



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Bon Voyage  
Sale WO-341-2025-W01169-01

District: West Oregon

Date: December 18, 2024

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**Cost Summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,134,537.84	\$911.88	\$1,135,449.72
		Project Work:	(\$57,058.00)
		Advertised Value:	\$1,078,391.72



# Timber Sale Appraisal Bon Voyage Sale WO-341-2025-W01169-01

**District: West Oregon**

**Date: December 18, 2024**

## Timber Description

**Location:** T10S, R07W, Portions of Sections 15 and 22

**Stand Stocking:** 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	98
Alder (Red)	15	0	96

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,121	633	0	2,754
Alder (Red)	0	0	6	6
<b>Total</b>	2,121	633	6	2,760

**Comments:** Pond Values Used: Local Pond Values, October 2024

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:  
\$216.75/MBF = \$521/MBF - \$304.25/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:  
\$750.75 MBF = \$1205/MBF - (\$304.25/MBF + \$150/MBF(Extra Haul Cost))

Big leaf maple and Other Hardwoods Stumpage Price = Hardwood Pulp price using a conversion factor of 10 ton/MBF: = \$30.00/MBF

PULP (Conifer and Hardwood Price) = \$3.00/TON

Other Costs (with Profit & Risk to be added):  
NONE

Other Costs (No Profit & Risk added):  
Equipment Cleaning (Invasive Species): \$2,000  
Landing Slash Piling and sorting out firewood: 3 Landings @ \$180/Landing = \$540  
Waterbar dirt roads: 30 stations @ \$16.95/Station = \$508.50  
TOTAL Other Costs (No Profit & Risk added) = \$3,048.5

ROAD MAINTENANCE  
Move-in:(Roller, Grader) \$1,900  
Final Road Maintenance: \$26,504.07  
TOTAL Road Maintenance: \$28,404.07

SLASH DISPOSAL  
Move-In: \$1,700  
Project Work: @ \$170/hr = \$12,240  
Total Slash Disposal = \$13,940



**Date: December 18, 2024**

## 3



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### Logging Costs

Operating Seasons: 2.00	Profit Risk: 10%
Project Costs: \$57,058.00	Other Costs (P/R): \$0.00
Slash Disposal: \$13,940.00	Other Costs: \$3,048.50

Miles of Road

Road Maintenance: \$10.22

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	4.7
Alder (Red)	\$0.00	2.0	4.0



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### Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$119.94	\$10.42	\$3.18	\$135.64	\$0.00	\$26.92	\$5.05	\$2.00	\$1.10	\$304.25
Alder (Red)									
\$119.94	\$10.63	\$3.18	\$162.50	\$0.00	\$29.62	\$5.05	\$2.00	\$1.10	\$334.02

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$716.21	\$411.96	\$0.00
Alder (Red)	\$0.00	\$486.00	\$151.98	\$0.00



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### 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	2,754	\$411.96	\$1,134,537.84
Alder (Red)	6	\$151.98	\$911.88

#### Gross Timber Sale Value

Recovery: \$1,135,449.72

Prepared By: Isabelle Doan

Phone: 541-929-3266

## SUMMARY OF ALL PROJECT COSTS

Sale Name: Bon Voyage

Date: February 2025

Time: 14:17

### Project #1 - New Construction

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to B	1.5	\$1,040

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<b>TOTALS</b>	1.5	\$1,040
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### Project #2 - Road Improvement, Surface Rock Replacement and Maintenance

<u>Road Segment</u>	<u>Length (sta)</u>	<u>Cost</u>
1 to 2	371.2	\$31,029
3 to 4	48.6	\$2,024
5 to 6	4.3	\$73
7 to 8	10.9	\$185
9 to 10	7.0	\$4,267
11 to A	29.8	\$2,509
12 to 13	3.1	\$293
14 to 15	13.0	\$220
16 to 17	6.5	\$110
18 to 19	14.4	\$244
18 to 20	89.8	\$6,203
21 to 22	26.2	\$2,567
23 to 24	33.8	\$2,177
25 to 26	15.7	\$266
27 to 28	3.0	\$51

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<b>TOTALS</b>	677.3	\$52,218
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### Project #3 - Move in

	<u>Cost</u>
Dozer, D-7 or equiv.	\$950
Grader, Cat 12-G or equiv.	\$950
Vibratory roller	\$950
Excavator, C315 or equivalent	\$950

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<b>TOTAL</b>	\$3,800
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<b>GRAND TOTAL</b>	<b>\$57,058</b>
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Compiled by: Isabelle Doan

Date 02/07/2025

## SUMMARY OF CONSTRUCTION COST

SALE	Bon Voyage	Project #	1	LENGTH	1.5 sta
ROAD	A to B (Unsurfaced)				

## CLEARING AND GRUBBING

CLEARING AND GRUBBING			<u>Rate</u>		
Road and Landing	0.10 ac	@	\$1,470.00 /acre	=	\$147

TOTAL CLEARING AND GRUBBING = \$147

## EXCAVATION

EXCAVATION			<u>Rate</u>		
Construct road	1.5 sta	@	\$235.00 /sta	=	\$353
Construct landing	1 ldg	@	\$480.00 /hr	=	\$480

TOTAL EXCAVATION = \$833

## IMPROVEMENT

IMPROVEMENT			Rate		
Shape subgrade (w/ grader)	1.5 sta	@	\$22.69 /sta	=	\$34
Compact subgrade (w/ roller)	1.5 sta	@	\$17.50 /sta	=	\$26

TOTAL IMPROVEMENT = \$60

Compiled by: Isabelle Doan  
Date: Feb 7, 2025

**GRAND TOTAL =====> \$1,040**

## SUMMARY OF CONSTRUCTION COST

SALE ROAD	Bon Voyage 1 to 2	(Surfaced)	Project #	2	LENGTH	improve	371.2 sta
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### IMPROVEMENT

