



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
D.R. Chopper
Sale AT-341-2024-W01053-01

District: Astoria

Date: October 05, 2023

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$4,880,877.68	\$3,672.80	\$4,884,550.48
		Project Work:	(\$289,444.00)
		Advertised Value:	\$4,595,106.48



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Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	97
Western Hemlock / Fir	17	0	96
Red Cedar	14	0	97
Alder (Red)	12	0	95

Volume by Grade	2S	3S & 4S 6"-11"	3S	4S	8" - 9"	6" - 7"	Total
Douglas - Fir	6,737	2,120	0	0	0	0	8,857
Western Hemlock / Fir	1,401	892	0	0	0	0	2,293
Red Cedar	22	0	43	28	0	0	93
Alder (Red)	0	0	0	0	12	4	16
Total	8,160	3,012	43	28	12	4	11,259

Comments: Pond Values Used: Local Pond Values, March, 2023.

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

PRICING:

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

\$244.50/MBF = \$531.00/MBF - \$286.50/MBF

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

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

Ditch Filters:

12 bales of straw @ \$12/bale = \$144

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

Close road segment 2G to 2H, water bar and block (C315, 4 hours) = \$508

Total costs with profit & risk: \$2,852.00

Other Costs (No Profit & Risk added): None

SLASH PILING

(See attached appraisal. Includes move-in and pile materials) = \$21,465.60

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$44,425/11,259 MBF = \$3.95/MBF



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Logging Conditions

Combination#: 1

Douglas - Fir	29.00%
Western Hemlock / Fir	29.00%
Red Cedar	29.00%
Alder (Red)	29.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Delimiting

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

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

loads / day: 11.5 **bd. ft / load:** 4600

cost / mbf: \$150.82

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

Combination#: 2

Douglas - Fir	71.00%
Western Hemlock / Fir	71.00%
Red Cedar	71.00%
Alder (Red)	71.00%

Logging System: Shovel **Process:** Manual Delimiting

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

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

loads / day: 19.5 **bd. ft / load:** 4600

cost / mbf: \$111.49

machines: Shovel Logger



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Logging Costs

Operating Seasons: 4.00	Profit Risk: 12%
Project Costs: \$289,444.00	Other Costs (P/R): \$0.00
Slash Disposal: \$21,465.60	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$3.95

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	5.2
Western Hemlock / Fir	\$0.00	2.0	4.8
Noble Fir	\$0.00	1.0	5.0
Red Cedar	\$0.00	2.0	5.0
Alder (Red)	\$0.00	2.0	4.2



"STEWARDSHIP IN FORESTRY"

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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									
\$122.90	\$4.07	\$1.56	\$123.80	\$0.00	\$30.28	\$1.91	\$2.00	\$0.00	\$286.52
Western Hemlock / Fir									
\$122.90	\$4.11	\$1.56	\$135.42	\$0.00	\$31.68	\$1.91	\$2.00	\$0.00	\$299.58
Red Cedar									
\$122.90	\$4.07	\$1.56	\$128.75	\$0.00	\$30.87	\$1.91	\$2.00	\$0.00	\$292.06
Alder (Red)									
\$122.90	\$4.15	\$1.56	\$156.25	\$0.00	\$34.18	\$1.91	\$2.00	\$0.00	\$322.95

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$755.19	\$468.67	\$0.00
Western Hemlock / Fir	\$0.00	\$582.22	\$282.64	\$0.00
Red Cedar	\$0.00	\$1,171.35	\$879.29	\$0.00
Alder (Red)	\$0.00	\$552.50	\$229.55	\$0.00



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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	8,857	\$468.67	\$4,151,010.19
Western Hemlock / Fir	2,293	\$282.64	\$648,093.52
Red Cedar	93	\$879.29	\$81,773.97
Alder (Red)	16	\$229.55	\$3,672.80

Gross Timber Sale Value

Recovery: \$4,884,550.48

Prepared By: Ryan Simpson

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: AT-341-2024-W01053-01
Sale Name: D.R. Chopper
Date: 10/06/2023

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

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
1	MC	B	24	31	\$161.00	\$5,023.20	
2	MC	A	61	31	\$161.00	\$4,910.50	
3	MC	A	19	10	\$161.00	\$1,529.50	
4	MC	A	60	30	\$161.00	\$4,830.00	
In-unit Piling						Sub Total =	\$16,293.20
Sale Area	Number of Landings to be Piled	# cable acres per area	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
1	8	0	\$0.00	116	\$5.00	\$580.00	
2	25	34	\$1,094.80	55.5	\$5.00	\$277.50	
3	6	14	\$450.80	15.5	\$5.00	\$77.50	
4	23	19	\$611.80	53	\$5.00	\$265.00	
*Cost includes separating firewood					Materials	Sub Total =	\$1,200.00
Additional Move-in allowance					Landing Piling	Sub Total =	\$2,157.40
Move-In Allowance	Number of Move-In's	Total Move-In Allowance					
\$1,610.00	1	\$1,610.00	Brush Piler				
\$205.00	1	\$205.00	Dump Truck (12cy)	Move-In			
Sub Total =						\$1,815.00	
Slash Endhaul							
Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total		
8	\$99.00	\$792.00	8	\$161.00	\$1,288.00		
Sub Total =						\$2,080.00	
Grand Total =						\$21,465.60	

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: D.R. Chopper
Date: October 6, 2023
By: Ryan Simpson CB

MBF: 11,259
\$/MBF: \$3.95

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
First Interim Operations and/or snow plowing.	Grader 14G	\$972	1	16	\$126	\$2,988
	Dump Truck 12CY	\$205	1	8	\$99	\$997
	Rubber tired backhoe	\$401	1	4	\$97	\$789
	Vibratory Roller	\$972	1	4	\$97	\$1,360
Second Interim Operations	Grader 14G	\$972	1	16	\$126	\$2,988
	Dump Truck 12CY	\$205	1	8	\$99	\$997
	Rubber tired backhoe	\$401	1	2	\$97	\$595
Final Road Maintenance	Grader 14G	\$972	1	78	\$126	\$10,800
	Dump Truck 12CY	\$205	2	32	\$99	\$3,578
	FE Loader C966	\$972	1	16	\$105	\$2,652
	Vibratory Roller	\$972	1	78	\$97	\$8,538
	Water Truck 2,500 gallon	\$238	1	36	\$113	\$4,306
	C315 Excavator	\$1,005	1	16	\$127	\$3,037
	Labor				16	\$50
Total						\$44,425

First and Second Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	5.0	2.0	16
Vibratory Roller	1.5	0.8	0.5	4

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	14.7	9.8	78
Vibratory Roller	1.5	14.7	9.8	78

Process and compact: All crushed rock roads
Selders Creek Road 3.2 Miles
Green Mountain Road 3.2 Miles
Stanley Creek Road 1.8 Miles
Wage Road 2.8 Miles
Unnamed Spurs 3.0 Miles
New Road Construction - Surfaced 0.7 Miles
Grade & Process Total = 14.7 Miles

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New Road Construction - Surfaced 0.7 Miles
Grade & Process Total = 14.7 Miles

SUMMARY OF ALL PROJECT COSTS

SALE NAME: D.R. Chopper

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
Surfaced			
2A-2B,2C-2D,2E-2F,			
3A-3B,3C-3D,4A-4B	38.10	0.72	\$37,365.00
Unsurfaced			
2G-2H	8.20	0.16	\$2,462.00
Road Maint.			\$777.46
Move-In			\$2,737.23
TOTALS	46.30	0.88	\$43,342

Project No. 2: ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT, AND ROAD MAINTENANCE:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
I1-I2,I3-I4,I5-I6			
I7-I8,I9-I10,I11-I12			
I13-I14,I15-I16,I17-I18,			
I19-I20	369.00	6.99	\$104,786.33
Road Maint.			\$2,045.54
Move-In			\$7,201.77
TOTALS		6.99	\$114,034

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>
Project No. 3: Rock Crushing & Stockpiling		\$128,599.00
Project No. 4: Waterhole Improvement		\$3,469.00
TOTAL		\$132,068

GRAND TOTAL **\$289,444**

Compiled By: Kraig Kirkpatrick

Date: 10/03/2023

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: D.R. Chopper

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
Surfaced			
2A-2B,2C-2D,2E-2F, 3A-3B,3C-3D,4A-4B	38.10	0.72	\$37,365.00
Unsurfaced			
2G-2H	8.20	0.16	\$2,462.00
TOTALS	46.30	0.88	\$39,827

Project No. 2: ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT, AND ROAD MAINTENANCE:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
I1-I2,I3-I4,I5-I6 I7-I8,I9-I10,I11-I12 I13-I14,I15-I16,I17-I18, I19-I20	369.00	6.99	\$104,786.33
TOTALS	369.00	6.99	\$104,786

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
D8 Dozer		\$1,755.00
C330		\$1,755.00
C315		\$1,005.00
14G Grader		\$972.00
C966 Loader (X2)		\$1,944.00
Water Truck (2,500 gal)		\$238.00
Vibratory Roller		\$972.00
20cy Highway Dump w/pup trailer(X2)		\$478.00
10-12cy Highway Dump(X4)		\$820.00
TOTAL		\$9,939.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Final Project Maintenance	6.25	\$2,823.00
TOTAL		\$2,823.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: D.R. Chopper

NEW CONSTRUCTION: 46.30 STATIONS

0.88 MILES

ROAD: 2A-2B(2.25), 2C-2D(3.6), 2E-2F(8.0), 2G-2H(8.2),

POINTS: 3A-3B(4.0), 3C-3D(2.0), 4A-4B(18.25)

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Scatter outside of right-of-way	4.25	x	\$1,669.00	=	\$7,093.25

SUB TOTAL FOR CLEARING & GRUBBING

\$7,093

EXCAVATION

	Material	Cy/amount	x	Rate	=	Cost
2A-2B	Balanced Construction (\$/sta.)	2.25	x	\$154.00	=	\$346.50
	Landing Construction (\$/ldg)	1	x	\$487.00	=	\$487.00
2C-2D	Balanced Construction (\$/sta.)	3.60	x	\$154.00	=	\$554.40
	Landing Construction (\$/ldg)	1	x	\$487.00	=	\$487.00
2E-2F	Balanced Construction (\$/sta.)	8.00	x	\$154.00	=	\$1,232.00
	Landing Construction (\$/ldg)	1	x	\$487.00	=	\$487.00
2G-2H	Reconstruct Road w/330 (\$/hr)	4.00	x	\$195.00	=	\$780.00
3A-3B	Balanced Construction (\$/sta.)	4.00	x	\$154.00	=	\$616.00
	Landing Construction (\$/ldg)	1	x	\$487.00	=	\$487.00
3C-3D	Balanced Construction (\$/sta.)	2.00	x	\$154.00	=	\$308.00
	Landing Construction (\$/ldg)	1	x	\$487.00	=	\$487.00
4A-4B	Balanced Construction (\$/sta.)	18.25	x	\$154.00	=	\$2,810.50
	Landing Construction (\$/ldg)	4	x	\$487.00	=	\$1,948.00

SUB TOTAL FOR EXCAVATION

\$11,030

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
2E to 2F									
4+00	18"CPP	30	\$24.37	\$731.10					
4A to 4B									
4+10	18"CPP	30	\$24.37	\$731.10					
13+00	18"CPP	30	\$24.37	\$731.10					
14+75	18"CPP	30	\$24.37	\$731.10					

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	6' x 2 1/2" white fiberglass posts	4	\$25.53	\$102.12

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$3,027

Subtotal of Clearing, Exc., Culv.

