



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Six Cedars
Sale fg-341-2020-w00240-01

District: Forest Grove

Date: October 28, 2019

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,392,617.10	\$13,463.94	\$2,406,081.04
		Project Work:	\$0.00
		Advertised Value:	\$2,406,081.04



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Timber Description

Location: Portions of Sections 13 and 14, T1N, R6W, W.M., Tillamook, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	21	0	98
Western Hemlock / Fir	24	0	98
Alder (Red)	25	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	4,030	1,210	0	5,240
Western Hemlock / Fir	88	27	0	115
Alder (Red)	0	0	42	42
Total	4,118	1,237	42	5,397

Comments: LOCAL POND VALUES USED, AUGUST 2019

WESTERN REDCEDAR AND OTHER CEDARS:
STUMPAGE PRICE = POND VALUE- LOGGING COST
 $\$765.91/\text{MBF} = \$968/\text{MBF} - \$202.09/\text{MBF}$

BRANDING AND PAINTING ALLOWANCE = $\$2.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{GAL}$

HAULING COST ALLOWANCE = $\$950$ DAILY TRUCK COST

OTHER COSTS (PROFIT & RISK TO BE ADDED):

NON PROJECT ROAD:

5STA @ $\$200/\text{STA} = \$1,000$

30LF 18" CULVERT @ $\$20/\text{LF} = \600

MOVE IN EXCAVATOR = $\$600$

TOTAL OTHER COSTS (PROFIT & RISK TO BE ADDED) = $\$2,200$

OTHER COSTS (NO PROFIT & RISK TO BE ADDED):

EQUIPMENT CLEANING:

4 PIECES @ $\$1,000/\text{PIECE} = \$4,000$

MACHINE TIME TO PILE LANDING SLASH:

20HRS @ $\$150/\text{HR} = \$3,000$

SLASH TREATMENT:

50AC @ $\$200/\text{AC} = \$10,000$

HAZARD TREE FELLING:

16 TREES @ $\$25/\text{TREE} = \400

TOTAL OTHER COSTS (NO P&R) = $\$17,400$

MOVE IN : $\$3,000$

ROAD MAINTENANCE: 7.6 MILES @ $\$1,200/\text{MI} = \$9,120$

TOTAL: $\$12,120/5,397\text{MBF} = \$2.24/\text{MBF}$



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Logging Conditions

Combination#: 1	Douglas - Fir	100.00%
	Western Hemlock / Fir	100.00%
	Alder (Red)	100.00%
Logging System:	Shovel	Process: Feller Buncher
yarding distance:	Medium (800 ft)	downhill yarding: No
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF	
loads / day:	10	bd. ft / load: 4800
cost / mbf:	\$73.71	
machines:	Feller Buncher w/ Delimber	



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Logging Costs

Operating Seasons: 2.00

Profit Risk: 10%

Project Costs: \$0.00

Other Costs (P/R): \$2,200.00

Slash Disposal: \$0.00

Other Costs: \$17,400.00

Miles of Road

Road Maintenance: \$2.24

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	4.8
Alder (Red)	\$0.00	2.0	4.8



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Timber Sale Appraisal Six Cedars Sale fg-341-2020-w00240-01

District: Forest Grove

Date: October 28, 2019

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$73.71	\$2.28	\$1.63	\$100.94	\$0.41	\$17.90	\$0.00	\$2.00	\$3.22	\$202.09
Western Hemlock / Fir									
\$73.71	\$2.28	\$1.63	\$100.94	\$0.41	\$17.90	\$0.00	\$2.00	\$3.22	\$202.09
Alder (Red)									
\$73.71	\$2.35	\$1.63	\$103.91	\$0.41	\$18.20	\$0.00	\$2.00	\$3.22	\$205.43

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$650.76	\$448.67	\$0.00
Western Hemlock / Fir	\$0.00	\$563.71	\$361.62	\$0.00
Alder (Red)	\$0.00	\$526.00	\$320.57	\$0.00