				<u>Rate</u>			
Sod removal (w/grader)	112.0 sta		@	\$16.95	/sta	=	\$1,898
Process surface rock (w/ grader)	119.8 sta		@	\$22.69	/sta	=	\$2,718
Compact rock (w/ roller)	119.8 sta		@	\$17.50	/sta	=	\$2,097
Widen turnout 25 ft (w/excavator)	0.5 hrs		@	\$125.00	/hr	=	\$63
Sta 312 + 70							

TOTAL IMPROVEMENT = \$6,776

### SURFACING

		<u>Size</u>		<u>Rate</u>			
Spot rock	200 CY	1½"-0"	@	\$26.68	/CY	=	\$5,336
Surface rock (2-inch lift) (Sta 262 + 80 to 312 + 70)	550 CY	1½"-0"	@	\$26.68	/CY	=	\$14,674
Turn-out rock	10 CY	3"-0"	@	\$25.33	/CY	=	\$253

TOTAL ROCK COST = \$20,263

### SPECIAL PROJECTS

				<u>Rate</u>			
Reopen culvert inlet (Sta 194 +10)	0.5 hrs		@	\$50	hr	=	\$25
Clean out culverts (inlets and outlets)	5 culverts		@	\$25	ea	=	\$125
Reestablish ditch (w/grader)	80.0 sta		@	\$48	/sta	=	\$3,840

TOTAL SPECIAL PROJECTS COST = \$3,990

Compiled by:	Isabelle Doan
Date:	Feb 7, 2025

**GRAND TOTAL =====> \$31,029**

SUMMARY OF CONSTRUCTION COST

SALE ROAD

Bon Voyage  
3 to 4

(Surfaced)

Project #  
2

LENGTH  
48.6 sta

IMPROVEMENT

Sod Removal (w/ grader)	48.6 sta	@	<u>Rate</u> \$16.95	/sta	=	\$824
Reestablish ditch (w/ grader)	25.0 sta	@	\$48.00	/sta	=	\$1,200

Compiled by:  
Date:

Isabelle Doan  
Feb 7, 2025

GRAND TOTAL =====> \$2,024

SUMMARY OF CONSTRUCTION COST

SALE ROAD	Bon Voyage 5 to 6	(Surfaced)	Project #	2	LENGTH	4.3 sta
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<b>IMPROVEMENT</b>					<u>Rate</u>			
Sod Removal (w/ grader)		4.3 sta	@	\$16.95	/sta	=	\$73	

Compiled by:	Isabelle Doan							
Date:	Feb 7, 2025					GRAND TOTAL =====>	\$73	

# SUMMARY OF CONSTRUCTION COST

SALE     Bon Voyage  
ROAD    7 to 8  
(Surfaced)

Project #     2                      LENGTH                      10.9 sta

## IMPROVEMENT

Sod Removal                      10.9 sta                      @     Rate     \$16.95     /sta     =     \$185  
(w/ grader)

Compiled by:                      Isabelle Doan  
Date:                                Feb 7, 2025

**GRAND TOTAL =====>     \$185**

# SUMMARY OF CONSTRUCTION COST

SALE	Bon Voyage	Project #	2	LENGTH	7.0 sta
ROAD	9 to 10	(Surfaced)			

## EXCAVATION

Construct landing	1 Idg	@	<u>Rate</u> \$480.00	/ldg	=	\$480
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TOTAL EXCAVATION = \$480

## IMPROVEMENT

Sod Removal	7.0 sta	@	<u>Rate</u> \$16.95	/sta	=	\$119
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(w/ grader)						
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Extend road 50 ft	1 hr	@	\$125.00	/hr	=	\$125
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(w/excavator)						
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Compact rock	7.5 sta	@	\$17.50	/sta	=	\$131
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(w/ roller)						
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Shape surface rock	7.5 sta	@	\$22.69	/sta	=	\$170
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(w/ grader)						
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TOTAL IMPROVEMENT = \$545

## SURFACING

Landing rock	50 CY	Jaw-Run	@	<u>Size</u> \$24.32	/CY	=	\$1,216
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Surface rock	80 CY	3"-0"	@	\$25.33	/CY	=	\$2,026
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TOTAL ROCK COST = \$3,242

Date: Feb 7, 2025

GRAND TOTAL =====> \$4,267

**SUMMARY OF CONSTRUCTION COST**

SALE ROAD	Bon Voyage 11 to A	(Unsurfaced)	Project #	2	LENGTH		29.8 sta
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**EXCAVATION**

			<u>Rate</u>				
Reopen road (with dozer)	29.8 sta	@	\$41.00	/sta	=	\$1,222	
Shape subgrade (w/ grader)	29.8 sta	@	\$22.69	/sta	=	\$676	
Compact subgrade (w/ roller)	29.8 sta	@	\$17.50	/sta	=	\$522	
Construct turnout (w/ dozer) (Sta 17 + 50)	0.5 hr	@	\$178.00	/hr	=	\$89	
TOTAL EXCAVATION =						\$2,509	

Compiled by:	Isabelle Doan	<b>GRAND TOTAL =====&gt;</b>	<b>\$2,509</b>
Date:	Feb 7, 2025		

# SUMMARY OF CONSTRUCTION COST

SALE ROAD	Bon Voyage 12 to 13	(Unsurfaced)	Project #	2	LENGTH				3.1 sta
<b>EXCAVATION</b>									
Reopen road and landing (w/ dozer)			3.6 sta	@	<u>Rate</u> \$41.00	/sta	=	\$148	
TOTAL EXCAVATION =									\$148
<b>IMPROVEMENT</b>									
Shape subgrade (w/ grader)			3.6 sta	@	<u>Rate</u> \$22.69	/sta	=	\$82	
Compact subgrade (w/ roller)			3.6 sta	@	\$17.50	/sta	=	\$63	
TOTAL IMPROVEMENT =									\$145
Compiled by:			Isabelle Doan						
Date:			Feb 7, 2025						<b>GRAND TOTAL =====&gt; \$293</b>