\$21,150

SURFACING		Subgrade prep: Description		Stations/amount	x	Rate/sta/amt	Cost
		Grade, Shape and Ditch 16'		46.30	x	\$30.98	\$1,434.37
		Subgrade Compaction		46.30	x	\$25.19	\$1,166.30

ROAD SEGME 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 2+25				
				Volume (CY) per	Number of	Volume (CY) per	Number of			
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123
Base Rock	6"-0" jaw-run	0+00 to 2+25	10	station	63	stations	2.25	142	\$3.73	\$529
Landings	6"-0" jaw-run	2+25	N/A	landing	88	landings	1	88	\$3.73	\$328
Total Rock for Road Segment:				2A to 2B				263		

\$980

ROAD SEGME 2C to 2D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2D		0+00 to 3+60				
				Volume (CY) per	Number of	Volume (CY) per	Number of			
Traction Rock	1 1/2"-0" crushed	0+00 to 2+00	2	station	13	stations	2	26	\$4.84	\$126
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123
Base Rock	6"-0" jaw-run	0+00 to 3+60	10	station	63	stations	3.60	227	\$3.73	\$846
Turnaround	6"-0" jaw-run	2+30	10	urnaround	22	urnarounds	1	22	\$3.73	\$82
Landings	6"-0" jaw-run	3+60	N/A	landing	88	landings	1	88	\$3.73	\$328
Total Rock for Road Segment:				2C to 2D				396		

\$1,505

ROAD SEGME 2E to 2F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2E to 2F		0+00 to 8+00				
				Volume (CY) per	Number of	Volume (CY) per	Number of			
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123
Base Rock	6"-0" jaw-run	0+00 to 8+00	10	station	63	stations	8	504	\$3.73	\$1,880
Turnout Rock	6"-0" jaw-run	3+00,5+95	10	turnout	33	turnouts	2	66	\$3.73	\$246
Turnaround	6"-0" jaw-run	5+95	10	urnaround	22	urnarounds	1	22	\$3.73	\$82
Landings	6"-0" jaw-run	3+40,8+00	N/A	landing	88	landings	2	176	\$3.73	\$656
Total Rock for Road Segment:				2E to 2F				801		

\$2,988

ROAD SEGME 2G to 2H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2G to 2H		0+00 to 8+20				
				Volume (CY) per	Number of	Volume (CY) per	Number of			
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123
Base Rock	6"-0" jaw-run	0+00 to 1+00	10	station	63	stations	1	63	\$3.73	\$235
Total Rock for Road Segment:				2G to 2H				96		

\$358

ROAD SEGME 3A to 3B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost				
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B		0+00 to 4+00								
				Volume (CY) per		Number of								
Traction Rock	1 1/2"-0" crushed	0+00 to 2+00	2	station	13	stations	2	26	\$4.84	\$126				
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123				
Base Rock	6"-0" jaw-run	0+00 to 4+00	10	station	63	stations	4	252	\$3.73	\$940				
Turnaround	6"-0" jaw-run	1+90	10	urnaround	22	urnarounds	1	22	\$3.73	\$82				
Landings	6"-0" jaw-run	4+00	N/A	landing	88	landings	1	88	\$3.73	\$328				
Total Rock for Road Segment: 3A to 3B								421		\$1,599				
ROAD SEGME 3C to 3D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost				
Application	Rock Size and Type	Location	Depth of Rock (inches)	3C to 3D		0+00 to 2+00								
				Volume (CY) per		Number of								
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123				
Base Rock	6"-0" jaw-run	0+00 to 2+00	10	station	63	stations	2	126	\$3.73	\$470				
Landings	6"-0" jaw-run	4+00	N/A	landing	88	landings	1	88	\$3.73	\$328				
Total Rock for Road Segment: 3C to 3D								247		\$921				
ROAD SEGME 4A to 4B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost				
Application	Rock Size and Type	Location	Depth of Rock (inches)	4A to 4B		0+00 to 18+25								
				Volume (CY) per		Number of								
Traction Rock	1 1/2"-0" crushed	5+30 to 9+30	2	station	13	stations	4	52	\$4.84	\$252				
Junction Rock	6"-0" jaw-run	0+00	10	junctions	33	junctions	1	33	\$3.73	\$123				
Base Rock	6"-0" jaw-run	0+00 to 18+25	10	station	63	stations	18.25	1,150	\$3.73	\$4,289				
Turnout Rock	6"-0" jaw-run	3+15,14+00	10	turnout	33	turnouts	2	66	\$3.73	\$246				
Turnaround	6"-0" jaw-run	3+15,14+00	10	urnaround	22	urnarounds	1	22	\$3.73	\$82				
Landings	6"-0" jaw-run	5+30,7+75, 15+30,18+25	N/A	landing	66	landings	4	264	\$3.73	\$985				
Total Rock for Road Segment: 4A to 4B								1,587		\$5,976				
Processing:							Description	No.sta	Rate/sta	Cost				
							Spread & Compact Base Rock (6"-0" jaw run)	39.1	\$30.29	\$1,184.34				
							Water, Process & Compact Traction Rock :	8	\$70.47	\$563.76				
SUB TOTAL FOR SURFACING							6"-0"jr	3,706	1 1/2"-0" crushed	104	Total	3,810	3,810	\$18,677
SPECIAL PROJECTS														
							Description	Cost						
SUB TOTAL FOR SPECIAL PROJECTS														
Subtotal of Surfacing & Spec. Proj. \$18,677														
Subtotal of Clearing, Exc.,Culv. \$21,150														
GRAND TOTAL \$39,827														

Compiled By: Kraig Kirkpatrick

Date: 10/13/2023

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: D.R. Chopper NEW CONSTRUCTION: _____ STATIONS 0.00 MILES
 ROAD: I1-I2(49.0), I3-I4(17.9), I5-I6(144.5), I7-I8(2.0), I9-I10(1.5), I11-I12(22.8) IMPROVEMENT: 369.00 STATIONS 6.99 MILES
 POINTS: I13-I14(2.5), I15-I16(100.9), I17-I18(26.5), I19-I20(1.4)

CLEARING & GRUBBING						
	Method	Acres/amount	x	Rate	=	Cost
I11 to I12						
Sta. 0+00 to 2+80	Scatter outside of Right-of-Way (\$/ac)	0.3	x	\$1,669.00	=	\$500.70
I17 to I18						
Sta. 5+85,18+90, 22+00	Scatter outside of Right-of-Way (\$/ac)	0.5	x	\$1,669.00	=	\$834.50
SUB TOTAL FOR CLEARING & GRUBBING						\$1,335

EXCAVATION						
	Material	Cy/amount	x	Rate	=	Cost
I11 to I12						
Sta. 0+00 to 2+80	Junction Reconstruction					
	Balanced construction, Drift up to 200' (\$/sta)	2.8	x	\$238.00	=	\$666.40
I17 to I18						
Sta. 5+85,18+90, 22+00	Construct landing and jumpup landings	3.0	x	\$487.00	=	\$1,461.00
SUB TOTAL FOR EXCAVATION						\$2,127

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1-I2									
*14+85	18"CPP	30	\$24.37	\$731.10					
15+70	30"ASCP	40	\$44.03	\$1,761.20					
31+45	18"CPP	50	\$24.37	\$1,218.50					
I11 to I12									
1+00	18"CPP	30	\$24.37	\$731.10					
I17 to I18									
5+25	18"CPP	30	\$24.37	\$731.10					
15+10	18"CPP	30	\$24.37	\$731.10					

	Description	Quantity	Rate	Cost
Other/miscellaneous:	Energy Dissipator/ Armor Installation (\$/diss.)	4	\$225.33	\$901.32
	Ditchfilter Installation w/315 (\$/hr)	4	\$127.00	\$508.00
	Culvert stakes & markers: 6' x 2 1/2" white fiberglass posts	6	\$25.53	\$153.18
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION				\$7,467

Subtotal of Clearing, Exc., Culv. **\$10,929**

SURFACING		Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
All segments:	Grade, Shape and Ditch 16'	369.00	x	\$30.98	\$11,431.62
All segments:	Subgrade Compaction	369.00	x	\$25.19	\$9,295.11
19-110,111-112,113-	Sod Removal	26.80	x	\$29.08	\$779.34
All segments:	Final cleanup pass w/backhoe	92.00	x	\$18.95	\$1,743.40

ROAD SEGMI I1 to I2		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2 Volume (CY) per	0+00 to 49+00 Number of					
Surfacing	1 1/2"-0" crushed	0+00 to 31+45	2	station	13	stations	31.45	409	\$4.83	\$1,975
Turnouts	1 1/2"-0" crushed	3+30,7+75, 11+35,18+75, 20+95,23+85	2	turnout	11	turnouts	6	66	\$4.83	\$319
Junctions	1 1/2"-0" crushed	0+00	2	junction	11	junctions	1	11	\$4.83	\$53
Culvert Bedding and Backfill	1 1/2"-0" crushed	14+85,15+70, 31+45	N/A	culvert	See Specific Instr.	See Specific culverts	See Specific Instr.	132	\$4.83	\$638
Surfacing Base	5"-0" crushed	31+45 to 49+00	4	station	25	stations	17.55	439	\$3.73	\$1,637
Turnouts	5"-0" crushed	32+80,38+90	4	turnout	22	turnouts	2	44	\$3.73	\$164
Turnaround	5"-0" crushed	33+85	4	turnaround	22	turnarounds	1	22	\$3.73	\$82
Turnaround	5"-0" crushed	41+70	4	turnaround	55	turnarounds	1	55	\$3.73	\$205
Rock Ditch Filters	6"-0" jaw-run	41+20	N/A	3 filter series	11	3 filter series	1	11	\$3.73	\$41
Landings	6"-0" jaw-run	49+00	N/A	landing	55	landings	1	55	\$3.73	\$205
Culvert Fill Armor	24"-6" riprap	15+70	N/A	fill	66	fills	1	66	\$3.73	\$246
Culvert Energy Dissipator	24"-6" riprap	14+85,15+70	N/A	dissipator	See Specific Instr.	See Specific dissipators	See Specific Instr.	33	\$3.73	\$123
Total Rock for Road Segment:		I1 to I2						1,343		\$5,688

ROAD SEGMI I3 to I4		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4 Volume (CY) per	0+00 to 17+90 Number of					
Subgrade Leveling	5"-0" crushed		N/A	load	11	loads	10	110	\$3.73	\$410
Turnaround	5"-0" crushed	7+70	8	turnaround	33	turnarounds	1	33	\$3.73	\$123
Rock Ditch Filters	6"-0" jaw-run	6+25,16+40	N/A	3 filter series	11	3 filter series	2	22	\$3.73	\$82
Landings	6"-0" jaw-run	17+90	N/A	landing	55	landings	1	55	\$3.73	\$205
Total Rock for Road Segment:		I3 to I4						220		\$821

