



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Devilooze
Sale FG-341-2022-W00860-01

District: Forest Grove

Date: August 19, 2021

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,676,416.00	\$10,828.00	\$1,687,244.00
		Project Work:	(\$49,755.00)
		Advertised Value:	\$1,637,489.00



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District: Forest Grove

Date: August 19, 2021

Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	98
Alder (Red)	13	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,257	543	0	2,800
Alder (Red)	0	0	25	25
Total	2,257	543	25	2,825

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

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$842.42/\text{MBF} = \$1,054/\text{MBF} - \$211.58/\text{MBF}$

Western hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$396.42/\text{MBF} = \$608/\text{MBF} - \$211.58/\text{MBF}$

Bigleaf maple and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$168.12/\text{MBF} = \$455/\text{MBF} - \$286.88/\text{MBF}$

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/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 hours x \$150/hour = \$3,000

Machine Time to Pile Landing Slash:

20 hours x \$150/hour = \$3,000

Equipment Cleaning: 3 pieces x \$1,000/Piece = \$3,000

Slash Treatment: 36 acres x \$200/acre = \$7,200

TOTAL Other Costs (No Profit & Risk added) = \$16,200

ROAD MAINTENANCE

(Includes: Move-in, Grading, Rolling and Spot Rocking)

Move-in = \$2,497.47

General Road Maintenance: $5.80 \times \$2,430.11 = \$14,094.63$

TOTAL Road Maintenance: $\$16,592.10 / 2,825 \text{ MBF} = \$5.87/\text{MBF}$



Timber Sale Appraisal
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Logging Conditions

Combination#: 1 Douglas - Fir 26.00%
 Alder (Red) 26.00%

Logging System: Cable: Small Tower <=40 **Process:** Stroke Delimber

yarding distance: Short (400 ft) **downhill yarding:** No

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

loads / day: 10 **bd. ft / load:** 4600

cost / mbf: \$121.74

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Small)

Combination#: 2 Douglas - Fir 74.00%
 Alder (Red) 74.00%

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: 16 **bd. ft / load:** 4600

cost / mbf: \$48.07

machines: Feller Buncher w/ Delimber



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Devilooze
Sale FG-341-2022-W00860-01

District: Forest Grove

Date: August 19, 2021

Logging Costs

Operating Seasons: 2.00	Profit Risk: 15%
Project Costs: \$49,755.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$16,200.00

Miles of Road

Road Maintenance: \$5.87

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
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Devilooze Sale FG-341-2022-W00860-01

District: Forest Grove

Date: August 19, 2021

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$67.22	\$5.99	\$3.11	\$100.94	\$0.00	\$26.59	\$0.00	\$2.00	\$5.73	\$211.58
Alder (Red)									
\$67.22	\$6.16	\$3.11	\$166.25	\$0.00	\$36.41	\$0.00	\$2.00	\$5.73	\$286.88

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$810.30	\$598.72	\$0.00
Alder (Red)	\$0.00	\$720.00	\$433.12	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Devilooze
Sale FG-341-2022-W00860-01

District: Forest Grove

Date: August 19, 2021

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,800	\$598.72	\$1,676,416.00
Alder (Red)	25	\$433.12	\$10,828.00

Gross Timber Sale Value

Recovery: \$1,687,244.00

Prepared By: Adrian Torres

Phone: 503-359-7460

PROJECT COST SUMMARY SHEET

Timber Sale: Devilooze
Sale Number: FG-341-2022-W00860-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION

	Road Segment	Length	Cost
	K to L	7+00	\$7,103.84
	M to N	3+00	\$3,250.70
		10+00 stations 0.19 miles	
Total Rock =	928 cy	3" - 0	
		Move-in =	\$2,062.02
TOTAL PROJECT COST =			\$12,416.56

PROJECT NO. 2: ROAD IMPROVEMENT

	Road Segment	Length	Cost
	A to B	134+50	\$12,421.04
	C to D	12+40	\$1,630.35
	E to F	11+80	\$1,654.22
	G to H	12+80	\$1,652.25
	I to J	5+00	\$1,274.68
	P	-	\$156.00
	Q	-	\$156.00
	R	-	\$156.00
		176+50 stations 3.34 miles	
Total Rock =	424 cy 650 cy	1½" - 0 3" - 0	
		Move-in =	\$3,710.51
TOTAL PROJECT COST =			\$22,811.05