SUMMARY OF CONSTRUCTION COST

SALE ROAD	Bon Voyage 14 to 15	(Surfaced)	Project #	2	LENGTH	13.0 sta
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<b>IMPROVEMENT</b>					<u>Rate</u>			
Sod Removal (w/ grader)		13.0 sta	@	\$16.95	/sta	=	\$220	

Compiled by:	Isabelle Doan							
Date:	Feb 7, 2025					<b>GRAND TOTAL =====&gt;</b>	<b>\$220</b>	

## SUMMARY OF CONSTRUCTION COST

SALE	Bon Voyage
ROAD	16 to 17

(Surfaced)

Project #

2

LENGTH

6.5 sta

## IMPROVEMENT

Sod Removal  
(w/ grader)

6.5 sta

@

Rate

\$16.95

/sta

$$=$$

\$110

Compiled by:

Date:

Isabelle Doan

Feb 7, 2025

**GRAND TOTAL =====> \$110**

SUMMARY OF CONSTRUCTION COST

SALE ROAD

Bon Voyage  
18 to 19

(Surfaced)

Project #2

LENGTH

14.4 sta

IMPROVEMENT

Sod Removal  
(w/ grader)

14.4 sta

@

Rate

\$16.95

/sta

=

\$244

Compiled by:

Isabelle Doan

Date:

Feb 7, 2025

GRAND TOTAL =====>

\$244

# SUMMARY OF CONSTRUCTION COST

SALE	Bon Voyage		Project #	2	LENGTH		26.2 sta
ROAD	18 to 20	(Surfaced)					

## IMPROVEMENT

			<u>Rate</u>				
Reestablish ditch (w/ grader)	4.0 sta	@	\$48.00	/sta	=	\$192	
Sod Removal (w/ grader)	15.0 sta	@	\$16.95	/sta	=	\$254	
Process surface (w/ grader)	26.2 sta	@	\$22.69	/sta	=	\$595	
Compact surface (w/ roller)	26.2 sta	@	\$17.50	/sta	=	\$459	
TOTAL IMPROVEMENT =						\$1,500	

## SURFACING

		<u>Size</u>	<u>Rate</u>				
Spot rock	40 CY	1 1/2"-0"	@	\$26.68	/CY	=	\$1,067
TOTAL ROCK COST =						\$1,067	

Compiled by:	Isabelle Doan	<b>GRAND TOTAL =====&gt;</b>	<b>\$2,567</b>
Date:	Feb 7, 2025		

## SUMMARY OF CONSTRUCTION COST

SALE      Bon Voyage                      Project #      2                      LENGTH                      89.8 sta  
ROAD    21 to 22    (Surfaced)

### IMPROVEMENT

			<u>Rate</u>			
Sod Removal	89.8 sta	@	\$16.95 /sta	=	\$1,522	
(w/ grader)						
Spot grading	70.0 sta	@	\$22.69 /sta	=	\$1,588	
(w/grader)						
Compact surface	70.0 sta	@	\$17.50 /sta	=	\$1,225	
(w/ roller)						

TOTAL IMPROVEMENT =    \$4,335

### SURFACING

		<u>Size</u>		<u>Rate</u>		
Spot rock	70 CY	1 1/2"-0"	@	\$26.68 /CY	=	\$1,868

TOTAL ROCK COST =        \$1,868

Compiled by:                      Isabelle Doan  
Date:                                Feb 7, 2025

**GRAND TOTAL =    \$6,203**

SUMMARY OF CONSTRUCTION COST

SALE ROAD

Bon Voyage  
23 to 24

(Surfaced)

Project #

LENGTH

33.8 sta

IMPROVEMENT

				<u>Rate</u>			
Sod Removal (w/ grader)	33.8 sta	@	\$16.95	/sta	=	\$573	
Process surface (w/ grader)	20.0 sta	@	\$22.69	/sta	=	\$454	
Compact surface (w/ roller)	20.0 sta	@	\$17.50	/sta	=	\$350	

TOTAL IMPROVEMENT = \$1,377

SURFACING

			<u>Size</u>		<u>Rate</u>		
Spot rock	30 CY		1 1/2"-0"	@	\$26.68	/CY	= \$800

TOTAL ROCK COST = \$800

Compiled by:  
Date:

Isabelle Doan  
Feb 7, 2025

GRAND TOTAL =====> \$2,177

## SUMMARY OF CONSTRUCTION COST

SALE Bon Voyage  
ROAD 25 to 26

(Surfaced)

Project # 2

LENGTH

15.7 sta

## IMPROVEMENT

Sod Removal  
(w/ grader)

15.7 sta

@

Rate

\$16.95

/sta

$$=$$

\$266

Compiled by:

Date:

Isabelle Doan

Feb 7, 2025

**GRAND TOTAL =====>**

**\$266**

SUMMARY OF CONSTRUCTION COST

SALE ROAD	Bon Voyage 27 to 28	(Surfaced)	Project #	2	LENGTH	3.0 sta
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<b>IMPROVEMENT</b>					<u>Rate</u>			
Sod Removal (w/ grader)		3.0 sta	@	\$16.95	/sta	=	\$51	

Compiled by:	Isabelle Doan							
Date:	Feb 7, 2025					GRAND TOTAL =====>	\$51	

# **Rock Haul Cost Computation**

SALE NAME:	Bon Voyage	DATE:	Feb 7, 2025
ROAD NAME:	Shingle Creek & Filched Gate	CLASS:	Medium
ROCK SOURCE:	Rickard		10 CY truck
Route:	Hwy 20		