ROAD SEGMI 15 to 16				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	15 to 16		0+00 to 144+50					
				Volume (CY) per		Number of					
Surfacing	3/4"-0" crushed	125+25 to 144+50	2	station	13	stations	19.25	250	\$17.10	\$4,279	
Junctions	3/4"-0" crushed	127+95,136+75, 139+15	2	junction	11	junctions	3	33	\$17.10	\$564	
Surfacing	1 1/2"-0" crushed	0+00 to 58+80, 97+95 to 125+25	2	station	13	stations	86.1	1,119	\$4.83	\$5,406	
Turnouts	1 1/2"-0" crushed	8+40,23+10, 31+00,35+55, 43+30,51+80, 55+70,81+45, 89+45,93+05, 97+95,101+35, 106+35,109+80, 188+30	2	turnout	11	turnouts	15	165	\$4.83	\$797	
Junctions	1 1/2"-0" crushed	0+00,102+90, 125+25	2	junction	11	junctions	3	33	\$4.83	\$159	
Curve Widening	1 1/2"-0" crushed	74+00,108+90	2	curve	22	curves	2	44	\$4.83	\$213	
Surfacing Base	5"-0" crushed	58+80 to 70+55	4	station	25	stations	11.75	294	\$3.73	\$1,096	
Turnouts	5"-0" crushed	61+35,67+75	4	turnout	22	turnouts	2	44	\$3.73	\$164	
Total Rock for Road Segment:				15 to 16				1,982			\$12,678
ROAD SEGMI 17 to 18				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	17 to 18		0+00 to 2+00					
				Volume (CY) per		Number of					
Junctions	6"-0" jaw-run	0+00	2	junction	11	junctions	1	11	\$3.73	\$41	
Junctions	6"-0" jaw-run	0+00	10	junction	22	junctions	1	22	\$3.73	\$82	
Surfacing Base	6"-0" jaw-run	0+00 to 2+00	10	station	63	stations	2	126	\$3.73	\$470	
Total Rock for Road Segment:				17 to 18				159			\$593
ROAD SEGMI 19 to 110				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	19 to 110		0+00 to 1+50					
				Volume (CY) per		Number of					
Junctions	1 1/2"-0" crushed	0+00	2	junction	11	junctions	1	11	\$4.83	\$53	
Junctions	6"-0" jaw-run	0+00	10	junction	22	junctions	1	22	\$3.73	\$82	
Surfacing Base	6"-0" jaw-run	0+00 to 1+50	10	station	63	stations	1.5	95	\$3.73	\$352	
Landings	6"-0" jaw-run	1+50	N/A	landing	55	landings	1	55	\$3.73	\$205	
Total Rock for Road Segment:				19 to 110				183			\$693

ROAD SEGMI I11 to I12				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I11 to I12		0+00 to 22+80					
				Volume (CY) per		Number of					
Junctions	3/4"-0"	0+00	2	junction	11	junctions	1	11	\$17.10	\$188	
Traction Rock	1 1/2"-0" crushed	12+25 to 20+25	2	station	13	stations	8	104	\$4.83	\$502	
Junctions	5"-0" crushed	0+00	8	junction	22	junctions	1	22	\$3.73	\$82	
Turnouts	5"-0" crushed	4+80,13+65, 16+60	4	turnout	22	turnouts	3	66	\$3.73	\$246	
Turnaround	5"-0" crushed	20+25	4	turnaround	22	turnarounds	1	22	\$3.73	\$82	
Surfacing Base	5"-0" crushed	0+00 to 2+80	8	station	50	stations	2.8	140	\$3.73	\$522	
Curve Widening	5"-0" crushed	0+50	8	curve	22	curves	1	22	\$3.73	\$82	
Surfacing Base	5"-0" crushed	2+80 to 22+80	4	station	25	stations	20	500	\$3.73	\$1,865	
Rock Ditch Filters	6"-0" jaw-run	20+25	N/A	3 filter series	11	3 filter series	1	11	\$3.73	\$41	
Landings	6"-0" jaw-run	22+00	N/A	landing	55	landings	1	55	\$3.73	\$205	
Total Rock for Road Segment:				I11 to I12				953			\$3,816

ROAD SEGMI I13 to I14				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I13 to I14		0+00 to 2+50					
				Volume (CY) per		Number of					
Junctions	5"-0" crushed	0+00	4	junction	22	junctions	1	22	\$3.73	\$82	
Surfacing Base	5"-0" crushed	0+00 to 2+50	4	station	25	stations	2.5	63	\$3.73	\$233	
Landings	6"-0" jaw-run	2+50	N/A	landing	55	landings	1	55	\$3.73	\$205	
Total Rock for Road Segment:				I13 to I14				140			\$520

ROAD SEGMI I15 to I16				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I15 to I16		0+00 to 100+90					
				Volume (CY) per		Number of					
Surfacing	3/4"-0" crushed	0+00 to 12+00, 69+25 to 97+55	2	station	13	stations	40.3	524	\$17.10	\$8,959	
Junctions	3/4"-0" crushed	0+00,78+25, 82+30,87+00	2	junction	11	junctions	4	44	\$17.10	\$752	
Turnouts	3/4"-0" crushed	72+40,74+25, 91+75	2	turnout	11	turnouts	3	33	\$17.10	\$564	
Surfacing	1 1/2"-0" crushed	12+00 to 69+25, 97+55 to 100+90	2	station	13	stations	60.6	788	\$4.83	\$3,805	
Turnouts	1 1/2"-0" crushed	21+95,26+60, 31+55,36+50, 39+50,46+00, 51+20,55+10, 57+65,62+40	2	turnout	11	turnouts	10	110	\$4.83	\$531	
Junctions	1 1/2"-0" crushed	15+65,44+90, 97+55	2	junction	11	junctions	3	33	\$4.83	\$159	
Curve Widening	1 1/2"-0" crushed	49+75	2	curve	22	curves	1	22	\$4.83	\$106	
Total Rock for Road Segment:				I15 to I16				1,554			\$14,877

ROAD SEGMI I17 to I18				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I17 to I18		0+00 to 26+50					
				Volume (CY) per		Number of					
Junctions	1 1/2"-0" crushed	0+00	2	junction	11	junctions	1	11	\$4.83	\$53	
Culvert	1 1/2"-0" crushed	5+25,15+10	N/A	culvert	33	culverts	2	66	\$4.83	\$319	
Junctions	5"-0" crushed	0+00	4	junction	22	junctions	1	22	\$3.73	\$82	
Turnouts	5"-0" crushed	3+50,5+85, 14+35,22+00	4	turnout	22	turnouts	4	88	\$3.73	\$328	
Turnaround	5"-0" crushed	24+40	4	turnaround	22	turnarounds	1	22	\$3.73	\$82	
Surfacing	5"-0" crushed	0+00 to 26+50	4	station	25	stations	26.5	663	\$3.73	\$2,471	
Jumpup	6"-0" jaw-run	18+90, 22+00	N/A	jumpup	55	jumpups	2	110	\$3.73	\$410	
Landings	6"-0" jaw-run	5+85	N/A	landing	100	landings	1	100	\$3.73	\$373	
Total Rock for Road Segment: I17 to I18								1,082		\$4,119	
ROAD SEGMI I119 to I20				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I119 to I20		0+00 to 1+40					
				Volume (CY) per		Number of					
Junctions	1 1/2"-0" crushed	0+00	2	junction	11	junctions	1	11	\$4.83	\$53	
Junctions	5"-0" crushed	0+00	4	junction	22	junctions	1	22	\$3.73	\$82	
Surfacing	5"-0" crushed	0+00 to 1+40	4	station	25	stations	1.4	35	\$3.73	\$131	
Landings	6"-0" jaw-run	2+50	N/A	landing	55	landings	1	55	\$3.73	\$205	
Total Rock for Road Segment: I119 to I20								123		\$471	
ROAD SEGMI Project No. 4				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	Project No. 4							
				Volume (CY) per		Number of					
Surfacing	5"-0" crushed		N/A	station	n/a	stations	n/a	44	\$3.73	\$164	
Safety	24"-6" riprap		N/A	barrier	44	barriers	1	44	\$3.73	\$164	
Total Rock for Road Segment: Project No. 4								88		\$328	
Processing:		Description						No.sta	Rate/sta	Cost	
		Water, Process & Compact base Rock:						86.00	\$70.47	\$6,060	
		Traction Rock Water, Process & Compact						283.00	\$70.47	\$19,943	
				24"-6" rr	6"-0" jaw-run	5"-0" crushed	1 1/2"-0" crushed	3/4"-0" crushed	Total		
		SUB TOTAL FOR		143	860	2,793	3,135	895	7,825	\$93,857	

SPECIAL PROJECTS			
Description	Cy/Amount	Rate	Cost
SUB TOTAL FOR SPECIAL PROJECTS			\$0

Subtotal of Surfacing & Spec. Proj. \$93,857
Subtotal of Clearing, Exc., Culv. \$10,929

GRAND TOTAL \$104,786

Compiled By: Kraig Kirkpatrick

Date: 10/13/2023

D.R. Chopper Project No. 4

Waterhole Improvement

	Hours	Rate	
Access Improvement			
Clearing & Grubbing			
C330	1	\$195	\$195
Waterhole Excavation/ Drafting Area Construction			
C330	8	\$195	\$1,560
10-12cy dump truck	8	\$99	\$792
Rock placement/waste area shaping			
C330	1	\$195	\$195
10-12cy dump truck	1	\$99	\$99
Labor/seed and mulch			\$300
*Base Rock 5"-0"cr (cy)	44	\$3.73	\$164
*Riprap (cy)	44	\$3.73	\$164
Total			\$3,141

*Rock haul cost included with Project 2, Road Improvement.

*Riprap development cost included with Project No. 3.