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Six Cedars
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District: Forest Grove

Date: October 28, 2019

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	5,240	\$448.67	\$2,351,030.80
Western Hemlock / Fir	115	\$361.62	\$41,586.30
Alder (Red)	42	\$320.57	\$13,463.94

Gross Timber Sale Value

Recovery: \$2,406,081.04

Prepared By: Nate Hunter

Phone: 503-359-7434

TIMBER SALE SUMMARY
Six Cedars
FG-341-2020-W00240-01

1. **Location:** Portions of Sections 13 & 14, T1N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is 113 net acres of Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Tillamook County; Tax Code 9-2.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in September of 2019.
6. **Timber Description:** The Timber Sale Area consists of a well stocked 65-year-old Douglas-fir stand with minor amounts of western hemlock, noble fir and red alder. The stand has an average of 230 ft² of basal area (all species), an average Douglas-fir DBH of 21 inches and an estimated average net Douglas-fir volume of approximately 46.4 MBF per acre.
7. **Volume Summary:**

SALE TOTAL

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir		4,030	926	284	0	5,240
Western hemlock		61	12	4	0	77
Noble fir		27	10	1	0	38
Red alder		0	0	0	49	42
NET TOTAL						5,397

8. **Topography and Logging Method:** Slopes within the sale areas range from 0% to 40%, with a western aspect. The timber sale is 100% ground-based. The average horizontal skid trail length is 600'.
9. **Access:** From the Forest Grove District Office, travel north 8.5 miles on Highway 8 to its junction with Highway 6 and turn left. Continue west on Highway 6 for 9.4 miles and turn left on the Beaverdam Road. Proceed south on the Beaverdam Road 6.4 miles to the western boundary of the Timber Sale Area.

CRUISE REPORT
Six Cedars
FG-341-2020-W00240-01

1. LOCATION:

Portions of sections 13 and 14, T1N, R6W, W.M. Tillamook County, Oregon.

2. CRUISE DESIGN:

The cruise was designed using an estimated coefficient of variation (CV) of 55%, average stand diameter of 20 inches, sampling error (SE) of 10% and a minimum of 100 grade trees.

3. SAMPLING METHOD:

The Timber Sale Area was cruised in September of 2019 with 18 variable radius grade plots and 19 count plots using a 40 BAF prism. Plots were laid out on a 5 chain x 6 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

101 trees were measured and graded producing a cumulative SE of 5.6% on the Basal Area and 5.9% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following the Official Log Scaling and Grading Rules as adopted by the NW Log Rules Advisory Group. 40 foot segments were favored.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING:

- a) **Volumes and Statistics,** Cruise estimates and sampling statistics, were derived from Super Ace 2008 cruise software.
- b) **Deductions:** For conifers, two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage. For hardwoods, five percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. CRUISERS: The sale was cruised by Kenton Burns, Mark Savage, Adrian Torres and Nate Hunter.