PROJECT NO. 3: ROAD VACATING

	Road Segment	Length	Cost
	V1 to V2	5+35	\$1,442.60
	V3 to V4	3+00	\$3,263.75
		8+35 stations 0.16 miles	
		Move-in =	\$937.23
TOTAL PROJECT COST =			\$5,643.58

PROJECT NO. 4: GATE CONSTRUCTION AND INSTALLATION

	Road Segment	Gate Size	Cost
	Point O	30'	\$7,408.48
Total Rock =	24 cy 12 cy	1½" - 0 36" - 24" Boulders	
		Move-in =	\$1,475.33
TOTAL PROJECT COST =			\$8,883.81

TOTAL CREDITS = \$49,755.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Segment: A to B

Sale Number: FG-341-2022-W00860-01
Improvement: 134+50 stations
2.55 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	1.55	ac @	\$1,078.00	per acre =	\$1,670.90
Clean culvert inlet & outlet, scatter waste	3	ea @	\$25.00	per ea =	\$75.00
Improve Turnouts	18	ea @	\$33.00	per ea =	\$594.00
Improve landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	134.50	sta @	\$36.00	per sta =	\$4,842.00

TOTAL IMPROVEMENT COSTS = \$7,291.90

CULVERTS

Culverts and Bands					
18" Diameter	40	LF @	\$20.00	per LF =	\$800.00
Markers & Stakes					
Culvert Markers	11	ea @	\$10.00	per ea =	\$110.00

TOTAL CULVERT COSTS = \$910.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$1.27	\$4.12	\$1.22	24	\$158.64
Subtotal =					24	\$158.64
Surfacing rock						
Spot rock	1½" - 0	\$1.27	\$4.12	\$1.22	400	\$2,644.00
Spot rock	3" - 0	\$1.27	\$4.12	\$1.22	150	\$991.50
Subtotal =					550	\$3,635.50

Totals	All Rock =	574
	1½" - 0 =	424
	3" - 0 =	150

TOTAL ROCK COSTS = \$3,794.14

EROSION CONTROL

Grass seed & fertilizer	1.00	ac @	\$425.00	per ac =	\$425.00
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TOTAL EROSION CONTROL COSTS = \$425.00

TOTAL PROJECT COST = \$12,421.04

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
 Road Segment: C to D

Sale Number: FG-341-2022-W00860-01
 Improvement: 12+40 stations
0.23 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.15	ac @	\$1,078.00	per acre =	\$161.70
Improve Turnouts	2	ea @	\$33.00	per ea =	\$66.00
Improve Turnarounds	1	ea @	\$41.25	per ea =	\$41.25
Improve landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	12.40	sta @	\$36.00	per sta =	\$446.40

TOTAL IMPROVEMENT COSTS = \$825.35

CULVERTS

Markers & Stakes					
Culvert Markers	2	ea @	\$10.00	per ea =	\$20.00

TOTAL CULVERT COSTS = \$20.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	3" - 0	\$1.27	\$3.79	\$1.22	100	\$628.00
Landing	3" - 0	\$1.27	\$3.79	\$1.22	25	\$157.00
Subtotal =					125	\$785.00

Totals	All Rock =	125
	3" - 0 =	125

TOTAL ROCK COSTS = \$785.00

TOTAL PROJECT COST = \$1,630.35

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
 Road Segment: E to F

Sale Number: FG-341-2022-W00860-01
 Improvement: 11+80 stations
0.22 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.14	ac @	\$1,078.00	per acre =	\$150.92
Clean culvert inlet & outlet, scatter waste	1	ea @	\$25.00	per ea =	\$25.00
Construct Settling Ponds	3	ea @	\$25.00	per ea =	\$75.00
Improve Turnouts	2	ea @	\$33.00	per ea =	\$66.00
Improve landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	11.80	sta @	\$36.00	per sta =	\$424.80

TOTAL IMPROVEMENT COSTS = \$851.72

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	3" - 0	\$1.27	\$3.93	\$1.22	100	\$642.00
Landing	3" - 0	\$1.27	\$3.93	\$1.22	25	\$160.50
				Subtotal =	125	\$802.50

