



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Alderberry  
Sale 341-11-01

District: Astoria

Date: October 19, 2010

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cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$39,116.19	\$319,367.07	\$358,483.26
		Project Work:	\$(93,219.00)
		Advertised Value:	\$265,264.26



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**timber description**

Location: Portions of Sections 2 & 3, T4N, R7W, and Portions of Sections 33 & 34, T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	21	0	97
Western Hemlock / Fir	16	0	97
Sitka Spruce	13	0	97
Alder (Red)	14	0	95

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	58	25	2	0	85
Western Hemlock / Fir	37	67	12	0	116
Sitka Spruce	0	17	11	0	28
Alder (Red)	0	0	0	1,101	1,101
Total	95	109	25	1,101	1,330



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comments: Pond Values Used: 3rd Quarter Calendar Year 2010.

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

Western redcedar and Other Cedars Stumpage Price = Pond Value  
minus Logging Cost  
 $\$649.54/\text{MBF} = \$850/\text{MBF} - \$200.46/\text{MBF}$

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:  $\$1/\text{MBF} \times 1,330 \text{ MBF} = \$1,330$

Log Loader Slash & Landing Piling (includes Move-In and Pile  
Materials): = \$9,377 (see attached appraisal)

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

TOTAL Other Costs (with Profit & Risk to be added) = \$14,707

Other Costs (No Profit & Risk added):

Waterbar and block dirt road segments after harvest:

$\$13.85/\text{station} \times 2.8 \text{ stations} = \$38.78$

Snag Creation: Create 39 snags  $\times \$40.00/\text{snag} = \$1,560$

TOTAL Other Costs (No Profit & Risk added) = \$1,598.78



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logging conditions

combination#: 1      Douglas - Fir      42.00%  
                          Western Hemlock / Fir      42.00%  
                          Sitka Spruce      42.00%  
                          Alder (Red)      42.00%

yarding distance: Medium (800 ft)      downhill yarding: No  
 logging system: Cable: Medium Tower >40 - <70      Process: Stroke Delimber  
 tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF  
 loads / day: 10.0      bd. ft / load: 3,300  
 cost / mbf: \$101.34

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

combination#: 2      Douglas - Fir      58.00%  
                          Western Hemlock / Fir      58.00%  
                          Sitka Spruce      58.00%  
                          Alder (Red)      58.00%

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: 8.0      bd. ft / load: 3,700  
 cost / mbf: \$48.59

machines: Stroke Delimber (B)



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**logging costs**

Operating Seasons:	2.00	Profit Risk:	14.00%
Project Costs:	\$93,219.00	Other Costs (P/R):	\$14,707.00
Slash Disposal:	\$0.00	Other Costs:	\$1,599.00

**Miles of Road**

Road Maintenance: \$11.39

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	4.5
Western Hemlock / Fir	\$0.00	3.0	4.0
Sitka Spruce	\$0.00	3.0	4.5
Alder (Red)	\$0.00	2.0	3.7



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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$70.74	\$11.73	\$6.59	\$70.28	\$11.06	\$23.86	\$0.00	\$5.00	\$1.20	\$200.46
<b>Western Hemlock / Fir</b>									
\$70.74	\$11.73	\$6.59	\$52.71	\$11.06	\$21.40	\$0.00	\$5.00	\$1.20	\$180.43
<b>Sitka Spruce</b>									
\$70.74	\$11.73	\$6.59	\$46.84	\$11.06	\$20.57	\$0.00	\$5.00	\$1.20	\$173.73
<b>Alder (Red)</b>									
\$70.74	\$11.96	\$6.59	\$87.13	\$11.06	\$26.25	\$0.00	\$5.00	\$1.20	\$219.93

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$403.65	\$203.19	\$0.00
Western Hemlock / Fir	\$0.00	\$335.34	\$154.91	\$0.00
Sitka Spruce	\$0.00	\$312.14	\$138.41	\$0.00
Alder (Red)	\$0.00	\$510.00	\$290.07	\$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
Alder (Red)	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	85	\$203.19	\$17,271.15
Western Hemlock / Fir	116	\$154.91	\$17,969.56
Sitka Spruce	28	\$138.41	\$3,875.48
Alder (Red)	1,101	\$290.07	\$319,367.07

**Gross Timber Sale Value**

Recovery: \$358,483.26

Prepared by: Jenny Johnson

Phone: 503-325-5451

### Site Prep Appraisal

**Sale Number:** 341-11-01  
**Sale Name:** Alderberry  
**Date:** 08/19/2010

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	33	49.5	\$110.00	\$5,445.00
2	MC	E	8	12	\$110.00	\$1,320.00
<b>Sub Total =</b>						<b>\$6,765.00</b>
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	2	\$263.00	\$526.00	99	\$5.00	\$495.00
2	2	\$263.00	\$526.00	24	\$5.00	\$120.00
<b>Sub Total =</b>						<b>\$1,667.00</b>
<b>*Cost includes separating firewood</b>						
Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
\$945.00	1	\$945.00	<b>Sub Total = \$945.00</b>			
<b>Grand Total =</b>						<b>\$9,377.00</b>



**SUMMARY OF ALL PROJECT COSTS**

**SALE NAME:** Alderberry

**NEW CONSTRUCTION:**

Project No. 1	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	Dirt Roads 1A-1B	2.80	\$1,428.00
	Surfaced Roads 1C-1D & 2A-2B	12.50	\$23,650.00
	<b>TOTALS</b>	15.30	\$25,078.00

**ROAD IMPROVEMENT:**

Project No. 1	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	I1-12, I2-13, I2-14, I5-16	258.00	\$31,930.00
	<b>TOTALS</b>	258.00	\$31,930.00

**SPECIAL PROJECTS:**

Project No. 2	<u>Description</u>	<u>Cost</u>
	Roadside Brushing (15.88 miles)	\$18,203.00
	Project Work Road Maintenance	\$3,804.00
	<b>TOTAL</b>	\$22,007.00

**MOVE IN:**

	<u>Equipment</u>	<u>Cost</u>
	Dozer (D8) x 1	\$1,220.00
	Dump Trucks (10 cy x 4)	\$564.00
	Dump Trucks (20cy x 2)	\$332.00
	F E Loader (C966)	\$675.00
	Grader (14G)	\$675.00
	Vibratory Roller	\$675.00
	Brush Cutter	\$279.00
	Water Truck (2,500 gallon)	\$165.00
	Excavator (C325 x 2)	\$2,238.00
	Backhoe (C580)	\$279.00
	<b>TOTAL</b>	\$7,102.00

**GRAND TOTAL** **\$93,219.00**

*R*  
Compiled By: C. Bangs

Date: 09/17/2010

**SUMMARY OF CONSTRUCTION COSTS**

SALE NAME: Alderberry (Field Design) (Dirt)  
 ROAD: 1A-1B (2.8)

NEW CONSTRUCTION: 2.80 STATIONS 0.05 MILES  
 IMPROVEMENT:            STATIONS            MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	0.40	x	\$1,161.00	=	\$464.40
		x		=	
		x		=	
		x		=	

**SUB TOTAL FOR CLEARING & GRUBBING** \$464

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
Common (Balanced Construction) \$\$/sta.	2.80	x	\$106.00	=	\$296.80
Landing Construction \$\$/landing	1.00	x	\$338.00	=	\$338.00
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	

