



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Middle Cole
Sale AT-341-2024-W01057-01

District: Astoria

Date: June 22, 2023

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,183,201.92	\$18,836.22	\$1,202,038.14
		Project Work:	(\$162,308.00)
		Advertised Value:	\$1,039,730.14



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District: Astoria

Date: June 22, 2023

Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	97
Western Hemlock / Fir	20	0	96
Sitka Spruce	17	0	96
Alder (Red)	12	0	95

Volume by Grade	2S	3S & 4S 6"-11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	2,020	430	0	0	0	0	2,450
Western Hemlock / Fir	27	17	0	0	0	0	44
Sitka Spruce	0	32	0	0	0	0	32
Alder (Red)	0	0	11	19	9	39	78
Total	2,047	479	11	19	9	39	2,604

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

Expected Log Markets: Clatskanie, Warrenton, Banks, Forest Grove, North Plains, Tillamook, Mist, Wauna, Rainier, Noti, Vancouver, WA, Elma, WA, Longview, WA, and Chehalis, WA.

PRICING:

Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.
\$858.13/MBF = \$1,169/MBF - \$310.87/MBF

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

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

Ditch Filters:

12 bales of straw @ \$12.06/bale = \$144.72

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

Line-pulling:

2.5 acres @ 1 acre/day x \$400 labor/day = \$1,000

Total P&R Cost = \$3,344.72

Other Costs (No Profit & Risk added): None

SLASH PILING

(See attached appraisal. Includes move-in and pile materials) = \$3,437

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$19,201/2,604 MBF = \$7.37/MBF



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Logging Conditions

Combination#: 1

Douglas - Fir	46.00%
Western Hemlock / Fir	46.00%
Sitka Spruce	46.00%
Alder (Red)	46.00%

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

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

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

loads / day: 10 **bd. ft / load:** 4250

cost / mbf: \$187.72

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

Combination#: 2

Douglas - Fir	54.00%
Western Hemlock / Fir	54.00%
Sitka Spruce	54.00%
Alder (Red)	54.00%

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

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

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

loads / day: 19 **bd. ft / load:** 4600

cost / mbf: \$114.42

machines: Shovel Logger



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Middle Cole
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Date: June 22, 2023

Logging Costs

Operating Seasons: 2.00	Profit Risk: 10%
Project Costs: \$162,308.00	Other Costs (P/R): \$3,344.72
Slash Disposal: \$3,437.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$7.37

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	5.4
Western Hemlock / Fir	\$0.00	2.0	5.0
Sitka Spruce	\$0.00	2.0	4.2
Alder (Red)	\$0.00	2.0	4.2



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Middle Cole
Sale AT-341-2024-W01057-01

District: Astoria

Date: June 22, 2023

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$148.14	\$7.59	\$3.37	\$119.21	\$1.28	\$27.96	\$1.32	\$2.00	\$0.00	\$310.87
Western Hemlock / Fir									
\$148.14	\$7.66	\$3.37	\$130.00	\$1.28	\$29.04	\$1.32	\$2.00	\$0.00	\$322.81
Sitka Spruce									
\$148.14	\$7.66	\$3.37	\$154.76	\$1.28	\$31.52	\$1.32	\$2.00	\$0.00	\$350.05
Alder (Red)									
\$148.14	\$7.74	\$3.37	\$156.25	\$1.28	\$31.68	\$1.32	\$2.00	\$0.00	\$351.78

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$786.07	\$475.20	\$0.00
Western Hemlock / Fir	\$0.00	\$622.89	\$300.08	\$0.00
Sitka Spruce	\$0.00	\$530.00	\$179.95	\$0.00
Alder (Red)	\$0.00	\$593.27	\$241.49	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Middle Cole
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District: Astoria

Date: June 22, 2023

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,450	\$475.20	\$1,164,240.00
Western Hemlock / Fir	44	\$300.08	\$13,203.52
Sitka Spruce	32	\$179.95	\$5,758.40
Alder (Red)	78	\$241.49	\$18,836.22

Gross Timber Sale Value

Recovery: \$1,202,038.14

Prepared By: Justin Bush

Phone: 503-440-8950

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Middle Cole
Date: June 22, 2023
By: John Czarnecki

MBF: 2,604
\$\$/MBF: \$7.37

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations	Grader 14G	\$972	1	8	\$126	\$1,980
	Vibratory Roller	\$972	1	8	\$97	\$1,748
Final Road Maintenance	Grader 14G	\$972	1	32	\$126	\$5,004
	Dump Truck 12CY	\$205	2	16	\$99	\$1,994
	Rubber Tire Backhoe	\$401	1	16	\$97	\$1,953
	Vibratory Roller	\$972	1	32	\$97	\$4,076
	Water Truck 2,500 gallon Labor	\$238	1	16	\$113	\$2,046
				8	\$50	\$400
Total						\$19,201

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	2.5	1.0	8
Vibratory Roller	1.5	1.5	1.0	8

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	5.6	3.7	30
Vibratory Roller	1.5	5.6	3.7	30

Process and Compact:

Seuss Alley Road 1.5 Miles

Cole Mountain Road 2.5 Miles

Unnamed Spurs 1.6 Miles

Total = 5.6 Miles

Site Prep Appraisal

Sale Number: AT-341-2024-W01057-01
Sale Name: Middle Cole
Date: 06/22/2023

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	A	21	11	\$145.00	\$1,522.50	
					In-unit Piling	Sub Total =	\$1,522.50
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	10	18	\$522.00	20.5	\$5.00	\$102.50	
					Materials	Sub Total =	\$102.50
					Landing Piling	Sub Total =	\$522.00
Sale Area	Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
	\$1,290.00	1	\$1,290.00		Move-In	Sub Total =	\$1,290.00
						Grand Total =	\$3,437.00

*Cost includes separating firewood

Additional Move-in allowance

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Middle Cole

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
1A to 1B	4.20	0.08	\$4,641.28
Road Maint.			\$67.22
Move-In			\$1,250.72
TOTALS	4.20	0.08	\$5,959

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
11 to 12	283.60	5.37	\$30,155.70
13 to 14			
15 to 16			
17 to 18			
Road Maint.			\$436.78
Move-In			\$8,126.28
TOTALS		5.37	\$38,719

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>
Proj. 3 Rock Crushing		\$117,630.50
TOTAL		\$117,631

GRAND TOTAL **\$162,308**

Compiled By: Brittany West

Date: 06/26/2023

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: Middle Cole

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
1A to 1B	4.20	0.08	\$4,641
TOTALS	4.20	0.08	\$4,641

