

**Shingle Knob
TIMBER CRUISE REPORT
FY 2024**

1. **Sale Area Location:** Portions of Sections 17, 18, 19, & 20 of T7N, 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	Reserve Tree Area	Existing R/W Acres	New R/W	Net Acres	Survey Method
1	Modified Clearcut	78	6	3	4	-	65	GIS
2	Modified Clearcut	127	14	3	6	2	102	GIS
3	R/W	2	-	-	-	-	2	LxW
TOTALS		207	20	6	10	2	169	

4. **Cruisers and Cruise Dates:** Avery Petersen, John Czarnecki, Ryan Simpson, Michele Huffman, and Justin Bush (12/21/2023)

5. Cruise Method and Computation:

Units 12S: Units 12S were variable plot cruised with a 40 BAF for conifers and a 33.61 BAF for hardwoods. A total of 48 plots were sampled on an eight and a half by four and a half chain spacing with a count to grade ratio of 2:1, resulting in 18 grade plots and 30 count plots.

Unit 2N: Unit 2N was variable plot cruised with a 33.61 BAF for conifers and for hardwoods. A total of 31 plots were sampled on a three by two chain spacing with a count to grade ratio of 2:1, resulting in 12 grade plots and 19 count plots.

*The reported number of grade plots vary from those indicated on the cruise map for U12S and U2N due to minor species being graded on one count plot.

Unit 3 (R/W): Right-of-Way consists of new spur roads and landings within Unit 2. Cruise data for Unit 3 was obtained from the U12S and 2N cruise and acreages have been adjusted accordingly.

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(s)	CRUISE	TRACT	TYPE	ACRES
Unit 12S	SK	U12S	00MC	151
Unit 2N	SK	U2N	00MC	16
Unit 3 (R/W)	SK	RW	00MC	2

6. Timber Description:

Units 12S are modified clearcuts with an average age of 65 years. The stands consist of Douglas-fir, with minor components of red alder, and western hemlock. The average take Douglas-fir is approximately 22 inches DBH and 78 feet to a merchantable top. The average take red alder is approximately 14 inches DBH and 42 feet to a merchantable top. The average take western hemlock is approximately 18 inches DBH and 67 feet to a merchantable top. Average net volume to be harvested per acre is 39 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 2N is a modified clearcut with an average age of 65 years. The stand consists of Douglas-fir, noble fir, western hemlock, and Sitka spruce. The average take Douglas-fir is approximately 15 inches DBH and 50 feet to a merchantable top. The average take western hemlock is approximately 16 inches DBH and 59 feet to a merchantable top. The average take noble fir is approximately 20 inches DBH and 59 feet to a merchantable top. The average take Sitka spruce is approximately 21 inches DBH and 35 feet to a merchantable top. Average

net volume to be harvested per acre is 31 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 3 (R/W) is similar to the timber description in Units 12S and 2N. Average net volume to be harvested per acre is 39 MBF.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Type	Estimated CV	Target SE%	Actual CV	Actual SE%
U12S	45.0%	8.0%	23.8%	3.4%
U2N	35.0%	8.0%	33.9%	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	20"	5,831	4,051	1,499	281	1.5%	90%
Western hemlock	18"	179	114	57	8	0.8%	3%
Noble fir	20"	30	9	19	2	0%	<1%
Sitka spruce*	21"	1	0	1	0	0%	<1%
TOTALS	--	6,041	4,174	1,576	291	--	--

*Only one Sitka spruce was observed during the cruise, average DBH of Sitka spruce may vary.

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	14"	396	54	85	106	151	0.9%	6%
TOTALS	--	396	54	85	106	151	--	--

TOTAL VOLUME **6,437 MBF**

9. Approvals:

Prepared by: John Czarnecki Date: 01/03/2024
Unit Forester Approval: J. Czarnecki Date: 2/23/2024

10. **Attachments:** Cruise Design and Map (3 pages)
Volume Report (4 pages)
Statistics Report (5 pages)
Log Stock Table (2 pages)
Stand Table Summary (2 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Shingle Knob

Units 1 & 2S

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 151 **Estimated CV%** 45 Net BF/Acre **SE% Objective** 8% Net BF/Acre

Planned Sale Volume: 6,182 MBF **Estimated Sale Area Value/Acre:** \$15,455/Acre

A. Cruise Goals: (a) Grade minimum 80 conifer trees.

(b) Sample 48 plots (18 grade/ 30 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(Confier) 40
BAF(Hardwood) 33.61