## TIME Computation:

### Road speed time factors:

1.	55 MPH		MRT	0.0 minutes
2.	50 MPH		MRT	0.0 minutes
3.	45 MPH	17.2	MRT	22.9 minutes
4.	40 MPH	9.6	MRT	14.4 minutes
5.	35 MPH		MRT	0.0 minutes
6.	30 MPH		MRT	0.0 minutes
7.	25 MPH		MRT	0.0 minutes
8.	20 MPH	4.3	MRT	13.0 minutes
9.	15 MPH	2.0	MRT	7.8 minutes
10.	10 MPH		MRT	0.0 minutes
11.	05 MPH		MRT	0.0 minutes

Dump or spread time per RT		0.50 minutes
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Total hauling cycle time for this setting (100% efficiency)		58.59 minutes
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Operator efficiency correction	0.85	68.93 minutes
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Job efficiency correction	0.90	76.59 minutes
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Truck capacity (CY)	10.00	7.66 min/CY
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Loading time, delay time per CY		0.25 min/CY
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TIME (minutes) per cubic yard		7.91 min/CY
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## COST per CY computation

Cost of truck and operator per hour	\$100.00 /hr.
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Cost of truck and operator per minute	\$1.67 /min
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Cost per CY	\$13.18 /CY
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Size	Cost/Yd (Pit)	Cost Delivered w/o processing
1½" - 0"	\$ 13.50	\$26.68
3" - 0"	\$ 12.15	\$25.33
Jaw-Run	\$ 11.14	\$24.32

## SUMMARY OF MAINTENANCE COST

SALE: Bon Voyage

Final log haul Maintenance Cost Estimate

*(Costed in appraisal, not in project costs)*

Move-in	Grader	\$	950
	Vibratory Roller	\$	950

Road Segment	Length	Cost/Sta	Cost	Mileage
1 to 2	334.5	\$40.19	\$13,443.56	6.34
9 to 10	9.0	\$40.19	\$361.71	0.17
Shingle Creek Rd	183.2	\$40.19	\$7,362.81	3.47
Total	526.7		\$21,168.07	9.98

### Maintenance Rock:

	Volume	Cost/CY	Cost
1½"-0"	200	\$26.68	\$5,336.00

Grand Total	\$	28,404.07
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TS Volume	2,780	MBF
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Cost / MBF =	\$10.22
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### NOTES:

## TIMBER CRUISE REPORT

### **Bon Voyage (WO-341-2025-W01169-01) FY 2025**

1. **Sale Area Location:** Portions of Sections 15 and 22, T10S, R07W, W.M., Benton, Oregon.

2. **Fund Distribution:**

a. **Fund** BOF 100%

3. **Sale Acreage by Area:**

Unit	Treatment	Gross Acres	Stream Buffers	Slope Buffer	Existing Roads	New Roads	Green Tree Area	Net Sale Acres	Acreage Comp. Method
1	Modified Clearcut	11	-	-	<1	-	1	10	GIS
2	Modified Clearcut	78	6	2	2	<1	1	67	GIS
Total		89	6	2	2	<1	2	77	GIS

4. **Cruisers and Cruise Dates:** The sale was cruised by Steven Irving and Isabelle Doan, in August of 2024.

5. **Cruise Method and Computation:** The sale consists of two units. Unit 1 and 2 are clearcuts that were cruised using variable radius plot sampling on a 4 x 4 chain grid using a 40 BAF. A total of 46 plots were taken in Unit 1 and 2 with 23 measure plots and 23 count plots.

Measure plots were measured for DBH, height, form factor, grade, and defect. Data was entered into the Atterbury SuperACE cruise program to determine stand statistics and net board foot volume. Additional volume was removed to account for hidden defect and breakage.

Digital ortho photos, Lidar data, and GPS data were used to map the boundaries for the sale, and ArcPro GIS was used to determine gross and net acreage.

6. **Measurement Standards:** Tree heights were measured to the nearest foot, to a top diameter of 5 inches inside bark or to 40% of form factor. Diameters at breast height (DBH) were measured to the nearest inch, and a form point of 16 feet was used to calculate form factor. Form factors were measured or estimated on every tree. Most trees were graded in 40 foot log segments unless breakage, defect, or length to top of grade cruise diameter warranted otherwise.

7. **Timber Description:** Timber is primarily 60-year-old Douglas-fir with some scattered Big Leaf Maple and Red Alder. The average Douglas-fir to be removed is approximately 22 inches DBH, with an average height of 93 feet to a merchantable top. The average bigleaf maple is approximately 21 inches DBH, with an average height of 36 feet to a merchantable top. The average Red Alder is approximately 15 inches DBH, with an average height of 34 feet to a merchantable top. The average volume per acre to be harvested (net) in Units 1 and 2 is approximately 36.1 MBF.

**8. Statistical Analysis and Stand Summary:** (See attached “Statistics”).

Unit	Target CV	Target SE	Actual CV	Actual SE
<b>1 and 2</b>	55%	9%	43.9%	6.5%

Note: Statistics shown are for conifer and hardwood trees combined. Percentages are for net board foot volume.

**9. Total Volume (MBF) by Species and Grade:** (See attached volume report “Species, Sort Grade – Board Foot Volumes - Project”).

