



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Sluiced Simmons
Sale 341-14-43

District: Astoria

Date: December 09, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$198,690.28	\$361,997.76	\$560,688.04
		Project Work:	\$(152,931.00)
		Advertised Value:	\$407,757.04



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timber description

Location: Portions of Sections 22, 27, and 28, T7N, R8W, W.M., Clatsop Country, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	15	0	95
Western Hemlock / Fir	15	0	97
Sitka Spruce	14	0	97
Alder (Red)	15	0	95

Volume by Grade	10" - 11"	12"+	2S	3S	4S	5" - 7"	8" - 9"	Total
Douglas - Fir	0	0	57	83	8	0	0	148
Western Hemlock / Fir	0	0	135	70	22	0	0	227
Sitka Spruce	0	0	114	178	80	0	0	372
Alder (Red)	190	450	0	0	0	298	198	1,136
Total	190	450	306	331	110	298	198	1,883



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comments: Pond Values Used: 3rd Quarter Calendar Year 2013.

Expected log markets: Warrenton, OR, Tillamook, OR, Mist, OR,
Garibaldi, OR, Longview, WA, Chehalis, WA.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$696.47/\text{MBF} = \$1,000/\text{MBF} - \$303.53/\text{MBF}$

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

FUEL COST ALLOWANCE = $\$4.00/\text{GALLON}$

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Additional Logging costs:

Branding and Painting: $\$1 \text{ per MBF} \times 1,883 \text{ MBF} = \$1,883$

Slash & Landing Piling (includes move-in and pile materials) =
\$6,084

TOTAL Other Costs (with Profit & Risk to be added) = \$7,967

Other Costs (No Profit & Risk added):

Machine Washing for Invasive Weeds = \$3,000

Open and close unsurfaced spurs:

2 hours with D6 dozer to open spur in Area 3 ($2 \times \$113 = \226)

3 hours with D6 to water bar and block unsurfaced spurs in Area 3
($3 \times \$113 = \339)

TOTAL Other Costs (No Profit & Risk added) = \$3,565.



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logging conditions

combination#: 1	Douglas - Fir	51.69%	
	Western Hemlock / Fir	36.12%	
	Sitka Spruce	35.15%	
	Alder (Red)	62.85%	
yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Manual Delimbing
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	8.0	bd. ft / load:	4,000
cost / mbf:	\$78.27		
machines:	Shovel Logger		
combination#: 2	Douglas - Fir	15.20%	
	Western Hemlock / Fir	10.57%	
	Sitka Spruce	10.28%	
	Alder (Red)	20.77%	
yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Cable: Medium Tower >40 - <70	Process:	Manual Delimbing
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	9.0	bd. ft / load:	4,000
cost / mbf:	\$96.11		
machines:	Log Loader (A) Tower Yarder (Medium)		
combination#: 3	Douglas - Fir	21.85%	
	Western Hemlock / Fir	35.18%	
	Sitka Spruce	36.02%	
	Alder (Red)	10.81%	
yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Manual Delimbing
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
loads / day:	6.0	bd. ft / load:	3,500
cost / mbf:	\$119.27		
machines:	Shovel Logger		
combination#: 4	Douglas - Fir	11.26%	
	Western Hemlock / Fir	18.12%	
	Sitka Spruce	18.55%	
	Alder (Red)	5.57%	



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yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Cable: Medium Tower >40 - <70	Process:	Manual Delimbing
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	6.0	bd. ft / load:	4,000
cost / mbf:	\$144.17		
machines:	Log Loader (A) Tower Yarder (Medium)		



"STEWARDSHIP IN FORESTRY"

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logging costs

Operating Seasons:	3.00	Profit Risk:	10.00%
Project Costs:	\$152,931.00	Other Costs (P/R):	\$7,967.00
Slash Disposal:	\$0.00	Other Costs:	\$3,565.00

Miles of Road

Road Maintenance: \$6.30

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	4.0	4.5
Western Hemlock / Fir	\$0.00	4.0	4.2
Sitka Spruce	\$0.00	2.0	3.8
Alder (Red)	\$0.00	2.0	3.3

Local Pond Values

Date	Specie	Grade	Value
11/20/13	Alder (Red)	12"+	\$550.00



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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									
\$97.36	\$6.62	\$6.99	\$41.36	\$4.23	\$15.66	\$0.00	\$5.00	\$1.89	\$179.11
Western Hemlock / Fir									
\$106.52	\$6.49	\$6.99	\$43.48	\$4.23	\$16.77	\$0.00	\$5.00	\$1.89	\$191.37
Sitka Spruce									
\$107.10	\$6.49	\$6.99	\$96.10	\$4.23	\$22.09	\$0.00	\$5.00	\$1.89	\$249.89
Alder (Red)									
\$90.08	\$6.62	\$6.99	\$112.81	\$4.23	\$22.07	\$0.00	\$5.00	\$1.89	\$249.69

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$571.52	\$392.41	\$0.00
Western Hemlock / Fir	\$0.00	\$466.41	\$275.04	\$0.00
Sitka Spruce	\$0.00	\$460.05	\$210.16	\$0.00
Alder (Red)	\$0.00	\$568.35	\$318.66	\$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	148	\$392.41	\$58,076.68
Western Hemlock / Fir	227	\$275.04	\$62,434.08
Sitka Spruce	372	\$210.16	\$78,179.52
Alder (Red)	1,136	\$318.66	\$361,997.76

Gross Timber Sale Value

Recovery: \$560,688.04

Prepared by: Edward Holloran

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Sluiced Simmons
Date: September 25, 2013
By: Ed Holloran

MBF: 1,880
\$/MBF: \$6.30

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations Entries - 1	Grader 14G	\$778	1	5	\$100	\$1,278
	Dump Truck 12CY	\$163	1	4	\$79	\$479
	Rubber Tired Backhoe-small	\$321	1	4	\$77	\$629
Final Road Maintenance	Grader 14G	\$778	1	20	\$100	\$2,778
	Dump Truck 12CY	\$163	1	8	\$79	\$795
	Vibratory Roller	\$778	1	20	\$108	\$2,938
	Water Truck 2,500 gallon	\$190	1	10	\$89	\$1,080
	Rubber Tired Backhoe-small	\$321	1	16	\$77	\$1,553
	Labor			8	\$40	\$320
Total						\$11,850

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	4.0	2.00	0.5	5

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Process - Grader	2	3.75	1.9	19
Vibratory Roller	2.0	3.75	1.9	19

Process and compact: All crushed rock roads - Simmons Ridge Road (1.3 miles), Simmons Quarry Road (0.7 miles). West Simmons Ridge Road & side spur (0.6 miles), I9 - I10 (0.5 miles), I5 - I6 (0.1 miles)
 Grade and shape 4" - 0" and pit-run roads (0.55 miles)

Total = 3.75 miles

SLUICED SIMMONS

Site Prep Appraisal

Sale Number: 341-14-43
 Sale Name: Sluiced Simmons
 Date: 09/20/2013

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
Whole Tree Yarding	F	0.5	0.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	F	17.0	9	\$129.00	\$1,096.50
2	MC	F	25.0	13	\$129.00	\$1,612.50

In-unit Piling Sub Total = \$2,709.00

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	6	\$220.00	\$1,320.00	8.5	\$5.00	\$42.50
2	3	\$220.00	\$660.00	12.5	\$5.00	\$62.50

*Cost includes separating firewood

Materials Sub Total = \$105.00

Landing Piling Sub Total = \$1,980.00

Move-In Allowance	Number of Move-In's	Total Move-In Allowance
\$1,290.00	1	\$1,290.00

Move-In Sub Total = \$1,290.00

Grand Total = \$6,084.00

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Sluiced Simmons 341-14-43 10/10/13

ROAD CONSTRUCTION:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Surfaced	<u>2A-2B, 2C-2D, 2E-2F</u>	<u>17.15</u>	<u>\$16,500</u>
Unsurfaced	<u>3A-3B</u>	<u>6.70</u>	<u>\$3,423.00</u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>
	<u>TOTAL</u>	<u>23.85</u>	<u>\$19,923</u>

0.45 Miles

ROAD IMPROVEMENT:

Project No. 2

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	<u>I1 through I10</u>	<u>166.55</u>	<u>\$46,388</u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>
	<u>TOTAL</u>	<u>166.55</u>	<u>\$46,388</u>

3.15 Miles

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 3	<u>#3A - Roadside Brushing</u>	<u>\$69,740</u>
	<u>#3B - Roadside Spraying</u>	<u>\$8,271</u>
	<u> </u>	<u> </u>
	<u>TOTAL</u>	<u>\$78,011</u>

Project Road Maintenance:

n/a

TOTAL

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
<u>Excavator (C330 @ \$1,406)</u>	<u>\$1,406</u>
<u>Excavator (C315 @ \$805)</u>	<u>\$805</u>
<u>Dozer (D8 1 @ \$1,406)</u>	<u>\$1,406</u>
<u>Rubber Tired Skidder (C518 @ \$717)</u>	<u>\$717</u>
<u>Vibratory Roller (@ \$778)</u>	<u>\$778</u>
<u>Front End Loader (C966 @ \$778)</u>	<u>\$778</u>
<u>10-12 yd dump truck (X 4 @ \$163 each)</u>	<u>\$652</u>
<u>Backhoe (C580 @ \$321)</u>	<u>\$321</u>
<u>Large Grader (14G @ \$778)</u>	<u>\$778</u>
<u>Water Truck (2,500 gal @ \$190)</u>	<u>\$190</u>
<u>Dozer (D6 1 @ \$778)</u>	<u>\$778</u>
<u>TOTAL</u>	<u>\$8,609.00</u>

GRAND TOTAL

\$152,931.00

Compiled By: Ed Holloran

Date: 10/10/2013

SUMMARY OF NEW CONSTRUCTION COSTS

SALE NAME: Sluiced Simmons 341-14-43
ROAD: 2A-2B, 2C-2D, 2E-2F, and 3A-3B
POINTS: (8+00, 4+40, 4+75, & 6+70)

NEW CONSTRUCTION: 23.85 STATIONS
IMPROVEMENT: STATIONS

0.45 MILES
MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
clearing and scatter per acre	2	x	\$1,337.00	=	\$2,674.00
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

\$2,674

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
Balanced constriction per station	23.85	x	\$190.00	=	\$4,531.50
		x		=	
		x		=	
Landing construction each	4.00	x	\$389.00	=	\$1,556.00
		x		=	

SUB TOTAL FOR EXCAVATION

\$6,088

CULVERT MATERIALS AND INSTALLATION

2A-2B
2E-2F

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
0+15	18	40	\$19.53	\$781.20					
0+15	18	40	\$19.53	\$781.20					

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	White fiberglass (Casonite) posts 6" x 2 1/2"	2	\$20.00	\$40.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$1,602

Subtotal of Clearing, Exc., Culv.

