



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal GB2

Sale AT-341-2023-W01034-01

District: Astoria

Date: September 26, 2022

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$745,238.07	\$11,109.12	\$756,347.19
		Project Work:	(\$36,425.00)
		Advertised Value:	\$719,922.19



Timber Sale Appraisal GB2 Sale AT-341-2023-W01034-01

District: Astoria

Date: September 26, 2022

Timber Description

Location: Portion os Section 30, T5N, R6W, W.M., Clatsop County, OR

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	25	0	97
Western Hemlock / Fir	17	0	96
Alder (Red)	17	0	95

Volume by Grade	2S	3S & 4S 6"-11"	3S 12"+	SM & Better	8" - 9"	6" - 7"	Total
Douglas - Fir	904	192	38	80	0	0	1,214
Western Hemlock / Fir	363	148	7	25	0	0	543
Alder (Red)	0	0	0	0	28	4	32
Total	1,267	340	45	105	28	4	1,789

Comments: Pond Values Used: Local Pond Values, August, 2022.

Expected Log Markets: Mist, Willamina, Banks, Clatskanie, Tillamook, Warrenton, Eugene, Longview, WA, Elma, WA, Chehalis, WA, and Vancouver, WA.

PRICING:

Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.
\$954.53/MBF = \$1,300/MBF - \$345.47/MBF

Sitka Spruce = pond value - (Douglas-fir) logging cost.
\$211.53/MBF = \$557/MBF - \$345.47/MBF

Bigleaf maple = pond value - (Douglas-fir) logging cost.
\$84.53/MBF = \$430/MBF - \$345.47/MBF

Fuel cost allowance based on month local pond values were collected.

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

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

Ditch Filters:

Bales of straw 18 @ \$12/bale = \$216.00

6 hours of labor @ \$45/hr = \$270.00

Waterbar and block 1B to 1C:

Move in C315 Excavator @ \$905/move in = \$905

4 hrs w/C315 to construct 6 to 8 waterbars @ \$114/hr = \$456

TOTAL Other Costs (with Profit & Risk to be added): \$3,847.00

Other Costs (No Profit & Risk added):

None.

SLASH PILING

(See attached appraisal. Includes move-in, pile materials, and end-hauling) = \$4,329.00

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$13,728/1,789 MBF = \$7.67/MBF



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Logging Conditions

Combination#: 1 Douglas - Fir 81.00%
Western Hemlock / Fir 81.00%
Alder (Red) 81.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 8 **bd. ft / load:** 4400
cost / mbf: \$177.37
machines: Log Loader (A)
Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 19.00%
Western Hemlock / Fir 19.00%
Alder (Red) 19.00%

Logging System: Shovel **Process:** Manual Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 10 **bd. ft / load:** 4500
cost / mbf: \$77.28
machines: Shovel Logger



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal GB2

Sale AT-341-2023-W01034-01

District: Astoria

Date: September 26, 2022

Logging Costs

Operating Seasons: 3.00

Profit Risk: 12%

Project Costs: \$36,425.00

Other Costs (P/R): \$3,847.00

Slash Disposal: \$4,329.00

Other Costs: \$0.00

Miles of Road

Road Maintenance: \$7.67

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.8
Western Hemlock / Fir	\$0.00	2.0	4.6
Alder (Red)	\$0.00	2.0	3.4



Timber Sale Appraisal
GB2
Sale AT-341-2023-W01034-01

District: Astoria

Date: September 26, 2022

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$158.35	\$7.90	\$7.36	\$128.75	\$2.15	\$36.54	\$2.42	\$2.00	\$0.00	\$345.47
Western Hemlock / Fir									
\$158.35	\$7.98	\$7.36	\$135.65	\$2.15	\$37.38	\$2.42	\$2.00	\$0.00	\$353.29
Alder (Red)									
\$158.35	\$8.05	\$7.36	\$185.29	\$2.15	\$43.34	\$2.42	\$2.00	\$0.00	\$408.96

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$813.62	\$468.15	\$0.00
Western Hemlock / Fir	\$0.00	\$679.08	\$325.79	\$0.00
Alder (Red)	\$0.00	\$756.12	\$347.16	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal GB2

Sale AT-341-2023-W01034-01

District: Astoria

Date: September 26, 2022

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,214	\$468.15	\$568,334.10
Western Hemlock / Fir	543	\$325.79	\$176,903.97
Alder (Red)	32	\$347.16	\$11,109.12

Gross Timber Sale Value

Recovery: \$756,347.19

Prepared By: John Czarnecki

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: AT-341-2023-W01034-01
Sale Name: GB2
Date: 10/11/2022

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	4	2	\$145.00	\$290.00
In-unit Piling						Sub Total = \$290.00
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	9	22	\$638.00	11	\$5.00	\$55.00
*Cost includes separating firewood					Materials	Sub Total = \$55.00
Additional Move-in allowance					Landing Piling	Sub Total = \$638.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
\$1,290.00	1	\$1,290.00	Brush Piler			
\$184.00	1	\$184.00	Dump Truck (12cy)			
Slash Endhaul					Move-In	Sub Total = \$1,474.00
Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total	
8	\$89.00	\$712.00	8	\$145.00	\$1,160.00	
						Sub Total = \$1,872.00
						Grand Total = \$4,329.00

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: GB2
Date: September 26, 2022
By: Ryan Simpson

MBF: 1,789
\$\$/MBF: \$7.67

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	
Interim Operations	Grader 14G	\$875	1	8	\$113	\$1,779	
	Grader 14G	\$875	1	26	\$113	\$3,813	
Final Road Maintenance	Dump Truck 12CY	\$184	1	14	\$89	\$1,430	
	Rubber tired backhoe	\$361	1	6	\$87	\$883	
	Vibratory Roller	\$875	1	22	\$87	\$2,789	
	Water Truck 2,500 gallon	\$214	1	12	\$101	\$1,426	
	Labor			8	\$45	\$360	
Subtotal	Additional costing for fuel				10%	\$1,248	\$12,480
Total							\$13,728

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	2.0	6.4	3.2	26
Vibratory Roller	2.0	5.4	2.7	22

Process and Compact:

Wage Road 2.8 Miles (Partial)*

Buster Creek Mainline 1.6 Miles

Unnamed Spurs 1.0 Miles

Process Only

Nettle Creek Road 1.0 Miles

Grade Total = 6.4 Miles

Compact Total = 5.4 Miles

*It is assumed with multiple timber sales utilizing Wage Road that maintenance needs will consist of spot rocking and processing.