U12S:

Cruise Line Direction: 22°/202°
Cruise Line Spacing 8.5 (chains) 561 (feet)
Cruise Plot Spacing 4.5 (chains) 297 (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 < 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 $\frac{1}{2}$ " 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); SF (Silver fir); A (Red alder); M (Bleaf 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 ≥ 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: J. T. L.
Date: 12/20/23

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Shingle Knob

Unit 2N

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 17 **Estimated CV%** 35 Net BF/Acre **SE% Objective** 8% Net BF/Acre

Planned Sale Volume: 6,182 MBF **Estimated Sale Area Value/Acre:** \$15,455/Acre

A. Cruise Goals: (a) Grade minimum 70 conifer trees.

(b) Sample 31 plots (12 grade/ 19 count); (c) Other goals (____ Determine "automark" thinning standards; Determine log grades for sale value; ____ Determine snag and leave tree species and sizes.

B. Cruise Design:

1. **Plot Cruises:** BAF(Confier) 33.61
BAF(Hardwood) 33.61

U2N:

Cruise Line Direction: 11°/191°

Cruise Line Spacing 3 (chains) 198 (feet)

Cruise Plot Spacing 2 (chains) 132 (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.

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DO NOT: record snags < 12" DBH or record snag measurements on count plots.

C. Tree Measurements:

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All Maple Camp Run = R

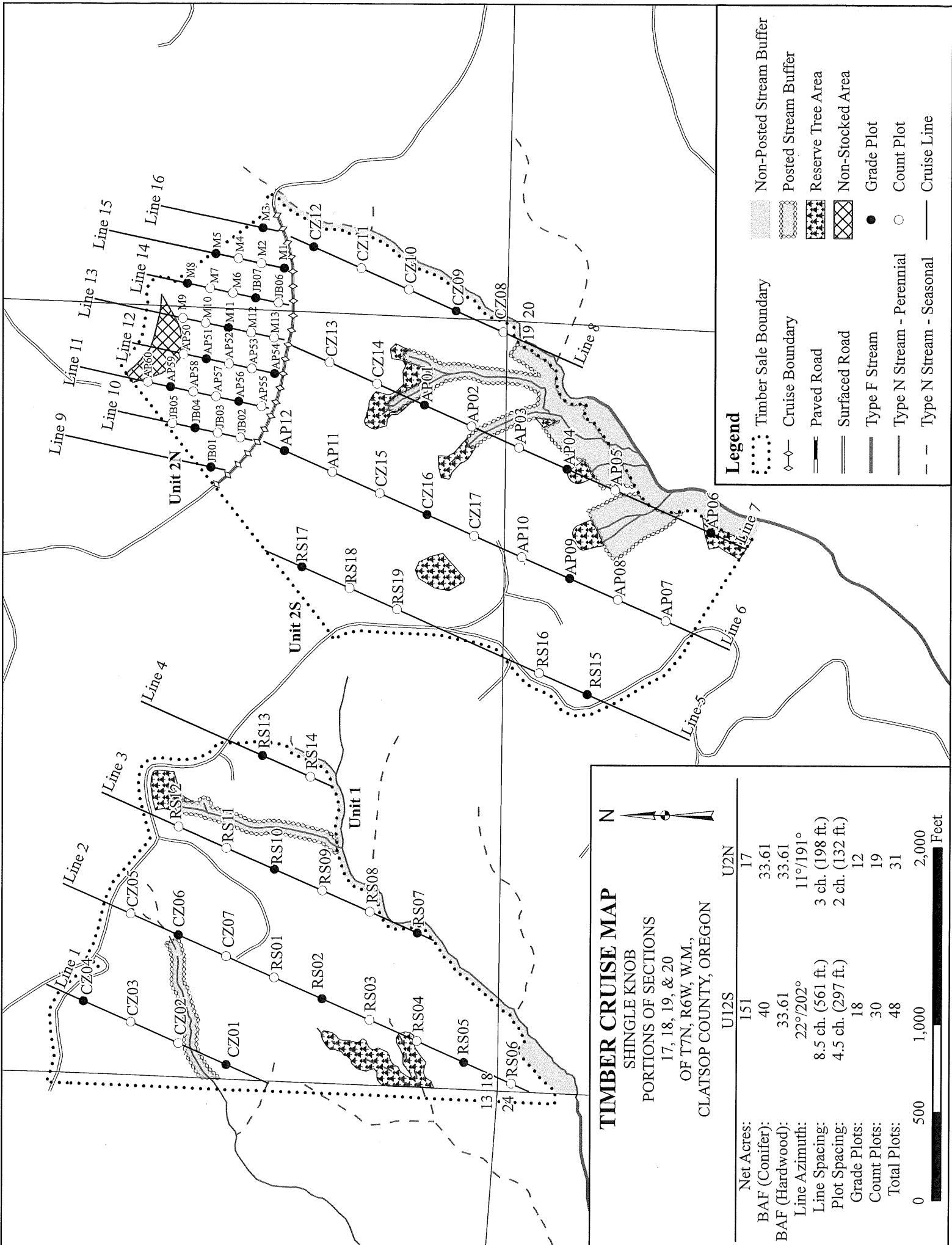
Grade oversized 3-SAW (DIB ≥ 12", knots > 2½" inside scaling cylinder affecting > 50% of log)