\$10,364

Compiled By: Ed Holloran

Date: 08/29/2013

Date: 09/18/2013

SALE NAME:	Sluiced Simmons	341-14-43
ROAD:	11-12 (67+80), 13-14 (42+15), 15-16, (5+00)	
POINTS:	17-18 (25+10), 19-110 (31+50)	

_____ MILES
3.15 MILES

Method	Acres/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
		x		=	

EXCAVATION

Material		Cyl/amount	x	Rate	=	Cost
(11 to 12)	Ditchout construction (14G) (Hrs.)	0.50	x	\$100	=	\$50.00
	Catch basin improvemen (C330) (Hrs.)	0.50	x	\$155	=	\$77.50
	Bank slough removal (C330) (Hrs.)	2.50	x	\$155	=	\$387.50
	Haul slough material (D12) (Hrs.)	2.50	x	\$79	=	\$197.50
(13 to 14)	Roadside clearing (C330) (Hrs.)	1	x	\$155	=	\$155.00
	Rock Ditch Filters (C315) (Hrs.)	3	x	\$155	=	\$465.00
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
	Landing Construction (15 & 28+00 on I9-I10)	2.00	x	\$389.00	=	\$778.00
			x		=	

\$2,111

[illegible]

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	White fiberglass (Casonite) posts 6' x 2 1/2"	7	\$20.00	\$140.00

\$2,874

\$4.985

09/19/2013

SURFACING		Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
	Grade, Shape and Ditch 16'	132.85	x	\$24.83	\$3,298.72
	Grade, Shape and Ditch 20'	33.70	x	\$27.69	\$933.15
	Subgrade Compaction - 16' subgrade	132.85	x	\$20.19	\$2,682.24
	Subgrade Compaction - 20' subgrade	33.70	x	\$25.51	\$859.69

ROAD SEGMENT I1 to 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 to I2		0+00 to 67+80				
				Volume (CY) per		Number of				
Surface Rock	3/4"-0" crushed	0+00 - 33+70	3	station	24	stations	33.70	809	\$3.03	\$2,451
Surface Rock	3/4"-0" crushed	33+70 -67+80	3	station	22	stations	34.10	750	\$3.03	\$2,273
Leveling Rock	1 1/2"-0" crushed		n/a	load	11	loads	13	143	\$3.03	\$433
Turnouts (75')	3/4"-0" crushed	3+50, 10+50, 19+80	3	turnout	11	turnouts	3	33	\$3.03	\$100
Turnouts (50')	3/4"-0" crushed	25+75, 42+00, 47+70, 59+20, 64+55	3	turnout	8	turnouts	5	40	\$3.03	\$121
Curve Widening	3/4"-0" crushed		3	curve	n/a	curves	14	61	\$3.03	\$185
Junctions	3/4"-0" crushed	33+70, 39+60, 50+40, 67+80	3	junction	n/a	junctions	4	77	\$3.03	\$233
Turnouts	4"-0" crushed	10+10, 25+75	8	turnout	22	turnouts	2	44	\$3.03	\$133
Dissipators	24"-6" riprap	39+50	N/A	dissipator	22	dissipators	1	22	\$3.39	\$75

\$6,004

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		0+00 to 42+15				
				Volume (CY) per	Number of					
Surface Rock	3/4"-0" crushed	0+00 - 16+10	2	station	13	stations	16.10	209	\$3.03	\$634
Turnouts	3/4"-0" crushed	2+25, 7+50, 16+10	2	turnout	6	turnouts	3	18	\$3.03	\$55
Junctions	3/4"-0" crushed	13+15, 36+40	2	junction	11	junctions	2	22	\$3.03	\$67
Curve Widening	3/4"-0" crushed		2	curve	n/a	curves	n/a	11	\$3.03	\$33
Leveling Rock	3/4"-0" crushed		n/a	load	11	loads	3	33	\$3.03	\$100
Surface Rock	1 1/2"-0" crushed	16+10 - 36+40	3	station	19	stations	20.30	386	\$3.03	\$1,169
Leveling Rock	1 1/2"-0" crushed		n/a	load	11	loads	7	77	\$3.03	\$233
Turnouts	1 1/2"-0" crushed	18+35, 29+85, 34+30	3	turnout	8	turnouts	3	24	\$3.03	\$73
Curve Widening	1 1/2"-0" crushed		3	curve	n/a	curves	n/a	22	\$3.03	\$67
Bedding/backfill	1 1/2"-0" crushed	3+50, 12+90, 34+56	n/a	culvert	n/a	culverts	3	110	\$3.03	\$333
Rock Dich Filters	4"-0" crushed		n/a	site	11	sites	3	33	\$3.03	\$100
Dissipators	24"-6" riprap	4+25	N/A	dissipator	22	dissipators	1	22	\$3.39	\$75
Dissipators	24"-6" riprap	3+50, 12+90, 33+00	N/A	dissipator	11	dissipators	3	33	\$3.39	\$112
Base Rock	4"-0" crushed	36+40-42+15	6	station	50	stations	5.75	288	\$3.03	\$871
Landings	6"-0" pit run	42+15	N/A	landing	55	landings	1	55	\$3.21	\$177
Total Rock for Road Segment:				I3 to I4				1,343		

\$3,463

Total Rock for Road Segment:				I3 to I4		I,345						
ROAD SEGMENT				I5 to 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 to I6		0+00 to 5+00						
				Volume (CY) per		Number of						
Leveling Rock	1 1/2"-0" crushed		N/A	load	11	n/a	6	66	\$3.03	\$200		
Landings	6"-0" pit run	5+00	N/A	landing	55	landings	1	55	\$3.21	\$177		

\$377

Total Rock for Road Segment:				I5 to I6				I21				
ROAD SEGMENT				I7 to I8		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 to I8		0+00 to 25+10						
				Volume (CY) per		Number of						
Surface Rock	1 1/2"-0" crushed	0+00 - 25+10	2	station	13	stations	25.10	326	\$3.03	\$989		
Turnouts	1 1/2"-0" crushed	5+40, 12+65, 15+35	2	turnout	11	turnouts	3	33	\$3.03	\$100		
Trunarounds	1 1/2"-0" crushed	24+15	2	TA	5	TA's	1	5	\$3.03	\$15		
Junctions	1 1/2"-0" crushed	12+65	N/A	junction	22	junctions	1	22	\$3.03	\$67		
Culvert Bedding/Backfill	1 1/2"-0" crushed	1+70	N/A	culvert	22	culverts	1	22	\$3.03	\$67		
Dissipator Rock	24"-6"	1+70	n/a	culvert	11	culverts	1	11	\$3.39	\$37		
Total Rock for Road Segment:				I7 to I8				419				

\$1,274

Total Rock for Road Segment:				I9 to I10		410				
ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I9 to I10		0+00 to 31+50				
				Volume (CY) per		Number of				
Surface Rock	1 1/2"-0" crushed	0+00 - 31+50	2	station	13	stations	31.50	410	\$3.03	\$1,241
Turnouts	1 1/2"-0" crushed	14+65; 21+90; 28+30	2	turnout	11	turnouts	3	33	\$3.03	\$100
Junctions	1 1/2"-0" crushed	10+65	N/A	junction	22	junctions	1	22	\$3.03	\$67
Landings	6"-0" pit run	21+90	N/A	landing	55	landings	1	55	\$3.21	\$177
Landings	6"-0" pit run	28+00	N/A	landing	80	landings	1	80	\$3.21	\$257
Total Rock for Road Segment:				I9 to I10				600		

\$1,841

Processing:		Description	No. sta	Rate/sta	Cost
		Water, Process & Compact:	166.55	\$56.48	\$9,407
		Development of 6"-0"	245.00	\$2.60	\$637
		Development of 24"-6"	88.00	\$4.30	\$378
		24"-6" rr	88		
		6"-0" pr	245		
		4"-0"	365		
		1 1/2"-0"	1,558		
		3/4"-0"	2,206		
		Total	4,461		
SUB TOTAL FOR SURFACING				Total Rock =	4,461
					\$31,155

SPECIAL PROJECTS		Description	Cost
		Lignin Dust Palliative	66.5 sta. \$9,998
		Seed and Mulch waste areas and rock ditch filter areas.	\$250
SUB TOTAL FOR SPECIAL PROJECTS			\$10,248
		Subtotal of Surfacing & Spec. Proj.	\$41,403
		Subtotal of Clearing, Exc., Culv.	\$4,985
GRAND TOTAL			\$46,388

Lignin Application Costs

Road Segment I1 to I2

	Stations	Tons Lignin	Water Truck-Hrs	Grader Hrs.	Rollers (2) - Hrs.	Appicator Truck-Hrs.
Existing Road Compaction	50.4					
Purchase and delivery of Lignin		25				
Watering the road			5			
Grade and Shape New Rock w\ Lignin applied				3		
Rolling lignin treated rock					8	
Applying Lignin						5

Road Segment I3 to I4

Existing Road Compaction	16.1					
Purchase and delivery of Lignin		6				
Watering the road			2			
Grade and Shape New Rock w\ Lignin applied				1		
Rolling lignin treated rock					4	
Applying Lignin						1

Total Quantity	66.5	31	7	4	12	6
Hourly Rate			\$79	\$100	\$77	\$225
Quantity Rate	\$20.19	\$150				

Secondary Mobilization					\$778	
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Total Lignin Project Cost	\$1,343	\$4,650	\$553	\$400	\$1,702	\$1,350	\$9,998
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Note: 1.) Cost of grading and shaping the existing road segments receiving lignin are in the
"Summary of Construction Costs" Subgrade Prep
2.) The Lignin tonage is undiluted quantity.