SUMMARY OF ALL PROJECT COSTS

SALE NAME: GB2

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>	<u>With additional fuel allowance per project</u>
Unsurfaced				
1B to 1C	6.15	0.12	\$7,084.01	\$7,792
Surfaced				
1A			\$1,070.45	\$1,177
Road Maint.			\$1,225.55	\$1,348
Move-In			\$2,902.90	\$3,193
TOTALS	6.15	0.12		\$12,283
				\$13,511

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>	
l1 to l2	188	3.56	\$13,829.37	\$15,212
Road Maint.			\$2,078.45	\$2,286
Move-In			\$4,923.10	\$5,415
TOTALS		3.56		\$20,831
				\$22,914

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>
TOTAL		
10% Increase Fuel Allowance		\$3,311.38

GRAND TOTAL **\$36,425**

Compiled By: Cole Hatcher

Date: 10/04/2022

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: GB2

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
Unsurfaced			
1B to 1C	6.15	0.12	\$7,084.01
Surfaced			
1A			\$1,070.45
TOTALS	6.15	0.12	\$8,154

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
11 to 12	188.00	3.56	\$13,829
TOTALS	188.00	3.56	\$13,829

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
C330 Excavator		\$1,581.00
C315 Excavator		\$905.00
D8 Dozer		\$1,581.00
14G Grader		\$875.00
Vibratory Roller		\$875.00
C966 Front End Loader		\$875.00
10-12cy Highway Dump (5x)		\$920.00
Water Truck (2,500 gal)		\$214.00
TOTAL		\$7,826.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Final Project Road Maintenance	2.83	\$3,304.00
TOTAL		\$3,304.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: GB2
 ROAD: 1B to 1C (6.15)
 POINTS: 1A

NEW CONSTRUCTION: 6.15 STATIONS
 IMPROVEMENT: STATIONS
 0.12 MILES
 0.00 MILES

CLEARING & GRUBBING							
Method		Acres/amount	x	Rate	=	Cost	
Unsurfaced							
1B to 1C		0.83	x	\$ 1,503	=	\$1,247.49	
Surfaced							
1A		0.15	x	\$ 1,503	=	\$225.45	

SUB TOTAL FOR CLEARING & GRUBBING

\$1,473

EXCAVATION							
Material		Cy/amount	x	Rate	=	Cost	
1A							
Landing construction (roadside landing)		1	x	\$438.00	=	\$438.00	
1B to 1C							
0+00		2	x	\$175.00	=	\$350.00	
0+00 to 6+15		1,265	x	\$2.02	=	\$2,555.30	
0+00 to 6+15		1,265	x	\$0.79	=	\$999.35	
1+90 to 6+15		2.6	x	\$49.00	=	\$127.40	
4+15		1	x	\$175.00	=	\$175.00	
4+95		1	x	\$175.00	=	\$175.00	
6+15		1	x	\$438.00	=	\$438.00	

SUB TOTAL FOR EXCAVATION

\$5,258

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
				\$0.00					\$0.00
Other/miscellaneous:									
Seed and mulch waste area									
			</						

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$220

Subtotal of Clearing, Exc., Culv.

\$6,951

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: GB2
 ROAD: 11 to 12 (188.0)
 POINTS:

NEW CONSTRUCTION: STATIONS 0.00 MILES
 IMPROVEMENT: 188.00 STATIONS 3.56 MILES

CLEARING & GRUBBING

Method	Acre/amount	x	Rate	=	Cost
		x		=	\$0.00

SUB TOTAL FOR CLEARING & GRUBBING

\$0

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
11 to 12 14+80, 15+75, 25+45, 57+70, 58+30, 61+90, 70+35, 75+10, 173+00 25+45					
Install a series of 3 rock ditch filters w/C315	\$/hr	x	\$114.00	=	\$1,482.00
Instal ditchout w/C315	\$/hr	x	\$114.00	=	\$114.00
	1.0				

SUB TOTAL FOR EXCAVATION

\$1,596

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
11 to 12									
138+50	18" CPP	30	\$21.95	\$658.50					\$0.00
139+60	18" CPP	30	\$21.95	\$658.50					\$0.00
142+85	18" CPP	30	\$21.95	\$658.50					\$0.00

Other/miscellaneous:
 Culvert stakes & markers:

Description	Quantity	Rate	Cost
6' X 2 1/2" white fiberglass (Carsonite) posts	3	\$23.00	\$69.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

Subtotal of Clearing, Exc., Culv. \$2,045
 \$3,641

SURFACING									
		Description		Stations/ amount		Rate/ stamt		Cost	
		Subgrade prep: 11 to 12 (0+00 to 135+50)		\$/hr		x		\$1,695.00	
		11 to 12 (135+50 to 188+00)		\$/sta		x		\$27.91	
		11 to 12 (135+50 to 188+00)		\$/sta		x		\$1,465.28	
		11 to 12 (135+50 to 188+00)		\$/sta		x		\$1,191.23	
ROAD SEGMENT									
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
				11 to 12	0+00 to 188+00				
Rock Ditch Filters	6"-4" pit-run	14+80, 15+75, 25+45, 57+70, 58+30, 61+90, 70+35, 75+10, 173+00	N/A	3 filter series	11	13	\$4.62	\$661	
	Leveling Rock	135+50 to 188+00	N/A	load	11	5	\$3.45	\$190	
Surfacing	4"-0" crushed	171+00 to 188+00	4	station	25	17	\$3.45	\$1,466	
Turnouts	4"-0" crushed	142+25, 148+95, 158+05, 167+30, 170+05, 175+10	N/A	turnout	11	6	\$3.45	\$228	
		178+00 to 186+90	2	station	13	8.9	\$3.45	\$399	
Traction Rock	1 1/2"-0" crushed	151+90, 164+00	N/A	junction	11	2	\$3.45	\$76	
Junctions	4"-0" crushed	138+50, 139+85, 142+85	N/A	culvert	33	3	\$3.45	\$342	
Culvert Bedding and Backfill	1 1/2"-0" crushed	142+85	N/A	landings	55	1	\$4.62	\$254	
Landings	6"-0" pit-run	188+00	N/A						
Total Rock for Road Segment:				11 to 12		981		\$3,615	
Processing:									
				Description		No.sta	Rate/sta	Cost	
				Water, Process & Compact: 11 to 12 (171 to 188+00)		17.00	\$63.48	\$1,079	
				Traction Rock Water, Process & Compact: 11 to 12 (178+00 to 186+90)		8.90	\$63.48	\$565	
SUB TOTAL FOR SURFACING									
	24"-12" rr	24"-6" rr	12"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	2"-1" drainrock	3/4"-0" crushed
	0	0	0	143	55	513	270	0	0
									981
\$9,611									
SPECIAL PROJECTS									
				Description		Cy/Amount	Rate	Cost	
				pit-run development		198	\$2.92	\$578.16	
				riprap development			\$0.00		
SUB TOTAL FOR SPECIAL PROJECTS									
								\$578	
								\$10,189	
								\$3,641	
GRAND TOTAL									
\$13,829									

