	81.00%
Alder (Red)	81.00%
Maple	81.00%

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Cable: Medium Tower >40 - <70      **Process:** Stroke Delimber  
**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 8.0      **bd. ft / load:** 5,000  
**cost / mbf:** \$83.60

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

**combination#: 2**

Douglas - Fir	19.00%
Western Hemlock / Fir	19.00%
Alder (Red)	19.00%
Maple	19.00%

**yarding distance:** Short (400 ft)      **downhill yarding:** No  
**logging system:** Shovel      **Process:** Stroke Delimber  
**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 11.0      **bd. ft / load:** 5,000  
**cost / mbf:** \$26.15

**machines:** Stroke Delimber (B)



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**logging costs**

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$86,669.00	Other Costs (P/R):	\$13,530.00
Slash Disposal:	\$0.00	Other Costs:	\$1,800.00

**Miles of Road**

Road Maintenance: \$6.00

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

**Hauling Costs**

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	5.0
Western Hemlock / Fir	\$0.00	3.0	4.2
Alder (Red)	\$0.00	2.0	3.5
Maple	\$0.00	2.0	3.0



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District: Astoria

Date: February 14, 2011

**logging costs breakdown**

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$72.68	\$6.18	\$2.56	\$42.92	\$3.95	\$15.39	\$0.00	\$5.00	\$0.53	\$149.21
<b>Western Hemlock / Fir</b>									
\$72.68	\$6.18	\$2.56	\$51.09	\$3.95	\$16.38	\$0.00	\$5.00	\$0.53	\$158.37
<b>Alder (Red)</b>									
\$72.68	\$6.30	\$2.56	\$93.75	\$3.95	\$21.51	\$0.00	\$5.00	\$0.53	\$206.28
<b>Maple</b>									
\$72.68	\$6.30	\$2.56	\$109.38	\$3.95	\$23.38	\$0.00	\$5.00	\$0.53	\$223.78

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$483.69	\$334.48	\$0.00
Western Hemlock / Fir	\$0.00	\$406.98	\$248.61	\$0.00
Alder (Red)	\$0.00	\$540.00	\$333.72	\$0.00
Maple	\$0.00	\$440.00	\$216.22	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Bert & Ernie  
Sale 341-11-02

District: Astoria

Date: February 14, 2011

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
Maple	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	2,495	\$334.48	\$834,527.60
Western Hemlock / Fir	333	\$248.61	\$82,787.13
Alder (Red)	565	\$333.72	\$188,551.80
Maple	28	\$216.22	\$6,054.16

**Gross Timber Sale Value**

Recovery: \$1,111,920.69

Prepared by: Jasen McCoy

Phone: 503-325-5451

### Site Prep Appraisal

**Sale Number:** 341-11-02  
**Sale Name:** Bert & Ernie  
**Date:** 11/03/2010

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	3.0

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	E	10	15	\$110.00	\$1,650.00
2	MC	E	2	3	\$110.00	\$330.00
3	MC	E	5	7.5	\$110.00	\$825.00

**Sub Total = \$2,805.00**

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
1	3	\$263.00	\$789.00	30	\$5.00	\$150.00
2	3	\$263.00	\$789.00	6	\$5.00	\$30.00
3	2	\$263.00	\$526.00	15	\$5.00	\$75.00

\*Cost includes separating firewood

**Sub Total = \$2,359.00**

Move-In Allowance	Number of Move-In's	Total Move-In Allowance
\$945.00	1	\$945.00

**Sub Total = \$945.00**

**Grand Total = \$6,109.00**



**Road Maintenance Cost Summary**

Sale: Bert & Ernie  
 Date: 03-Nov-10  
 By: Jasen McCoy

MBF: 3.421  
 \$\$/MBF: \$6.00

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Production Rates	Miles/day	Distance(miles)	Days
Progressive Operations 1nd Entry	Grader 14G	\$675	1	20	\$93	\$2,535	Grader	2.5	4.0	1.6
	Dump Truck 12CY x 1	\$141	1	8	\$73	\$725				
	FE Loader C966	\$675	1	8	\$77	\$1,291				
Final Road Maintenance	Grader 14G	\$675	1	50	\$93	\$5,325	Grader	1.5	7.5	5.0
	Dump Truck 12CY x 2	\$282	2	16	\$73	\$2,618				
	FE Loader C966	\$675	1	8	\$77	\$1,291	Vibratory Roller*	1.5	7.5	5.0
	Vibratory Roller	\$675	1	50	\$72	\$4,275				
	Water Truck 2,500 gallon Labor	\$165	1	24	\$83	\$2,157				
<b>Total</b>										\$20,521

\*Final Road Maintenance Only

**SUMMARY OF ALL PROJECT COSTS**

**SALE NAME:** Bert & Ernie

**ROAD IMPROVEMENT:**

Project No. 1

<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
I1-I2 and I2-I3	191.00	\$55,469
<b>TOTALS</b>	3.62 miles 191.00	\$55,469

**SPECIAL PROJECTS:**

Project No. 2

Roadside Brushing	\$23,400
Project Work Road Maintenance	\$3,990

**MOVE IN:**

<u>Equipment</u>	<u>Cost</u>
Dump Trucks (12 cy x 4)	\$564
Dump Trucks (20 cy x 3)	\$498
F E Loader (C966)	\$675
Grader (14G)	\$675
Vibratory Roller	\$675
Water Truck (2,500 gallon)	\$165
Backhoe (C 580)	\$279
Brush Cutter (Medium) 15' Vertical Reach	\$279
<b>TOTAL</b>	\$3,810

**GRAND TOTAL** **\$86,669**

Compiled By: J. McCoy

Date: 12/09/2010

**Project No. 1 Road Improvement**

**SUMMARY OF CONSTRUCTION COSTS**

SALE NAME: Bert & Ernie  
 ROAD: I1-I2 (139+60) and I2-I3 (51+40)  
 NEW CONSTRUCTION: 0.00 STATIONS  
 IMPROVEMENT: 191.00 STATIONS  
 0.00 MILES  
 3.62 MILES

