



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Saba Jabi
Sale AT-341-2021-W00565-01

District: Astoria

Date: February 09, 2021

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$7,288,440.29	\$50,587.54	\$7,339,027.83
		Project Work:	(\$299,844.00)
		Advertised Value:	\$7,039,183.83



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District: Astoria

Date: February 09, 2021

Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	27	0	97
Western Hemlock / Fir	21	0	95
Sitka Spruce	33	0	95
Alder (Red)	25	0	97

Volume by Grade	2S	3S & 4S 6"-11"	3S 12"+	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	9,661	1,190	137	0	0	0	10,988
Western Hemlock / Fir	3,492	1,057	23	0	0	0	4,572
Sitka Spruce	44	3	0	0	0	0	47
Alder (Red)	0	0	0	30	112	4	146
Total	13,197	2,250	160	30	112	4	15,753

Comments: Pond Values Used: Local Pond Values, February, 2021.

Expected Log Markets: Mist, Willamina, Banks, North Plains, Clatskanie, Tillamook, Wauna, Forest Grove, Warrenton, Eugene, Monroe, Noti, Longview, WA, Elma, WA, Chehalis, WA, and Vancouver, WA.

PRICING:

Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.
\$880.73/MBF = \$1,159/MBF - \$278.27/MBF

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

Machine Washing for Invasive Weed Compliance = \$2,000

Ditch Filters:

bales of straw 20@\$12.06/bale = \$241.20

8 hours of labor @ \$45/hr = \$360

Waterbar and block on unsurfaced portion of 2E-2F road with log loader = 3hrs @ \$145/hr = \$435

TOTAL Other Costs (with Profit & Risk to be added): \$3,036.20

Other Costs (No Profit & Risk added):

None.

SLASH PILING

(See attached appraisal. Includes move-in, pile materials, and end-hauling) = \$30,829.00

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$21,194/15,753 MBF = \$1.35/MBF



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Logging Conditions

Combination#: 1

Douglas - Fir	69.00%
Western Hemlock / Fir	69.00%
Sitka Spruce	69.00%
Alder (Red)	69.00%

Logging System: Shovel **Process:** Manual Falling/Delimbing

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 8 **bd. ft / load:** 4300

cost / mbf: \$114.46

machines: Shovel Logger

Combination#: 2

Douglas - Fir	31.00%
Western Hemlock / Fir	31.00%
Sitka Spruce	31.00%
Alder (Red)	31.00%

Logging System: Cable: Large Tower >=70 **Process:** Manual Falling/Delimbing

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 9 **bd. ft / load:** 4300

cost / mbf: \$175.71

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



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Logging Costs

Operating Seasons: 3.00

Profit Risk: 11%

Project Costs: \$299,844.00

Other Costs (P/R): \$3,036.20

Slash Disposal: \$30,829.00

Other Costs: \$0.00

Miles of Road

Road Maintenance: \$1.35

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.4
Western Hemlock / Fir	\$0.00	2.0	4.3
Sitka Spruce	\$0.00	1.0	5.0
Alder (Red)	\$0.00	2.0	3.8



"STEWARDSHIP IN FORESTRY"

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Date: February 09, 2021

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$133.45	\$1.39	\$0.84	\$111.19	\$0.19	\$27.18	\$1.96	\$2.00	\$0.00	\$278.20
Western Hemlock / Fir									
\$133.45	\$1.42	\$0.84	\$115.99	\$0.19	\$27.71	\$1.96	\$2.00	\$0.00	\$283.56
Sitka Spruce									
\$133.45	\$1.42	\$0.84	\$199.50	\$0.19	\$36.89	\$1.96	\$2.00	\$0.00	\$376.25
Alder (Red)									
\$133.45	\$1.39	\$0.84	\$128.75	\$0.19	\$29.11	\$1.96	\$2.00	\$0.00	\$297.69

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$808.94	\$530.74	\$0.00
Western Hemlock / Fir	\$0.00	\$600.85	\$317.29	\$0.00
Sitka Spruce	\$0.00	\$504.32	\$128.07	\$0.00
Alder (Red)	\$0.00	\$644.18	\$346.49	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Saba Jabi
Sale AT-341-2021-W00565-01

District: Astoria

Date: February 09, 2021

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	10,988	\$530.74	\$5,831,771.12
Western Hemlock / Fir	4,572	\$317.29	\$1,450,649.88
Sitka Spruce	47	\$128.07	\$6,019.29
Alder (Red)	146	\$346.49	\$50,587.54

Gross Timber Sale Value

Recovery: \$7,339,027.83

Prepared By: John Czarnecki

Phone: 503-338-1372

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Saba Jabi
Date: February 2, 2021
By: John Czarnecki

MBF: 15,753.00
\$/MBF: \$1.35

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations	Grader 14G	\$875	1	8	\$113	\$1,779
	Vibratory Roller	\$875	1	8	\$87	\$1,571
	Dump Truck 12CY	\$184	1	4	\$89	\$540
	Rubber Tired Backhoe	\$361	1	4	\$87	\$709
Interim Operations	Grader 14G	\$875	1	8	\$113	\$1,779
Final Road Maintenance	Grader 14G	\$875	1	32	\$113	\$4,491
	Dump Truck 12CY	\$184	2	16	\$89	\$1,792
	FE Loader C966	\$875	1	8	\$94	\$1,627
	Vibratory Roller	\$875	1	32	\$87	\$3,659
	Water Truck 2,500 gallon	\$214	1	16	\$101	\$1,830
	Rubber Tired Backhoe	\$361	1	8	\$87	\$1,057
	Labor			8	\$45	\$360
Total						\$21,194

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	4.9	2.0	16

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	4.9	3.3	26
Vibratory Roller	1.5	4.9	3.3	26

Process and compact: All crushed rock roads

Ebsen Road: 3.2 miles

Sarajarvie Ridge Road: 0.5 miles

Tidewater Loop Road: 0.8 miles

Unnamed Spurs: 0.43 miles

Grade & Process Total = 4.93 Miles

Site Prep Appraisal

Sale Number: AT-341-2021-W00565-01

Sale Name: Saba Jabi

Date: 02/02/2021

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre	Landing Production Rate (hrs/30 acres)
Doug-fir	A	0.5	0.5	6
Hemlock/Fir	B	1.3	4.5	8
Hemlock/Spruce	C	1.8	6.0	10
Hemlock	D	1.8	6.0	8
Conifer/Hardwood	E	1.0	2.0	8
Whole Tree Yarding	F	0.5	0.5	12

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	B	59	77	\$145.00	\$11,121.50
2	MC	B	70	91	\$145.00	\$13,195.00
In-unit Piling						Sub Total = \$24,316.50
Sale Area	Number of Landings to be Piled	# cable acres per area	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area
1		21	\$812.00	265.5	\$5.00	\$1,327.50
2		39	\$1,508.00	315	\$5.00	\$1,575.00
*Cost includes separating firewood						Sub Total = \$2,902.50
Additional Move-in allowance						Sub Total = \$2,320.00
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
Slash Endhaul						
Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total	
	\$89.00	\$0.00		\$145.00	\$0.00	
						Sub Total = \$0.00
						Grand Total = \$30,829.00

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Saba Jabi

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
Surfaced			
1A to 1B, 2A to 2B, 2C to 2D, and 2E to 2F (0+00 to 3+00)	22.90	0.43	\$20,726.98
Unsurfaced			
2E to 2F (3+00 to 8+55)	5.55	0.11	\$1,979.75
Road Maint.			\$292.00
Move-In			\$1,290.00
TOTALS	28.45	0.54	\$24,289

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
I1 to I2, I3 to I4, and I5 to I6	306.80	5.81	\$99,654.81
Road Maint.			\$1,278.00
Move-In			\$5,661.00
TOTALS	306.80	5.81	\$106,594

SPECIAL PROJECTS (Move-In and Road Maint. are included separately as needed, for each Special Project):

<u>Description</u>	<u>Length/Vol.</u>	<u>Cost</u>
Proj. 4 Rock Crushing	10,611cy	\$168,961.00
TOTAL		\$168,961