Totals

All Rock =	125
3" - 0 =	125

TOTAL ROCK COSTS = \$802.50

TOTAL PROJECT COST = \$1,654.22

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Segment: G to H

Sale Number: FG-341-2022-W00860-01
Improvement: 12+80 stations
0.24 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.15	ac @	\$1,078.00	per acre =	\$161.70
Improve Turnouts	2	ea @	\$33.00	per ea =	\$66.00
Improve Turnarounds	1	ea @	\$41.25	per ea =	\$41.25
Improve landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	12.80	sta @	\$36.00	per sta =	\$460.80

TOTAL IMPROVEMENT COSTS = \$839.75

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	3" - 0	\$1.27	\$4.01	\$1.22	100	\$650.00
Landing	3" - 0	\$1.27	\$4.01	\$1.22	25	\$162.50
				Subtotal =	125	\$812.50

Totals	All Rock =	125
	3" - 0 =	125

TOTAL ROCK COSTS = \$812.50

TOTAL PROJECT COST = \$1,652.25

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
 Road Segment: I to J

Sale Number: FG-341-2022-W00860-01
 Improvement: 5+00 stations
0.09 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	0.06	ac @	\$1,078.00	per acre =	\$64.68
Improve landing	1	ea @	\$220.00	per ea =	\$220.00
Grade, ditch, & roll	5.00	sta @	\$36.00	per sta =	\$180.00

TOTAL IMPROVEMENT COSTS = \$464.68

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	3" - 0	\$1.27	\$3.99	\$1.22	100	\$648.00
Landing	3" - 0	\$1.27	\$3.99	\$1.22	25	\$162.00
Subtotal =					125	\$810.00

Totals

All Rock =	125
3" - 0 =	125

TOTAL ROCK COSTS = \$810.00

TOTAL PROJECT COST = \$1,274.68

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Segment: K to L

Sale Number: FG-341-2022-W00860-01
Construction: 7+00 stations
0.13 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.81	ac @	\$1,078.00	per ac =	\$873.18
Balanced road construction	7.00	sta @	\$110.00	per sta =	\$770.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$220.00	per ea =	\$220.00
Grade, ditch, & roll	7.00	sta @	\$36.00	per sta =	\$252.00

TOTAL CONSTRUCTION COSTS = \$2,197.68

CULVERTS

Culverts and Bands					
18" Diameter	30	LF @	\$20.00	per LF =	\$600.00
Markers & Stakes					
Culvert markers	1	ea @	\$10.00	per ea =	\$10.00

TOTAL CULVERT COSTS = \$610.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	3" - 0	\$1.27	\$4.13	\$1.22	455	\$3,012.10
Junction	3" - 0	\$1.27	\$4.13	\$1.22	48	\$317.76
Turnaround	3" - 0	\$1.27	\$4.13	\$1.22	20	\$132.40
Landing	3" - 0	\$1.27	\$4.13	\$1.22	95	\$628.90
				Subtotal =	618	\$4,091.16

Totals

All Rock =	618
3" - 0 =	618

TOTAL ROCK COSTS = \$4,091.16

EROSION CONTROL

Grass seed & fertilizer	0.41	ac @	\$500.00	per ac =	\$205.00
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TOTAL EROSION CONTROL COSTS = \$205.00

TOTAL PROJECT COST = \$7,103.84

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Segment: M to N

Sale Number: FG-341-2022-W00860-01
Construction: 3+00 stations
0.06 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.35	ac @	\$1,078.00	per ac =	\$377.30
Balanced road construction	3.00	sta @	\$110.00	per sta =	\$330.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$220.00	per ea =	\$220.00
Grade, ditch, & roll	3.00	sta @	\$36.00	per sta =	\$108.00

TOTAL CONSTRUCTION COSTS = \$1,117.80

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	3" - 0	\$1.27	\$4.10	\$1.22	195	\$1,285.05
Turnaround	3" - 0	\$1.27	\$4.10	\$1.22	20	\$131.80
Landing	3" - 0	\$1.27	\$4.10	\$1.22	95	\$626.05
				Subtotal =	310	\$2,042.90