**SUB TOTAL FOR EXCAVATION** \$635

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** Subtotal of Clearing, Exc., Culv. **\$1,099**

SURFACING	Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
		Grade, Shape and Outslope 14'	2.80	x	\$15.93	\$44.60
				x		

ROAD SEGMENT 1A-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-1B Volume (CY) per	0+00 Number of					
Base Rock				station	stations			0		\$0
Junctions	6"-0" Pit-run	0+00 to 0+50	6	junction	junctions	1	20	\$11.90		\$238
Turnouts				TO	TO's			0		\$0
Turnarounds				TA	TA's			0		\$0
Landings				Landing	Landings			0		\$0
Total Rock for Road Segment:				1A-1B			20			\$238

ROAD SEGMENT 0				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of					
Subgrade Leveling			N/A		stations			0		\$0
Traction Rock			N/A	station	stations			0		\$0
Culvert Bedding/Backfill			N/A	culvert	culverts			0		\$0
Turnouts			N/A	TO	TO's			0		\$0
Turnarounds			N/A	TA	TA's			0		\$0
Junctions			N/A	junction	junctions			0		\$0
Total Rock for Road Segment:				0			0			\$0

ROAD SEGMENT 0				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of					
Base Rock			5	station	stations			0		\$0
Junctions			N/A	junction	junctions			0		\$0
Culvert Bedding/Backfill			N/A	culvert	culverts			0		\$0
Landings			N/A	Landing	Landings			0		\$0
Total Rock for Road Segment:				0			0			\$0

Processing:	Description	No. sta	Rate/sta	Cost

SUB TOTAL FOR SURFACING 6"-0" pr Total 20      20      \$283

SPECIAL PROJECTS		Description	Cost
		Develop Pit-run \$2.30/CY x 20CY	\$ 46.00
SUB TOTAL FOR SPECIAL PROJECTS			\$46

Subtotal of Surfacing & Spec. Proj. \$329  
Subtotal of Clearing, Exc., Culv. \$1,099

GRAND TOTAL \$1,428

Compiled By: C. Bangs Date: 09/17/2010

**SUMMARY OF CONSTRUCTION COSTS**

SALE NAME: Alderberry (Field Design) (Surfaced)  
ROAD: 1C-1D(6.0), 2A-2B(6.5), 2C

NEW CONSTRUCTION: 12.50 STATIONS  
IMPROVEMENT: STATIONS

0.24 MILES  
MILES

CLEARING & GRUBBING						
Method	Acres/amount	x	Rate	=	Cost	
Scatter Outside of R/W	0.60	x	\$1,161.00	=	\$696.60	
		x		=		
		x		=		
		x		=		
<b>SUB TOTAL FOR CLEARING &amp; GRUBBING</b>						<b>\$697</b>

EXCAVATION						
Material	Cy/amount	x	Rate	=	Cost	
Common (Drift Earth up to 200') \$\$/sta.	12.50	x	\$165.00	=	\$2,062.50	
Landing Construction \$\$/landing (1D, Sta. 4+00 2A-2B, 2B, 2C)	4.00	x	\$338.00	=	\$1,352.00	
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
<b>SUB TOTAL FOR EXCAVATION</b>						<b>\$3,415</b>

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
1C-1D - 5+00	18"CPP	30	\$17.64	\$529.20					
2A-2B - 6+00	18"CPP	30	\$17.64	\$529.20					

Other/miscellaneous:	Description	Quantity	Rate	Cost
Culvert stakes & markers:	Installed 6' Fiberglass Markers @\$18.00 each	2	\$18.00	\$36.00

**SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION** \$1,094

*Subtotal of Clearing, Exc., Culv.*

**\$5,206**

SURFACING		Stations/amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
	Grade, Shape and Ditch 16'	12.50	x	\$21.55	\$269.38
	Subgrade Compaction	12.50	x	\$17.52	\$219.00

ROAD SEGMENT 1C-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-1D		0+00 to 6+00					
				Volume (CY) per	Number of	Volume (CY)	Number of				
Base Rock	6"-0" Pit-run	0+00-6+00	10	station	63	stations	6.00	378	\$11.90	\$4,498	
Junctions	6"-0" Pit-run	0+00	10	junction	20	junctions	1	20	\$11.90	\$238	
Turnarounds	6"-0" Pit-run	5+00	10	TA	20	TA's	1	20	\$11.90	\$238	
Landings	6"-0" Pit-run	1D	N/A	Landing	80	Landings	1	80	\$11.90	\$952	
Total Rock for Road Segment:				1C-1D				498			\$5,926

ROAD SEGMENT 2A-2B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A-2B		0+00 to 6+50					
				Volume (CY) per	Number of	Volume (CY)	Number of				
Base Rock	6"-0" Pit-run	0+00-6+50	10	station	63	stations	6.50	410	\$11.90	\$4,873	
Junctions	6"-0" Pit-run	0+00	10	junction	20	junctions	1	20	\$11.90	\$238	
Turnarounds	6"-0" Pit-run	4+00	10	TA	20	TA's	1	20	\$11.90	\$238	
Landings	6"-0" Pit-run	3+00, 2B	N/A	Landing	80	Landings	2	160	\$11.90	\$1,904	
Total Rock for Road Segment:				2A-2B				610			\$7,253

ROAD SEGMENT 2C				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C							
				Volume (CY) per	Number of	Volume (CY)	Number of				
Landings	6"-0" Pit-run	2C	N/A	Landing	80	Landings	1	80	\$11.90	\$952	
Total Rock for Road Segment:				2C				80			\$952

Processing:		Description	No. sta	Rate/ sta	Cost
		Water, Process & Compact:	12.50	\$49.02	\$613
SUB TOTAL FOR SURFACING		6"-0" pr	1,188	Total	1,188
				1,188	\$15,232

SPECIAL PROJECTS		Description	Cost
		Develop Pit-run \$2.30/CY x 1,188CY	\$2,732.40
		Final quarry development/winterization (4hrs. C325)	\$480.00
SUB TOTAL FOR SPECIAL PROJECTS			\$3,212

Subtotal of Surfacing & Spec. Proj. \$18,445  
 Subtotal of Cleaning, Exc., Cuv. \$5,206

**GRAND TOTAL \$23,650**

Compiled By: C.Bangs Date: 09/17/2010

**SUMMARY OF CONSTRUCTION COSTS**

SALE NAME: Alderberry  
 ROAD: 11-12(32.0), 12-13(68.0), 12-14 (149.00), 15-16(9.0)

NEW CONSTRUCTION: \_\_\_\_\_ STATIONS \_\_\_\_\_ MILES \_\_\_\_\_  
 IMPROVEMENT: 258.00 STATIONS \_\_\_\_\_ MILES 4.89

<b>CLEARING &amp; GRUBBING</b>						
Method	Acres/amount	x	Rate	=	Cost	
		x		=		
		x		=		
		x		=		
		x		=		
<b>SUB TOTAL FOR CLEARING &amp; GRUBBING</b>						

<b>EXCAVATION</b>						
Material	Cy/amount	x	Rate	=	Cost	
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
<b>SUB TOTAL FOR EXCAVATION</b>						

<b>CULVERT MATERIALS AND INSTALLATION</b>									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost

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

**SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION** *Subtotal of Clearing, Exc., Culv.*

SURFACING		Subgrade prep:	Description	Stations/amount	x	Rate/ sta/amt	Cost
			Grade, Shape and Ditch	258.00	x	\$21.55	\$5,559.90
			Compact subgrade w/roller - I1-I2 (32.0), I2-I4 (28.5)	60.50	x	\$17.52	\$1,059.96

ROAD SEGMENT I1-I2				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1-I2	0+00-32+00					
				Volume (CY) per	Number of					
Surfacing	1 1/2"-0"	0+00-32+00	3	station	19	stations	32.00	608	\$8.09	\$4,919
Curve widening	1 1/2"-0"		3	N/A	10	N/A	5	50	\$8.09	\$405
Turnouts	1 1/2"-0"		3	TO	10	TO's	4	40	\$8.09	\$324
Junctions	1 1/2"-0"		3	junction	10	junctions	3	30	\$8.09	\$243
Total Rock for Road Segment:				I1-I2				728		\$5,890

ROAD SEGMENT I2-I3				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I2-I3	0+00-68+00					
				Volume (CY) per	Number of					
Leveling rock	1 1/2"-0"			N/A		N/A		200	\$8.09	\$1,618
Junctions	1 1/2"-0"	I5				junctions	1	20	\$8.09	\$162
Total Rock for Road Segment:				I2-I3				220		\$1,780

ROAD SEGMENT I2-I4				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I2-I4	0+00-149+00					
				Volume (CY) per	Number of					
Surfacing	3/4"-0"	(6+50-35+00)	2	station	13	stations	28.5	371	\$8.09	\$2,997
Leveling rock	3/4"-0"		2	N/A		N/A		320	\$8.09	
Curve widening	3/4"-0"		2	N/A	10	N/A	5	50	\$8.09	
Turnouts	3/4"-0"		2	TO	10	TO's	6	60	\$8.09	
Junctions	3/4"-0"		2	junction	10	junctions	1	10	\$8.09	
Total Rock for Road Segment:				I2-I4				811		\$2,997

ROAD SEGMENT I5-I6				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5-I6	0+00-9+00					
				Volume (CY) per	Number of					
Leveling rock	6"-0" Pit-run			N/A		N/A		100	\$11.90	\$1,190
Total Rock for Road Segment:				I5-I6				100		\$1,190

Processing:		Description	No. sta	Rate/sta	Cost
		Water, Process & Compact	258.00	\$49.02	\$12,647
<b>SUB TOTAL FOR SURFACING</b>					
		6"-0" pr	100	948	811
		<b>Total</b>		1,859	1,859
					\$31,124

SPECIAL PROJECTS		Description	Cost
		Scatter ditch waste materials - 35 stations. x \$10.78/sta	\$ 377.30
		Load & haul waste materials - 10 stations x \$19.89/sta	\$ 198.90
		Develop Pit-run \$2.30/CY x 100CY	\$ 230.00
<b>SUB TOTAL FOR SPECIAL PROJECTS</b>			\$806

Subtotal of Surfacing & Spec. Proj. \$31,930  
Subtotal of Clearing, Exc., Cuiv. \$0

**GRAND TOTAL \$31,930**

Compiled By: C.Bangs

Date: 09/17/2010

PIT RUN ROCK COST

SALE NAME: Alderberry  
 PROJECT: No. 1  
 QUARRY: Spruce Run Quarry

MATERIAL: Pit Run

DATE: 09/17/2010  
 BY: C.Bangs

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
1A-1B	0.50	20	4	0	3	2.00	1.80	0.50	0.20	11.90
1C-1D	6.00	498	4	0	3	2.00	1.80	0.50	0.20	11.90
2A-2B	6.50	610	4	0	3	2.00	1.70	2.00	0.20	13.30
2C		80	4	0	3	2.00	1.90	2.00	0.20	13.50
15-16	9.00	100	4	0	3	2.00	1.60	0.50	0.20	11.70
TOTAL	22.00	1,308								
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL			4.00	0.40	3.00	2.00	1.74	1.29	0.20	AVERAGE HAUL 12.64
Average Round Trip Distance (miles)										25.27

ROCK HAUL:

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

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

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

Ave haul: \$9.10 /cy  
 Load: \$1.01 /cy  
 Spread: \$1.79 /cy

Production: cy/day = 421

PIT RUN ROCK HAUL COSTS 1,308 cy @ \$11.90 /cy





# Project No. 2 Alderberry

Segment	Name	Length (Miles)	Brush Type	Cost/Mile	Cost
1	<b>Klines Crk</b>	2.85	M	\$1,250.00	\$3,562.50
2	KC30	0.18	M	\$1,250.00	\$225.00
3	KC40	0.19	L	\$800.00	\$152.00
4	KC41	0.18	M	\$1,250.00	\$225.00
5	KC42	0.20	M	\$1,250.00	\$250.00
6	KC50	0.42	L	\$800.00	\$336.00
7	KC5010	0.55	L	\$800.00	\$440.00
8	KC60	1.13	L	\$800.00	\$904.00
9	KC6010	0.03	LM	\$1,000.00	\$30.00
10	KC6020	0.03	MH	\$1,375.00	\$41.25
11	KC6030	0.16	LM	\$1,000.00	\$160.00
12	KC70	0.07	L	\$800.00	\$56.00
13	KC80	0.03	L	\$800.00	\$24.00
14	<b>Osweg Crk</b>	2.80	LM	\$1,000.00	\$2,800.00
15	OC10	0.52	M	\$1,250.00	\$650.00
16	OC1010	0.03	L	\$800.00	\$25.60
17	OC30	1.73	M	\$1,250.00	\$2,162.50
18	OC3010	0.19	L	\$800.00	\$152.00
19	OC3020	0.04	LM	\$1,000.00	\$40.00
20	OC330	0.16	H	\$1,500.00	\$240.00
21	OC3040	0.27	H	\$1,500.00	\$405.00
22	OC3050	0.31	MH	\$1,375.00	\$426.25
23	OC305010	0.20	M	\$1,250.00	\$250.00
24	OC3060	0.18	MH	\$1,375.00	\$247.50
25	OC40	0.27	H	\$1,500.00	\$405.00
26	OC60	0.16	L	\$800.00	\$128.00
27	OC70	0.04	MH	\$1,375.00	\$55.00
28	OC80	0.40	MH	\$1,375.00	\$550.00
29	OC90	0.24	MH	\$1,375.00	\$330.00
30	OC100	0.13	M	\$1,250.00	\$162.50
31	OC10010	0.01	M	\$1,250.00	\$12.50
32	OC110	1.19	M	\$1,250.00	\$1,487.50
33	OC11010	0.16	LM	\$1,000.00	\$160.00
34	OC115	0.14	M	\$1,250.00	\$180.00
35	OC120	0.62	MH	\$1,375.00	\$852.50
36	OC12010	0.06	M	\$1,250.00	\$75.00
<b>Total Miles</b>		15.88	<b>Total Project Cost</b>		<b>\$18,203</b>

Average cost per mile: \$1,146.55

L = Light brushing \$800.00 \ mile  
 LM = \$1,000.00 \ mile  
 M = Medium brushing \$1,250.00 \ mile  
 MH = \$1,375.00 \ mile  
 H = Heavy brushing \$1,500.00 \ mile  
 VH = Very Heavy \$1,750.00 \ mile  
 revised 09\07\10