Unit	Species	Gross Cruise Volume	Cruised D & B	Cruised D & B (MBF)	Hidden D & B	Hidden D & B (MBF)	Net Sale Volume
<b>1 and 2</b>	Douglas-fir	2,859	1.7%	(49)	2.0%	(56)	2,754
	Red Alder	6	0%	(0)	2.0%	(<1)	6
	Bigleaf Maple	20	0%	(0)	2.0%	(<1)	20
<b>Total</b>		2,885	1.7%	(49)	2.0%	(56)	2,780

Unit	Species	Ave. DBH	Net Vol.	2-Saw	3-Saw	4-Saw	Camp Run
<b>1 and 2</b>	Douglas-fir	22	Grade %	77%	19%	4%	-
			2,754	2,121	523	110	-
	Red Alder	15	Grade %	-	-	-	100%
			6	-	-	-	6
	Bigleaf Maple	21	Grade %	-	-	-	100%
			20	-	-	-	20
<b>Total</b>			2,780	2,754	523	110	26

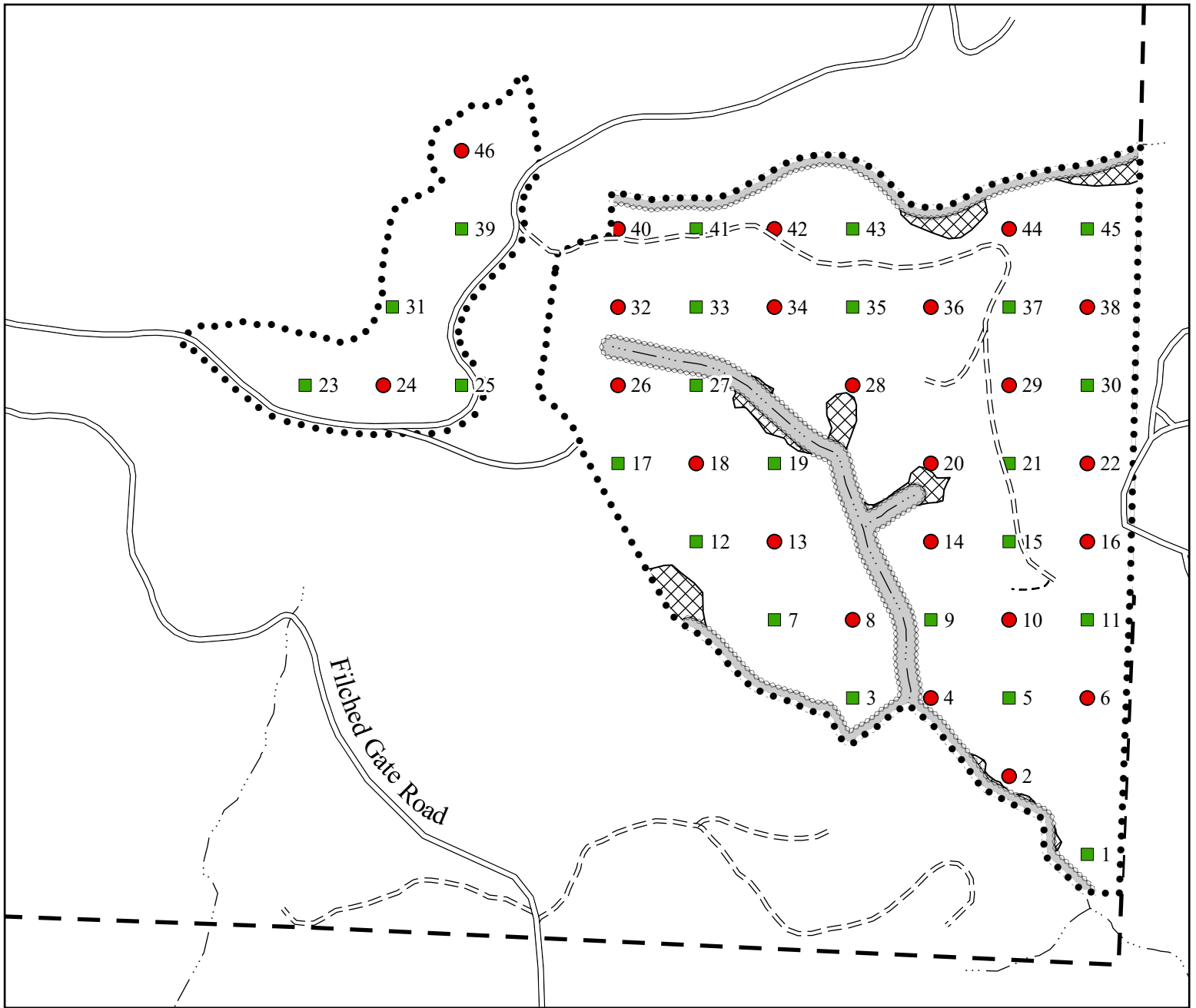
Attachments: Cruise Design  
Cruise Maps  
Species, Sort Grade – Board Foot Volumes  
Statistics  
Stand Table Summary  
Log Stock Table – MBF

Prepared by: Isabelle Doan

Date: 12/18/2024

Unit Forester:   
Cody Valencia

Date: 12/18/24



### Legend

- Ownership
- Timber Sale Boundary
- Type N Stream
- Surfaced Road
- Unsurfaced Road
- Stream Buffer
- Slope Buffer
- Count
- Grade

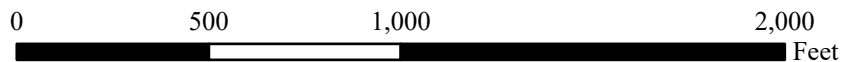
## Cruise Map Bon Voyage Unit 1 and 2

Unit 1 & 2 - 4x4 Chain Spacing  
40 BAF  
Line Bearing 90 and 270

	GROSS AREA	ACRES	NET ACRES
1 (MC)	11	10	
2 (MC)	79	67	
TOTAL	90	77	

Scale

1:6,000



## CRUISE DESIGN WEST OREGON DISTRICT

**Sale Name:** Bon Voyage **Area** 1 and 2

**Harvest Type:** MC

**Approx. Cruise Acres:** 78.4 **Estimated CV%** 55 /Acre **SE% Objective** 9% /Acre

**Planned Sale Volume:** 2.496 MMBF **Estimated Sale Area Value/Acre:** \$ 450

- A. Cruise Goals:** (a) Grade minimum 100 conifer and \_\_\_\_\_ hardwood trees:  
(b) Sample 46 cruise plots (23 grade: 23 count); (c) Other goals X Determine log grades for sale value; \_\_\_\_\_ Determine take and leave tree species and sizes.