SURFACING		Subgrade prep:		Description		Stations/ amount	Rate/ sta/amt	Cost
				Grade, Shape and Ditch (I1 to I2 & I2 to I3)		191.00	\$21.55	\$4,116.05
				Scatter ditch waste materials (I1 to I2 & I2 to I3)		158.00	\$10.78	\$1,703.24
				End haul ditch waste materials		33.00	\$19.89	\$656.37
				Surfacing Rock Processing and Compaction Subgrade Leveling (I1 to I2 & I2 to STA. 25+45)		165.05	\$21.08	\$3,479.25
<b>ROAD SEGMENT I1 to I2</b>		<b>POINT TO POINT I1 to I2</b>		<b>Sta. to Sta. 0+00 to 139+60</b>		<b>TOTAL VOLUME (CY)</b>	<b>Rate/ Sta./ amt.</b>	<b>Cost</b>
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of			
Subgrade Leveling	3/4"-0" Crushed	I1 to I2	N/A	station	stations	100	\$6.25	\$625
Surfacing	3/4"-0" Crushed	I1 to I2	4	turnout	turnout	4,048	\$6.25	\$25,303
Turnouts	3/4"-0" Crushed	I1 to I2	4	junction	junction	143	\$6.25	\$894
Junctions	3/4"-0" Crushed	I1 to I2	4	landings	landings	165	\$6.25	\$1,031
Total Rock for Road Segment:						4,456		\$27,853
<b>ROAD SEGMENT I2 to I3</b>		<b>POINT TO POINT I2 to I3</b>		<b>Sta. to Sta. 0+00 to 51+40</b>		<b>TOTAL VOLUME (CY)</b>	<b>Rate/ Sta./ amt.</b>	<b>Cost</b>
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of			
Traction Rock	3/4"-0" Crushed	0+00 to 25+45	3	station	stations	484	\$6.25	\$3,022
Turnouts	3/4"-0" Crushed	I2 to I3	3	turnout	turnout	22	\$6.25	\$138
Junctions	3/4"-0" Crushed	I2 to I3	3	junction	junction	22	\$6.25	\$138
Total Rock for Road Segment:						528		\$3,297
<b>ROAD SEGMENT I4, I5, I6, I7, I8, I9, I10, I11</b>		<b>POINT TO POINT I4, I5, I6, I7, I8, I9, I10, I11</b>		<b>Sta. to Sta. I4, I5, I6, I7, I8, I9, I10, I11</b>		<b>TOTAL VOLUME (CY)</b>	<b>Rate/ Sta./ amt.</b>	<b>Cost</b>
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of			
Landings	6"-0" Pit Run	I4, I5, I6, I7, I8, I9, I10, I11	N/A	landing	landings	320	\$8.65	\$2,768
Total Rock for Landings:						320		\$2,768
Processing: Description		Water, Process & Compact Crushed Rock				No. sta	Rate/sta	Cost
						191.00	\$49.02	\$9,363
<b>SUB TOTAL FOR SURFACING</b>								\$53,235.42
<b>SPECIAL PROJECTS</b>		Description		Quantity	Rate	Cost		
Develop Pit-run Rock		\$2.30/cy		320	\$2.30	\$736.00		
Excavation: Landing Construction (I9)				1	\$338.00	\$338.00		
Cutslope Rounding - I1 to I2 @ 112+00 (8hr C580 x \$72/hr + 12cy Truck x \$73/hr)						\$1,160.00		
<b>SUB TOTAL FOR SPECIAL PROJECTS</b>								\$2,234
<b>GRAND TOTAL</b>								\$55,469.42

CRUSHED ROCK COST

SALE NAME: Bert & Ernie  
 PROJECT: No. 1  
 QUARRY: Knob Point Stockpile

MATERIAL: Crushed

DATE: 12/09/2010  
 BY: J. McCoy

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	
11 to 12	139.60	4,456			1.50	2.40	1.50	0.50	0.10	6.00
12 to 13	51.40	528			1.50	1.40	1.50	0.50	0.10	5.00
<b>TOTAL</b>	191.00	4,984			1.50	2.29	1.50	0.50	0.10	<b>AVERAGE HAUL 5.89</b>
<b>CUBIC YARD WEIGHTED HAUL</b>	STA./NO.	CU. YD.			1.50	2.29	1.50	0.50	0.10	
Average Round Trip Distance (miles)									11.79	

ROCK HAUL:

Truck type: <u>D20</u>	No. trucks: <u>3</u>	
Delay min.: <u>8</u>	Efficiency: <u>85%</u>	Ave haul: \$4.94 /cy
		Load: \$0.48 /cy
Truck type: <u>D12</u>	No. trucks: <u>4</u>	
Delay min.: <u>6</u>	Efficiency: <u>85%</u>	Spread: \$0.84 /cy
Truck type: <u>D10</u>	No. trucks: _____	Production: cy/day = 929
Delay min.: <u>5</u>	Efficiency: <u>85%</u>	

CRUSHED ROCK HAUL COSTS 4,984 cy @ \$6.25 /cy

PIT RUN ROCK COST

SALE NAME: Bert & Ernie  
 PROJECT: No. 1  
 QUARRY: Northrup

MATERIAL: Pit Run

DATE: 12/09/2010  
 BY: J. McCoy

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	
I4 through I11	N/A	320			1.00	1.00	2.90	0.50	0.10	5.50
<b>TOTAL</b>		320			1.00	1.00	2.90	0.50	0.10	<b>AVERAGE HAUL</b> 5.50
STA./NO.		CU. YD.	Average Round Trip Distance (miles)							11.00
CUBIC YARD WEIGHTED HAUL										

ROCK HAUL:

Truck type: D20 No. trucks: \_\_\_\_\_  
 Delay min.: 8 Efficiency: 85%  
 Truck type: D12 No. trucks: 4  
 Delay min.: 6 Efficiency: 85%  
 Truck type: D10 No. trucks: \_\_\_\_\_  
 Delay min.: 5 Efficiency: 85%

Ave haul: \$5.67 /cy  
 Load: \$1.08 /cy  
 Spread: \$1.91 /cy

Production: cy/day = 412

PIT RUN ROCK HAUL COSTS      320 cy @      \$8.65 /cy

**BERT & ERNIE  
BRUSHING COSTS**

Date: 10/29/10

<b>ROAD "B" POINT</b>	<b>MILES\Hrs</b>	<b>\$/MILE/Hr</b>	<b>TOTAL</b>
B1	0.68	\$600	\$408
B2	8.15	\$800	\$6,520
B3	0.33	\$700	\$231
B4	0.17	\$400	\$68
B5	0.68	\$600	\$408
B6	0.29	\$600	\$174
B7	0.42	\$800	\$336
B8	0.38	\$800	\$304
B9	0.03	\$600	\$18
B10	0.05	\$600	\$30
B11	0.29	\$600	\$174
B12	0.05	\$900	\$45
B13	0.34	\$600	\$204
B14	0.03	\$600	\$18
B15	0.15	\$700	\$105
B16	0.07	\$600	\$42
B17	0.03	\$600	\$18
B18	0.02	\$700	\$14
B19	0.09	\$1,500	\$135
B20	0.03	\$1,375	\$41
B21	0.02	\$900	\$18
B22	0.09	\$1,500	\$135
B23	0.16	\$1,500	\$240
B24	0.04	\$1,500	\$60
B25	1.00	\$900	\$900
B26	0.07	\$1,375	\$96
B27	0.05	\$700	\$35
B28	0.04	\$600	\$24
B29	0.02	\$600	\$12
B30	0.03	\$600	\$18
B31	1.04	\$900	\$936
B32	0.04	\$1,375	\$55
B33	0.11	\$800	\$88
B34	0.05	\$900	\$45
B35	0.60	\$700	\$420
B36	0.59	\$1,375	\$811
B37	0.38	\$1,375	\$523
B38	0.08	\$700	\$56
B39	0.65	\$1,375	\$899
B40	0.31	\$1,375	\$426
B41	0.32	\$1,500	\$480

ROAD "B" POINT	MILES\Hrs	\$/MILE/Hr	TOTAL
B42	0.11	\$1,250	\$138
B43	0.02	\$1,500	\$30
B44	0.74	\$1,375	\$1,018
B45	0.27	\$1,375	\$371
B46	0.06	\$1,375	\$83
B47	0.03	\$1,500	\$45
B48	0.42	\$1,375	\$578
B49	0.10	\$600	\$60
B50	0.13	\$1,375	\$179
B51	0.18	\$800	\$144
B52	1.51	\$900	\$1,359
B53	1.39	\$800	\$1,112
B54	0.20	\$1,375	\$275
B55	0.06	\$600	\$36
B56	0.06	\$1,375	\$83
B57	0.06	\$600	\$36
B58	0.05	\$600	\$30
B59	0.30	\$1,375	\$413
B60	0.02	\$600	\$12
B61	0.24	\$700	\$168
B62	0.09	\$700	\$63
B63	0.42	\$700	\$294
B64	0.07	\$600	\$42
B65	0.31	\$600	\$186
B66	0.40	\$600	\$240
B67	0.23	\$900	\$207
B68	0.28	\$600	\$168
B69	0.22	\$600	\$132
B70	0.37	\$600	\$222
B71	0.13	\$600	\$78
B72	0.05	\$600	\$30
	26.49	\$883	\$23,400




