



Timber Sale Appraisal
Winslow
Sale 341-10-04

"STEWARDSHIP IN FORESTRY"

District: Astoria

Date: January 15, 2010

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,584,232.02	\$93,186.18	\$1,677,418.20
		Project Work:	\$(130,378.00)
		Advertised Value:	\$1,547,040.20



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timber description

Location: Located in Portions of Sections 13, 14, and 24 of T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	97
Western Hemlock / Fir	18	0	97
Alder (Red)	17	0	96

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	5,640	953	98	0	6,691
Western Hemlock / Fir	61	88	3	0	152
Alder (Red)	0	0	0	306	306
Total	5,701	1,041	101	306	7,149



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comments: Pond Values Used: 4th Quarter Calendar Year 2009.

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

Western redcedar Stumpage Price = Pond Value minus Logging Cost
 $\$630.18/\text{MBF} = \$790.00/\text{MBF} - \$159.82/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling costs equivalent to $\$700$ daily truck cost.

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

100% Branding and Painting: $\$1\text{MBF} \times 7,149 \text{ MBF} = \$7,149$

Log Loader Slash & Landing Piling (includes Move-In and Pile
Materials): = $\$11,570$ (see attached appraisal)

TOTAL Other Costs (with Profit and Risk to be added) = $\$18,719$

Other Costs (No Profit & Risk added):

None.



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logging conditions

combination#: 1 Douglas - Fir 51.00%
 Western Hemlock / Fir 51.00%
 Alder (Red) 51.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Manual Falling/Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 11.0 **bd. ft / load:** 4,500
cost / mbf: \$69.50

machines: Log Loader (B)
Track Skidder

combination#: 2 Douglas - Fir 46.00%
 Western Hemlock / Fir 46.00%
 Alder (Red) 46.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,500
cost / mbf: \$96.11

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

combination#: 3 Douglas - Fir 3.00%
 Western Hemlock / Fir 3.00%
 Alder (Red) 3.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Falling/Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 10.0 **bd. ft / load:** 4,500
cost / mbf: \$55.66

machines: Shovel Logger



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logging costs

Operating Seasons:	2.00	Profit Risk:	14.00%
Project Costs:	\$130,378.00	Other Costs (P/R):	\$18,719.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

Miles of Road

Road Maintenance: \$3.68

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	4.5
Western Hemlock / Fir	\$0.00	2.0	4.0
Alder (Red)	\$0.00	2.0	3.5



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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									
\$81.33	\$3.79	\$1.23	\$46.84	\$2.62	\$19.01	\$0.00	\$5.00	\$0.00	\$159.82
Western Hemlock / Fir									
\$81.33	\$3.79	\$1.23	\$79.06	\$2.62	\$23.52	\$0.00	\$5.00	\$0.00	\$196.55
Alder (Red)									
\$81.33	\$3.83	\$1.23	\$91.23	\$2.62	\$25.23	\$0.00	\$5.00	\$0.00	\$210.47

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$394.36	\$234.54	\$0.00
Western Hemlock / Fir	\$0.00	\$294.74	\$98.19	\$0.00
Alder (Red)	\$0.00	\$515.00	\$304.53	\$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
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	6,691	\$234.54	\$1,569,307.14
Western Hemlock / Fir	152	\$98.19	\$14,924.88
Alder (Red)	306	\$304.53	\$93,186.18

Gross Timber Sale Value

Recovery: \$1,677,418.20

Prepared by: Ty Williams

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-10-04
Sale Name: Winslow
Date: 12/03/2009

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

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	A	60	60	\$110.00	\$6,600.00
2	MC	A	19	19	\$110.00	\$2,090.00
3	MC	A	6	6	\$110.00	\$660.00
Sub Total =						\$9,350.00
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	2	\$220.00	\$440.00	180	\$5.00	\$900.00
2	4	\$220.00	\$880.00	57	\$5.00	\$285.00
3	3	\$220.00	\$660.00	18	\$5.00	\$90.00
Sub Total =						\$1,275.00
*Cost includes separating firewood						
Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
\$945.00	1	\$945.00	Sub Total = \$945.00			
Grand Total =						\$11,570.00

Road Maintenance Cost Summary

Sale: Winslow
 Date: 28-Dec-09
 By: Williams/Freeman

MBF: 7.149
 \$\$/MBF: \$3.68

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Production Rates	Miles/day	Distance(miles)	Days
Progressive Operations 1st Entry	Grader 14G Dump Truck 12CY x 2 FE Loader C966	\$570	1	10	\$90	\$900	Production Rates	2.5	6.0	2.4
							Grader			
Progressive Operations 2nd Entry	Grader 14G Dump Truck 12CY x 2 FE Loader C966	\$570	1	10	\$90	\$900	Production Rates	2.5	6.0	2.4
							Grader			
Final Road Maintenance	Grader 14G Dump Truck 12CY x 2 FE Loader C966 Vibratory Roller Water Truck 2,500 gallon Labor	\$570	1	76	\$90	\$6,840	Production Rates	1.5	11.4	7.6
							Grader			
							Vibratory Roller*			
							Water Truck			
							Labor			
Total										\$26,338

*Final Road Maintenance Only

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Winslow

NEW CONSTRUCTION:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Dirt Roads	1A-1B & 1C-1D	25.30	\$6,959
Rocked Roads	2A-2B, 2C-2D, 3A-3B & 3C-3D	39.40	\$62,740
TOTALS	1.23 miles	64.70	\$69,698

ROAD IMPROVEMENT:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	I1-I2, I2-I3, & I4-I5	183.30	\$37,381
TOTALS	3.47 miles	183.30	\$37,381

STREAM ENHANCEMENT:

Project No. 2

	<u>Stream Name</u>	<u>Sites</u>	<u>Cost</u>
	South Fork Deep Creek	4.00	\$4,000
TOTALS		4.00	\$4,000

SPECIAL PROJECTS:

Project No. 1

Project Work Road Maintenance	\$12,490
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MOVE IN:

	<u>Equipment</u>	<u>Cost</u>
Dozer (D8)		\$1,220
Dump Trucks (12 cy x 2)		\$282
Dump Trucks (20 cy x 6)		\$996
F E Loader (C966)		\$675
Grader (14G)		\$675
Rubber Tire Skidder (C518)		\$622
Vibratory Roller		\$675
Water Truck (2,500 gallon)		\$165
Backhoe (C 580)		\$279
Excavator (C330)		\$1,220
TOTAL		\$6,809