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
I1 to I2	283.60	5.37	\$30,156
I3 to I4			
I5 to I6			
I7 to I8			
TOTALS		5.37	\$30,156

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
Vibratory Roller		\$972
D8 Dozer		\$1,755
C315 Excavator		\$1,005
C330 Excavator		\$1,755
C966 Loader		\$972
14 G Grader		\$972
Water Truck (2,500 gal)		\$238
Dump Truck 20cy (x2)		\$478
Dump Truck 10cy (x6)		\$1,230
TOTAL		\$9,377.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Hamlet Stockpile Road		\$504.00
Cole Mountain Quarry Road		
TOTAL		\$504.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Middle Cole
 ROAD: 1A to 1B (4.2)
 POINTS: _____

NEW CONSTRUCTION: 4.20 STATIONS
 IMPROVEMENT: _____ STATIONS

0.08 MILES
 0.00 MILES

CLEANING & GRUBBING					
Method	Acres/amount	X	Rate	=	Cost
1A to 1B	(\$/acre) 0.39	X	\$ 1,669	=	\$643.69
SUB TOTAL FOR CLEANING & GRUBBING					\$644

EXCAVATION					
Material	Cy/amount	X	Rate	=	Cost
1A to 1B		X			
0+00 to 4+20					
Common drift	(\$/cy) 325	X	\$2.25	=	\$731.25
Cutslope rounding	(\$/sta.) 1	X	\$54.39	=	\$54.39
End-haul waste	(\$/cy) 90	X	\$4.99	=	\$449.10
Waste material compaction	(\$/cy) 90	X	\$0.50	=	\$45.00
Embankment Compaction	(\$/cy) 325	X	\$0.87	=	\$282.75
SUB TOTAL FOR EXCAVATION					\$1,562

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
Other/miscellaneous:									
Culvert stakes & markers:									
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION					\$0				

Subtotal of Clearing, Exc., Culv. **\$2,206**

SURFACING		Subgrade prep:		Description		Stations/ amount	Rate/ sta/amt	Cost
		Grade, Shape and Ditch 16 1A to 1B (4.20)				4.20	\$30.98	\$130.12
		Subgrade Compaction		1A to 1B (4.20)		4.20	\$25.19	\$105.80

ROAD SEGMENT	1A to 1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta/ amt.	Cost
	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	1A to 1B	0+00 to 4+20			
Junction Rock	1 1/2"-0" crushed	0+00	N/A	Junctions	22	Junctions	22	\$10.89	\$240
Base Rock	4"-0" crushed	0+00 to 3+20	8	station	50	stations	160	\$3.36	\$538
Traction Rock	1 1/2"-0" crushed	0+00 to 2+70	2	station	13	stations	35	\$10.89	\$382
Base Rock	6"-0" pit run	3+20 to 4+20	12	station	86	stations	86	\$3.36	\$289
Landings	6"-0" pit run	4+20	N/A	Landing	88	Landings	88	\$3.36	\$296
Total Rock for Road Segment:							391		\$1,744

Processing:

Description	No.sta	Rate/sta	Cost
Water, Process & Compact Base Rock (4"-0"): 1A to 1B (3.20)	3.20	\$70.47	\$225.50
Traction Rock Water, Process & Compact: 1A to 1B (2.70)	2.70	\$70.47	\$190.27
Compact Pit-run Rock 1A to 1B (1.00)	1.00	\$39.35	\$39.35

SUB TOTAL FOR SURFACING		Total	
6"-0" pr	174	crushed	57
4"-0"	160	crushed	57
1 1/2"-0"	35	crushed	391
		\$2,435	

SPECIAL PROJECTS		Cy/Amount	Rate	Cost
Description				
SUB TOTAL FOR SPECIAL PROJECTS				\$0
GRAND TOTAL				\$2,435
				\$2,206
				\$4,641

Compiled By: Brittany West Date: 06/21/2023

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Middle Cole
ROAD: 11 to 12 (197.60), 13 to 14 (35.75),
15 to 16 (45.45), 17 to 18 (4.80)

NEW CONSTRUCTION: STATIONS
IMPROVEMENT: 283.80 STATIONS

0.00 MILES
5.37 MILES

CLEARING & GRUBBING

Location	Method	Acres/amount	x	Rate	=	Cost
13 to 14						
16+30	Clear and grub existing landing	0.12	x	\$1,669.00	=	\$200.28
SUB TOTAL FOR CLEARING & GRUBBING						\$200

EXCAVATION

Location	Material	Cyl/amount	x	Rate	=	Cost
11 to 12						
94+95, 95+55,	Install rock ditch fillers (C315/hr)	4.0	x	\$127.00	=	\$508.00
108+30, 173+00,						
180+30, 193+60						
108+30 to 121+30	Ditch reconstruction (C315/hr)	8.0	x	\$127.00	=	\$1,016.00
	Haul waste to waste area (\$/hr)	8.0	x	\$99.00	=	\$792.00
	Install energy dissipator (\$/dissipator)	2.0	x	\$225.33	=	\$450.66
107+70, 131+80						
13 to 14	See Fill Reconstruction Cost Estimate Sheet					
6+80	Seed (\$/acre)	0.1	x	\$784.00	=	\$78.40
	Mulch (\$/bale)	10.0		\$13.39	=	\$133.90
12+10	Construct turnaround (C315/hr)	1.0	x	\$114.00	=	\$114.00
16+30	Construct landing (C315/hr)	1.0	x	\$114.00	=	\$114.00
35+75	Reestablish drainage (C315/hr)	1.0	x	\$114.00	=	\$114.00
SUB TOTAL FOR EXCAVATION						\$8,901

CULVERT MATERIALS AND INSTALLATION

Location	Dialtype	Lineal ft.	Rate	Cost	Location	Dialtype	Lineal ft.	Rate	Cost
11 to 12					13 to 14				
107+70	18	30	\$24.37	\$731.10	6+80	18	50	\$24.63	\$1,231.50
	18	30	\$24.37	\$731.10	17+90	18	30	\$24.37	\$731.10
131+80	18	30	\$24.37	\$731.10					
154+80	18	30	\$24.37	\$731.10					
Description									
Other/miscellaneous:									
Culvert stakes & markers: 6' X 2 1/2" White Fiberglass (Carsonite) 6 \$25.53 \$153.18									
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION						\$4,309			
						Subtotal of Clearing, Exc., Culv. \$13,410			