GRAND TOTAL **\$299,844**

Compiled By: Cole Hatcher

Date: 02/11/2021

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: Saba Jabi

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
<u>Surfaced</u>			
1A to 1B, 2A to 2B, 2C to 2D, and 2E to 2F (0+00 to 3+00)	<u>22.90</u>	<u>0.43</u>	<u>20,726.98</u>
<u>Unsurfaced</u>			
2E to 2F (3+00 to 8+55)	<u>5.55</u>	<u>0.11</u>	<u>\$1,979.75</u>
TOTALS	28.45	0.54	\$22,707

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
<u>I1 to I2, I3 to I4, and I5 to I6</u>	<u>306.80</u>	<u>5.81</u>	<u>\$99,654.81</u>
TOTALS	306.80	5.81	\$99,655

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
14G Grader		<u>\$875.00</u>
C315 Excavator		<u>\$905.00</u>
C330 Excavator		<u>\$1,581.00</u>
10-12cy Highway Dump Truck (x5)		<u>\$920.00</u>
Water Truck (2,500 gal)		<u>\$214.00</u>
Vibratory Roller		<u>\$875.00</u>
D8 Dozer		<u>\$1,581.00</u>
TOTAL		\$6,951.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Final Project Road Maintenance	<u>0.69</u>	<u>\$1,570.00</u>
TOTAL		\$1,570.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Saba Jabi
ROAD: 1A to 1B (Sta. 3.0), 2A to 2B (Sta. 9.0), 2C to 2D (Sta. 7.9), and 2E to 2F (Sta. 8.55)

NEW CONSTRUCTION: 28.45 STATIONS
IMPROVEMENT: STATIONS

0.54 MILES
0.00 MILES

CLEARING & GRUBBING		Method	Acres/amount	X	Rate	=	Cost
Surfaced 1A to B, 2A to 2B, 2C to 2D, and 2E to 2F (0+00 to 3+00)							
		Scatter outside of right of way	1.84	X	\$1,503.00	=	\$2,765.51
Unsurfaced 2E to 2F (3+00 to 8+55)		Scatter outside of right of way	0.38	X	\$1,503.00	=	\$574.49
SUB TOTAL FOR CLEARING & GRUBBING					\$1,778.39		\$3,340

EXCAVATION		Material	Cy/amount	X	Rate	=	Cost
1A to 1B 0+00 to 3+00		Balanced construction (\$/sta.)	3.00	X	\$138.00	=	\$414.00
		Landing construction (\$/ldg)	1	X	\$438.00	=	\$438.00
2A to 2B 0+00 to 9+00		Balanced construction (\$/sta.)	9.00	X	\$138.00	=	\$1,242.00
		Landing construction (\$/ldg)	1	X	\$438.00	=	\$438.00
2C to 2D 0+00 to 7+90		Common drift ($\leq$ 50% slopes)	797	X	\$2.02	=	\$1,609.94
		Embankment compaction	554	X	\$0.79	=	\$437.66
2E to 2F 0+00 to 8+55		Balanced construction (\$/sta.)	8.55	X	\$138.00	=	\$1,179.90
		Landing construction (\$/ldg)	1	X	\$438.00	=	\$438.00
SUB TOTAL FOR EXCAVATION							\$6,198

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
1A to 1B									
0+00	18" CPP	30	\$21.95	\$658.50					
2A to 2B									
0+00	18" CPP	30	\$21.95	\$658.50					
7+00	18" CPP	30	\$21.95	\$658.50					
2C to 2D									
4+45	18" CPP	40	\$21.95	\$878.00					
Other/miscellaneous:					Description	Quantity	Rate	Cost	
Culvert stakes & markers:					Install 6' X 2.5" white fiberglass (Carsonite) posts	4	\$23.00	\$92.00	
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION									
\$2,946									

SURFACING

Subgrade prep:
1A to 1B, 2A to
2B, 2C to 2D, and
2E to 2F (0+00 to
3+00)
All road segments
2E to 2F (3+00 to
8+55)

Description

Grade, Shape and Ditch 16'
Subgrade Compaction
Grade, Shape and Outslope 14'

Stations/ amount	x	Rate/ sta/amt	Cost
22.90	x	\$27.91	\$639.14
28.45	x	\$22.69	\$645.53
5.55	x	\$36.28	\$201.35

ROAD SEGMENT		1A to 1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B Volume (CY) per		0+00 to 3+00 Number of				
Base Rock	4"-0" crushed	0+00 to 3+00	10	station	63	stations	3.00	189	\$3.79	\$716
Landings	6"-0" pit-run	3+00	N/A	landing	88	landings	1	88	\$4.12	\$363
Total Rock for Road Segment:		1A to 1B						277		\$1,079

ROAD SEGMENT		2A to 2B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A to 2B Volume (CY) per		0+00 to 9+00 Number of				
Base Rock	4"-0" crushed	0+00 to 9+00	10	station	63	stations	9.00	567	\$3.79	\$2,149
Turnaround	4"-0" crushed	5+50	10	turnaround	33	turnarounds	1	33	\$3.79	\$125
Landings	6"-0" pit-run	9+00	N/A	landing	88	landings	1	88	\$4.12	\$363
Total Rock for Road Segment:		2A to 2B						688		\$2,637

ROAD SEGMENT		2C to 2D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2D Volume (CY) per		0+00 to 7+90 Number of				
Base Rock	4"-0" crushed	0+00 to 7+90	10	station	63	stations	7.90	498	\$3.79	\$1,887
		3+00 to 4+45, and 6+20 to								
Traction Rock	1 1/2"-0" crushed	7+20	2	station	13	stations	3.85	51	\$5.27	\$269
Turnouts	4"-0" crushed	5+00	10	turnout	22	turnouts	1	22	\$3.79	\$83
Turnaround	4"-0" crushed	6+30	10	turnaround	33	turnarounds	1	33	\$3.79	\$125
Landings	6"-0" pit-run	7+90	N/A	landing	77	landings	1	88	\$4.12	\$363
Total Rock for Road Segment:		2C to 2D						692		\$2,727

ROAD SEGMENT		2E to 2F		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	station	0+00 to 8+55 Number of	turnarounds			
Base Rock	4"-0" crushed	0+00 to 3+00	10	63	station	3.00		189	\$3.79	\$716
Turnaround	4"-0" crushed	3+00	10	33	turnaround	1		33	\$3.79	\$125
Total Rock for Road Segment:								222		\$841
				Processing:		Description		No.sta	Rate/sta	Cost
						Water, Process & Compact Base Rock (4"-0"):		22.90	\$63.48	\$1,453.69
SUB TOTAL FOR SURFACING						6"-0"pr crushed	264			
						4"-0" crushed	1,564			
						1 1/2"-0" crushed	51		Total	1,879
										\$10,224

Subtotal of Surfacing & Spec. Proj. \$10,224
Subtotal of Clearing, Exc., Culv. \$12,483

GRAND TOTAL \$22,707

Compiled By: Cole H. Date: 02/08/2021

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Saba Jabi	NEW CONSTRUCTION: 306.80 STATIONS	5.81 MILES
ROAD: 11 to 12 (Sta. 252.25), 13 to 14 (Sta. 45.85), and 15 to 16 (Sta. 8.7)	IMPROVEMENT:	0.00 MILES

CLEARING & GRUBBING				
Method	Acres/amount	x	Rate	Cost
11 to 12 165+00, 200+30, and 213+50	0.5	x	\$1,503.00	\$751.50
SUB TOTAL FOR CLEARING & GRUBBING				\$752