GRAND TOTAL **\$130,378**

Compiled By: Freeman/Johnson FL

Date: 12/28/2009

Project No. 1 Road Improvement

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow		NEW CONSTRUCTION: 0.00 STATIONS		0.00 MILES				
ROAD: I-12 (69+20), I-213 (57+20), I-4-15 (56+90)		IMPROVEMENT: 183.30 STATIONS		3.47 MILES				
Subgrade prep:								
Description		Stations/amount	Rate/ Sta./ amt.	Cost.				
Grade, Shape and Ditch		164.10	X	\$21.55	\$3,536.36			
Surfacing Rock Processing and Compaction (Subgrade Leveling)		164.10	X	\$17.52	\$2,875.03			
\$6,411.39								
ROAD SEGMENT I 12 to I2 (Deep Creek Road)								
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I 1 to I2 (Deep Creek Road)	Sta. to Sta. 0+00 to 69+20			
Surfacing	1 1/2"-0" Crushed	31+70(1A) - 69+20(12)	2	station per 13	stations 37.5	488	\$6.66	\$3,250
Leveling Rock	1 1/2"-0" Crushed	I 1 to I2	N/A	station	N/A	150	\$6.66	\$999
Turnouts	1 1/2"-0" Crushed	I 1 to I2	2	turnout	6	36	\$6.66	\$240
Junction	1 1/2"-0" Crushed	I 1	N/A	junction	1	22	\$6.66	\$147
Total Rock for Road Segment:						696		\$4,635
ROAD SEGMENT I2 to I3 (Winslow Road)								
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I 2 to I3 (Winslow Road)	Sta. to Sta. 0+00 to 57+20			
Surfacing	1 1/2"-0" Crushed	(2)0+00-(2A) 36+95	2	station per 13	stations 36.95	480	\$6.66	\$3,199
Leveling Rock	1 1/2"-0" Crushed	I 2 to I3	N/A	station	I 2 I 3	200	\$6.66	\$1,332
Turnouts	1 1/2"-0" Crushed	I 2 to I3	2	turnout	6	36	\$6.66	\$240
Culvert Bedding	1 1/2"-0" Crushed	16+50, 37+00	N/A	culvert	2	66	\$6.66	\$440
Junction	1 1/2"-0" Crushed	I 2	N/A	junction	1	22	\$6.66	\$147
Dissipator	24" 6" Rip-rap	6+90, 46+50	N/A	dissipator	2	40	\$15.43	\$617
Total Rock for Road Segment:						844		\$5,974
ROAD SEGMENT I4 to I5 (Access to Area 3)								
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I 4 to I5 (Access to Area 3)	Sta. to Sta. 0+00 to 56+90			
Leveling Rock	1 1/2"-0" Crushed	I 4-15	N/A	station per N/A	stations N/A	50	\$6.66	\$333
Surfacing	1 1/2"-0" Crushed	I 4-15	2	station	56.90	740	\$6.66	\$4,926
Turnouts	1 1/2"-0" Crushed	various	2	turnout	6	36	\$6.66	\$240
Culvert Bedding	1 1/2"-0" Crushed	24+30, 49+30, 54+70	N/A	culvert	33	99	\$6.66	\$659
Junction	1 1/2"-0" Crushed	I 4	N/A	junction	1	22	\$6.66	\$147
Turnaround	6" 0" Pit-run	43+20, 54+35	N/A	T/A	2	60	\$7.83	\$470
Landing Rock	6" 0" Pit-run	I 5	N/A	landing	1	60	\$7.83	\$470
Total Rock for Road Segment:						1,067		\$7,245
Processing: Description						No. sta	Rate/sta	Cost
Water, Process & Compact Crushed Rock in one lift						131.35	\$49.02	\$6,439
Segments 1A to I2, I2 to 2A, & I4 to I5								
SUB TOTAL FOR SURFACING								\$6,439
\$30,704								

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow
 ROADS: I-2, I2+3, I4+5

NEW CONSTRUCTION: STATIONS
 IMPROVEMENT: 183.30 STATIONS

Road Improvement

0.00 MILES
 3.47 MILES

CLEARING & GRUBBING Method	Acres/amount	Rate	=	Cost
Scatter Outside of RW	X		=	
SUB TOTAL FOR CLEARING & GRUBBING \$0				

EXCAVATION/DITCH WORK Material	Cy/amount/station	Rate	=	Cost
Create Waste Area (C330)	2	\$144.00	=	\$288.00
Scatter Ditch Waste Materials	146.80	\$10.78	=	\$1,582.50
Excavate, Load, and Haul Ditch Waste Materials	200.00	\$2.14	=	\$428.00
			=	\$0.00
SUB TOTAL FOR EXCAVATION \$2,299				

CULVERT MATERIALS AND INSTALLATION							
Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
I2 to I3	18"CPP	40	\$17.64	\$705.60			
I2 to I3	18"CPP	40	\$17.64	\$705.60			
I4 to I5	18"CPP	35	\$17.64	\$617.40			
I4 to I5	18"CPP	30	\$17.64	\$529.20			
I4 to I5	18"CPP	40	\$17.64	\$705.60			
Subtotal Culverts & Installation:							\$3,263

Other/miscellaneous:			
Description	Quantity	Rate	Cost
Replace Missing Culvert Markers	1	\$18.00	\$18.00
Culvert stakes & markers: Add markers to new culverts	5	\$18.00	\$90.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION \$3,371			

Sheet Total \$5,670

Quantity	Rate	Cost
120	\$2.30	\$276.00
SUB TOTAL		
		\$276

Other/miscellaneous:
 Develop Pitrun Rock @\$2.30 cy x 120cy =
 (Rip-rap development included in cost.)

SPECIAL PROJECTS

Description								
Grass seeding waste area (seed & labor) .06 acres @ \$445.00 per acre	0.23							\$102
Straw Bales. 10 Bales @ \$10.00 per Bale	15							\$150
Labor 4 Hours Labor for Spreading Straw Bales @ \$38.00 per Hour	5							\$190
Construct energy dissipator @\$144/hr. X 2 hrs. X 1 dissipator	2							\$288
SUB TOTAL								\$730

SUB TOTAL FOR SPECIAL PROJECTS \$1,006
GRAND TOTAL \$37,381

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow (Field Design) NEW CONSTRUCTION: 25.30 STATIONS 0.48 MILES
 ROAD: 1A to 1B (22.3), 1C to 1D (3.0) IMPROVEMENT: STATIONS 0.00 MILES
 14' Outslipped Dirt Spurs

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	2.3	x	\$1,161.00	=	\$2,670.30
SUB TOTAL FOR CLEARING & GRUBBING					\$2,670

Material	Sta/amount	x	Rate	=	Cost
Balanced Construction	22.30	x	\$106.00	=	\$2,363.80
Common (Drift Earth up to 200')	3.00	x	\$165.00	=	\$495.00
Landing Construction	2	x	\$338.00	=	\$676.00
SUB TOTAL FOR EXCAVATION					\$3,535

Description	Stations/amount	x	Rate/sta/amt	=	Cost
Grade, 14' Outslope	25.30	x	\$15.93	=	\$403.03
Waterbar	25.30	x	\$13.85	=	\$350.41
SUB TOTAL FOR SUBGRADE PREP					\$753

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost	
				\$0.00				
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION								\$0

GRAND TOTAL FOR EXCAVATION & CULVERTS **\$6,959**

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow (Field Design) NEW CONSTRUCTION: 12.10 STATIONS 0.23 MILES
 ROAD: 2C to 2D (3.60), 2E to 2F (1.5), 3A to 3B (2.5), 3C to 3D (4.5) IMPROVEMENT: STATIONS 0.00 MILES

Method	Acres/amount	X	Rate	=	Cost
Scatter Outside of ROW	1.1	X	\$1,161.00	=	\$1,290.00
					\$1,290

SUB TOTAL FOR CLEARING & GRUBBING

Material	\$\$/amount	X	Rate	=	Cost
Balanced Construction	10.7	X	\$106.00	=	\$1,134.20
Common (Drift Earth up to 200' \$\$/sta.	1.4	X	\$165.00	=	\$231.00
Landing Construction \$\$/landing 2D,2F,3B,3D	4	X	\$338.00	=	\$1,352.00
					\$2,717

SUB TOTAL FOR EXCAVATION

Location	Dialtype	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
CULVERT MATERIALS AND INSTALLATION							
Other/miscellaneous:							
			Description	Quantity	Rate	Cost	
			Culvert markers:	0	\$18.00	\$0.00	
							\$0