Projects Road Maintenance Cost Summary

Sale: D.R. Chopper
 Date: 03-Oct-23
 By: Kraig Kirkpatrick

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work	Grader 14G			10	\$126	\$1,260
Final Haul	Dump Truck 12CY			2	\$99	\$198
Road	FE Loader C966			1	\$105	\$105
Maintenance	Vibratory Roller			6	\$97	\$582
	Water Truck 2,500 gallon			6	\$113	\$678
Total						\$2,823

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	1.00	0.7
Vibratory Roller	1.5	1.00	0.7

NOTE: Water, Process, & Compact:	Military Stockpile to Pt. I1	1.00	Miles
			Miles
Spot Grade:	Wage Rd, Stanley Rd, Northrup Rd to Cow Creek Stockpile	5.25	Miles
			Miles
	TOTAL=	6.25	Miles

CRUSHED ROCK COST

SALE NAME: D.R. Chopper
 PROJECT: No. 1 & 2
 Stockpile: Cow Creek

MATERIAL: 3/4"-0" cr

DATE: 10/02/2023
 BY: Kraig Kirkpatrick

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
I5-I6	144.50	283	3.00	2.00	2.50	3.50	2.00	1.70	0.10	14.80
I11-I12	22.80	11	3.00	2.00	3.50	4.75	2.00	2.20	0.10	17.55
I15-I16	100.90	601	3.00	2.00	2.50	3.50	2.00	1.95	0.10	15.05
TOTAL		268.20	895							
CUBIC YARD WEIGHTED HAUL			3.00	2.00	2.51	3.52	2.00	1.87	0.10	AVERAGE HAUL 15.00
Average Round Trip Distance (miles) 30.00										

ROCK HAUL:

Truck type: D20 No. trucks: 2
 Delay min.: 8 Efficiency: 85% Ave haul: \$13.73 /cy
 Load: \$1.44 /cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85% Spread: \$1.92 /cy

Truck type: D10 No. trucks: _____
 Delay min.: 5 Efficiency: 85% Production: cy/day = 377

CRUSHED ROCK HAUL COSTS 895 cy @ \$17.10 /cy

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. <u>3</u>	Timber Sale Name: <u>D.R. Chopper</u>
Quarry: <u>Green Mtn. No.1</u>	Swell: _____
Location: <u>NW 1/4, NE 1/4, Sec. 34, T5N, R6W</u>	Shrink: <u>16%</u>
County: <u>Clatsop</u>	Loading Hopper: <u>No</u>
By: <u>Kraig Kirkpatrick</u>	
Date: <u>10/02/2023</u>	

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
5"-0"	20%	CR	2,000	2,793	5,113
6"-0" jaw run	20%	CR		4,566	4,566
6"-0"		PR			
24"-6"		RR		143	143
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			2,000	7,502	9,822

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
				Off Highway Dump Truck	1	\$691	\$691
Screening Plants	1	\$691	\$691				
D8 Cat	1	\$1,755	\$1,755				
D6 Cat	1	\$972	\$972	Loader	1	\$1,005	\$1,005
Drill & Compressor	1	\$1,755	\$1,755				
Powder	1	\$439	\$439	2 Stage Crusher	1	\$2,714	\$2,714
Excavator	1	\$1,755	\$1,755				

SUB TOTAL FOR MOBILIZATION \$11,777

EQUIPMENT SET UP	TIMES	RATE	COST
2 Stage Crusher	1	\$2,714	\$2,714
Screening Plants	1	\$367	\$367
Original Calibration	1	\$680	\$680

SUB TOTAL FOR SET UP COSTS \$3,761

TOTAL MOBILIZATION & SET UP COSTS \$15,538

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Open access roads, clear benches, prepare waste areas, clear/grub (1 exc.)	16	hrs	\$210	\$3,360
Pile and burn clearing & grubbing debris (1 exc, 1 off-highway dump)	16	hrs	\$369	\$5,904

TOTAL CLEARING & GRUBBING COSTS \$9,264

3) EXCAVATION

MATERIAL DESCRIPTION		QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load haul, spread)	Exc.	24	hrs	\$210.00	\$5,040
Establish access road from Stockpile Site to top of quarry (D8)	OR Truck	24	hrs	\$159.00	\$3,816
		8	hr	\$198.00	\$1,584

TOTAL EXCAVATION COSTS \$10,440

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping	20%	1,964	\$3.80	\$7,465
crushed	9,679	99%	Drill & shoot	80%	9,406	\$3.90	\$36,684
pit run	0	0	Oversize red	5%	484	\$7.70	\$3,726
rip rap	143	1%	Other				
Total	9,822						
reject	1,936	19.7%					

TOTAL ROCK DEVELOPMENT COSTS \$47,875

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate			
Calibrate			
Test	2	\$63.60	\$127
Test			

TOTAL CALIBRATION & TESTING COSTS \$127

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	11,615	\$0.92	\$10,648

TOTAL FEEDING & LOADING COSTS \$10,648

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed					
5"-0"	crushed	5,113	2 stage w/s	140	\$2.79	\$14,280
6"-0" jaw run	crushed	4,566	1 stage w/s	160	\$1.06	\$4,823

TOTAL ROCK CRUSHING COSTS \$19,103

8) STOCKPILING

STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer	2	\$143.00	\$286.00

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

\$286.00

SUB TOTAL

\$286

HAUL & STOCKPILE

STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. _____					
2. Green Mountain Stockpile	5'-0"	5	2,320	\$2.75	\$6,375
3. _____					
4. _____					
5. _____					
6. _____					

SUB TOTAL

\$6,375

TOTAL STOCKPILING COSTS

\$6,661

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$5,323
\$2.75 /CY 1,936 CY	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	\$2,850
Seed and Mulch Waste Area	
50 straw bales (\$/bale) 50 bales x \$13.39/bale	\$670
Seed (\$/lb) 50lbs x \$2.00/lb	\$100

TOTAL MISCELLANEOUS COSTS

\$8,943

10) GRAND TOTAL:

\$128,599

\$/Cubic Yard

\$13.09

Footnotes:

HAUL and STOCKPILE COST

SALE NAME: D.R. Chopper
 QUARRY: Green Mtn. No.1

ROCK TYPE: Crushed

Location 1. 0	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
							0.10
Truck type: <u>D12</u>	No. trucks: _____						
Delay min.: <u>15</u>	Efficiency: <u>75%</u>						
							Ave haul: #DIV/0! /cy
							Load: #N/A /cy
Truck type: <u>D12</u>	No. trucks: _____						Stockpile: #N/A /cy
Delay min.: <u>12</u>	Efficiency: <u>75%</u>						
Truck type: _____	No. trucks: _____						Production: cy/day = 0
Delay min.: <u>10</u>	Efficiency: <u>75%</u>						
Location 1. 0	Haul and Stockpile Cost					#DIV/0! /cy	

Green Mountain Location 2. Stockpile 5"-0"	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
						0.05	0.10
Truck type: <u>D20</u>	No. trucks: <u>1</u>						
Delay min.: <u>15</u>	Efficiency: <u>75%</u>						Ave haul: \$1.92 /cy
							Load: \$0.32 /cy
Truck type: <u>D12</u>	No. trucks: <u>3</u>						Stockpile: \$0.51 /cy
Delay min.: <u>12</u>	Efficiency: <u>75%</u>						
Truck type: <u>D10</u>	No. trucks: _____						Production: cy/day = 1,585
Delay min.: <u>10</u>	Efficiency: <u>75%</u>						
Location 2. Green Mountain Stockpile	Haul and Stockpile Cost					\$2.75 /cy	

Location 3. 0	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
							0.10
Truck type: <u>D20</u>	No. trucks: <u>1</u>						
Delay min.: <u>15</u>	Efficiency: <u>75%</u>						Ave haul: \$1.91 /cy
							Load: \$0.90 /cy
Truck type: <u>D12</u>	No. trucks: _____						Stockpile: \$1.67 /cy
Delay min.: <u>12</u>	Efficiency: <u>75%</u>						
Truck type: <u>D10</u>	No. trucks: _____						Production: cy/day = 527
Delay min.: <u>10</u>	Efficiency: <u>75%</u>						
Location 3. 0	Haul and Stockpile Cost					\$4.48 /cy	

**D.R. Chopper
TIMBER CRUISE REPORT
FY 2024**

1. **Sale Area Location:** Portions of Sections 26, 34, 35, & 36 of T5N, R6W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 100% Tax Code: 8-01 (100%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	Reserve Tree Area	New R/W Acres	Non-Stocked	Net Acres	Survey Method
1	Modified Clearcut	28	2	1	1	-	-	24	GIS
2	Modified Clearcut	109	1	5	4	2	4	93	GIS
3	Modified Clearcut	38	1	1	2	1		33	GIS
4	Modified Clearcut	100	19	2	2	2		75	GIS
5	Right-of-Way (In-Unit)	5	-	-	-	-	-	5	LxW
5	Right-of-Way (Out-of-Unit)	1	-	-	-	-	-	1	LxW
TOTALS		281	23	9	9	5	4	231	

4. Cruisers and Cruise Dates: Avery Petersen, Ryan Simpson, Justin Bush, Michele Huffman, and John Czarniecki on dates 9/22/2023-9/26/2023.

5. Cruise Method and Computation:

Units 1, 2, and 4N: Unit 124N was variable plot cruised with a 54.45 BAF. A total of 56 plots were sampled on a four by eight chain spacing with a grade to count ratio of 1:2, resulting in 25 grade plots and 34 count plots. Three plots were dropped from this cruise due to changes on the timber sale boundary in Unit 2.

Units 3 and 4S: Unit 34S was variable plot cruised with a 54.45 BAF. A total of 40 plots were sampled on a three and half by six and a half chain spacing with a grade to count ratio of 1:2, resulting in 14 grade and 26 count plots.

Unit 5 (R/W): Right-of-Way volume was computed from U34S cruise due to the majority of new construction occurring within those Units. Out-of-unit Right-of-Way is the same timber type as the in-unit Right-of-Way.

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

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
124N	DRC	U124N	00MC	163
34S	DRC	U34S	00MC	62
R/W	DRC	U34S	00MC	6

6. Timber Description:

Units 124N: Units 1, 2, and the northern portion of Unit 4 are previously thinned naturally regenerated modified clearcuts with an average age of 80 years. The stand consists of Douglas-fir, western hemlock, western redcedar, and red alder. The average take Douglas-fir is approximately 23 inches DBH and 91 feet to a merchantable top. The average take western hemlock is approximately 16 inches DBH and 53 feet to a merchantable top. The average take western redcedar is approximately 14 inches DBH and 30 feet to a merchantable top. The average take red alder is approximately 12 inches DBH and 49 feet to a merchantable top.

top. Average net volume to be harvested per acre is 44.5 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 34S: Unit 3 and the southern portion of Unit 4 are modified clearcuts of naturally regenerated stands that have not been previously thinned with an average age of 80 years. The stand consists of Douglas-fir, western hemlock, and noble fir. The average take Douglas-fir is approximately 21 inches DBH and 91 feet to a merchantable top. The average take western hemlock is 17 inches DBH and 74 feet to a merchantable top. The average take noble fir is 35 inches DBH and 111 feet to a merchantable top. Average net volume to be harvested per acre is 58 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or otherwise anticipated break point.

Unit 5 (R/W) is similar to the timber description above in Unit 34S. Average net volume to be harvested per acre is 58 MBF.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
124N	40%	8%	36%	4.8%
34S	40%	8%	38.3%	6.1%

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"	8,857	6,737	1,836	284	0.9%	78%
western hemlock	17"	2,260	1,368	714	178	0.5%	20%
western redcedar	14"	93	22	43	28	1.8%	<1%
noble fir	35"	33	33	-	-	-	<1%
TOTALS	--	11,243	8,160	2,593	490	--	--

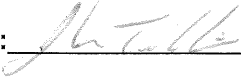
Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
red alder	12"	16	-	-	12	4	-	<1%
TOTALS	--	16	-	-	12	4	--	--

TOTAL VOLUME	11,259 MBF
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9. Approvals:

Prepared by: John Czarnecki Date: 10/05/2023

Unit Forester Approval:  Date: 10/20/2023

10. Attachments: Cruise Design and Map (5 pages)
Volume Report (4 pages)
Statistics Report (7 pages)
Log Stock Table (2 pages)
Stand Table Summary (2 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: D.R. ChopperUnits U124N

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 163 Estimated CV% 40 Net BF/Acre SE% Objective 8% Net BF/AcrePlanned Sale Volume: 7043 MBF Estimated Sale Area Value/Acre: \$23,333/Acre

- A. Cruise Goals:** (a) Grade minimum 100 conifer trees.
 (b) Sample 59 plots (25 grade/ 34 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 54.45

Unit 124N:

Cruise Line Direction: 15°/195°
 Cruise Line Spacing 8 (chains) 528 (Feet)
 Cruise Plot Spacing 4 (chains) 264 (Feet)
 Grade/Count Ratio 1:2

Take plots as marked on cruise map.