- 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.
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- 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: J. T. T. C.
Date: 12/20/2023

TIMBER CRUISE MAP
SHINGLE KNOB
PORTIONS OF SECTIONS
17, 18, 19, & 20
OF T7N, R6W, W.M.,
CLATSOP COUNTY, OREGON

	U12S	U2N
Net Acres:	151	17
BAF (Conifer):	40	33.61
BAF (Hardwood):	33.61	33.61
Line Azimuth:	22°/202°	11°/191°
Line Spacing:	8.5 ch. (561 ft.)	3 ch. (198 ft.)
Plot Spacing:	4.5 ch. (297 ft.)	2 ch. (132 ft.)
Grade Plots:	18	12
Count Plots:	30	19
Total Plots:	48	31
	500	1,000
Feet		2,000



TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S17 Ty00MC	2.00
T07N R06W S17 Ty00MC	151.00
T07N R06W S17 Ty00MC	16.00

Project: SK
Acres 169.00

Page 1
Date 1/3/2024
Time 12:30:22PM

Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross	Total Net MBF	Percent of Net Board Foot Volume							Average Log				Logs Per /Acre				
					Log Scale Dia.				Log Length			Ln	Dia	Bd	CF/					
					4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf				
A DO1S	13		320	320		54			100			100	40	13	240	1.71	1.3			
A DO2S	22	4.2	524	502		85		67	33			100	39	11	170	1.20	2.9			
A DO3S	26		625	625		106		100		14	17	69	31	8	78	0.82	8.1			
A DO4S	39		894	894		151		100		23	11	23	42	27	7	46	0.52	19.6		
A Totals	6	.9	2,364	2,342		396		79	21		13	9	9	70	30	8	73	0.75	31.9	
D DOCU																				
D DO2S	69	1.7	24,382	23,973		4,051		1	56	44		2	2	96	39	15	361	2.25	66.5	
D DO3S	26	.3	8,896	8,868		1,499		97	3		3	13	15	69	35	9	98	0.84	90.9	
D DO4S	5	4.4	1,737	1,660		281		0	98	2		52	42	6	22	7	30	0.51	54.6	
D Totals	91	1.5	35,015	34,501		5,831		0	30	39	30	3	7	6	84	32	10	160	1.30	215.4
H DOCU																				
H DO2S	63		673	673		114		57	43			100								
H DO3S	32	2.3	343	335		57		82	18		4	16	79		37	9	99	0.83	3.4	
H DO4S	5		45	45		8		100			65	35			19	8	37	0.61	1.2	
H Totals	3	.8	1,061	1,053	179	178		30	42	27	3	3	5	89	30	10	144	1.23	7.3	
NF DOCU																				
NF DO2S	30		53	53		9		100				100				39	9	0.00	.7	
NF DO3S	64		112	112		19		80	20		2	28		69	33	9	107	1.05	1.0	
NF DO4S	6		10	10		2		100			100				16	6	20	0.51	.5	
NF Totals	0		174	174	30	29		57	43		7	18		75	32	9	71	0.73	2.5	
S DO3S	100		3	3		1		100				100				34	8	70	1.47	.0
S Totals	0		3	3		1		100				100				34	8	70	1.47	.0
Totals			1.4	38,617	38,073	6,437	6,434	0	33	38	28	4	7	6	84	32	10	148	1.23	257.2