(Special cruising directions – leave trees etc.) Take plots as shown on map. Do not take plots in buffers.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

**B. Cruise Design:**

- 1. Plot Cruises:** BAF 40 Full point  
Cruise Line Direction(s) 90 and 270  
Cruise Line Spacing 4 chains. 265 ft  
Cruise Plot Spacing 4 chains. 265 ft  
Grade/Count Ratio 1:1

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" 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 for conifer is 5", 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for

hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. log segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

- 6. Species, Sort, and Grade Codes:** A. Species: Record as DF (Douglas-fir); WH (Western hemlock); SS (Sitka Spruce); RC (Western red cedar); NF (Noble fir); SF (Silver fir); RA (Red alder); BM (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DFL, 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; K = Camp Run; 0 = Cull ;  
Hardwoods: K = Camprun; #1 Sawmill = 12"+ scaling diameter; #2 Sawmill = 10" and 11"; #3 Sawmill = 8" and 9"; #4 Sawmill = 6" and 7"
- 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: At each plot, tie red flagging above eye level near plot center and another red flagging around a sturdy wooden stake marking plot center. On red flagging, write the plot identification number. On "measure/grade" plots write the tree number and/or tree diameter on all measured trees (clockwise from the line direction) in yellow paint.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back), Compass, Cruise Cards or Data Recorder, Cruise Design, Cruise Map, Red Flagging, Yellow Paint.
- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Isabelle Doan

Approved by: \_\_\_\_\_

Date: 07/29/2024

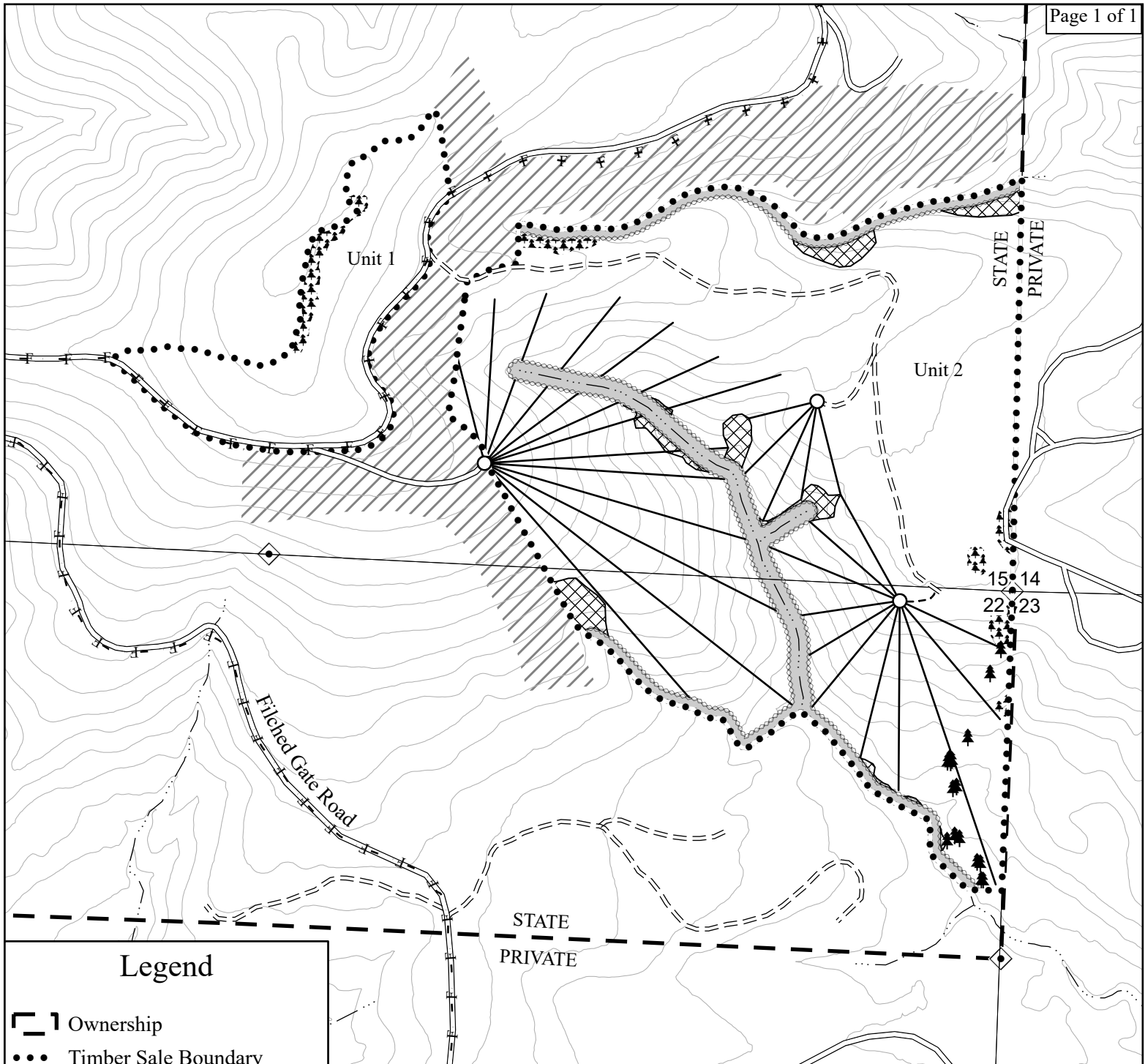
T	Species, Sort Grade - Board Foot Volumes (Type)										Page 1								
	Project: BONVOYAG										Date	12/20/2024							
											Time	3:40:55PM							
T10S R07W S15 T00MC										T10S R07W S15 T00MC									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
10S	07W	15	ALL	00MC	77.00	46	120	1	W										
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log		Logs Per /Acre	
			Def%	Gross	Net	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	
DF	DO	2M	77	1.7	28,630	28,129	2,166			56	44	0	1	0	98	39	15	363	2.09
DF	DO	3M	19	1.4	7,037	6,938	534		100			1	4	14	81	36	9	115	0.91
DF	DO	4M	4	1.0	1,450	1,435	110	30	70			57	20	11	12	20	6	26	0.47
DF	Totals		99	1.7	37,118	36,502	2,811	1	22	43	34	3	3	3	92	33	11	190	1.40
SN	DO	CU														80	13		0.00
SN	Totals															80	13		0.00
BM	DO	CR	100		254	254	20		11	89		40			60	25	13	169	1.79
BM	Totals		1		254	254	20		11	89		40			60	25	13	169	1.79
RA	DO	CR	100		79	79	6		100				51		49	32	7	58	0.79
RA	Totals		0		79	79	6		100				51		49	32	7	58	0.79
Type Totals				1.6	37,451	36,835	2,836	1	22	43	33	3	3	3	91	33	11	187	1.36