Totals

All Rock =	310
3" - 0 =	310

TOTAL ROCK COSTS = \$2,042.90

EROSION CONTROL

Grass seed & fertilizer	0.18	ac @	\$500.00	per ac =	\$90.00
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TOTAL EROSION CONTROL COSTS = \$90.00

TOTAL PROJECT COST = \$3,250.70

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
 Road Segment: V1 to V2

Sale Number: FG-341-2022-W00860-01
 Vacating: 5+35 stations
0.10 miles

PROJECT NO. 3 ROAD VACATE

Construct tank traps	3	ea @	\$55.00	per ea =	\$165.00
Construct waterbars	2	ea @	\$27.50	per ea =	\$55.00
Rip rocked road surface	5.35	sta @	\$50.00	per sta =	\$267.50
Side cast / fill pullback	80.00	cy @	\$2.12	per cy =	\$169.60
Remove existing puncheon	1	ea @	\$150.00	per ea =	\$150.00
Grass seed & fertilizer	0.62	ac @	\$425.00	per ac =	\$263.50
Mulch	0.62	ac @	\$600.00	per ac =	\$372.00

TOTAL PROJECT COST = \$1,442.60

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
 Road Segment: V3 to V4

Sale Number: FG-341-2022-W00860-01
 Vacating: 3+00 stations
0.06 miles

PROJECT NO. 3 ROAD VACATE

Construct tank traps	2	ea @	\$55.00	per ea =	\$110.00
Fill Deconstruction					
Excavate	500	cy @	\$1.64	per cy =	\$820.00
Place and Compact fill	650	cy @	\$2.90	per cy =	\$1,885.00
Rip rocked road surface	3.00	sta @	\$50.00	per sta =	\$150.00
Remove existing culvert	1	ea @	\$150.00	per ea =	\$150.00
Grass seed & fertilizer	0.35	ac @	\$425.00	per ac =	\$148.75
TOTAL PROJECT COST =					\$3,263.75

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Point: O

Sale Number: FG-341-2022-W00860-01

PROJECT NO. 4

Gate Construction

20' Gate, Metal, paint and shop supplies	1	ea @	\$3,500.00	per ea =	\$3,500.00
Cutting, Welding and Painting	10	hr @	\$85.00	per hr =	\$850.00

GATE INSTALLATION

Pickup, Transport and Install Gate	1	ea @	\$1,200.00	per ea =	\$1,200.00
Painting, cutting, welding and concrete	1	ea @	\$1,750.00	per ea =	\$1,750.00

TOTAL GATE COSTS = \$7,300.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Blocking Boulders	36"-24"	\$0.80	\$0.68	\$1.22	12	\$32.40
Surfacing rock	1½" - 0	\$1.27	\$0.68	\$1.22	24	\$76.08
Subtotal =					36	\$108.48

Totals

All Rock =	36
1½" - 0 =	24
36" - 24" =	12

TOTAL ROCK COSTS = \$108.48

TOTAL PROJECT COST = \$7,408.48

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Point: P

Sale Number: FG-341-2022-W00860-01
Improvement:

PROJECT NO. 2

IMPROVEMENT

Clean ditch & scatter waste material	1.00	sta @	\$60.00	per sta =	\$60.00
Remove Road blocking material	1.00	sta @	\$60.00	per sta =	\$60.00
Grade, ditch, & roll	1.00	sta @	\$36.00	per sta =	<u>\$36.00</u>

TOTAL IMPROVEMENT COSTS = \$156.00

TOTAL PROJECT COST = \$156.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Point: Q

Sale Number: FG-341-2022-W00860-01
Improvement:

PROJECT NO. 2

IMPROVEMENT

Clean ditch & scatter waste material	1.00	sta @	\$60.00	per sta =	\$60.00
End-haul blocking material	1.00	sta @	\$60.00	per sta =	\$60.00
Grade, ditch, & roll	1.00	sta @	\$36.00	per sta =	<u>\$36.00</u>

TOTAL IMPROVEMENT COSTS = \$156.00

TOTAL PROJECT COST = \$156.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze
Road Point: R

Sale Number: FG-341-2022-W00860-01
Improvement:

PROJECT NO. 2

IMPROVEMENT

Clean ditch & scatter waste material	1.00	sta @	\$60.00	per sta =	\$60.00
End-haul blocking material	1.00	sta @	\$60.00	per sta =	\$60.00
Grade, ditch, & roll	1.00	sta @	\$36.00	per sta =	<u>\$36.00</u>

TOTAL IMPROVEMENT COSTS = \$156.00

TOTAL PROJECT COST = \$156.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Devilooze

Sale Number: FG-341-2022-W00860-01

PROJECT No. 1, 2 & 3 MOVE-IN, WITHIN AREA MOVE, & CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$849.62
Loader (Med. & Large)	\$757.00
Roller (smooth/grid) & Compactor	\$565.46
Excavator (Large) - Equipment Cleaning	\$1,849.62
Dozer (Large) - Equipment Cleaning	\$1,894.20
Dump Truck (Off Highway)	\$2,128.57
Water Truck (1,500 Gal)	\$140.62

TOTAL MOVE-IN COSTS = \$8,185.09

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Devilooze
Sale Number: FG-341-2022-W00860-01
Stockpile Name: Beaver Dam

1 1/2" - 0: 448 cy (truck measure)
3" - 0: 1,578 cy (truck measure)
Total truck yardage: 2,026 cy

Move-in

Move in loader					\$647.96
Move in Dump Trucks					<u>\$300.94</u>
				Subtotal =	<u>\$948.90</u>
				Per CY =	<u>\$0.47/cy</u>

1 1/2"-0 & 3"-0 Base Cost

Load dump truck	<u>\$0.80</u>	/ cy x	<u>2,026</u>	cy =	<u>\$1,620.80</u>
				Subtotal =	<u>\$1,620.80</u>
				Per CY =	<u>\$0.80</u>
				Total =	<u><u>\$2,569.70</u></u>

1 1/2"-0 Cost = **\$1.27/cy**
3"-0 Cost = **\$1.27/cy**

CRUISE REPORT
Devilooze
FG-341-2022-W00860-01

1. LOCATION: Portions of Sections 5, 6, 7 & 8, T1N, R5W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 17.5 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 July 2021 with 38 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

136 trees were measured and graded producing a cumulative Sampling Error of 6.2% on the Douglas-fir basal area and 5.5% 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 07/28/2021
Date

Reviewed by: Mark Savage 08/05/2021
Date

TC PSTATS				PROJECT STATISTICS				PAGE	1			
				PROJECT		DEVILOOZ		DATE	8/17/2021			
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt		
01N	05	05	00A1	00MC	97.00		38	136	S	W		
				TREES		ESTIMATED	PERCENT					
				PER PLOT		TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES					
TOTAL			38	136	3.6							
CRUISE			38	136	3.6	5,183		2.6				
DBH COUNT												
REFOREST												
COUNT												
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			132	48.9	22.8	123	29.1	138.9	29,580	29,446	6,383	6,383
R ALDER			4	4.5	13.1	63	1.2	4.2	266	266	82	82
TOTAL			136	53.4	22.2	118	30.4	143.2	29,846	29,712	6,465	6,465
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			51.4	4.5	748	783	819					
R ALDER			74.8	42.8	57	100	143					
TOTAL			54.2	4.6	728	763	799	117	29	13		
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			45.3	3.9	160	167	173					
R ALDER			73.1	41.8	18	31	43					
TOTAL			48.0	4.1	156	163	169	92	23	10		
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			80.1	13.0	43	49	55					
R ALDER			430.8	69.8	1	4	8					
TOTAL			75.9	12.3	47	53	60	230	57	26		
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			38.3	6.2	130	139	148					
R ALDER			483.4	78.3	1	4	8					
TOTAL			35.4	5.7	135	143	151	50	12	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			33.9	5.5	27,829	29,446	31,063					
R ALDER			616.4	99.9	0	266	532					
TOTAL			32.0	5.2	28,173	29,712	31,251	41	10	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			35.7	5.8	6,013	6,383	6,752					
R ALDER			616.4	99.9	0	82	164					
TOTAL			33.4	5.4	6,114	6,465	6,815	45	11	5		