By: d.mellison

Date: 08/08/13
09/11/2013

CRUSHED ROCK COST

SALE NAME: Sluiced Simmons
 PROJECT: Project No. 1 and 2
 QUARRY: Simmons Ridge

MATERIAL: Crushed
3/4"-0"; 1 1/2"-0", 4"-0"

DATE: 09/18/2013
 BY: E. Holloran

		Cubic Yards								Total
Segment	Stations	4"-0"	1 1/2"- 0"	3/4"-0"						
2A to 2B	8.00		22							22
2E to 2F	4.75		22							22
I1 to I2	67.80	44	143	1,770						1,957
I3 to I4	42.15	321	619	293						1,233
I5 to I6	5.00		66							66
I7 to I8	25.10		408							408
I9 to I10	31.50		465							465
Grand Total	184.30	365	1,745	2,063						4,173
		ONE WAY HAUL IN MILES								Total Haul
Road Segment	Stations	Cubic Yards	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
2A to 2B	8.00	22					0.10	0.20	0.10	0.40
2E to 2F	4.75	22						0.02	0.08	0.10
I1 to I2	67.80	1,957				0.30	0.34	0.18	0.10	0.92
I3 to I4	42.15	1,233				0.10	0.10	0.15	0.05	0.40
I5 to I6	5.00	66						0.14	0.13	0.27
I7 to I8	25.10	408				0.10	0.34	0.40	0.10	0.94
I9 to I10	31.50	465				0.65	0.64	0.49	0.10	1.88
TOTAL	184.30	4,173								
STA./NO.		CU. YD.								
CUBIC YARD WEIGHTED HAUL						0.25	0.29	0.23	0.09	AVERAGE HAUL 0.86
Average Round Trip Distance (miles)										1.72

ROCK HAUL:

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

Ave haul: \$1.77 /cy
 Load: \$0.48 /cy
 Spread: \$0.78 /cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 1,426

CRUSHED ROCK HAUL COSTS 4,173 cy @ \$3.03 /cy

PIT RUN ROCK COST

SALE NAME: Sluiced Simmons
 PROJECT: Project No. 1 and 2
 QUARRY: Simmons Ridge

MATERIAL: 6"-0" Pit Run

DATE: 09/18/2013
 BY: E. Holloran

Segment	Stations	Cubic Yards							Misc	Total
		Base	Landing	Turnout	Turnaround	Junction				
2A to 2B	8.00	504	55			33				592
2C to 2D	4.40	277	55			33				365
2E to 2F	4.75	299	55			33				387
3A to 3B	6.70					50				50
I1 to I2	67.80									
I3 to I4	42.15		55							55
I5 to I6	5.00		55							55
I9 to I10	31.50		135							135
Grand Total	170.30	1,080	410			149				1,639

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30.0 MPH	25.0 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
2A to 2B	8.00	592					0.40	0.20	0.25	0.85
2C to 2D	4.40	365					0.40	0.20	0.25	0.85
2E to 2F	4.75	387						0.20	0.11	0.31
3A to 3B	6.70	50				0.30	0.35	0.30	0.10	1.05
I1 to I2	67.80					0.30	0.40	0.30	0.10	1.10
I3 to I4	42.15	55						0.03	0.10	0.13
I5 to I6	5.00	55				0.10	0.20	0.20	0.10	0.60
I9 to I10	31.50	135				0.75	0.54	0.54	0.05	1.88
TOTAL	170.30	1,639								
STA./NO.		CU. YD.				0.07	0.30	0.23	0.19	AVERAGE HAUL 0.78
CUBIC YARD WEIGHTED HAUL										
Average Round Trip Distance (miles)										1.56

ROCK HAUL:

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

Ave haul: \$1.95 /cy
 Load: \$0.48 /cy
 Spread: \$0.78 /cy
 Develop: * /cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 1,299

PIT RUN ROCK HAUL COSTS

1,639 cy @ **\$3.21 /cy**

*Development included in crushing costs.

RIP RAP ROCK COST

SALE NAME:	Sluiced Simmons
PROJECT:	Project No. 1 and 2
QUARRY:	Simmons Ridge

MATERIAL: Rip Rap

DATE: 09/18/2013
BY: E. Holloran

		Cubic Yards							
Segment	Stations	Dissipator	Armor	Sett. Ponds				Misc	Total
I1 to I2	67.80	22							22
I3 to I4	36.60	55							55
I7 to I8	25.10	11							11
Grand Total	129.50	88							88

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	
										0.79 0.40 1.00
I1 to I2	67.80	22				0.10	0.34	0.20	0.15	
I3 to I4	36.60	55					0.15	0.15	0.10	
I7 to I8	25.10	11					0.45	0.40	0.15	
TOTAL 129.50		88								AVERAGE HAUL 0.57
STA./NO.		CU. YD.								
CUBIC YARD WEIGHTED HAUL						0.03	0.24	0.19	0.12	
Average Round Trip Distance (miles)										1.15

ROCK HAUL:

Truck type: D12 No. trucks: 1
 Delay min.: 6 Efficiency: 85%

Ave haul:	\$1.59	/cy
Load:	\$1.80	/cy
Develop:	*	/cy

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

Production: cy/day = 397

RIP RAP ROCK HAUL COSTS

88 cy @ \$3.39 /cy

*Development included in crushing costs.

**Sluiced Simmons Timber Sale
No. 341-14-43**

Mechanical Brushing Costs

Date: 09/18/13

Road Segment/ Point	Road Name	Length (Feet)	Miles	Brush Density	Cost / Mile	Segment Cost
N/A	Simmons Ridge & Side Spur Roads	114,297	21.65	Heavy	\$1,609.12	\$34,833
N/A	Simmons Field Road & Side Spurs	13,101	2.48	Heavy	\$1,609.12	\$3,993
N/A	California Barrel, Spur 30, & Leonard Basin Roads	52,586	9.96	Light - Medium	\$750.92	\$7,479
N/A	California Barrel, Spur 30, & Leonard Basin Side Spur Roads	76,901	14.56	Heavy	\$1,609.12	\$23,436
Totals			48.65		\$1,433	\$69,740

**Sluiced Simmons Timber Sale
No. 341-14-43**

Roadside Spraying Costs

Date: 09/18/13

Road Segment/ Point	Road Name	Length (Feet)	Miles	Brush Density	Cost / Mile	Segment Cost
N/A	All Road Segments Requiring Mechanical Brushing		48.65		\$170.00	\$8,271
Totals			48.65		\$170	\$8,271

**SLUICED SIMMONS
FY 2014
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Areas 1, 2, 3, and 4 are located in portions of Sections 22, 27, and 28 T7N, R8W, W.M., Clatsop County, Oregon.

2. **Fund Distribution:** Fund: BOF 100% CSL 0%
Tax Code: 1-08 100%

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acres	Stream Buffer Acres	New R/W Acres	Existing R/W Acres	Net Acreage
1	MC	32	8	0	0	24
2	MC	40	8	0	0	32
3	PC	34	1	1	0	32
4	RW	1				1
TOTALS		107	17	1	0	89

4. **Cruisers and Cruise Dates:** Areas 1 and 2 were cruised by Andrew Arvin, John Choate with Jon Long, and Ed Holloran. Area 3 was cruised by Andrew Arvin, Jon Long, John Choate, and Ed Holloran. The cruise was performed in early September, 2013.
5. **Cruise Method and Computation:** Areas 1, and 2 are modified clearcut units and were variable plot cruised. A 40 BAF was used in these Areas. These plots were located on a 7 chain by 3 chain grid, with a count/cruise plot ratio of 1 to 1. A total of 32 plots were sampled, with 16 measured plots and 16 count plots.

Area 3 is a partial cut unit with a residual basal area target of 130. A variable plot cruise with a 40 BAF was used. 33 plots were sampled on a grid of 3 chains by 3 chains, with a count/cruise plot ratio of 1 to 1. There were 16 measured plots and 17 count plots sampled.

Area 4 R/W was calculated applying road R/W acreage and using cruise per acre volumes from Area 3. There is approximately 1 acre of R/W, 1 in Area 3 and there is some negligible volume outside of Area 2.

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

<u>AREAS</u>	<u>PROJECT</u>	<u>TRACT</u>	<u>CRUISE TYPE</u>
1, & 2	SLUICEDS	A12	0001, TAKE
3	SLUICEDS	A3	0002, TAKE, SAVE
4 R/W	SLUICEDS	A123	R/W

6. **Timber Description:** Areas 1 and 2 are approximately 67 years old consisting of an alder dominant stand, with some sitka spruce, Douglas-fir, western hemlock, and cedar. The average alder tree size is approximately 15 inches DBH with an average merchantable tree height of 46 feet. The average spruce tree size is approximately 13 inches DBH with an average merchantable tree height of 27 feet. The average Douglas-fir tree size to be harvested is approximately 18 inches DBH, with an average merchantable tree height of 81 feet. The average hemlock tree size is approximately 14 inches DBH, with an average merchantable tree height of 28 feet. The average volume per acre to be harvested (net) is approximately 23 MBF. All trees were cruised to a merchantable top of 6 inch DIB. or 40% fp.
7. Area 3 is approximately 68 year-old timber, consisting of a mixed conifer stand, of sitka spruce, Douglas-fir, western hemlock, and cedar, with an alder understory. The average take alder tree size is approximately 16 inches DBH with an average merchantable tree height of 49 feet. The average take spruce tree size is approximately 17 inches DBH with an average merchantable tree height of 65 feet.

The average take Douglas-fir tree size to be harvested is approximately 13 inches DBH, with an average merchantable tree height of 37 feet. The average take hemlock tree size is approximately 17 inches DBH with an average merchantable tree height of 57 feet. The average volume per acre to be harvested (net) is approximately 17.5 MBF. All trees were cruised to a merchantable top of 6 inch DIB. or 40% fp.

Area 4 R/W – The R/W is the same type timber as Area 3. The volume to remove from Area 4 R/W is approximately 41 MBF per acre.

Cedar was a reserved species in Areas 1, 2, and 3.

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

Area	Target CV	Target SE%	Actual CV	Actual SE%
1 & 2	55	11	40.7	7.2
3	55	11	47.0	8.2

The statistics are for all areas and Take and Leave trees combined based on Net BF/Acre.