Grade minor species (true fir, spruce, cedar, maple, etc.) on count plots if encountered.DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.DO NOT: record snags < 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

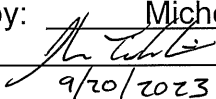
segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods 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 $>$ 2½" 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: Michele Huffman
Approved by: 
Date: 9/20/2023

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: D.R. ChopperUnits U34S

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 62 Estimated CV% 40 Net BF/Acre SE% Objective 8% Net BF/AcrePlanned Sale Volume: 4042 MBF Estimated Sale Area Value/Acre: \$26,250/Acre

A. Cruise Goals: (a) Grade minimum 70 conifer trees.
 (b) Sample 40 plots (14 grade/ 26 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 54.45**Unit 34S:**Cruise Line Direction: 15°/195°Cruise Line Spacing 6.5 (chains) 429 (Feet)Cruise Plot Spacing 3.5 (chains) 231 (Feet)Grade/Count Ratio 1:2

Take plots as marked on cruise map.

Grade minor species (true fir, spruce, cedar, maple, etc.) on count plots if encountered.DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.DO NOT: record snags < 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

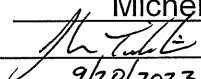
segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods 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 $>$ 2½" 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: Michele Huffman
Approved by: 
Date: 9/20/2023

TIMBER CRUISE MAP

OF TIMBER SALE CONTRACT
NO. AT-341-2024-W01053-01

D.R. CHOPPER
PORTIONS OF SECTIONS
26, 34, 35, & 36

OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON
Units: 1, 2, & 4N

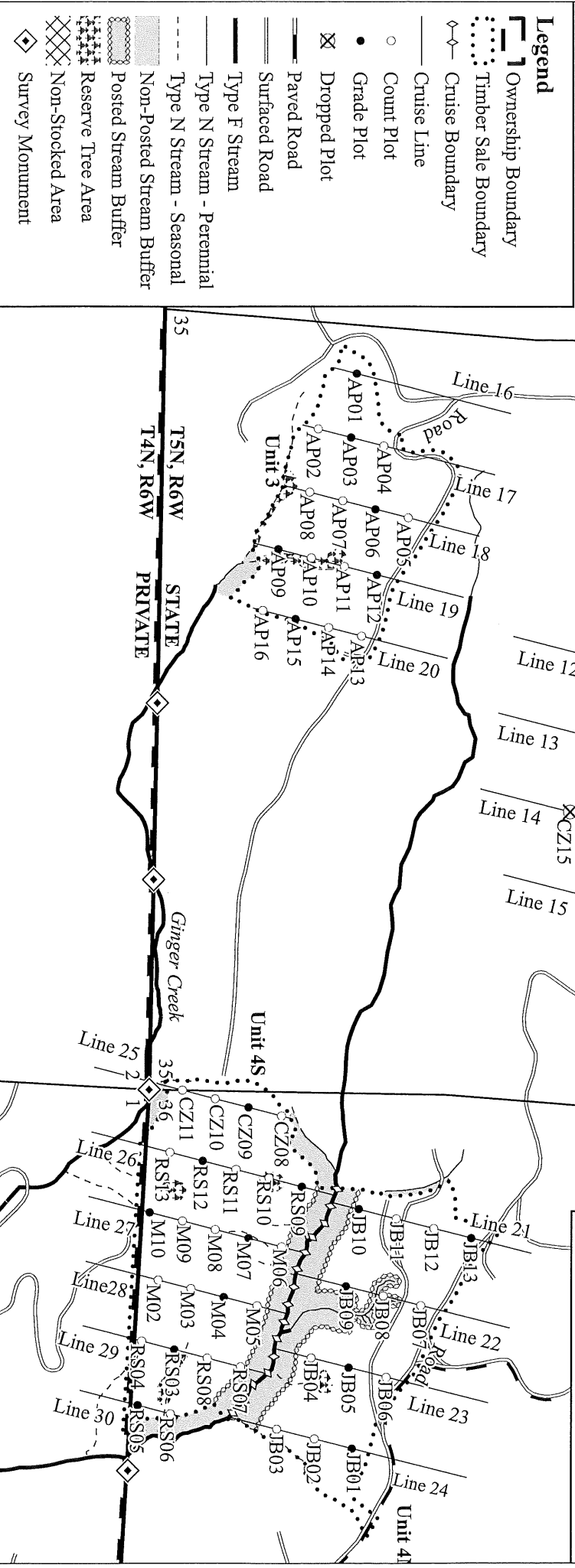
BAF: 54.45
Azimuth: 150°/195°

Line Spacing: 8 ch. (528 ft.)
Plot Spacing: 4 ch. (264 ft.)
Count Plots: 34
Grade Plots: 25
Total Plots: 59

Units: 3 & 4S

BAF: 54.45
Azimuth: 150°/195°

Line Spacing: 6.5 ch. (429 ft.)
Plot Spacing: 3.5 ch. (231 ft.)
Count Plots: 26
Grade Plots: 14
Total Plots: 40



Legend

- Ownership Boundary
- Timber Sale Boundary
- Cruise Boundary
- Count Plot
- Grade Plot
- Dropped Plot
- Paved Road
- Surfaced Road
- Type F Stream
- Type N Stream - Perennial
- Type N Stream - Seasonal
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Non-Stocked Area
- Survey Monument

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																																												
<table border="1"> <tr> <td>T05N R06W S35 Ty00MC</td> <td>6.00</td> </tr> <tr> <td>T05N R06W S35 Ty00MC</td> <td>163.00</td> </tr> <tr> <td>T05N R06W S35 Ty00MC</td> <td>62.00</td> </tr> </table>				T05N R06W S35 Ty00MC	6.00	T05N R06W S35 Ty00MC	163.00	T05N R06W S35 Ty00MC	62.00	Project:			DRC										Page		1																							
				T05N R06W S35 Ty00MC	6.00																																											
				T05N R06W S35 Ty00MC	163.00																																											
T05N R06W S35 Ty00MC	62.00																																															
Acres			231.00										Date		10/18/2023																																	
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S Spp	So T	Gr rt	ad	%	Net	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs																										
										BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	Per																					
															4-5	6-11	12-16	17+	12-20	21-30	31-35							36-99	Ft	In	Ft	Lf	/Acre															
D		DOCU																																														
D		DO2S		76	.9	29,442	29,165	6,737				48	52	1	0	2	96	39	15	385	2.21	75.8																										
D		DO3S		20	.8	8,010	7,949	1,836				96	2	1	4	12	17	67	35	9	109	0.87	72.8																									
D		DO4S		4	2.2	1,258	1,230	284				2	98				60	37		2	20	7	28	0.47	44.4																							
D Totals				79	.9	38,711	38,344	8,857 8,858	0	23	37	40	4	4	5	87	33	11	196	1.43	195.2																											
H		DOCU																																														
H		DO2S		60	.4	5,945	5,924	1,368				69	31			6	94	39	14	314	1.90	18.9																										
H		DO3S		32	.8	3,115	3,089	714				100		3	9	18	71	36	9	101	0.82	30.6																										
H		DO4S		8		771	771	178				100		49	51			20	6	27	0.44	29.0																										
H Totals				20	.5	9,831	9,785	2,260				39	42	19	5	7	9	79	30	9	122	1.05	80.3																									
NF		DO2S		100		142	142	33				6	94			6	94	36	20	787	3.72	.2																										
NF Totals				0		142	142	33				6	94			6	94	36	20	787	3.72	.2																										
C		DO2S		24		97	97	22			100					100	40	14	290	2.47	.3																											
C		DO3S		46	3.7	194	187	43			100				76	24	34	7	72	0.87	2.6																											
C		DO4S		30		120	120	28			100			89	11		17	7	27	0.57	4.5																											
C Totals				1	1.8	412	404	93				76	24	26	3	35	35	24	8	55	0.86	7.4																										
A		DO3S		75		52	52	12			100				100		30	8	60	0.67	.9																											
A		DO4S		25		17	17	4			100			100			16	6	20	0.31	.9																											
A Totals				0		70	70	16			100			25	75		23	7	40	0.54	1.7																											
Totals					0.9	49,165	48,745	11,260 11,259	0	27	38	35	4	5	6	85	32	10	171	1.31	284.9																											

T05N R06W S35 T00MC	T05N R06W S35 T00MC
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
05N 06W 35 U124N_TAKE 00MC 163.00 56 95 1	W

Spp	S T	So rt	Gr ad	% 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 Ft	Dia In	Bd Ft		CF/ Lf			
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99								
D		DO	CU																					
D		DO	2S	79	1.1	28,604	28,301	4,613			44	56		1		2	97	39	16	396	2.25		71.5	
D		DO	3S	17	.8	6,106	6,058	987		93	4	3		4	13	27	57	34	9	109	0.91		55.4	
D		DO	4S	4	3.6	1,117	1,077	176		100				52	48			21	7	28	0.49		38.3	
D	Totals			80	1.1	35,827	35,437	5,776		19	36	45		3	4	6	87	33	11	213	1.53		166.3	
H		DO	CU															7	11		0.00		2.2	
H		DO	2S	67	.3	5,732	5,712	931			67	33				8	92	39	14	309	1.88		18.5	
H		DO	3S	23	.6	1,920	1,908	311		100				4	3	32	61	35	9	104	0.87		18.3	
H		DO	4S	10		791	791	129		100				46	54			20	6	27	0.45		29.7	
H	Totals			19	.4	8,442	8,411	1,371		32	46	22		5	6	13	76	29	9	122	1.10		68.7	
C		DO	2S	24		138	138	22			100					100		40	14	290	2.47		.5	
C		DO	3S	46	3.7	275	265	43		100						76	24	34	7	72	0.87		3.7	
C		DO	4S	30		170	170	28		100				89	11			17	7	27	0.57		6.3	
C	Totals			1	1.8	583	573	93		76	24			26	3	35	35	24	8	55	0.86		10.5	
A		DO	3S	75		74	74	12		100					100			30	8	60	0.67		1.2	
A		DO	4S	25		25	25	4		100				100				16	6	20	0.31		1.2	
A	Totals			0		99	99	16		100				25	75			23	7	40	0.54		2.5	
Type Totals					1.0	44,951	44,520	7,257		22	37	40		4	4	8	84	31	11	180	1.39		248.0	

T05N R06W S35 T00MC		T05N R06W S35 T00MC
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt		BdFt
05N 06W 35 U34S TAKE 00MC 62.00 40 76 1		W

