



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Salmon Tail
Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,292,281.82	\$548.20	\$2,292,830.02
		Project Work:	(\$71,426.00)
		Advertised Value:	\$2,221,404.02



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Salmon Tail
Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	98
Western Hemlock / Fir	20	0	98
Alder (Red)	16	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	3,524	649	0	4,173
Western Hemlock / Fir	238	65	0	303
Alder (Red)	0	0	4	4
Total	3,762	714	4	4,480

Comments: Pond Values Used: Local Pond Values, October 2020.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$835.30/\text{MBF} = \$1,125/\text{MBF} - \$289.70/\text{MBF}$

BRANDING AND PAINTING COST ALLOWANCE = $\$2.00/\text{MBF}$

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

HAULING COST ALLOWANCE

Hauling costs equivalent to $\$950$ daily truck cost.

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

None

Other Costs (No Profit & Risk added):

Machine Time to Block/Waterbar Roads, and Skid Trails:

$20 \text{ hours} \times \$150/\text{hour} = \$3,000$

Machine Time to Pile Landing Slash:

$10 \text{ hours} \times \$150/\text{hour} = \$1,500$

Equipment Cleaning: $3 \text{ pieces} \times \$1,000/\text{Piece} = \$3,000$

Slash Treatment: $12 \text{ acres} \times \$200/\text{acre} = \$2,400$

TOTAL Other Costs (No Profit & Risk added) = $\$9,900$

ROAD MAINTENANCE

Move-in (Includes: Move-in, Grading, Rolling, Spot Rocking): $\$2,734.20$

General Road Maintenance: $7.96 \text{ miles} \times \$2,136.25 = \$17,004.53$

TOTAL Road Maintenance: $\$19,738.73/4480 \text{ MBF} = \$4.40/\text{MBF}$



Timber Sale Appraisal
Salmon Tail
Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Logging Conditions

Combination#: 1

Douglas - Fir	70.00%
Western Hemlock / Fir	70.00%
Alder (Red)	70.00%

Logging System: Cable: Large Tower >=70 **Process:** Stroke Delimber
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 9 **bd. ft / load:** 4500
cost / mbf: \$153.09
machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Large)

Combination#: 2

Douglas - Fir	30.00%
Western Hemlock / Fir	30.00%
Alder (Red)	30.00%

Logging System: Shovel **Process:** Feller Buncher
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 7 **bd. ft / load:** 4500
cost / mbf: \$112.32
machines: Feller Buncher w/ Delimber



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Salmon Tail Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Logging Costs

Operating Seasons: 2.00	Profit Risk: 15%
Project Costs: \$71,426.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$9,900.00

Miles of Road

Road Maintenance: \$4.40

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	4.8
Western Hemlock / Fir	\$0.00	2.0	4.0
Noble Fir	\$0.00	2.0	4.0
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Salmon Tail Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$140.86	\$4.49	\$1.96	\$100.94	\$0.00	\$37.24	\$0.00	\$2.00	\$2.21	\$289.70
Western Hemlock / Fir									
\$140.86	\$4.49	\$1.96	\$121.12	\$0.00	\$40.26	\$0.00	\$2.00	\$2.21	\$312.90
Alder (Red)									
\$140.86	\$4.62	\$1.96	\$166.25	\$0.00	\$47.05	\$0.00	\$2.00	\$2.21	\$364.95

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$818.56	\$528.86	\$0.00
Western Hemlock / Fir	\$0.00	\$594.58	\$281.68	\$0.00
Alder (Red)	\$0.00	\$502.00	\$137.05	\$0.00



Timber Sale Appraisal
Salmon Tail
Sale FG-341-2021-W00476-01

District: Forest Grove

Date: December 17, 2020

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,173	\$528.86	\$2,206,932.78
Western Hemlock / Fir	303	\$281.68	\$85,349.04
Alder (Red)	4	\$137.05	\$548.20