**Road Maintenance Cost Summary**

Sale: Kevin Berry  
 Date: 10-Aug-10  
 By: K. Berry

*FL*

MBF: 1,330  
 \$\$/MBF: \$11.39

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Miles/day	Distance(miles)	Days	
Progressive Operations 1nd Entry	Grader 14G	\$675	1	10	\$90	\$1,575	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 10CY x 2	\$282	2	8	\$73	\$1,450	Grader	2.5	3.2	1.3
	FE Loader C966	\$675	1	8	\$74	\$1,267				
Final Road Maintenance	Grader 14G	\$675	1	30	\$90	\$3,375	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 10CY x 3	\$423	2	8	\$73	\$1,591	Grader	1.5	4.4	2.9
	FE Loader C966	\$675	1	8	\$74	\$1,267	Vibratory Roller*	1.5	4.4	2.9
	Vibratory Roller	\$675	1	30	\$72	\$2,835				
	Water Truck 2,500 gallon Labor	\$165	1	16	\$78	\$1,413				
<b>Total</b>						\$370				
							\$15,143			

\*Final Road Maintenance Only

**Road Maintenance after completion of Projects**

**Sale:** Alderberry  
**Date:** 17-Sep-10  
**By:** C.Bangs

Type	Equipment/Rationale	Hours	Rate	Cost
Final Project	Grader 14G	28	\$93	\$2,604
	Dump Truck 12CY	8	\$73	\$584
	FE Loader C966	8	\$77	\$616
<b>Total</b>				<b>\$3,804</b>

Miles/day	Distance(miles)	Days
2.0	7.0	3.5

Production Rates  
Grader

**Alderberry  
TIMBER CRUISE REPORT  
FY 2011**

**1. Sale Area Location:** Area 1 is located in portions of Section 3, T4N, R7W and portions of Sections 33 and 34, T5N, R7W, Area 2 is located in portions of Sections 2 and 3, T4N, R7W, W.M. Clatsop County, OR.

**2. Fund Distribution:** BOF 100%  
Tax Code 8-01 (100%)

**3. Sale Acreage by Area:**

Area	Treatment	Gross Acres	Existing R/W	New R/W	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	42.7	1.0	0.7	2.0	39.0	GIS
2	Modified Clearcut	33.3	0.0	0.3	1.0	32.0	GIS
3	R/W	1.0	0.0	1.0	0.0	1.0	L x W
<b>TOTALS</b>		<b>77.0</b>	<b>1.0</b>	<b>1.0</b>	<b>3.0</b>	<b>72.0</b>	

**4. Cruisers and Cruise Dates:** Areas 1 and 2 were cruised by Kraig Kirkpatrick, Bryce Rodgers, Jon Long, Jasen McCoy, and Kevin Berry on 6/22/2010.

**5. Cruise Method and Computation:**

Areas 1 and 2 are modified clearcut units and were variable plot cruised using a 20 BAF. These plots are located on a 4 chain by 4 chain grid, with every other plot measured and graded. A total of 46 plots were sampled, with 24 measured and graded plots, and 22 count plots. Conifer greater than 30" DBH and less than 12" DBH are reserve species, and were recorded as "leave" trees. All cedar and true fir are also reserve species and recorded as "leave" trees.

All cruisers used Corvallis MicroTechnology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2	T4NR7W Sec 02	AREAS12	OCC	71
1, 2	T4NR7W Sec 02	AREAS12	LV	71
1, 2	T4NR7W Sec 02	AREAS12	TK	71
1, 2	T4NR7W Sec 02	AREAS12	R/W	1

**6. Timber Description:**

Areas 1 and 2 are modified clearcut units, approximately 50 to 60 year-old, consisting of red alder, Douglas fir, western hemlock, sitka spruce, western red cedar, and grand fir. The average red alder tree size to be harvested is 14 inches DBH, with an average height of 50 feet to a merchantable top (6 inch d.i.b.). The average Douglas-fir tree size to be harvested is 20 inches DBH, with an average height of 72 feet to a merchantable top (6 inch d.i.b.). The average hemlock tree size is 15 inches DBH and 50 feet to a merchantable top (6 inch d.i.b.). The average sitka spruce tree size is 13 inches DBH and 35 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 18.4 MBF.

Area 3 R/W is similar type as Areas 1 and 2. Volume includes all trees and snags located with the R/W boundary.

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

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 & 2 MC	60%	11%	45.9%	6.8%

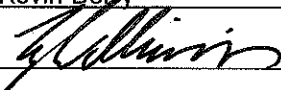
**8. Volumes by Species and Log Grade:** (See "Species, Sort, Grade" - Type "TK", attached.

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
Alder and other Hardwoods	14"	1,101	0	0	0	1,101	1%	83%
Hemlock	16"	116	37	67	12	0	<3%	9%
Douglas fir	21"	85	58	25	2	0	<1%	6%
Sitka spruce	13"	28	0	17	11	0	<1%	2%
<b>TOTALS</b>		<b>1,330</b>	<b>95</b>	<b>109</b>	<b>25</b>	<b>1,101</b>		

**9. Approvals:**

Prepared by: Kevin Berry Date: July 28, 2010

Unit Forester Approval:  Date: 8/6/10

**10. Attachments:**

- Cruise Designs and Maps - 4 pages
- Volume Reports - 3 pages
- Statistics Reports - 1 page
- Log Stock Tables - 3 pages
- Stand Table Summary - 1 page

**CRUISE DESIGN  
ASTORIA DISTRICT**

Sale Name: Alderberry Area(s) 1 & 2

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 78 Estimated CV% 60 Net BF or BA/Acre SE% Objective 11

Planned Sale Volume: 1,036 Estimated Sale Area Value/Acre: \$ 7,105

- A. Cruise Goals:** (a) Grade minimum 20 conifer and 130 hardwood trees:  
 Determine log grades for sale value;  
 Determine snag and leave tree species and sizes;  
 Determine "diameter limit" harvest parameters;

**B. Cruise Design:**

1. **Plot Cruises:** BAF 20 (Full point; Half point) (circle one)  
 Cruise Line Direction(s) Area 1- 45' az  
Area 2- 360'az  
 Cruise Line Spacing 4 chains  
 Cruise Plot Spacing 4 chains  
 Grade/Count Ratio 1:1

Record all cedar as leave trees. Record all conifer greater than 30" dbh as leave trees. Record all hardwood as camp run. Record all snags as SN and record diameter & total height. If plot lands in buffer then offset at least 1/2 chain outside the buffer. A machete will be needed to brush line of site on most plots.

**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.
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 " 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.