Prepared by: Nate Hunter 9-5-19

Reviewed by: Erik Marcy 9-20-19
Erik Marcy Date

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT 6CEDARWO							DATE	9/5/2019	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
01N	06	13	6CEDARS	0001	113.00	37	213	S	W		
01N	06W	13	6CEDARS	00A2							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			37	213	5.8			TOTAL			
CRUISE			19	101	5.3	10,911	.9				
DBH COUNT											
REFOREST											
COUNT			18	110	6.1						
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		97	94.3	20.8	117	48.9	223.4	47,539	47,326	9,899	9,899
WHEMLOCK		2	1.0	23.4	122	0.6	3.1	689	689	142	142
NOB FIR		1	.6	25.0	121	0.4	2.1	348	348	86	86
R ALDER		1	.6	25.0	96	0.4	2.1	390	354	77	77
TOTAL		101	96.6	20.9	117	50.4	230.6	48,966	48,717	10,204	10,204
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		54.8	5.9	805	855	905					
WHEMLOCK		3.2	3.0	635	655	675					
NOB FIR											
R ALDER											
TOTAL		54.6	5.7	796	844	893		119	30	13	
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR		44.4	4.8	163	172	180					
WHEMLOCK		1.0	1.0	134	136	137					
NOB FIR											
R ALDER											
TOTAL		44.1	4.6	162	170	178		78	19	9	
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		47.5	7.8	87	94	102					
WHEMLOCK		343.3	56.4	0	1	2					
NOB FIR		424.1	69.7	0	1	1					
R ALDER		424.1	69.7	0	1	1					
TOTAL		45.7	7.5	89	97	104		84	21	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		34.1	5.6	211	223	236					
WHEMLOCK		341.3	56.1	1	3	5					
NOB FIR		424.1	69.7	1	2	4					
R ALDER		424.1	69.7	1	2	4					
TOTAL		31.4	5.2	219	231	243		39	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		33.6	5.5	44,713	47,326	49,940					
WHEMLOCK		344.1	56.5	299	689	1,078					
NOB FIR		424.1	69.7	105	348	590					
R ALDER		424.1	69.7	107	354	600					

TC PSTATS					PROJECT STATISTICS					PAGE	2
					PROJECT 6CEDARWO					DATE	9/5/2019
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt	
01N	06	13	6CEDARS	0001	113.00		37	213	S	W	
01N	06W	13	6CEDARS	00A2							
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
TOTAL			30.6	5.0	46,269	48,717	51,165	37	9	4	
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR			34.3	5.6	9,341	9,899	10,457				
WHEMLOCK			343.1	56.4	62	142	222				
NOB FIR			424.1	69.7	26	86	146				
R ALDER			424.1	69.7	23	77	130				
TOTAL			31.4	5.2	9,677	10,204	10,731	39	10	4	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																			
<div>T01N R06W S13 Ty000194.00</div> <div>T01N R06W S13 Ty00A219.00</div>				Project: 6CEDARWO				Acres 113.00				Page 1				Date 9/5/2019				Time 7:21:02AM			
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			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						
DF			CU														11	17		0.00	1.3		
DF			2M	76	.4	36,523	36,390	4,112			47	53		14	19	68	37	16	364	1.92	100.0		
DF			3M	18	.6	8,416	8,363	945		91	9		1		9	90	38	9	112	0.76	74.8		
DF			4M	6	1.0	2,600	2,574	291		100			35	20	7	38	22	6	34	0.43	76.1		
DF	Totals			97	.4	47,539	47,326	5,348		22	38	41	2	12	16	70	33	11	188	1.21	252.1		
WH			2M	79		546	546	62			20	80		30		70	35	16	363	1.95	1.5		
WH			3M	15		106	106	12		100						100	40	11	180	1.12	.6		
WH			4M	6		36	36	4		100				100			24	6	34	0.50	1.0		
WH	Totals			1		689	689	78		21	16	63		29		71	32	12	219	1.40	3.1		
RA			R	100	9.4	390	354	40			28	72			100		32	16	290	1.97	1.2		
RA	Totals			1	9.4	390	354	40			28	72			100		32	16	290	1.97	1.2		
NF			2M	70		244	244	28			100					100	40	16	400	2.40	.6		
NF			3M	26		92	92	10		100						100	40	10	150	0.97	.6		
NF			4M	4		12	12	1		100			100				16	6	20	0.37	.6		
NF	Totals			1		348	348	39		30	70		4			96	32	11	190	1.47	1.8		
Totals					0.5	48,966	48,717	5,505		21	38	41	2	12	17	70	33	11	189	1.21	258.3		