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page	1								
		Project: SK										Date	1/3/2024								
												Time	12:32:27PM								
T07N R06W S17 T00MC										T07N R06W S17 T00MC											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			CuFt	BdFt										
07N	06W	17	U2N	00MC	16.00	31	115			1	W										
Spp	S	So	Gr	% Net	Bd. Ft. per Acre	Total	Percent Net Board Foot Volume						Average Log	Logs Per /Acre							
	Spp	T	rt	ad	Def% Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D	DO	CU										9	9	0.00	7.2						
D	DO	2S	17	1.3	4,948	4,881	78	4	89	7		39	13	244	1.81	20.0					
D	DO	3S	69	.4	19,595	19,511	312	100			5	17	78	37	8	96	0.79	204.1			
D	DO	4S	14	1.1	4,000	3,954	63	0	100		55	43	2	20	6	25	0.45	158.6			
D Totals			92	.7	28,542	28,346	453	454	0	83	15	1	8	9	13	70	30	8	73	0.76	389.9
NF	DO	CU											39	9	0.00	7.0					
NF	DO	2S	30		561	561	9	100				100	40	12	200	1.60	2.8				
NF	DO	3S	64		1,179	1,179	19	80	20		2	28	69	33	9	107	1.05	11.0			
NF	DO	4S	6		102	102	2	100			100		16	6	20	0.51	5.1				
NF	Totals		6		1,842	1,842	30	29	57	43		7	18	75	32	9	71	0.73	25.9		
H	DO	3S	100		425	425	7	100			15	85	37	9	117	0.87	3.6				
H	Totals		1		425	425	7	100			15	85	37	9	117	0.87	3.6				
S	DO	3S	100		32	32	1	100			100		34	8	70	1.47	.5				
S	Totals		0		32	32	1	100			100		34	8	70	1.47	.5				
Type Totals				.6	30,840	30,645	491	490	0	82	17	1	7	10	13	70	30	8	73	0.76	419.9

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page	1									
		Project: SK										Date	1/3/2024									
												Time	12:32:06PM									
T07N R06W S17 T00MC																						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			CuFt	T07N R06W S17 T00MC											
07N	06W	17	U12S	00MC	151.00	48	112			1	BdFt											
Spp	S	So	Gr	% Net	Bd Ft. per Acre	Total	Percent Net Board Foot Volume						Average Log									
	T	rt	ad	BdFt	Def% Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Logs Per /Acre						
D	DO	CU										9	16	0.00	3.1							
D	DO	2S	73	1.7	26,415	25,970	3,921	1	55	44		39	15	364	2.26	71.3						
D	DO	3S	22	.3	7,777	7,755	1,171	97	3		4	15	15	67	34	9	98	0.86	79.1			
D	DO	4S	5	5.3	1,500	1,420	214	98	2		51	42		7	22	7	32	0.53	43.7			
D	Totals		90	1.5	35,692	35,145	5,306	5,307			26	41	33	3	6	5	86	33	11	178	1.41	197.2
A	DO	1S	13		354	354	53		100				100	40	13	240	1.71		1.5			
A	DO	2S	22	4.2	579	555	84	67	33			100	39	11	170	1.20		3.3				
A	DO	3S	26		690	690	104	100			14	17	69	31	8	78	0.82		8.9			
A	DO	4S	39		988	988	149	100			23	11	23	42	27	7	46	0.52		21.6		
A	Totals		7	.9	2,611	2,587	390	391			79	21		13	9	9	70	30	8	73	0.75	35.3
H	DO	CU												4	12		0.00		1.0			
H	DO	2S	66		743	743	112	57	43			100	40	16	387	2.24		1.9				
H	DO	3S	29	2.7	335	326	49	79	21		5	16	79	36	9	97	0.83		3.4			
H	DO	4S	5		50	50	8	100			65	35		19	8	37	0.61		1.4			
H	Totals		3	.8	1,128	1,119	169	28	44	28	3	3	5	89	30	11	146	1.25		7.7		
Type Totals				1.5	39,430	38,850	5,865	5,866			29	40	31	4	6	5	85	32	10	162	1.31	240.1