By:           d.mellison

# EXHIBIT "A" BRUSHING MAP

OF TIMBER SALE CONTRACT NO. 341-11-02  
BERT & ERNIE  
PORTIONS OF SECTIONS 31 AND 32,  
T7N, R6W, AND SECTION 6,  
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

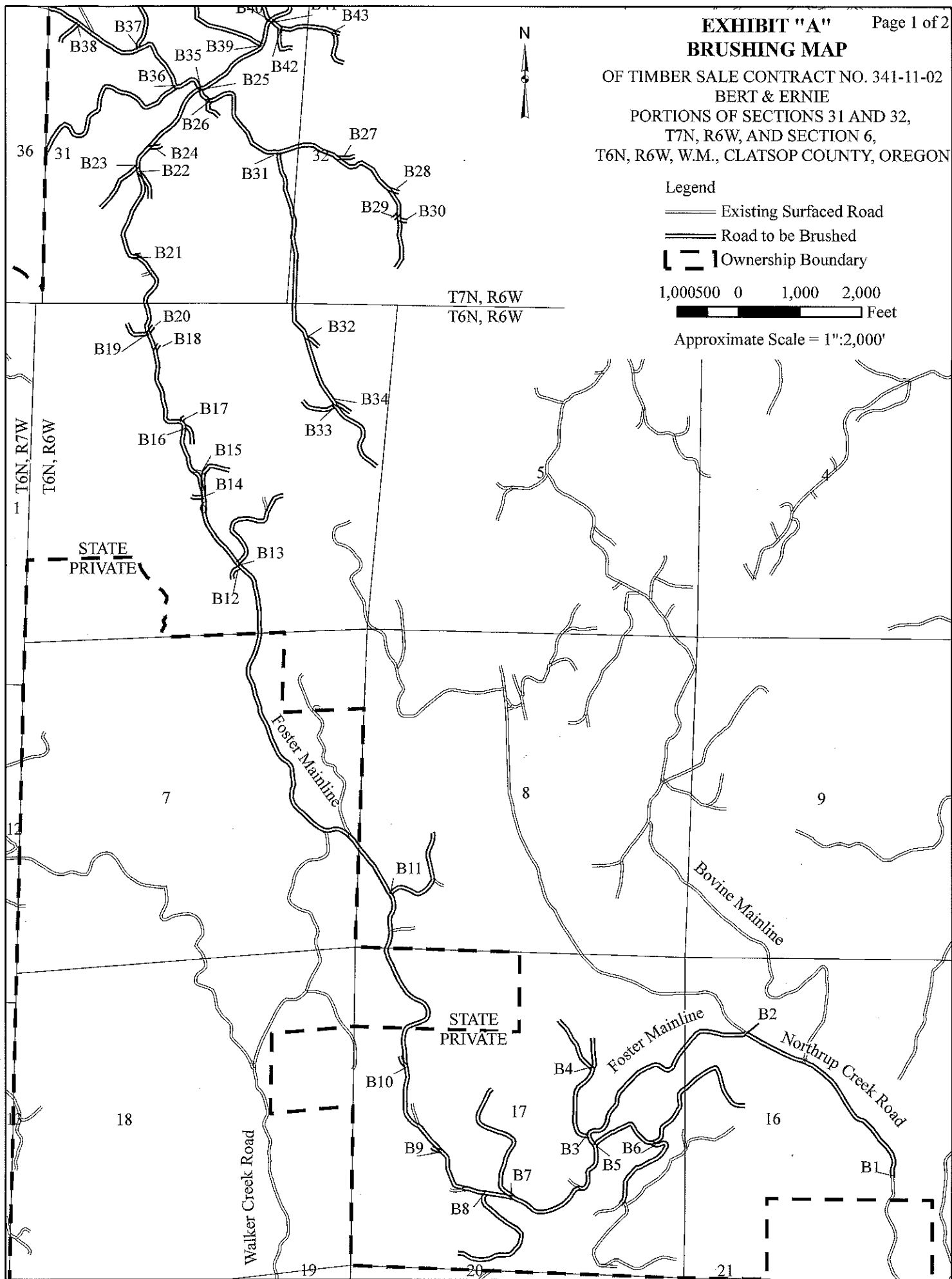


### Legend

-  Existing Surfaced Road
-  Road to be Brushed
-  Ownership Boundary

1,000 500 0 1,000 2,000  
Feet

Approximate Scale = 1":2,000'






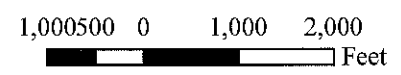


# EXHIBIT "A" BRUSHING MAP

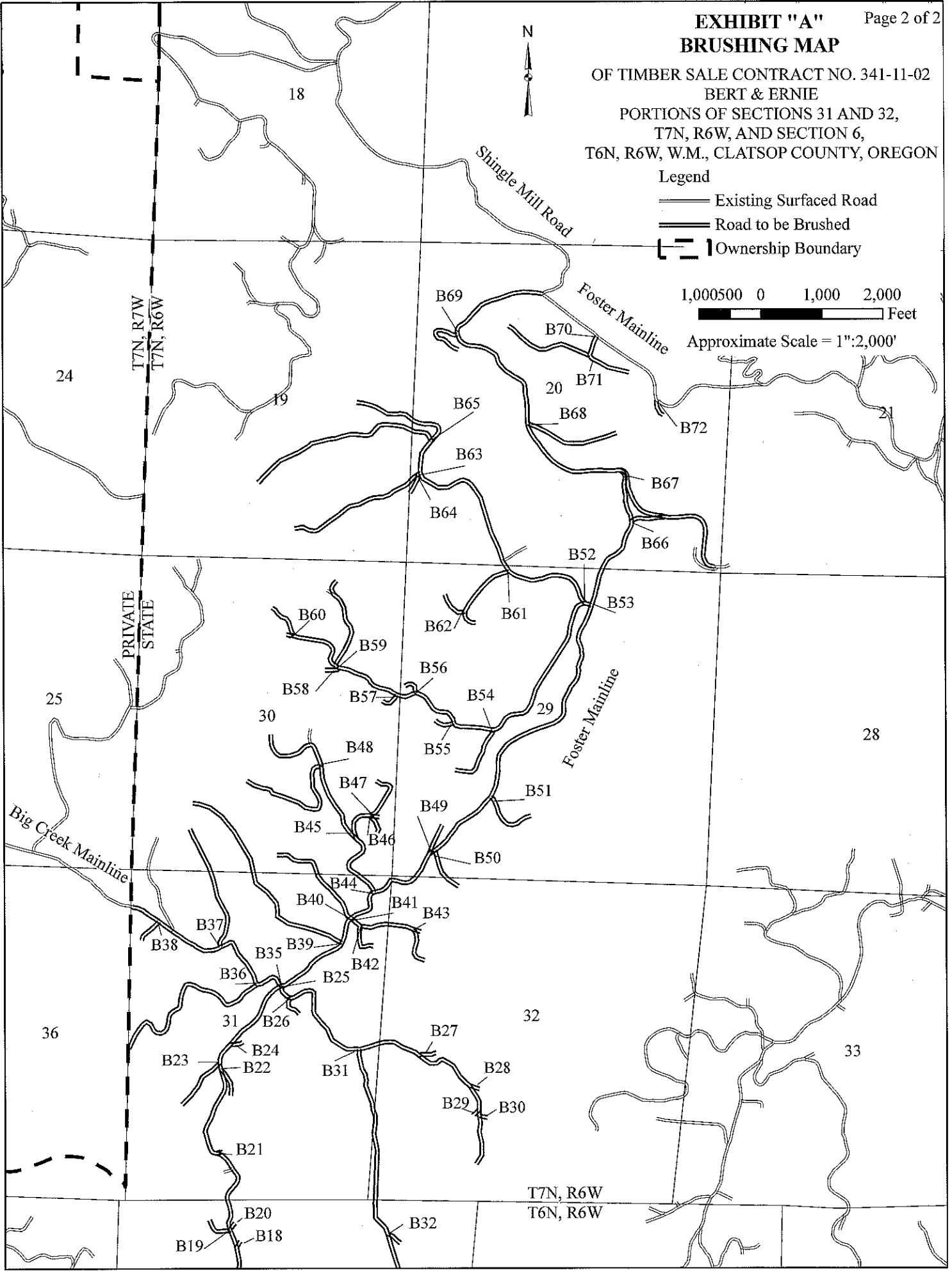
OF TIMBER SALE CONTRACT NO. 341-11-02  
BERT & ERNIE  
PORTIONS OF SECTIONS 31 AND 32,  
T7N, R6W, AND SECTION 6,  
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