SURFACING		Subgrade prep:		Description		Stations/ amount		Rate/ sta/amt		Cost	
		Grade, Shape and Ditch 16		13-14 (35.75), 15-16 (45.45), 17-18 (4.80)		86.00		x		\$2,664.28	
		Subgrade Compaction		11-12 (8.6), 15-16 (19.75)		28.35		x		\$714.14	
		Spot Grade w/ 14G (\$/hr)		11-12 (197.60)		8.00		x		\$1,008.00	

ROAD SEGMENT	Application	Rock Size and Type	Location	Depth of Rock (Inches)	POINT TO POINT		Sta. to Sta.	Rate/ Sta./ amt.	Cost
					11 to 12	1 to 2			
Surfacing Turnouts		1 1/2"-0" crushed	110+90, 179+00 to 181+00	2	station	13	8.6	\$10.89	\$1,218
					turnout	22	1	\$10.89	\$240
Rock Ditch Fillers		6"-4" pit run	108+30, 173+00, 180+30, 193+60	N/A	3 filler series	11	6	\$3.36	\$222
					dissipator	11	2	\$3.36	\$74
Culvert Energy Dissipator		24"-6" riprap	107+70, 131+80	N/A	culvert	33	3	\$10.89	\$1,078
					landings	77	2	\$3.36	\$517
Total Rock for Road Segment:						321		\$2,831	

ROAD SEGMENT	Application	Rock Size and Type	Location	Depth of Rock (Inches)	POINT TO POINT		Sta. to Sta.	Rate/ Sta./ amt.	Cost
					13 to 14	13 to 14			
Base Rock		4"-0" crushed	6+80	N/A	load	11	3	\$3.36	\$111
					land	11	1	\$10.89	\$120
Surfacing		1 1/2"-0" crushed	6+80	N/A	dissipator	11	1	\$3.36	\$37
					land	11	10	\$3.36	\$370
Fill Arming		24"-6" riprap	6+80	N/A	culvert	33	2	\$10.89	\$719
					turnaround	33	1	\$111	\$111
Culvert Bedding and Backfill		4"-0" crushed	12+10	N/A	landings	77	2	\$3.36	\$517
					land	11	1	\$3.36	\$37
Total Rock for Road Segment:						418		\$1,984	

ROAD SEGMENT	Application	Rock Size and Type	Location	Depth of Rock (Inches)	POINT TO POINT		Sta. to Sta.	Rate/ Sta./ amt.	Cost
					15 to 16	15 to 16			
Surfacing		1 1/2"-0" crushed	0+00 to 19+75	2	station	13	19.75	\$10.89	\$2,796
					junction	11	1	\$10.89	\$120
Junctions		1 1/2"-0" crushed	19+30	N/A	load	11	2	\$3.36	\$74
					land	11	2	\$3.36	\$74
Surface Leveling Rock		4"-0" crushed	41+40	N/A	load	11	1	\$3.36	\$37
					land	11	1	\$3.36	\$37
Total Rock for Road Segment:						290		\$2,990	

ROAD SEGMENT	Application	Rock Size and Type	Location	Depth of Rock (Inches)	POINT TO POINT		Sta. to Sta.	Rate/ Sta./ amt.	Cost
					17 to 18	17 to 18			
Surface Leveling Rock		4"-0" crushed	1+60	N/A	load	11	1	\$3.36	\$37
					land	11	1	\$3.36	\$37
Total Rock for Road Segment:						11		\$37	

SPECIAL PROJECTS		Description		No. sta		Rate/sta		Cost	
		Water, Process & Compact		11 to 12 (8.6), 13 to 14 (35.75), 15 to 16 (19.75)		64.10		\$4,517	
SUB TOTAL FOR SURFACING		24"-6" riprap		6"-4" pit		1 1/2"-0" crushed		\$16,745	
		143		66		154		99	
		143		66		154		99	
SUB TOTAL FOR SPECIAL PROJECTS								\$30,156	
GRAND TOTAL								\$0	

Processing: Water, Process & Compact

Subtotal of Surfacing & Spec. Proj. \$16,745

Subtotal of Cleaning, Exc. Culv. \$13,410

GRAND TOTAL \$30,156

Compiled By: Brittany West

Date: 06/23/2023

Projects Road Maintenance Cost Summary

Sale: Middle Cole
Date: 06/23/2023
By: Brittany West

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work Final Haul Road Maintenance	Grader 14G			4	\$126	\$504
Total						\$504

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

NOTE:

Hamlet Stockpile Road	0.25	Miles
Cole Mountain Quarry Road	0.15	Miles
		Miles
		Miles
	TOTAL=	0.40 Miles

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3

Timber Sale Name: Middle Cole

Quarry: Cole Mountain
 Location: SW 1/4, SE 1/4, Sec. 14, T4N, R9W
 County: Clatsop
 By: Brittany West
 Date: 06/23/2023

Swell: _____
 Shrink: 16%
 Loading Hopper: No

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
1-1/2"-0"		CR			
4"-0"	15%	CR	6,000		6,960
6"-0"		PR		394	394
24"-6"		RR		88	88
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			6,000	482	7,442

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
Dump Trucks	2	\$205	\$410	Off Highway Dump Truck	1	\$691	\$691
Screening Plants	1	\$691	\$691				
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

\$10,432

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

\$14,193

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Open access roads, clear benches, prepare waste areas (1 exc.)	8.0	hrs	\$210	\$1,680

TOTAL CLEARING & GRUBBING COSTS

\$1,680

3) EXCAVATION

MATERIAL DESCRIPTION		QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load haul, spread)	Exc.	24	hrs	\$210.00	\$5,040
	OR Truck	24	hrs	\$157.00	\$3,768

TOTAL EXCAVATION COSTS

\$8,808

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST	
Type	Cu. yd.	Vol.	Weight	Ripping	20%	1,488	\$3.80	\$5,656
crushed	6,960		94%	Drill & shoot	80%	6,789	\$3.90	\$26,476
pit run	394		5%	Oversize red	5%	368	\$7.70	\$2,831
rip rap	88		1%	Other				
Total	7,442							
reject	1,044		14.0%					

TOTAL ROCK DEVELOPMENT COSTS

\$34,964

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate			
Calibrate			
Test	3	\$63.60	\$191
Test			