Compiled By: Cole Hatcher

Date: 10/04/2022

CRUSHED ROCK COST

SALE NAME: GB2

DATE: 10/04/2022

PROJECT: No. 1 and 2
Stockpile: Nettle Creek Stockpile Site

MATERIAL: 1 1/2"-0", 4"-0"

BY: Cole Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$2.19	/cy
Load:	\$0.48	/cy
Spread:	\$0.78	/cy

Truck type: D12 No. trucks: 5
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 1,442

CRUSHED ROCK HAUL COSTS

844 cy @ \$3.45 /cy

PIT RUN ROCK COST

SALE NAME:	GB2
PROJECT:	No. 1 and 2
QUARRY:	Nettle Creek Quarry

MATERIAL: 6"-0", 6"-4" Pit-Run

DATE: 10/04/2022
BY: Cole Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$3.30	/cy
Load:	\$0.48	/cy
Spread:	\$0.84	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 957

PIT RUN ROCK HAUL COSTS

286 cy @ \$4.62 /cy

Projects Road Maintenance Cost Summary

Sale: GB2
Date: 04-Oct-22
By: Cole Hatcher CB

Final Project Maintenance may be spot grading with some segments of full water, process, and compact. This will be determined by STATE when roads are assessed for Final Project Maintenance.

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work	Grader 14G			8	\$113	\$904
Final Haul	Dump Truck 12CY			6	\$89	\$534
Road	FE Loader C966			6	\$94	\$564
Maintenance	Vibratory Roller			8	\$87	\$696
	Water Truck 2,500 gallon			6	\$101	\$606
Total						\$3,304

Production Rates

	Miles/day	Distance(miles)	Days
Grader	1.5	2.83	1.9
Vibratory Roller	1.5	2.83	1.9

NOTE: Nettle Creek Road (I1 to I2 Sta 135+50 to Nettle Creek Stockpile Site)	0.78	Miles
Nettle Creek Quarry Road	0.45	Miles
Buster Creek Mainline (Nettle Creek Road to Buster Creek Stockpile Site)	1.60	Miles
		Miles
TOTAL=	2.83	Miles

**GB2
TIMBER CRUISE REPORT
FY 2023**

1. **Sale Area Location:** Portions of Section 30 of T5N R6W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 100%, CSL 0% BOF Tax Code: 8-01 (100%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	New R/W Stocked	Net Acres	Survey Method
1	Modified Clearcut	39	11	1	1	26	GIS
2	In-Unit R/W	1	-	-	-	1	GIS
TOTALS		40	11	1	1	27	

4. **Cruisers and Cruise Dates:** Justin Bush and Michele Huffman (09/02/2022 – 09/09/2022)

5. **Cruise Method and Computation:**

Unit 1: Unit 1 was variable plot cruised with a 54.45 BAF. A total of 40 plots were sampled on a three by two and half chain spacing with a grade to count ratio of 1:1, resulting in 19 grade plots and 21 count plots.

Unit 2 (R/W): Right-of-way consists of a new spur road and a roadside landing within Unit 1. Volumes from the U1 cruise were applied to Unit 2 R/W.

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

UNIT	CRUISE	TRACT	TYPE	ACRES
1	GB2	U1	00MC	27

6. **Timber Description:**

Unit 1 is a modified clearcut with an average age of 82 years. The stand consists of Douglas-fir and western hemlock with minor components of red alder and western redcedar. The average take Douglas-fir is 25 inches DBH and 118 feet to a merchantable top. The average take western hemlock is 17 inches DBH and 66 feet to a merchantable top. Approximately one and half acres are stocked with red alder though only two red alder were measured during the cruise. The average take red alder (two sample trees only) is 17 inches DBH and 53 feet to a merchantable top. Average net volume to be harvested per acre is 66 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	45%	8%	40.7%	6.4%

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.	SM	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	25"	1,214	80	904	216*	14	6.6%	68%
Western hemlock	17"	543	25	363	109	46	6.5%	30%
TOTALS	--	1,757	105	1,267	325	60	--	--

*This sale includes approximately 38 MBF of 12"+ 3-saw Douglas-fir.

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	17"	32	--	--	28	4	2.6%	2%
TOTALS	--	32	--	--	28	4	--	--

TOTAL VOLUME	1,789 MBF
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9. Approvals:

Prepared by: Justin Bush

Date: 09/30/2022

Unit Forester Approval: 

Date: 10/3/2022

10. **Attachments:** Cruise Design and Map (3 pages)
Volume Report (3 pages)
Statistics Report (5 pages)
Log Stock Table (2 pages)
Stand Table Summary (2 pages)

CRUISE DESIGN ASTORIA DISTRICT

Sale Name: GB2Units 3

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 27 Estimated CV% 45% Net BF/Acre SE% Objective 8% Net BF/AcrePlanned Sale Volume : 1,755 MBF Estimated Sale Area Value/Acre: \$34,000/Acre

A. **Cruise Goals:** (a) Grade minimum 100 conifer trees.
 (b) Sample 40 cruise plots (19 grade/ 21 count); (c) Other goals : Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. **Plot Cruises:** BAF 54.45 (Full point)
 Cruise Line Direction: 346°/166°
 Cruise Line Spacing 3 (chains) 198 (Feet)
 Cruise Plot Spacing 2.5 (chains) 165 (Feet)
 Grade/Count Ratio 1:1

Take plots as marked on cruise map. If a plot falls across a buffer, make note of the actual boundary and move plot in to the unit by ½ chain.

Grade minor species (true fir, spruce, cedar, etc.) on count plots if encountered.

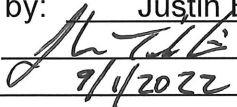
DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.

DO NOT: record snags < 12" 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 ½" 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 to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12’; for hardwoods, it is 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 redcedar); NF (noble 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.
- Grade oversized 3-SAW (DIB $\geq$ 12”, knots $> 2\frac{1}{2}$ ” 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: Justin Bush
Approved by: 
Date: 7/1/2022

TIMBER CRUISE

OF TIMBER SALE CONTRACT
NO. AT-341-2023-W01034-01
GB2
PORTIONS OF SECTION 30,
T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

