



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Pebbles
Sale AT-341-2026-W01281-01

District: Astoria

Date: April 17, 2025

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$4,775,149.59	\$230,957.08	\$5,006,106.67
		Project Work:	(\$48,292.00)
		Advertised Value:	\$4,957,814.67



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pebbles Sale AT-341-2026-W01281-01

District: Astoria

Date: April 17, 2025

Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	97
Western Hemlock / Fir	21	0	95
Red Cedar	15	0	93
Alder (Red)	17	0	95

Volume by Grade	2S	3S & 4S 6"-11"	3S	4S	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	5,389	1,830	0	0	0	0	0	0	7,219
Western Hemlock / Fir	1,854	633	0	0	0	0	0	0	2,487
Red Cedar	0	0	8	6	0	0	0	0	14
Alder (Red)	0	0	0	0	260	227	174	117	778
Total	7,243	2,463	8	6	260	227	174	117	10,498

Comments: Pond Values Used: Local Pond Values, March, 2025.

Expected Log Markets: Clatskanie, Warrenton, Forest Grove, Tillamook, Mist, Wauna, Willamina, Vancouver, WA, Longview, WA, and Chehalis, WA.

PRICING:

Sitka spruce stumpage = pond value - (Douglas-fir) logging cost.

$\$269.51/\text{MBF} = \$500.00/\text{MBF} - \$230.49/\text{MBF}$

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

Machine Washing for Invasive Weed Compliance (entering and leaving) = \$2,000

Ditch Filters:

24 bales of straw @ \$12/bale = \$288.00

4 hours of labor (installation/removal) @ \$50/hr = \$200

Total P&R Cost = \$2,488.00

Other Costs (No Profit & Risk added): None

SLASH PILING

(See attached appraisal. Includes move-in and pile materials) = \$18,425.00

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: $\$3.60/\text{MBF} = \$37,769/10,498\text{MBF}$



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Logging Conditions

Combination#: 1

Douglas - Fir	79.00%
Western Hemlock / Fir	79.00%
Red Cedar	79.00%
Alder (Red)	79.00%

Logging System: Shovel **Process:** Feller Buncher

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

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

loads / day: 20 **bd. ft / load:** 5000

cost / mbf: \$100.00

machines: Feller Buncher w/ Delimber

Combination#: 2

Douglas - Fir	21.00%
Western Hemlock / Fir	21.00%
Red Cedar	21.00%
Alder (Red)	21.00%

Logging System: Cable: Medium Tower >40 - <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: 11 **bd. ft / load:** 4700

cost / mbf: \$154.31

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



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pebbles Sale AT-341-2026-W01281-01

District: Astoria

Date: April 17, 2025

Logging Costs

Operating Seasons: 3.00

Profit Risk: 12%

Project Costs: \$48,292.00

Other Costs (P/R): \$2,488.00

Slash Disposal: \$18,425.00

Other Costs: \$0.00

Miles of Road

Road Maintenance: \$3.60

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	5.0
Western Hemlock / Fir	\$0.00	3.0	4.8
Noble Fir	\$0.00	3.0	4.8
Red Cedar	\$0.00	2.0	5.0
Alder (Red)	\$0.00	3.0	4.5



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pebbles Sale AT-341-2026-W01281-01

District: Astoria

Date: April 17, 2025

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$111.41	\$3.71	\$1.25	\$85.83	\$0.24	\$24.29	\$1.76	\$2.00	\$0.00	\$230.49
Western Hemlock / Fir									
\$111.41	\$3.78	\$1.25	\$91.15	\$0.24	\$24.94	\$1.76	\$2.00	\$0.00	\$236.53
Red Cedar									
\$111.41	\$3.85	\$1.25	\$133.75	\$0.24	\$30.06	\$1.76	\$2.00	\$0.00	\$284.32
Alder (Red)									
\$111.41	\$3.78	\$1.25	\$97.22	\$0.24	\$25.67	\$1.76	\$2.00	\$0.00	\$243.33

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$784.86	\$554.37	\$0.00
Western Hemlock / Fir	\$0.00	\$542.45	\$305.92	\$0.00
Red Cedar	\$0.00	\$1,165.00	\$880.68	\$0.00
Alder (Red)	\$0.00	\$540.19	\$296.86	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Pebbles
Sale AT-341-2026-W01281-01

District: Astoria

Date: April 17, 2025

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Red Cedar	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	7,219	\$554.37	\$4,001,997.03
Western Hemlock / Fir	2,487	\$305.92	\$760,823.04
Red Cedar	14	\$880.68	\$12,329.52
Alder (Red)	778	\$296.86	\$230,957.08

Gross Timber Sale Value

Recovery: \$5,006,106.67

Prepared By: John Tillotson

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Pebbles
Date: April 8, 2025
By: John Czarnecki CB

MBF: 10,498
\$/MBF: \$3.60

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Road Maintenance or snow plowing	Grader 14G	\$972	2	16	\$126	\$3,960
	Rubber tired backhoe	\$401	2	6	\$97	\$1,384
	Dump Truck 12CY	\$205	2	12	\$99	\$1,598
	Vibratory Roller	\$972	1	8	\$97	\$1,748
Final Road Maintenance	Grader 14G	\$972	1	66	\$126	\$9,288
	Dump Truck 12CY	\$205	2	24	\$99	\$2,786
	FE Loader C966	\$931	1	12	\$108	\$2,227
	Vibratory Roller	\$972	1	66	\$97	\$7,374
	Water Truck 2,500 gallon	\$238	1	33	\$113	\$3,967
	C315 Excavator	\$1,005	1	16	\$127	\$3,037
	Labor			8	\$50	\$400
Total						\$37,769

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	5.0	2.0	16

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.8	14.4	8.2	66
Vibratory Roller	1.8	14.4	8.2	66