TC PLOGSTVB			Log Stock Table - MBF																
<div>T01NR06W S13 Ty000194.00</div> <div>T01NR06W S13 Ty00A219.00</div>				Project: 6CEDARWO Acres 113.00										Page 1 Date 9/5/2019 Time 7:21:02AM					
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+
DF		2M	24	557		557	10.4						42	98	306	84	28		
DF		2M	32	771		768	14.4					71	42	273	103	279			
DF		2M	36	264		262	4.9					135		102	25				
DF		2M	40	2,535		2,525	47.2					573	829	901	221				
DF		3M	16	9		9	.2					9							
DF		3M	32	90	4.0	86	1.6			33	18	7		28					
DF		3M	36	157		157	2.9			48	56	21		32					
DF		3M	40	695		693	13.0			113	188	376	16						
DF		4M	16	68		68	1.3			68									
DF		4M	18	35		35	.7			35									
DF		4M	24	59		59	1.1			59									
DF		4M	32	19		19	.4			19									
DF		4M	36	43	6.9	40	.7			26		14							
DF		4M	40	70		70	1.3			28	16	26							
DF		Totals		5,372		5,348	97.1			429	278	444	805	940	1406	655	363	28	
WH		2M	24	19		19	23.9							19					
WH		2M	40	43		43	55.4						12	31					
WH		3M	40	12		12	15.4					12							
WH		4M	24	4		4	5.2			4									
WH		Totals		78		78	1.4			4		12	12	49					
RA		R	32	44	9.4	40	100.0					11		29					
RA		Totals		44	9.4	40	.7					11		29					
NF		2M	40	28		28	70.2							28					
NF		3M	40	10		10	26.3					10							
NF		4M	16	1		1	3.5			1									
NF		Totals		39		39	.7			1		10		28					
Total		All Species		5,533		5,505	100.0			435	278	466	828	940	1512	655	363	28	

TC PSTNDSUM		Stand Table Summary											Page 1			
													Date: 9/5/2019			
<div>T01N R06W S13 Ty0001 94.00</div> <div>T01N R06W S13 Ty00A2 19.00</div>					Project 6CEDARWO					Time: 7:07:08AM						
					Acres 113.00					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	
DF	8	1	89	42	6.026	2.10	6.03	3.7	20.0	.64	22	121	72	25	14	
DF	11	2	88	91	6.375	4.21	12.75	8.8	37.5	3.18	112	478	360	126	54	
DF	12	1	84	62	2.678	2.10	2.68	15.4	60.0	1.18	41	161	133	47	18	
DF	13	2	89	92	4.564	4.21	9.13	13.7	60.0	3.56	125	548	402	141	62	
DF	15	1	88	91	1.714	2.10	3.43	18.9	75.0	1.85	65	257	209	73	29	
DF	17	6	90	115	12.910	20.35	25.82	31.8	132.9	23.42	822	3,432	2,647	929	388	
DF	18	2	89	113	2.381	4.21	5.95	28.0	116.0	4.74	166	690	536	188	78	
DF	19	5	88	126	5.342	10.52	16.03	26.0	114.7	11.88	417	1,838	1,343	471	208	
DF	20	8	89	124	7.714	16.83	23.14	31.5	141.7	20.79	729	3,278	2,349	824	370	
DF	21	8	87	128	6.996	16.83	20.99	35.1	159.2	21.02	737	3,341	2,375	833	378	
DF	22	10	89	129	9.432	24.90	29.09	38.3	179.2	31.73	1,113	5,214	3,586	1,258	589	
DF	23	3	86	131	2.857	8.24	8.57	41.3	184.0	10.08	354	1,577	1,139	400	178	
DF	24	10	88	138	7.311	22.97	22.60	48.0	225.3	30.90	1,084	5,092	3,492	1,225	575	
DF	25	4	87	142	2.468	8.41	8.02	51.4	248.5	11.75	412	1,993	1,327	466	225	
DF	26	4	87	140	2.282	8.41	7.42	55.7	270.8	11.77	413	2,008	1,330	467	227	
DF	27	5	89	141	2.645	10.52	8.46	60.5	288.7	14.59	512	2,444	1,648	578	276	
DF	28	3	88	146	1.476	6.31	5.90	53.2	284.2	8.95	314	1,678	1,012	355	190	
DF	29	3	87	135	1.797	8.24	6.73	55.2	279.9	10.58	371	1,883	1,195	419	213	
DF	30	5	89	141	2.143	10.52	7.71	67.8	357.2	14.91	523	2,755	1,685	591	311	
DF	31	2	87	142	.803	4.21	3.21	62.4	327.5	5.71	200	1,051	645	226	119	
DF	32	4	87	149	1.852	10.35	7.41	68.7	373.5	14.52	509	2,768	1,640	576	313	
DF	33	4	89	150	1.417	8.41	5.31	82.3	452.0	12.47	437	2,401	1,409	494	271	
DF	34	1	90	151	.334	2.10	1.33	84.0	475.0	3.19	112	634	361	127	72	
DF	36	1	83	143	.298	2.10	1.19	80.9	432.5	2.74	96	515	310	109	58	
DF	38	1	89	150	.267	2.10	1.07	104.7	557.5	3.19	112	596	360	126	67	
DF	43	1	90	138	.209	2.10	.83	116.7	687.5	2.77	97	574	314	110	65	
DF	Totals	97	88	117	94.289	223.36	250.81	39.5	188.7	282.12	9,899	47,326	31,879	11,186	5,348	
WH	22	1	94	129	.591	1.56	1.77	44.9	223.3	2.55	80	396	288	90	45	
WH	25	1	85	112	.458	1.56	1.37	45.5	213.3	2.00	63	293	226	71	33	
WH	Totals	2	90	122	1.048	3.12	3.15	45.2	219.0	4.55	142	689	514	161	78	
RA	25	1	93	96	.610	2.08	1.22	62.9	290.0	2.11	77	354	239	87	40	
RA	Totals	1	93	96	.610	2.08	1.22	62.9	290.0	2.11	77	354	239	87	40	
NF	25	1	84	121	.610	2.08	1.83	47.0	190.0	2.06	86	348	233	97	39	
NF	Totals	1	84	121	.610	2.08	1.83	47.0	190.0	2.06	86	348	233	97	39	
Totals		101	88	117	96.558	230.64	257.01	39.7	189.6	290.84	10,204	48,717	32,865	11,530	5,505	