EXCAVATION				
Material	Cy/amount	x	Rate	Cost
11 to 12				
111+25 See Fill Reconstruction Cost Estimate Sheet		=		\$1,645.22
116+30 See Fill Reconstruction Cost Estimate Sheet		=		\$1,802.90
166+55 See Fill Reconstruction Cost Estimate Sheet		=		\$6,682.97
176+40 See Fill Reconstruction Cost Estimate Sheet		=		\$12,016.65
194+90 See Fill Reconstruction Cost Estimate Sheet		=		\$1,667.72
122+25, 137+20, 146+50, 194+30, and 194+50	5	x	\$114.00	\$570.00
136+45 Clean rock ditch filter w/ C315 (\$/hr)	1	x	\$114.00	\$114.00
137+40, 138+00 Instal culvert dissipator (\$/dissipator)	2	x	\$203.00	\$406.00
165+00, 200+30, and 213+50	3	x	\$438.00	\$1,314.00
Landing construction (\$/ldg)				
3' of road surface widening and reinforcement with C330 (\$/hr)	6	x	\$175.00	\$1,050.00
244+30 to 248+75				
13 to 14				
33+10 Install rock ditch filter w/ C315 (\$/hr)	1	x	\$114.00	\$114.00
15 to 16				
4+50 Construct turnaround w/ C315 (\$/hr)	2	x	\$114.00	\$228.00
SUB TOTAL FOR EXCAVATION				\$27,611

[illegible]

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)	Volume (CY) per	13 to 14	0+00 to 45+85	Number of			
Surfacing	1 1/2"-0" crushed	0+00 to 33+10	3	station	19	stations	33.1	629	\$3.79	\$2,384
		2+65, 5+00, 16+65, 22+40, and 29+60								
Turnouts	1 1/2"-0" crushed	12+40, 22+00, and 25+50	3	turnout	11	turnouts	5	55	\$3.79	\$208
Junctions	1 1/2"-0" crushed		3	junction	11	junctions	3	33	\$3.79	\$125
Rock Ditch Fillers	6"-4" pit-run	33+10	N/A	3 filter series	11	3 filter series	1	11	\$4.12	\$45
Total Rock for Road Segment:								728		\$379
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)	Volume (CY) per	15 to 16	0+00 to 8+70	Number of			
Surfacing	4"-0" crushed	0+00 to 8+70	4	station	25	stations	8.7	218	\$3.79	\$826
Turnaround	4"-0" crushed	4+50	4	turnaround	33	turnaround	1	33	\$3.79	\$125
Total Rock for Road Segment:								251		\$826
Processing:										
				Description			No. sta	Rate/sta	Cost	
				Water, Process & Compact:			306.80	\$63.48	\$19,476	
				24"-12" rr	12"-6" rr	24"-6" rr	6"-0" pr	6"-4" pr	1 1/2"-0" crushed	2"-1" drainrock
				627			415	427	5,208	
SUB TOTAL FOR SURFACING									33	6,776
										\$58,483
GRAND TOTAL							Subtotal of Surfacing & Spec. Proj.			
							\$58,483			
							Subtotal of Clearing, Exc., Culv.			
							\$41,172			
							\$99,655			
Compiled By: Cole H.							Date: 02/08/2021			

Projects Road Maintenance Cost Summary

Sale: Saba Jabi
Date: 08-Feb-21
By: Cole H.

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work	Grader 14G			4	\$113	\$452
Final Haul	Dump Truck 12CY			2	\$89	\$178
Road	FE Loader C966			2	\$94	\$188
Maintenance	Vibratory Roller			4	\$87	\$348
	Water Truck 2,500 gallon			4	\$101	\$404
Total						\$1,570

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	0.69	0.5
1.5	0.69	0.5

NOTE: Ebsen Road 0.69 Miles

(Ebsen and Tidewater Loop Junction to Tidewater Loop Stockpile Site.)

TOTAL= 0.69 Miles

Fill Reconstruction Cost Estimate

Segment: 11 to 12 Station: 111+25
 Fill: 1 Height: 9

Materials	Quantity		\$	Total
18"x45', CPP*	45		\$12.06	\$542.70
24"-6" Riprap Dissipator*	11	cy	\$3.53	\$38.83
		cy		
1 1/2"-0" Crushed Rock for Bedding/Backfill*	44	cy	\$4.27	\$187.88
4"-0" Crushed Rock for Road*	22	cy	\$4.27	\$93.94

\$863.35

*Rock volume costs are accounted for in the rock tables.

*Culvert costs are accounted for in the culvert tables.

Excavation	Rate		CY/amount	Total
End-Haul excavation \$/cy				
Excavate Fill	\$2.57		165	\$424.05
Backfill from barrow site	\$2.57		121	\$310.97
Compaction			165	
Backfill (barrow & crushed rock)	\$0.79		165	\$130.35
Waste material compaction	\$0.45		165	\$74.25
Miscellaneous				
Site prep @ Fill & Barrow Site, w/330, \$/hr	\$175.00		1	\$175.00
Clear\Grub Stumps @ Fill, w/330, \$/hr	\$175.00		2	\$350.00
Dissipator Placement w/330, \$/hr	\$175.00		0.5	\$87.50
Laborer \$/hr	\$45.00		0.5	\$22.50
Erosion Control	0.1	ac	\$706.00	\$70.60
Mulch and seed				

\$1,645.22

Project Total \$2,509

Fill Reconstruction Cost Estimate

Segment: I1 to I2 Station: 116+30
 Fill: 2 Height: 8

Materials	Quantity		\$	Total
18"x45', CPP*	45		\$12.06	\$542.70
1 1/2"-0" Crushed Rock for Bedding/Backfill*	44	cy	\$4.27	\$187.88
4"-0" Crushed Rock for Road*	22	cy	\$4.27	\$93.94

*Rock volume costs are accounted for in the rock tables.

*Culvert costs are accounted for in the culvert tables.

\$824.52

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$2.57	176	\$452.32
Backfill from barrow site	\$2.57	132	\$339.24
Compaction			
Backfill (barrow & crushed rock)	\$0.79	176	\$139.04
Waste material compaction	\$0.45	176	\$79.20
Miscellaneous			
Site prep @ Fill & Barrow Site, w/330, \$/hr	\$175.00	1	\$175.00
Clear/Grub Stumps @ Fill, w/330, \$/hr	\$175.00	2	\$350.00
Dissipator Placement w/330, \$/hr	\$175.00	1	\$175.00
Laborer \$/hr	\$45.00	0.5	\$22.50
Erosion Control	0.1	ac	\$706.00
Mulch and seed			

\$1,802.90

Project Total	\$2,627
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Fill Reconstruction Cost Estimate

Segment: 11 to 12 Station: 166+55
 Fill: 3 Height: 14

Materials	Quantity		\$	Total
24"x70', ASCP 14GA*	70		\$29.42	\$2,059.40
24"-6" Riprap Dissipator*	33	cy	\$3.53	\$116.49
24"-6" Riprap Fill Armor*	198	cy	\$3.53	\$698.94
1 1/2"-0" Crushed Rock for Bedding/Backfill*	77	cy	\$4.27	\$328.79
4"-0" Crushed Rock for Road*	55	cy	\$4.27	\$234.85

*Rock volume costs are accounted for in the rock tables.

*Culvert costs are accounted for in the culvert tables.

\$3,438.47

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$2.57	627	\$1,611.39
Backfill from barrow site	\$2.57	550	\$1,413.50
Compaction			
Backfill (barrow & crushed rock)	\$0.79	627	\$495.33
Waste material compaction	\$0.45	627	\$282.15
Miscellaneous			
Site prep @ Fill & Barrow Site, w/330, \$/hr	\$175.00	4	\$700.00
Fill armor placement w/330, \$/hr	\$175.00	8	\$1,400.00
Dissipator Placement w/330, \$/hr	\$175.00	2	\$350.00
Laborer \$/hr	\$45.00	8	\$360.00
Erosion Control	0.1	ac	\$706.00
Mulch and seed			

\$6,682.97

Project Total \$10,121

Fill Reconstruction Cost Estimate

Segment: I1 to I2 Station: 176+40
 Fill: 4 Height: 15

Materials	Quantity		\$	Total
24"x75', ASCP 14GA*	75		\$29.42	\$2,206.50
24"-6" Riprap Dissipator*	33	cy	\$3.53	\$116.49
24"-6" Riprap Fill Armor*	242	cy	\$3.53	\$854.26
1 1/2"-0" Crushed Rock for Bedding/Backfill*	77	cy	\$4.27	\$328.79
4"-0" Crushed Rock for Road*	55	cy	\$4.27	\$234.85

*Rock volume costs are accounted for in the rock tables.