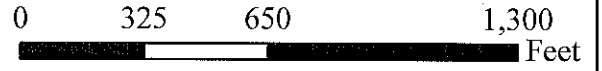
5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum 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); DL(Douglas-fir over 30"dbh); HL(Western hemlock over 30" dbh); SL(Sitka spruce over 30" dbh); CL (Western red cedar over 30" dbh); NFL (Noble fir over 30" dbh); SFL (Silver fir over 30" dbh)  
 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
  
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, **Machete**,
  
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: Kevin Berry  
 Approved by: \_\_\_\_\_  
 Date: 6/10/10



# "Exhibit A"

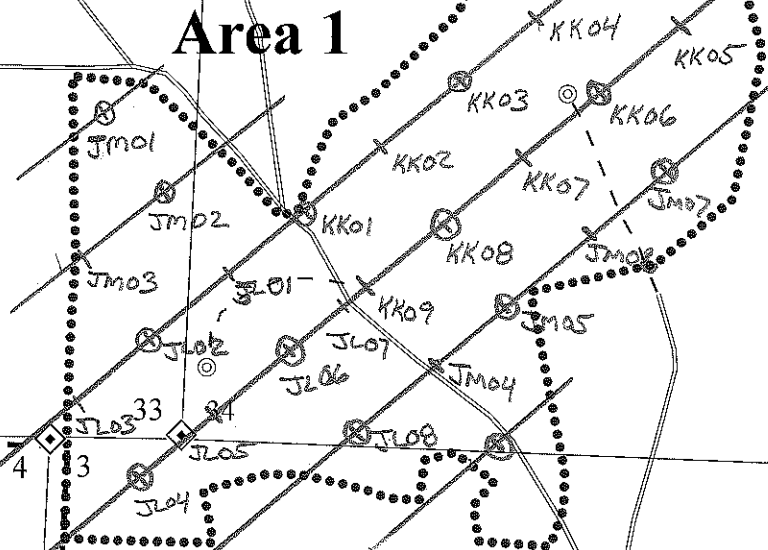
OF TIMBER SALE CONTRACT NO. 341-10-??  
ALDERBERRY  
Portions of Sections 2, & 3, T4N, R7W, and  
Sections 33, & 34, T5N, R6W, W.M.,  
Clatsop County, Oregon



Approximate Scale: 1 inch = 500 feet

PRIVATE  
STATE

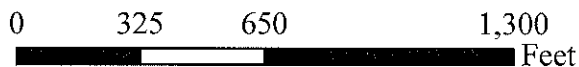
## Area 1



Approximate Net Acreage	
Area 1 (MC) -	38 Acres
Area 2 (MC) -	36 Acres
Area 3 (R/W) -	? Acres
Total	= 74 Acres

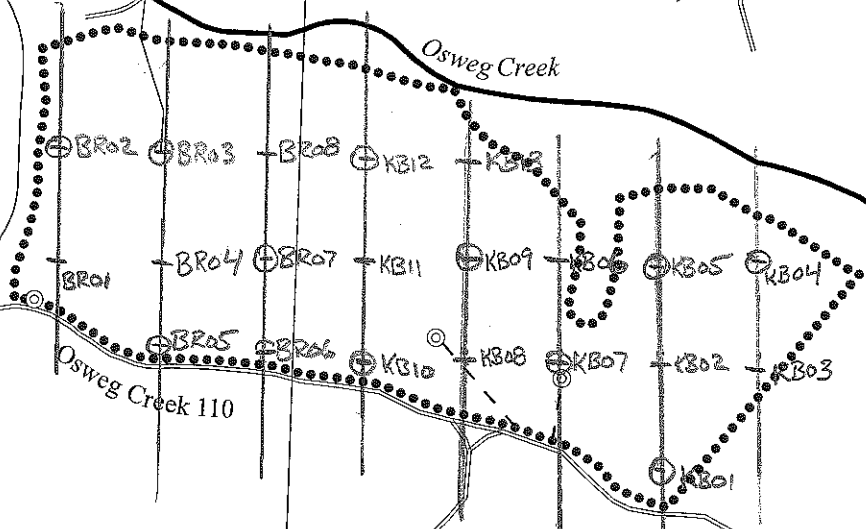
**"Exhibit A"**

OF TIMBER SALE CONTRACT NO. 341-10-??  
ALDERBERRY  
Portions of Sections 2, & 3, T4N, R7W, and  
Sections 33, & 34, T5N, R6W, W.M.,  
Clatsop County, Oregon



Approximate Scale: 1 inch = 500 feet

**Area 2**



Highway 26



Approximate Net Acreage	
Area 1 (MC) -	38 Acres
Area 2 (MC) -	36 Acres
Area 3 (R/W) -	? Acres
Total	= 74 Acres

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

T04N RR7W S02 TyTK 71.00	<b>Project: DEMO</b>	<b>Page 1</b>
TT4N RR7W S02 TyR/W 1.00	<b>Acres 72.00</b>	<b>Date 7/30/2010</b>
		<b>Time 1:30:43PM</b>

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				
A	DOCU														10		0.00	11.1	
A	DOCR		100	.7	15,398	15,289	1,101	81	18	2	6	13	19	61	30	80	0.77	191.5	
<b>A</b>	<b>Totals</b>		83	.7	15,398	15,289	1,101	81	18	2	6	13	19	61	29	75	0.75	202.6	
H	DOCU														9		0.00	2.1	
H	DO2S		32	3.4	537	519	37		39	61	7	0	0	93	33	300	2.16	1.7	
H	DO3S		58	2.1	958	938	68		95	5	4	14	25	57	34	78	0.75	12.0	
H	DO4S		10	8.6	177	162	12	16	84		38	18	28	16	23	32	0.56	5.0	
<b>H</b>	<b>Totals</b>		9	3.2	1,672	1,618	117	2	64	15	20	8	10	17	65	77	0.83	20.9	
D	DOCU														8		0.00	.2	
D	DO2S		67	.7	805	799	58		27	73			21	79	37	429	2.60	1.9	
D	DO3S		30		348	348	25	82	18			6	4	90	37	122	0.92	2.8	
D	DO4S		2		31	31	2	100			66	34			18	24	0.42	1.3	
D	DO3P				1	1	0						100		32	1220	6.22	.0	
D	DOSM		1		1	1	0						100		40	940	4.65	.0	
<b>D</b>	<b>Totals</b>		6	.5	1,186	1,181	85	27	24	50	2	3	16	80	32	189	1.44	6.2	
S	DO2S				3	3	0			100				100	40	3360	14.80	.0	
S	DO3S		63	.1	242	242	17	98	2			0	100		38	90	0.77	2.7	
S	DO4S		36		135	135	10	100			40	60			23	33	0.54	4.1	
S	R 3S		1		3	3	0			100		100		27	1230	7.23	.0		
<b>S</b>	<b>Totals</b>		2	.1	383	382	28	97	3		14	22	64		29	56	0.67	6.8	
C	DO3S		100		0	0	0	100				45	55		29	42	0.94	.0	
<b>C</b>	<b>Totals</b>		0		0	0	0	100				45	55		29	42	0.94	.0	
NF	DO3S		100		0	0	0	100					100		40	70	0.73	.0	
<b>NF</b>	<b>Totals</b>		0		0	0	0	100					100		40	70	0.73	.0	
<b>Totals</b>				0.9	18,639	18,471	1,330	0	76	18	6	6	12	19	63	29	78	0.78	236.6

T04N RR7W S02 TTK T04N RR7W S02 TTK  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 04N R7W 02 AREAS12 TK 71.00 1 W