Species, Sort Grade - Board Foot Volumes (Type)											Page	1									
Project: SK											Date	1/3/2024									
											Time	12:32:48PM									
T07N R06W S17 T00MC											T07N R06W S17 T00MC										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			CuFt	BdFt										
07N	06W	17	R/W	00MC	2.00	48	112			1	W										
Spp	S	So	Gr	% Net	Bd. Ft. per Acre		Total	Percent Net Board Foot Volume					Average Log	Logs Per /Acre							
	T	rt	ad	BdFt	Def%	Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Bd	CF/Lf	
D	DO	CU															9	16	0.00	3.1	
D	DO	2S	73	1.7	26,415	25,970		52	1	55	44		2	2	96	39	15	364	2.26	71.3	
D	DO	3S	22	.3	7,777	7,755		16	97	3		4	15	15	67	34	9	98	0.86	79.1	
D	DO	4S	5	5.3	1,500	1,420		3	98	2		51	42	7	22	7	32	0.53	43.7		
D	Totals			90	1.5	35,692	35,145	71	70	26	41	33	3	6	5	86	33	11	178	1.41	197.2
A	DO	1S	13		354	354		1	100				100			40	13	240	1.71	1.5	
A	DO	2S	22	4.2	579	555		1	67	33			100			39	11	170	1.20	3.3	
A	DO	3S	26		690	690		1	100				14	17	69	31	8	78	0.82	8.9	
A	DO	4S	39		988	988		2	100				23	11	23	42	27	7	46	0.52	21.6
A	Totals			7	.9	2,611	2,587	5	79	21			13	9	9	70	30	8	73	0.75	35.3
H	DO	CU															4	12	0.00	1.0	
H	DO	2S	66		743	743		1	57	43			100			40	16	387	2.24	1.9	
H	DO	3S	29	2.7	335	326		1	79	21			5	16	79	36	9	97	0.83	3.4	
H	DO	4S	5		50	50		0	100				65	35		19	8	37	0.61	1.4	
H	Totals			3	.8	1,128	1,119	2	28	44	28		3	3	5	89	30	11	146	1.25	7.7
Type Totals					1.5	39,430	38,850	78	29	40	31		4	6	5	85	32	10	162	1.31	240.1

TC PSTATS				PROJECT STATISTICS					PAGE	1
				PROJECT	SK			DATE	1/3/2024	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
07N	06	17	R/W	00MC			169.00	127	920	1 W
07N	06W	17	U12S	00MC						
07N	06W	17	U2N	00MC						
				TREES			ESTIMATED TOTAL	PERCENT SAMPLE		
				PLOTS	TREES	PER PLOT	TREES	TREES		
TOTAL				127	920	7.2				
CRUISE				51	337	6.6	22,173		1.5	
DBH COUNT										
REFOREST										
COUNT				76	550	7.2				
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	279	102.7	20.2	72	50.7	227.8	35,002	34,488	9,129	9,129
R ALDER	32	23.6	13.7	42	6.5	24.1	2,364	2,342	706	706
NOB FIR	9	1.4	19.5	59	0.7	2.9	174	174	58	58
WHEMLOCK	16	3.5	18.3	66	1.5	6.3	1,061	1,053	271	271
S SPRUCE	1	.0	21.0	35	0.0	.1	3	3	2	2
TOTAL	337	131.2	19.1	66	59.8	261.2	38,604	38,060	10,165	10,165
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	87.2	5.2	387	408	430					
R ALDER	66.5	11.7	113	128	142					
NOB FIR	84.8	29.9	84	120	156					
WHEMLOCK	76.7	19.8	346	432	517					
TOTAL	92.4	5.0	355	374	393		341	85		38
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	106.6	9.5	93	103	112					
R ALDER	375.9	33.3	16	24	31					
NOB FIR	453.1	40.2	1	1	2					
WHEMLOCK	643.1	57.0	2	3	5					
S SPRUCE	1126.9	99.9	0	0	0					
TOTAL	107.0	9.5	119	131	144		457	114		51
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	114.5	10.2	205	228	251					
R ALDER	372.1	33.0	16	24	32					
NOB FIR	453.3	40.2	2	3	4					
WHEMLOCK	586.3	52.0	3	6	10					
S SPRUCE	1126.9	99.9	0	0	0					
TOTAL	107.9	9.6	236	261	286		465	116		52
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	121.1	10.7	30,786	34,488	38,191					
R ALDER	364.1	32.3	1,586	2,342	3,098					
NOB FIR	477.0	42.3	101	174	248					
WHEMLOCK	622.1	55.2	472	1,053	1,634					
S SPRUCE	1126.9	99.9	0	3	6					
TOTAL	116.6	10.3	34,127	38,060	41,994		543	136		60