*Culvert costs are accounted for in the culvert tables.

\$3,740.89

Excavation	Rate		CY/amount	Total
End-Haul excavation \$/cy				
Excavate Fill	\$2.57		1463	\$3,759.91
Backfill from borrow site	\$2.57		1386	\$3,562.02
Compaction				
Backfill (borrow & crushed rock)	\$0.79		1463	\$1,155.77
Waste material compaction	\$0.45		1463	\$658.35
Miscellaneous				
Site prep @ Fill & Borrow Site, w/330, \$/hr	\$175.00		4	\$700.00
Fill armor placement w/330, \$/hr	\$175.00		8	\$1,400.00
Dissipator Placement w/330, \$/hr	\$175.00		2	\$350.00
Laborer \$/hr	\$45.00		8	\$360.00
Erosion Control	0.1	ac	\$706.00	\$70.60
Mulch and seed				

\$12,016.65

Project Total \$15,758

Fill Reconstruction Cost Estimate

Segment: I1 to I2 Station: 194+40
 Fill: 5 Height: 7

Materials	Quantity		\$	Total
24"x45', ASCP 14GA*	45		\$29.42	\$1,323.90
24"-6" Riprap Dissipator*	11	cy	\$3.53	\$38.83
24"-6" Riprap Fill Armor*	66	cy	\$3.53	\$232.98
1 1/2"-0" Crushed Rock for Bedding/Backfill*	44	cy	\$4.27	\$187.88
4"-0" Crushed Rock for Road*	22	cy	\$4.27	\$93.94

*Rock volume costs are accounted for in the rock tables.

*Culvert costs are accounted for in the culvert tables.

\$1,877.53

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$2.57	165	\$424.05
Backfill from barrow site	\$2.57	121	\$310.97
Compaction			
Backfill (barrow & crushed rock)	\$0.79	165	\$130.35
Waste material compaction	\$0.45	165	\$74.25
Miscellaneous			
Site prep @ Fill & Barrow Site, w/330, \$/hr	\$175.00	1	\$175.00
Fill armor placement w/330, \$/hr	\$175.00	2	\$350.00
Dissipator Placement w/330, \$/hr	\$175.00	0.5	\$87.50
Laborer \$/hr	\$45.00	1	\$45.00
Erosion Control	0.1	ac	\$706.00
Mulch and seed			

\$1,667.72

Project Total \$3,545

CRUSHED ROCK COST

SALE NAME: Saba Jabi

DATE: 02/08/2021

PROJECT: Project No.1 and 2
 QUARRY: Tidewater Loop No. 2

MATERIAL: 3/4"-0", 1 1/2"-0", and 4"0"

BY: Cole H.

[illegible]

ROCK HAUL:

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

Ave haul:	\$3.01	/cy
Load:		/cy
Spread:	\$0.78	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 1,050

CRUSHED ROCK HAUL COSTS 7,283 cy @ \$3.79 /cy

PIT RUN ROCK COST

SALE NAME:	Saba Jabi
PROJECT:	Project No.1 and 2
QUARRY:	Tidewater Loop No. 2

MATERIAL: Pit Run

DATE: 02/08/2021
BY: Cole H.

[illegible]

ROCK HAUL:

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

Ave haul:	\$2.86	/cy
Load:	\$0.48	/cy
Spread:	\$0.78	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 1,104

PIT RUN ROCK HAUL COSTS	745 cy @	\$4.12 /cy
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RIP RAP ROCK COST

SALE NAME:	Saba Jabi
PROJECT:	Project No. 1
QUARRY:	Tidewater Loop No. 2

MATERIAL: Rip Rap

DATE: 02/08/2021
BY: Cole H.

[illegible]

ROCK HAUL:

Truck type:	D12	No. trucks:	5
Delay min.:	6	Efficiency:	85%
Truck type:	D10	No. trucks:	
Delay min.:	5	Efficiency:	85%

Ave haul:	\$2.93	/cy
Load:	\$0.60	/cy
Develop:		/cy

Production: cy/day = 1,080

RIP RAP ROCK HAUL COSTS 627 cy @ \$3.53 /cy

WASTE COST

SALE NAME: Saba Jabi
PROJECT: Project No. 1
QUARRY: Tidewater Loop No. 2

MATERIAL: Waste

DATE: 02/08/2021
BY: Cole H.

[illegible]

ROCK HAUL:

Truck type:	D12	No. trucks:	
Delay min.:	6	Efficiency:	85%
Truck type:	D10	No. trucks:	3
Delay min.:	5	Efficiency:	85%

Ave haul:	\$2.08	/cy
Load:	\$0.48	/cy
Compaction		/cy

Production: cy/day = 909

WASTE HAUL COSTS

2,596 cy @ \$2.57 /cy

BORROW COST

SALE NAME:	Saba Jabi
PROJECT:	Project No. 1
QUARRY:	Tidewater Loop No. 2

MATERIAL: Borrow

DATE: 02/08/2021
BY: Cole H.

[illegible]

ROCK HAUL:

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

Ave haul:	\$2.06	/cy
Load:	\$0.48	/cy
Compaction		/cy

Truck type: D10 No. trucks: 3
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 922

BORROW HAUL COSTS

2,310 cy @ \$2.54 /cy

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. <u>3</u>	Contract Name: <u>Sabi Jabi</u>
Quarry: <u>Tidewater Loop No. 2</u>	Swell: _____
Location: <u>NE1/4, NE1/4, Section 21 T6N, R7W W.M.</u>	Shrink: <u>16%</u>
County: <u>Clatsop</u>	
By: <u>Kraig Kirkpatrick</u>	Loading Hopper: <u>Yes</u>
Date: <u>01/27/2021</u>	

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
1-1/2"-0"	5%	CR		7,259	7,259
4"-0"	5%	CR		1,991	1,991
6"-0"		PR		745	745
24"-6"		RR		627	627
TOTAL CUBIC YARDS OF ROCK:				10,622	10,622

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
Loading Hopper	1	\$622	\$622	Powder	1	\$395	\$395
Screening Plants	2	\$622	\$1,244	D8 Cat	1	\$1,581	\$1,581
2 Stage Crusher	1	\$2,445	\$2,445				
Drill & Compressor	1	\$1,581	\$1,581				
Off Highway Dump Truck	1	\$622	\$622				
Excavator	1	\$1,581	\$1,581				
Front End Loader	1	\$1,581	\$1,581				
D6 Cat	1	\$875	\$875				

SUB TOTAL FOR MOBILIZATION

\$12,527

EQUIPMENT SET UP	TIMES	RATE	COST
2 Stage Crusher	1	\$2,445	\$2,445
Screening Plants	2	\$330	\$660
Loading Hopper	1	\$330	\$330
Original Calibration	2	\$612	\$1,224

SUB TOTAL FOR SET UP COSTS

\$4,659

TOTAL MOBILIZATION & SET UP COSTS**\$17,186****2) CLEARING & GRUBBING**

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Clear, grub, and burn onsite	4.9	ac	\$3,038	\$14,886
Move-in Fire Truck	1.0	ea	\$190	\$190

TOTAL CLEARING & GRUBBING COSTS**\$15,076**

3) EXCAVATION

MATERIAL DESCRIPTION		QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load	Excavator	40	hr	\$175.00	\$7,000
haul, spread)	OR Truck	40	hr	\$143.00	\$5,720
	D8 Cat	20	hr	\$178.00	\$3,560

TOTAL EXCAVATION COSTS

\$16,280

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping	10%	1,062	\$3.40	\$3,611
crushed	9,250	87%	Drill & shoot	80%	8,868	\$3.50	\$31,037
pit run	745	7%	Oversize red	10%	1,000	\$5.80	\$5,797
rip rap	627	6%	Other				
Total	10,622						
reject	463	4.4%					

TOTAL ROCK DEVELOPMENT COSTS

\$40,445

5) CALIBRATION & TESTING

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

TOTAL CALIBRATION & TESTING COSTS

\$229

6) FEEDING & LOADING

DESCRIPTION		CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock		9,713	\$0.88	\$8,517
Shot Rock Handling	Excavator	80	\$175.00	\$14,000
Haul Shot Rock to Crusher	24 cy truck	80	\$143.00	\$11,440

TOTAL FEEDING & LOADING COSTS

\$33,957

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
1-1/2"-0"	crushed	7,259	3 stage w/s	110		
4"-0"	crushed	1,991	3 stage w/s	120	\$3.24	\$23,531
			2 stage w/s	140	\$2.48	\$4,935

TOTAL ROCK CRUSHING COSTS

\$28,466

8) STOCKPILING**STOCKPILE SITE PREPARATION**

Equipment	Hours	Rate	Total
Dozer	5	\$120.00	\$600.00
Compactor			
Grader			
Excavator			

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

\$600.00

SUB TOTAL

\$600

HAUL & STOCKPILE

STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. Tidewater Loop	11/2"-0"	4	2,000	\$3.97	\$7,940
2.					
3.					
4.					
5.					
6.					