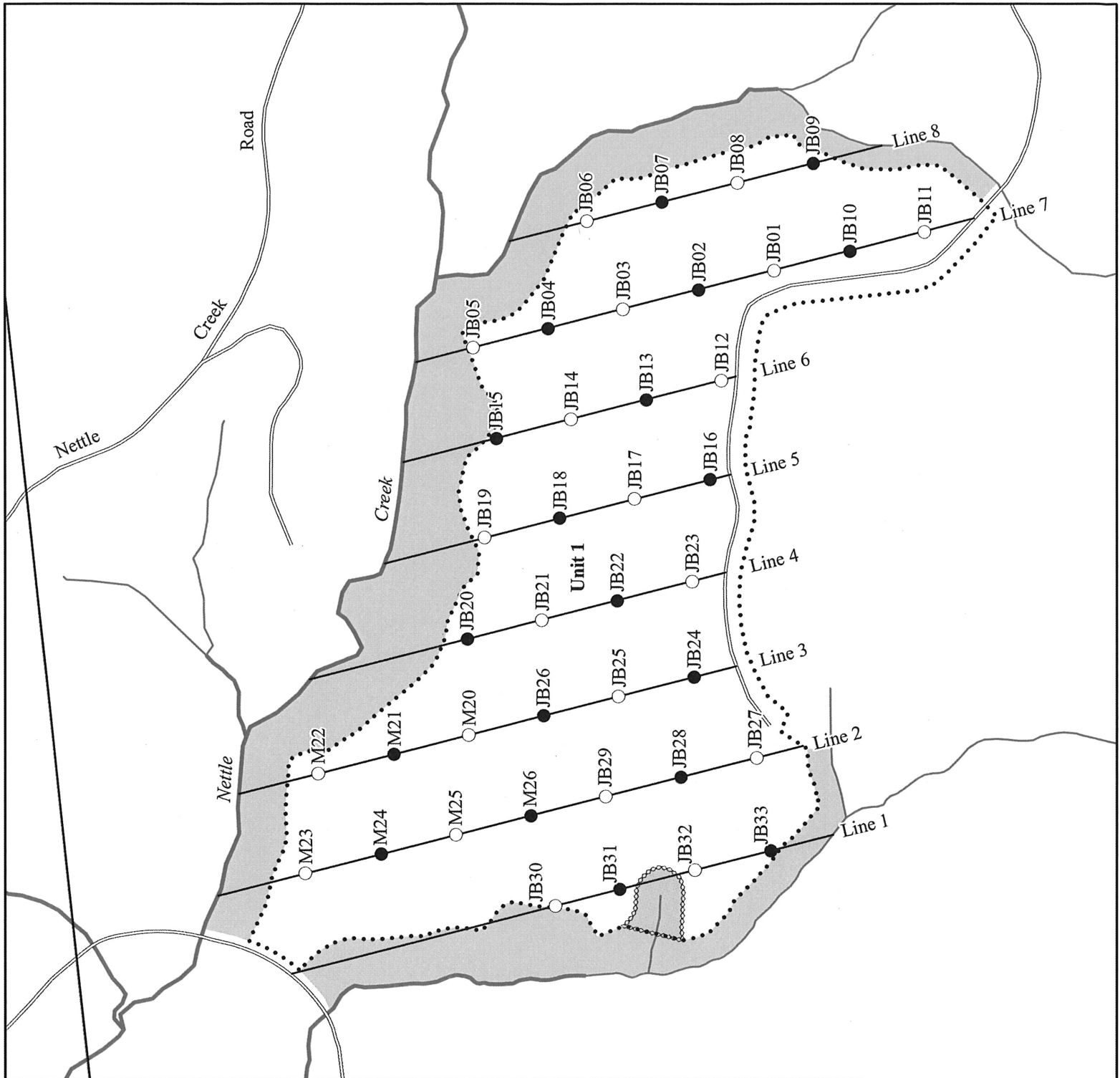
Approximate Net Acres
Unit 1 (MC): 27

BAF: 54.45
Grade Plots: 19
Count Plots: 21
Total Plots: 40

Line Azimuth: 166°/346°
Line Spacing: 3 ch. (198 ft.)
Plot Spacing: 2.5 ch. (165 ft.)

Legend

- Timber Sale Boundary
- Section Line
- Surfaced Road
- Type F Stream
- Type N Stream
- Non-Posted Buffer
- Posted Buffer
- Count Plot
- Grade Plot
- Cruise Lines



TC PSCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T05N R06W S30 TyMC26.00 T05N R06W S30 TyR/W1.00						Project: GB2 Acres27.00										Page1 Date9/30/2022 Time8:44:49AM			
Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def%GrossNet			Total Net MBF	Percent of 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	DOCU														9	15		0.00	7.4
D	DO2S	74	6.4	35,748	33,466	904			39	61	1	1	8	91	38	16	394	2.17	85.0
D	DO3S	18	7.6	8,651	7,992	216		82	13	5	4	4	25	67	35	9	111	0.85	72.0
D	DO4S	1	5.0	558	530	14		100			61	39			20	7	31	0.50	17.2
D	DOSM	7	6.6	3,199	2,988	80-81			12	88			8	92	39	19	569	2.87	5.3
D Totals		68	6.6	48,156	44,977	1,214		16	32	52	2	2	11	85	34	13	241	1.56	186.8
H	DOCU														13	9		0.00	11.2
H	DO2S	66	6.4	14,377	13,462	363			58	42			9	91	39	15	310	1.81	43.4
H	DO3S	20	7.5	4,357	4,032	109		93	7		1	6	37	56	35	9	103	0.81	39.2
H	DO4S	9	5.8	1,820	1,715	46		100			45	44	11		22	7	29	0.45	58.5
H	DOSM	5	5.0	962	914	25				100				100	40	19	616	2.81	1.5
H Totals		30	6.5	21,517	20,123	543		27	40	33	4	5	14	77	30	10	131	1.08	153.8
A	DO3S	87	3.0	1,051	1,019	28		100						100	39	9	101	0.98	10.1
A	DO4S	13		140	140	4		100			100				18	6	20	0.39	7.0
A Totals		2	2.6	1,191	1,159	32-31		100			12			88	30	8	68	0.84	17.1
C	DO3S	50	4.3	7	7	0		100					50	50	37	7	78	1.09	.1
C	DO4S	50		7	7	0		100			100				18	7	30	0.59	.2
C Totals		0	2.2	14	14	0		100			50		25	25	23	7	43	0.81	.3
Totals			6.5	70,877	66,273	1,789		21	34	45	3	3	12	83	32	11	185	1.33	358.0