TC PSTATS		PROJECT STATISTICS							PAGE	1
		PROJECT 6CEDARWO							DATE	9/30/2019
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
01N	06	13	6CEDARS	0001	94.00	32	183	S	W	

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES	
TOTAL	32	183	5.7			
CRUISE	17	91	5.4	8,924	1.0	
DBH COUNT REFOREST COUNT	15	90	6.0			
BLANKS 100 %						

AREA 1

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	87	92.2	20.9	115	48.1	220.0	47,582	47,327	9,786	9,786
WHEMLOCK	2	1.3	23.4	122	0.8	3.8	828	828	171	171
NOB FIR	1	.7	25.0	121	0.5	2.5	418	418	103	103
R ALDER	1	.7	25.0	96	0.5	2.5	469	425	92	92
TOTAL	91	94.9	21.0	115	49.9	228.8	49,298	48,998	10,153	10,153

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		58.8	6.5	792	847	902			
WHEMLOCK		3.2	3.0	635	655	675			
NOB FIR									
R ALDER									
TOTAL		58.4	6.3	783	836	889	136	34	15

CL	68.1	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR		49.2	5.5	160	169	178			
WHEMLOCK		1.0	1.0	134	136	137			
NOB FIR									
R ALDER									
TOTAL		48.7	5.3	159	167	176	95	24	11

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		47.4	8.4	84	92	100			
WHEMLOCK		317.8	56.1	1	1	2			
NOB FIR		393.5	69.5	0	1	1			
R ALDER		393.5	69.5	0	1	1			
TOTAL		45.6	8.1	87	95	103	83	21	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		33.0	5.8	207	220	233			
WHEMLOCK		315.9	55.8	2	4	6			
NOB FIR		393.5	69.5	1	3	4			
R ALDER		393.5	69.5	1	3	4			
TOTAL		30.2	5.3	217	229	241	36	9	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		34.2	6.0	44,467	47,327	50,187			
WHEMLOCK		318.5	56.3	362	828	1,294			
NOB FIR		393.5	69.5	127	418	709			
R ALDER		393.5	69.5	130	425	721			