Process and compact: All crushed rock roads

Foster Mainline: 10 miles

Northrup Creek Road: 1.7 miles

Unnamed Spurs: 2.7 miles

New Construction - Surfaced: 0.03 miles

Grade & Process Total: 14.4 miles

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	4
Hemlock/Fir	B	1.0	4.5	6
Hemlock/Spruce	C	1.8	5.0	8
Hemlock	D	1.8	5.0	8
Conifer/Hardwood	E	0.8	2.0	6
Whole Tree Yarding	F	0.5	0.3	10

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	F	58	29	\$145.00	\$4,205.00
2	MC	F	53	27	\$145.00	\$3,842.50
3	MC	F	85	43	\$145.00	\$6,162.50
				FALSE	\$145.00	\$0.00
				In-unit Piling		Sub Total =
						\$14,210.00
Sale Area	Number of Landings to be Piled	# cable acres per area	Cable Total Cost/Area	Number of In- Unit Piles	Material Cost/Pile	Total Cost/Area
1	12	0	\$0.00	26.5	\$5.00	\$132.50
2	13	23	\$1,111.67	26.25	\$5.00	\$131.25
3	18	28	\$1,353.33	39.25	\$5.00	\$196.25
			FALSE	0	\$5.00	\$0.00
*Cost includes separating firewood					Materials	Sub Total =
					Landing Piling	\$460.00
						Sub Total =
						\$2,465.00
Move-In Allowance	Additional 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	
0	\$89.00	\$0.00	0	\$145.00	\$0.00	
						Sub Total =
						\$0.00
						Grand Total =
						\$18,425.00

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Pebbles

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
2A to 2B	1.50	0.03	\$3,690.82
Road Maint.			\$259.80
Move-In			\$716.86
TOTALS	1.50	0.03	\$4,667

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,	142.7	2.70	\$34,496.42
I5 to I6, I7 to I8,			
I9 to I10, I11 to I12,			
I13 to I14			
Road Maint.			\$2,428.20
Move-In			\$6,700.14
TOTALS		2.70	\$43,625

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>
TOTAL		

GRAND TOTAL **\$48,292**

Compiled By: Cole H

Date: 03/18/2025

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: Pebbles

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
2A to 2B	1.50	0.03	\$3,690.82
TOTALS	1.50	0.03	\$3,691

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,	142.70	2.70	\$34,496
I5 to I6, I7 to I8,			
I9 to I10, I11 to I12,			
I13 to I14			
TOTALS	142.70	2.70	\$34,496

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
Vibratory Roller		\$972
C315 Excavator		\$1,005
C330 Excavator		\$1,755
C966 Loader		\$972
14 G Grader		\$972
Water Truck (2,500 gal)		\$238
Dump Truck 12cy (x5)		\$1,025
Dump Truck 20cy (x2)		\$478
TOTAL		\$7,417.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Road Maintenance	3.48	\$2,688.00
TOTAL		\$2,688.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Pebbles ROAD: 2A to 2B (1.5) NEW CONSTRUCTION: 1.50 STATIONS 0.03 MILES
 POINTS: IMPROVEMENT: STATIONS 0.00 MILES

CLEARING & GRUBBING				
Method	Acres/amount	x	Rate	= Cost
2A to 2B				
Scatter outside of right of way	\$/acre 0.1	x	\$ 1,669	= \$233.66
End haul stumps w/ dump truck	\$/hr 4.00	x	\$ 99	= \$396.00
SUB TOTAL FOR CLEARING & GRUBBING				\$630

EXCAVATION				
Material	Cy/amount	x	Rate	= Cost
2A to 2B				
0+00 to 1+50 Drift earth up to 200'	1.50	x	\$238.00	= \$357.00
1+50 Landing constructions	1.00	x	\$487.00	= \$487.00
SUB TOTAL FOR EXCAVATION				\$844

CULVERT MATERIALS AND INSTALLATION				
Location	Dial/type	Lineal ft.	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:				
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION				\$0
Subtotal of Clearing, Exc., Culv.				\$1,474

SURFACING	Subgrade prep: All Segments All Segments	Description Grade, Shape and Ditch 16' Subgrade Compaction	Stations/ amount	x	Rate/ sta/amt	Cost
			1.50	x	\$30.98	\$46.47
			1.50	x	\$25.19	\$37.79

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		0+00 to 1+50				
				Volume (CY)	per	Number	of			
Base Rock	4"-0" crushed	0+00 to 1+50	8	station	57	stations	1.50	86	\$6.79	\$581
Junction Rock	3/4"-0" crushed	0+00	N/A	junction	22	junctions	1	22	\$6.79	\$149
Traction Rock	3/4"-0" crushed	0+00 to 1+00	2	station	13	stations	1.00	13	\$6.79	\$88
Landings	6"-0" pit-run	1+50	N/A	landing	110	landings	1	110	\$6.79	\$747
Total Rock for Road Segment:								231		\$1,565

Processing:		Description		No. sta	Rate/sta	Cost
		Water, Process & Compact Base Rock (4"-0"):				
		1.5				
		\$70.47				
		\$105.71				
		Water, Process & Compact Traction Rock (3/4"-0"):				
		1.5				
		\$70.47				
		\$105.71				

		6"-0"pr	4"-0"	3/4"-0"	
		crushed	crushed	crushed	
		110	86	35	
					Total
					231

SUB TOTAL FOR SURFACING					\$1,861
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SPECIAL PROJECTS						
		Description	Amount	Rate	Cost	
		pit-run development	110	\$3.24	\$356.40	
SUB TOTAL FOR SPECIAL PROJECTS						\$356
					Subtotal of Surfacing & Spec. Proj.	\$2,217
					Subtotal of Clearing, Exc., Culv.	\$1,474
GRAND TOTAL						\$3,691