8. Take Volumes by Species and Log Grades for All Sale Areas by MBF: (See "Species, Sort Grade-Board Feet Volumes (Project)", "Statistics (Project)", and the "Stand Table Summary" attached). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	% D & B	% Sale
Sitka Spruce	14"	372	114	178	80	5	19
Western Hemlock	15"	227	135	70	22	8	12
Douglas-fir	15"	148	57	83	8	8	8

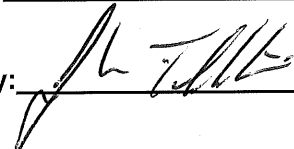
Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red Alder	15"	1,136	450	190	198	298	7	61

TOTAL NET VOLUME	1,883
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Alder grades based on small end diameter. Diameter break downs used were: 12"+ = 1 Saw; 10" – 11" = 2 Saw; 8" – 9" = 3 Saw; 6" – 7" = 4 Saw. These volumes were converted and reported as shown above and in the contract.

9. Prepared by: Edward M. Holloran

Date: September 18, 2013

10. Approved by: 

Date: 9/30/13

11. Attachments:

- Cruise Plans & Maps (5 pages)
- Species, Sort, Grade Reports – Take (4 pages)
- Statistics Reports (5 pages)
- Stand Table Report (1 page)
- Log Stock Table Report – for sale (4 pages)

X:\Sunset Unit\2014 FY Sales\Sluiced Simmons\Sale Prep\Cruise\Cruise Report Sluiced Simmons .docx

CRUISE DESIGN ASTORIA DISTRICT

Sale Name: Sluiced Simmons Area(s) 1 & 2

Harvest Type: CC PC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 56 Estimated CV% 55 ^{Net BF or} BA/Acre SE% Objective 11 ^{Net BF or} BA/Acre

Planned (Unit) Sale Volume: 1,568 MMBF Estimated Sale Area Value/Acre: \$9,800
(2.05 MMBF for sale)

- A. **Cruise Goals:** (a) Grade minimum 40 conifer and 40 hardwood trees:
(b) Sample 33 cruise plots; (c) Other goals (Determine "automark" thinning standards; Determine log grades for sale value; Determine snag and leave tree species and sizes; Determine LWD (down wood) cubic feet and decay classes; Determine "diameter limit" harvest parameters;

B. **Cruise Design:**

1. **Plot Cruises:** BAF 40 for all species (Full point Half point) (circle one)
Fixed Plot Size Plot Radius feet
Cruise Line Direction(s) 16° / 196°
Cruise Line Spacing 7 (chains) (feet)
Cruise Plot Spacing 3 (chains) (feet)
Grade/Count Ratio 1 : 1

If plot falls clearly inside a buffer drop the plot. Take plots as marked on map. All cedar are leave trees. Grade all alder as shown on page 2. All other hardwoods grade as Camp Run.

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). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
 B. Sort: Use code "1" (Domestic).
 C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
 D. Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill.
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
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).
 B. Data Recorder Instructions
 C. Other

Cruise Design by: Ed Holloran

Approved by: [Signature]

Date: 8/29/13

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CRUISE DESIGN ASTORIA DISTRICT

Sale Name: Sluiced Simmons Area(s) 3

Harvest Type: CC PC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 32 Estimated CV% 55 ^{Net BF or} BA/Acre SE% Objective 11 ^{Net BF or} BA/Acre

Planned (Unit) Sale Volume: 480 MMBF Estimated Sale Area Value/Acre: \$4,125
(2.05 MMBF for sale)

- A. Cruise Goals:** (a) Grade minimum 50 conifer and 30 hardwood trees:
(b) Sample 33 cruise plots; (c) Other goals (X Determine "automark" thinning standards; Determine log grades for sale value; Determine snag and leave tree species and sizes; Determine LWD (down wood) cubic feet and decay classes; Determine "diameter limit" harvest parameters;

B. Cruise Design:

1. **Plot Cruises:** BAF 40 for all species (Full point; Half point) (circle one)
Fixed Plot Size Plot Radius feet
Cruise Line Direction(s) 90° / 270°
Cruise Line Spacing 3 (chains) (feet)
Cruise Plot Spacing 3 (chains) (feet)
Grade/Count Ratio 1 : 1

This is a partial cut with a planned residual B/A of 120 to 160 target of 140.
Leave 3 to 4 leave trees per cruise plot (considering cutting all alder).

If plot falls clearly inside a buffer drop the plot. Take plots as marked on map. All cedar are leave trees. Grade all alder as shown on page 2. All other hardwoods grade as Camp Run.

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). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
B. Sort: Use code "1" (Domestic).
C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
D. Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill.
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
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).
B. Data Recorder Instructions
C. Other

Cruise Design by: Ed Holloran

Approved by: [Signature]

Date: 8/29/13

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EXHIBIT "A"

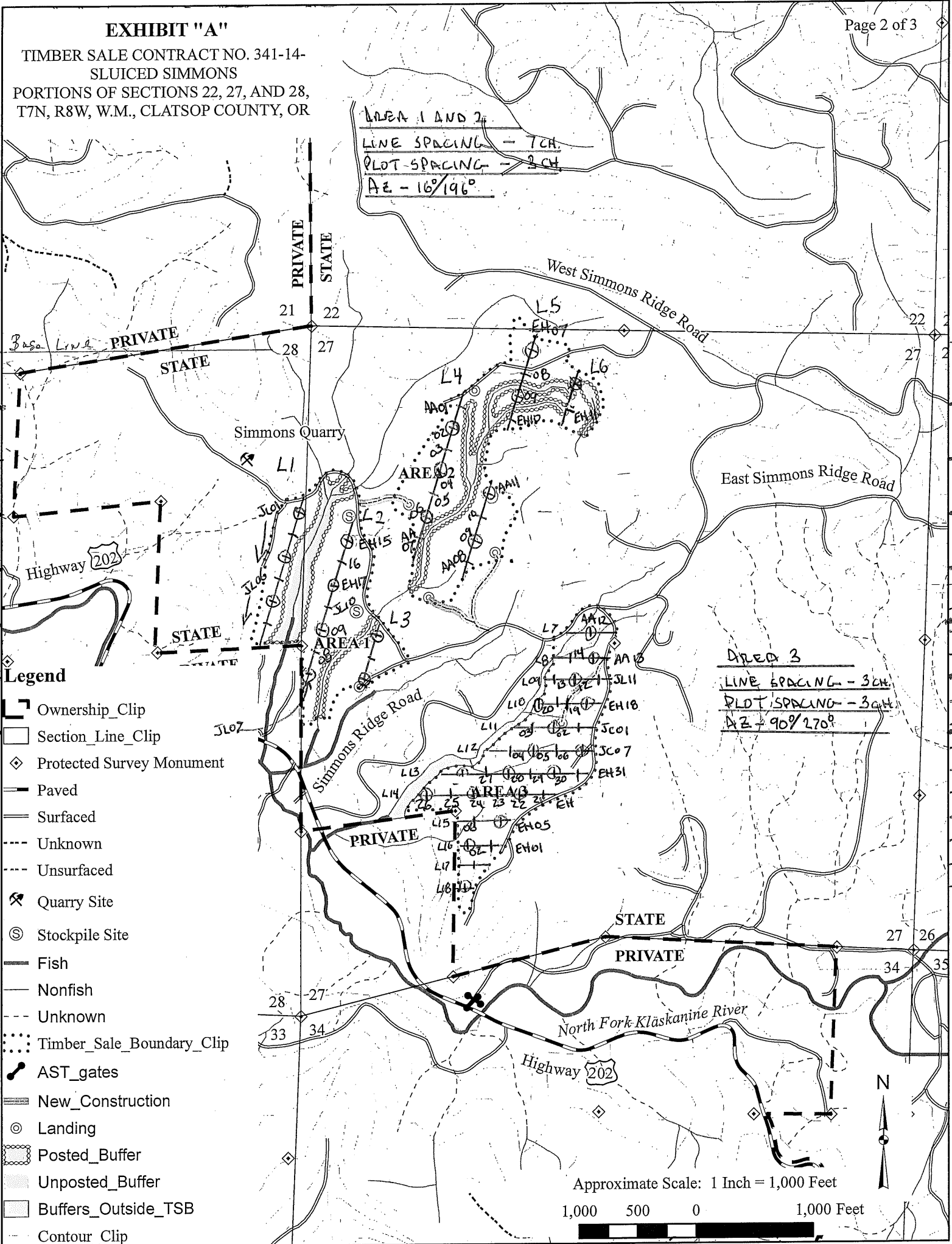
TIMBER SALE CONTRACT NO. 341-14-
SLUICED SIMMONS
PORTIONS OF SECTIONS 22, 27, AND 28,
T7N, R8W, W.M., CLATSOP COUNTY, OR

AREA 1 AND 2
LINE SPACING - 7 CH
PLOT SPACING - 3 CH
AZ - 16°/196°

AREA 3
LINE SPACING - 3 CH
PLOT SPACING - 3 CH
AZ - 90°/270°

Legend

- Ownership_Clip
- Section_Line_Clip
- Protected Survey Monument
- Paved
- Surfaced
- Unknown
- Unsurfaced
- Quarry Site
- Stockpile Site
- Fish
- Nonfish
- Unknown
- Timber_Sale_Boundary_Clip
- AST_gates
- New_Construction
- Landing
- Posted_Buffer
- Unposted_Buffer
- Buffers_Outside_TSB
- Contour_Clip