Spp	Sp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
					Net BdFt	Def%	Gross		Net	Log Scale Dia.				Log Length				Ln Ft	Bd Ft	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
A		DO	CU													10		0.00	11.1	
A		DO	CR	100	.7	15,398	15,289	1,086	81	18	2	6	13	19	61	30	80	0.77	191.5	
<b>A</b>	<b>Totals</b>			83	.7	15,398	15,289	1,086	81	18	2	6	13	19	61	29	75	0.75	202.6	
H		DO	CU													9		0.00	2.1	
H		DO	2S	31	3.5	524	505	36		40	60	7			93	33	294	2.13	1.7	
H		DO	3S	58	2.1	954	934	66	95	5		4	14	25	57	34	78	0.76	12.0	
H		DO	4S	11	8.7	175	160	11	16	84		38	18	28	16	23	33	0.57	4.9	
<b>H</b>	<b>Totals</b>			9	3.2	1,653	1,599	114	2	64	15	19	8	10	17	65	29	77	0.83	20.7
D		DO	CU													8		0.00	.2	
D		DO	2S	67	.7	771	766	54		28	72				22	78	37	420	2.56	1.8
D		DO	3S	30		347	347	25	82	18			5	4	90	37	122	0.92	2.8	
D		DO	4S	3		31	31	2	100			67	33			18	24	0.42	1.3	
<b>D</b>	<b>Totals</b>			6	.4	1,148	1,143	81	28	24	48	2	3	16	80	32	185	1.41	6.2	
S		DO	3S	63		236	236	17	100						100	38	88	0.76	2.7	
S		DO	4S	37		135	135	10	100			40	60			23	33	0.54	4.1	
<b>S</b>	<b>Totals</b>			2		372	372	26	100			14	22		64	29	55	0.66	6.8	
<b>Type Totals</b>					.9	18,571	18,403	1,307	0	76	18	6	6	12	19	63	29	78	0.78	236.3

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1								
Project: DEMO												Date 7/28/2010								
												Time 10:03:39AM								
TT4N RR7W S02 TR/W											TT4N RR7W S02 TR/W									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt	W										
T4N	R7W	02	AREA12	R/W	1.00			1												
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					
A		DO	CU													10		0.00	11.1	
A		DO	CR	100	.7	15,398	15,289	15		81	18	2	6	13	19	61	30	80	0.77	191.5
<b>A</b>	<b>Totals</b>			66	.7	15,398	15,289	15	81	18	2	6	13	19	61	29	75	0.75	202.6	
H		DO	CU													9		0.00	2.4	
H		DO	2S	49	1.3	1,474	1,455	1			16	84	6	2	2	91	33	559	3.48	2.6
H		DO	3S	41	1.6	1,246	1,225	1		86	6	7	4	15	28	52	33	76	0.73	16.0
H		DO	4S	10	5.0	294	280	0	9	91			33	42	16	9	23	30	0.46	9.5
<b>H</b>	<b>Totals</b>			13	1.8	3,014	2,959	3	1	44	10	45	8	11	14	67	28	97	0.92	30.5
D		DO	CU													7		0.00	.7	
D		DO	2S	82	.8	3,170	3,145	3			11	89			8	92	39	683	3.46	4.6
D		DO	3S	11		417	417	0		70	30			9	16	76	36	124	1.09	3.4
D		DO	4S	1		61	61	0	100				39	61		21	30	0.49	2.0	
D		DO	3P	3		105	105	0			100				100	32	1220	6.22	.1	
D		DO	SM	3		101	101	0			100				100	40	940	4.65	.1	
<b>D</b>	<b>Totals</b>			16	.7	3,855	3,830	4	9	12	78	1	2	11	86	32	351	2.28	10.9	
S		DO	2S	16		192	192	0			100				100	40	3360	14.80	.1	
S		DO	3S	55	2.4	648	632	1		39	61			3	97	38	211	1.32	3.0	
S		DO	4S	13		141	141	0		100			40	60		23	33	0.54	4.3	
S		R	3S	16		184	184	0			100			100		27	1230	7.23	.1	
<b>S</b>	<b>Totals</b>			5	1.3	1,164	1,149	1	34		66	5	25		70	29	154	1.23	7.5	
C		DO	3S	100		36	36	0		100				45	55	29	42	0.94	.9	
<b>C</b>	<b>Totals</b>			0		36	36	0		100				45	55	29	42	0.94	.9	
NF		DO	3S	100		25	25	0		100				100		40	70	0.73	.4	
<b>NF</b>	<b>Totals</b>			0		25	25	0		100				100		40	70	0.73	.4	
<b>Type Totals</b>					.9	23,493	23,287	23	0	62	15	23	5	11	16	67	29	92	0.86	252.8

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT		DEMO		DATE	7/23/2010	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	R7W	02	AREAS12	TK	71.00	46	378	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		46	378	8.2						
CRUISE		23	188	8.2	10,292	1.8				
DBH COUNT REFOREST COUNT		23	188	8.2						
BLANKS		100 %								
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER	154	123.8	14.2	50		135.7	15,398	15,289	4,471	4,471
WHEMLOCK	22	12.4	15.7	50		16.5	1,653	1,599	494	494
DOUG FIR	6	2.8	20.5	72		6.5	1,148	1,143	279	279
S SPRUCE	6	5.9	13.2	35		5.7	372	372	129	129
<b>TOTAL</b>	<b>188</b>	<b>145.0</b>	<b>14.4</b>	<b>50</b>		<b>164.3</b>	<b>18,571</b>	<b>18,403</b>	<b>5,374</b>	<b>5,374</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		
R ALDER	64.7	5.2	152	160	169					
WHEMLOCK	117.5	25.6	150	201	253					
DOUG FIR	66.8	29.7	443	630	817					
S SPRUCE	62.7	27.9	48	67	85					
<b>TOTAL</b>	<b>93.0</b>	<b>6.8</b>	<b>165</b>	<b>177</b>	<b>189</b>	<b>346</b>	<b>86</b>	<b>38</b>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
R ALDER	59.7	8.8	113	124	135					
WHEMLOCK	160.5	23.6	9	12	15					
DOUG FIR	209.0	30.8	2	3	4					
S SPRUCE	270.2	39.8	4	6	8					
<b>TOTAL</b>	<b>59.2</b>	<b>8.7</b>	<b>132</b>	<b>145</b>	<b>158</b>	<b>140</b>	<b>35</b>	<b>16</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		
R ALDER	49.1	7.2	126	136	145					
WHEMLOCK	147.3	21.7	13	17	20					
DOUG FIR	205.0	30.2	5	7	8					
S SPRUCE	265.5	39.1	3	6	8					
<b>TOTAL</b>	<b>48.5</b>	<b>7.2</b>	<b>153</b>	<b>164</b>	<b>176</b>	<b>94</b>	<b>24</b>	<b>10</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		
R ALDER	47.9	7.0	14,211	15,289	16,367					
WHEMLOCK	146.7	21.6	1,254	1,599	1,945					
DOUG FIR	211.1	31.1	788	1,143	1,499					
S SPRUCE	254.9	37.5	232	372	511					
<b>TOTAL</b>	<b>45.9</b>	<b>6.8</b>	<b>17,157</b>	<b>18,403</b>	<b>19,648</b>	<b>84</b>	<b>21</b>	<b>9</b>		