SUB TOTAL

\$7,940

TOTAL STOCKPILING COSTS

\$8,540

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$1,748
\$3.78 /CY 463 CY	
Load, Haul, and Spread shot rock for quarry access (350 cy). \$/hr	
Excavator 8hrs x \$175\hr	\$1,400
Off Highway Dump 8hrs x \$143	\$1,144
D8 Dozer 8hrs x \$178	\$1,424
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	\$2,565
Seeding and mulching	\$500

TOTAL MISCELLANEOUS COSTS

\$8,781

10) GRAND TOTAL:

\$168,961

\$/Cubic Yard

\$18.27

Footnotes:

HAUL and STOCKPILE COST

SALE NAME: Sabi Jabi
 QUARRY: Tidewater Loop No. 2

ROCK TYPE: Crushed

Location 1. Tidewater l 11/2"-0"	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
					0.60	0.20	0.10
Truck type: <u>OHT</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u> Ave haul: \$3.07 /cy Load: \$0.00 /cy Stockpile: \$0.90 /cy Truck type: <u>D12</u> No. trucks: <u>4</u> Delay min.: <u>12</u> Efficiency: <u>75%</u> Production: cy/day = 929 Truck type: _____ No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
Location 1. Tidewater Loop			Haul and Stockpile Cost			\$3.97 /cy	

Location 2. 0	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
						0.20	0.10
Truck type: <u>OHT</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u> Ave haul: #DIV/0! /cy Load: \$0.00 /cy Stockpile: #N/A /cy Truck type: <u>D12</u> No. trucks: _____ Delay min.: <u>12</u> Efficiency: <u>75%</u> Production: cy/day = 0 Truck type: <u>D10</u> No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
Location 2. 0			Haul and Stockpile Cost			#DIV/0! /cy	

Location 3. 0	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
						0.20	0.10
Truck type: <u>OHT</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u> Ave haul: #DIV/0! /cy Load: \$0.00 /cy Stockpile: #N/A /cy Truck type: <u>D12</u> No. trucks: _____ Delay min.: <u>12</u> Efficiency: <u>75%</u> Production: cy/day = 0 Truck type: <u>D10</u> No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
Location 3. 0			Haul and Stockpile Cost			#DIV/0! /cy	

Saba Jabi
TIMBER CRUISE REPORT
FY 2021

1. **Sale Area Location:** Portions of Sections 21, 22, 27, 28, & 34 of T6N, R7W, W.M., Clatsop County, Oregon.
2. **Fund Distribution:** BOF 100% Tax Code: 8-01 (100%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	Non-Stocked	Reserve Tree Area	Net Acres	Survey Method
1	Modified Clearcut	107	23	4	-	1	80	GIS
2	Modified Clearcut	127	15	2	-	-	109	GIS
3*	Quarry ROW	5	-	-	2	-	3	GIS
3*	Road ROW	3	-	-	<1	-	2	GIS
TOTALS		242	38	6	2	1	194	

*The Quarry Right-Of-Way includes two acres of non-stocked alder clearing and the Road Right-Of-Way includes a non-stocked spur reconstruction (2A to 2B, less than one acre).

4. Cruisers and Cruise Dates:

The cruise was conducted in January of 2021 by Justin Bush, John Czarnecki, Avery Petersen, Kevin Berry, and Ryan Simpson.

5. Cruise Method and Computation:

Units 1, 2, & 3: Units 1, 2, & 3 were variable plot cruised with a 62.50 BAF. A total of 62 plots were sampled on a 4.5 by 8 chain spacing with a grade to count ratio of 1:1, resulting in 30 grade plots and 32 count plots. The reported number of grade plots vary from those indicated in the SuperAce reports due to recording minor species on two count plots.

Data was collected on Allegro 2 data collectors and downloaded to the Atterbury SuperACE 2008 program for compilation. See the attached Cruise Designs for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
1, 2, & 3	SABAJ	U123	00MC	194

6. Timber Description:

Units 1 and 2 are modified clearcut units with an average age of 84 years. Small portions of these stands were previously thinned in the mid 1970's and late 1990's. The stands consist of Douglas-fir, western hemlock, and minor components of red alder, Sitka spruce, and western redcedar. The average take Douglas-fir is approximately 27 inches DBH and 111 feet to a merchantable top. The average take western hemlock is approximately 21 inches DBH and 93 feet to a merchantable top. The average take red alder is approximately 25 inches DBH and 80 feet to a merchantable top. The average take Sitka spruce is 33 inches DBH and 107 feet to a merchantable top. Average net volume to be harvested per acre is 81 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 3 (R/W) was cruised with Units 1 and 2. The portion of Unit 3 associated with expanding the quarry includes approximately three acres of an 82 year-old stand of Douglas-fir and western hemlock and two acres of mostly non-merchantable alder. The two acres of alder were considered non-stocked and were not included in the cruise.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, & 3	30.0%	8.0%	39.3%	5.0%

8. Volumes by Species and Log Grade:

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Conifer

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	27"	10,988*	9,661	1,217	110	8.1%	70%
Western hemlock	21"	4,572*	3,492	1,045	35	8.7%	29%
Sitka spruce	33"	47	44	3	-	1.3%	<1%
TOTALS	-	15,607	13,197	2,265	145	-	-

*The reported volumes for Douglas-fir and western hemlock were generated after a 7% defect deduction was applied to account for hidden defect not identified during the cruise.

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	25"	146	112	30	-	4	1.3%	1%
TOTALS	--	146	112	30	-	4	--	--

TOTAL VOLUME	15,753 MBF
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9. Approvals:

Prepared by: Justin Bush
Unit Forester Approval: /s/ John Tillotson

Date: 2/02/2021
Date: 2/22/2021

10. **Attachments:** Cruise Design and Maps (4 pages)
Volume Reports (1 page)
Statistics Reports (3 pages)
Stand Table Summary (2 pages)
Log Stock Table (2 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Saba Jabi **Units** 1, 2, & 3 (R/W)

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 194 **Estimated CV%** 30 Net BF/Acre **SE% Objective** 8% Net BF/Acre

Planned Sale Volume : 9,900 MBF **Estimated Sale Area Value/Acre:** \$21,500/Acre

A. Cruise Goals: (a) Grade minimum 100 conifer trees.
(b) Sample 62 cruise plots (30 grade/ 32 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 62.50 (Full point)
Cruise Line Direction: Unit 1: 302°/122°, Unit 2: 139°/319°, Unit 3: 1°, 181°
Cruise Line Spacing 8 (chains) 528 (Feet)
Cruise Plot Spacing 4.5 (chains) 297 (Feet)
Grade/Count Ratio 1:1

Take plots as marked on cruise map.

Grade minor species (true fir, spruce, cedar, maple, etc.) on count plots if encountered.

DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.