TC PSTATS

PROJECT STATISTICS
PROJECT SKPAGE **2**
DATE **1/3/2024**

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06	17	R/W	00MC	169.00	127	920	1	W
07N	06W	17	U12S	00MC					
07N	06W	17	U2N	00MC					

STATISTICS								PAGE	1
PROJECT SK								DATE	1/3/2024
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	17	U12S	00MC	151.00	48	312	1	W
				TREES		ESTIMATED TOTAL	PERCENT SAMPLE		
PLOTS		TREES		PER PLOT		TREES	TREES		
TOTAL	48	312		6.5					
CRUISE	19	111		5.8		17,807		.6	
DBH COUNT									
REFOREST									
COUNT	29	191		6.6					
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	88	88.3	21.5	78	47.9	221.7	35,678	35,130	9,165
R ALDER	16	26.0	13.7	42	7.2	26.6	2,611	2,587	780
WHEMLOCK	7	3.6	18.4	67	1.6	6.7	1,128	1,119	287
TOTAL	111	117.9	19.9	70	57.1	254.9	39,416	38,836	10,232
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	66.3	7.1	517	556	595				
R ALDER	67.6	17.4	105	128	150				
WHEMLOCK	75.2	30.6	325	469	612				
TOTAL	76.0	7.2	454	489	524		231	58	26
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	46.5	6.7	82	88	94				
R ALDER	222.0	32.0	18	26	34				
WHEMLOCK	423.8	61.1	1	4	6				
TOTAL	40.5	5.8	111	118	125		65	16	7
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	34.5	5.0	211	222	233				
R ALDER	219.5	31.7	18	27	35				
WHEMLOCK	378.1	54.5	3	7	10				
TOTAL	20.7	3.0	247	255	263		17	4	2
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.	INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	Avg	HIGH		5	10	15
DOUG FIR	33.0	4.8	33,461	35,130	36,800				
R ALDER	214.2	30.9	1,788	2,587	3,386				
WHEMLOCK	397.8	57.4	477	1,119	1,761				
TOTAL	23.8	3.4	37,503	38,836	40,169		23	6	3

STATISTICS								PAGE	1
PROJECT				SK		DATE		1/3/2024	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	17	U2N	00MC	16.00	31	296	1	W
				TREES		ESTIMATED TOTAL		PERCENT SAMPLE	
PLOTS		TREES		PER PLOT		TREES		TREES	
TOTAL	31	296	9.5						
CRUISE	13	115	8.8		4,131			2.8	
DBH COUNT									
REFOREST									
COUNT	18	168	9.3						
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	103	240.7	14.8	50	74.5	286.2	28,542	28,346	8,783
NOB FIR	9	14.6	19.5	59	6.9	30.4	1,842	1,842	607
WHEMLOCK	2	2.4	15.7	59	0.8	3.3	425	425	119
S SPRUCE	1	.5	21.0	35	0.2	1.1	32	32	23
TOTAL	115	258.2	15.1	51	82.6	320.9	30,840	30,645	9,531
CONFIDENCE LIMITS OF THE SAMPLE									
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	67.5	6.6	145	156	166				
NOB FIR	84.8	29.9	84	120	156				
WHEMLOCK	44.4	41.6	102	175	248				
TOTAL	68.3	6.4	143	152	162		186	47	21
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	42.5	7.6	222	241	259				
NOB FIR	208.7	37.5	9	15	20				
WHEMLOCK	310.7	55.8	1	2	4				
S SPRUCE	556.8	99.9	0	0	1				
TOTAL	31.4	5.6	244	258	273		39	10	4
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	40.4	7.3	265	286	307				
NOB FIR	208.8	37.5	19	30	42				
WHEMLOCK	310.6	55.7	1	3	5				
S SPRUCE	556.8	99.9	0	1	2				
TOTAL	23.7	4.3	307	321	335		22	6	2
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	44.9	8.1	26,063	28,346	30,630				
NOB FIR	221.6	39.8	1,109	1,842	2,574				
WHEMLOCK	323.7	58.1	178	425	672				
S SPRUCE	556.8	99.9	0	32	63				
TOTAL	33.9	6.1	28,782	30,645	32,507		46	11	5