Log Stock Table - MBF

T04N RR7W S02 TyTK 71.00  
 TT4N RR7W S02 TyR/W 1.00

Project: DEMO  
 Acres 72.00

Page 3  
 Date 7/30/2010  
 Time 1:37:51PM

S Spp	T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spe	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	9	0		0	.0				0									
D		DO 4S	16	1		1	1.7			1										
D		DO 4S	20	0		0	.0				0									
D		DO 4S	24	1		1	.9			0	1									
D		DO 3P	32	0		0	.1									0				
D		DO SM	40	0		0	.1									0				
D		Totals		85		85	6.4			3	9	11	9	11	27	14	1	0		
S		DO 2S	40	0		0	.7											0		
S		DO 3S	22	0		0	.1							0						
S		DO 3S	36	4		4	16.0			4										
S		DO 3S	40	13		13	47.1				13						0	0	0	
S		DO 4S	16	1		1	4.6			1										
S		DO 4S	20	3		3	9.4			3										
S		DO 4S	24	3		3	10.7			3										
S		DO 4S	30	3		3	10.7			3										
S		R 3S	26	0		0	.4												0	
S		R 3S	28	0		0	.3									0		0		
S		Totals		28		28	2.1			14	13				0	0	0	0	0	
C		DO 3S	24	0		0	44.5			0										
C		DO 3S	36	0		0	55.5			0										
C		Totals		0		0	.0			0										
NF		DO 3S	40	0		0	100.0			0										
NF		Totals		0		0	.0			0										
Total		All Species		1,342		1,330	100.0			2	351	236	424	135	88	69	22	1	1	0

TC TSTNDSUM		Stand Table Summary														
Project DEMO																
T04N RR7W S02 TLV							T04N RR7W S02 TLV									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:								
04N	R7W	02	AREAS12	LV	71.00			1	Date:	07/23/20						
								Time:	10:47:14AM							
S Spec	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	Ht				16'	Tot				Net	Net	Tons
DL		11	1	81	40	.832	.55	.83	11.0	30.0		9	25		6	2
DL		30	4	82	146	.448	2.20	1.34	75.9	330.0		102	443		72	31
DL		31	1	92	138	.105	.55	.31	94.3	483.3		30	152		21	11
DL		33	1	91	142	.092	.55	.28	113.3	590.0		31	164		22	12
DL		34	1	85	120	.087	.55	.26	94.3	446.7		25	117		18	8
DL		35	1	78	154	.082	.55	.25	114.7	480.0		28	118		20	8
DL		36	3	85	157	.233	1.65	.78	113.3	586.0		88	455		63	32
DL		38	2	85	144	.139	1.10	.42	121.0	635.0		51	266		36	19
DL		40	1	82	150	.063	.55	.19	149.7	733.3		28	138		20	10
DL		42	1	92	150	.057	.55	.17	189.3	1016.7		32	174		23	12
DL		45	2	91	146	.099	1.10	.30	212.0	1116.7		63	333		45	24
DL		50	1	85	166	.040	.55	.12	193.3	1140.0		23	138		17	10
DL	Totals	19	84	108		2.279	10.43	5.25	97.4	480.7		511	2,523		363	179
HL		9	2	85	35	3.180	1.40	3.18	6.5	25.0		21	79		15	6
HL		10	3	88	48	3.863	2.11	3.86	11.3	36.7		44	142		31	10
HL		11	1	88	50	1.064	.70	1.06	14.0	50.0		15	53		11	4
HL		30	1	81	135	.143	.70	.43	72.3	336.7		31	145		22	10
HL		45	2	72	127	.127	1.40	.32	110.8	568.0		35	181		25	13
HL		46	1	88	130	.061	.70	.18	212.7	1126.7		39	206		28	15
HL		48	1	78	135	.056	.70	.17	212.3	983.3		36	165		25	12
HL		49	1	80	138	.054	.70	.16	230.3	1120.0		37	180		26	13
HL		50	1	89	141	.052	.70	.15	212.3	1230.0		33	190		23	13
HL	Totals	13	86	48		8.599	9.13	9.52	30.5	140.8		290	1,340		206	95
SL		56	1	83	180	.064	1.09	.25	305.3	1772.5		78	451		55	32
SL		60	1	85	154	.055	1.09	.22	317.0	1795.0		70	397		50	28
SL	Totals	2	84	168		.119	2.17	.48	310.7	1783.0		148	848		105	60
CL		15	1	75	34	.531	.65	.53	18.0	30.0		10	16		7	1
CL		19	1	75	50	.331	.65	.33	41.0	60.0		14	20		10	1
CL	Totals	2	75	40		.863	1.30	.86	26.8	41.5		23	36		16	3
NFL		15	1	85	57	.354	.43	.35	29.0	70.0		10	25		7	2
NFL	Totals	1	85	57		.354	.43	.35	29.0	70.0		10	25		7	2
SN		36	1	87	50	.123	.87									
SN		46	1	88	27	.075	.87									
SN		53	1	89	17	.057	.87									
SN	Totals	3	88	36		.255	2.61									
Totals		40	85	60		12.469	26.09	16.46	59.7	289.9		982	4,772		697	339

# Logging Plan

OF TIMBER SALE CONTRACT NO. 341-11-01  
 ALDERBERRY  
 PORTIONS OF SECTIONS 2 & 3, T4N, R7W, AND  
 SECTIONS 33 & 34, T5N, R7W, W.M.,  
 CLATSOP COUNTY, OREGON.