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

Subtotal \$4,007

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow (Designed Roads) NEW CONSTRUCTION: 27.30 STATIONS 0.52 MILES
 ROADS: 2A to 2B (27+30) IMPROVEMENT: STATIONS 0.00 MILES

Method	Acres/amount	Rate	=	Cost
Scatter Outside of RW			=	
2A-2B	3.4	\$1,161.00	=	\$3,947.40
SUB TOTAL FOR CLEARING & GRUBBING				\$3,947

Material	Cy/amount/station	Rate	=	Cost
Common Drift Excavation \$\$/cy	2,947	\$1.60	=	\$4,715.20
Excavation Haul to Fills	270	\$1.48	=	\$399.60
Excavation Haul to Waste Area	2,400	\$2.14	=	\$5,136.00
Excavation Drift to Waste Area	1,000	\$1.60	=	\$1,600.00
Embankment Compaction \$\$/cy	2,947	\$0.60	=	\$1,768.20
Waste Area Compaction	3,400	\$0.30	=	\$1,020.00
Cut Slope Rounding \$\$/Sta	11	\$37.00	=	\$407.00
Waste Area Preparation (C330) \$\$/hr	2	\$144.00	=	\$288.00
Landing Construction 1B, Sta. 16+00, Sta. 19+40	3	\$338.00	=	\$1,014.00
SUB TOTAL FOR EXCAVATION				\$16,348

Location	Dia/type	Lineal ft.	Rate	No. bands	Rate	Cost
1+10	18"CPP	40	\$17.64			\$705.60
8+70	18"CPP	40	\$17.64			\$705.60
10+95	18"CPP	40	\$17.64			\$705.60
Subtotal Culverts & Installation: \$2,116.80						
Other/miscellaneous:						
Culvert stakes & markers:						
				3	\$18.00	\$54.00
SUB TOTAL FOR WASTE AREA TREATMENT, CULVERT MATERIALS & INSTALLATION						\$54
Grand Total:						\$22,466

Project No. 1 New Road Construction

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Winslow
 ROAD: 2A-2B (27+30), 2C-2D (3+60), 2E-2F (1+50), 3A-3B (2+50), 3C-3D (4+50)
 NEW CONSTRUCTION: 39.40 STATIONS
 IMPROVEMENT: 0.00 STATIONS
 0.75 MILES
 0.00 MILES

Subgrade prep:	Description	Stations/amount	Rate/ Sta./amt.	Cost
Grade, Shape and Ditch 16'		39.90	X	\$838.30
Subgrade Compaction		38.90	X	\$681.53

ROAD/SEGMENT	2A to 2B		POINT TO POINT 2A to 2B		Sta. to Sta. 0+00 to 27+30		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Base Rock	4"-0" Crushed	0+00 to 27+30	8	station	50	27.30	1,365	\$6.66	\$9,091	
Turnouts	4"-0" Crushed		8	turnout	22	7	154	\$6.66	\$1,026	
Curve Widening	4"-0" Crushed		8	curve	N/A	4.00	154	\$6.66	\$1,026	
Fill Widening	4"-0" Crushed		8				25	\$6.66	\$167	
Traction Rock	1 1/2"-0" Crushed	0+00 - 13+50	2	station	13	13.50	176	\$6.66	\$1,169	
Curve Widening	1 1/2"-0" Crushed		2				50	\$6.66	\$333	
Turnouts	1 1/2"-0" Crushed		2	turnout	10	4.00	50	\$6.66	\$333	
Fill Widening	1 1/2"-0" Crushed		2				3	\$6.66	\$20	
Turnaround	6"-0" Pit-run		8	T/A	24	1	24	\$7.83	\$188	
Junction	4"-0" Crushed	2A	8	junction	22	1	22	\$6.66	\$147	
Junction	1 1/2"-0" Crushed	2A	N/A	junction	22	1	22	\$6.66	\$147	
Dissipator	24"-6" Rip-rap		N/A	dissipator	10	1	10	\$15.43	\$154	
Landings	6"-0" Pit-run	28.16+00.19+40	N/A	landing	80	3	240	\$7.83	\$1,879	
Fill Armor	24"-6" Rip-rap	5+00 - 6+00	N/A				120	\$15.43	\$1,852	
Total Rock for Road Segment:								2,415		\$17,530

ROAD/SEGMENT	2C to 2D		POINT TO POINT 2C to 2D		Sta. to Sta. 0+00 to 3160		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Base Rock	4"-0" Crushed	0+00 to 3+10	8	station	50	3.10	155	\$6.66	\$1,032	
Junction	4"-0" Crushed	0+00	8	junction	40	1.00	40	\$6.66	\$266	
Landing	6"-0" Pit-run	2D	N/A	landing	80	1	80	\$7.83	\$628	
Total Rock for Road Segment:								275		\$1,925

ROAD/SEGMENT	2E to 2F		POINT TO POINT 2E to 2F		Sta. to Sta. 0+00 to 1+50		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Base Rock	4"-0" Crushed	0+00 to 1+50	8	station	50	1.50	75	\$6.66	\$500	
Junction	4"-0" Crushed	0+00	8	junction	40	1.00	40	\$6.66	\$266	
Landing	6"-0" Pit-run	2F	N/A	landing	80	1	80	\$7.83	\$628	
Total Rock for Road Segment:								195		\$1,392

ROAD/SEGMENT	3A to 3B		POINT TO POINT 3A to 3B		Sta. to Sta. 0+00 to 2+50		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Base Rock	6"-0" Pit-run	0+00 to 2+50	12	station	75	2.50	188	\$7.83	\$1,468	
Junction	1 1/2"-0" Crushed	0+00	N/A	junction	22	1.00	22	\$6.66	\$147	
Landing	6"-0" Pit-run	3 B	N/A	landing	80	1	80	\$7.83	\$628	
Total Rock for Road Segment:								290		\$2,241

ROAD SEGMENT	3C to 3D		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				0+00 to 4+00
Base Rock	6'-0" Pit-run	3E to 3F	12	station	75	stations	4.50	\$7.83	\$2,643	
Turnout	6'-0" Pit-run	N/A	12	turnout	33	turnouts	1	\$7.83	\$258	
Junction	1 1/2"-0" Crushed	0+00	N/A	junction	22	junctions	1	\$6.66	\$147	
Landing	6'-0" Pit-run	3F	N/A	landing	80	landings	1	\$7.83	\$626	
Total Rock for Road Segment:							473		\$3,674	
<p>Processing: Water, Process & Compact Crushed Base Rock: in two lifts, Lift No. 1</p> <p>Processing: Water, Process & Compact Crushed Base Rock: Lift No. 2</p> <p>Processing: Traction Rock: 2 inch Lift 13.5 Stations</p> <p>Description: Develop Pitrun Rock: 1,143 cy. @2.30 cy.=</p> <p>Description: Develop Riprap Rock: 130 cy. @2.30 cy.=</p>										
SUB TOTAL FOR SURFACING							No. sta/cy	Rate/sta	Cost	
							38.9	\$49.02	\$1,907	
							38.9	\$49.02	\$1,907	
							13.5	\$49.02	\$662	
							1,143	\$2.30	\$2,629	
							130	\$3.70	\$481	
SUB TOTAL FOR SURFACING									\$7,565	
SPECIAL PROJECTS										
Description:										
Hand Grass Seeding Pasture Mix (seed, labor), 06 acres @ \$445.00 per acre to										
Straw Bales, 10 Bales @ \$10.00 per Bale										
Geo Textile placement from stations 5+00 to 6+00 on 2A to 2B 6 1/2 oz. x 12.5' wide @ \$1.20 per ft.										
Labor 4 Hours Labor for Spreading Straw Bales @ \$38.00 per Hour										
SUB TOTAL FOR SPECIAL PROJECTS							Nos.	\$/Unit	Cost	
							0.06	\$455.00	\$27.30	
							10	\$10.00	\$100.00	
							100	\$1.20	\$120.00	
							4	\$38.00	\$152.00	
SUB TOTAL FOR SPECIAL PROJECTS									\$399	
GRAND TOTAL									\$62,740	