Compiled By:
 Cole H
 Date:
 03/18/2025

SURFACING												
Subgrade prep:			Description				Stations/ amount		x		Rate/ sta./amt	
All "m" segments			Grade, Shape and Ditch 16' : 17 to 18 (30) 19 to 110 (11.5)				41.50		x		\$30.98	
			Subgrade Compaction : 11 to 12 (64), 17 to 18 (30), 19 to 110 (11.5)				105.50		x		\$2,657.55	
			Spot Grade : 11 to 12 (64), 13 to 14 (12.3), 14 to 15 (4.4), 17 to 18 (32), 19 to 110 (15.25), 111 to 112 (9.7), 113 to 114 (14.75)				16.00		x		\$126.00	
ROAD SEGMENT			11 to 12		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)		Rate/ Sta./ amt.	
Application			Rock Size and Type		Depth of Rock (inches)		Location		Volume (CY) per		Cost	
Surfacing			1 1/2"-0" crushed		3		0+00 to 18+00		station		\$6.79	
Culvert Bedding and Backfill			3/4"-0" crushed		N/A		11+90		culvert		\$6.79	
Rock Ditch Filters			6"-4" pit-run		N/A		14+10, 15+05, and 32+25		3 filter series		\$6.79	
Surfacing			4"-0" crushed		4		18+00 to 30+75		station		\$6.79	
Turnaround			4"-0" crushed		N/A		24+75 and 30+10		turnarounds		\$6.79	
Turnaround			4"-0" crushed		N/A		55+85		turnaround		\$6.79	
Surfacing			1 1/2"-0" crushed		2		30+75 to 64+00		station		\$6.79	
Total Rock for Road Segment:												
1,247												
\$8,467												
ROAD SEGMENT			13 to 14		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)		Rate/ Sta./ amt.	
Application			Rock Size and Type		Depth of Rock (inches)		Location		Volume (CY) per		Cost	
Landings			6"-0" pit-run		N/A		12+30		landing		\$6.79	
Total Rock for Road Segment:												
55												
\$373												
ROAD SEGMENT			15 to 16		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)		Rate/ Sta./ amt.	
Application			Rock Size and Type		Depth of Rock (inches)		Location		Volume (CY) per		Cost	
Junctions			4"-0" crushed		N/A		0+00		junction		\$6.79	
Landings			6"-0" pit-run		N/A		4+40		landing		\$6.79	
Total Rock for Road Segment:												
77												
\$523												
ROAD SEGMENT			17 to 18		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)		Rate/ Sta./ amt.	
Application			Rock Size and Type		Depth of Rock (inches)		Location		Volume (CY) per		Cost	
Junctions			3/4"-0" crushed		N/A		0+00		junction		\$6.79	
Surfacing			3/4"-0" crushed		2		0+00 to 30+00		station		\$6.79	
Turnaround			4"-0" crushed		N/A		9+95		turnarounds		\$6.79	
Landings			6"-0" pit-run		N/A		32+00		landing		\$6.79	
Total Rock for Road Segment:												
500												
\$3,395												

Projects Road Maintenance Cost Summary

Sale: Pebbles
Date: 07-Mar-25
By: Brittany West

Final Project Maintenance may be spot grading with some segments of full water, process, and compact. This will be determined by STATE when roads are assessed for Final Project Maintenance.

Type	Equipment/Rationale			Hours	Rate	Cost	
Project Work	Grader 14G			8	\$126	\$1,008	
Final Haul	Vibratory Roller			8	\$97	\$776	
Road Maintenance	Water Truck 2,500 gallon			8	\$113	\$904	
Total							\$2,688

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	3.48	2.3
1.5	3.48	2.3

NOTE: Knob Point Quarry Road to Foster Mainline	1.94	Miles
Foster Mainline	1.54	Miles
TOTAL=	3.48	Miles

Project operations may be in conjunction with project work for the Pebbles and Shingle Knob timber sales and Foster Mainline WOC. There may be multiple operators perform these projects.

CRUSHED ROCK COST

SALE NAME: Pebbles

DATE: 03/07/2025

PROJECT: Project Nos. 1 and 2
 Stockpile: Knob Point Quarry/Stockpile & Kerry Stockpile

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

BY: _____ BW _____

[illegible]

ROCK HAUL:

Truck type:	<u>D20</u>	No. trucks:	<u>2</u>
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>

Ave haul:	\$5.39	/cy
Load:	\$0.53	/cy
Spread:	\$0.87	/cy

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

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

Production: cy/day = 1,109

CRUSHED ROCK HAUL COSTS

2,403 cy @ \$6.79 /cy

**Pebbles
TIMBER CRUISE REPORT
FY 2025**

1. **Sale Area Location:** Portions of Sections 19, 20, & 29 of T7N, R6W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 100% Tax Code: 30-05 (100%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Reserve Tree Area	Existing R/W Acres	New R/W	Net Acres	Survey Method
1	Clearcut	78	17	1	2	-	58	GIS
2	Clearcut	82	1	2	3	<1	76	GIS
3	Clearcut	139	17	3	6	-	113	GIS
4	R/W	<1	-	-	-	-	<1	LxW
TOTALS		299	35	6	11	<1	247	

4. **Cruisers and Cruise Dates:** John Czarnecki, Michele Huffman, Avery Petersen, and Kevin Berry (03/20/2025-03/21/2025)

5. Cruise Method and Computation:

Units 1, 2, and 3: Units 1, 2, and 3 were variable plot cruised with a 40 BAF. A total of 50 plots were sampled on an eight chain by seven chain spacing with a count to grade ratio of 2:1, resulting in 23 grade plots and 27 count plots. There are 26 grade plots and 24 count plots reported due to minor species being graded on three count plots.

Unit 4 (R/W): Consists of less than one acre of timber similar to U123.