### Legend

-  Existing Surfaced Road
-  Road to be Brushed
-  Ownership Boundary



Approximate Scale = 1":2,000'



**Road Maintenance after completion of Projects**

**Sale:** Bert & Ernie  
**Date:** 03-Nov-10  
**By:** J. McCoy

Type	Equipment/Rationale	Hours	Rate	Cost
Final Project	Grader 14G	30	\$93	\$2,790
	Dump Truck 12CY	8	\$73	\$584
	Front End Loader	8	\$77	\$616
<b>Total</b>				<b>\$3,990</b>

Miles/day	Distance(miles)	Days
1.5	4.5	3.0

Production Rates  
 Grader

**Bert & Ernie  
TIMBER CRUISE REPORT  
FY 2011**

1. **Sale Area Location:** Areas 1, 2, and 3 are located in portions of Sections 31 and 32, T7N, R6W, and Section 6, T6N, R6W, W.M., Clatsop County, Oregon.
2. **Fund Distribution:** BOF 100%  
Tax Code 8-01 (100%)
3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	GTRA	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	34.0	0.0	7.0	27.0	GIS
2	Modified Clearcut	43.0	4.0	9.0	30.0	GIS
3	Modified Clearcut	38.0	0.0	4.0	34.0	GIS
<b>TOTALS</b>		<b>115.0</b>	<b>4.0</b>	<b>20.0</b>	<b>91.0</b>	

4. **Cruisers and Cruise Dates:** Areas 1, 2, and 3 were cruised by Jon Long, Jenny Johnson, Jasen McCoy, Kevin Berry, Derek Bangs, and Ty Williams, October 20 and 26, 2010.

5. **Cruise Method and Computation:** Areas 1, 2, and 3 are modified clearcut units and were variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 5 chain grid, with every third plot measured and graded. A total of 69 plots were sampled, with 26 measured and graded plots, and 43 count plots. Cedar is a reserve species, and was recorded as "leave" trees.

All cruisers used Corvallis MicroTechnology (CMT) and/or 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.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2, and 3	T7NR631	AREAS123	TAKE	91

6. **Timber Description:** Areas 1, 2, and 3 are modified clearcut units, approximately 65 to 75 year-old, consisting of Douglas-fir, western hemlock, red alder, and cedar. The average Douglas-fir tree size to be harvested is 24 inches DBH, with an average height of 87 feet to a merchantable top (6 inch d.i.b.). The average hemlock tree size is 21 inches DBH and 83 feet to a merchantable top (6 inch d.i.b.). The average alder tree size is 16 inches DBH and 53 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 37.6 MBF.

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

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, 3 (MC)	55%	8%	45.6%	5.5%

**8. Volumes by Species and Log Grade:** (See "Species, Sort, Grade" - Project Report, attached).  
 Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	CampRun	% D & B	% Sale
Douglas-fir	24"	2,495	2,162	295	38	0	2%	73%
Alder	16"	565	0	0	0	565	<1%	16%
Hemlock	21"	327	278	39	10	0	2%	10%
Maple and other Hardwoods	18"	28	0	0	0	28	<1%	<1%
Spruce	16"	6	5	0	1	0	<1%	<1%
<b>TOTALS</b>		<b>3,421</b>	<b>2,445</b>	<b>334</b>	<b>49</b>	<b>593</b>		

**9. Approvals:**

Prepared by: Jasen McCoy Date: November 2, 2010  
 Unit Forester Approval: *[Signature]* Date: 12/13/10

- 10. Attachments:**
- Cruise Designs and Maps - 3 pages
  - Volume Report - 1 page
  - Statistics Reports - 1 page
  - Log Stock Tables - 2 pages
  - Stand Table Summary - 2 pages

X:\Jewell\_Unit\Timber Sales\2011\Bert & Ernie\Sale Prep\CruiseReport.docx

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Bert & Ernie **Area(s)** 1, 2, and 3

**Harvest Type:** (MC) "Modified Clearcut"

**Approx. Cruise Acres:** 91 **Estimated CV%** 55% Net BF **SE% Objective** 8 Net BF

**Planned Sale Volume :** 5,445 MBF **Estimated Sale Area Value/Acre:** \$16,500/Ac  
(All Sale Areas) (55 MBF/Ac.)

**A. Cruise Goals:** (a) Grade minimum 75 conifer and 25 Alder:  
(b) Sample 67 cruise plots ( 22 grade/ 45 count); (c) Other goals (      Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

**B. Cruise Design:**

- 1. Plot Cruises:** BAF 40 (Full point; Half point) (circle one)  
Cruise Line Direction(s) AZ= 90° (West/East)  
Cruise Line Spacing 5 (chains)  
Cruise Plot Spacing 3 (chains)  
Grade/Count Ratio 1/2