PIT RUN ROCK COST

SALE NAME: Winslow
 PROJECT: Project No. 1
 QUARRY: Green Mountain No. 2

MATERIAL: Pit Run

DATE: 12/22/2009
 BY: Mellison/Johnson

Segment	Stations	Cubic Yards						Misc	Total
		Base	Landing	Turnout	Turnaround	Junction			
2A-2B			240		24			264	
2C-2D			80					80	
2E-2F			80					80	
3A-3B	2+50	188	80					268	
3C-3D	4+50	338	80	33				451	
14-15	56+90		60		60			120	
Grand Total		526	620	33	84			1,263	

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	
2A-2B		264				5.08	1.93	0.25	0.25	7.51
2C-2D		80				5.08	2.10	0.50	0.25	7.93
2E-2F		80				5.08	2.10	0.50	0.40	8.08
3A-3B	2+50	268				3.00	1.83	0.50	0.10	5.43
3C-3D	4+50	451				3.00	1.83	0.50	0.21	5.54
14-15	56+90	120				3.50	1.40	0.50	0.10	5.50
TOTAL		1,263								
CUBIC YARD WEIGHTED HAUL						3.75	1.84	0.45	0.20	AVERAGE HAUL 6.24

Average Round Trip Distance (miles) 12.47

ROCK HAUL:

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

Ave haul: \$6.26 /cy
 Load: \$0.56 /cy
 Spread: \$1.01 /cy

Truck type: D12 No. trucks: 8
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 746

PIT RUN ROCK HAUL COSTS 1,263 cy @ \$7.83 /cy

PIT RUN ROCK COST

SALE NAME: Winslow
 PROJECT: Project No. 1
 QUARRY: _____

MATERIAL: Waste/Fills

DATE: 11/25/2009
 BY: d.mellison

Segment	Stations	Cubic Yards								Total
		Base	Landing	Turnout	Turnaround	Junction	Waste	Fills	Total	
2A - 2B							2,400			2,400
12-13							200			200
Grand Total							2,600			2,600

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	
2A - 2B		2,400					0.09	0.05	0.05	0.19
12-13		200							0.05	0.05
TOTAL		2,600								
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL							0.08	0.05	0.05	AVERAGE HAUL 0.18

Average Round Trip Distance (miles) 0.36

ROCK HAUL:

Truck type: <u>D20</u>	No. trucks: <u>1</u>	Ave haul: 0.8495445 /cy
Delay min.: <u>8</u>	Efficiency: <u>85%</u>	
Truck type: <u>D12</u>	No. trucks: _____	* Load: \$1.29 /cy
Delay min.: <u>6</u>	Efficiency: <u>85%</u>	** Compact: _____ /cy

Production: cy/day = 885

Waste/Fill HAUL COSTS 2,600 cy @ \$2.14 /cy

* Loading: Exc \$144per hr/112 bcy per hr = \$1.29
 ** Compaction: Costed elsewhere.

RIP RAP ROCK COST

SALE NAME: Winslow
 PROJECT: Project No. 1
 QUARRY: Green Mountain No. 1

MATERIAL: Rip Rap

DATE: 12/22/2009
 BY: Mellison/Johnson

Segment	Stations	Cubic Yards						Misc	Total
		Dissapator	Armor						
2A-2B	27+30	10	120					130	
I2-I3	57+20	40						40	
Grand Total		50	120					170	

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	
2A-2B	27+30	130				5.08	1.79	0.25	0.25	7.37
I2-I3	57+20	40				4.00	2.60	0.50	0.10	7.20
TOTAL		170								
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL						4.83	1.98	0.31	0.21	AVERAGE HAUL 7.33
Average Round Trip Distance (miles)										14.66

ROCK HAUL:

Truck type: D12 No. trucks: 8
 Delay min.: 6 Efficiency: 85%

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

Ave haul: \$7.01 /cy
 Load: \$0.84 /cy
 *Develop: \$7.58 /cy

Production: cy/day = 666

RIP RAP ROCK HAUL COSTS 170 cy @ \$15.43 /cy

* Develop: $\$1,119 + (1.5 * \$144/\text{hr}) / 176 \text{ cy} = \$7.58/\text{cy}$

CRUSHED ROCK COST

SALE NAME: Winslow
 PROJECT: Project No. 1
 QUARRY: Green Mountain Stockpiles

MATERIAL: 4"-0" & 1 1/2"-0"

DATE: 12/28/2009
 BY: Mellison/Johnson

Segment	Stations	Cubic Yards							Total
		Base	Running	Turnout	Turnaround	Rehab	CW/FW	MISC/JCT	
2A-2B (4"-0")	27+30	1,365		154		30	179	22	1,750
2A-2B(1 1/2")	13+50		176	50			53	22	301
2C-2D (4"-0")	3+60	155						40	195
2E-2F (4"-0")	1+50	75						40	115
3A-3B (4"-0")	2+50	188							188
3A-3B(1.5"-0")	0+00							22	22
3C-3D (4"-0")	0+00							22	22
I1-I2	69+20		488	36				172	696
I2-I3(1.5"-0")	57+20		480	36		66		222	804
I4-I5	56+90		740	36		33		72	881
Grand Total		1,783	1,884	312		129	232	634	4,974

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	
2A-2B (4"-0")	27+30	1,750				5.08	1.93	0.25	0.25	7.51
2A-2B(1 1/2")	13+50	301				5.08	1.87	0.25	0.25	7.45
2C-2D (4"-0")	3+60	195				5.08	2.10	0.50	0.25	7.93
2E-2F (4"-0")	1+50	115				5.08	2.10	0.50	0.40	8.08
3A-3B (4"-0")	2+50	188				3.00	1.83	0.50	0.10	5.43
3A-3B(1.5"-0")	0+00	22				3.00	1.83	0.50	0.10	5.43
3C-3D (4"-0")	0+00	22				3.00	1.83	0.50	0.21	5.54
I1-I2	69+20	696				3.50	1.75	0.50	0.10	5.85
I2-I3(1.5"-0")	57+20	804				4.00	2.60	0.50	0.10	7.20
I4-I5	56+90	881				3.50	1.40	0.50	0.10	5.50
TOTAL		4,974								
CUBIC YARD WEIGHTED HAUL	STA./NO.	CU. YD.				4.31	1.92	0.40	0.18	AVERAGE HAUL 6.80
Average Round Trip Distance (miles)									13.60	

ROCK HAUL:

Truck type: D20 No. trucks: 6
 Delay min.: 8 Efficiency: 85%

Ave haul: \$5.48 /cy
 Load: \$0.45 /cy
 Spread: \$0.73 /cy

Truck type: D12 No. trucks: 2
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 1,036