TOTAL CALIBRATION & TESTING COSTS

\$191

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	8,004	\$0.98	\$7,832

TOTAL FEEDING & LOADING COSTS

\$7,832

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed					
1-1/2"-0"	crushed					
4"-0"	crushed	6,960	2 stage w/s	140	\$2.79	\$19,438

TOTAL ROCK CRUSHING COSTS

\$19,438

8) STOCKPILING

STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer	3	\$142.00	\$426.00

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

\$426.00

SUB TOTAL

\$426

HAUL & STOCKPILE

STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. _____					
2. _____					
3. Cole Mountain Quarry	4"-0"	2	6,960	\$3.48	\$24,221
4. _____					
5. _____					
6. _____					

SUB TOTAL

\$24,221

TOTAL STOCKPILING COSTS

\$24,647

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$3,028
\$2.90 /CY 1,044 CY	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	\$2,850

TOTAL MISCELLANEOUS COSTS

\$5,878

10) GRAND TOTAL:

\$117,631

\$/Cubic Yard

\$16.90

Footnotes:

HAUL and STOCKPILE COST

SALE NAME: Middle Cole

QUARRY: Cole Mountain

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
Truck type: <u>D12</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u>							
Truck type: <u>D12</u> No. trucks: _____ Delay min.: <u>12</u> Efficiency: <u>75%</u>							
Truck type: _____ No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
							Production: cy/day = 0
Location 1. 0	Haul and Stockpile Cost						#DIV/0! /cy

Location 2. 0	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
Truck type: <u>D20</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u>							
Truck type: <u>D12</u> No. trucks: _____ Delay min.: <u>12</u> Efficiency: <u>75%</u>							
Truck type: <u>D10</u> No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
							Production: cy/day = 0
Location 2. 0	Haul and Stockpile Cost						#DIV/0! /cy

Location 3. Cole Mountain Quarry 4"-0"	ONE WAY HAUL IN MILES						
	50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
Truck type: <u>D20</u> No. trucks: _____ Delay min.: <u>15</u> Efficiency: <u>75%</u>						0.10	
Truck type: <u>D12</u> No. trucks: <u>2</u> Delay min.: <u>12</u> Efficiency: <u>75%</u>							
Truck type: <u>D10</u> No. trucks: _____ Delay min.: <u>10</u> Efficiency: <u>75%</u>							
							Production: cy/day = 847
Location 3. Cole Mountain Quarry	Haul and Stockpile Cost						\$3.48 /cy

Fill Reconstruction Cost Estimate

Segment: 13 to 14 Station: 6+80
 Fill: 1 Height: 10

Materials	Quantity	\$	Total
18"x50', 14ga. CMP	50	\$24.63	\$1,231.50
24"-6" Riprap Dissipator	11 cy	\$2.81	\$30.91
24"-6" Riprap Fill Armor	55 cy	\$2.81	\$154.55
1 1/2"-0" Crushed Rock for Bedding/Backfill	33 cy	\$9.88	\$326.04
1 1/2"-0" Crushed Rock for Road	7 cy	\$9.88	\$69.16
4"-0" Crushed Rock for Road	25 cy	\$2.81	\$70.25
Erosion Control: Seed	0.1 ac	\$784.00	\$78.40
Erosion Control: Mulch	10 bale	\$13.39	\$133.90
			\$2,094.71

Excavation	Rate	Amount	Total
End-Haul Excavation and Back Fill	\$99.00 hr	10	\$990.00
Excavate and Reconstruct Fill	\$195.00 hr	10	\$1,950.00
Fill Compaction	\$97.00 hr	5	\$485.00

Miscellaneous	Rate	Amount	Total
Site Prep and Compaction @ Fill, Waste Area & Borrow Site w/330	\$195.00 hr	2	\$390.00
Fill Armor Placement w/330	\$195.00 hr	5	\$975.00
Dissipator Placement w/330	\$195.00 hr	2	\$390.00
Laborer	\$50.00 hr	8	\$400.00
			\$5,580.00

Project Total	\$7,675
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CRUSHED ROCK COST

SALE NAME: Middle Cole
 PROJECT: No. 1 and 2.
 Stockpile: Hamlet Stockpile

MATERIAL: 1 1/2-0"

DATE: 06/21/2023
 BY: Brittany West

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	
1A to 1B	4.20	57	3.75	3.00	2.00	1.84	1.00	0.75	0.15	12.49
11 to 12	197.60	233	3.75	3.00	1.20	0.97	0.75	0.50	0.15	10.32
13 to 14	35.75	77	3.75	3.00	2.00	1.38	1.00	0.75	0.15	12.03
15 to 16	45.45	268	3.75	3.00	2.00	1.72	1.00	0.75	0.15	12.37
TOTAL	283.00	635								AVERAGE HAUL
CUBIC YARD WEIGHTED HAUL	STA./NO.	CU. YD.	3.75	3.00	1.71	1.41	0.91	0.66	0.15	11.59
Average Round Trip Distance (miles)										23.17

ROCK HAUL:

Truck type: D20 No. trucks: 2
 Delay min.: 8 Efficiency: 85%

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

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

Ave haul: \$9.20 /cy
 Load: \$0.60 /cy
 Spread: \$1.08 /cy

Production: cy/day = 735

CRUSHED ROCK HAUL COSTS 635 cy @ \$10.89 /cy

PIT RUN ROCK COST

SALE NAME: Middle Cole
 PROJECT: No. 1 and 2
 QUARRY: Cole Mountain

MATERIAL: 6"-0"pr, 6"-4"pr, 24"-6"rr, 4"-0"

DATE: 06/21/2023
 BY: Brittany West

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		
1A to 1B	4.20	174			0.74	0.50	0.25	0.15	0.10	1.74	
11 to 12	197.60	88			0.80	0.52	0.30	0.15	0.10	1.87	
13 to 14	35.75	341			0.72	0.50	0.25	0.15	0.10	1.72	
15 to 16	45.45	22			1.00	0.86	0.25	0.15	0.10	2.36	
17 to 18	4.80	11			1.00	0.82	0.25	0.15	0.10	2.32	
TOTAL		287.80	636			0.8	0.5	0.3	0.2	0.1	AVERAGE HAUL
CUBIC YARD WEIGHTED HAUL		STA./NO.	CU. YD.								1.78
Average Round Trip Distance (miles)										3.56	

ROCK HAUL:

Truck type: D20 No. trucks: 2
 Delay min.: 8 Efficiency: 85%

Ave haul: \$2.76 /cy
 Load: \$0.24 /cy
 Spread: \$0.36 /cy

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

Truck type: D10 No. trucks: 6
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 2,449