DO NOT: record snags < 12" DBH or record snag measurements on count plots.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 20" dbh and 40% of dob @ FP for conifer trees > 20" 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. Hardwoods shall be recorded in 8’ and 10’ multiples.

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); SN (Snag). For “leave trees”, add an “L” to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code “1” (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
Hardwoods: Alder Grades: 12” + = 1 Sawmill; 10”-12” = 2 Sawmill; 10”-8” = 3 Sawmill; and 8”-6” 4 Sawmill, or R = Camp Run; 0 = Cull.
All Maple Camp Run = R

Grade oversized 3-SAW (DIB $\geq$ 12”, knots $> 2\frac{1}{2}$ ” inside scaling cylinder affecting $> 50\%$ of log)

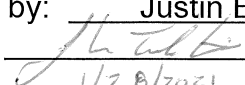
7. **Deductions:** Estimate visible defect or damage as a “length deduction” (most often), or as a “diameter deduction,” as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a “per tree” basis. Steep and broken topography generally 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), Compass, Allegro II 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: Justin Bush

Approved by: 

Date: 1/28/2021

TIMBER CRUISE

OF TIMBER SALE CONTRACT

NO. AT-341-2021-W00565-01

SABA JABI

PORTIONS OF SECTIONS 21, 22, 27, 28, & 34

OF T6N, R7W, W.M.,

CLATSOP COUNTY, OREGON

BAF = 62.5

Unit 1 AZ = 302°/122°

Unit 2 AZ = 139°/319°

Unit 3 AZ = 1°/181°

Line Spacing = 8 Chains (528 ft.)

Plot Spacing = 4.5 Chains (297 ft.)

Approximate Net Acres = 194

Grade to Count Ratio = 1:1

Grade Plots = 30

Count Plots = 32

Total Plots = 62

1 in = 500 feet

0 250 500 1,000 Feet



21

22

27

Unit 3 (R/W)

JB02

JB01

Line 13

Tidewater Loop Road

Unit 1

JB03

JB04

JB05

KB02

KB01

JB06

AP04

AP05

AP06

AP07

AP08

Line 10

Line 9

Line 8

Line 12

Line 11

Ebsen Road

Legend

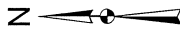
- ***** Timber Sale Boundary
- ===== Non-posted Timber Sale Boundary
- ▨ Reserve Tree Area
- Type F Stream
- Type N Stream
- Non-posted Stream Buffer
- Posted Stream Buffer
- Cruise Line
- Count Plot
- Grade Plot

TIMBER CRUISE

OF TIMBER SALE CONTRACT
NO. AT-341-2021-W00565-01
SABA JABI
PORTIONS OF SECTIONS 21, 22, 27, 28, & 34
OF T6N, R7W, W.M.,
CLATSOP COUNTY, OREGON

BAF = 62.5
Unit 1 AZ = 302°/122°
Unit 2 AZ = 139°/319°
Unit 3 AZ = 1°/181°
Line Spacing = 8 Chains (528 ft.)
Plot Spacing = 4.5 Chains (297 ft.)

Approximate Net Acres = 194
Grade to Count Ratio = 1:1
Grade Plots = 30
Count Plots = 32
Total Plots = 62

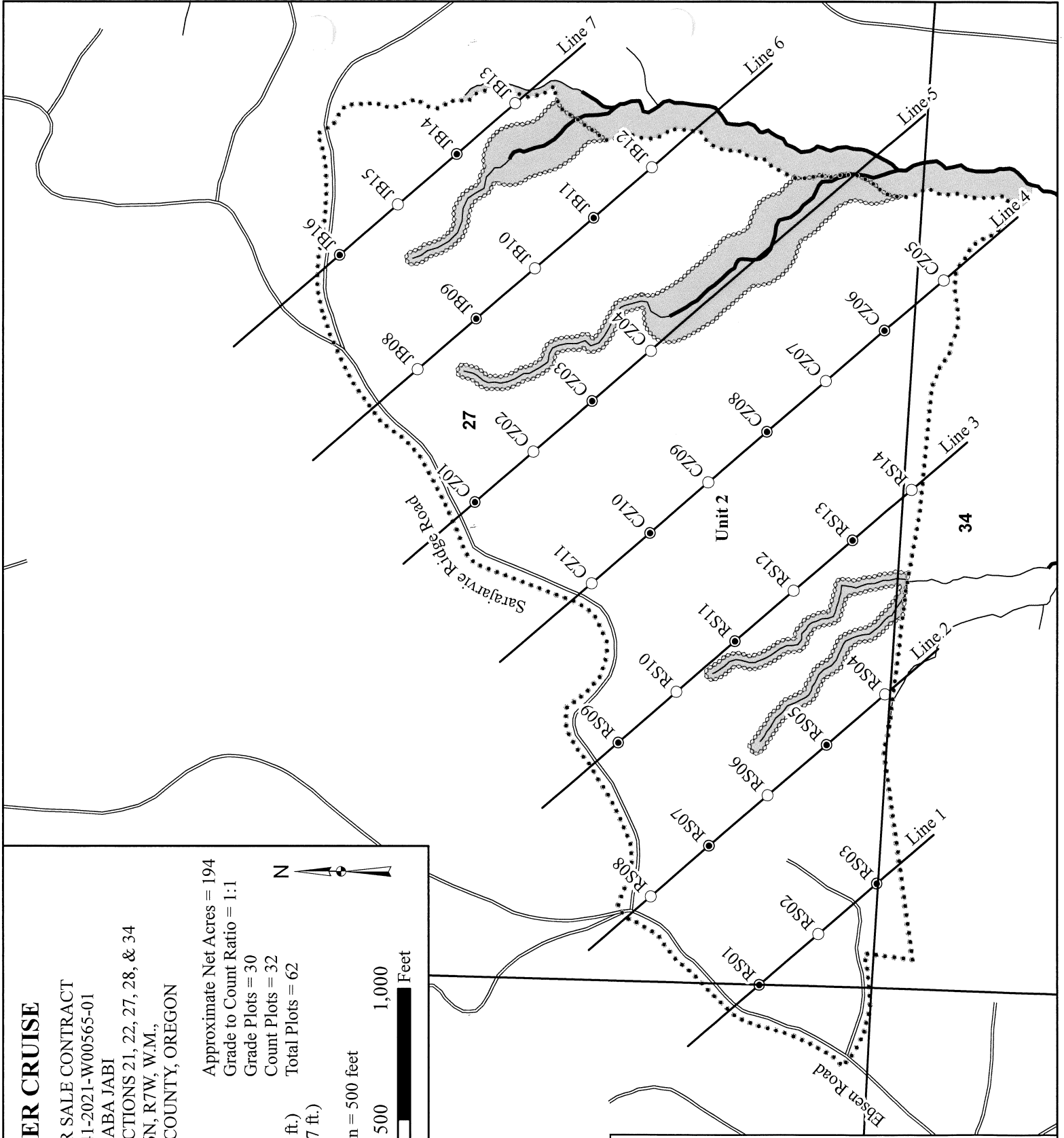


1 in = 500 feet



Legend

- ***** Timber Sale Boundary
- ===== Non-posted Timber Sale Boundary
- ===== Reserve Tree Area
- ===== Surfaced Road
- ===== Unsurfaced Road
- Type F Stream
- Type N Stream
- Non-posted Stream Buffer
- Post Stream Buffer
- Cruise Line
- Count Plot
- Grade Plot