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent 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	DO	CU														16	16		0.00	4.9	
D	DO	2S	68	.7	31,453	31,235	1,937			58	42	1	1	2	95	39	15	363	2.11	86.1	
D	DO	3S	28	.7	12,575	12,483	774		100			4	12	6	78	35	9	109	0.84	114.6	
D	DO	4S	4		1,596	1,596	99	6	94			74	20		6	20	7	27	0.45	58.8	
D	Totals		77	.7	45,624	45,314	2,810 2,809	0	31	40	29	5	5	3	87	33	11	171	1.27	264.4	
H	DO	CU														12	17		0.00	1.2	
H	DO	2S	49	.4	6,457	6,431	399			72	28				3	97	40	14	324	1.94	19.9
H	DO	3S	45	1.0	5,979	5,921	367		100			1	13	7	79	36	8	99	0.78	60.0	
H	DO	4S	6		725	725	45		100			58	42			21	6	27	0.42	27.2	
H	Totals		22	.6	13,161	13,077	811		51	35	14	4	8	4	84	33	9	121	0.98	108.3	
NF	DO	2S	100		481	481	30			6	94				6	94	36	20	787	3.72	.6
NF	Totals		1		481	481	30			6	94				6	94	36	20	787	3.72	.6
Type	Totals			.7	59,265	58,872	3,651 3,650	0	35	39	26	4	5	4	87	33	10	158	1.19	373.3	

T05N R06W S35 T00MC	T05N R06W S35 T00MC
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
05N 06W 35 R/W 00MC 6.00 40 78 1	W

Spp	So	Gr	%	Bd. Ft. per Acre				Total	Percent Net Board Foot Volume								Average Log			Logs Per /Acre						
									Net BdFt	Def%	Gross	Net	Net MBF	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	DO	CU																								
D	DO	2S	68	.7	31,453	31,235	187				58	42	1	1	2	95	39	15	363	2.11					86.1	
D	DO	3S	28	.7	12,575	12,483	75			100			4	12	6	78	35	9	109	0.84					114.6	
D	DO	4S	4		1,596	1,596	10			6	94			74	20	6	20	7	27	0.45					58.8	
D	Totals		77	.7	45,624	45,314	272			0	31	40	29	5	5	3	87	33	11	171	1.27					264.4
H	DO	CU																								
H	DO	2S	49	.4	6,457	6,431	39				72	28				3	97	40	14	324	1.94					19.9
H	DO	3S	45	1.0	5,979	5,921	36			100			1	13	7	79	36	8	99	0.78					60.0	
H	DO	4S	6		725	725	4			100			58	42			21	6	27	0.42					27.2	
H	Totals		22	.6	13,161	13,077	79 78				51	35	14	4	8	4	84	33	9	121	0.98					108.3
NF	DO	2S	100		481	481	3				6	94			6	94	36	20	787	3.72					.6	
NF	Totals		1		481	481	3				6	94			6	94	36	20	787	3.72					.6	
Type Totals				.7	59,265	58,872	354 353			0	35	39	26	4	5	4	87	33	10	158	1.19					373.3

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DRC		DATE	10/27/2023		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	U34S	00MC	62.00	40	234	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		40	234	5.8						
CRUISE		14	78	5.6	9,339	.8				
DBH COUNT REFOREST COUNT BLANKS 100 %		26	156	6.0						
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	48	98.0	20.9	91	51.0	232.8	45,624	45,314	10,958	10,958
WHEMLOCK	27	49.8	17.2	74	19.4	80.3	13,161	13,077	3,480	3,480
SNAG	2	2.6	16.9	81	1.0	4.1				
NOB FIR	1	.2	35.0	111	0.2	1.4	481	481	82	82
TOTAL	78	150.6	19.7	85	71.8	318.5	59,265	58,872	14,520	14,520
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	66.9	9.7	580	642	704					
WHEMLOCK	88.2	17.3	317	383	450					
SNAG										
NOB FIR										
TOTAL	83.4	9.4	505	558	611	278	69	31		
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	63.9	10.1	88	98	108					
WHEMLOCK	159.3	25.2	37	50	62					
SNAG	395.8	62.5	1	3	4					
NOB FIR	632.5	99.9	0	0	0					
TOTAL	50.6	8.0	139	151	163	102	26	11		
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	55.6	8.8	212	233	253					
WHEMLOCK	148.0	23.4	62	80	99					
SNAG	355.7	56.2	2	4	6					
NOB FIR	632.5	99.9	0	1	3					
TOTAL	37.0	5.9	300	319	337	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	54.3	8.6	41,428	45,314	49,200					
WHEMLOCK	156.0	24.6	9,854	13,077	16,300					
SNAG										
NOB FIR	632.5	99.9	0	481	961					
TOTAL	38.3	6.1	55,306	58,872	62,438	59	15	7		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT DRC		DATE		10/27/2023		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	U124N	00MC	163.00	56	252	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		56	252	4.5						
CRUISE		25	101	4.0	18,653		.5			
DBH COUNT										
REFOREST										
COUNT		31	145	4.7						
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	65	62.3	22.5	91	36.3	172.1	35,827	35,437	8,386	8,386
WHEMLOCK	23	38.5	16.1	53	13.6	54.5	8,442	8,411	2,187	2,187
WR CEDAR	6	9.0	14.1	30	2.6	9.7	583	573	219	219
SNAG	6	3.4	20.4	70	1.7	7.8				
R ALDER	1	1.2	12.0	49	0.3	1.0	99	99	31	31
TOTAL	<i>101</i>	<i>114.4</i>	<i>19.8</i>	<i>73</i>	<i>55.0</i>	<i>245.0</i>	<i>44,951</i>	<i>44,520</i>	<i>10,822</i>	<i>10,822</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	59.9	7.4	720	778	836					
WHEMLOCK	83.0	17.7	329	400	470					
WR CEDAR	110.1	49.0	54	107	159					
SNAG										
R ALDER										
TOTAL	<i>80.6</i>	<i>8.0</i>	<i>551</i>	<i>599</i>	<i>647</i>		<i>259</i>	<i>65</i>	<i>29</i>	
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	58.8	7.9	57	62	67					
WHEMLOCK	137.8	18.4	31	38	46					
WR CEDAR	279.5	37.3	6	9	12					
SNAG	277.3	37.0	2	3	5					
R ALDER	748.3	99.9	0	1	2					
TOTAL	<i>50.5</i>	<i>6.7</i>	<i>107</i>	<i>114</i>	<i>122</i>		<i>102</i>	<i>25</i>	<i>11</i>	
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	53.5	7.1	160	172	184					
WHEMLOCK	126.5	16.9	45	54	64					
WR CEDAR	263.9	35.2	6	10	13					
SNAG	247.2	33.0	5	8	10					
R ALDER	748.3	99.9	0	1	2					
TOTAL	<i>30.0</i>	<i>4.0</i>	<i>235</i>	<i>245</i>	<i>255</i>		<i>36</i>	<i>9</i>	<i>4</i>	
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	54.4	7.3	32,865	35,437	38,009					
WHEMLOCK	126.6	16.9	6,989	8,411	9,833					
WR CEDAR	261.5	34.9	373	573	773					
SNAG										
R ALDER	748.3	99.9	0	99	198					
TOTAL	<i>36.0</i>	<i>4.8</i>	<i>42,379</i>	<i>44,520</i>	<i>46,660</i>		<i>52</i>	<i>13</i>	<i>6</i>	

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT DRC							DATE	10/18/2023	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06	35	R/W	00MC		231.00	136	709	1	W	
05N	06W	35	U124N_TAKE	00MC							
05N	06W	35	U34S_TAKE	00MC							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			136	709	5.2						
CRUISE			52	249	4.8	28,175	.9				
DBH COUNT REFOREST COUNT			84	457	5.4						
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		161	72.8	21.9	91	40.6	190.0	38,711	38,344	9,143	9,143
WHEMLOCK		77	41.8	16.5	61	15.3	62.1	9,831	9,785	2,568	2,568
WR CEDAR		6	6.4	14.1	30	1.8	6.9	412	404	154	154
SNAG		2	.1	16.9	81	0.0	.1				
NOB FIR		2	.1	35.0	111	0.1	.4	142	142	24	24
R ALDER		1	.9	12.0	49	0.2	.7	70	70	22	22
TOTAL		249	122.0	19.8	77	58.5	260.1	49,165	48,745	11,911	11,911
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		64.2	5.1	662	697	732					
WHEMLOCK		85.5	9.7	350	388	426					
WR CEDAR		110.1	49.0	54	107	159					
SNAG											
NOB FIR				2,360	2,360	2,360					
R ALDER											
TOTAL		78.8	5.0	563	592	622	248	62	28		
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		90.5	7.7	67	73	78					
WHEMLOCK		178.2	15.3	35	42	48					
WR CEDAR		449.6	38.5	4	6	9					
SNAG		739.9	63.4	0	0	0					
NOB FIR		1067.5	91.5	0	0	0					
R ALDER		1166.2	99.9	0	1	2					
TOTAL		85.0	7.3	113	122	131	289	72	32		
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		87.2	7.5	176	190	204					
WHEMLOCK		164.7	14.1	53	62	71					
WR CEDAR		426.3	36.5	4	7	9					
SNAG		668.3	57.3	0	0	0					
NOB FIR		1067.5	91.5	0	0	1					
R ALDER		1166.2	99.9	0	1	1					
TOTAL		72.5	6.2	244	260	276	210	53	23		
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		88.5	7.6	35,438	38,344	41,251					
WHEMLOCK		167.7	14.4	8,379	9,785	11,190					
WR CEDAR		422.7	36.2	258	404	551					

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT		DRC			DATE		10/18/2023	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06	35	R/W	00MC	231.00	136	709	1	W	
05N	06W	35	U124N_TAKE	00MC						
05N	06W	35	U34S_TAKE	00MC						
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
SNAG										
NOB FIR			1067.5	91.5	12	142	271			
R ALDER			1166.2	99.9	0	70	140			
TOTAL			74.4	6.4	45,638	48,745	51,852	221	55	25

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT		DRC		DATE	10/18/2023	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	U124N TAKE	00MC	163.00	56	244	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		56	244	4.4						
CRUISE		24	95	4.0	18,094		.5			
DBH COUNT										
REFOREST										
COUNT		32	146	4.6						
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	65	62.3	22.5	91	36.3	172.1	35,827	35,437	8,386	8,386
WHEMLOCK	23	38.5	16.1	53	13.6	54.5	8,442	8,411	2,187	2,187
WR CEDAR	6	9.0	14.1	30	2.6	9.7	583	573	219	219
R ALDER	1	1.2	12.0	49	0.3	1.0	99	99	31	31
TOTAL	95	111.0	19.8	73	53.3	237.2	44,951	44,520	10,822	10,822
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	59.9	7.4	720	778	836					
WHEMLOCK	83.0	17.7	329	400	470					
WR CEDAR	110.1	49.0	54	107	159					
R ALDER										
TOTAL	74.2	7.6	588	637	685	220	55	24		
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	58.8	7.9	57	62	67					
WHEMLOCK	137.8	18.4	31	38	46					
WR CEDAR	279.5	37.3	6	9	12					
R ALDER	748.3	99.9	0	1	2					
TOTAL	51.4	6.9	103	111	119	106	26	12		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	53.5	7.1	160	172	184					
WHEMLOCK	126.5	16.9	45	54	64					
WR CEDAR	263.9	35.2	6	10	13					
R ALDER	748.3	99.9	0	1	2					
TOTAL	32.6	4.4	227	237	248	42	11	5		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.	INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	54.4	7.3	32,865	35,437	38,009					
WHEMLOCK	126.6	16.9	6,989	8,411	9,833					
WR CEDAR	261.5	34.9	373	573	773					
R ALDER	748.3	99.9	0	99	198					
TOTAL	36.0	4.8	42,379	44,520	46,660	52	13	6		