Approximate Scale: 1 Inch = 1,000 Feet

1,000 500 0 1,000 Feet



TC		Species, Sort Grade - Board Foot Volumes (Project)																
T07N R08W S27 TyTAKE56.00 T07N R08W S27 TyRW1.00 T07N R08W S27 TyTAKE32.00		Project: SLUICEDS												Page1				
		Acres89.00												Date9/23/2013				
														Time1:33:37PM				
Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
							Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
			Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
A	DOCU		100.0	687											4		0.00	23.2
A	DO1S	39	1.3	5,118	5,052	450		3	79	18	13	22	41	24	29	199	1.77	25.4
A	DO2S	17	1.1	2,153	2,130	190		81	19		5	40	23	32	29	113	1.06	18.9
A	DO3S	17	1.7	2,261	2,222	198		95	5		7	26	36	31	30	79	0.82	28.1
A	DO4S	27	4.4	3,495	3,343	298		100			31	13	17	39	26	38	0.58	87.4
A Totals		60	7.1	13,714	12,747	1136	1134	57	35	7	15	23	31	31	25	70	0.87	183.0
S	DOCU		100.0	156											8		0.00	7.9
S	DO2S	30	.5	1,285	1,279	114			51	49	7	18	13	62	33	275	1.99	4.7
S	DO3S	48	1.1	2,018	1,996	178		72	12	17	0	1	55	44	36	113	1.00	17.6
S	DO4S	22	2.3	916	895	80		97	3		26	54	20		24	35	0.60	25.6
S Totals		20	4.7	4,375	4,170	372	374	55	22	23	8	17	35	40	26	75	0.89	55.7
H	DOCU		100.0	169											6		0.00	2.1
H	DO2S	59	2.1	1,544	1,512	135			62	38	4	8	27	61	35	290	1.98	5.2
H	DO3S	31	1.7	803	789	70		68	3	29	0	13	25	62	35	92	0.91	8.6
H	DO4S	10	.7	245	243	22		100			71	16	13		18	25	0.42	9.6
H Totals		12	7.9	2,761	2,544	227	226	31	38	31	9	10	25	56	26	99	1.06	25.6
D	DOCU		100.0	131											10		0.00	4.9
D	DO2S	38	.2	637	636	57			46	54		45	15	40	32	377	2.51	1.7
D	DO3S	56	2.6	957	932	83		90	10		0	2	47	51	36	101	0.77	9.2
D	DO4S	6		95	95	8		100			37	63			22	29	0.50	3.3
D Totals		8	8.6	1,820	1,663	148		56	23	21	2	22	32	44	26	87	0.84	19.1
Totals			6.8	22,670	21,124	1883	1,880	54	32	14	12	20	31	37	25	75	0.89	283.4

Species, Sort Grade - Board Foot Volumes (Type)														Page 1					
Project: SLUICEDS														Date 9/5/2013					
														Time 10:56:30AM					
T07N R08W S27 TTAKE										T07N R08W S27 TTAKE									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
07N	08W	27	A12	TAKE	56.00	32	101	1	W										
S So Gr T rt ad Spp		%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
							Log Scale Dia.				Log Length				Ln	Bd	CF/		
		Net	Def%	Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft	Lf		
A	DO	CU		100.0	962										4		0.00	32.6	
A	DO	1S	44	1.0	7,483	7,405	415	3	79	19	11	22	43	25	30	206	1.78	35.9	
A	DO	2S	11	1.3	2,013	1,987	111	91	9		8	68	12	12	26	97	0.97	20.6	
A	DO	3S	18	2.0	3,023	2,961	166	94	6		6	26	34	34	30	82	0.83	36.0	
A	DO	4S	27	5.1	4,717	4,475	251	100			30	14	14	42	26	39	0.58	116.1	
A Totals			74	7.5	18,200	16,829	945	55	37	8	15	26	30	29	24	70	0.87	241.2	
S	DO	CU		100.0	213										8		0.00	11.0	
S	DO	2S	15		418	418	234			100				100	40	600	3.03	.7	
S	DO	3S	45	2.8	1,242	1,207	68	58		42			54	46	38	115	1.13	10.5	
S	DO	4S	40	2.9	1,115	1,083	61	97	3		26	53	21		24	34	0.62	31.4	
S Totals			12	9.4	2,988	2,708	152	64	1	34	10	21	33	36	24	51	0.79	53.6	
H	DO	CU															0.00	.5	
H	DO	2S	49		859	859	48		40	60			40	60	34	483	3.01	1.8	
H	DO	3S	36	2.0	629	617	35	42		58		26		74	32	128	1.37	4.8	
H	DO	4S	15		248	248	14	100			75	25			17	24	0.40	10.5	
H Totals			8	.7	1,736	1,724	97	29	20	51	11	13	20	56	23	97	1.18	17.7	
D	DO	CU		100.0	59										6		0.00	.7	
D	DO	2S	35		575	575	32		55	45		45		55	33	376	2.45	1.5	
D	DO	3S	63	.7	1,004	997	56	86	14				25	75	38	109	0.78	9.2	
D	DO	4S	2		29	29	2	100				100			21	40	0.67	.7	
D Totals			7	4.0	1,667	1,601	90	55	29	16		18	16	66	34	131	0.97	12.2	
Type Totals					7.0	24,591	22,862	1,280	54	31	15	13	24	28	35	24	70	0.88	324.6

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1	
				Project: SLUICEDS												Date		9/10/2013	
																Time		9:12:01AM	
T07N R08W S27 TTAKE												T07N R08W S27 TTAKE							
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt	
07N		08W		27		A3		TAKE		32.00		33		65		1		W	
S So Gr T rt ad Spp			%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/	
			Net	Def%	Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft	Lf	
A DO CU			18	100.0	221											5		0.00	7.2
A DO 1S			40	4.0	1,103	1,059	34		87	13		36	20	23	21	23	140	1.64	7.6
A DO 2S			17	.8	2,391	2,373	76	66	34					39	61	36	148	1.20	16.0
A DO 3S			25		967	967	31	100				12	26	49	13	29	66	0.74	14.7
A DO 4S					1,421	1,421	45	100				34	9	33	23	25	37	0.57	38.8
A Totals			33	4.6	6,102	5,820	186	68	30	2		17	10	36	36	26	69	0.85	84.3
S DO CU			39	100.0	50											3		0.00	2.5
S DO 2S			52	.7	2,547	2,530	81		66	34		9	24	17	50	32	231	1.80	10.9
S DO 3S			9		3,255	3,255	104	81	19				1	56	43	35	112	0.92	29.0
S DO 4S					571	571	18	100				24	57	19		25	37	0.52	15.4
S Totals			36	1.0	6,423	6,355	203	50	36	13		6	15	37	42	30	110	1.00	57.9
H DO CU			28	100.0	451											7		0.00	4.7
H DO 2S			6	3.3	2,581	2,497	80		75	25		7	12	20	61	35	233	1.69	10.7
H DO 3S				1.5	1,071	1,054	34	93	7					49	51	36	72	0.68	14.7
H DO 4S				1.9	230	226	7	100				64		36		20	29	0.47	7.7
H Totals			22	12.8	4,333	3,777	121	32	52	16		8	8	29	55	29	100	0.98	37.9
D DO CU			52	100.0	253											11		0.00	12.0
D DO 2S			13		556	556	18		40	60			60	40		28	350	2.52	1.6
D DO 3S				6.5	850	794	25	100					6	94		32	87	0.76	9.1
D DO 4S					197	197	6	100				44	56			22	28	0.48	7.1
D Totals			9	16.6	1,855	1,547	50	64	14	22		6	32	63		21	52	0.66	29.8
Type Totals				6.5	18,713	17,499	560	54	35	11		10	14	37	39	27	83	0.90	209.8

Species, Sort Grade - Board Foot Volumes (Type)										Page 1											
Project: SLUICEDS										Date	9/23/2013										
										Time	1:32:26PM										
T07N R08W S27 TRW										T07N R08W S27 TRW											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
07N	08W	27	A3	RW	1.00	33	122	1	W												
S So Gr Spp T 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					
S	DO	CU			00.0	341									7		0.00		5.6		
S	DO	2S	58		.4	9,495	9,453	9			44	56	5	6	16	74	35	372	2.47	25.4	
S	DO	3S	37		.4	5,943	5,923	6		68	18	14	2	3	48	46	34	112	0.96	53.0	
S	DO	4S	5		1.5	770	759	1		100			51	36	12		21	32	0.53	23.7	
S Totals			41		2.5	16,550	16,134	16		30	32	38	6	6	28	60	30	150	1.31	107.7	
A DO CU A DO 1S A DO 2S A DO 3S A DO 4S					00.0	221											5		0.00	7.2	
			18		4.0	1,103	1,059	1			87	13	36	20	23	21	23	140	1.64	7.6	
			40		.8	2,391	2,373	2		66	34				39	61	36	148	1.20	16.0	
			17			967	967	1		100			12	26	49	13	29	66	0.74	14.7	
			25			1,421	1,421	1		100			34	9	33	23	25	37	0.57	38.8	
A Totals			15		4.6	6,102	5,820	6		68	30	2	17	10	36	36	26	69	0.85	84.3	
H DO CU H DO 2S H DO 3S H DO 4S					00.0	639											7		0.00	6.8	
			72		2.3	6,731	6,579	7			67	33	3	7	19	72	37	297	1.96	22.1	
			22		1.3	1,957	1,932	2		88	12			52	44	36	78	0.75	24.6		
			6		1.0	511	506	1		100			82		18	18	26	0.45	19.3		
H Totals			23		8.3	9,837	9,017	9		25	51	24	8	5	26	62	29	124	1.15	72.9	
D DO CU D DO 2S D DO 3S D DO 4S					00.0	283											10		0.00	11.2	
			74		1.5	6,685	6,587	7			19	81		4	19	77	37	486	2.80	13.6	
			20		2.9	1,786	1,735	2		70	30			2	5	50	43	34	108	0.94	16.0
			6			525	525	1		100			75	25			19	24	0.46	21.5	
D Totals			22		4.7	9,279	8,847	9		20	20	60	5	6	24	66	25	142	1.35	62.2	
Type Totals					4.7	41,769	39,818	40		32	34	35	8	6	28	58	28	122	1.17	327.1	