T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page 1								
Project: SABAJ														Date	2/25/2021							
														Time	8:52:27AM							
T06N R07W S27 T00MC										T06N R07W S27 T00MC												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
06N	07W	27	U123_TAKE	00MC	194.00	62	182	1	W													
S So Gr T rt ad Spp			% 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	Dia	Bd	CF/ Lf					
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft				
D	DO	CU														12	18		0.00	1.9		
D	DO	2S	87	8.1	54,167	49,801	9,661			25	75	1	2	2	95	39	18	489	2.75	101.7		
D	DO	3S	12	8.4	6,853	6,275	1,217			83	12	5	8	11	19	62	33	10	105	0.97		
D	DO	4S	1	7.0	608	565	110	2	98				68	29	2		20	7	28	0.50		
D Totals			70	8.1	61,627	56,642	10,988	0	10	23	67	2	4	4	90	35	14	308	2.04	183.9		
H	DO	CU														19	17		0.00	4.6		
H	DO	2S	76	9.1	19,798	18,000	3,492			47	53	4	5	5	87	38	16	363	2.19	49.6		
H	DO	3S	23	7.6	5,833	5,389	1,045			95	3	2	7	8	10	75	34	8	87	0.77		
H	DO	4S	1	7.0	197	183	35	100					84	16			19	7	25	0.49		
H Totals			29	8.7	25,828	23,572	4,572	4,573	23	37	40	5	6	6	83	34	12	191	1.38	123.7		
A	DO	CU														14	14		0.00	1.9		
A	DO	1S	76		578	578	112			25	75				100	38	16	380	2.34	1.5		
A	DO	2S	20	5.9	164	154	30	100							100	38	11	160	1.42	1.0		
A	DO	4S	4		23	23	4	100				100				16	7	30	0.63	.8		
A Totals			1	1.3	765	755	146	23	19	57		3			97	26	13	146	1.46	5.2		
S	DO	2S	94	4.3	238	227	44			100					100	40	20	670	3.70	.3		
S	DO	3S	6	11.1	15	14	3	100					100			24	10	80	1.17	.2		
S Totals			0	4.7	253	241	47	6	94			6		94		35	17	473	3.12	.5		
Type Totals					8.2	88,472	81,210	15,755	15,755	0	14	27	59	3	4	4	88	34	13	259	1.77	313.3

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT	SABAJ	DATE 2/25/2021				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	07W	27	U123 TAKE	00MC	194.00	62	350	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	62	350	5.6							
CRUISE	31	182	5.9		21,014		.9			
DBH COUNT										
REFOREST										
COUNT	31	164	5.3							
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	119	59.1	26.7	111	44.3	228.8	61,627	56,642	12,929	12,929
WHEMLOCK	60	47.4	21.3	93	25.3	116.9	25,828	23,572	5,844	5,844
R ALDER	2	1.7	25.4	80	1.2	6.0	765	755	195	195
S SPRUCE	1	.2	33.0	107	0.2	1.0	253	241	55	55
TOTAL	182	108.3	24.4	102	71.4	352.8	88,472	81,210	19,023	19,023
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	59.6	5.5	1,228	1,299	1,370					
WHEMLOCK	65.0	8.4	658	719	779					
R ALDER	93.8	87.8	58	475	892					
S SPRUCE										
TOTAL	67.0	5.0	1,045	1,099	1,154		179	45	20	
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	82.0	10.4	53	59	65					
WHEMLOCK	116.9	14.8	40	47	54					
R ALDER	360.4	45.7	1	2	3					
S SPRUCE	787.4	99.9	0	0	0					
TOTAL	51.0	6.5	101	108	115		104	26	12	
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	64.8	8.2	210	229	248					
WHEMLOCK	110.1	14.0	101	117	133					
R ALDER	360.4	45.7	3	6	9					
S SPRUCE	787.4	99.9	0	1	2					
TOTAL	38.8	4.9	335	353	370		60	15	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	
DOUG FIR	62.1	7.9	52,180	56,642	61,103					
WHEMLOCK	111.1	14.1	20,250	23,572	26,894					
R ALDER	360.4	45.7	410	755	1,100					
S SPRUCE	787.4	99.9	0	241	482					
TOTAL	39.8	5.1	77,104	81,210	85,315		63	16	7	

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT SABAJ				DATE 2/25/2021		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	07W	27	U123	00MC	194.00	62	365	1	W	
										PLOTS TREES
TOTAL		62	365	5.9						
CRUISE		32	190	5.9	23,693		.8			
DBH COUNT										
REFOREST										
COUNT		30	167	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		119	59.1	26.7	111	44.3	228.8	61,627	56,642	12,929
WHEMLOCK		60	47.4	21.3	93	25.3	116.9	25,828	23,572	5,844
SNAG		4	11.4	13.4	57	3.0	11.1			
R ALDER		2	1.7	25.4	80	1.2	6.0	765	755	195
CEDLEAV		4	2.4	17.4	46	1.0	4.0	257	251	103
S SPRUCE		1	.2	33.0	107	0.2	1.0	253	241	55
TOTAL		190	122.1	23.5	97	75.9	367.9	88,729	81,461	19,126
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		59.6	5.5	1,228	1,299	1,370				
WHEMLOCK		65.0	8.4	658	719	779				
SNAG										
R ALDER		93.8	87.8	58	475	892				
CEDLEAV		82.5	47.1	63	120	177				
S SPRUCE										
TOTAL		71.1	5.2	1,001	1,056	1,110	202	50	22	
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		82.0	10.4	53	59	65				
WHEMLOCK		116.9	14.8	40	47	54				
SNAG		264.0	33.5	8	11	15				
R ALDER		360.4	45.7	1	2	3				
CEDLEAV		653.0	82.9	0	2	4				
S SPRUCE		787.4	99.9	0	0	0				
TOTAL		46.0	5.8	115	122	129	85	21	9	
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		64.8	8.2	210	229	248				
WHEMLOCK		110.1	14.0	101	117	133				
SNAG		260.7	33.1	7	11	15				
R ALDER		360.4	45.7	3	6	9				
CEDLEAV		619.4	78.6	1	4	7				
S SPRUCE		787.4	99.9	0	1	2				
TOTAL		34.8	4.4	352	368	384	48	12	5	
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		62.1	7.9	52,180	56,642	61,103				
WHEMLOCK		111.1	14.1	20,250	23,572	26,894				
SNAG										
R ALDER		360.4	45.7	410	755	1,100				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT SABAJ				DATE	2/25/2021
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	07W	27	U123	00MC	194.00	62	365	1	W
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
CEDLEAV		552.7	70.1	75	251	427			
S SPRUCE		787.4	99.9	0	241	482			
TOTAL		39.3	5.0	77,394	81,461	85,528	62	15	7

TC PLOGSTVB				Log Stock Table - MBF															
T06N R07W S27 Ty00MC 194.00				Project: SABAJ Acres 194.00										Page 2 Date 2/25/2021 Time 8:45:03AM					
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	20-23	24-29	30-39	40+	
H	DO 2S	30	80	7.0	75	1.6						14	61						
H	DO 2S	32	181	7.0	169	3.7						18	23	50	78				
H	DO 2S	38	66	7.0	61	1.3							39	22					
H	DO 2S	40	3,269	9.3	2,964	64.8						539	683	881	620	240			
H	DO 3S	16	25	7.0	24	.5			15	5			4						
H	DO 3S	18	6	7.0	6	.1			6										
H	DO 3S	20	47	8.2	43	.9			4	11	23	5							
H	DO 3S	24	75	9.4	68	1.5			5	6	34	6			17				
H	DO 3S	26	5	7.0	5	.1				5									
H	DO 3S	28	6	7.0	6	.1				6									
H	DO 3S	30	8	7.0	7	.2			7										
H	DO 3S	32	55	7.0	51	1.1			9	16	8		19						
H	DO 3S	34	52	7.0	49	1.1			29	20									
H	DO 3S	36	28	7.0	26	.6				26									
H	DO 3S	38	102	8.8	93	2.0			40	28	25								
H	DO 3S	40	722	7.4	669	14.6			111	231	327								
H	DO 4S	14	6	7.0	6	.1				2	3								
H	DO 4S	16	8	7.0	8	.2			8										
H	DO 4S	20	17	7.0	16	.4			16										
H	DO 4S	26	6	7.0	6	.1			6										
H	Totals		5,011	8.7	4,572	29.0			256	355	420	581	844	965	765	387			
A	DO 1S	38	112		112	76.6					28		84						
A	DO 2S	38	32	5.9	30	20.4					30								
A	DO 4S	16	4		4	3.0			4										
A	Totals		148	1.3	146	.9			4		30	28	84						
S	DO 2S	40	46	4.3	44	94.4							14	30					
S	DO 3S	24	3	11.1	3	5.6					3								
S	Totals		49	4.7	47	.3					3		14	30					
Total	All Species		17,164	8.2	15,755	100.0		3	386	756	1049	1306	2106	4019	3520	2306	304		