Data was collected on Allegro 2 data collectors and downloaded to the Atterbury SuperACE 2008 program for computing. 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	PEBB	U123	00CC	247

6. Timber Description:

Units 1, 2, and 3: Three clearcuts with an average age of 70 years. The stand consists of Douglas-fir and western hemlock with minor components of red alder, noble fir, and western redcedar. The average take Douglas-fir is approximately 22 inches DBH and 85 feet to a merchantable top. The average take western hemlock is approximately 21 inches DBH and 68 feet to a merchantable top. The average take red alder is approximately 17 inches DBH and 64 feet to a merchantable top. The average take noble fir is approximately 24 inches DBH and 86 feet to a merchantable top. The average take western redcedar is 15 inches DBH and 31 feet to a merchantable top. Average net volume to be harvested per acre is 42 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Type	Estimated CV	Target SE%	Actual CV	Actual SE%
U123	30%	8%	33.1%	4.7%

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	22"	7,219	5,389	1,671	159	0.6%	69%
Western hemlock	21"	2,209	1,607	522	80	2.9%	21%
Noble fir	24"	278	247	23	8	-	3%
Western redcedar	15"	14	-	8	6	-	<1%
TOTALS	--	9,720	7,243	2,224	253	--	--

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	17"	778	230	340	91	117	1.4%	7%
TOTALS	--	778	230	340	91	117	--	--

TOTAL VOLUME	10,498 MBF
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9. Approvals:

Prepared by:

John Czarnecki

Date: 04/04/2025

Unit Forester Approval:

John Tillotson

Date: 4/18/2025

- 10. Attachments:** Cruise Design and Map (3 pages)
 Volume Report (1 page)
 Statistics Report (2 pages)
 Log Stock Table (2 pages)
 Stand Table Summary (2 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Pebbles

Unit U123

Harvest Type: Clear Cut

Approx. Cruise Acres: 247 **Estimated CV%** 30 Net BF/Acre **SE% Objective** 8% Net BF/Acre

Planned Sale Volume: 10,204 MBF **Estimated Sale Area Value/Acre:** \$19,800/Acre

A. Cruise Goals: (a) Grade minimum 100 conifer trees.

(b) Sample 50 plots (23 grade / 27 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: 40

Unit 1, 2, 3:

Cruise Line Direction: U1: 35°/215°

U2: 160°/340°

U3: 8°/188°

Cruise Line Spacing 8 (chains) 528 (feet)

Cruise Plot Spacing 7 (chains) 462 (feet)

Grade/Count Ratio 1:2

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

Take plots as marked on cruise map.

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

DO NOT: record snags < 15" 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); GF (Grand 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

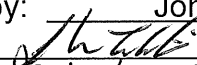
Grade oversized 3-SAW (DIB $\geq$ 12", knots $> 2\frac{1}{2}$ " inside scaling cylinder affecting $> 50\%$ of log)

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, Permanent Marker.

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: John Czarnecki
Approved by: 
Date: 3/20/2025

TIMBER CRUISE MAP

OF TIMBER SALE CONTRACT
PEBBLES

PORTIONS OF SECTIONS
19, 20, & 29 OF T7N, R6W, W.M.,
CLATSOP COUNTY, OREGON

BAF: 40

Line Spacing: 8 ch. (528ft)

Plot Spacing: 7 ch. (462ft)

Line Azimuth:

Unit 1: 35°/215°

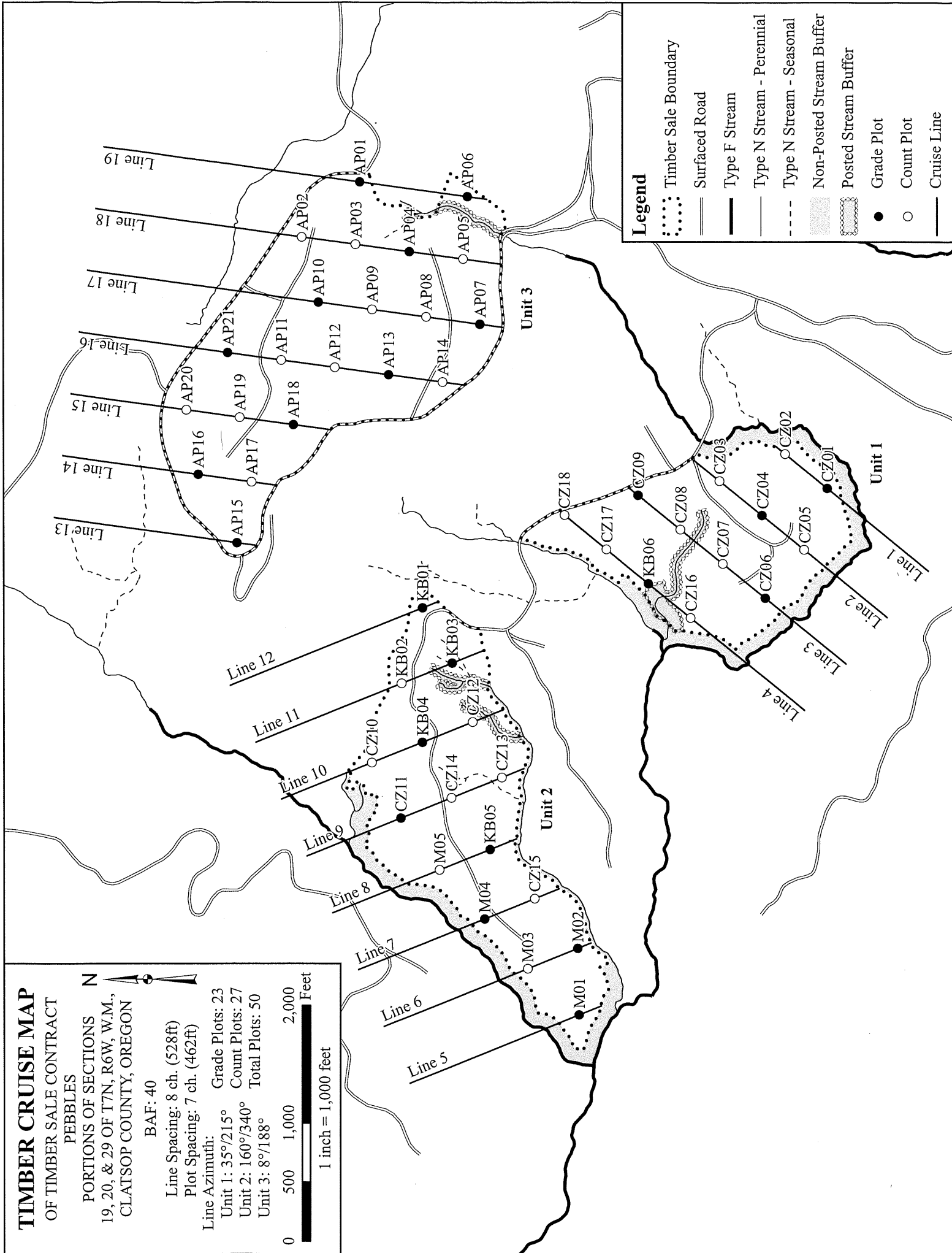
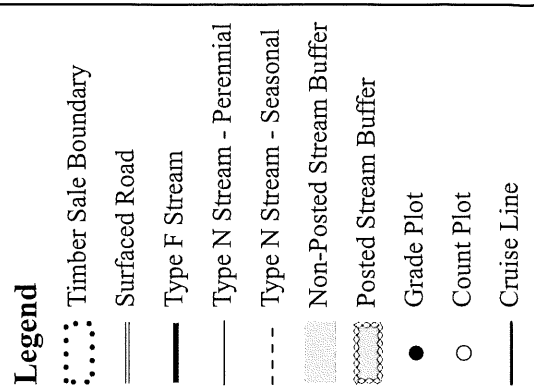
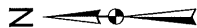
Unit 2: 160°/340°