Gross Timber Sale Value

Recovery: \$2,292,830.02

Prepared By: Adrian Torres

Phone: 503-359-7460

TIMBER SALE SUMMARY
Salmon Tail
FG-341-2021-W00476-01

1. **Location:** Portions of Sections 17, 18 and 20, T3N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is 82 net acres of Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF; 100% Tillamook County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in December of 2020. For more information, see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a well-stocked, partially thinned 70-year old Douglas-fir stand with minor amounts of western hemlock, noble fir and red alder. This timber stand has an average of 225 ft² of basal area, an average Douglas-fir DBH of 24 inches, and an estimated average net Douglas-fir volume of approximately 50.9 MBF per acre.
7. **Topography and Logging Method:** Slopes within the Timber Sale Area range from 5% to 80% with a mainly southeastern aspect. The Timber Sale Area is 70% cable-based yarding and 30% ground-based yarding. The average cable corridor length is approximately 500 feet and the maximum is approximately 1,200 feet. The average horizontal skid trail length is approximately 200 feet and the maximum is approximately 700 feet.
8. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove, travel north on Highway 47 through Banks then merge onto Highway 26 west-bound and continue for approximately 20 miles. Between the 31 and the 32 mile markers, turn left onto the Salmonberry Road and continue for approximately 4.8 miles to the northeast side of the Timber Sale Area.
9. **Projects:**

Project No. 1: Rocked Road Construction	\$17,545.53
Project No. 2: Road Improvement	\$53,880.47

Total Credit for all Projects	\$71,426.00
-------------------------------	-------------

PROJECT COST SUMMARY SHEET

Timber Sale: Salmon Tail
Sale Number: FG-341-2020-W00476-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	<u>A to B</u>	<u>9+20</u>	<u>\$16,045.20</u>
		9+20 stations	
		0.17 miles	
Total Rock =	107 cy	1½" - 0	
	922 cy	Jaw-run	
		Move-in =	<u>\$1,500.33</u>
		<u>TOTAL PROJECT COST =</u>	<u>\$17,545.53</u>

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	<u>C to D</u>	<u>92+40</u>	<u>\$49,273.13</u>
		92+40 stations	
		1.75 miles	
Total Rock =	24 cy	1½" - 0	
	3,165 cy	Jaw-run	
		Move-in =	<u>\$4,607.34</u>
		<u>TOTAL PROJECT COST =</u>	<u>\$53,880.47</u>
		<u>TOTAL CREDITS =</u>	<u>\$71,426.00</u>

SUMMARY OF CONSTRUCTION COST

Timber Sale: Salmon Tail
Road Segment: A to B

Sale Number: FG-341-2020-W00476-01
Construction: 9+20 stations
0.17 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	1.06	ac @	\$1,078.00	per ac =	\$1,142.68
Balanced road construction	7.05	sta @	\$110.00	per sta =	\$775.50
Adverse Drift	2.15	sta @	\$360.00	per sta =	\$774.00
Remove large stumps	4	ea @	\$82.50	per ea =	\$330.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Roadside 50' landing	1	ea @	\$165.00	per ea =	\$165.00
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	9.20	sta @	\$36.00	per sta =	\$331.20

TOTAL CONSTRUCTION COSTS = \$3,980.88

CULVERTS

Culverts and Bands					
18" Diameter	70	LF @	\$20.00	per LF =	\$1,400.00
Markers & Stakes					
Culvert markers	2	ea @	\$10.00	per ea =	\$20.00

TOTAL CULVERT COSTS = \$1,420.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$6.91	\$3.18	\$0.50	24	\$254.04
				Subtotal =	24	\$254.04
Surfacing rock						
Surfacing rock	Jaw-run	\$8.17	\$3.00	\$1.22	598	\$7,408.60
Junction	1½" - 0	\$6.91	\$3.18	\$1.22	24	\$271.32
Turnout	Jaw-run	\$8.17	\$3.00	\$1.22	29	\$359.28
Turnaround	Jaw-run	\$8.17	\$3.00	\$1.22	20	\$247.78
Traction rock	1½" - 0	\$6.91	\$3.18	\$1.22	59	\$661.35
Roadside landing	Jaw-run	\$8.17	\$3.00	\$1.22	95	\$1,176.95
70' Landing	Jaw-run	\$8.17	\$3.00	\$1.22	180	\$2,230.01
				Subtotal =	1,005	\$10,125.28

Totals	All Rock =	1,029
	1½" - 0 =	107
	Jaw-run =	922

TOTAL ROCK COSTS = \$10,379.32

EROSION CONTROL

Grass seed & fertilizer	0.53	ac @	\$500.00	per ac =	\$265.00
-------------------------	------	------	----------	----------	----------