TC PSTATS			PROJECT STATISTICS					PAGE	1			
			PROJECT		SLUICEDS		DATE 9/23/2013					
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
07N	08	27	A12	TAKE	89.00	98	577	1	W			
07N	08W	27	A3	RW								
07N	08W	27	A3	TAKE								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			98	577	5.9							
CRUISE			47	286	6.1	15,146	1.9					
DBH COUNT												
REFOREST												
COUNT			48	291	6.1							
BLANKS			3									
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			122	102.0	15.5	46		133.6	13,714	12,747	4,023	3,887
S SPRUCE			73	41.2	14.4	37		46.4	4,375	4,170	1,341	1,307
WHEMLOCK			62	16.9	15.4	41		21.8	2,761	2,544	742	709
DOUG FIR			29	10.1	15.4	52		13.0	1,820	1,663	456	426
TOTAL			286	170.2	15.2	44		214.9	22,670	21,124	6,562	6,329
CONFIDENCE LIMITS OF THE SAMPLE												
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR												
CL	68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.			INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
R ALDER		138.0	13.9	88	102	116						
S SPRUCE		181.0	18.3	34	41	49						
WHEMLOCK		316.7	32.0	11	17	22						
DOUG FIR		282.4	28.5	7	10	13						
TOTAL		116.3	11.8	150	170	190	541	135	60			
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		132.1	13.3	116	134	151						
S SPRUCE		168.8	17.1	39	46	54						
WHEMLOCK		276.8	28.0	16	22	28						
DOUG FIR		275.3	27.8	9	13	17						
TOTAL		107.6	10.9	192	215	238	463	116	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			
R ALDER		136.1	13.7	10,995	12,747	14,499						
S SPRUCE		179.1	18.1	3,416	4,170	4,925						
WHEMLOCK		269.4	27.2	1,852	2,544	3,236						
DOUG FIR		299.8	30.3	1,160	1,663	2,167						
TOTAL		104.7	10.6	18,890	21,124	23,359	439	110	49			

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	SLUICEDS	DATE 9/23/2013					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
07N	08W	27	A12	TAKE	56.00	32	198	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		32	198	6.2							
CRUISE		16	99	6.2	11,385		.9				
DBH COUNT											
REFOREST											
COUNT		16	99	6.2							
BLANKS											
100 %											
STAND SUMMARY											
		SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
		TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
R ALDER		72	134.6	15.4	46		175.0	18,200	16,829	5,279	5,090
S SPRUCE		18	48.6	13.2	27		46.3	2,988	2,708	1,043	996
WHEMLOCK		5	14.7	14.2	28		16.3	1,736	1,724	472	472
DOUG FIR		4	5.4	18.5	81		10.0	1,667	1,601	416	406
TOTAL		99	203.3	14.9	41		247.5	24,591	22,862	7,210	6,965
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %		COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
R ALDER		53.9	9.5	122	135	147					
S SPRUCE		109.4	19.3	39	49	58					
WHEMLOCK		294.5	52.1	7	15	22					
DOUG FIR		251.1	44.4	3	5	8					
TOTAL		48.4	8.5	186	203	221	94	23	10		
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		47.1	8.3	160	175	190					
S SPRUCE		110.1	19.5	37	46	55					
WHEMLOCK		278.6	49.3	8	16	24					
DOUG FIR		248.9	44.0	6	10	14					
TOTAL		42.2	7.5	229	248	266	71	18	8		
CL: 68.1 %		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
R ALDER		50.7	9.0	15,320	16,829	18,337					
S SPRUCE		122.8	21.7	2,120	2,708	3,296					
WHEMLOCK		280.5	49.6	869	1,724	2,579					
DOUG FIR		248.1	43.9	899	1,601	2,303					
TOTAL		45.8	8.1	21,010	22,862	24,714	84	21	9		

TC TSTATS				STATISTICS				PAGE 1			
				PROJECT		SLUICEDS		DATE 9/23/2013			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
07N	08W	27	A3	TAKE	32.00	33	132	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
		PLOTS	TREES		TREES	TREES					
TOTAL		33	132	4.0							
CRUISE		15	65	4.3	3,589	1.8					
DBH COUNT											
REFOREST											
COUNT		16	67	4.2							
BLANKS		2									
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
R ALDER		25	46.8	15.8	49		63.4	6,102	5,820	1,892	1,846
S SPRUCE		15	27.9	17.2	65		45.0	6,423	6,355	1,770	1,760
WHEMLOCK		20	19.9	16.7	57		30.3	4,333	3,777	1,159	1,072
DOUG FIR		5	17.5	13.3	37		17.0	1,855	1,547	473	407
TOTAL		65	112.1	16.0	52		155.6	18,713	17,499	5,294	5,084
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %		COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
R ALDER		113.9	19.8	38	47	56					
S SPRUCE		157.4	27.4	20	28	36					
WHEMLOCK		179.4	31.2	14	20	26					
DOUG FIR		216.4	37.7	11	18	24					
TOTAL		55.6	9.7	101	112	123	124	31	14		
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		116.6	20.3	51	63	76					
S SPRUCE		155.1	27.0	33	45	57					
WHEMLOCK		171.6	29.9	21	30	39					
DOUG FIR		212.7	37.0	11	17	23					
TOTAL		54.6	9.5	141	156	170	119	30	13		
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		120.1	20.9	4,603	5,820	7,037					
S SPRUCE		152.7	26.6	4,666	6,355	8,045					
WHEMLOCK		175.5	30.5	2,623	3,777	4,931					
DOUG FIR		230.6	40.1	926	1,547	2,168					
TOTAL		66.0	11.5	15,488	17,499	19,511	174	44	19		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SLUICEDS	DATE 9/23/2013				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	08W	27	A3	RW	1.00	33	247	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		33	247	7.5						
CRUISE		16	122	7.6		173	70.6			
DBH COUNT										
REFOREST										
COUNT		16	125	7.8						
BLANKS		1								
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
S SPRUCE		40	52.0	19.0	64	102.2	16,550	16,134	4,267	4,201
R ALDER		25	46.8	15.8	49	63.4	6,102	5,820	1,892	1,846
WHEMLOCK		37	38.3	17.4	57	63.3	9,837	9,017	2,521	2,400
DOUG FIR		20	35.8	17.3	46	58.2	9,279	8,847	2,191	2,122
TOTAL		122	172.9	17.4	54	287.0	41,769	39,818	10,871	10,569
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
S SPRUCE		102.5	17.8	43	52	61				
R ALDER		113.9	19.8	38	47	56				
WHEMLOCK		114.3	19.9	31	38	46				
DOUG FIR		148.2	25.8	27	36	45				
TOTAL		42.8	7.5	160	173	186	73	18	8	
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
S SPRUCE		100.9	17.6	84	102	120				
R ALDER		116.6	20.3	51	63	76				
WHEMLOCK		119.0	20.7	50	63	76				
DOUG FIR		122.9	21.4	46	58	71				
TOTAL		41.0	7.1	267	287	308	67	17	7	
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
S SPRUCE		102.1	17.8	13,265	16,134	19,003				
R ALDER		120.1	20.9	4,603	5,820	7,037				
WHEMLOCK		127.6	22.2	7,015	9,017	11,020				
DOUG FIR		124.1	21.6	6,935	8,847	10,759				
TOTAL		48.5	8.4	36,455	39,818	43,181	94	24	10	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	SLUICEDS	DATE 9/23/2013					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
07N	08W	27	A3	SAVE	32.00	33	122	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		33	122	3.7							
CRUISE		16	59	3.7	2,135		2.8				
DBH COUNT											
REFOREST											
COUNT		15	63	4.2							
BLANKS		2									
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	SDI	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	REL	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
SPRUCELV		25	25.3	20.4	63	79.16	57.2	9,924	9,602	2,472	2,421
DOUGLEAV		15	19.6	19.6	52	67.53	41.2	7,262	7,103	1,686	1,675
HEMLEAV		17	17.9	18.4	56	47.49	33.0	5,610	5,392	1,375	1,350
SNAG		2	3.9	20.0	51	—	8.5	564		191	
TOTAL		59	66.7	19.6	57	184.18	139.9	23,360	22,097	5,724	5,445
CONFIDENCE LIMITS OF THE SAMPLE 184/625 = 29%											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
SPRUCELV	113.6	19.8	20	25	30						
DOUGLEAV	166.0	28.9	14	20	25						
HEMLEAV	144.7	25.2	13	18	22						
SNAG	257.1	44.7	2	4	6						
TOTAL	57.7	10.0	60	67	73	133	33	15			
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
SPRUCELV	92.1	16.0	48	57	66						
DOUGLEAV	131.8	22.9	32	41	51						
HEMLEAV	122.5	21.3	26	33	40						
SNAG	257.1	44.7	5	8	12						
TOTAL	40.3	7.0	130	140	150	65	16	7			
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
SPRUCELV	95.4	16.6	8,007	9,602	11,198						
DOUGLEAV	132.2	23.0	5,468	7,103	8,738						
HEMLEAV	132.1	23.0	4,152	5,392	6,632						
SNAG											
TOTAL	48.0	8.4	20,249	22,097	23,945	92	23	10			