Unit 3: 8°/188°

Grade Plots: 23

Count Plots: 27

Total Plots: 50



TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T07N R06W S20 Ty00CC247.00						Project: PEBB										Page 1					
						Acres 247.00										Date 4/9/2025					
																Time 9:21:21AM					
S Spp	So T	Gr rt	ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D			DOCU														4	21		0.00	.3
D			DO2S	74	.8	21,985	21,817	5,389			44	56	0	0	4	95	39	16	428	2.47	50.9
D			DO3S	23		6,765	6,765	1,671		97	1	1	2	6	28	64	35	9	103	0.85	65.5
D			DO4S	3		642	642	159		100			71	29			19	6	26	0.46	24.7
D Totals				69	.6	29,391	29,223	7,219 7,218		25	33	42	2	2	10	86	34	11	207	1.48	141.4
H			DOCU														4	32		0.00	.4
H			DO2S	72	3.0	6,708	6,505	1,607			54	46		10	2	88	38	16	389	2.40	16.7
H			DO3S	24	2.9	2,174	2,112	522		86		14	5	4	14	77	36	9	117	1.02	18.0
H			DO4S	4		323	323	80		100			81	19			19	7	28	0.47	11.4
H Totals				21	2.9	9,206	8,941	2,209 2,208		24	39	37	4	9	5	82	32	11	192	1.53	46.5
NF			DO2S	89		998	998	247			57	43			16	84	36	15	327	2.14	3.1
NF			DO3S	8		92	92	23		100						100	40	8	90	0.92	1.0
NF			DO4S	3		31	31	8		100			100				16	7	30	0.63	1.0
NF Totals				3		1,120	1,120	278 277		11	51	38	3		15	83	33	12	220	1.70	5.1
C			DO3S	53		30	30	8		100						100	40	6	60	0.98	.5
C			DO4S	47		26	26	6		100				100			24	6	30	0.54	.9
C Totals				0		56	56	14		100				46		54	30	6	41	0.76	1.4
A			DOCU														10	11		0.00	2.3
A			DO1S	29	1.4	945	932	230			57	43	25			75	30	13	213	1.91	4.4
A			DO2S	44		1,375	1,375	340		100						100	40	11	170	1.20	8.1
A			DO3S	11	7.5	399	369	91		100			11			89	33	9	85	0.83	4.3
A			DO4S	16		475	475	117		100			14	76	9		24	6	34	0.51	14.1
A Totals				7	1.4	3,194	3,151	778		70	17	13	11	11	1	76	29	9	95	0.97	33.2
Totals					1.1	42,968	42,492	10,498 10,496		28	34	39	3	4	8	84	33	11	187	1.42	227.5