TC PSTATS			PROJECT STATISTICS					PAGE	2	
			PROJECT		6CEDARWO			DATE	9/30/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
01N	06	13	6CEDARS	0001		94.00	32	183	S	W
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL			30.9	5.5	46,324	48,998	51,673	38	10	4
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR			33.9	6.0	9,200	9,786	10,373			
WHEMLOCK			317.6	56.1	75	171	267			
NOB FIR			393.5	69.5	32	103	175			
R ALDER			393.5	69.5	28	92	156			
TOTAL			30.9	5.5	9,599	10,153	10,706	38	10	4

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1							
Project: 6CEDARWO										Date 9/5/2019									
										Time 7:37:14AM									
T01N R06W S13 T0001										T01N R06W S13 T0001									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
01N	06W	13	6CEDARS	0001	94.00	32	91	S	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		
DF		CU													11	17		0.00	1.5
DF		2M	76	.4	36,372	36,211	3,404		40	60		14	21	65	36	16	386	2.03	93.9
DF		3M	18	.7	8,548	8,484	797	89	11		1		11	88	37	9	116	0.78	73.0
DF		4M	6	1.2	2,663	2,632	247	100			37	24	8	31	22	6	32	0.42	81.6
DF	Totals		97	.5	47,582	47,327	4,449	22	33	46	2	12	18	67	32	11	189	1.23	250.0
WH		2M	79		657	657	62		20	80		30		70	35	16	363	1.95	1.8
WH		3M	15		128	128	12	100						100	40	11	180	1.12	.7
WH		4M	6		43	43	4	100				100			24	6	34	0.50	1.3
WH	Totals		2		828	828	78	21	16	63		29		71	32	12	219	1.40	3.8
RA		R	100	9.4	469	425	40		28	72			100		32	16	290	1.97	1.5
RA	Totals		1	9.4	469	425	40		28	72			100		32	16	290	1.97	1.5
NF		2M	70		293	293	28		100					100	40	16	400	2.40	.7
NF		3M	26		110	110	10	100						100	40	10	150	0.97	.7
NF		4M	4		15	15	1	100			100				16	6	20	0.37	.7
NF	Totals		1		418	418	39	30	70		4			96	32	11	190	1.47	2.2
Type Totals				.6	49,298	48,998	4,606	21	33	46	2	12	19	67	32	11	190	1.24	257.5

TC TLOGSTVB					Log Stock Table - MBF															
					Project:					6CEDARWO										
T01N R06W S13 T0001										T01N R06W S13 T0001										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1											
01N	06W	13	6CEDARS	0001	94.00	32	91	Date	9/5/2019											
								Time	7:37:15AM											
S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches												
Spp	T	rt	de	Len	MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF			CU	6																
DF			CU	12																
DF			2M	24	466		466	10.5							42	98	215	84	28	
DF			2M	32	720	.3	718	16.1						71	42	223	103	279		
DF			2M	36	232	1.1	230	5.2						103		102	25			
DF			2M	40	2,001	.5	1,990	44.7						310	705	755	221			
DF			3M	16	9		9	.2						9						
DF			3M	32	90	4.0	86	1.9			33	18	7		28					
DF			3M	36	157		157	3.5			48	56	21			32				
DF			3M	40	548	.4	546	12.3			32	188	309	16						
DF			4M	16	66		66	1.5			66									
DF			4M	18	26		26	.6			26									
DF			4M	24	59		59	1.3			59									
DF			4M	32	19		19	.4			19									
DF			4M	36	20	15.1	17	.4			17									
DF			4M	40	61		61	1.4			19	16	26							
DF			Totals		4,473		4,449	96.6			319	278	363	510	816	1209	563	363	28	
WH			2M	24	19		19	23.9								19				
WH			2M	40	43		43	55.4						12		31				
WH			3M	40	12		12	15.4					12							
WH			4M	24	4		4	5.2			4									
WH			Totals		78		78	1.7			4		12	12		49				
RA			R	32	44	9.4	40	100.0						11		29				
RA			Totals		44	9.4	40	.9						11		29				
NF			2M	40	28		28	70.2								28				
NF			3M	40	10		10	26.3					10							
NF			4M	16	1		1	3.5			1									
NF			Totals		39		39	.9			1		10			28				
Total All Species					4,634		4,606	100.0			324	278	386	533	816	1315	563	363	28	