TC		TSTNDSUM													Stand Table Summary																									
															Project													BONVOYAG												
T10S R07W S15 T00MC																												T10S R07W S15 T00MC												
Twp		Rge		Sec		Tract					Type			Acres			Plots			Sample Trees			Page:		1															
10S		07W		15		ALL					00MC			77.00			46			120			Date:		12/20/2024															
																												Time: 3:40:54PM												
S Spc	T	Sample		FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s																										
		DBH	Trees						Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF																								
DF		13	1	87	102	1.820	1.68	3.64	17.0	55.0			62	200			48	15																						
DF		14	1	90	84	1.569	1.68	3.14	19.5	70.0			61	220			47	17																						
DF		15	2	87	100	2.734	3.36	5.47	23.5	85.0			128	465			99	36																						
DF		17	2	86	107	2.129	3.36	5.32	25.8	94.0			137	500			106	39																						
DF		18	6	88	104	5.696	10.07	13.29	31.3	110.0			416	1,462			320	113																						
DF		19	5	87	105	4.260	8.39	10.22	33.6	114.2			343	1,167			264	90																						
DF		20	13	87	119	9.996	21.81	28.45	34.4	131.9			978	3,752			753	289																						
DF		21	9	87	112	6.277	15.10	16.74	39.0	142.5			654	2,385			503	184																						
DF		22	9	89	120	5.719	15.10	17.16	41.0	172.6			704	2,961			542	228																						
DF		23	11	88	125	6.396	18.45	19.19	46.3	192.4			888	3,692			684	284																						
DF		24	12	88	126	6.408	20.13	18.69	51.2	212.3			957	3,968			737	305																						
DF		25	9	88	133	4.429	15.10	13.29	56.8	239.6			755	3,184			581	245																						
DF		26	8	89	137	3.640	13.42	10.92	62.9	273.8			687	2,989			529	230																						
DF		27	8	88	134	3.375	13.42	10.13	67.2	290.8			680	2,945			524	227																						
DF		28	3	88	130	1.177	5.03	3.53	69.7	301.1			246	1,063			189	82																						
DF		29	1	87	140	.366	1.68	1.10	79.0	373.3			87	410			67	32																						
DF		30	5	89	136	1.709	8.39	5.13	84.9	404.7			435	2,074			335	160																						
DF		31	1	87	129	.320	1.68	.96	82.3	356.7			79	342			61	26																						
DF		32	2	87	140	.601	3.36	1.80	88.8	418.3			160	754			123	58																						
DF		33	2	89	131	.565	3.36	1.69	97.7	445.0			166	754			127	58																						
DF		34	3	89	134	.798	5.03	2.39	103.3	506.7			247	1,213			191	93																						
DF		Totals		113	88 119	69.984	189.57	192.25	46.1	189.9			8,870	36,502			6,830	2,811																						
BM		18	1	86	33	.738	1.30	.74	27.0	100.0			20	74			15	6																						
BM		25	1	86	84	.383	1.30	.77	62.0	235.0			47	180			37	14																						
BM		Totals		2	86 50	1.121	2.61	1.50	44.8	168.7			67	254			52	20																						
RA		14	1	85	38	.813	.87	.81	20.0	50.0			16	41			13	3																						
RA		17	1	86	49	.552	.87	.55	33.0	70.0			18	39			14	3																						
RA		Totals		2	85 42	1.365	1.74	1.37	25.3	58.1			34	79			27	6																						
SN		20	3	86	81	2.391	5.22																																	
SN		Totals		3	86 81	2.391	5.22																																	
Totals				120	88 115	74.861	199.13	195.11	46.0	188.8			8972	36,835			6,909	2,836																						