TOTAL EROSION CONTROL COSTS = \$265.00

TOTAL PROJECT COST = \$16,045.20

SUMMARY OF CONSTRUCTION COST

Timber Sale: Salmon Tail
Road Segment: C to D

Sale Number: FG-341-2020-W00476-01
Improvement: 92+40 stations
1.75 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	1.07	ac @	\$1,078.00	per acre =	\$1,153.46
Clean ditch & scatter waste material	92.40	sta @	\$60.00	per sta =	\$5,544.00
Clean culvert inlet & outlet, scatter waste	13	ea @	\$25.00	per ea =	\$325.00
Construct Settling Ponds	6	ea @	\$25.00	per ea =	\$150.00
Improve Turnouts	4	ea @	\$33.00	per ea =	\$132.00
Improve Roadside 50' landing	3	ea @	\$82.50	per ea =	\$247.50
Improve Roadside 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	92.40	sta @	\$36.00	per sta =	\$3,326.40

TOTAL IMPROVEMENT COSTS = \$11,035.36

CULVERTS

Culverts and Bands					
18" Diameter	30	LF @	\$20.00	per LF =	\$600.00
Markers & Stakes					
Culvert Markers	10	ea @	\$10.00	per ea =	\$100.00
Additional Culvert Cost					
Inlet repair at 30+10	1	hrs @	\$175.00	per hr =	\$175.00

TOTAL CULVERT COSTS = \$875.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$6.91	\$4.82	\$0.50	24	\$293.40
				Subtotal =	24	\$293.40
Surfacing rock						
Surfacing rock	Jaw-run	\$8.17	\$2.25	\$1.22	2,864	\$33,338.66
Junction	Jaw-run	\$8.17	\$2.25	\$1.22	24	\$279.34
Turnout	Jaw-run	\$8.17	\$2.25	\$1.22	56	\$651.78
Roadside landings	Jaw-run	\$8.17	\$2.25	\$1.22	221	\$2,572.21
				Subtotal =	3,165	\$36,841.99

Totals

All Rock =	3,189
1½" - 0 =	24
Jaw-run =	3,165

TOTAL ROCK COSTS = \$37,135.39

EROSION CONTROL

Grass seed & fertilizer	0.54	ac @	\$425.00	per ac =	\$227.38
Straw Mulch Acre	0.00	ac @	\$600.00	per ac =	\$0.00
Straw Mulch Bale	0	ea @	\$10.00	per ea =	\$0.00
Bio-Bag	0	ea @	\$5.00	per ea =	\$0.00

TOTAL EROSION CONTROL COSTS = \$227.38

TOTAL PROJECT COST = \$49,273.13

Timber Sale: Salmon Tail

PROJECT No. 1 & 2 MOVE-IN & CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$1,096.18
Roller (smooth/grid) & Compactor	\$605.53
Excavator (Large) - Equipment Cleaning	\$2,096.18
Dozer (Large) - Equipment Cleaning	\$2,140.76
Dump Truck (10cy +)	\$169.02
<u>TOTAL MOVE-IN COSTS =</u>	<u>\$6,107.67</u>

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Salmon Tail
Sale Number: FG-341-2020-W00476-01
Quarry Name: Salmonback Quarry

4" -0 Jaw-run: 4,087 cy (truck measure)
Total truck yardage: 4,087 cy
Total in place yardage: 3,494 cy
Oversize - Pile: 10%
Swell: 130%
Compaction: 116%

Move-in & Other Base Cost

Quarry development & overburden removal	\$2,673.41
Equipment cleaning & move in excavator	\$2,120.11
Equipment cleaning & move in dozer	\$2,074.02
Move in loader	\$967.62
Move in & setup crusher	\$1,574.02
Move in Dump Trucks	\$507.60
Erosion Control - Mulch Bale	\$150.00
Clean up quarry	\$500.00
Subtotal =	<u>\$10,566.78</u>
Per CY =	<u>\$2.59/cy</u>

4" -0 Jaw-run Base Cost

Rip Rock	<u>\$2.10</u>	/ cy x	<u>3,494</u>	cy =	\$7,336.36
Oversize - Pile	<u>\$0.80</u>	/ cy x	<u>454</u>	cy =	\$363.32
Load crusher	<u>\$0.80</u>	/ cy x	<u>4,087</u>	cy =	\$3,269.92
Crush (Jaw-run)	<u>\$2.10</u>	/ cy x	<u>4,087</u>	cy =	\$8,583.54
Load dump truck	<u>\$0.80</u>	/ cy x	<u>4,087</u>	cy =	\$3,269.92
Subtotal =					<u>\$22,823.06</u>
Per CY =					<u>\$5.58/cy</u>
Total =					<u><u>\$33,389.84</u></u>