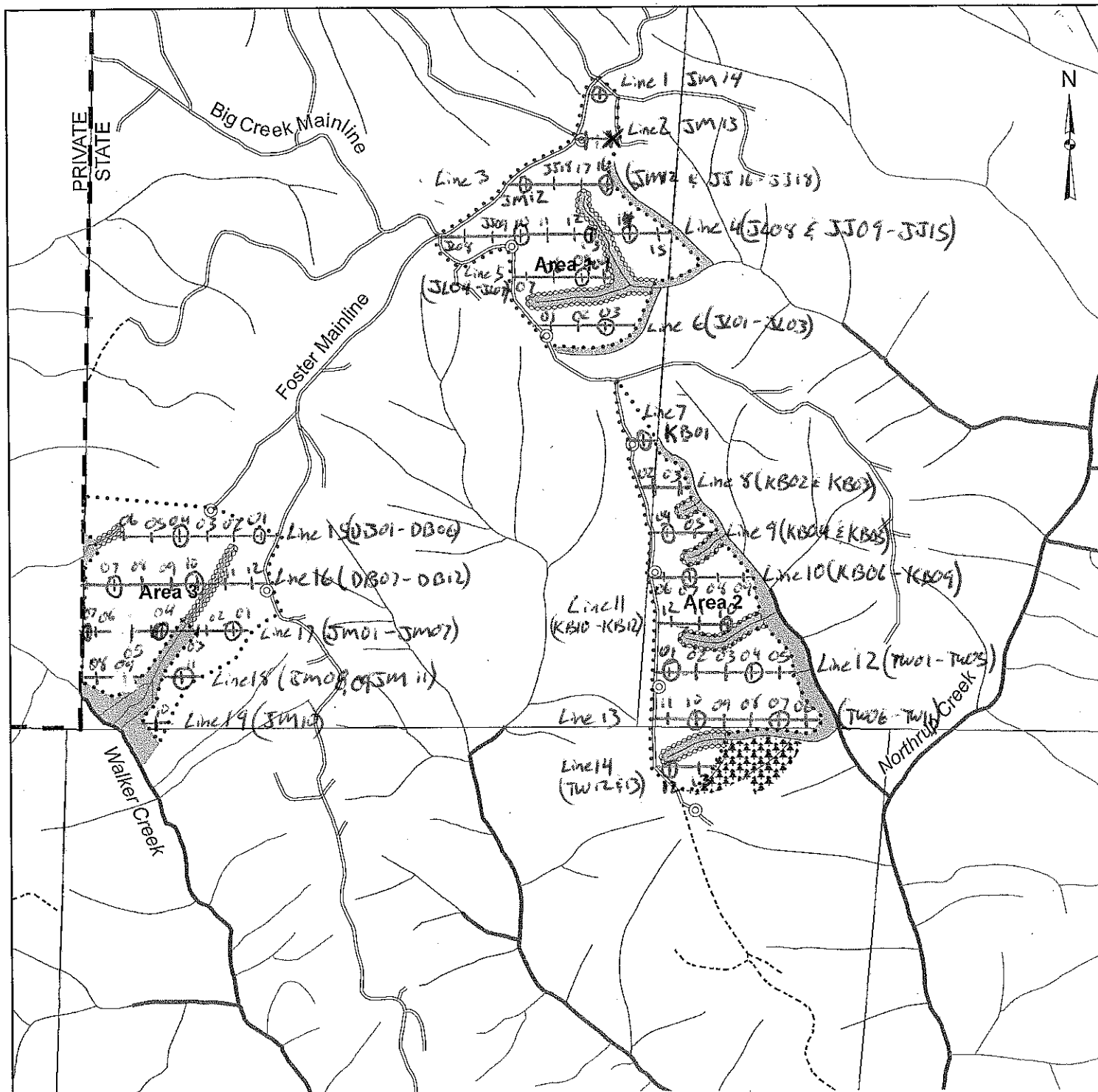
If a cruise line ends up paralleling in a buffer offset by 1 chain and continue. Cedar and marked wildlife trees are leave trees and are recorded as such. Record snags as SN and estimate heights and diameters. Grade alder as camprun-sawlogs (30 net BF minimum).

**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 = Camprun; 0 = Cull
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
8. **Standard Field Procedures: Plot Type Cruises:** Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.
9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Jasen McCoy  
 Approved by: *Jon Long*  
 Date: 10/15/10



**Exhibit "A"**

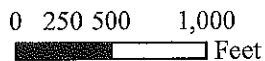
OF TIMBER SALE CONTRACT NO. 341-11-02  
 Bert & Ernie  
 PORTIONS OF SECTIONS 31 and 32,  
 T7N, R6W, and Section 6,  
 T6N, R6W, W.M., CLATSOP COUNTY, OREGON

Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (MC) -	0	27
Area 2 (MC) -	0	30
Area 3 (MC) -	0	34
Area 4 (R/W) -	0	0
Total by prescription	0	91
Total Sale Acreage	91	

**Legend**

- ..... TSB
- ⊙ New\_Construction\_Landings
- Dirt
- ===== Rocked
- Unsurfaced
- ===== Fish
- Nonfish
- Unknown
- ▨ Outside\_Sale\_buff
- ▩ 50ft\_buffer
- ▧ 25ft\_buffer
- ▦ GTRA
- ▭ AST\_Sections
- ▬ ast\_ownership



Approximate Scale = 1":1,000'

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

TT7N RR6W S31 TyTAK      91.00	<b>Project:      BERT</b> <b>Acres            91.00</b>	<b>Page            1</b> <b>Date          11/2/2010</b> <b>Time         9:06:36AM</b>
--------------------------------	--	---

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		
								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	DOCU																				
D	DO2S		86	2.0	24,252	23,762	2,162		1	38	61		1	2	28	70	36	412	2.41	57.7	
D	DO3S		12	1.1	3,282	3,244	295		79	19	2		5	24	27	45	31	93	0.92	34.8	
D	DO4S		2		414	414	38		100				20	62		18	25	44	0.61	9.4	
<b>D</b>	<b>Totals</b>		<b>73</b>	<b>1.9</b>	<b>27,948</b>	<b>27,420</b>	<b>2,495</b>		<b>11</b>	<b>36</b>	<b>53</b>		<b>2</b>	<b>5</b>	<b>27</b>	<b>66</b>	<b>32</b>	<b>250</b>	<b>1.76</b>	<b>109.9</b>	
A	DOCU																				
A	DOCR		100	.3	6,233	6,212	565		56	44			4	26	43	28	31	91	0.87	68.5	
<b>A</b>	<b>Totals</b>		<b>17</b>	<b>.3</b>	<b>6,233</b>	<b>6,212</b>	<b>565</b>		<b>56</b>	<b>44</b>			<b>4</b>	<b>26</b>	<b>43</b>	<b>28</b>	<b>30</b>	<b>88</b>	<b>0.86</b>	<b>70.5</b>	
M	DOCR		100		303	303	28		55	45				25	75		36	81	1.03	3.7	
<b>M</b>	<b>Totals</b>		<b>1</b>		<b>303</b>	<b>303</b>	<b>28</b>		<b>55</b>	<b>45</b>				<b>25</b>	<b>75</b>		<b>36</b>	<b>81</b>	<b>1.03</b>	<b>3.7</b>	
H	DOCU																				
H	DO2S		84	2.2	3,120	3,052	278		8	68	23				37	63	37	266	1.77	11.5	
H	DO3S		12		431	431	39		100						53	47	36	67	0.67	6.4	
H	DO4S		4		110	110	10		100				45	55			21	30	0.57	3.6	
<b>H</b>	<b>Totals</b>		<b>10</b>	<b>1.9</b>	<b>3,661</b>	<b>3,593</b>	<b>327</b>		<b>22</b>	<b>58</b>	<b>20</b>		<b>1</b>	<b>2</b>	<b>38</b>	<b>59</b>	<b>31</b>	<b>154</b>	<b>1.29</b>	<b>23.3</b>	
S	DO2S		88		62	62	6		100						100		40	150	1.08	.4	
S	DO4S		12		8	8	1		100				100				18	20	0.44	.4	
<b>S</b>	<b>Totals</b>		<b>0</b>		<b>71</b>	<b>71</b>	<b>6</b>		<b>100</b>				<b>12</b>		<b>88</b>		<b>29</b>	<b>85</b>	<b>0.88</b>	<b>.8</b>	
<b>Totals</b>				<b>1.6</b>	<b>38,215</b>	<b>37,599</b>	<b>3,421</b>		<b>20</b>	<b>39</b>	<b>41</b>		<b>2</b>	<b>8</b>	<b>31</b>	<b>59</b>	<b>31</b>	<b>181</b>	<b>1.39</b>	<b>208.2</b>	