TC		PSTNDSUM		Stand Table Summary								Page		1		
												Date:		2/25/2021		
T06N R07W S27 Ty00MC 194.00				Project				SABAJ				Time:		9:14:56AM		
				Acres				194.00				Grown Year:				
S Spc	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s		
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D		13	1	81	66	2.086	1.92	2.09	23.0	65.1		48	136	93	26	
D		15	1	82	56	1.567	1.92	1.57	27.0	55.8		42	87	82	17	
D		16	4	83	94	5.509	7.69	11.02	24.9	72.1		274	794	532	154	
D		17	1	85	108	1.220	1.92	2.44	32.0	111.6		78	272	151	53	
D		18	1	82	109	1.088	1.92	2.18	36.0	111.6		78	243	152	47	
D		19	1	82	123	.977	1.92	2.93	30.0	86.8		88	254	171	49	
D		20	3	84	138	2.644	5.77	7.93	37.0	130.2		294	1,033	569	200	
D		21	2	89	142	1.599	3.85	4.80	44.7	181.4		214	870	416	169	
D		22	1	85	163	.728	1.92	2.91	38.5	148.8		112	434	218	84	
D		23	2	85	157	1.333	3.85	4.67	46.7	187.3		218	874	423	170	
D		24	5	85	150	3.060	9.61	10.41	50.7	195.3		528	2,032	1,024	394	
D		25	8	86	147	4.513	15.38	14.10	59.7	239.6		842	3,379	1,634	655	
D		26	7	85	162	3.651	13.46	13.04	59.1	245.5		771	3,201	1,495	621	
D		27	10	86	162	4.836	19.23	16.93	66.3	281.4		1,122	4,763	2,176	924	
D		28	8	85	155	3.598	15.38	12.14	71.7	306.6		871	3,722	1,689	722	
D		29	10	85	161	4.192	19.23	14.25	78.9	348.5		1,124	4,967	2,181	964	
D		30	7	84	150	2.742	13.46	8.62	84.5	347.1		728	2,991	1,412	580	
D		31	8	86	168	2.935	15.38	11.01	85.3	396.5		939	4,364	1,822	847	
D		32	8	87	168	2.754	15.38	9.98	94.0	439.0		939	4,384	1,821	850	
D		33	7	87	168	2.266	13.46	8.09	102.2	491.8		828	3,980	1,605	772	
D		34	1	91	187	.305	1.92	1.22	112.5	602.2		137	735	266	143	
D		35	4	87	159	1.151	7.69	3.74	120.6	577.3		451	2,160	875	419	
D		36	1	91	190	.272	1.92	1.09	126.7	692.9		138	754	268	146	
D		37	5	86	167	1.288	9.61	4.64	124.5	605.5		577	2,807	1,120	545	
D		38	2	81	151	.488	3.85	1.71	111.4	507.5		190	867	369	168	
D		39	2	87	185	.464	3.85	1.85	137.7	711.4		255	1,319	496	256	
D		40	1	86	154	.220	1.92	.66	164.0	759.5		108	502	210	97	
D		41	3	87	169	.629	5.77	2.52	137.3	706.8		346	1,779	671	345	
D		42	2	84	156	.400	3.85	1.20	179.5	837.0		215	1,004	418	195	
D		43	2	87	186	.381	3.85	1.53	167.6	875.4		256	1,335	496	259	
D		45	1	86	173	.174	1.92	.70	168.5	860.3		117	599	228	116	
D		Totals	119	85	144	59.072	228.83	181.95	71.1	311.3		12,929	56,642	25,082	10,988	
H		13	2	89	108	4.229	3.90	8.46	21.2	74.4		180	629	349	122	
H		14	2	88	87	3.646	3.90	5.47	26.0	86.8		142	475	276	92	
H		15	3	87	104	4.764	5.85	9.53	27.2	96.1		259	916	502	178	
H		16	1	91	130	1.396	1.95	4.19	26.3	105.4		110	441	214	86	
H		17	2	91	140	2.473	3.90	7.42	31.8	127.1		236	943	458	183	
H		18	4	89	119	4.411	7.80	12.13	32.4	118.4		393	1,436	762	279	
H		19	5	88	102	4.949	9.74	10.89	37.9	146.3		413	1,593	801	309	
H		20	4	87	135	3.573	7.80	9.83	46.2	176.7		454	1,736	880	337	
H		21	4	89	113	3.241	7.80	7.29	51.4	197.4		375	1,439	728	279	
H		23	2	89	138	1.351	3.90	4.05	57.0	237.2		231	961	448	186	
H		24	4	88	134	2.481	7.80	7.44	58.6	237.9		436	1,771	846	344	
H		25	2	89	116	1.143	3.90	2.86	68.8	277.1		197	792	382	154	
H		26	6	85	144	3.172	11.69	9.51	69.7	312.6		663	2,974	1,287	577	
H		28	3	86	116	1.367	5.85	4.10	67.0	286.2		275	1,174	533	228	
H		29	3	86	156	1.275	5.85	4.25	86.0	376.7		365	1,600	709	310	
H		31	4	85	119	1.487	7.80	4.46	70.9	320.1		316	1,428	614	277	
H		33	1	76	126	.328	1.95	.98	95.7	310.0		94	305	183	59	
H		34	3	82	124	.927	5.85	2.78	103.3	429.9		287	1,196	558	232	
H		36	1	85	103	.276	1.95	.83	89.3	437.1		74	362	143	70	
H		37	1	80	131	.261	1.95	.78	128.7	499.1		101	391	195	76	
H		39	1	75	129	.235	1.95	.70	137.7	508.4		97	358	188	70	

TC		PSTNDSUM		Stand Table Summary										Page		2	
														Date:		2/25/2021	
T06N R07W S27 Ty00MC194.00						Project				SABAJ				Time:		9:14:56AM	
						Acres				194.00				Grown Year:			
S Spec	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s			
		DBH	Trees	FF	Av 16'				Ht	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
H		40	1	80	107	.223	1.95	.67	128.3	527.0		86	353		167	68	
H		50	1	76	120	.143	1.95	.43	138.0	694.4		59	298		115	58	
H		Totals	60	88	118	47.353	116.94	119.06	49.1	198.0		5,844	23,572		11,337	4,573	
A		24	1	86	81	.963	3.02	.96	54.0	160.0		52	154		101	30	
A		27	1	87	108	.761	3.02	2.28	62.7	263.3		143	601		277	117	
A		Totals	2	86	93	1.723	6.05	3.24	60.1	232.7		195	755		378	146	
S		33	1	83	131	.170	1.01	.51	108.0	473.3		55	241		107	47	
S		Totals	1	83	131	.170	1.01	.51	108.0	473.3		55	241		107	47	
Totals			182	86	132	108.318	352.82	304.76	62.4	266.5		19,023	81,210		36,904	15,755	

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT

NO. AT-341-2021-W00565-01

SABA JABI

PORTIONS OF SECTION 21, 22, 27, 28, & 34

OF T6N, R7W, W.M.,

CLATSOP COUNTY, OREGON



Unit	Ground	Cable	Net Acres
1 (MC)	73%	27%	80
2 (MC)	64%	36%	109
3 (R/W)	100%	0%	5
Total	69%	31%	194

0 500 1,000 2,000
Feet

1 inch = 1,000 feet

Legend

- Timber Sale Boundary
- Non-posted Timber Sale Boundary
- Surfaced Road
- Unsurfaced Road
- Landing To Be Constructed
- New Unsurfaced Road Construction
- New Surfaced Road Construction
- Type F Stream
- Type N Stream
- Non-posted Stream Buffer
- Posted Stream Buffer
- Green Tree Retention Area
- Non-Stocked
- Cable Yarding
- Line Pull
- Ground Based Yarding
- Survey Monument