T	Species, Sort Grade - Board Foot Volumes (Type)										Page 1									
	Project: DEVILOOZ										Date	8/17/2021								
											Time	6:52:28AM								
T01N R05W S05 T00MC										T01N R05W S05 T00MC										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
01N	05W	05	00A1	00MC	97.00	38	136	S	W											
S So Gr T rt ad Spp		%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log		Logs Per /Acre			
		Net BdFt	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		
DF		CU												4	22		0.00	.3		
DF		2M	80	.5	23,870	23,741	2,303		42	58				100	40	16	417	2.11	57.0	
DF		3M	16	.1	4,806	4,800	466	99	1				1	4	96	39	8	112	0.77	42.9
DF		4M	4		905	905	88	100			22	49	18	11	24	6	31	0.42	29.0	
DF	Totals		99	.5	29,580	29,446	2,856	19	34	47	1	2	1	97	36	11	228	1.37	129.2	
RA		CU													10	14		0.00	.5	
RA		CR	100		266	266	26	100			17		26	57	22	8	44	0.63	6.0	
RA		Totals	1		266	266	26	100			17		26	57	21	8	41	0.60	6.6	
Type Totals				.4	29,846	29,712	2,882	20	34	46	1	2	1	96	35	11	219	1.35	135.8	

TC		PSTNDSUM		Stand Table Summary										Page Date:		1 8/17/2021	
T01N R05W S05 Ty00MC 97.00					Project		DEVILOOZ			Time:		6:52:43AM					
					Acres		97.00			Grown Year:							
S Sp	T	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	Sample Trees	FF 16'				Av Ht	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF	
DF		8	1	85	53	3.016	1.05	3.02	4.2	20.0	.36	13	60	35	12	6	
DF		15	5	88	118	4.289	5.26	8.58	23.5	106.0	5.74	201	909	557	195	88	
DF		16	2	89	124	1.508	2.11	3.77	22.8	102.0	2.45	86	384	238	83	37	
DF		17	3	86	109	2.003	3.16	4.01	28.7	118.3	3.28	115	474	318	112	46	
DF		18	3	85	113	1.787	3.16	3.57	33.5	125.0	3.41	120	447	331	116	43	
DF		19	6	88	118	3.208	6.32	8.02	32.0	129.3	7.32	257	1,037	710	249	101	
DF		20	4	87	105	1.930	4.21	4.34	36.2	145.6	4.48	157	632	435	153	61	
DF		21	5	89	127	2.188	5.26	6.56	35.9	164.0	6.71	235	1,077	651	228	104	
DF		22	8	87	125	3.190	8.42	9.57	38.5	172.1	10.51	369	1,647	1,019	358	160	
DF		23	7	88	131	2.554	7.37	7.66	44.6	200.5	9.74	342	1,536	944	331	149	
DF		24	19	88	132	6.366	20.00	19.10	48.6	216.7	26.47	929	4,138	2,568	901	401	
DF		25	10	88	134	3.088	10.53	9.26	54.4	251.7	14.37	504	2,331	1,394	489	226	
DF		26	17	88	138	4.853	17.89	14.56	60.1	278.6	24.93	875	4,057	2,419	849	394	
DF		27	5	89	139	1.324	5.26	3.97	64.5	303.3	7.30	256	1,205	708	248	117	
DF		28	6	89	138	1.477	6.32	4.43	70.3	344.4	8.87	311	1,526	861	302	148	
DF		29	9	89	140	2.065	9.47	6.20	76.9	383.0	13.58	476	2,373	1,317	462	230	
DF		30	6	87	136	1.287	6.32	3.86	78.4	377.2	8.63	303	1,456	837	294	141	
DF		31	4	88	135	.803	4.21	2.41	83.0	403.3	5.70	200	972	553	194	94	
DF		32	3	86	148	.565	3.16	1.70	93.3	452.2	4.51	158	767	437	153	74	
DF		33	4	88	142	.709	4.21	2.13	99.1	492.5	6.01	211	1,047	583	204	102	
DF		35	2	88	148	.315	2.11	.95	115.2	590.0	3.10	109	558	301	106	54	
DF		37	1	84	158	.141	1.05	.42	125.9	643.3	1.52	53	272	147	52	26	
DF		38	2	86	142	.267	2.11	.80	128.2	673.3	2.93	103	540	284	100	52	
DF		Totals	132	88	123	48.934	138.95	128.89	49.5	228.5	181.91	6,383	29,446	17,645	6,191	2,856	
RA		9	1	77	41	2.383	1.05	2.38									
RA		14	1	73	89	.985	1.05	1.97	15.1	50.0	.82	30	98	79	29	10	
RA		18	1	73	74	.596	1.05	.60	52.5	120.0	.86	31	71	83	30	7	
RA		19	1	73	99	.535	1.05	1.07	19.8	90.0	.58	21	96	56	21	9	
RA		Totals	4	75	63	4.498	4.21	6.02	13.6	44.2	2.26	82	266	219	80	26	
Totals			136	87	118	53.431	143.16	134.90	47.9	220.2	184.16	6,465	29,712	17,864	6,271	2,882	