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		9/23/2013	
T07N R08W S27 TyTAKE56.00 T07N R08W S27 TyRW1.00 T07N R08W S27 TyTAKE32.00		ProjectSLUICEDS Acres89.00										Time:1:33:37PM Grown Year:													
S Spec	T	DBH	Sample Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals											
				FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF									
A		9	1	86	20	3.462	1.53	3.46	6.0	20.0		21	69		18	6									
A		10	1	86	61	2.804	1.53	2.80	14.0	40.0		39	112		35	10									
A		11	3	81	32	3.742	2.47	3.74	10.9	37.6		41	141		36	13									
A		12	10	85	59	14.251	11.06	15.45	16.6	49.4		257	763		229	68									
A		13	16	86	61	21.950	20.23	32.93	16.9	50.3		557	1,656		496	147									
A		14	9	87	67	10.894	11.65	17.50	19.8	65.1		347	1,139		309	101									
A		15	11	86	64	6.803	8.35	10.83	21.9	66.9		237	724		211	64									
A		16	7	86	70	6.150	8.59	12.30	23.2	80.5		285	991		254	88									
A		17	13	87	69	8.581	13.53	16.19	26.3	85.3		426	1,381		379	123									
A		18	13	87	68	6.455	11.41	10.12	34.0	103.2		344	1,044		306	93									
A		19	10	87	76	4.539	8.94	9.56	30.1	108.6		287	1,037		256	92									
A		20	8	87	71	3.666	8.00	7.33	36.0	117.6		264	863		235	77									
A		21	4	87	65	2.543	6.12	5.09	35.5	125.0		181	636		161	57									
A		22	5	86	64	2.094	5.53	3.83	39.9	122.8		153	471		136	42									
A		23	1	87	71	.530	1.53	1.06	48.5	160.0		51	170		46	15									
A		24	5	85	70	1.760	5.53	4.01	45.2	174.7		181	700		161	62									
A		25	2	87	67	.897	3.06	1.79	55.2	200.0		99	359		88	32									
A		26	1	87	79	.415	1.53	.83	63.5	250.0		53	207		47	18									
A		31	1	87	67	.292	1.53	.58	59.5	260.0		35	152		31	14									
A		36	1	86	62	.216	1.53	.43	70.5	305.0		31	132		27	12									
A		Totals	122	86	62	102.045	133.62	159.83	24.3	79.8		3,887	12,747		3,460	1,134									
S		8	1	89	17	4.632	1.62					0	1		0	0									
S		9	1	82	20	.065	.03	.06	6.0	20.0					26	9									
S		10	1	83	50	3.284	1.62	3.28	9.0	30.0		30	99		48	13									
S		11	2	87	30	4.900	3.23	4.90	11.0	30.0		54	147		69	15									
S		12	4	78	29	6.212	4.88	6.25	12.4	27.1		77	169		64	21									
S		13	4	86	82	2.401	2.21	3.60	20.0	66.7		72	240		52	9									
S		14	2	82	38	3.025	3.23	3.02	19.5	35.0		59	106		107	32									
S		15	6	87	63	3.583	4.40	4.51	26.6	79.2		120	357		153	49									
S		16	7	81	76	3.536	4.94	5.91	29.0	93.5		171	553		170	36									
S		17	6	81	52	4.805	7.57	5.51	34.6	73.8		191	407		75	27									
S		18	4	82	89	1.252	2.21	3.13	26.8	98.0		84	307		39	13									
S		19	2	83	87	.562	1.11	1.12	38.5	130.0		43	146		79	26									
S		20	6	84	88	1.041	2.27	2.08	42.4	139.7		88	291		2	1									
S		21	2	84	101	.024	.06	.06	43.0	158.0		3	9		44	16									
S		22	3	89	96	.430	1.14	.86	57.6	215.3		50	185		53	23									
S		23	4	89	110	.403	1.16	1.20	49.8	215.8		60	259		1	0									
S		24	1	83	99	.009	.03	.02	68.5	235.0		1	4		111	44									
S		26	8	86	95	.778	2.87	1.57	79.5	315.6		125	496		3	1									
S		28	2	85	118	.013	.06	.04	74.3	333.3		3	13		2	1									
S		30	2	83	105	.012	.06	.03	90.0	362.0		3	11		1	1									
S		33	1	89	111	.005	.03	.01	98.0	483.3		1	7		61	31									
S		37	1	82	116	.217	1.62	.65	104.7	530.0		68	344		2	1									
S		38	2	81	118	.007	.06	.02	116.2	575.0		3	13		1	1									
S		45	1	82	111	.003	.03	.01	178.3	863.3		1	7												
S		Totals	73	84	50	41.198	46.42	47.86	27.3	87.1		1,307	4,170		1,163	371									
H		8	1	86	20	5.858	2.04	5.86	5.0	20.0		29	117		26	10									
H		9	3	86	20	1.475	.58	1.47	5.0	20.0		7	29		7	3									
H		10	1	88	28	.035	.02	.04	8.0	20.0		0	1		0	0									
H		12	2	85	47	.718	.56	.72	16.0	50.0		11	36		10	3									
H		13	2	85	44	.612	.56	.61	17.0	50.0		10	31		9	3									
H		14	1	90	38	1.913	2.04	1.91	18.0	40.0		34	77		31	7									

TC		PSTNDSUM										Stand Table Summary										Page		2	
																						Date:		9/23/2013	
		T07N R08W S27 TyTAKE				56.00		Project				SLUICEDS				Time:				1:33:37PM					
		T07N R08W S27 TyRW				1.00		Acres				89.00				Grown Year:									
		T07N R08W S27 TyTAKE				32.00																			
S				Tot				Average Log				Net		Net				Totals							
Spec T		DBH		Sample Trees		FF 16' Av Ht		Trees/ Acre		BA/ Acre Logs Acre		Net Cu.Ft. Net Bd.Ft.		Tons/ Acre Cu.Ft. Acre Bd.Ft. Acre		Tons Cunits MBF									
H		15		2 82 92				.460 .56 .92		23.0 80.0		21 74		19 7											
H		17		8 86 91				1.431 2.26 2.86		30.6 106.3		88 304		78 27											
H		18		6 87 103				.660 1.17 1.33		38.7 129.6		52 172		46 15											
H		19		6 87 98				.859 1.69 1.72		41.3 141.7		71 243		63 22											
H		20		1 88 99				.009 .02 .02		49.0 175.0		1 3		1 0											
H		21		5 87 98				.477 1.15 .96		52.4 184.0		50 177		45 16											
H		22		3 86 75				.789 2.08 1.59		44.5 165.4		71 262		63 23											
H		23		2 87 99				.013 .04 .03		61.7 225.0		2 6		1 1											
H		24		2 86 82				.180 .56 .36		58.5 195.0		21 70		19 6											
H		25		4 85 105				.331 1.13 .83		39.4 162.0		33 134		29 12											
H		26		2 85 96				.010 .04 .03		61.2 242.0		2 6		1 1											
H		27		4 83 110				.152 .60 .45		40.8 179.0		19 81		17 7											
H		28		3 81 99				.136 .58 .27		78.4 282.6		21 77		19 7											
H		29		1 89 111				.004 .02 .01		63.3 316.7		1 4		1 0											
H		31		2 81 84				.394 2.06 .79		96.7 321.6		76 253		68 23											
H		33		1 86 102				.344 2.04 .69		129.5 560.0		89 386		79 34											
H		Totals		62 86 51				16.861 21.83 23.46		30.2 108.4		709 2,544		631 226											
D		9		1 85 21				.074 .03 .07		5.0 20.0		0 1		0 0											
D		10		2 75 21				2.545 1.25																	
D		11		1 86 27				.050 .03 .05		9.0 20.0		0 1		0 0											
D		12		2 79 27				1.595 1.25 1.60		9.0 20.0		14 32		13 3											
D		15		5 86 103				3.324 4.08 6.65		23.3 88.1		155 586		138 52											
D		16		1 86 99				1.127 1.57 2.25		26.0 100.0		59 225		52 20											
D		20		2 86 103				.030 .07 .06		43.5 150.0		3 9		2 1											
D		21		1 86 76				.014 .03 .03		37.5 105.0		1 3		1 0											
D		24		2 88 103				.511 1.61 1.03		64.0 243.2		66 251		59 22											
D		25		2 85 121				.471 1.61 1.41		46.8 193.9		66 274		59 24											
D		27		1 86 115				.008 .03 .02		57.3 240.0		1 6		1 1											
D		28		3 83 120				.301 1.29 .90		56.0 255.2		51 230		45 20											
D		29		1 86 103				.007 .03 .01		91.0 360.0		1 5		1 0											
D		31		1 83 118				.006 .03 .02		72.0 330.0		1 6		1 1											
D		34		1 86 138				.005 .03 .02		107.0 496.7		2 8		1 1											
D		38		1 83 141				.004 .03 .01		125.7 633.3		2 8		1 1											
D		39		1 85 153				.004 .03 .01		151.7 763.3		2 9		2 1											
D		40		1 87 137				.004 .03 .01		148.0 773.3		2 9		1 1											
D		Totals		29 82 70				10.080 13.05 14.16		30.1 117.4		426 1,663		379 148											
Totals				286 85 59				170.183 214.91 245.31		25.8 86.1		6,329 21,124		5,633 1,880											

Log Stock Table - MBF

Page 1
 Date 9/23/2013
 Time 1:33:36PM

T07N R08W S27 TyTAKE 56.00
 T07N R08W S27 TyRW 1.00
 T07N R08W S27 TyTAKE 32.00

Project: SLUICEDS
 Acres 89.00

S T Spp	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	20-21	22-29	30-39	40+	
A	DO	CU	2	2	100.0															
A	DO	CU	3	3	100.0															
A	DO	CU	6	2	100.0															
A	DO	CU	7	12	100.0															
A	DO	CU	8	16	100.0															
A	DO	CU	9	5	100.0															
A	DO	CU	10	9	100.0															
A	DO	CU	14	5	100.0															
A	DO	CU	16	8	100.0															
A	DO	1S	10	22		22	1.9					6		4	12					
A	DO	1S	16	26	12.2	22	2.0								12		10			
A	DO	1S	20	12		12	1.1							12						
A	DO	1S	24	17		17	1.5					17								
A	DO	1S	30	82		81	7.2					45		25	12					
A	DO	1S	32	187		185	16.3					12	75	53	45					
A	DO	1S	40	110		110	9.7					49		44	17					
A	DO	2S	16	11	13.8	9	.8					9								
A	DO	2S	24	32		32	2.8					32								
A	DO	2S	26	4		4	.4			4										
A	DO	2S	30	38		38	3.4					28	10							
A	DO	2S	32	44		44	3.9				8	27	8							
A	DO	2S	36	14		14	1.2					14								
A	DO	2S	40	48	1.2	48	4.2					30	18							
A	DO	3S	8	3		3	.3				3									
A	DO	3S	16	2		2	.2				2									
A	DO	3S	18	2		2	.1			2										
A	DO	3S	20	7		7	.7			2	2		3							
A	DO	3S	26	11		11	1.0			2	9									
A	DO	3S	30	44	7.9	40	3.6			4	27		9							
A	DO	3S	32	63		63	5.6				26	37								
A	DO	3S	34	9		9	.8				9									
A	DO	3S	36	14		14	1.2				14									
A	DO	3S	38	16		16	1.4				16									
A	DO	3S	40	30		30	2.7				16	15								
A	DO	4S	10	1		1	.1			1										
A	DO	4S	16	52	9.4	48	4.2			42	5									