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT		DRC		DATE	10/18/2023		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
05N	06W	35	U34S TAKE	00MC	62.00	40	231	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				TREES	TREES	TREES					
TOTAL		40	231	5.8							
CRUISE		14	76	5.4	9,177		.8				
DBH COUNT											
REFOREST											
COUNT		26	155	6.0							
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	48	98.0	20.9	91	51.0	232.8	45,624	45,314	10,958	10,958	
WHEMLOCK	27	49.8	17.2	74	19.4	80.3	13,161	13,077	3,480	3,480	
NOB FIR	1	.2	35.0	111	0.2	1.4	481	481	82	82	
TOTAL	76	148.0	19.7	85	70.8	314.4	59,265	58,872	14,520	14,520	
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	66.9	9.7	580	642	704						
WHEMLOCK	88.2	17.3	317	383	450						
NOB FIR											
TOTAL	80.8	9.3	520	573	626	260	65	29			
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	63.9	10.1	88	98	108						
WHEMLOCK	159.3	25.2	37	50	62						
NOB FIR	632.5	99.9	0	0	0						
TOTAL	51.0	8.1	136	148	160	104	26	12			
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	55.6	8.8	212	233	253						
WHEMLOCK	148.0	23.4	62	80	99						
NOB FIR	632.5	99.9	0	1	3						
TOTAL	37.5	5.9	296	314	333	56	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	54.3	8.6	41,428	45,314	49,200						
WHEMLOCK	156.0	24.6	9,854	13,077	16,300						
NOB FIR	632.5	99.9	0	481	961						
TOTAL	38.3	6.1	55,306	58,872	62,438	59	15	7			

TC TSTATS				STATISTICS				PAGE	I	
				PROJECT	DRC		DATE	10/18/2023		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	R/W	00MC	6.00	40	234	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		40	234	5.8						
CRUISE		14	78	5.6	904		8.6			
DBH COUNT										
REFOREST										
COUNT		26	156	6.0						
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	48	98.0	20.9	91	51.0	232.8	45,624	45,314	10,958	10,958
WHEMLOCK	27	49.8	17.2	74	19.4	80.3	13,161	13,077	3,480	3,480
SNAG	2	2.6	16.9	81	1.0	4.1				
NOB FIR	1	.2	35.0	111	0.2	1.4	481	481	82	82
TOTAL	78	150.6	19.7	85	71.8	318.5	59,265	58,872	14,520	14,520
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	66.9	9.7	580	642	704					
WHEMLOCK	88.2	17.3	317	383	450					
SNAG										
NOB FIR										
TOTAL	83.4	9.4	505	558	611	278	69	31		
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	63.9	10.1	88	98	108					
WHEMLOCK	159.3	25.2	37	50	62					
SNAG	395.8	62.5	1	3	4					
NOB FIR	632.5	99.9	0	0	0					
TOTAL	50.6	8.0	139	151	163	102	26	11		
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	55.6	8.8	212	233	253					
WHEMLOCK	148.0	23.4	62	80	99					
SNAG	355.7	56.2	2	4	6					
NOB FIR	632.5	99.9	0	1	3					
TOTAL	37.0	5.9	300	319	337	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	54.3	8.6	41,428	45,314	49,200					
WHEMLOCK	156.0	24.6	9,854	13,077	16,300					
SNAG										
NOB FIR	632.5	99.9	0	481	961					
TOTAL	38.3	6.1	55,306	58,872	62,438	59	15	7		

Log Stock Table - MBF

T05N R06W S35 Ty00MC	6.00
T05N R06W S35 Ty00MC	163.00
T05N R06W S35 Ty00MC	62.00

Project: **DRC**
 Acres **231.00**

Page **2**
 Date **10/18/2023**
 Time **9:19:54AM**

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spe	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	26	16		16	.7				16									
H		DO	3S	28	10		10	.5					10								
H		DO	3S	30	28		28	1.2				18	9								
H		DO	3S	32	122		122	5.4			17	22	83								
H		DO	3S	34	4		4	.2			4										
H		DO	3S	36	69	4.3	66	2.9			21		45								
H		DO	3S	38	36		36	1.6			22		14								
H		DO	3S	40	408		405	17.9			72	127	206								
H		DO	4S	12	12		12	.6			11	1									
H		DO	4S	16	15		15	.7			11	4									
H		DO	4S	18	22		22	1.0			5	18									
H		DO	4S	20	38		38	1.7			32	6									
H		DO	4S	24	44		44	1.9			44										
H		DO	4S	26	11		11	.5			11										
H		DO	4S	30	35		35	1.6			35										
H		Totals			2,271		2,260	20.1			286	212	394	492	262	354	223	37			
NF		DO	2S	28	2		2	5.9					2								
NF		DO	2S	40	31		31	94.1									11	20			
NF		Totals			33		33	.3					2				11	20			
C		DO	2S	40	22		22	24.1						22							
C		DO	3S	32	34	4.9	33	35.1			14		18								
C		DO	3S	40	10		10	11.2			10										
C		DO	4S	12	12		12	12.4				12									
C		DO	4S	20	13		13	14.0			13										
C		DO	4S	24	3		3	3.3				3									
C		Totals			95	1.8	93	.8			38	15	18	22							
A		DO	3S	30	12		12	75.0				12									
A		DO	4S	16	4		4	25.0			4										
A		Totals			16		16	.1			4	12									
Total		All Species			11,357		11,260	100.0			6	694	826	1503	1663	1901	2533	1691	443		

Stand Table Summary

T05N R06W S35 Ty00MC 6.00
T05N R06W S35 Ty00MC 163.00
T05N R06W S35 Ty00MC 62.00

Project **DRC**
Acres **231.00**

Time: **9:20:28AM**
Grown Year:

S Spc T	Sample DBH	Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D	11	1	86	37	2.831	1.87	2.83	11.0	20.0		31	57		72	13
D	12	2	82	92	1.818	1.43	3.64	13.5	35.0		49	127		113	29
D	14	1	85	104	1.748	1.87	3.50	20.5	75.0		72	262		166	61
D	15	3	88	81	2.686	3.30	5.37	19.7	65.2		106	350		245	81
D	16	5	86	107	3.471	4.72	6.94	27.1	105.0		188	729		434	168
D	17	12	85	115	6.899	10.87	17.07	28.0	100.0		478	1,708		1,104	395
D	18	16	86	126	9.076	16.04	24.31	31.2	115.9		759	2,817		1,753	651
D	19	10	87	118	5.971	11.76	15.29	32.4	123.2		496	1,884		1,145	435
D	20	8	88	135	2.617	5.71	7.85	38.7	160.0		304	1,256		701	290
D	21	8	86	121	5.254	12.64	15.76	36.7	145.7		578	2,296		1,336	530
D	22	8	85	128	3.038	8.02	9.11	42.9	174.1		391	1,587		904	367
D	23	11	84	126	4.722	13.62	14.17	46.2	184.3		655	2,611		1,513	603
D	24	4	86	135	2.379	7.47	7.14	53.2	216.7		379	1,546		876	357
D	25	9	85	138	3.578	12.20	10.73	58.3	238.8		626	2,563		1,446	592
D	26	13	86	135	4.082	15.05	11.74	62.4	272.3		733	3,197		1,693	738
D	27	4	86	135	1.299	5.16	3.90	67.5	279.3		263	1,088		607	251
D	28	8	87	135	2.955	12.64	8.43	75.6	344.3		637	2,902		1,472	670
D	29	9	87	140	2.156	9.89	6.47	80.8	370.6		522	2,396		1,206	554
D	30	8	86	144	2.104	10.33	6.31	86.9	413.4		548	2,609		1,267	603
D	31	5	87	139	.901	4.72	2.70	91.6	433.7		248	1,172		572	271
D	32	2	87	155	.669	3.74	2.01	105.3	513.3		211	1,030		488	238
D	33	4	85	143	.869	5.16	2.61	102.3	487.7		267	1,272		617	294
D	34	1	83	148	.296	1.87	.89	108.7	506.7		97	450		223	104
D	35	2	89	149	.559	3.74	1.68	125.0	628.3		210	1,054		484	244
D	36	3	82	130	.466	3.30	1.40	110.6	496.6		155	695		357	160
D	37	4	86	134	.382	2.86	1.15	122.5	596.7		141	684		325	158
D	Totals	161	86	121	72.826	189.96	192.98	47.4	198.7		9,143	38,344		21,120	8,858
H	8	1	85	17	4.786	1.67	4.79	4.0	10.0		19	48		44	11
H	10	1	88	53	3.063	1.67	3.06	11.0	40.0		34	123		78	28
H	11	4	85	44	6.389	4.22	7.72	10.8	33.4		84	258		193	60
H	13	4	84	91	1.900	1.75	3.80	17.5	60.0		66	228		154	53
H	14	6	87	99	2.457	2.63	4.91	22.7	85.0		111	418		257	96
H	15	1	82	92	1.361	1.67	2.72	23.0	75.0		63	204		145	47
H	16	10	84	86	3.136	4.38	5.64	27.9	90.0		157	508		364	117
H	17	4	88	107	2.675	4.22	6.41	30.8	114.2		197	732		456	169
H	18	7	86	107	3.827	6.76	8.60	36.4	128.3		313	1,103		722	255
H	19	9	88	90	2.627	5.17	5.30	39.2	139.2		208	737		480	170
H	20	5	85	110	2.698	5.89	7.33	38.1	142.1		279	1,042		645	241
H	21	6	83	103	2.117	5.09	4.60	42.4	153.4		195	705		450	163
H	22	1	89	129	.633	1.67	1.90	48.3	206.7		92	392		212	91
H	23	4	83	115	.607	1.75	1.82	46.3	181.7		84	331		195	76
H	24	2	85	113	1.063	3.34	3.19	51.3	216.7		164	691		378	160
H	25	3	82	103	.747	2.55	1.75	64.5	234.5		113	411		261	95
H	26	1	92	118	.453	1.67	1.36	65.7	333.3		89	453		206	105
H	28	3	88	115	.595	2.55	1.58	80.0	371.3		127	587		292	136
H	30	1	86	127	.340	1.67	1.02	84.7	383.3		86	391		200	90
H	32	4	89	115	.314	1.75	.94	92.0	448.3		87	422		200	97
H	Totals	77	86	80	41.789	62.06	78.44	32.7	124.7		2,568	9,785		5,931	2,260
C	11	2	83	24	3.404	2.29	3.40	9.0	24.9		31	85		71	20
C	13	1	78	59	1.241	1.14	1.24	19.0	50.0		24	62		54	14
C	17	1	80	81	.725	1.14	1.45	23.5	70.0		34	102		79	23
C	18	1	80	59	.647	1.14	.65	41.0	70.0		27	45		61	10