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1			
				Project: GB2												Date		9/30/2022			
																Time		9:09:57AM			
T05N R06W S30 TMC												T05N R06W S30 TMC									
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt			
05N		06W		30		U1_TAKE		MC		26.00		40		114		1		W			
S So Gr Spp T rt ad				% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
D DO CU																	9	15		0.00	7.4
D DO 2S				74	6.4 35,748 33,466			870			39	61	1	1	8	91	38	16	394	2.17	85.0
D DO 3S				18	7.6 8,651 7,992			208		82	13	5	4	4	25	67	35	9	111	0.85	72.0
D DO 4S				1	5.0 558 530			14		100			61	39			20	7	31	0.50	17.2
D DO SM				7	6.6 3,199 2,988			77-78			12	88			8	92	39	19	569	2.87	5.3
D Totals				68	6.6 48,156 44,977			1,169		16	32	52	2	2	11	85	34	13	241	1.56	186.8
H DO CU																	13	9		0.00	11.2
H DO 2S				66	6.4 14,377 13,462			350			58	42			9	91	39	15	310	1.81	43.4
H DO 3S				20	7.5 4,357 4,032			105		93	7		1	6	37	56	35	9	103	0.81	39.2
H DO 4S				9	5.8 1,820 1,715			45		100			45	44	11		22	7	29	0.45	58.5
H DO SM				5	5.0 962 914			24				100				100	40	19	616	2.81	1.5
H Totals				30	6.5 21,517 20,123			524-523		27	40	33	4	5	14	77	30	10	131	1.08	153.8
A DO 3S				87	3.0 1,051 1,019			27		100					100		39	9	101	0.98	10.1
A DO 4S				13	140 140			34		100			100				18	6	20	0.39	7.0
A Totals				2	2.6 1,191 1,159			30		100			12		88		30	8	68	0.84	17.1
Type Totals					6.5 70,863 66,259			1,723		21	34	45	3	3	12	83	32	11	185	1.33	357.7

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page 1						
Project: GB2												Date	9/30/2022							
												Time	8:45:36AM							
T05N R06W S30 TR/W										T05N R06W S30 TR/W										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
05N	06W	30	U2_RW	R/W	1.00	40	118	1	W											
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
			Def%	Gross	Net	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		
D	DO	CU														9	15		0.00	7.4
D	DO	2S	74	6.4	35,748	33,466	33			39	61	1	1	8	91	38	16	394	2.17	85.0
D	DO	3S	18	7.6	8,651	7,992	8		82	13	5	4	4	25	67	35	9	111	0.85	72.0
D	DO	4S	1	5.0	558	530	1		100			61	39			20	7	31	0.50	17.2
D	DO	SM	7	6.6	3,199	2,988	3			12	88			8	92	39	19	569	2.87	5.3
D Totals			68	6.6	48,156	44,977	45		16	32	52	2	2	11	85	34	13	241	1.56	186.8
H	DO	CU														13	9		0.00	11.2
H	DO	2S	66	6.4	14,377	13,462	13			58	42			9	91	39	15	310	1.81	43.4
H	DO	3S	20	7.5	4,357	4,032	4		93	7		1	6	37	56	35	9	103	0.81	39.2
H	DO	4S	9	5.8	1,820	1,715	2		100			45	44	11		22	7	29	0.45	58.5
H	DO	SM	5	5.0	962	914	1				100				100	40	19	616	2.81	1.5
H Totals			30	6.5	21,517	20,123	20		27	40	33	4	5	14	77	30	10	131	1.08	153.8
A	DO	3S	87	3.0	1,051	1,019	1		100						100	39	9	101	0.98	10.1
A	DO	4S	13		140	140	0		100			100				18	6	20	0.39	7.0
A Totals			2	2.6	1,191	1,159	1		100			12			88	30	8	68	0.84	17.1
C	DO	3S	50	4.3	195	187	0		100					50	50	37	7	78	1.09	2.4
C	DO	4S	50		185	185	0		100			100				18	7	30	0.59	6.2
C Totals			1	2.2	380	372	0		100			50		25	25	23	7	43	0.81	8.6
Type Totals				6.5	71,243	66,631	66 -67		21	34	45	3	3	12	82	32	11	182	1.33	366.3

TC TSTATS				STATISTICS			PAGE 1			
				PROJECT GB2			DATE 9/30/2022			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	30	U1	MC	27.00	40	257	1	W	
				TREES	ESTIMATED					
				PER PLOT	TOTAL					
					TREES	PERCENT				
						SAMPLE				
						TREES				
TOTAL		40	257	6.4						
CRUISE		19	125	6.6	4,504	2.8				
DBH COUNT										
REFOREST										
COUNT		21	131	6.2						
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		68	56.0	24.8	118	37.7	187.9	48,156	44,977	9,955
WHEMLOCK		44	72.5	17.1	66	28.0	115.7	21,517	20,123	4,946
SNAG		5	13.1	15.7	62	4.5	17.7			
R ALDER		2	10.1	16.5	53	3.7	15.0	1,191	1,159	432
CEDLEAV		4	7.7	13.9	28	2.2	8.2	380	372	162
SPRUCELV		1	6.2	9.0	13	0.9	2.7	123	123	31
MAPLELV		1	1.2	20.0	38	0.6	2.7	75	62	50
TOTAL		125	166.8	19.6	78	79.0	349.8	71,441	66,816	15,575
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		44.4	5.4	898	949	1,001				
WHEMLOCK		64.1	9.7	412	456	500				
SNAG										
R ALDER		33.7	31.5	72	105	138				
CEDLEAV		79.9	45.7	35	65	95				
SPRUCELV										
MAPLELV										
TOTAL		69.8	6.2	639	681	724		195	49	22
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		67.9	10.7	50	56	62				
WHEMLOCK		99.3	15.7	61	72	84				
SNAG		166.4	26.3	10	13	17				
R ALDER		298.5	47.1	5	10	15				
CEDLEAV		273.2	43.2	4	8	11				
SPRUCELV		441.4	69.7	2	6	10				
MAPLELV		441.4	69.7	0	1	2				
TOTAL		47.2	7.5	154	167	179		89	22	10
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		66.6	10.5	168	188	208				
WHEMLOCK		82.7	13.1	101	116	131				
SNAG		161.7	25.5	13	18	22				
R ALDER		296.8	46.9	8	15	22				
CEDLEAV		284.4	44.9	4	8	12				
SPRUCELV		441.4	69.7	1	3	5				
MAPLELV		441.4	69.7	1	3	5				
TOTAL		34.7	5.5	331	350	369		48	12	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		

TC TSTATS				STATISTICS			PAGE	2	
				PROJECT GB2			DATE	9/30/2022	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	30	U1	MC	27.00	40	257	1	W
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		67.6	10.7	40,172	44,977	49,782			
WHEMLOCK		83.9	13.3	17,455	20,123	22,791			
SNAG									
R ALDER		300.5	47.5	609	1,159	1,710			
CEDLEAV		298.8	47.2	196	372	547			
SPRUCELV		441.4	69.7	37	123	209			
MAPLELV		441.4	69.7	19	62	106			
TOTAL		40.7	6.4	62,520	66,816	71,113	66	17	7