TC TSTATS					STATISTICS			PAGE 1		
					PROJECT	PEBB	DATE 4/18/2025			
TWP	RGE	SECT	TRACT		TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	20	U123	TAKE	00CC	247.00	50	311	1	W
					TREES	ESTIMATED	PERCENT			
					PER PLOT	TOTAL	SAMPLE			
						TREES	TREES			
TOTAL		50	311		6.2					
CRUISE		26	124		4.8	24,813		.5		
DBH COUNT										
REFOREST										
COUNT		24	171		7.1					
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		89	58.2	22.3	85	33.5	158.4	29,391	29,223	7,066
WHEMLOCK		21	22.8	20.6	68	11.6	52.8	9,206	8,941	2,269
R ALDER		8	15.4	17.4	64	6.1	25.6	3,194	3,151	929
NOB FIR		2	2.0	24.0	86	1.3	6.4	1,120	1,120	283
SNAG		2	.6	35.0	82	0.7	4.0			
WR CEDAR		2	1.4	14.6	31	0.4	1.6	56	56	31
TOTAL		124	100.5	21.3	77	53.9	248.8	42,968	42,492	10,577
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		73.2	7.8	709	769	828				
WHEMLOCK		60.1	13.4	517	598	678				
R ALDER		60.3	22.7	187	243	298				
NOB FIR		15.4	14.4	471	550	629				
SNAG										
WR CEDAR		47.1	44.1	25	45	65				
TOTAL		78.4	7.0	630	678	726	245	61	27	
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		68.8	9.7	53	58	64				
WHEMLOCK		149.6	21.1	18	23	28				
R ALDER		263.8	37.3	10	15	21				
NOB FIR		541.0	76.4	0	2	4				
SNAG		416.5	58.9	0	1	1				
WR CEDAR		512.3	72.4	0	1	2				
TOTAL		43.3	6.1	94	100	107	75	19	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		
DOUG FIR		54.5	7.7	146	158	171				
WHEMLOCK		133.8	18.9	43	53	63				
R ALDER		269.3	38.0	16	26	35				
NOB FIR		541.0	76.4	2	6	11				
SNAG		416.5	58.9	2	4	6				
WR CEDAR		494.9	69.9	0	2	3				
TOTAL		30.9	4.4	238	249	260	38	10	4	
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		54.7	7.7	26,966	29,223	31,481				
WHEMLOCK		132.0	18.7	7,273	8,941	10,609				
R ALDER		268.8	38.0	1,954	3,151	4,347				
NOB FIR		541.2	76.5	264	1,120	1,977				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	PEBB				
								DATE	4/18/2025
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	20	U123 TAKE	00CC	247.00	50	311	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
SNAG									
WR CEDAR		496.4	70.1	17	56	96			
TOTAL		33.1	4.7	40,508	42,492	44,477	44	11	5

TC PLOGSTVB		Log Stock Table - MBF																	
T07N R06W S20 Ty00CC 247.00				Project: PEBB Acres 247.00												Page 1 Date 4/4/2025 Time 10:45:00AM			
S T Spp	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+	
D	DO 2S	14	4		4	.1						4							
D	DO 2S	16	5		5	.1						5							
D	DO 2S	20	14		14	.2						6	8						
D	DO 2S	26	16		16	.2						16							
D	DO 2S	32	185		185	2.6						39	27	91	28				
D	DO 2S	34	44		44	.6							44						
D	DO 2S	36	169		169	2.3							119	50					
D	DO 2S	40	4,994		4,952	68.6						605	1025	1371	1131	820			
D	DO 3S	16	9		9	.1					9								
D	DO 3S	20	25		25	.4				14	11								
D	DO 3S	24	51		51	.7				7	22			22					
D	DO 3S	26	36		36	.5					36								
D	DO 3S	28	7		7	.1				7									
D	DO 3S	30	9		9	.1					9								
D	DO 3S	32	426		426	5.9				71	79	256	21						
D	DO 3S	34	36		36	.5				16		20							
D	DO 3S	36	121		121	1.7				69	22	30							
D	DO 3S	38	38		38	.5						38							
D	DO 3S	40	912		912	12.6				170	196	546							
D	DO 4S	14	3		3	.0				3									
D	DO 4S	16	70		70	1.0				53	17								
D	DO 4S	18	18		18	.2				18									
D	DO 4S	20	22		22	.3				13	9								
D	DO 4S	24	46		46	.6				46									
D	Totals		7,260		7,218	68.8				458	352	977	695	1223	1535	1158	820		
H	DO 2S	24	66		66	3.0								66					
H	DO 2S	26	33		33	1.5								33					
H	DO 2S	28	32		32	1.4								32					
H	DO 2S	30	27		27	1.2						27							
H	DO 2S	32	32		32	1.4								32					
H	DO 2S	40	1,468	3.4	1,418	64.2						151	422	428	416				
H	DO 3S	18	8		8	.4					8								
H	DO 3S	20	17		17	.8					17								
H	DO 3S	24	23		23	1.0					23								
H	DO 3S	32	71		71	3.2			25	15	31								
H	DO 3S	36	33		33	1.5					33								

TC PLOGSTVB				Log Stock Table - MBF																
T07N R06W S20 Ty00CC 247.00				Project: PEBB												Page 2				
				Acres 247.00												Date 4/4/2025				
				Time 10:45:00AM																
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	20-23	24-29	30-39	40+	
H	DO	3S	40	385	4.0	370	16.8			41	41	217				71				
H	DO	4S	12	4		4	.2			4										
H	DO	4S	14	5		5	.2			5										
H	DO	4S	16	13		13	.6			7	5									
H	DO	4S	18	34		34	1.5			34										
H	DO	4S	20	9		9	.4			9										
H	DO	4S	28	15		15	.7			15										
H	Totals			2,274	2.9	2,208	21.0			141	61	329	179	422	590	487				
NF	DO	2S	32	40		40	14.5					40								
NF	DO	2S	36	106		106	38.2							106						
NF	DO	2S	40	101		101	36.4							101						
NF	DO	3S	40	23		23	8.2			23										
NF	DO	4S	16	8		8	2.7			8										
NF	Totals			277		277	2.6			8	23	40		206						
C	DO	3S	40	8		8	53.9			8										
C	DO	4S	24	6		6	46.1			6										
C	Totals			14		14	.1			14										
A	DO	1S	40	177	1.9	174	22.3					76		98						
A	DO	2S	20	57		57	7.3					57								
A	DO	2S	40	171		171	21.9					171								
A	DO	3S	18	10		10	1.3			10										
A	DO	3S	40	258	2.9	250	32.1			81	169									
A	DO	4S	14	17		17	2.2			17										
A	DO	4S	26	45		45	5.8			45										
A	DO	4S	28	19		19	2.5			19										
A	DO	4S	30	25		25	3.2			25										
A	DO	4S	32	11		11	1.4			11										
A	Totals			789	1.4	778	7.4			117	91	340	132	98						
Total	All Species			10,613	1.1	10,496	100.0			737	526	1645	1046	1646	2429	1646	820			