CRUSHED ROCK HAUL COSTS 4,974 cy @ \$6.66 /cy

Road Maintenance after completion of Projects

Sale: Winslow
Date: 07-Dec-09
By: L. Freeman

Green Mountain Road 5 miles
 East Sager Road 1 mile

Type	Equipment/Rationale	Hours	Rate	Cost
Final Haul	Grader 14G	40	\$90	\$3,600
Road	Dump Truck 12CY x 1	30	\$73	\$2,190
Maintenance	FE Loader C966	20	\$74	\$1,480
Haul Route	Vibratory Roller	40	\$72	\$2,880
	Water Truck 2,500 gallon	30	\$78	\$2,340
Total				\$12,490

Miles/day	Distance(miles)	Days
1.5	6.0	4.0
1.5	6.0	4.0

Production Rates
 Grader
 Vibratory Roller

**Winslow
TIMBER CRUISE REPORT
FY 2010**

1. **Sale Area Location:** Areas 1, 2, 3, and 4 R/W are located in portions of Sections 13, 14 and 24, T5N, 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	Existing R/W	In-Sale R/W	Outside Sale R/W	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	73.0	0	2.0	0.0	1.0	70.0	GIS
2	Modified Clearcut	38.0	0	2.0	0.5	1.5	34.0	GIS
3	Modified Clearcut	63.5	0	1.0	0.0	6.5	56.0	GIS
4 R/W	Right-of-way	5.0	0	0.0	0.0	0	5.0	GIS
TOTALS		179.5	0	5.0	0.5	9.0	165.0	

4. **Cruisers and Cruise Dates:** Areas 1, 2 & 3 were cruised by Derek Bangs, Jon Long, Ty Williams, Erik Burgher, and Jenny Johnson on September 17, 2009.

5. Cruise Method and Computation:

Areas 1 - 3 are modified clearcut units and were variable plot cruised using a 40.0 BAF. These plots are located on a 4 chain by 9 chain grid, with every third plot measured and graded. A total of 46 plots were sampled, with 19 measured and graded plots, and 27 count plots.

Area 4 In-Sale R/W The right-of-way volume within the harvest areas was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Areas 1-3. In-sale right-of-way totals 5 acre.

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
1-3	05N06W SEC 14	AREAS 1-3	TAKE	160
4 R/W	05N06W SEC 24	ROW	R/W	5

6. Timber Description

Areas 1-3 are modified clearcut units, approximately 69 years-old, consisting of Douglas-fir, western hemlock, and patches of red alder. The average Douglas-fir tree size to be harvested is 23.3 inches DBH, with an average height of 86 feet to a merchantable top (6 inch d.i.b.). The average western hemlock size to be harvested is 17.9 inches DBH and 76 feet to a merchantable top (6 inch d.i.b.). The average red alder tree to be harvested is 17.3 inches DBH and 60 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 43.3 MBF.

Area 4 R/W is similar to the timber description mentioned above for Areas 1-3. The average volume (net) is approximately 44.3 MBF/acre. There is 0.5 acres of out of sale right-of-way that contains no merchantable timber.

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 - 3 (MC)	50%	10%	39.8%	5.9%

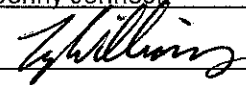
8. Volumes by Species and Log Grade: (See "Species, Sort, Grade - Type and Project Reports, attached, of individual sale areas and combined areas and three cruise types).

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	23.3	6,691	5,640	953	98	--	1	94
Western hemlock	17.9	152	61	88	3	--	1	2
Alder	17.3	306	--	--	--	306	1	4
TOTALS		7,149	5,701	1,041	101	306	3%	100%

9. Approvals:

Prepared by: Jenny Johnson Date: December 4, 2009

Unit Forester Approval:  Date: 12/4/09

10. Attachments:

- Cruise Design - 2 pages
- Cruise Maps- 1 pages
- Volume Reports - 4 pages
- Statistics Reports - 3 pages
- Log Stock Tables - 2 pages

X:\Jewell_Unit\Timber Sales\2010\Winslow\Cruise\CruiseReport.doc

T05N R06W S13 TR/W T05N R06W S13 TR/W
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 05N 06W 13 AREAS 1-3 R/W 5.00 1 W

Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D	DO	CU																			
D	DO	2S	84	1.0	35,399	35,050	175		1	34	65		3	1	32	63	8		0.00	12.1	
D	DO	3S	14	.1	5,901	5,893	29		90	10			3	13	49	35	36	418	2.47	83.9	
D	DO	4S	2		600	600	3		10	90			31	69			32	89	0.82	66.5	
D	Totals		94	.9	41,900	41,543	208		0	15	30	55	4	4	34	58	21	28	0.51	21.2	
D	Totals		94	.9	41,900	41,543	208		0	15	30	55	4	4	34	58	31	226	1.65	183.7	
A	DO	CU																			
A	DO	CR	100	1.3	1,879	1,854	9		66	20	14		1	30	45	24	15		0.00	1.8	
A	Totals		4	1.3	1,879	1,854	9		66	20	14		1	30	45	24	31	113	1.01	16.4	
A	Totals		4	1.3	1,879	1,854	9		66	20	14		1	30	45	24	29	102	0.96	18.2	
H	DO	2S	40	1.6	378	372	2			52	48				100		40	439	2.45	.8	
H	DO	3S	58		532	532	3		100						62	38	34	103	0.82	5.2	
H	DO	4S	2		16	16	0		100				100				24	30	0.50	.5	
H	Totals		2	.7	926	920	5		60	21	19			2	36	62	34	141	1.05	6.5	
H	Totals		2	.7	926	920	5		60	21	19			2	36	62	34	141	1.05	6.5	
Type Totals				.9	44,705	44,317	222		0	18	30	52		3	5	34	57	31	213	1.57	208.4

Species, sort Grade - Board Foot Volumes (Project,

T05N R06W S13 TyR/W	5.00
T05N R06W S13 TyTAKE	160.00

Project: DEMO
Acres 165.00

Page 1
Date 12/3/2009
Time 9:21:04AM

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					
D		DOCU														8		0.00	12.0		
D		DO2S		84	1.0	34,528	34,183	5,640		1	35	64		3	1	32	63	36	416	2.46	82.3
D		DO3S		14	.1	5,783	5,775	953		90	10			3	13	50	34	32	88	0.81	65.4
D		DO4S		2		594	594	98	10	90				31	69			21	28	0.51	21.0
D Totals				94	.9	40,906	40,552	6,691	0	15	31	54	4	4	34	58	31	224	1.64	180.7	
H		DO2S		40	1.6	378	372	61			52	48				100	40	439	2.45	.8	
H		DO3S		58		532	532	88		100					62	38	34	103	0.82	5.2	
H		DO4S		2		16	16	3		100				100			24	30	0.50	.5	
H Totals				2	.7	926	920	152		60	21	19		2	36	62	34	141	1.05	6.5	
A		DOCU															15		0.00	1.8	
A		DOCR		100	1.3	1,879	1,854	306		66	20	14		1	30	45	24	31	113	1.01	16.4
A Totals				4	1.3	1,879	1,854	306		66	20	14		1	30	45	24	29	102	0.96	18.2
Totals					0.9	43,711	43,326	7,149	0	18	30	52	4	5	35	57	31	211	1.56	205.5	

T05N R06W S13 TLEAV	T05N R06W S13 TLEAV
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
05N 06W 13 AREAS 1-3 LEAV 160.00	1 W

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent 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				
SN		DO CU														31		0.00	7.6
SN		Totals														31		0.00	7.6
DL		DO 2S	89	1,012	1,012	162				100			100		40	650	3.31	1.6	
DL		DO 3S	11	117	117	19		100					100		40	150	1.15	.8	
DL		Totals	100	1,129	1,129	181		10	90				100		40	483	2.59	2.3	
Type Totals				1,129	1,129	181		10	90				100		33	113	0.72	10.0	