4" -0 Jaw-run Base Cost = **\$8.17/cy**

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Salmon Tail
Sale Number: FG-341-2020-W00476-01
Stockpile Name: Rock Creek Ridge Stockpile

1 1/2" - 0: 131 cy (truck measure)
Total truck yardage: 131 cy

Move-in

Move in loader					\$695.16
Move in Dump Trucks					\$101.55
				Subtotal =	\$796.71
				Per CY =	\$6.11/cy

1 1/2"-0 Base Cost

Load dump truck	<u>\$0.80</u>	/ cy x	<u>131</u>	cy =	\$104.40
				Subtotal =	\$104.40
				Per CY =	\$0.80
				Total =	\$901.11

1 1/2"-0 Cost = **\$6.91/cy**

CRUISE REPORT
Salmon Tail
FG-341-2021-W00476-01

1. LOCATION: Portions of Sections 17, 18 & 20, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 20 inches and the coefficient of variation is about 56%. For sales of this size and approximate value, ODF cruise standards require a sampling error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using a 40 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was sampled in December 2020 with 34 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 4 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

191 trees were measured and graded producing a cumulative Sampling Error of 7% on the Douglas-fir basal area and 6.3% for the Douglas-fir net board foot volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a top DIB of six inches (or 25% of DBH, whichever is larger) for conifers.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

6. DATA PROCESSING:

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics were derived from Super Ace 2008 cruise software.
- b) **Deductions:** The following percent volume deductions are by species to account for the hidden defect and breakage. For conifers two percent was deducted. For hardwoods five percent was deducted.

7. CRUISERS: The sale was cruised by ODF cruisers Adrian Torres and Mark Savage.

Prepared by: Adrian Torres 12/10/2020
Date

Reviewed by: Mark Savage 12/16/2020
Date

TC PSTATS			PROJECT STATISTICS						PAGE	1	
			PROJECT			SALMTRA			DATE	12/17/2020	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
03N	06	17	00A1	00MC		82.00		34	191	S	W
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES			
TOTAL			34	191	5.6						
CRUISE			34	191	5.6	6,105		3.1			
DBH COUNT											
REFOREST											
COUNT											
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			175	67.1	23.7	132	42.3	205.9	52,119	51,914	10,365
WHEMLOCK			11	5.7	20.4	104	2.9	12.9	2,583	2,576	571
NOB FIR			4	.8	32.7	151	0.8	4.7	1,175	1,175	236
R ALDER			1	.8	16.0	45	0.3	1.2	51	51	23
TOTAL			191	74.5	23.5	129	46.3	224.7	55,928	55,716	11,195
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			62.9	4.8	1,208	1,269	1,329				
WHEMLOCK			79.1	25.0	481	642	802				
NOB FIR			41.3	23.6	1,188	1,555	1,922				
R ALDER											
TOTAL			64.6	4.7	1,175	1,232	1,290	167	42	19	
CL	68.1	COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
DOUG FIR			55.6	4.2	234	245	255				
WHEMLOCK			65.0	20.5	108	136	164				
NOB FIR			32.1	18.4	252	308	365				
R ALDER											
TOTAL			57.0	4.1	229	239	248	130	32	14	
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			89.7	15.4	57	67	77				
WHEMLOCK			214.1	36.7	4	6	8				
NOB FIR			346.5	59.4	0	1	1				
R ALDER			583.1	99.9	0	1	2				
TOTAL			78.4	13.4	64	74	84	246	61	27	
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			40.6	7.0	192	206	220				
WHEMLOCK			197.3	33.8	9	13	17				
NOB FIR			347.9	59.6	2	5	8				
R ALDER			583.1	99.9	0	1	2				
TOTAL			37.2	6.4	210	225	239	55	14	6	
CL	68.1	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
DOUG FIR			36.9	6.3	48,636	51,914	55,193				
WHEMLOCK			199.5	34.2	1,696	2,576	3,457				
NOB FIR			367.3	62.9	435	1,175	1,914				