TC		PSTNDSUM		Stand Table Summary								Page		1			
												Date:		4/4/2025			
T07N R06W S20 Ty00CC				247.00		Project				PEBB				Time:		10:46:07AM	
						Acres				247.00				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	Totals			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
D		12	1	86	82	2.266	1.78	4.53	12.0	45.0		54	204		134	50	
D		13	1	86	120	1.931	1.78	3.86	18.5	70.0		71	270		176	67	
D		14	2	86	95	3.330	3.56	6.66	18.8	65.0		125	433		308	107	
D		15	1	86	96	1.450	1.78	2.90	21.5	75.0		62	218		154	54	
D		16	2	86	98	2.549	3.56	5.10	26.0	95.0		133	484		327	120	
D		17	4	86	97	4.516	7.12	9.03	30.1	110.0		272	994		672	245	
D		18	7	86	108	7.050	12.46	15.11	33.9	120.0		513	1,813		1,266	448	
D		19	5	85	107	4.520	8.90	10.85	34.7	123.3		376	1,338		929	330	
D		20	1	85	122	.816	1.78	2.45	34.3	123.3		84	302		208	75	
D		21	9	87	106	6.660	16.02	16.28	40.0	149.1		651	2,427		1,608	599	
D		22	5	86	115	3.371	8.90	8.09	47.9	189.2		388	1,530		958	378	
D		23	4	85	110	2.467	7.12	6.17	48.1	191.0		297	1,178		733	291	
D		24	5	85	114	2.833	8.90	7.93	48.6	192.1		386	1,524		953	376	
D		25	3	84	124	1.566	5.34	4.70	53.1	214.4		250	1,008		616	249	
D		26	2	87	121	.965	3.56	2.90	56.8	245.0		165	710		407	175	
D		27	3	87	136	1.343	5.34	4.03	68.1	297.8		274	1,200		678	296	
D		28	5	86	127	2.081	8.90	5.83	73.6	313.6		429	1,827		1,059	451	
D		29	2	86	123	.776	3.56	1.94	85.4	370.0		166	718		409	177	
D		30	1	89	140	.363	1.78	1.09	86.7	416.7		94	453		233	112	
D		31	5	85	136	1.698	8.90	5.09	88.5	402.0		451	2,048		1,113	506	
D		32	6	85	135	1.912	10.68	5.74	92.6	422.2		531	2,422		1,312	598	
D		33	4	88	136	1.199	7.12	3.60	103.3	485.8		371	1,747		917	431	
D		34	1	82	140	.282	1.78	.85	104.3	476.7		88	404		218	100	
D		35	1	82	97	.266	1.78	.53	123.0	490.0		66	261		162	64	
D		36	2	85	147	.504	3.56	1.51	125.8	610.0		190	922		470	228	
D		37	2	83	135	.477	3.56	1.43	120.0	556.7		172	796		424	197	
D		40	2	85	130	.408	3.56	1.22	140.8	695.0		172	850		426	210	
D		41	1	85	113	.194	1.78	.58	131.0	650.0		76	379		188	93	
D		42	2	84	120	.370	3.56	1.11	143.7	690.0		159	766		394	189	
D		Totals	89	86	111	58.162	158.40	141.10	50.1	207.1		7,066	29,223		17,452	7,218	
H		10	1	89	25	4.610	2.51	4.61	8.0	30.0		37	138		91	34	
H		15	2	87	68	4.098	5.03	6.15	24.3	76.7		150	471		369	116	
H		19	2	87	103	2.554	5.03	5.11	44.0	152.5		225	779		555	192	
H		20	1	85	129	1.152	2.51	3.46	39.0	156.7		135	542		333	134	
H		21	1	89	108	1.045	2.51	3.14	39.3	166.7		123	523		305	129	
H		22	2	85	110	1.905	5.03	4.76	49.8	196.0		237	933		586	231	
H		23	3	87	103	2.614	7.54	6.10	55.1	212.9		336	1,298		831	321	
H		25	1	86	108	.738	2.51	2.21	52.0	213.3		115	472		284	117	
H		26	1	88	103	.682	2.51	1.36	83.0	340.0		113	464		280	115	
H		27	1	85	103	.632	2.51	1.26	86.0	340.0		109	430		269	106	
H		30	3	87	110	1.537	7.54	4.61	78.8	334.4		363	1,542		897	381	
H		31	1	82	103	.480	2.51	.96	111.0	375.0		106	360		263	89	
H		34	2	79	117	.798	5.03	2.39	91.5	413.3		219	989		541	244	
H		Totals	21	87	84	22.844	52.80	46.12	49.2	193.8		2,269	8,941		5,603	2,208	
A		14	1	87	96	2.993	3.20	5.99	22.0	70.0		132	419		325	104	
A		15	1	86	95	2.608	3.20	5.22	25.5	90.0		133	469		328	116	
A		16	1	87	76	2.292	3.20	4.58	19.5	70.0		89	321		221	79	
A		17	1	86	93	2.030	3.20	4.06	32.5	115.0		132	467		326	115	
A		18	1	86	69	1.811	3.20	3.62	30.0	100.0		109	362		268	89	
A		19	1	86	67	1.625	3.20	3.25	31.5	100.0		102	325		253	80	
A		21	1	86	74	1.330	3.20	2.66	42.0	130.0		112	346		276	85	
A		28	1	87	83	.748	3.20	1.50	80.0	295.0		120	442		296	109	