PIT RUN ROCK HAUL COSTS 636 cy @ \$3.36 /cy

**MIDDLE COLE
TIMBER CRUISE REPORT
FY 2024**

1. **Sale Area Location:** Portions of Section 13 of T4N, R9W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 32.35% Tax Code: 10-04 (100%)
CSL 67.65%
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	Reserve Tree Area	New R/W Acres	New R/W Non-Stocked	Net Acres	Survey Method
1	Modified Clearcut	53	10	3	1	<1	--	39	GIS
2	In-Unit R/W	<1	--	--	--	--	--	<1	GIS
TOTALS		53	10	3	1	<1	--	39	

4. **Cruisers and Cruise Dates:** Avery Petersen, John Czarnecki, and Ryan Simpson (06/21/23)

5. **Cruise Method and Computation:**

Unit 1: Unit 1 was variable plot cruised with a 54.45 BAF for conifer species and a 33.61 BAF for hardwood species. A total of 23 plots were sampled on a four by five chain spacing with a grade to count ratio of 1:1, resulting in 14 grade plots and 9 count plots.

Unit 2 (R/W): Right-of-way consists of one new spur road and landing within Unit 1, totaling approximately one quarter acre. Volumes from the Unit 1 cruise are applied to the Unit 2 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
1	MCOLE	U1	00MC	39

6. **Timber Description:**

Unit 1 is a modified clearcut with an average age of 97 years. The stand consists of Douglas-fir, red alder, western hemlock, and Sitka spruce. The average take Douglas-fir is approximately 23 inches DBH and 92 feet to a merchantable top. The average take red alder is approximately 12 inches DBH and 28 feet to a merchantable top. The average take western hemlock is approximately 20 inches DBH and 60 feet to a merchantable top. The average take Sitka spruce is approximately 17 inches DBH and 47 feet to a merchantable top. Average net volume to be harvested per acre is 67 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 2 (R/W) is similar to the timber description above in Unit 1. Average net volume to be harvested per acre is 67 MBF.

7. **Statistical Analysis and Stand Summary:**

Statistics for Stand B.F. volumes

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
1	40.0%	9.0%	36.1%	7.7%

8. Volumes by Species and Log Grade:

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Conifer

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	23"	2,450	2,020	377	53	0.9%	94%
western hemlock	20"	44	27	13	4	1.7%	2%
Sitka spruce	17"	32	--	26	6	3.6%	1%
TOTALS	--	2,526	2,047	416	63	--	--

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
red alder	12"	78	9	19	11	39	0.0%	3%
TOTALS	--	78	9	19	11	39	--	--

TOTAL VOLUME	2,604 MBF
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9. Approvals:

Prepared by: Justin Bush Date: 06/22/2023

Unit Forester Approval: *Justin Bush* Date: 6/27/23
FOR JOHN TILLOTSON

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

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Middle ColeUnits U1

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 40 Estimated CV% 40 Net BF/Acre SE% Objective 9% Net BF/AcrePlanned Sale Volume: 1,465 MBF Estimated Sale Area Value/Acre: \$26,250/Acre

- A. Cruise Goals:** (a) Grade minimum 70 conifer trees.
 (b) Sample 23 plots (14 grade/ 9 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 (Conifer) 54.45
 BAF (Hardwood) 33.61

Unit 1:

Cruise Line Direction: 176°/356°
 Cruise Line Spacing 5 (chains) 330 (Feet)
 Cruise Plot Spacing 4 (chains) 264 (Feet)
 Grade/Count Ratio 1:1

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

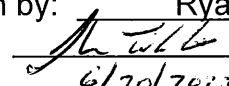
segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods 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: Ryan Simpson
Approved by: 
Date: 6/20/2023

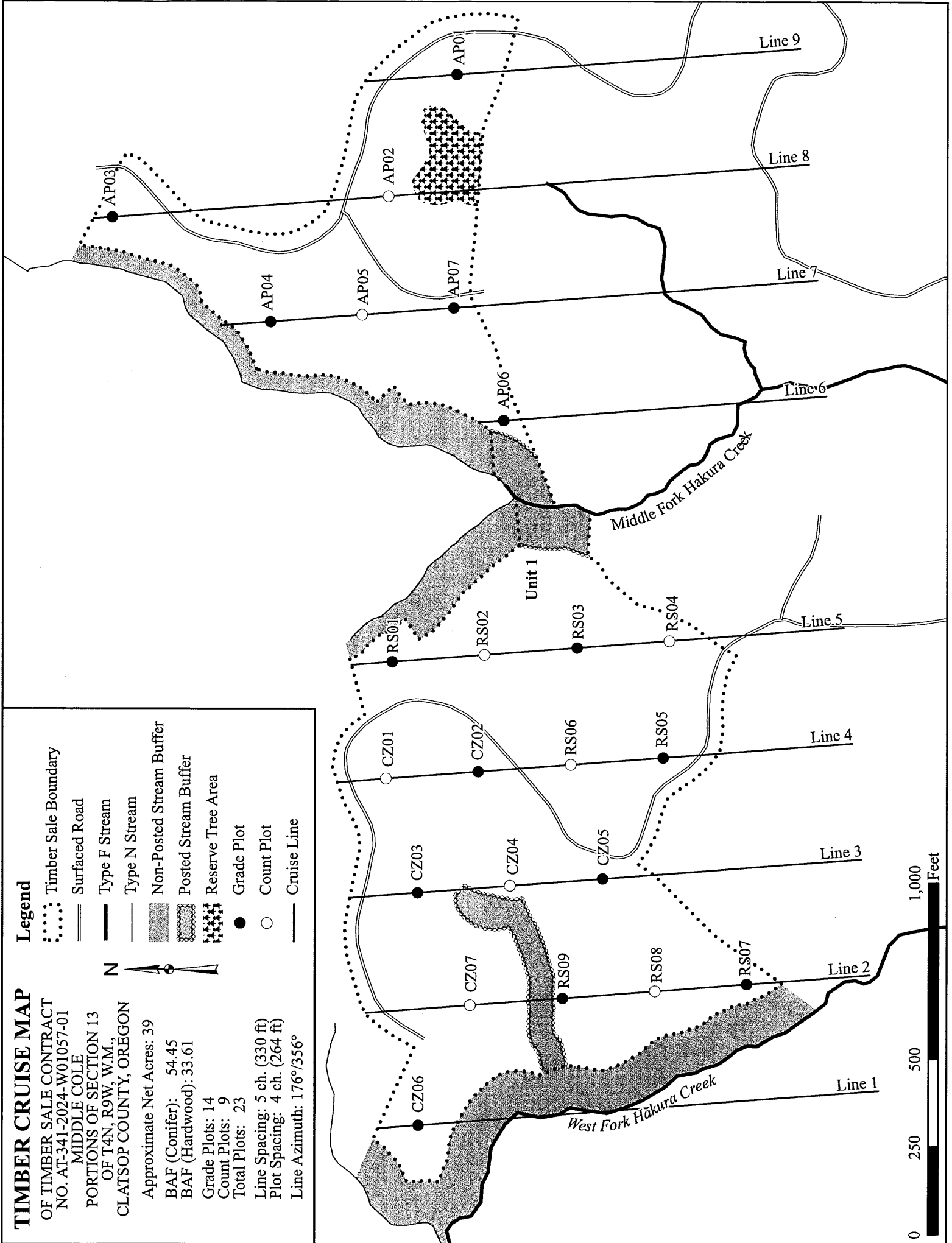
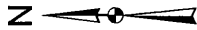
TIMBER CRUISE MAP