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT	SALMTRA			DATE	12/17/2020	
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
03N	06	17	00A1	00MC	82.00		34	191	S	W
CL	68.1	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
R ALDER			583.1	99.9	0	51	101			
TOTAL			34.9	6.0	52,389	55,716	59,043	49	12	5
CL	68.1	COEFF		NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR			36.5	6.2	9,718	10,365	11,013			
WHEMLOCK			198.3	34.0	377	571	765			
NOB FIR			357.6	61.3	91	236	381			
R ALDER			583.1	99.9	0	23	46			
TOTAL			34.3	5.9	10,537	11,195	11,853	47	12	5

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T03N R06W S17 Ty00MC82.00				Project: SALMTRAW												Page 1					
				Acres 82.00												Date 12/17/2020					
																Time 6:43:23AM					
Spp	S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs
				Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	Per /Acre
				BdFt					4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF			CU														5	21		0.00	1.9
DF			2M	84	.4	44,034	43,848	3,596			25	75	1	1		99	40	18	545	2.56	80.5
DF			3M	13	.2	7,037	7,021	576		97	3		0	1	1	98	39	8	107	0.74	65.4
DF			4M	3	.2	1,048	1,045	86		100			33	47	15	5	22	6	31	0.38	33.9
DF Totals				93	.4	52,119	51,914	4,257		15	21	63	1	2	0	97	36	12	286	1.59	181.7
WH			CU														4	14		0.00	1.0
WH			2M	72		1,876	1,876	154			48	52				100	40	16	420	2.09	4.5
WH			3M	22	1.2	576	569	47		89	11			15		85	37	9	116	0.83	4.9
WH			4M	6		131	131	11		100			47	24		29	21	6	27	0.44	4.8
WH Totals				5	.3	2,583	2,576	211		25	37	38	2	5		93	31	10	170	1.23	15.1
RA			CR	100		51	51	4		100					100		33	7	60	0.83	.8
RA Totals				0		51	51	4		100					100		33	7	60	0.83	.8
NF			2M	92		1,081	1,081	89			22	78				100	40	19	668	3.19	1.6
NF			3M	8		94	94	8		56	44			12	14	74	35	9	116	1.04	.8
NF Totals				2		1,175	1,175	96		4	24	71		1	1	98	38	16	484	2.54	2.4
Totals					0.4	55,928	55,716	4,569		15	22	62	1	2	1	97	36	12	278	1.57	200.1