TC PSTNDSUM		Stand Table Summary										Page 2		
												Date: 4/4/2025		
T07N R06W S20 Ty00CC 247.00					Project PEBB					Time: 10:46:07AM				
					Acres 247.00					Grown Year:				
S Sp	T	Tot Sample FF Av DBH Trees 16' Ht			Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Net Cu.Ft. Bd.Ft.		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons Cunits MBF	
A		Totals	8	86 84	15.438	25.60	30.88	30.1	102.1		929	3,151	2,294	778
NF		24	2	86 105	2.037	6.40	5.09	55.6	220.0		283	1,120	699	277
NF		Totals	2	86 105	2.037	6.40	5.09	55.6	220.0		283	1,120	699	277
C		13	1	85 34	.868	.80	.87	13.0	30.0		11	26	28	6
C		17	1	74 61	.508	.80	.51	39.0	60.0		20	30	49	8
C		Totals	2	81 44	1.375	1.60	1.38	22.6	41.1		31	56	77	14
SN		32	1	88 50	.358	2.00								
SN		39	1	72 130	.241	2.00								
SN		Totals	2	82 82	.599	4.00								
Totals			124	86 100	100.456	248.80	224.56	47.1	189.2		10,577	42,492	26,125	10,496

LOGGING PLAN MAP

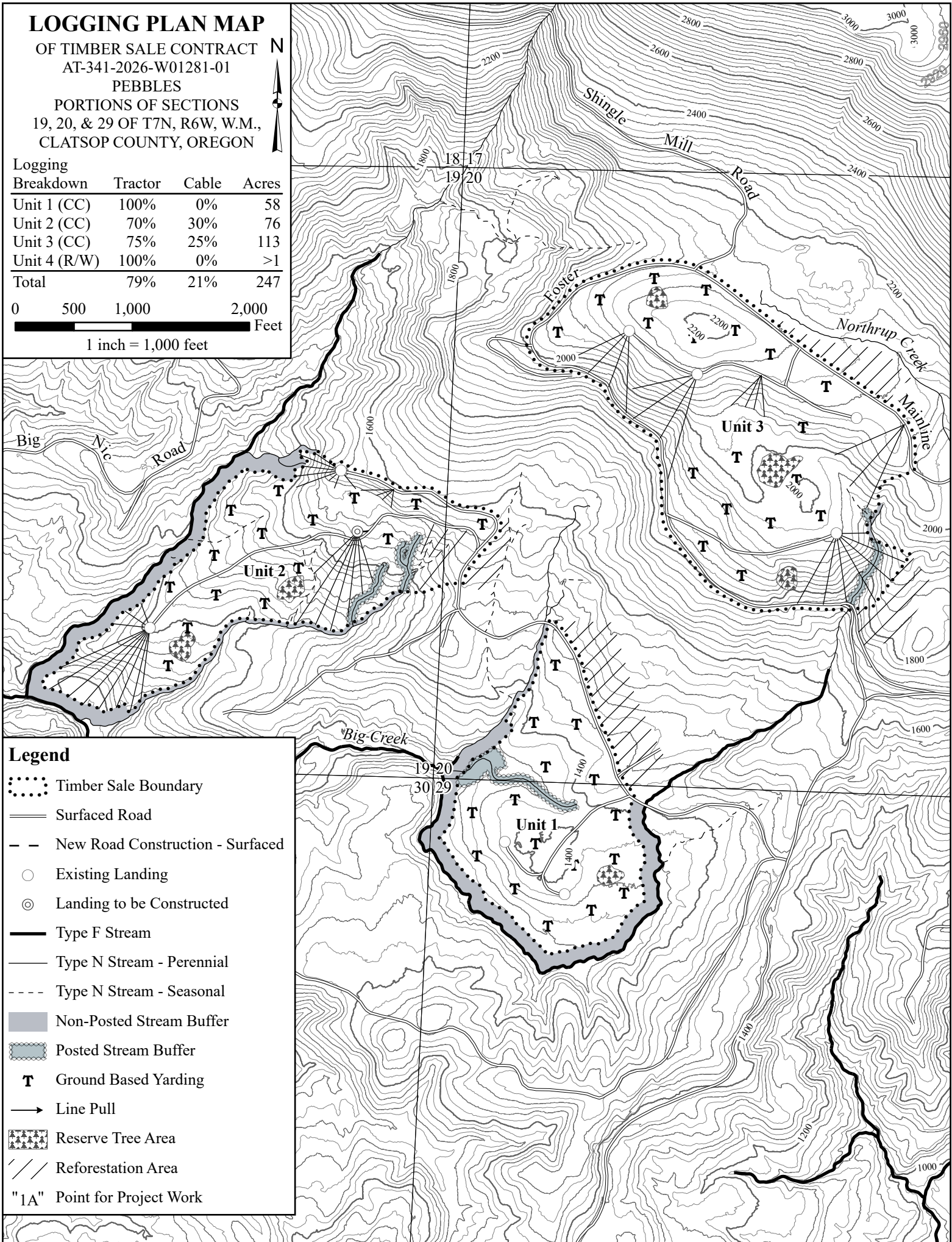
OF TIMBER SALE CONTRACT
AT-341-2026-W01281-01
PEBBLES
PORTIONS OF SECTIONS
19, 20, & 29 OF T7N, R6W, W.M.,
CLATSOP COUNTY, OREGON



Logging

Breakdown	Tractor	Cable	Acres
Unit 1 (CC)	100%	0%	58
Unit 2 (CC)	70%	30%	76
Unit 3 (CC)	75%	25%	113
Unit 4 (R/W)	100%	0%	>1
Total	79%	21%	247

0 500 1,000 2,000
Feet
1 inch = 1,000 feet



Legend

- Timber Sale Boundary
- Surfaced Road
- - - New Road Construction - Surfaced
- Existing Landing
- ⊙ Landing to be Constructed
- Type F Stream
- Type N Stream - Perennial
- - - Type N Stream - Seasonal
- Non-Posted Stream Buffer
- ▨ Posted Stream Buffer
- T Ground Based Yarding
- Line Pull
- ▨ Reserve Tree Area
- /// Reforestation Area
- "1A" Point for Project Work