TC PSTATS		PROJECT STATISTICS								PAGE	1
		PROJECT				DEMO				DATE	12/3/2009
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
05N	06	13	AREAS 1-3	R/W	165.00	92	505	1	W		
05N	06W	13	AREAS 1-3	TAKE							
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		92	505	5.5							
CRUISE		38	191	5.0	12,981	1.5					
DBH COUNT											
REFOREST											
COUNT		54	308	5.7							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	169	66.6	23.3	86		197.5	40,906	40,552	9,120	9,119	
R ALDER	14	9.1	17.3	60		14.8	1,879	1,854	508	508	
WHEMLOCK	8	3.0	17.9	76		5.2	926	920	233	233	
TOTAL	191	78.7	22.5	83		217.5	43,711	43,326	9,861	9,859	
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		69.6	5.3	899	949	1,000					
R ALDER		70.1	19.4	198	246	293					
WHEMLOCK		56.4	21.3	319	405	491					
TOTAL		75.2	5.4	827	875	923	226	56	25		
CL	68.1	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		59.5	4.6	194	203	212					
R ALDER		51.8	14.3	55	65	74					
WHEMLOCK		56.4	21.3	81	103	124					
TOTAL		64.4	4.7	180	188	197	165	41	18		
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		119.9	12.5	58	67	75					
R ALDER		384.5	40.1	5	9	13					
WHEMLOCK		636.6	66.3	1	3	5					
TOTAL		109.5	11.4	70	79	88	479	120	53		
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		116.4	12.1	174	198	221					
R ALDER		380.0	39.6	9	15	21					
WHEMLOCK		574.8	59.9	2	5	8					
TOTAL		106.8	11.1	193	218	242	456	114	51		
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		116.4	12.1	35,634	40,552	45,471					
R ALDER		386.8	40.3	1,107	1,854	2,601					
WHEMLOCK		582.2	60.6	362	920	1,478					
TOTAL		108.8	11.3	38,415	43,326	48,237	473	118	53		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT DEMO		DATE 1/4/2010				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	13	AREAS 1-3	0001	160.00	46	277	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL		46	277	6.0						
CRUISE		20	102	5.1	13,754		.7			
DBH COUNT										
REFOREST										
COUNT		26	164	6.3						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	84	66.5	23.3	86		197.4	40,874	40,521	9,113	9,112
SNAG	6	6.5	23.2	74		19.1				
R ALDER	7	9.1	17.3	60		14.8	1,879	1,854	508	508
WHEMLOCK	4	3.0	17.9	76		5.2	926	920	233	233
DOUGLEAV	1	.8	32.0	125		4.3	1,129	1,129	242	242
TOTAL	<i>102</i>	<i>86.0</i>	<i>22.7</i>	<i>82</i>	50.37	<i>240.9</i>	<i>44,808</i>	<i>44,424</i>	<i>10,096</i>	<i>10,094</i>
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	70.1	7.6	874	946	1,019					
SNAG										
R ALDER	73.0	29.7	173	246	319					
WHEMLOCK	60.9	34.8	264	405	546					
DOUGLEAV										
TOTAL	<i>81.4</i>	<i>8.0</i>	<i>760</i>	<i>826</i>	<i>893</i>	<i>264</i>	<i>66</i>	<i>29</i>		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	59.9	6.5	189	202	215					
SNAG										
R ALDER	53.9	21.9	50	65	79					
WHEMLOCK	60.9	34.8	67	103	138					
DOUGLEAV										
TOTAL	<i>70.9</i>	<i>7.0</i>	<i>166</i>	<i>178</i>	<i>190</i>	<i>201</i>	<i>50</i>	<i>22</i>		
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	54.2	8.0	61	67	72					
SNAG	161.1	23.7	5	7	8					
R ALDER	273.2	40.2	5	9	13					
WHEMLOCK	461.4	68.0	1	3	5					
DOUGLEAV	348.5	51.3	0	1	1					
TOTAL	<i>38.2</i>	<i>5.6</i>	<i>81</i>	<i>86</i>	<i>91</i>	<i>58</i>	<i>15</i>	<i>6</i>		
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	50.1	7.4	183	197	212					
SNAG	144.5	21.3	15	19	23					
R ALDER	269.7	39.7	9	15	21					
WHEMLOCK	415.5	61.2	2	5	8					
DOUGLEAV	348.5	51.3	2	4	7					
TOTAL	<i>32.6</i>	<i>4.8</i>	<i>229</i>	<i>241</i>	<i>252</i>	<i>42</i>	<i>11</i>	<i>5</i>		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DEMO			DATE	12/3/2009	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	13	AREAS 1-3	LEAV	160.00	46	27	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		46	27	.6						
CRUISE		6	7	1.2	1,171		.6			
DBH COUNT										
REFOREST										
COUNT		14	20	1.4						
BLANKS		26								
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
SNAG	6	6.5	23.2	74		19.1				
DOUGLEAV	1	.8	32.0	125		4.3	1,129	1,129	242	242
TOTAL	7	7.3	24.2	79		23.5	1,129	1,129	242	242
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		
SNAG										
DOUGLEAV										
TOTAL	264.6	107.7		207	430	3,246	811	361		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG										
DOUGLEAV										
TOTAL	264.6	107.7		44	92	3,246	811	361		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG	161.1	23.7	5	7	8					
DOUGLEAV	348.5	51.3	0	1	1					
TOTAL	144.8	21.3	6	7	9	838	209	93		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG	144.5	21.3	15	19	23					
DOUGLEAV	348.5	51.3	2	4	7					
TOTAL	127.4	18.8	19	23	28	648	162	72		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG										
DOUGLEAV	348.5	51.3	549	1,129	1,708					
TOTAL	348.5	51.3	549	1,129	1,708	4,849	1,212	539		