TC	Stand Table Summary											Page	1					
Date:														12/17/2020				
T03N R06W S17 Ty00MC					82.00		Project						SALMTRAW		Time:		6:43:24AM	
							Acres						82.00		Grown Year:			
S SpC	T	Tot			Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals					
		DBH	Sample Trees	FF 16'				Av Ht	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF		
DF		8	1	86	75	3.370	1.18	3.37	5.1	30.0	.49	17	101	40	14	8		
DF		10	1	88	76	2.157	1.18	2.16	12.8	60.0	.78	28	129	64	23	11		
DF		11	2	87	86	3.565	2.35	5.35	11.4	50.0	1.74	61	267	143	50	22		
DF		12	1	89	95	1.498	1.18	3.00	11.4	45.0	.97	34	135	80	28	11		
DF		13	2	85	95	2.553	2.35	5.11	14.1	57.5	2.06	72	294	169	59	24		
DF		14	2	89	117	2.201	2.35	4.40	20.5	92.5	2.57	90	407	211	74	33		
DF		15	2	89	128	1.917	2.35	3.83	24.3	110.0	2.65	93	422	218	76	35		
DF		16	4	86	118	3.370	4.71	6.74	26.1	108.8	5.02	176	733	412	144	60		
DF		17	1	89	124	.746	1.18	1.49	32.3	135.0	1.38	48	202	113	40	17		
DF		18	5	88	128	3.329	5.88	9.32	27.4	115.0	7.27	255	1,072	596	209	88		
DF		19	5	88	134	2.988	5.88	8.96	30.8	137.3	7.87	276	1,231	645	226	101		
DF		20	5	88	133	2.696	5.88	8.09	33.0	144.7	7.62	267	1,170	625	219	96		
DF		21	4	87	128	1.956	4.71	5.87	34.5	160.0	5.78	203	939	474	166	77		
DF		22	6	87	129	2.674	7.06	7.58	41.0	181.2	8.86	311	1,373	726	255	113		
DF		23	9	88	143	3.670	10.59	11.01	48.0	220.4	15.07	529	2,426	1,235	433	199		
DF		24	7	87	143	2.621	8.24	7.86	51.1	229.5	11.45	402	1,805	939	329	148		
DF		25	8	89	152	2.761	9.41	8.97	54.7	260.8	13.98	490	2,340	1,146	402	192		
DF		26	5	87	141	1.595	5.88	4.79	60.1	278.7	8.20	288	1,334	672	236	109		
DF		27	5	87	145	1.479	5.88	4.44	66.4	314.7	8.40	295	1,397	689	242	115		
DF		28	8	88	159	2.201	9.41	7.15	70.8	362.7	14.43	506	2,594	1,183	415	213		
DF		29	11	88	162	2.821	12.94	10.00	70.1	363.8	19.98	701	3,639	1,638	575	298		
DF		30	8	86	151	1.917	9.41	5.99	81.5	403.6	13.91	488	2,418	1,141	400	198		
DF		31	7	88	154	1.571	8.24	5.16	84.8	439.1	12.48	438	2,267	1,024	359	186		
DF		32	11	88	164	2.317	12.94	8.00	91.4	484.7	20.85	731	3,880	1,709	600	318		
DF		33	10	88	161	1.981	11.76	6.73	96.9	513.2	18.60	653	3,456	1,526	535	283		
DF		34	8	87	156	1.493	9.41	4.66	108.9	569.2	14.48	508	2,655	1,187	417	218		
DF		35	9	86	156	1.585	10.59	5.11	107.4	568.3	15.63	548	2,902	1,281	450	238		
DF		36	5	89	167	.832	5.88	3.16	108.8	616.8	9.81	344	1,951	804	282	160		
DF		37	3	88	169	.473	3.53	1.73	119.9	671.8	5.92	208	1,164	486	170	95		
DF		38	5	86	152	.747	5.88	2.39	128.1	674.4	8.73	306	1,612	716	251	132		
DF		39	7	86	168	.993	8.24	3.69	125.7	700.0	13.21	463	2,581	1,083	380	212		
DF		40	3	88	165	.404	3.53	1.48	137.1	773.6	5.80	203	1,147	475	167	94		
DF		41	3	88	173	.385	3.53	1.41	144.1	820.9	5.80	203	1,159	475	167	95		
DF		42	1	89	169	.122	1.18	.49	143.9	850.0	2.01	70	416	165	58	34		
DF		45	1	84	144	.107	1.18	.32	180.9	926.7	1.65	58	296	135	47	24		
DF		Totals	175	87	131	67.097	205.88	179.83	57.6	288.7	295.41	10,365	51,914	24,224	8,500	4,257		
WH		14	1	91	72	1.101	1.18	2.20	14.3	50.0	1.01	32	110	83	26	9		
WH		15	1	83	69	.959	1.18	1.92	13.8	55.0	.85	27	105	70	22	9		
WH		19	1	84	103	.598	1.18	1.20	37.4	130.0	1.43	45	155	117	37	13		
WH		20	1	83	109	.539	1.18	1.08	42.9	155.0	1.48	46	167	121	38	14		
WH		21	1	94	135	.489	1.18	1.47	41.8	206.7	1.96	61	303	161	50	25		
WH		22	1	86	118	.446	1.18	1.34	38.5	166.7	1.65	51	223	135	42	18		
WH		24	2	88	119	.749	2.35	2.25	48.5	216.7	3.49	109	487	286	89	40		
WH		25	1	93	143	.345	1.18	1.04	62.8	316.7	2.08	65	328	171	53	27		
WH		30	2	89	149	.479	2.35	1.68	80.4	415.7	4.32	135	697	354	111	57		
WH		Totals	11	88	104	5.704	12.94	14.16	40.3	182.0	18.27	571	2,576	1,498	468	211		
NF		29	1	85	161	.256	1.18	.77	80.9	403.3	1.49	62	310	123	51	25		
NF		31	1	83	136	.224	1.18	.67	80.6	366.7	1.30	54	247	107	45	20		
NF		34	1	83	139	.187	1.18	.56	99.1	470.0	1.33	55	263	109	45	22		
NF		39	1	83	174	.142	1.18	.43	150.6	833.3	1.54	64	355	126	53	29		
NF		Totals	4	84	151	.809	4.71	2.43	97.2	483.9	5.67	236	1,175	465	194	96		