TC TSTNDSUM				Stand Table Summary											
Project 6CEDARWO															
T01N R06W S13 T0001										T01N R06W S13 T0001					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1						
01N	06W	13	6CEDARS	0001	94.00	32	91	Date:	09/05/20						
									Time:	7:37:14AM					
S Spc	T	Sample		Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		8	1	89 42	7.244	2.53	7.24	3.7	20.0	.77	27	145	72	25	14
DF		11	2	88 91	7.663	5.06	15.33	8.8	37.5	3.83	134	575	360	126	54
DF		12	1	84 62	3.220	2.53	3.22	15.4	60.0	1.41	50	193	133	47	18
DF		13	2	89 92	5.487	5.06	10.97	13.7	60.0	4.28	150	658	402	141	62
DF		15	1	88 91	2.061	2.53	4.12	18.9	75.0	2.22	78	309	209	73	29
DF		17	2	89 109	3.209	5.06	6.42	29.9	125.0	5.46	192	802	514	180	75
DF		18	2	89 113	2.862	5.06	7.15	28.0	116.0	5.70	200	830	536	188	78
DF		19	5	88 126	6.422	12.64	19.26	26.0	114.7	14.29	501	2,209	1,343	471	208
DF		20	8	89 124	9.273	20.23	27.82	31.5	141.7	24.99	877	3,941	2,349	824	370
DF		21	8	87 128	8.411	20.23	25.23	35.1	159.2	25.27	887	4,016	2,375	833	378
DF		22	8	89 130	7.663	20.23	23.95	38.3	180.4	26.13	917	4,320	2,456	862	406
DF		23	2	86 126	1.753	5.06	5.26	39.3	175.0	5.89	207	920	554	194	87
DF		24	9	89 136	7.244	22.76	22.54	47.2	225.0	30.33	1,064	5,071	2,851	1,001	477
DF		25	4	87 142	2.967	10.11	9.64	51.4	248.5	14.12	495	2,396	1,327	466	225
DF		26	4	87 140	2.743	10.11	8.92	55.7	270.8	14.15	496	2,414	1,330	467	227
DF		27	5	89 141	3.180	12.64	10.18	60.5	288.7	17.54	615	2,938	1,648	578	276
DF		28	3	88 146	1.774	7.59	7.10	53.2	284.2	10.76	378	2,017	1,012	355	190
DF		29	2	90 130	1.103	5.06	3.86	60.6	307.1	6.66	234	1,185	626	220	111
DF		30	5	89 141	2.576	12.64	9.27	67.8	357.2	17.93	629	3,312	1,685	591	311
DF		31	2	87 142	.965	5.06	3.86	62.4	327.5	6.87	241	1,264	645	226	119
DF		32	3	89 148	1.358	7.59	5.43	71.2	393.3	11.02	387	2,137	1,036	364	201
DF		33	4	89 150	1.703	10.11	6.39	82.3	452.0	14.99	526	2,887	1,409	494	271
DF		34	1	90 151	.401	2.53	1.60	84.0	475.0	3.84	135	762	361	127	72
DF		36	1	83 143	.358	2.53	1.43	80.9	432.5	3.30	116	619	310	109	58
DF		38	1	89 150	.321	2.53	1.28	104.7	557.5	3.83	134	716	360	126	67
DF		43	1	90 138	.251	2.53	1.00	116.7	687.5	3.34	117	690	314	110	65
DF	Totals	87	88	115	92.211	220.00	248.48	39.4	190.5	278.91	9,786	47,327	26,217	9,199	4,449
WH	22	1	94	129	.710	1.88	2.13	44.9	223.3	3.06	96	476	288	90	45
WH	25	1	85	112	.550	1.88	1.65	45.5	213.3	2.40	75	352	226	71	33
WH	Totals	2	90	122	1.260	3.75	3.78	45.2	219.0	5.46	171	828	514	161	78
RA	25	1	93	96	.733	2.50	1.47	62.9	290.0	2.54	92	425	239	87	40
RA	Totals	1	93	96	.733	2.50	1.47	62.9	290.0	2.54	92	425	239	87	40
NF	25	1	84	121	.733	2.50	2.20	47.0	190.0	2.48	103	418	233	97	39
NF	Totals	1	84	121	.733	2.50	2.20	47.0	190.0	2.48	103	418	233	97	39
Totals		91	88	115	94.938	228.75	255.93	39.7	191.5	289.39	10153	48,998	27,203	9,543	4,606