STATISTICS								PAGE	1
PROJECT SK								DATE	1/3/2024
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	17	R/W	00MC	2.00	48	312	1	W
				TREES		ESTIMATED TOTAL	PERCENT SAMPLE		
PLOTS		TREES		PER PLOT		TREES	TREES		
TOTAL	48	312		6.5					
CRUISE	19	111		5.8		236		47.1	
DBH COUNT									
REFOREST									
COUNT	29	191		6.6					
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	88	88.3	21.5	78	47.9	221.7	35,678	35,130	9,165
R ALDER	16	26.0	13.7	42	7.2	26.6	2,611	2,587	780
WHEMLOCK	7	3.6	18.4	67	1.6	6.7	1,128	1,119	287
TOTAL	111	117.9	19.9	70	57.1	254.9	39,416	38,836	10,232
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	66.3	7.1	517	556	595				
R ALDER	67.6	17.4	105	128	150				
WHEMLOCK	75.2	30.6	325	469	612				
TOTAL	76.0	7.2	454	489	524	231	58	26	
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	46.5	6.7	82	88	94				
R ALDER	222.0	32.0	18	26	34				
WHEMLOCK	423.8	61.1	1	4	6				
TOTAL	40.5	5.8	111	118	125	65	16	7	
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	34.5	5.0	211	222	233				
R ALDER	219.5	31.7	18	27	35				
WHEMLOCK	378.1	54.5	3	7	10				
TOTAL	20.7	3.0	247	255	263	17	4	2	
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	Avg	HIGH	5	10	15	
DOUG FIR	33.0	4.8	33,461	35,130	36,800				
R ALDER	214.2	30.9	1,788	2,587	3,386				
WHEMLOCK	397.8	57.4	477	1,119	1,761				
TOTAL	23.8	3.4	37,503	38,836	40,169	23	6	3	

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S17 Ty00MC	2.00
T07N R06W S17 Ty00MC	151.00
T07N R06W S17 Ty00MC	16.00

Project: SK
Acres 169.00

Page 1
Date 1/3/2024
Time 11:53:53AM

Spp	So T	Gr rt	Log de Len	Gross MBF	Def %	Net MBF	% Spec	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
A	DO	1S	40	54		54	13.7					54						
A	DO	2S	36	28		28	7.2					28						
A	DO	2S	40	60	6.1	56	14.3					56						
A	DO	3S	16	3		3	.7					3						
A	DO	3S	20	12		12	3.0					12						
A	DO	3S	30	18		18	4.4					5	12					
A	DO	3S	36	48		48	12.2					48						
A	DO	3S	40	25		25	6.3					25						
A	DO	4S	16	24		24	6.2					24						
A	DO	4S	20	11		11	2.8					11						
A	DO	4S	24	16		16	4.1					16						
A	DO	4S	32	35		35	9.0					35						
A	DO	4S	36	43		43	10.8					43						
A	DO	4S	40	21		21	5.4					21						
A	Totals			399		396	6.2			135	122	56	83					
D	DO	2S	24	16		16	.3							16				
D	DO	2S	28	31	3.6	30	.5						15		15			
D	DO	2S	30	32		32	.6						14		19			
D	DO	2S	32	101		101	1.7						74		3	24		
D	DO	2S	36	17		17	.3						17					
D	DO	2S	40	3,922	1.7	3,855	66.1						25	658	958	1553	547	113
D	DO	3S	16	4		4	.1						4					
D	DO	3S	18	7		7	.1						7					
D	DO	3S	20	32		32	.6						23		9			
D	DO	3S	24	70		70	1.2						8	10	51			
D	DO	3S	26	45	2.8	43	.7						2	10	31			
D	DO	3S	28	11		11	.2								11			
D	DO	3S	30	67		67	1.2						5	3	59			
D	DO	3S	32	221		221	3.8						19	81	121			
D	DO	3S	34	9		9	.2						9					
D	DO	3S	36	155		155	2.7						94	22	38			
D	DO	3S	38	51		51	.9						42		8			
D	DO	3S	40	831		828	14.2						169	90	530	39		
D	DO	4S	12	1		1	.0						1					
D	DO	4S	14	1		1	.0						1					