T07N R08W S27 TyTAKE	56.00
T07N R08W S27 TyRW	1.00
T07N R08W S27 TyTAKE	32.00

 Project: SLUICEDS
 Acres 89.00

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spce	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-21	22-29	30-39	40+
A		DO 4S	18	4		4	.4			4									
A		DO 4S	20	39		39	3.4			37	2								
A		DO 4S	24	5		5	.4			5									
A		DO 4S	26	10		10	.9			10									
A		DO 4S	28	5	10.0	5	.4			5									
A		DO 4S	30	23	14.2	19	1.7			19									
A		DO 4S	32	56	8.9	51	4.5			51									
A		DO 4S	36	36		36	3.2			36									
A		DO 4S	40	81		81	7.1			74	7								
A		Totals		1,221	7.1	1,134	60.3			298	146	207	238	138	97		10		
S		DO CU	2	1	100.0														
S		DO CU	3	1	100.0														
S		DO CU	6	4	100.0														
S		DO CU	8	0	100.0														
S		DO CU	12	8	100.0														
S		DO 2S	20	8		8	2.2							8			0		
S		DO 2S	30	20		20	5.4						11	9					
S		DO 2S	32	16	3.6	15	4.0						14	0	0		0		
S		DO 2S	40	71		71	19.1						0	15	53	1	1	0	
S		DO 3S	16	0		0	.0			0		0	0	0					
S		DO 3S	22	0		0	.0			0									
S		DO 3S	30	2		2	.4			0	2								
S		DO 3S	32	99	1.9	97	26.2			10	12	37	10	0	9		20		
S		DO 3S	33	0		0	.0			0									
S		DO 3S	36	0		0	.0				0								
S		DO 3S	38	5		5	1.5			5									
S		DO 3S	40	73		73	19.6			22	26	13	11	0	0	0			
S		DO 4S	16	17	10.9	15	4.0			7	8								
S		DO 4S	18	0		0	.0				0								
S		DO 4S	20	5		5	1.5			5									
S		DO 4S	22	2		2	.6						2						
S		DO 4S	24	9		9	2.4			9									
S		DO 4S	26	12		12	3.2			12									
S		DO 4S	28	10		10	2.6			10									
S		DO 4S	30	11		11	2.9			11									
S		DO 4S	32	16		16	4.3			10	6								

Log Stock Table - MBF

Page 3
 Date 9/23/2013
 Time 1:33:36PM

T07N R08W S27 TyTAKE 56.00
 T07N R08W S27 TyRW 1.00
 T07N R08W S27 TyTAKE 32.00

Project: SLUICEDS
 Acres 89.00

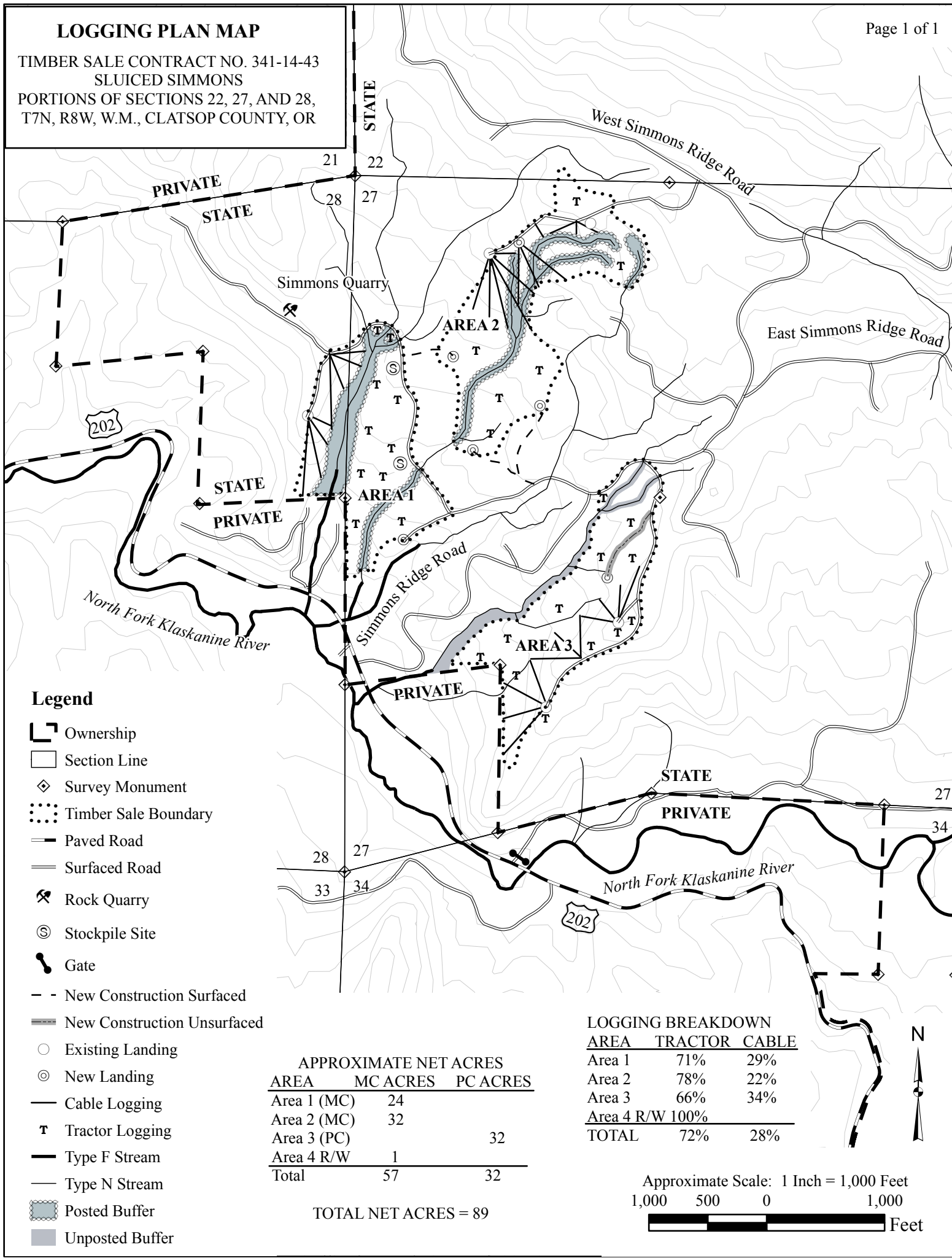
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-21	22-29	30-39	40+
S		Totals		389	4.7	371	19.7			101	54	50	48	32	63	2	21	0	
H		DO CU	3	2	100.0														
H		DO CU	4	2	100.0														
H		DO CU	6	0	100.0														
H		DO CU	10	0	100.0														
H		DO CU	15	3	100.0														
H		DO CU	40	8	100.0														
H		DO 2S	16	2	14.3	2	.8							2					
H		DO 2S	18	4	3.2	4	1.7									4			
H		DO 2S	30	10		10	4.6					10		0					
H		DO 2S	32	37	3.0	36	16.0					5		19	11	0			
H		DO 2S	40	84	1.6	82	36.4					33		14	7	0	29		
H		DO 3S	20	0		0	.0							0					
H		DO 3S	30	9		9	3.9			7	2								
H		DO 3S	32	18	3.0	18	7.8			5	2	8	2						
H		DO 3S	34	0		0	.0			0									
H		DO 3S	36	1		1	.5				1								
H		DO 3S	38	2		2	.8			2									
H		DO 3S	40	41	1.7	40	17.9			15	0	6	0		20				
H		DO 4S	12	0		0	.0					0							
H		DO 4S	16	15		15	6.6			14	1								
H		DO 4S	18	0		0	.2				0								
H		DO 4S	20	0		0	.0			0									
H		DO 4S	28	3		3	1.5			3									
H		DO 4S	32	3		3	1.2			3									
H		Totals		246	7.9	226	12.0			49	6	14	50	35	38	4	29		
D		DO CU	2	0	100.0														
D		DO CU	3	1	100.0														
D		DO CU	6	6	100.0														
D		DO CU	16	5	100.0														
D		DO 2S	24	11		11	7.4									11			
D		DO 2S	26	14		14	9.7								14				
D		DO 2S	32	8		8	5.6							7	0		1		
D		DO 2S	36	0		0	.0					0							
D		DO 2S	40	23		23	15.4					1			19	1	1		

TC PLOGSTVB			Log Stock Table - MBF																
T07N R08W S27 TyTAKE			56.00		Project: SLUICEDS												Page 4		
T07N R08W S27 TyRW			1.00		Acres 89.00												Date 9/23/2013		
T07N R08W S27 TyTAKE			32.00														Time 1:33:36PM		
S T Spp	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	20-21	22-29	30-39	40+
D	DO	3S	16	0		0	.0					0							
D	DO	3S	26	0		0	.0					0							
D	DO	3S	30	2		2	1.1				2								
D	DO	3S	32	41	4.5	39	26.2			5		34	0						
D	DO	3S	34	0	6.7	0	.0					0							
D	DO	3S	38	6		6	4.1			6									
D	DO	3S	40	37	1.1	37	24.7			7	4	17	8						
D	DO	4S	16	0		0	.1			0	0								
D	DO	4S	17	3		3	1.9			3									
D	DO	4S	20	0		0	.1			0									
D	DO	4S	21	2		2	1.1				2								
D	DO	4S	24	0		0	.0			0									
D	DO	4S	30	4		4	2.5			4									
D	Totals			162	8.6	148	7.9			24	7	51	9	7	34	12	2		
Total	All Species			2,018	6.8	1,880	100.0			472	213	322	346	213	232	18	63	0	

LOGGING PLAN MAP

TIMBER SALE CONTRACT NO. 341-14-43
SLUICED SIMMONS
PORTIONS OF SECTIONS 22, 27, AND 28,
T7N, R8W, W.M., CLATSOP COUNTY, OR

Page 1 of 1



Legend

- Ownership
- Section Line
- Survey Monument
- Timber Sale Boundary
- Paved Road
- Surfaced Road
- Rock Quarry
- Stockpile Site
- Gate
- New Construction Surfaced
- New Construction Unsurfaced
- Existing Landing
- New Landing
- Cable Logging
- Tractor Logging
- Type F Stream
- Type N Stream
- Posted Buffer
- Unposted Buffer

APPROXIMATE NET ACRES		
AREA	MC ACRES	PC ACRES
Area 1 (MC)	24	
Area 2 (MC)	32	
Area 3 (PC)		32
Area 4 R/W	1	
Total	57	32

TOTAL NET ACRES = 89

AREA	TRACTOR	CABLE
Area 1	71%	29%
Area 2	78%	22%
Area 3	66%	34%
Area 4 R/W	100%	
TOTAL	72%	28%

Approximate Scale: 1 Inch = 1,000 Feet
1,000 500 0 1,000 Feet