TC PSTATS			PROJECT STATISTICS							PAGE	1	
			PROJECT GB2							DATE	9/30/2022	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
05N	06	30	U1 TAKE	MC		27.00		80	474	1	W	
05N	06W	30	U2 RW	R/W								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			80	474	5.9							
CRUISE			38	232	6.1	3,749		6.2				
DBH COUNT												
REFOREST												
COUNT			42	240	5.7							
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			136	56.0	24.8	118	37.7	187.9	48,156	44,977	10,479	9,955
WHEMLOCK			88	72.5	17.1	66	28.0	115.7	21,517	20,123	5,206	4,946
R ALDER			4	10.1	16.5	53	3.7	15.0	1,191	1,159	432	432
WR CEDAR			4	.3	13.9	28	0.1	.3	14	14	6	6
TOTAL			232	138.9	20.5	86	70.4	318.8	70,877	66,273	16,123	15,339
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			44.3	3.8	913	949	985					
WHEMLOCK			63.7	6.8	425	456	487					
R ALDER			27.5	15.7	89	105	121					
WR CEDAR			79.9	45.7	35	65	95					
TOTAL			62.0	4.1	703	733	762	154	38	17		
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			130.9	14.6	48	56	64					
WHEMLOCK			163.6	18.3	59	72	86					
R ALDER			414.8	46.3	5	10	15					
WR CEDAR			396.8	44.3	0	0	0					
TOTAL			110.5	12.3	122	139	156	487	122	54		
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			129.7	14.5	161	188	215					
WHEMLOCK			145.7	16.3	97	116	135					
R ALDER			412.5	46.1	8	15	22					
WR CEDAR			412.2	46.0	0	0	0					
TOTAL			103.8	11.6	282	319	356	430	108	48		
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			130.6	14.6	38,413	44,977	51,541					
WHEMLOCK			147.0	16.4	16,819	20,123	23,427					
R ALDER			417.4	46.6	619	1,159	1,700					
WR CEDAR			431.8	48.2	7	14	20					
TOTAL			108.5	12.1	58,239	66,273	74,306	470	118	52		

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT GB2				DATE	9/30/2022		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
05N	06W	30	U1 TAKE	MC	26.00	40	234	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		40	234	5.8							
CRUISE		19	114	6.0	3,603		3.2				
DBH COUNT											
REFOREST											
COUNT		21	119	5.7							
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		68	56.0	24.8	118	37.7	187.9	48,156	44,977	10,479	9,955
WHEMLOCK		44	72.5	17.1	66	28.0	115.7	21,517	20,123	5,206	4,946
R ALDER		2	10.1	16.5	53	3.7	15.0	1,191	1,159	432	432
TOTAL		114	138.6	20.5	86	70.3	318.5	70,863	66,259	16,117	15,333
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		44.4	5.4	898	949	1,001					
WHEMLOCK		64.1	9.7	412	456	500					
R ALDER		33.7	31.5	72	105	138					
TOTAL		60.5	5.7	702	744	787	146	37	16		
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		67.9	10.7	50	56	62					
WHEMLOCK		99.3	15.7	61	72	84					
R ALDER		298.5	47.1	5	10	15					
TOTAL		44.4	7.0	129	139	148	79	20	9		
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		66.6	10.5	168	188	208					
WHEMLOCK		82.7	13.1	101	116	131					
R ALDER		296.8	46.9	8	15	22					
TOTAL		34.1	5.4	301	319	336	46	12	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		67.6	10.7	40,172	44,977	49,782					
WHEMLOCK		83.9	13.3	17,455	20,123	22,791					
R ALDER		300.5	47.5	609	1,159	1,710					
TOTAL		41.1	6.5	61,954	66,259	70,564	68	17	8		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT GB2				DATE	9/30/2022	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	30	U2 RW	R/W	1.00	40	240	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		40	240	6.0						
CRUISE		19	118	6.2	146	80.7				
DBH COUNT										
REFOREST										
COUNT		21	121	5.8						
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	68	56.0	24.8	118	37.7	187.9	48,156	44,977	10,479	9,955
WHEMLOCK	44	72.5	17.1	66	28.0	115.7	21,517	20,123	5,206	4,946
R ALDER	2	10.1	16.5	53	3.7	15.0	1,191	1,159	432	432
WR CEDAR	4	7.7	13.9	28	2.2	8.2	380	372	162	162
TOTAL	118	146.3	20.2	83	72.6	326.7	71,243	66,631	16,278	15,494
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	44.4	5.4	898	949	1,001					
WHEMLOCK	64.1	9.7	412	456	500					
R ALDER	33.7	31.5	72	105	138					
WR CEDAR	79.9	45.7	35	65	95					
TOTAL	63.7	5.9	679	721	764	162	41	18		
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	67.9	10.7	50	56	62					
WHEMLOCK	99.3	15.7	61	72	84					
R ALDER	298.5	47.1	5	10	15					
WR CEDAR	273.2	43.2	4	8	11					
TOTAL	43.3	6.8	136	146	156	75	19	8		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR	66.6	10.5	168	188	208					
WHEMLOCK	82.7	13.1	101	116	131					
R ALDER	296.8	46.9	8	15	22					
WR CEDAR	284.4	44.9	4	8	12					
TOTAL	34.0	5.4	309	327	344	46	12	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	67.6	10.7	40,172	44,977	49,782					
WHEMLOCK	83.9	13.3	17,455	20,123	22,791					
R ALDER	300.5	47.5	609	1,159	1,710					
WR CEDAR	298.8	47.2	196	372	547					
TOTAL	40.9	6.5	62,329	66,631	70,932	67	17	7		

TC PLOGSTVB			Log Stock Table - MBF																
T05N R06W S30 TyMC T05N R06W S30 TyR/W				26.00 1.00		Project: GB2 Acres 27.00										Page 1 Date 9/30/2022 Time 8:44:21AM			
S T Spp	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
D	DO 2S	18	2	5.0	2	.2						2							
D	DO 2S	20	7	5.0	7	.6											7		
D	DO 2S	24	7	9.0	6	.5									6				
D	DO 2S	32	75	5.6	70	5.8						22	21	21		6			
D	DO 2S	36	8	5.0	8	.6							8						
D	DO 2S	38	19	5.0	18	1.5						7						11	
D	DO 2S	40	847	6.5	792	65.2						91	96	316		241	48		
D	DO 3S	18	3	15.3	2	.2				1		2							
D	DO 3S	20	6	5.0	6	.5				5		1							
D	DO 3S	24	5	9.5	4	.4				1		4							
D	DO 3S	28	3	5.0	3	.2						3							
D	DO 3S	30	3	11.5	2	.2				2									
D	DO 3S	32	47	7.2	44	3.6			10	8		23			3				
D	DO 3S	34	11	5.0	10	.8			8			2							
D	DO 3S	38	4	5.0	3	.3					3								
D	DO 3S	40	153	7.9	141	11.6			5	23		78	10	15	10				
D	DO 4S	12	1	5.0	0	.0				0									
D	DO 4S	14	0	5.0	0	.0				0									
D	DO 4S	16	3	5.0	3	.2			1	1									
D	DO 4S	18	5	5.0	4	.4			1	3									
D	DO 4S	20	1	5.0	1	.1				1									
D	DO 4S	24	1	5.0	1	.1				1									
D	DO 4S	26	2	5.0	2	.2			2										
D	DO 4S	28	3	5.0	3	.2			3										
D	DO SM	32	6	5.0	6	.5								6					
D	DO SM	40	80	6.7	75	6.1								39		22	14		
D	Totals		1,300	6.6	1,214	67.9			31	50	111	133	140	402	275	73			
H	DO 2S	32	34	6.4	32	5.9						15	8	9					
H	DO 2S	40	354	6.4	331	61.0						79	61	178	13				
H	DO 3S	20	1	5.0	1	.2				1									
H	DO 3S	25	1	5.0	1	.2				1									
H	DO 3S	30	6	5.0	5	1.0				1	4								
H	DO 3S	32	44	7.9	41	7.5			2	13	23	3							
H	DO 3S	38	3	5.0	3	.6			3										
H	DO 3S	40	62	7.6	57	10.5			4	18	32	4							