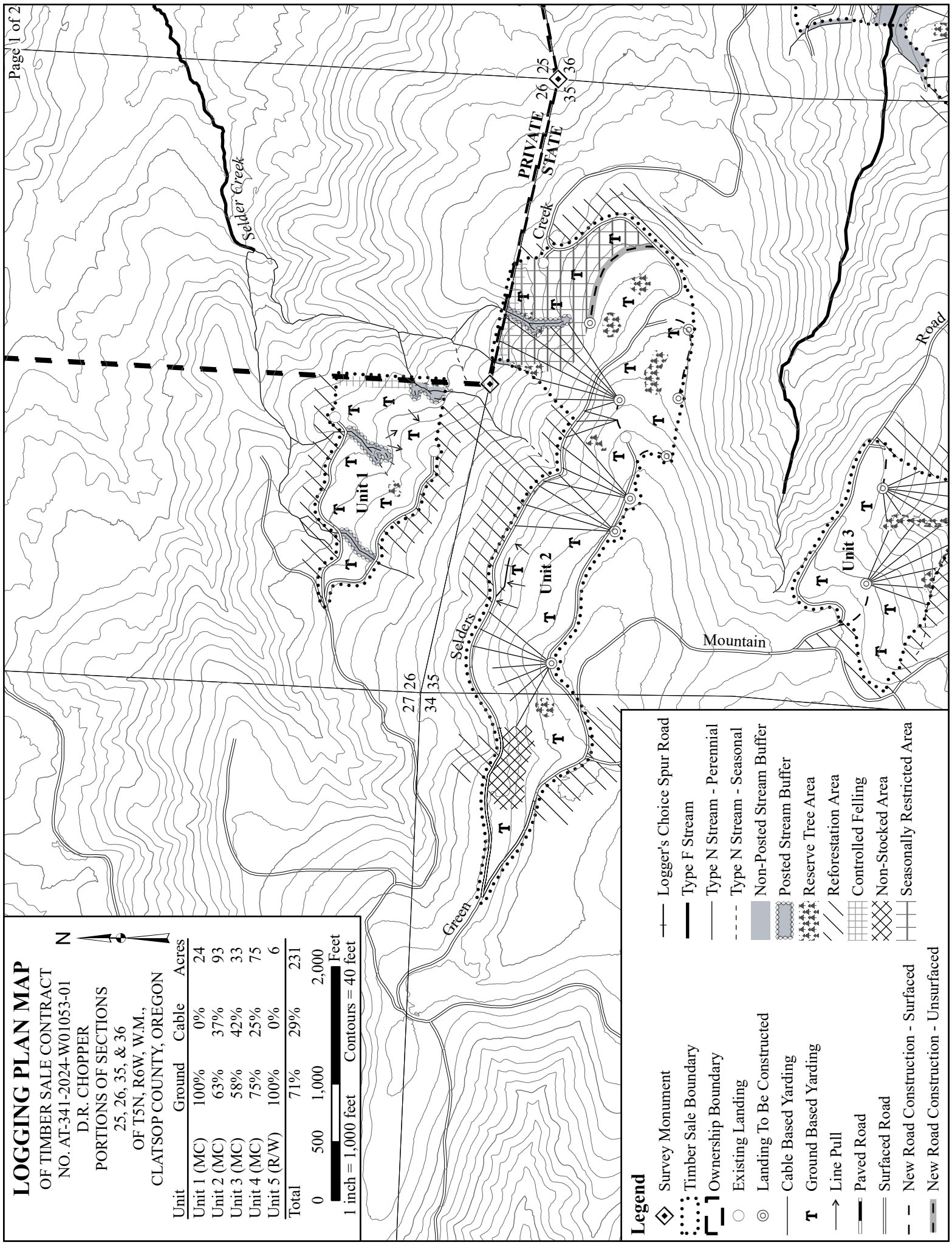
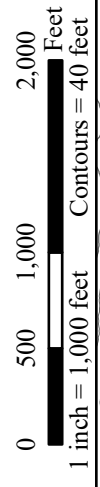
TC PSTNDSUM		Stand Table Summary										Page	2		
												Date:	10/18/2023		
		Project DRC										Time:	9:20:28AM		
		Acres 231.00										Grown Year:			
T05N R06W S35 Ty00MC		6.00													
T05N R06W S35 Ty00MC		163.00													
T05N R06W S35 Ty00MC		62.00													
S Spec T	DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
								Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
C	25	1	80	89	.335	1.14	.67	59.0	165.0		40	111		91	26
C	Totals	6	81	44	6.353	6.86	7.41	20.8	54.5		154	404		357	93
NF	35	2	95	136	.060	.40	.18	134.0	786.7		24	142		56	33
NF	Totals	2	95	136	.060	.40	.18	134.0	786.7		24	142		56	33
A	12	1	86	76	.874	.69	1.75	12.5	40.0		22	70		50	16
A	Totals	1	86	76	.874	.69	1.75	12.5	40.0		22	70		50	16
SN	14	1	85	73	.053	.05									
SN	26	1	89	111	.014	.05									
SN	Totals	2	86	81	.068	.11									
Totals		249	86	102	121.969	260.08	280.76	42.4	173.6		11,911	48,745		27,514	11,260

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT
 NO. AT-341-2024-W01053-01
 D.R. CHOPPER

PORTIONS OF SECTIONS
 25, 26, 35, & 36
 OF T5N, R6W, W.M.,
 CLATSOP COUNTY, OREGON

Unit	Ground	Cable	Acres
Unit 1 (MC)	100%	0%	24
Unit 2 (MC)	63%	37%	93
Unit 3 (MC)	58%	42%	33
Unit 4 (MC)	75%	25%	75
Unit 5 (R/W)	100%	0%	6
Total	71%	29%	231



Legend

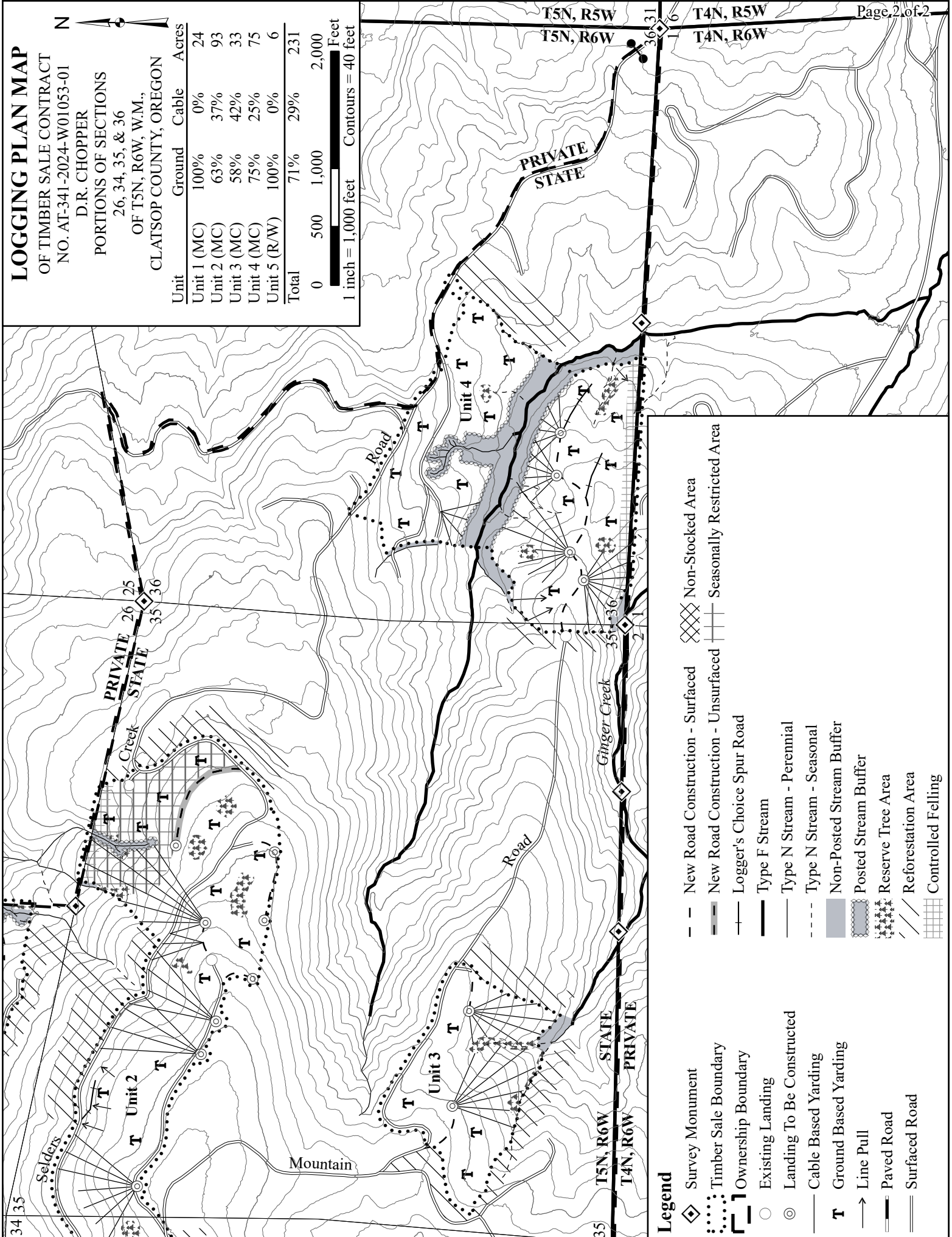
	Survey Monument		Logger's Choice Spur Road
	Timber Sale Boundary		Type F Stream
	Ownership Boundary		Type N Stream - Perennial
	Existing Landing		Type N Stream - Seasonal
	Landing To Be Constructed		Non-Posted Stream Buffer
	Cable Based Yarding		Posted Stream Buffer
	Ground Based Yarding		Reserve Tree Area
	Line Pull		Reforestation Area
	Paved Road		Controlled Felling
	Surfaced Road		Non-Stocked Area
	New Road Construction - Surfaced		Seasonally Restricted Area
	New Road Construction - Unsurfaced		

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT
 NO. AT-341-2024-W01053-01
 D.R. CHOPPER
 PORTIONS OF SECTIONS
 26, 34, 35, & 36
 OF T5N, R6W, W.M.,
 CLATSOP COUNTY, OREGON

Unit	Ground	Cable	Acres
Unit 1 (MC)	100%	0%	24
Unit 2 (MC)	63%	37%	93
Unit 3 (MC)	58%	42%	33
Unit 4 (MC)	75%	25%	75
Unit 5 (R/W)	100%	0%	6
Total	71%	29%	231

0 500 1,000 2,000 Feet
 1 inch = 1,000 feet Contours = 40 feet



Legend

- ◆ Survey Monument
- ⋯ Timber Sale Boundary
- ▭ Ownership Boundary
- Existing Landing
- ⊙ Landing To Be Constructed
- Cable Based Yarding
- ⊥ Ground Based Yarding
- Line Pull
- Paved Road
- Surfaced Road
- - - New Road Construction - Surfaced
- New Road Construction - Unsurfaced
- Logger's Choice Spur Road
- Type F Stream
- Type N Stream - Perennial
- Type N Stream - Seasonal
- █ Non-Posted Stream Buffer
- ▨ Posted Stream Buffer
- ⊘ Reserve Tree Area
- ▨ Reforestation Area
- ▧ Controlled Felling
- ⊘ Non-Stocked Area
- ▨ Seasonally Restricted Area