TC		PLOGSTVB		Log Stock Table - MBF																	
T01N R05W S05 Ty00MC97.00				Project:		DEVILOOZ										Page		1			
				Acres		97.00										Date		8/17/2021			
																Time		6:52:22AM			
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF		2M	40	2,315		2,303	80.6					375	374	968	484	102					
DF		3M	29	3		3	.1			2	1										
DF		3M	31	2		2	.1			1	1										
DF		3M	32	4		4	.1			3	1										
DF		3M	33	3		3	.1			3											
DF		3M	34	1		1	.0				1										
DF		3M	35	7		7	.2			7											
DF		3M	36	11		11	.4			11											
DF		3M	37	10		10	.3			10											
DF		3M	38	5		5	.2			5											
DF		3M	39	5		5	.2			5											
DF		3M	40	416		415	14.5			56	68	284		7							
DF		4M	12	1		1	.0			1											
DF		4M	13	3		3	.1			3											
DF		4M	14	1		1	.0			1											
DF		4M	16	2		2	.1			2											
DF		4M	18	9		9	.3			9											
DF		4M	19	2		2	.1			2											
DF		4M	20	1		1	.1			1											
DF		4M	21	5		5	.2			5											
DF		4M	22	3		3	.1			3											
DF		4M	23	1		1	.0			1											
DF		4M	24	5		5	.2			5											
DF		4M	25	3		3	.1			3											
DF		4M	26	10		10	.4			10	1										
DF		4M	27	6		6	.2			6											
DF		4M	29	3		3	.1			3											
DF		4M	30	6		6	.2			6											
DF		4M	31	6		6	.2			6											
DF		4M	32	3		3	.1			3											
DF		4M	33	3		3	.1			3											
DF		4M	34	3		3	.1			3											
DF		4M	37	5		5	.2			5											
DF		4M	40	5		5	.2			5											
DF		Totals		2,869		2,856	99.1			189	73	284	375	374	975	484	102				
RA		CR	16	3		3	11.1			3											
RA		CR	18	2		2	6.0			2											

TC PLOGSTVB		Log Stock Table - MBF																
T01N R05W S05 Ty00MC 97.00				Project: DEVILOOZ												Page 2		
				Acres 97.00												Date 8/17/2021		
																Time 6:52:22AM		
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+
RA	CR	32	7		7	25.9				7								
RA	CR	40	15		15	57.0				7	8							
RA	Totals		26		26	.9			4	14	8							
Total	All Species		2,895		2,882	100.0			193	87	292	375	374	975	484	102		