TC		PSTNDSUM										Stand Table Summary						Page		2	
												Date:		12/17/2020							
		T03N R06W S17 Ty00MC				82.00		Project		SALMTRAW				Time:		6:43:24AM					
								Acres		82.00				Grown Year:							
S	T				Tot					Average Log						T o t a l s					
		Sample		FF	Av	Trees/ Acre	BA/ Acre	Logs Acre	Net	Net	Net	Net	Net								
Spc		DBH	Trees	16'	Ht							Cu.Ft.	Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF		
RA		16	1	81	45	.843	1.18	.84	27.4	60.0	.64	23	51	52	19	4					
RA		Totals	1	81	45	.843	1.18	.84	27.4	60.0	.64	23	51	52	19	4					
Totals		191			87	129	74.453	224.71	197.26	56.8	282.5	319.98	11,195	55,716	26,239	9,180	4,569				

TC		PLOGSTVB		Log Stock Table - MBF															
T03N R06W S17 Ty00MC 82.00				Project: SALMTRAW Acres 82.00		Page 2 Date 12/17/2020 Time 6:43:23AM													
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+	
DF		4M 32	2		2	.0			2										
DF		4M 33	5		5	.1			5										
DF		4M 34	4		4	.1			4										
DF		4M 37	2		2	.1			2										
DF		4M 39	2		2	.0			2										
DF		Totals	4,274		4,257	93.2			202	171	269	314	345	999	1007	844	106		
WH		2M 40	154		154	72.8					24	21	73	15	20				
WH		3M 26	7		7	3.3				7									
WH		3M 40	40	1.5	40	18.7			5	13	17	5							
WH		4M 12	1		1	.4			1										
WH		4M 15	1		1	.3			1										
WH		4M 17	1		1	.3			1										
WH		4M 18	2		2	1.0			2										
WH		4M 19	1		1	.3			1										
WH		4M 29	1		1	.5			1										
WH		4M 30	2		2	.8			2										
WH		4M 40	3		3	1.5			3										
WH		Totals	212		211	4.6			15	13	24	24	26	73	15	20			
RA		CR 33	4		4	100.0			4										
RA		Totals	4		4	.1			4										
NF		2M 40	89		89	92.0						5	15	53	16				
NF		3M 29	1		1	1.0			1										
NF		3M 32	1		1	1.1			1										
NF		3M 39	2		2	2.4			2										
NF		3M 40	3		3	3.5						3							
NF		Totals	96		96	2.1			1	3			9	15	53	16			
Total		All Species	4,586		4,569	100.0			223	187	293	338	380	1087	1075	880	106		