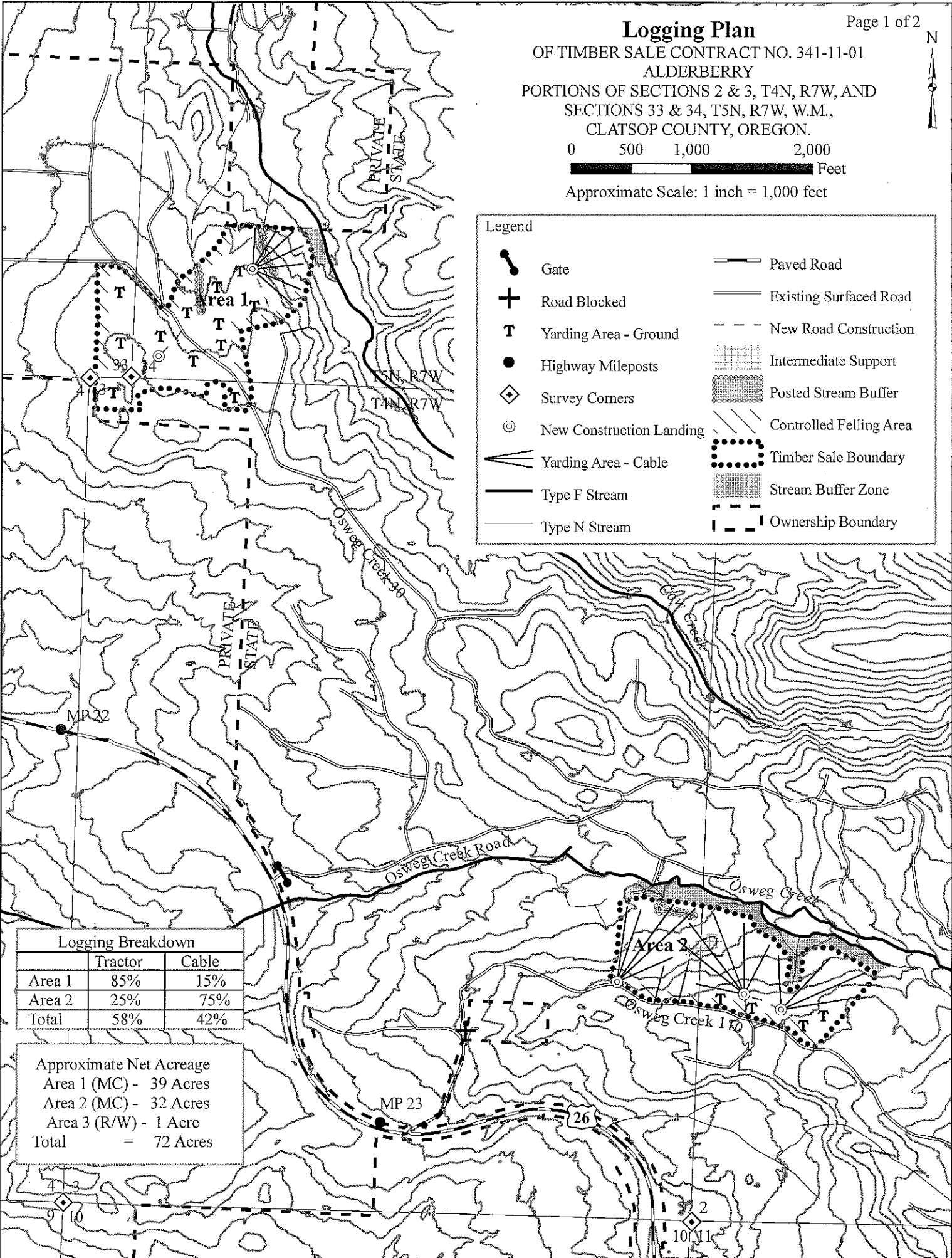
0 500 1,000 2,000  
 Feet

Approximate Scale: 1 inch = 1,000 feet



**Legend**

- Gate
- Road Blocked
- Yarding Area - Ground
- Highway Mileposts
- Survey Corners
- New Construction Landing
- Yarding Area - Cable
- Type F Stream
- Type N Stream
- Paved Road
- Existing Surfaced Road
- New Road Construction
- Intermediate Support
- Posted Stream Buffer
- Controlled Felling Area
- Timber Sale Boundary
- Stream Buffer Zone
- Ownership Boundary



Logging Breakdown		
	Tractor	Cable
Area 1	85%	15%
Area 2	25%	75%
Total	58%	42%

Approximate Net Acreage	
Area 1 (MC)	- 39 Acres
Area 2 (MC)	- 32 Acres
Area 3 (R/W)	- 1 Acre
Total	= 72 Acres

# Logging Plan

OF TIMBER SALE CONTRACT NO. 341-11-01  
ALDERBERRY  
PORTIONS OF SECTIONS 2 & 3, T4N, R7W, AND  
SECTIONS 33 & 34, T5N, R7W, W.M.,  
CLATSOP COUNTY, OREGON.

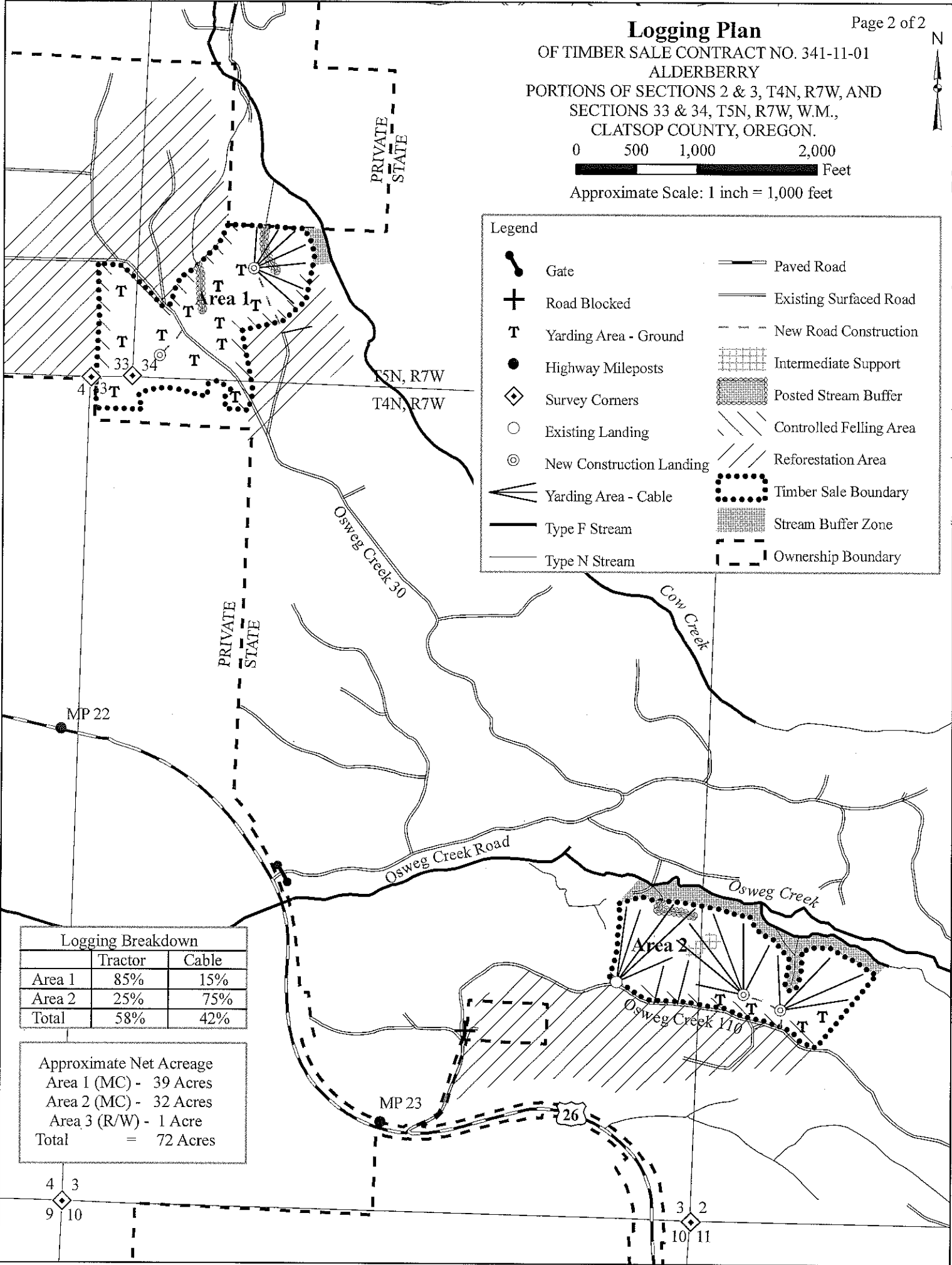
0      500      1,000      2,000  
Feet

Approximate Scale: 1 inch = 1,000 feet



**Legend**

<ul style="list-style-type: none"> <li> Gate</li> <li> Road Blocked</li> <li> Yarding Area - Ground</li> <li> Highway Mileposts</li> <li> Survey Corners</li> <li> Existing Landing</li> <li> New Construction Landing</li> <li> Yarding Area - Cable</li> <li> Type F Stream</li> <li> Type N Stream</li> </ul>	<ul style="list-style-type: none"> <li> Paved Road</li> <li> Existing Surfaced Road</li> <li> New Road Construction</li> <li> Intermediate Support</li> <li> Posted Stream Buffer</li> <li> Controlled Felling Area</li> <li> Reforestation Area</li> <li> Timber Sale Boundary</li> <li> Stream Buffer Zone</li> <li> Ownership Boundary</li> </ul>
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	Tractor	Cable
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4 3  
9 10

3 2  
10 11