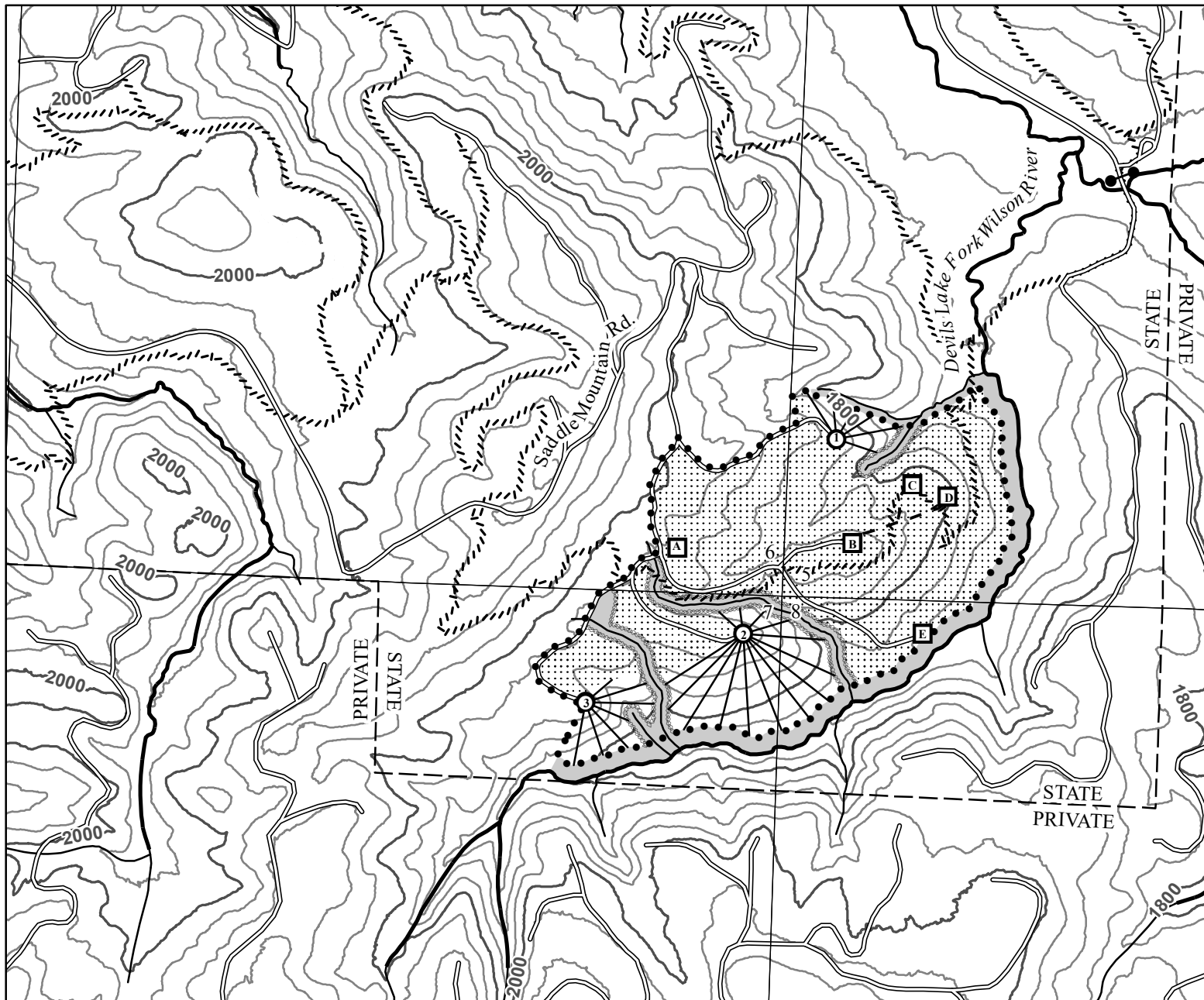
Volume Summary
(Shown in MBF)
Devilooze
FG-341-2022-W00860-01
August 2021

UNIT 1: MC (97 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	2,303	466	88	0	2,857
	Hidden D&B (2%)	(46)	(9)	(2)	(0)	(57)
	NET TOTAL	2,257	457	86	0	2,800
	% of Total	81	16	3	0	
Red alder	Cruise Volume	0	0	0	26	26
	Hidden D&B (5%)	(0)	(0)	(0)	(1)	(1)
	NET TOTAL	0	0	0	25	25
	% of Total	0	0	0	100	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	2,257	457	86	0	2,800
Red alder	0	0	0	25	25
Total	2,257	457	86	25	2,825



Legend

- Timber Sale Boundary
- ODF Ownership Boundary
- - - - - Stream Buffer Boundary
- Surfaced Road
- - - - - New Construction Road
- ////// Recreational Trail
- Type-F Stream
- Type-N Stream
- Stream Buffer
- ▲ Cable Yarding Area
- Tractor Yarding Area
- Cable Landing
- Tractor Landing
- Gate
- Section Line
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2022-W00860-01
 DEVILOOZE
 PORTIONS OF SECTIONS 5, 6, 7 & 8, T1N, R5W, W.M.,
 TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
 August, 2021

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	72	25