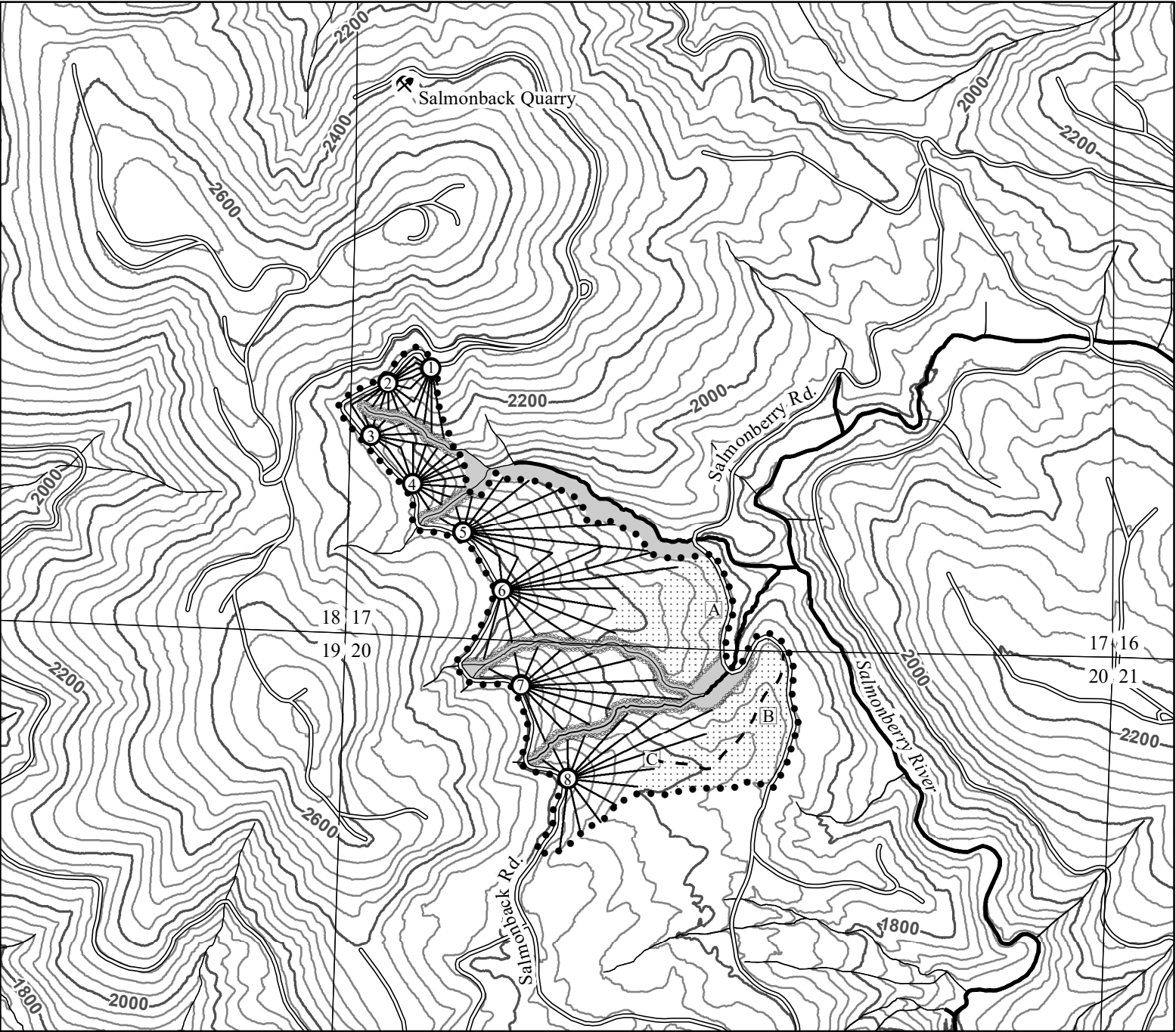
Volume Summary
(Shown in MBF)
Salmon Tail
FG-341-2021-W00476-01
December 2020

UNIT 1: MC (82 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	3,596	576	86	0	4,258
	Hidden D&B (2%)	(72)	(11)	(2)	(0)	(85)
	NET TOTAL	3,524	565	84	0	4,173
	% of Total	84	14	2	0	
Western hemlock	Cruise Volume	154	47	11	0	212
	Hidden D&B (2%)	(3)	(1)	(0)	(0)	(4)
	NET TOTAL	151	46	11	0	208
	% of Total	73	22	5	0	
Noble fir	Cruise Volume	89	8	0	0	97
	Hidden D&B (2%)	(2)	(0)	(0)	(0)	(0)
	NET TOTAL	87	8	0	0	95
	% of Total	92	8	0	0	
Red alder	Cruise Volume	0	0	0	4	4
	Hidden D&B (5%)	(0)	(0)	(0)	(0)	(0)
	NET TOTAL	0	0	0	4	4
	% of Total	0	0	0	100	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	3,524	565	84	0	4,173
Western hemlock	151	46	11	0	208
Noble fir	87	8	0	0	95
Red alder	0	0	0	4	4
Total	3,762	619	95	4	4,480



- Legend**
- Timber Sale Boundary
 - - - - - Stream Buffer Boundary
 - Surfaced Roads
 - - - New Construction Road
 - Type-F Stream
 - Type-N Stream
 - Stream Buffer
 - Cable Yarding Area
 - Tractor Yarding Area
 - Cable Landing
 - Tractor Landing
 - Quarry
 - Section Lines
 - 40 Foot Contour Band
 - 200 Foot Contour Band

LOGGING PLAN

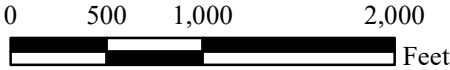
FOR TIMBER SALE CONTRACT #FG-341-2021-W00476-01
SALMON TAIL
PORTIONS OF SECTIONS 17, 18 & 20, T3N, R6W, W.M.,
TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
December, 2020

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.

1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
TOTAL	25	57