OF TIMBER SALE CONTRACT
 NO. AT-341-2024-W01057-01
 MIDDLE COLE
 PORTIONS OF SECTION 13
 OF T4N, R9W, W.M.,
 CLATSOP COUNTY, OREGON

Approximate Net Acres: 39
 BAF (Conifer): 54.45
 BAF (Hardwood): 33.61
 Grade Plots: 14
 Count Plots: 9
 Total Plots: 23
 Line Spacing: 5 ch. (330 ft)
 Plot Spacing: 4 ch. (264 ft)
 Line Azimuth: 176°/356°

Legend

- Timber Sale Boundary
- Surfaced Road
- Type F Stream
- Type N Stream
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Grade Plot
- Count Plot
- Cruise Line



T04N R07W S13 T00MC T04N R07W S13 T00MC
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 04N 07W 13 U1 00MC 39.00 23 92 1 W

Spp	So	Gr	% 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
	T	rt						4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		
D	DO	CU														8	16		0.00	1.2
D	DO	2S	82	1.0	52,297	51,785	2,020		34	66			1	1	97	39	16	449	2.49	115.4
D	DO	3S	15	.9	9,752	9,663	377	97	0	2		2	9	18	71	35	9	107	0.87	90.3
D	DO	4S	3		1,356	1,356	53	100				78	22			19	7	26	0.44	52.7
D	Totals		94	.9	63,405	62,803	2,450 2,449	17	28	55		2	3	4	91	34	12	242	1.66	259.6
A	DO	1S	11		223	223	9		100						100	36	12	180	1.39	1.2
A	DO	2S	24		487	487	19	100							100	39	11	175	1.23	2.8
A	DO	3S	14		275	275	11	100				18			82	30	9	84	0.81	3.3
A	DO	4S	51		1,001	1,001	39	100				44	41		14	20	7	30	0.51	33.3
A	Totals		3		1,986	1,986	78 77	89	11			25	21		54	23	7	49	0.67	40.6
S	DO	3S	80	1.8	682	669	26	100							100	40	9	121	1.18	5.5
S	DO	4S	20	10.5	180	161	6	100				53	47			19	7	26	0.67	6.2
S	Totals		1	3.6	861	830	32	100				10	9		81	29	8	71	1.00	11.7
H	DO	2S	62	2.8	725	705	27		44	56			17	27	56	34	14	259	2.31	2.7
H	DO	3S	29		334	334	13	100						100		34	10	130	1.00	2.6
H	DO	4S	9		97	97	4	100				100				17	6	22	0.53	4.4
H	Totals		2	1.7	1,156	1,136	44	38	27	35		9	11	46	35	26	9	117	1.33	9.7
Type Totals				1.0	67,409	66,755	2,604 2,603	21	27	52		3	4	4	89	32	11	208	1.54	321.6

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT MCOLE		DATE 6/22/2023				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	07W	13	U1	00MC	39.00	23	150	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	23	150	6.5							
CRUISE	14	92	6.6	5,701	1.6					
DBH COUNT										
REFOREST										
COUNT	9	58	6.4							
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	72	98.6	23.2	92	60.0	288.8	63,405	62,803	14,574	14,574
R ALDER	12	34.5	11.8	28	7.7	26.3	1,986	1,986	612	612
S SPRUCE	4	7.4	17.1	47	2.9	11.8	861	830	339	339
WHEMLOCK	3	4.4	19.8	60	2.1	9.5	1,156	1,136	341	341
SNAG	1	1.2	19.0	90	0.5	2.4				
TOTAL	92	146.2	20.6	74	74.6	338.8	67,409	66,755	15,866	15,866
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	63.0	7.4	904	977	1,049					
R ALDER	91.3	27.5	64	88	113					
S SPRUCE	54.4	31.1	74	108	141					
WHEMLOCK	79.3	54.8	149	330	511					
SNAG										
TOTAL	82.4	8.6	723	791	859	271	68	30		
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	46.4	9.9	89	99	108					
R ALDER	238.1	50.7	17	35	52					
S SPRUCE	199.0	42.4	4	7	11					
WHEMLOCK	249.2	53.1	2	4	7					
SNAG	479.6	102.2		1	2					
TOTAL	49.1	10.5	131	146	161	101	25	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	41.9	8.9	263	289	315					
R ALDER	200.0	42.6	15	26	38					
S SPRUCE	194.0	41.3	7	12	17					
WHEMLOCK	222.8	47.5	5	9	14					
SNAG	479.6	102.2		2	5					
TOTAL	31.0	6.6	316	339	361	40	10	4		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	41.2	8.8	57,291	62,803	68,315					
R ALDER	190.2	40.5	1,181	1,986	2,791					
S SPRUCE	225.3	48.0	432	830	1,229					
WHEMLOCK	235.2	50.1	567	1,136	1,705					
SNAG										
TOTAL	36.1	7.7	61,621	66,755	71,889	54	14	6		

T04N R07W S13 T00MC **T04N R07W S13 T00M**

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
04N 07W 13 U1 00MC 39.00 23 92 1
 Date **6/22/2023**
 Time **4:40:12PM**