Log Stock Table - MBF

T05N R06W S30 TyMC 26.00
T05N R06W S30 TyR/W 1.00

Project: GB2
Acres 27.00

Page 2
Date 9/30/2022
Time 8:44:21AM

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
H		DO	4S	12	2	14.4	2	.3			1		1							
H		DO	4S	14	1	5.0	1	.1			1									
H		DO	4S	16	2	14.9	2	.3				2								
H		DO	4S	18	7	5.0	7	1.3			6	1								
H		DO	4S	20	10	5.0	10	1.8			8	2								
H		DO	4S	24	7	5.0	7	1.2			7									
H		DO	4S	26	3	5.0	3	.6			3									
H		DO	4S	28	7	5.0	6	1.2			6									
H		DO	4S	30	4	5.0	4	.8			4									
H		DO	4S	32	5	5.0	5	.9				5								
H		DO	SM	40	26	5.0	25	4.5							12		13			
H		Totals			581	6.5	543	30.4			45	44	59	102	69	198	26			
A		DO	3S	38	21		21	66.4			21									
A		DO	3S	40	8	11.1	7	21.5			7									
A		DO	4S	18	4		4	12.1			4									
A		Totals			32	2.6	31	1.7			4	28								
C		DO	3S	32	0	8.3	0	25.1					0							
C		DO	3S	40	0		0	25.2			0									
C		DO	4S	16	0		0	25.0			0									
C		DO	4S	18	0		0	6.9			0									
C		DO	4S	20	0		0	17.9			0									
C		Totals			0	2.2	0	.0			0		0							
Total		All Species			1,914	6.5	1,789	100.0			79	121	171	235	209	600	301	73		

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		9/30/2022	
T05N R06W S30 TyMC26.00 T05N R06W S30 TyR/W1.00				ProjectGB2										Time:		8:45:06AM	
				Acres27.00										Grown Year:			
S Spec	T	Sample		Tot					Average Log		Net		Net		Totals		
		DBH	Trees	FF 16'	Av Ht	Trees/Acre	BA/Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
D		15	2	85	171	2.251	2.76	6.75	21.8	79.2		148	535		40	14	
D		16	2	87	166	1.979	2.76	5.94	25.6	104.5		152	620		41	17	
D		17	2	85	165	1.860	2.76	5.58	26.9	107.7		150	601		41	16	
D		18	2	89	151	1.563	2.76	4.69	32.3	139.3		151	653		41	18	
D		19	2	87	153	1.403	2.76	4.21	33.9	139.3		143	586		39	16	
D		20	2	82	150	1.266	2.76	3.80	34.5	129.8		131	493		35	13	
D		21	4	82	134	2.297	5.53	6.89	36.1	128.2		249	884		67	24	
D		22	16	86	139	8.372	22.10	25.12	42.5	176.1	1,068	4,424		288	119		
D		23	8	86	151	3.830	11.05	11.49	51.2	207.4		589	2,383		159	64	
D		24	10	86	148	4.397	13.81	14.07	51.2	217.9		720	3,066		194	83	
D		25	16	87	154	6.483	22.10	20.26	58.4	261.8	1,183	5,304		319	143		
D		26	2	86	159	.749	2.76	3.00	42.7	209.0		128	626		35	17	
D		27	2	83	148	.695	2.76	2.08	66.5	278.7		139	581		37	16	
D		28	28	88	168	9.045	38.68	33.59	66.3	323.9	2,226	10,882		601	294		
D		29	8	85	139	2.409	11.05	7.83	68.8	302.5		539	2,369		146	64	
D		30	6	89	156	1.688	8.29	5.63	82.4	407.5		464	2,294		125	62	
D		31	4	87	152	1.054	5.53	3.69	78.3	380.0		289	1,402		78	38	
D		32	8	87	152	1.979	11.05	6.43	91.3	441.4		587	2,838		158	77	
D		33	6	90	158	1.395	8.29	4.19	112.0	573.2		469	2,399		127	65	
D		34	4	85	147	.876	5.53	2.63	106.7	475.0		281	1,249		76	34	
D		36	2	83	171	.391	2.76	1.56	96.9	503.5		151	787		41	21	
D		Totals	136	86	153	55.983	187.85	179.43	55.5	250.7		9,955	44,977		2,688	1,214	
H		9	2	86	50	5.952	2.63	5.95	8.5	28.5		51	170		14	5	
H		10	4	81	31	9.643	5.26	4.82	7.6	28.5		37	137		10	4	
H		11	4	87	46	8.358	5.26	8.36	11.4	28.5		95	238		26	6	
H		13	4	85	90	5.939	5.26	11.88	15.0	45.2		178	537		48	15	
H		14	4	85	91	5.105	5.26	10.21	18.1	57.5		185	587		50	16	
H		15	2	85	112	2.143	2.63	4.29	26.1	99.7		112	428		30	12	
H		16	2	83	69	2.007	2.63	4.01	18.5	66.5		74	267		20	7	
H		17	2	86	125	1.668	2.63	5.00	26.3	98.2		132	491		36	13	
H		18	6	90	129	4.464	7.89	13.39	30.4	124.6		407	1,668		110	45	
H		19	10	90	111	6.678	13.15	17.36	34.3	138.8		595	2,411		161	65	
H		20	2	80	115	1.205	2.63	2.41	36.1	123.5		87	298		23	8	
H		21	6	87	126	3.280	7.89	9.84	41.3	173.1		406	1,703		110	46	
H		22	6	90	122	2.988	7.89	8.97	45.0	196.3		403	1,760		109	48	
H		23	4	85	127	1.823	5.26	5.47	49.6	202.7		271	1,108		73	30	
H		24	8	88	114	3.348	10.52	8.37	55.6	230.9		465	1,932		126	52	
H		25	8	88	126	3.086	10.52	8.49	64.0	280.7		543	2,382		147	64	
H		26	8	89	129	2.853	10.52	8.56	63.5	289.0		543	2,473		147	67	
H		27	4	91	114	1.323	5.26	3.97	64.4	297.7		256	1,181		69	32	
H		28	2	81	101	.615	2.63	1.23	85.5	285.0		105	351		28	9	
H		Totals	88	86	88	72.479	115.71	142.58	34.7	141.1		4,946	20,123		1,335	543	
A		14	2	87	81	7.004	7.49	14.01	19.5	65.0		273	910		74	25	
A		21	2	86	49	3.113	7.49	3.11	51.0	80.0		159	249		43	7	
A		Totals	4	87	71	10.116	14.97	17.12	25.2	67.7		432	1,159		117	31	
C		11	1	75	20	.115	.08	.11	9.0	30.0		1	3		0	0	
C		13	1	81	32	.082	.08	.08	13.0	30.0		1	2		0	0	
C		16	1	74	66	.058	.08	.06	32.0	60.0		2	3		0	0	
C		21	1	68	75	.031	.08	.06	32.5	70.0		2	4		1	0	
C		Totals	4	76	39	.286	.30	.32	18.9	43.4		6	14		2	0	