TC TSTATS		STATISTICS								PAGE 1
		PROJECT DEMO				DATE 12/3/2009				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	13	AREAS 1-3	TAKE	160.00	46	250	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		46	250	5.4						
CRUISE		19	95	5.0	12,583	.8				
DBH COUNT										
REFOREST										
COUNT		27	152	5.6						
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	84	66.5	23.3	86		197.4	40,874	40,521	9,113	9,112
R ALDER	7	9.1	17.3	60		14.8	1,879	1,854	508	508
WHEMLOCK	4	3.0	17.9	76		5.2	926	920	233	233
TOTAL	95	78.6	22.5	83		217.4	43,680	43,295	9,854	9,852
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	70.1	7.6	874	946	1,019					
R ALDER	73.0	29.7	173	246	319					
WHEMLOCK	60.9	34.8	264	405	546					
TOTAL	75.7	7.8	804	872	940	229	57	25		
CL: 68.1 %	COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	59.9	6.5	189	202	215					
R ALDER	53.9	21.9	50	65	79					
WHEMLOCK	60.9	34.8	67	103	138					
TOTAL	64.8	6.6	175	188	200	167	42	19		
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	54.2	8.0	61	67	72					
R ALDER	273.2	40.2	5	9	13					
WHEMLOCK	461.4	68.0	1	3	5					
TOTAL	40.7	6.0	74	79	83	66	17	7		
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	50.1	7.4	183	197	212					
R ALDER	269.7	39.7	9	15	21					
WHEMLOCK	415.5	61.2	2	5	8					
TOTAL	36.7	5.4	206	217	229	54	13	6		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	50.1	7.4	37,531	40,521	43,511					
R ALDER	274.9	40.5	1,103	1,854	2,604					
WHEMLOCK	421.0	62.0	349	920	1,491					
TOTAL	39.8	5.9	40,756	43,295	45,834	63	16	7		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT DEMO		DATE 12/3/2009				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	13	AREAS 1-3	R/W	5.00	46	255	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		46	255	5.5						
CRUISE		19	96	5.1	399		24.1			
DBH COUNT										
REFOREST										
COUNT		27	156	5.8						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	85	67.6	23.4	86		201.7	41,900	41,543	9,337	9,335
R ALDER	7	9.1	17.3	60		14.8	1,879	1,854	508	508
WHEMLOCK	4	3.0	17.9	76		5.2	926	920	233	233
TOTAL	96	79.7	22.6	83		221.7	44,705	44,317	10,077	10,076
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	69.5	7.5	881	952	1,024					
R ALDER	73.0	29.7	173	246	319					
WHEMLOCK	60.9	34.8	264	405	546					
TOTAL	75.1	7.7	811	878	945	225	56	25		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	59.5	6.4	190	203	217					
R ALDER	53.9	21.9	50	65	79					
WHEMLOCK	60.9	34.8	67	103	138					
TOTAL	64.3	6.6	177	189	202	165	41	18		
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	54.4	8.0	62	68	73					
R ALDER	273.2	40.2	5	9	13					
WHEMLOCK	461.4	68.0	1	3	5					
TOTAL	40.6	6.0	75	80	85	66	16	7		
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	50.3	7.4	187	202	217					
R ALDER	269.7	39.7	9	15	21					
WHEMLOCK	415.5	61.2	2	5	8					
TOTAL	37.0	5.5	210	222	234	55	14	6		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	50.4	7.4	38,459	41,543	44,626					
R ALDER	274.9	40.5	1,103	1,854	2,604					
WHEMLOCK	421.0	62.0	349	920	1,491					
TOTAL	40.2	5.9	41,692	44,317	46,942	65	16	7		

Log Stock Table - MBF

T05N R06W S13 TyR/W 5.00
 T05N R06W S13 TyTAKE 160.00

Project: DEMO
 Acres 165.00

Page 2
 Date 12/3/2009
 Time 9:24:07AM

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+
D		DO	4S	20	4		4	.1			4									
D		DO	4S	21	4		4	.1				4								
D		DO	4S	22	15		15	.2		10	5									
D		DO	4S	24	28		28	.4			20	8								
D		DO	4S	25	20		20	.3			20									
D		Totals			6,749		6,691	93.6		10	260	242	497	792	843	1477	1343	1100		126
H		DO	2S	40	62	1.6	61	40.4						32	29					
H		DO	3S	32	47		47	30.8			10		37							
H		DO	3S	33	8		8	5.1			8									
H		DO	3S	38	6		6	3.6				6								
H		DO	3S	40	28		28	18.3					28							
H		DO	4S	24	3		3	1.8			3									
H		Totals			153		152	2.1			20	6	64		32	29				
A		DO	CR	8	2		2	.5			2									
A		DO	CR	26	7		7	2.3			7									
A		DO	CR	30	90	4.6	86	28.0			19			23	43					
A		DO	CR	32	138		138	45.1			14	14	73	37						
A		DO	CR	40	74		74	24.1					74							
A		Totals			310	1.3	306	4.3			42	14	146		60	43				
Total		All Species			7,212		7,149	100.0		10	323	262	708	792	936	1549	1343	1100		126

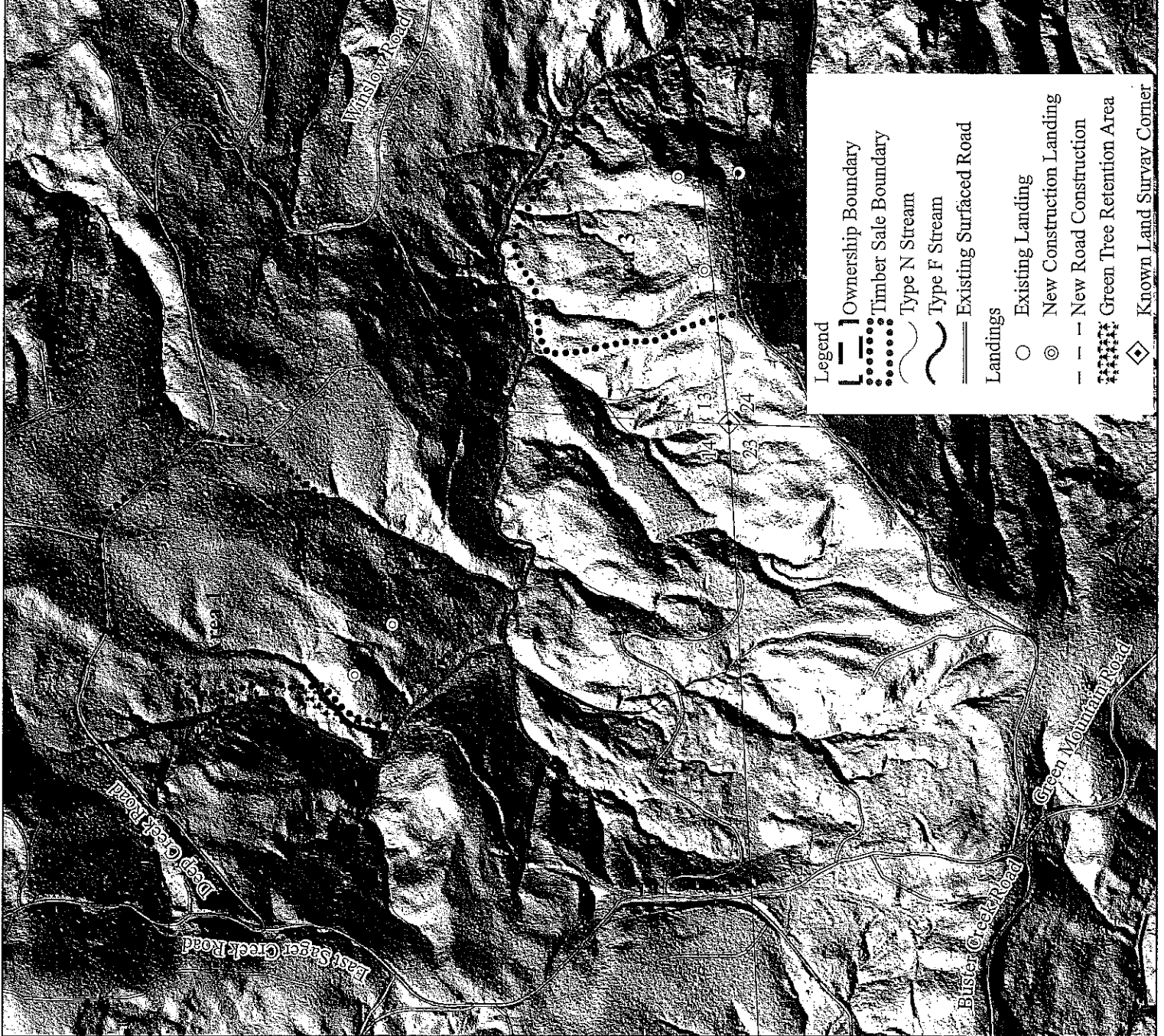
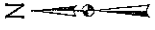
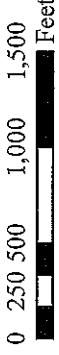
LIDAR MAP

OF TIMBER SALE CONTRACT NO. 341-10-04

WINSLOW

PORTIONS OF SECTIONS 13, 14, AND 24,
T5N, R6W, W.M., CLATSOP COUNTY, OR.