Spp	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches												
									MBF	MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
D	DO	CU	8																		
D	DO	2S	24		10		10	.4						5	5						
D	DO	2S	28		6		6	.2						6							
D	DO	2S	30		10		10	.4					10								
D	DO	2S	32		21		21	.9						7	14						
D	DO	2S	34		7		7	.3					3	3							
D	DO	2S	40		1,986	1.0	1,966	80.3					250	318	631	473	272	22			
D	DO	3S	16		2		2	.1						2							
D	DO	3S	18		2		2	.1					2								
D	DO	3S	20		6		6	.2					6								
D	DO	3S	24		4		4	.2				4									
D	DO	3S	26		7		7	.3				5	2								
D	DO	3S	28		5		5	.2				2	3								
D	DO	3S	30		17		17	.7				10	7								
D	DO	3S	32		59	4.0	57	2.3			12	29	16								
D	DO	3S	34		11		11	.5			6	3	3								
D	DO	3S	36		37		37	1.5				17	12			9					
D	DO	3S	38		4		4	.2				4									
D	DO	3S	40		227	.5	226	9.2			18	68	140								
D	DO	4S	12		1		1	.1			1										
D	DO	4S	14		3		3	.1			2	1									
D	DO	4S	16		5		5	.2			5										
D	DO	4S	18		15		15	.6			12	3									
D	DO	4S	20		17		17	.7			14	3									
D	DO	4S	24		4		4	.2			2	2									
D	DO	4S	26		2		2	.1			2										
D	DO	4S	28		5		5	.2			5										
D	Totals				2,473		2,449	94.1			80	150	190	265	339	658	473	272	22		
A	DO	1S	36		9		9	11.2					9								
A	DO	2S	38		9		9	11.9					9								
A	DO	2S	40		10		10	12.6					10								
A	DO	3S	16		2		2	2.5			2										
A	DO	3S	38		9		9	11.4			9										
A	DO	4S	12		6		6	8.2			6										
A	DO	4S	16		9		9	12.1			9										
A	DO	4S	18		2		2	2.1			2										
A	DO	4S	26		7		7	8.8			7										
A	DO	4S	30		9		9	12.0			9										
A	DO	4S	40		6		6	7.2			6										
A	Totals				77		77	3.0			39	11	19	9							
S	DO	3S	40		27	1.8	26	80.6				15	11								
S	DO	4S	16		3		3	10.3			3										
S	DO	4S	26		4	20.0	3	9.0				3									
S	Totals				34	3.6	32	1.2			3	18	11								
H	DO	2S	28		5		5	10.5					5								
H	DO	2S	34		8	9.5	7	16.8					7								
H	DO	2S	40		15		15	34.7							15						

TC TLOGSTVB

Log Stock Table - MBF

Project: MCOLE

T04N R07W S13 T00MC

T04N R07W S13 T00M

Twp Rge Sec Tract
04N 07W 13 U1

Type Acres Plots Sample Trees
00MC 39.00 23 92

Page 2
Date 6/22/2023
Time 4:40:12PM

Spp	T	S	So	Gr	Log	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
										2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
H		DO	3S	34		13		13	29.4				13										
H		DO	4S	16		2		2	4.5			2											
H		DO	4S	18		1		1	2.3				1										
H		DO	4S	20		1		1	1.8			1											
H		Totals				45	1.7	44	1.7			3	1	13	12		15						
Total All Species						2,629		2,603	100.0			125	180	233	286	339	674	473	272	22			