TC PSTATS		PROJECT STATISTICS								PAGE	1
		PROJECT		BERT				DATE		11/2/2010	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
T7N	R6	31	AREAS123	TAKE	91.00	69	373	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			69	373	5.4						
CRUISE			26	113	4.3	8,859	1.3				
DBH COUNT											
REFOREST											
COUNT			43	250	5.8						
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	71	41.7	24.0	87		131.0	27,948	27,420	6,175	6,153	
R ALDER	28	42.5	15.6	53		56.2	6,233	6,212	1,831	1,831	
WHEMLOCK	10	9.1	21.1	83		22.0	3,661	3,593	947	947	
BL MAPLE	3	3.7	17.7	37		6.4	303	303	137	137	
S SPRUCE	1	.4	16.0	60		.6	71	71	21	21	
<b>TOTAL</b>	<b>113</b>	<b>97.4</b>	<b>20.2</b>	<b>70</b>		<b>216.2</b>	<b>38,215</b>	<b>37,599</b>	<b>9,111</b>	<b>9,090</b>	
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		82.2	9.7	895	992	1,089					
R ALDER		48.7	9.4	156	172	188					
WHEMLOCK		34.0	11.3	388	437	486					
BL MAPLE		81.2	56.2	45	103	161					
S SPRUCE											
<b>TOTAL</b>		<b>105.6</b>	<b>9.9</b>	<b>638</b>	<b>709</b>	<b>779</b>	<b>446</b>	<b>111</b>	<b>50</b>		
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		77.2	9.3	38	42	46					
R ALDER		125.0	15.0	36	42	49					
WHEMLOCK		212.9	25.6	7	9	11					
BL MAPLE		369.2	44.4	2	4	5					
S SPRUCE		830.7	99.9	0	0	1					
<b>TOTAL</b>		<b>49.1</b>	<b>5.9</b>	<b>92</b>	<b>97</b>	<b>103</b>	<b>96</b>	<b>24</b>	<b>11</b>		
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		74.2	8.9	119	131	143					
R ALDER		122.2	14.7	48	56	64					
WHEMLOCK		205.5	24.7	17	22	27					
BL MAPLE		366.8	44.1	4	6	9					
S SPRUCE		830.7	99.9	0	1	1					
<b>TOTAL</b>		<b>36.9</b>	<b>4.4</b>	<b>207</b>	<b>216</b>	<b>226</b>	<b>54</b>	<b>14</b>	<b>6</b>		
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		74.2	8.9	24,972	27,420	29,869					
R ALDER		122.4	14.7	5,297	6,212	7,127					
WHEMLOCK		210.9	25.4	2,681	3,593	4,504					
BL MAPLE		368.2	44.3	169	303	437					
S SPRUCE		830.7	99.9	0	71	141					
<b>TOTAL</b>		<b>45.6</b>	<b>5.5</b>	<b>35,538</b>	<b>37,599</b>	<b>39,659</b>	<b>83</b>	<b>21</b>	<b>9</b>		

Log Stock Table - MBF

TT7N RR6W S31 TyTAK 91.00

Project: BERT  
Acres 91.00

Page 1  
Date 11/2/2010  
Time 9:10:04AM

S Spp	Gr rt	Log de 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	2S	12	17		17	.7							8	10			
D	DO	2S	22	20		20	.8										20	
D	DO	2S	26	20		20	.8										20	
D	DO	2S	32	552	2.2	541	21.7					102	136	261			41	
D	DO	2S	34	59	1.8	58	2.3					9	4	20			25	
D	DO	2S	36	20		20	.8						20					
D	DO	2S	38	21	1.8	21	.8				11		10					
D	DO	2S	40	1,496	2.1	1,465	58.7					115	230	431	377	199	112	
D	DO	3S	14	1		1	.0				1							
D	DO	3S	16	4		4	.1				4							
D	DO	3S	17	1		1	.1				1							
D	DO	3S	18	2		2	.1				2							
D	DO	3S	20	6		6	.2			2	4							
D	DO	3S	21	6		6	.3				6							
D	DO	3S	22	2		2	.1				2							
D	DO	3S	24	19		19	.7			2	4	10	3					
D	DO	3S	27	5		5	.2				2	3						
D	DO	3S	28	9		9	.4			3	3		4					
D	DO	3S	29	10		10	.4				3	3		4				
D	DO	3S	30	18	1.3	18	.7			6	5		7					
D	DO	3S	32	77	1.6	76	3.0			13	19	36	8					
D	DO	3S	34	4		4	.1				4							
D	DO	3S	36	14		14	.6			6		8						
D	DO	3S	38	9		9	.4			4			5					
D	DO	3S	40	111	1.7	109	4.4			20	8	50	5	20	7			
D	DO	4S	14	1		1	.0			1								
D	DO	4S	17	2		2	.1			2								
D	DO	4S	18	3		3	.1			2	1							
D	DO	4S	20	1		1	.1				1							
D	DO	4S	24	4		4	.2			2	2							
D	DO	4S	26	11		11	.4			5	5							
D	DO	4S	28	3		3	.1			3								
D	DO	4S	30	5		5	.2				5							
D	DO	4S	40	7		7	.3			7								
D	Totals			2,543	1.9	2,495	72.9			78	78	126	257	424	727	387	285	133
A	DO	CR	12	4		4	.7				4							
A	DO	CR	16	17		17	3.0			4			13					

Log Stock Table - MBF

TT7N RR6W S31 TyTAK 91.00

Project: BERT  
Acres 91.00

Page 2  
Date 11/2/2010  
Time 9:10:04AM

Spp	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	30-39	40+		
A		DO	CR	22	8		8	1.4				8										
A		DO	CR	24	5		5	.9			5											
A		DO	CR	25	6		6	1.1				6										
A		DO	CR	26	4		4	.8			4											
A		DO	CR	30	125		125	22.1			51		19	36		19						
A		DO	CR	32	240		240	42.5			41	18	73	109								
A		DO	CR	36	7		7	1.2			7											
A		DO	CR	40	151	1.3	149	26.3			32	21	24	52		20						
A		Totals			567		565	16.5			144	57	115	197		33	19					
M		DO	CR	34	7		7	25.1			7											
M		DO	CR	36	8		8	30.2			8											
M		DO	CR	40	12		12	44.7						12								
M		Totals			28		28	.8			15			12								
H		DO	2S	32	90	2.6	87	26.7					38	25	24							
H		DO	2S	34	17		17	5.1										17				
H		DO	2S	40	178	2.2	174	53.1					23	49	53	49						
H		DO	3S	32	10		10	3.1				10										
H		DO	3S	33	11		11	3.3			11											
H		DO	3S	38	5		5	1.5			5											
H		DO	3S	40	13		13	4.1			8	6										
H		DO	4S	17	2		2	.7			2											
H		DO	4S	20	2		2	.7				2										
H		DO	4S	21	3		3	.9				3										
H		DO	4S	28	3		3	.8			3											
H		Totals			333	1.9	327	9.6			28	21	23	87	77	74	17					
S		DO	2S	40	6		6	88.2					6									
S		DO	4S	18	1		1	11.8			1											
S		Totals			6		6	.2			1		6									
Total		All Species			3,478	1.6	3,421	100.0			267	155	270	554	534	820	404	285	133			