TC		PSTNDSUM		Stand Table Summary								Page		2	
												Date:		9/30/2022	
T05N R06W S30 TyMC26.00 T05N R06W S30 TyR/W1.00				Project		GB2				Time:		8:45:06AM			
				Acres		27.00				Grown Year:					
S Spc	T	Sample		FF 16'	Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals TonsCunitsMBF	
		DBH	Trees						Net	Net					
Totals		232	86	113		138.863	318.84	339.44	45.2	195.2		15,338	66,273	4,141	1,789

LOGGING PLAN MAP

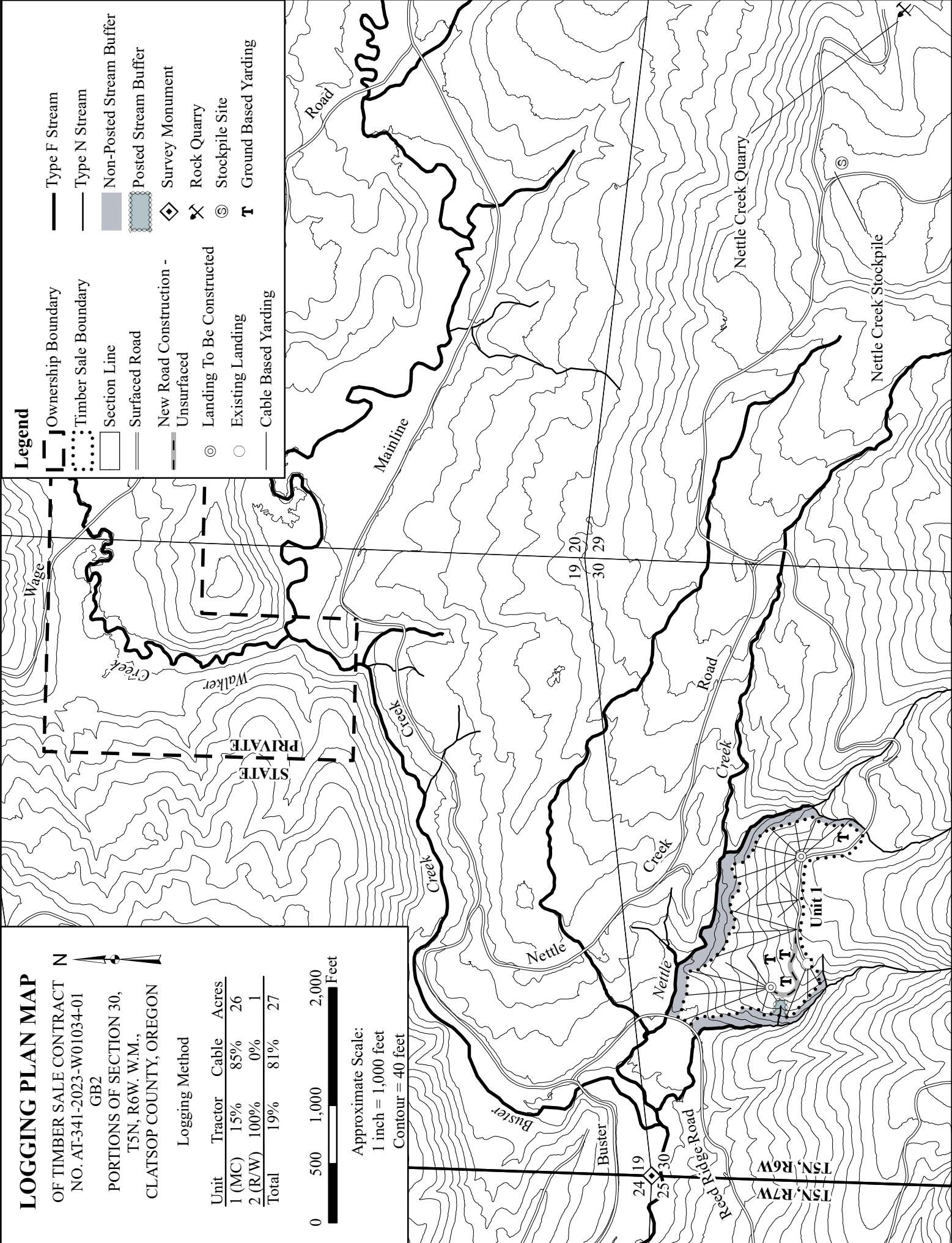
OF TIMBER SALE CONTRACT
NO. AT-341-2023-W01034-01
GB2
PORTIONS OF SECTION 30,
T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

Logging Method

Unit	Tractor	Cable	Acres
1 (MC)	15%	85%	26
2 (R/W)	100%	0%	1
Total	19%	81%	27



Approximate Scale:
1 inch = 1,000 feet
Contour = 40 feet



Legend

- Type F Stream
- Type N Stream
- Non-Posted Stream Buffer
- ▨ Posted Stream Buffer
- ◆ Survey Monument
- ✕ Rock Quarry
- ⊙ Stockpile Site
- ⚓ Ground Based Yarding
- Ownership Boundary
- ⋯ Timber Sale Boundary
- Section Line
- ▬ Surfaced Road
- New Road Construction - Unsurfaced
- ⊙ Landing To Be Constructed
- Existing Landing
- Cable Based Yarding