TC		TLOGSTVB		Log Stock Table - MBF																						
Project: BONVOYAG																										
T10S R07W S15 T00MC													T10S R07W S15 T00M													
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1																	
10S	07W	15	ALL	00MC	77.00	46	120	Date	12/20/2024																	
								Time	3:40:53PM																	
Spp	S	So	Gr	Log	T	rt	de	Len	Gross MBF	% Def	Net MBF	% Spce	Net Volume by Scaling Diameter in Inches													
													2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF	DO	2M	14						4		4	.1					4									
DF	DO	2M	24						26	2.3	25	.9						12	13							
DF	DO	2M	32						5	6.3	5	.2					5									
DF	DO	2M	36						33	3.4	32	1.1						32								
DF	DO	2M	38						76	3.1	74	2.6					27	8	38							
DF	DO	2M	40						2,060	1.7	2,026	72.1					347	473	885	256	65					
DF	DO	3M	18						4	4.6	4	.2					4									
DF	DO	3M	20						2	14.3	2	.1					2									
DF	DO	3M	24						10		10	.4				2	8									
DF	DO	3M	26						2		2	.1				2										
DF	DO	3M	28						10		10	.4				2	6	2								
DF	DO	3M	30						2		2	.1				2										
DF	DO	3M	32						71	2.3	70	2.5				7	31	31								
DF	DO	3M	34						3		3	.1				3										
DF	DO	3M	36						53	.8	53	1.9					28	25								
DF	DO	3M	38						62	.9	62	2.2				4	43	15								
DF	DO	3M	40						322	1.4	318	11.3				15	69	234								
DF	DO	4M	12						12	4.0	12	.4		2	8	2										
DF	DO	4M	14						10		10	.3			10											
DF	DO	4M	16						18	3.8	17	.6			11	4	2									
DF	DO	4M	18						16		16	.6		1	12	2										
DF	DO	4M	20						8		8	.3			4	4										
DF	DO	4M	24						19		19	.7		4	7	8										
DF	DO	4M	26						4		4	.1			4											
DF	DO	4M	32						10		10	.3		10												
DF	DO	4M	34						3		3	.1		3												
DF	DO	4M	36						4		4	.1		4												
DF	DO	4M	38						6		6	.2		6												
DF	DO	4M	40						3		3	.1		3												
DF	Totals								2,858	1.7	2,811	99.1		33	86	203	323	384	525	936	256	65				
SN	DO	CU	80																							
SN	Totals																									
BM	DO	CR	20						8		8	39.7			2	6										
BM	DO	CR	40						12		12	60.3							12							
BM	Totals								20		20	.7			2	6			12							
RA	DO	CR	28						3		3	51.3			3											
RA	DO	CR	38						3		3	48.7			3											
RA	Totals								6		6	.2			6											
Total All Species									2,884	1.6	2,836	100.0		33	92	203	325	389	525	948	256	65				

TC PSTATS				PROJECT STATISTICS				PAGE	1		
				PROJECT		BONVOYAG		DATE	12/20/2024		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
10S	07	15	ALL	00MC		77.00	46	234	1	W	
			PLOTS	TREES	TREES	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			46	234	5.1						
CRUISE			23	120	5.2	5,764	2.1				
DBH COUNT											
REFOREST											
COUNT			23	114	5.0						
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
DF			113	70.0	22.3	93	40.2	189.6	37,118	36,502	8,870
SNAG			3	2.4	20.0	81	1.2	5.2			
BL MAPLE			2	1.1	20.7	36	0.6	2.6	254	254	67
R ALDER			2	1.4	15.3	34	0.4	1.7	79	79	34
TOTAL			120	74.9	22.1	91	42.4	199.1	37,451	36,835	8,972
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	
DF		52.0	4.9	601	632	663					
SNAG											
BL MAPLE		91.8	86.0	40	285	530					
R ALDER		23.6	22.1	47	60	73					
TOTAL		57.4	5.2	570	601	633	132	33	15		
CL	68.1	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
DF		42.9	4.0	143	149	155					
SNAG											
BL MAPLE		90.8	85.1	11	76	140					
R ALDER		34.7	32.5	18	27	35					
TOTAL		48.5	4.4	136	142	149	94	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	
DF		48.1	7.1	65	70	75					
SNAG		347.0	51.1	1	2	4					
BL MAPLE		396.3	58.4	0	1	2					
R ALDER		483.3	71.2	0	1	2					
TOTAL		41.8	6.2	70	75	79	70	17	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	
DF		43.5	6.4	177	190	202					
SNAG		347.0	51.1	3	5	8					
BL MAPLE		382.8	56.4	1	3	4					
R ALDER		474.2	69.9	1	2	3					
TOTAL		38.7	5.7	188	199	210	60	15	7		
CL	68.1	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
DF		44.2	6.5	34,124	36,502	38,881					
SNAG											
BL MAPLE		405.9	59.8	102	254	405					
R ALDER		474.4	69.9	24	79	135					

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT	BONVOYAG			DATE	12/20/2024	
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
10S	07	15	ALL	00MC	77.00		46	234	1	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
TOTAL			43.9	6.5	34,451	36,835	39,219	77	19	9
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
DF			43.8	6.5	8,298	8,870	9,443			
SNAG										
BL MAPLE			404.9	59.6	27	67	108			
R ALDER			475.0	70.0	10	34	59			
TOTAL			43.4	6.4	8,399	8,972	9,546	75	19	8



## Legend

- Ownership
- Timber Sale Boundary
- Stream Buffer
- Slope Buffer
- Green Tree Retention Area
- Reforestation Area
- Surfaced Road
- Unsurfaced Road
- Cable Corridor
- Type N Stream
- F - F Fiber Optic Line
- Wildlife Tree
- Landing
- Land Survey Monument

## LOGGING PLAN

OF TIMBER SALE CONTRACT NO. WO-341-2025-W01169-01  
 BON VOYAGE  
 PORTIONS OF SECTIONS 15 and 22, T10S, R07W, W.M.,  
 BENTON COUNTY, OREGON

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

Scale  
 1:6,000



AREA	Tractor Acres	Cable Acres
1 (MC)	10	0
2 (MC)	24	43
<b>TOTAL</b>	<b>34</b>	<b>43</b>



Date: 12/16/2024