TC PSTNDSUM		Stand Table Summary										Page	1			
TT7N RR6W S31 TyTAK 91.00		Project BERT										Date:	11/2/2010			
		Acres 91.00										Time:	12:53:41PM			
												Grown Year:				
S Spc T	DBH	Sample Trees	Tot FF 16'	Av Ht	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	
D	10	1	82	19	3.383	1.85										
D	13	1	83	36	2.002	1.85	2.00	14.0	30.0		28	60		26	5	
D	17	2	86	107	2.341	3.69	4.68	31.2	120.0		146	562		133	51	
D	18	2	86	101	2.088	3.69	4.18	34.3	120.0		143	501		130	46	
D	19	2	89	125	1.874	3.69	4.69	36.8	148.0		172	694		157	63	
D	20	1	89	110	.846	1.85	1.69	43.0	165.0		73	279		66	25	
D	21	1	89	105	.767	1.85	1.53	46.0	170.0		71	261		64	24	
D	22	8	88	119	5.592	14.76	14.68	45.8	189.0		672	2,775		612	253	
D	23	5	84	126	3.198	9.23	9.59	44.5	176.0		427	1,688		389	154	
D	24	7	88	128	4.112	12.92	12.33	52.1	226.2		643	2,790		585	254	
D	25	5	84	121	2.707	9.23	7.58	51.9	213.6		394	1,619		358	147	
D	26	3	85	135	1.501	5.54	5.00	52.8	236.0		264	1,181		240	107	
D	27	4	86	131	1.856	7.38	5.57	65.6	285.0		365	1,587		332	144	
D	28	4	87	135	1.726	7.38	5.18	72.8	320.8		377	1,661		343	151	
D	29	6	85	128	2.414	11.07	7.24	73.1	303.3		529	2,196		482	200	
D	30	4	87	150	1.504	7.38	4.51	89.7	424.2		404	1,913		368	174	
D	31	1	82	129	.352	1.85	1.06	60.7	343.3		64	363		58	33	
D	32	1	88	114	.330	1.85	.99	83.3	393.3		83	390		75	35	
D	34	1	86	140	.293	1.85	.88	111.0	526.7		97	462		89	42	
D	35	3	88	140	.829	5.54	2.49	110.3	575.6		274	1,431		250	130	
D	36	2	89	136	.522	3.69	1.57	123.3	623.3		193	976		176	89	
D	37	2	90	161	.494	3.69	1.73	129.9	712.9		225	1,233		204	112	
D	38	1	91	142	.234	1.85	.70	144.3	796.7		101	560		92	51	
D	41	1	91	142	.201	1.85	.60	166.0	870.0		100	525		91	48	
D	42	1	89	150	.192	1.85	.58	182.7	986.7		105	568		96	52	
D	47	1	92	157	.153	1.85	.46	186.0	1066.7		85	490		78	45	
D	49	1	94	162	.141	1.85	.42	272.7	1546.7		115	654		105	59	
D	Totals	71	86	112	41.653	131.01	101.94	60.4	269.0		6,153	27,420		5,599	2,495	
A	10	1	87	61	3.682	2.01	3.68	14.0	50.0		52	184		47	17	
A	12	2	86	66	5.114	4.02	5.11	21.0	70.0		107	358		98	33	
A	13	3	87	57	6.536	6.02	8.72	18.3	55.0		159	479		145	44	
A	14	3	86	77	5.636	6.02	9.39	21.8	74.0		205	695		186	63	
A	15	1	86	80	1.636	2.01	3.27	21.5	75.0		70	245		64	22	
A	16	2	86	89	2.877	4.02	5.75	28.5	102.5		164	590		149	54	
A	17	6	86	79	7.645	12.05	15.29	27.2	96.7		415	1,478		378	134	
A	18	4	87	91	4.546	8.03	9.09	35.0	122.5		318	1,114		290	101	
A	19	1	86	78	1.020	2.01	2.04	34.5	115.0		70	235		64	21	
A	20	1	87	57	.921	2.01	1.84	31.5	105.0		58	193		53	18	
A	22	1	87	82	.761	2.01	1.52	49.5	165.0		75	251		69	23	
A	23	3	84	57	2.088	6.02	2.78	49.2	140.0		137	390		125	35	
A	Totals	28	86	73	42.461	56.23	68.50	26.7	90.7		1,831	6,212		1,667	565	
H	17	1	85	106	1.398	2.20	2.80	34.0	120.0		95	335		86	31	
H	18	2	87	105	2.493	4.41	6.23	33.0	118.0		206	735		187	67	
H	20	1	89	115	1.010	2.20	3.03	37.0	153.3		112	464		102	42	
H	21	2	91	94	1.832	4.41	3.66	49.3	187.5		180	687		164	63	
H	23	1	88	107	.764	2.20	2.29	46.0	193.3		105	443		96	40	
H	24	1	85	102	.701	2.20	1.40	67.0	245.0		94	344		86	31	
H	26	1	82	116	.597	2.20	1.79	59.0	223.3		106	400		96	36	
H	36	1	86	52	.312	2.20	.31	155.0	590.0		48	184		44	17	
H	Totals	10	87	103	9.106	22.03	21.52	44.0	167.0		947	3,593		861	327	
M	16	2	87	44	3.045	4.25	3.04	27.0	55.0		82	167		75	15	