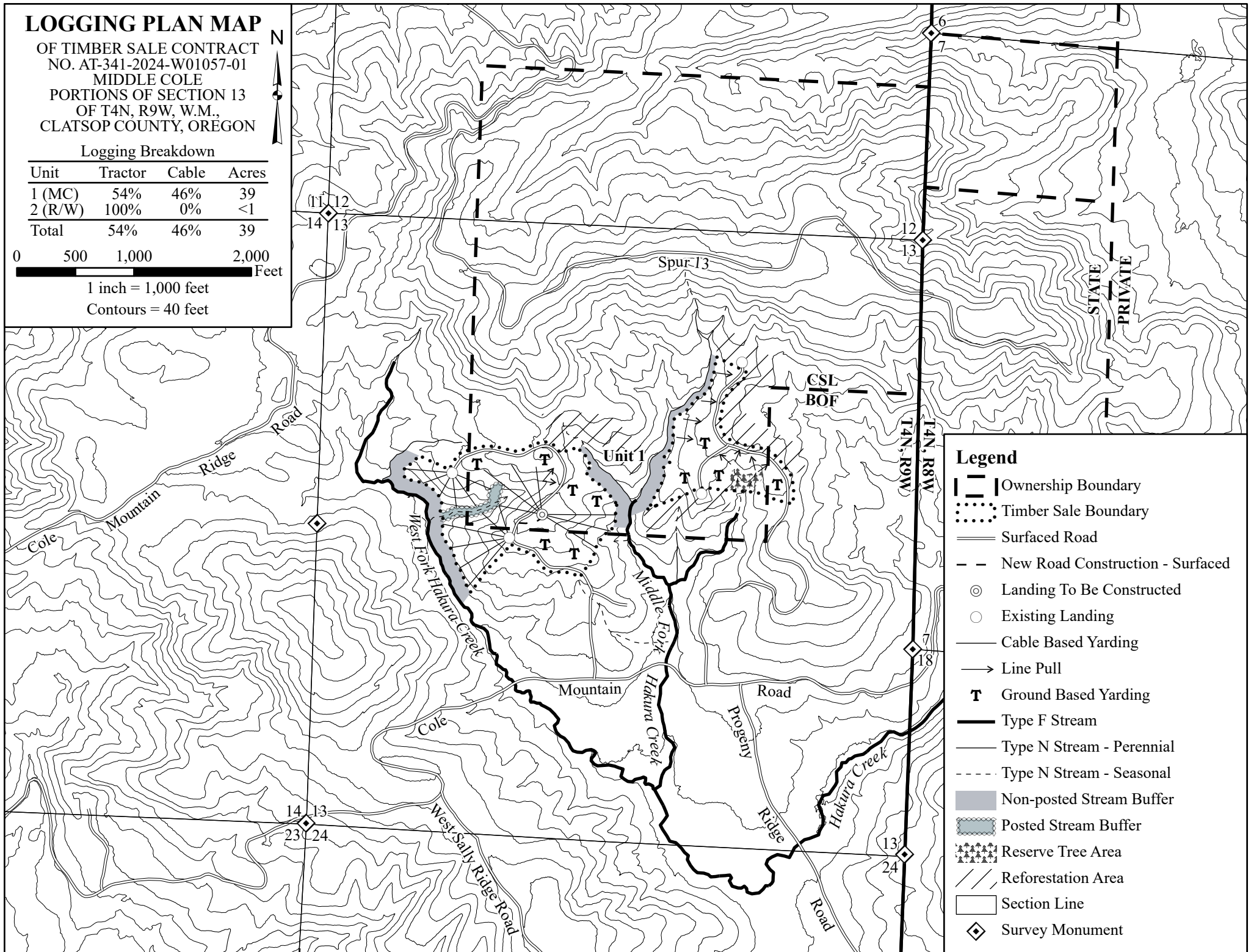
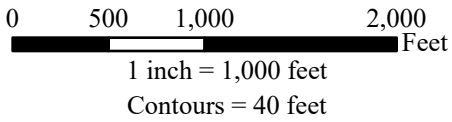
TC TSTNDSUM		Stand Table Summary												
Project MCOLE											T04N R07W S13 T00MC			
T04N R07W S13 T00MC											Page: 1			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		Date:	Time:				
04N	07W	13	U1	00MC	39.00	23	92		06/22/20	4:40:30PM				
S Spc	T	Sample DBH	FF Trees	Av Ht 16'	Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Net Tons/ Acres	Net Cu.Ft. Acres	Net Bd.Ft. Acres	Totals	
								Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits
D		10	1	83	31	7.355	4.01	7.35	7.0	20.0	51	147	20	6
D		11	1	85	101	6.078	4.01	12.16	10.0	35.0	122	425	47	17
D		14	1	86	79	3.752	4.01	7.50	16.5	55.0	124	413	48	16
D		16	2	85	91	5.746	8.02	11.49	24.0	82.5	276	948	108	37
D		17	3	86	112	7.635	12.03	15.27	33.2	121.7	506	1,858	198	72
D		18	2	84	151	4.540	8.02	13.62	31.7	111.7	431	1,521	168	59
D		19	3	84	123	6.112	12.03	16.30	34.4	122.5	560	1,997	219	78
D		20	1	85	121	1.839	4.01	5.52	33.0	126.7	182	699	71	27
D		21	3	85	119	5.003	12.03	13.34	40.7	150.0	544	2,001	212	78
D		22	2	85	134	3.039	8.02	9.12	45.2	183.3	412	1,672	161	65
D		23	3	83	121	4.171	12.03	12.51	43.8	175.6	548	2,197	214	86
D		24	4	86	135	5.107	16.05	15.32	53.6	218.3	821	3,345	320	130
D		25	7	86	143	8.237	28.08	24.71	59.6	246.2	1,473	6,084	575	237
D		26	2	85	140	2.176	8.02	6.53	65.3	275.0	426	1,795	166	70
D		27	4	84	143	4.036	16.05	12.11	68.2	290.8	826	3,521	322	137
D		28	5	86	152	4.691	20.06	14.07	80.1	366.7	1,127	5,160	439	201
D		29	4	83	150	3.498	16.05	10.49	81.8	365.8	859	3,839	335	150
D		30	4	85	156	3.269	16.05	11.44	78.9	372.9	902	4,266	352	166
D		31	3	82	146	2.296	12.03	6.89	91.6	397.8	631	2,740	246	107
D		32	4	84	162	2.873	16.05	10.06	92.2	444.3	927	4,467	362	174
D		35	8	84	154	4.803	32.09	15.01	117.4	561.6	1,762	8,429	687	329
D		37	2	84	160	1.074	8.02	3.76	121.6	612.9	457	2,305	178	90
D		38	1	86	150	.509	4.01	1.53	145.0	746.7	222	1,141	86	44
D		42	1	83	121	.417	4.01	1.25	140.3	670.0	176	838	68	33
D		45	1	82	149	.363	4.01	1.09	192.7	913.3	210	995	82	39
D		Totals	72	85	122	98.620	288.82	258.44	56.4	243.0	14,574	62,803	5,684	2,449
A		8	1	87	17	6.279	2.19	6.28	4.0	10.0	25	63	10	2
A		9	1	86	17	4.962	2.19	4.96	5.0	20.0	25	99	10	4
A		10	2	86	21	8.038	4.38	8.04	7.0	30.0	56	241	22	9
A		13	3	86	39	7.134	6.58	7.13	16.7	43.3	119	309	46	12
A		14	2	86	75	4.101	4.38	6.15	23.7	70.0	146	431	57	17
A		17	2	86	80	2.781	4.38	5.56	29.8	102.5	165	570	65	22
A		18	1	86	79	1.240	2.19	2.48	30.5	110.0	76	273	30	11
A		Totals	12	86	37	34.535	26.30	40.61	15.1	48.9	612	1,986	239	77
H		15	1	85	69	2.572	3.16	5.14	20.5	75.0	105	386	41	15
H		24	1	72	66	1.005	3.16	2.01	46.5	105.0	93	211	36	8
H		26	1	80	108	.856	3.16	2.57	55.3	210.0	142	539	55	21
H		Totals	3	81	76	4.433	9.47	9.72	35.1	116.9	341	1,136	133	44
S		15	1	82	78	2.411	2.96	4.82	21.5	70.0	104	338	40	13
S		17	2	80	55	3.755	5.92	5.63	28.0	70.0	158	394	62	15
S		21	1	71	52	1.230	2.96	1.23	63.0	80.0	78	98	30	4
S		Totals	4	79	62	7.397	11.84	11.69	29.0	71.1	339	830	132	32
SN		19	1	90	90	1.202	2.37							
SN		Totals	1	90	90	1.202	2.37							
Totals			92	85	97	146.188	338.80	320.46	49.5	208.3	15866	66,755	6,188	2,603

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT
 NO. AT-341-2024-W01057-01
 MIDDLE COLE
 PORTIONS OF SECTION 13
 OF T4N, R9W, W.M.,
 CLATSOP COUNTY, OREGON

Logging Breakdown

Unit	Tractor	Cable	Acres
1 (MC)	54%	46%	39
2 (R/W)	100%	0%	<1
Total	54%	46%	39



Legend

- Ownership Boundary
- Timber Sale Boundary
- Surfaced Road
- New Road Construction - Surfaced
- Landing To Be Constructed
- Existing Landing
- Cable Based Yarding
- Line Pull
- Ground Based Yarding
- Type F Stream
- Type N Stream - Perennial
- Type N Stream - Seasonal
- Non-posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Reforestation Area
- Section Line
- Survey Monument