Approximate Scale = 1" : 1,000'



Legend

- [—] Ownership Boundary
- [.....] Timber Sale Boundary
- [.....] Type N Stream
- [.....] Type F Stream
- [—] Existing Surfaced Road

Landings

- Existing Landing
- ⊙ New Construction Landing
- - - New Road Construction
- [XXXXX] Green Tree Retention Area
- ◇ Known Land Survey Corner

Approximate Net Acreage

Area 1 (MC)	- 70 Acres
Area 2 (MC)	- 34 Acres
Area 3 (MC)	- 56 Acres
Area 4 (R/W)	- 5 Acres
Total	= 165 Acres

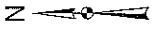
Ortho Map

OF TIMBER SALE CONTRACT NO. 341-10-04

WINSLOW

PORTIONS OF SECTIONS 13, 14, AND 24,
T5N, R6W, W.M., CLATSOP COUNTY, OR.

Approximate Scale = 1" : 1,000'



CLATSOP COUNTY
COLUMBIA COUNTY



Legend

- Ownership Boundary
- Timber Sale Boundary
- Type N Stream
- Type F Stream
- Existing Surfaced Road
- New Road Construction
- Right of Way Boundary
- Green Tree Retention Area
- Existing Landing
- New Construction Landing
- Controlled Felling Area
- Unposted Stream Buffer
- Known Land Survey Corner
- Posted Stream Buffer
- Pt. "A" Point for Project Work

Approximate Net Acreage	
Area 1 (MC)	- 70 Acres
Area 2 (MC)	- 34 Acres
Area 3 (MC)	- 56 Acres
Area 4 (R/W)	- 5 Acres
Total	= 165 Acres

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Winslow **Area(s)** 1, 2, & 3

Harvest Type: (MC)

Approx. Cruise Acres: 161.5 **Estimated CV%** 50 Net BF **SE% Objective** 10 Net BF

Planned Sale Volume: 7,500 MBF **Estimated Sale Area Value/Acre:** \$8,599/Ac
(Areas 1, 2 & 3) (48 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 100 conifer:
(b) Sample 48 cruise plots (17 grade/ 31 count); (c) Other goals (N/A 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) A1= 30°, A2= 37°, A3= 346°
Cruise Line Spacing 9 (chains)
Cruise Plot Spacing 4 (chains)
Grade/Count Ratio 1:2

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

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; 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: Jenny Johnson
 Approved by: [Signature] 9/10/09
 Date: 9-09-09

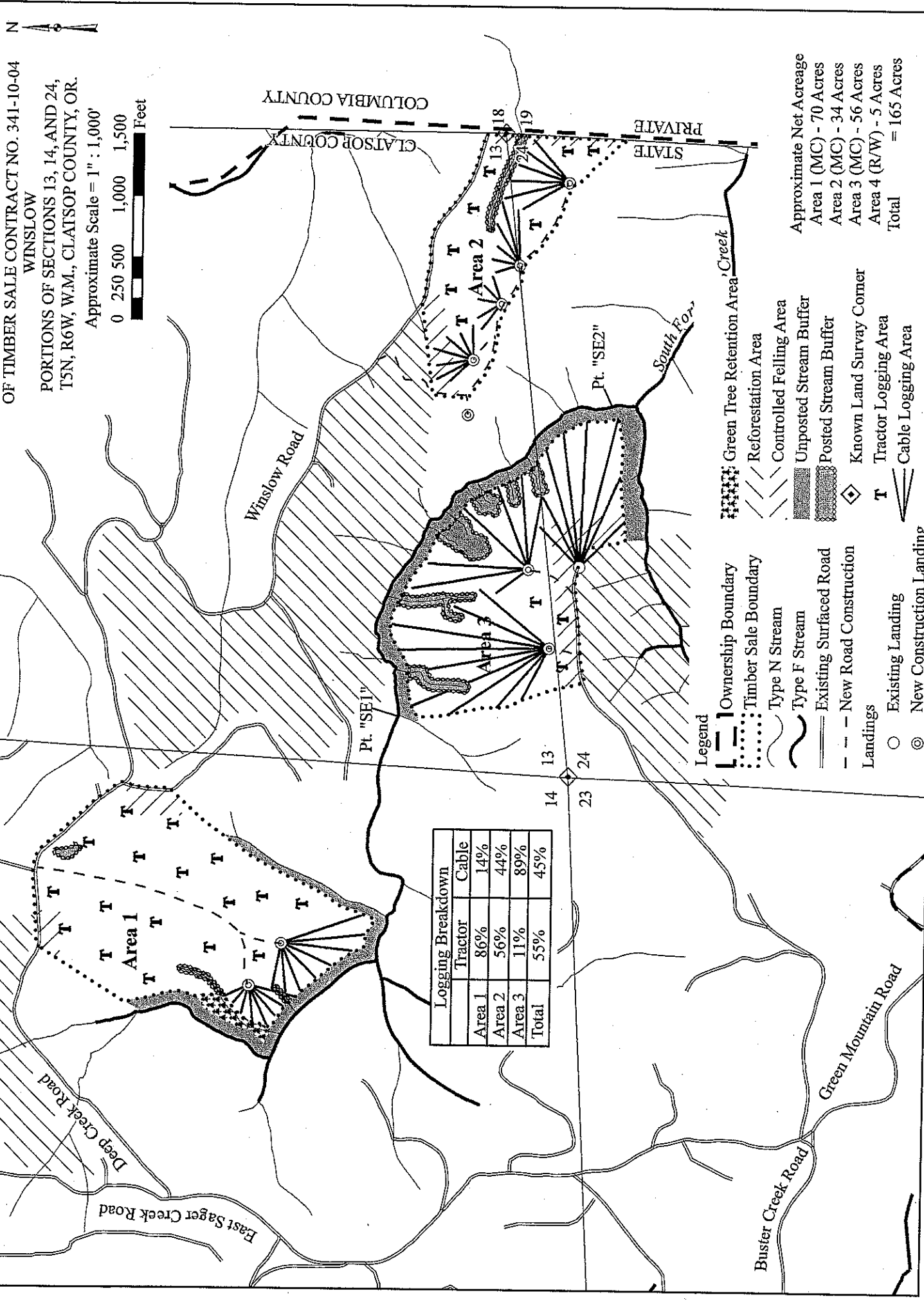
Logging Plan

OF TIMBER SALE CONTRACT NO. 341-10-04

WINSLOW

PORIONS OF SECTIONS 13, 14, AND 24,
T5N, R6W, W.M., CLATSOP COUNTY, OR.

Approximate Scale = 1" : 1,000'



Logging Breakdown		
Area	Tractor	Cable
Area 1	86%	14%
Area 2	56%	44%
Area 3	11%	89%
Total	55%	45%

Legend

- Ownership Boundary
- Timber Sale Boundary
- Type N Stream
- Type F Stream
- Existing Surfaced Road
- New Road Construction
- Existing Landing
- New Construction Landing
- Green Tree Retention Area
- Reforestation Area
- Controlled Felling Area
- Unposted Stream Buffer
- Posted Stream Buffer
- Known Land Survey Corner
- Tractor Logging Area
- Cable Logging Area

Approximate Net Acreage
 Area 1 (MC) - 70 Acres
 Area 2 (MC) - 34 Acres
 Area 3 (MC) - 56 Acres
 Area 4 (R/W) - 5 Acres
 Total = 165 Acres