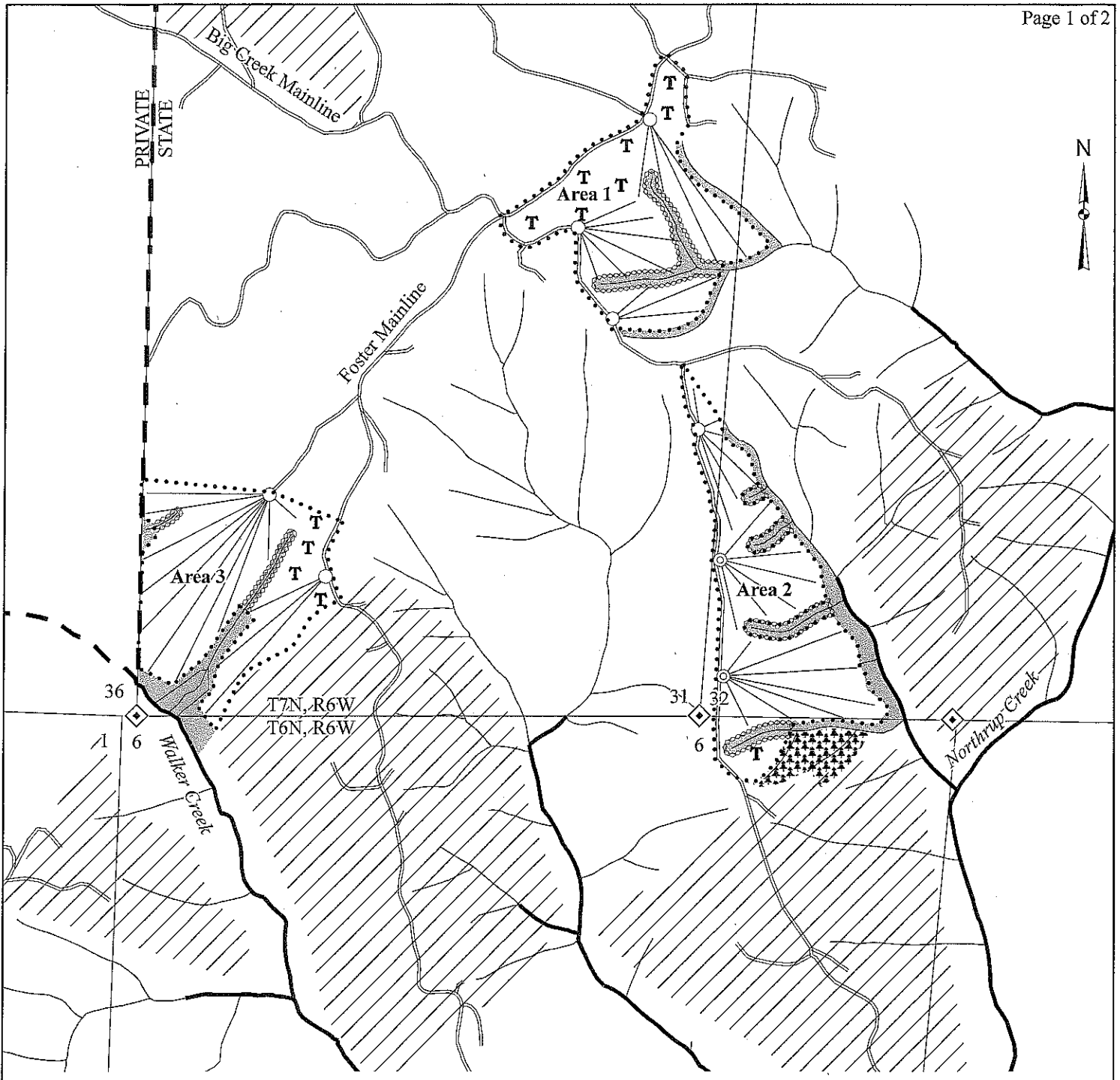
**Stand Table Summary**

TT7N RR6W S31 TyTAK 91.00

Project **BERT**  
Acres **91.00**

Time: **12:53:41PM**  
Grown Year:

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
M	24	1	87	57	.677	2.13	.68	81.0	200.0		55	135		50	12
M	Totals	3	87	46	3.721	6.38	3.72	36.8	81.4		137	303		125	28
S	16	1	86	78	.415	.58	.83	25.5	85.0		21	71		19	6
S	Totals	1	86	78	.415	.58	.83	25.5	85.0		21	71		19	6
Totals		113	86	91	97.357	216.23	196.50	46.3	191.3		9,090	37,599		8,271	3,421



**LOGGING PLAN**

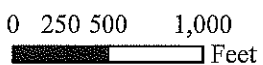
OF TIMBER SALE CONTRACT NO. 341-11-02  
 BERT & ERNIE  
 PORTIONS OF SECTIONS 31 AND 32,  
 T7N, R6W, AND SECTION 6,  
 T6N, R6W, W.M., CLATSOP COUNTY, OREGON

Logging Breakdown		
	Tractor	Cable
Area 1	37%	63%
Area 2	7%	93%
Area 3	5%	95%
Total	19%	81%

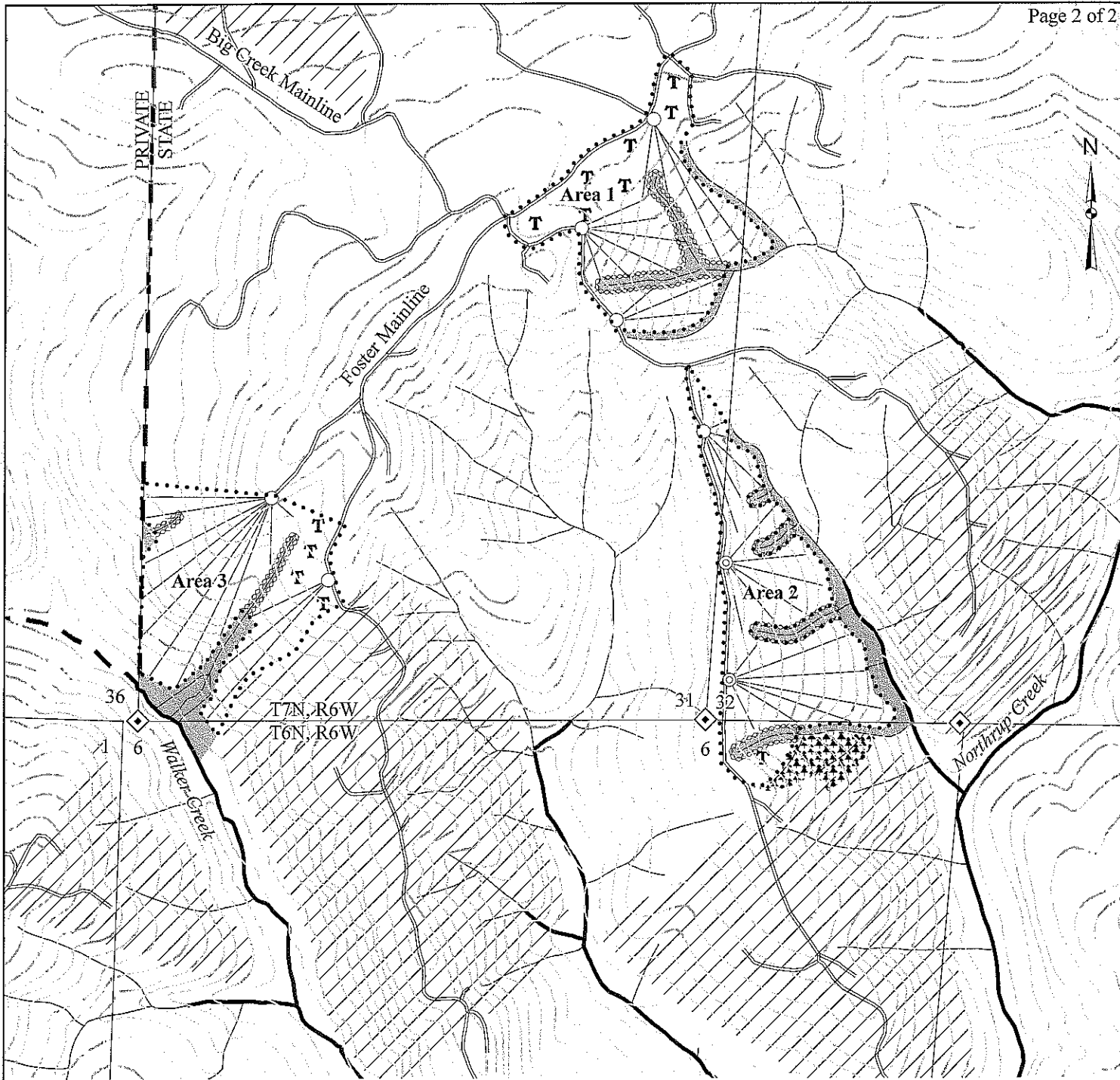
**Legend**

- ◆ Known Land Survey Corner
- ..... Timber Sale Boundary
- ⊙ Landings To Be Constructed
- Existing Landing
- Existing Surfaced Road
- T Yarding Area - Ground
- Yarding Area - Cable
- /// Reforestation Area
- Type F Stream
- Type N Stream
- ▨ Posted Stream Buffer
- ▩ Buffer Zone
- ⊠ Green Tree Retention Area
- ┌ Ownership Boundary

Approximate Net Acreage:  
 Area 1 (MC) - 27 Acres  
 Area 2 (MC) - 30 Acres  
 Area 3 (MC) - 34 Acres  
 Total Sale Acreage 91 Acres



Approximate Scale = 1":1,000'



**LOGGING PLAN**

OF TIMBER SALE CONTRACT NO. 341-11-02  
 BERT & ERNIE  
 PORTIONS OF SECTIONS 31 AND 32,  
 T7N, R6W, AND SECTION 6,  
 T6N, R6W, W.M., CLATSOP COUNTY, OREGON

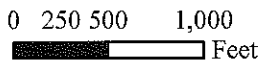
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