TC PLOGSTVB

Log Stock Table - MBF

T07N R06W S17 Ty00MC	2.00
T07N R06W S17 Ty00MC	151.00
T07N R06W S17 Ty00MC	16.00

Project: SK
Acres 169.00

Page 2
Date 1/3/2024
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Spp	So T	Gr rt	Log de	Gross Len	Def %	Net MBF	% Spec	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
D	DO	4S	16	56		56	1.0			43	13						
D	DO	4S	18	20		20	.3			16	4						
D	DO	4S	20	68		68	1.2		0	47	20						
D	DO	4S	24	49		49	.8			41	8						
D	DO	4S	26	14		14	.2			14							
D	DO	4S	28	30	40.4	18	.3			13			5				
D	DO	4S	30	38		38	.6			38							
D	DO	4S	36	17	4.3	16	.3			16							
D	Totals			5,918	1.5	5,831	90.6		0	579	295	886	822	996	1592	547	113
H	DO	2S	36	10		10	5.4							10			
H	DO	2S	40	104		104	58.5							56	23	26	
H	DO	3S	30	3		3	1.4			3							
H	DO	3S	32	1		1	.6			1							
H	DO	3S	34	10	14.3	8	4.6				8						
H	DO	3S	36	18		18	10.0					18					
H	DO	3S	40	27		27	15.2			11	2	4	10				
H	DO	4S	16	3		3	1.8			2	1						
H	DO	4S	20	2		2	1.0				2						
H	DO	4S	24	3		3	1.5			3							
H	Totals			179		178	2.8			19	14	21	10	65	23	26	
NF	DO	2S	40	9		9	30.5							9			
NF	DO	3S	16	0		0	1.5			0							
NF	DO	3S	28	2		2	5.5			2							
NF	DO	3S	30	4		4	12.6					4					
NF	DO	3S	40	13		13	44.4			2		11					
NF	DO	4S	16	2		2	5.5			2							
NF	Totals			29		29	.5			6		11	13				
S	DO	3S	34	1		1	100.0				1						
S	Totals			1		1	.0			1							
Total	All Species			6,526	1.4	6,434	100.0		0	739	431	975	927	1062	1615	573	113

TC	PSTNDSUM	Stand Table Summary										Page 2			
												Date: 1/3/2024			
T07N R06W S17 Ty00MC	2.00	Project SK										Time: 11:58:59AM			
T07N R06W S17 Ty00MC	151.00	Acres 169.00										Grown Year:			
T07N R06W S17 Ty00MC	16.00														
S Spc T	Tot Sample DBH Trees FF 16' Av Ht				Trees/ Acre BA/ Acre Logs Acre			Average Log Net Net Cu.Ft. Bd.Ft.		Net Tons/Acre	Net Cu.Ft./Acre	Net Bd.Ft./Acre	Totals Tons Cunits MBF		
NF	Totals	9	84	73	1.384	2.87	1.79	32.1	97.3	58	174		97	29	
S	21	1	79	44	.043	.10	.04	50.0	70.0	2	3		4	1	
S	Totals	1	79	44	.043	.10	.04	50.0	70.0	2	3		4	1	
Totals		337	85	89	131.203	261.19	252.08	40.3	151.0	10,167	38,073		17,182	6,434	

LOGGING PLAN MAP

OF TIMBER SALE CONTRACT N
NO. AT-341-2024-W00870-01
SHINGLE KNOB
PORTIONS OF SECTIONS
17, 18, 19 & 20
OF T7N, R6W, W.M.
CLATSOP COUNTY, OREGON

Logging Breakdown

Unit	Tractor	Cable	Acres
Unit 1	8%	92%	65
Unit 2	9%	91%	102
Unit 3 (R/W)	100%	0%	2
Total	10%	90%	169
0	500	1,000	2,000

1 inch = 1,000 feet

Legend

- Ownership Boundary
- Timber Sale Boundary
- Paved Road
- Surfaced Road
- - New Road Construction - Surfaced
- - New Road Construction - Unsurfaced
- Existing Landing
- ◎ Landing To Be Constructed
- Type F Stream
- Type N Stream - Perennial
- - Type N Stream - Seasonal
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Non-Stocked Area
- Controlled Felling
- // Reforestation Area
- Cable Based Yarding
- Ground Based Yarding
- ◆ Survey Monument