TC PSTATS					PROJECT STATISTICS				PAGE 1			
					PROJECT 6CEDARWO				DATE 9/30/2019			
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
01N	06	13	6CEDARS	00A2	19.00	5	30	S	W			
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			5	30	6.0							
CRUISE			2	10	5.0	1,987	.5					
DBH COUNT												
REFOREST												
COUNT			3	20	6.7							
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			10	104.6	20.5	125	53.0	240.0	47,325	47,325	10,456	10,456
TOTAL			10	104.6	20.5	125	53.0	240.0	47,325	47,325	10,456	10,456
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					965	965	965					
TOTAL					965	965	965					
CL	68.1		COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR					206	206	206					
TOTAL					206	206	206					
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					85	105	124					
TOTAL					85	105	124	72	18	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					26.4	13.1	209	240	271			
TOTAL					26.4	13.1	209	240	271	34	9	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					24.3	12.1	41,603	47,325	53,046			
TOTAL					24.3	12.1	41,603	47,325	53,046	29	7	3
CL	68.1		COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR					25.2	12.5	9,145	10,456	11,767			
TOTAL					25.2	12.5	9,145	10,456	11,767	31	8	3

AREA 2

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1						
		Project: 6CEDARWO										Date 9/5/2019						
												Time 7:38:02AM						
T01N R06W S13 T00A2										T01N R06W S13 T00A2								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt									
01N	06W	13	6CEDARS	00A2	19.00	5	10	S	W									
S So Gr T rt ad Spp		%	Bd. Ft. per Acre Def% Gross Net		Total Net MBF	Percent Net Board Foot Volume								Average Log		Logs Per /Acre		
		Net BdFt				Log Scale Dia. 4-5 6-11 12-16 17+				Log Length 12-20 21-30 31-35 36-99				Ln Dia Ft In	Bd Ft		CF/ Lf	
DF		2M	78	37,273	37,273	708	80	20	13	7	80	38	14	287	1.54	130.1		
DF		3M	17	7,764	7,764	148	100				100	40	8	93	0.65	83.4		
DF		4M	5	2,287	2,287	43	100		26		74	26	7	47	0.54	48.9		
DF Totals			100	47,325	47,325	899	21	63	16	1	10	6	83	36	11	180	1.09	262.3
Type Totals				47,325	47,325	899	21	63	16	1	10	6	83	36	11	180	1.09	262.3

TC TSTNDSUM				Stand Table Summary												
Project 6CEDARWO																
T01N R06W S13 T00A2												T01N R06W S13 T00A2				
Twp	Rge	Sec	Tract	Type				Acres	Plots	Sample Trees			Page:	1		
01N	06W	13	6CEDARS	00A2				19.00	5	10			Date:	09/05/20		
													Time:	7:38:02AM		
S Spec	T	Sample		FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	16'	Tot				Cu.Ft.	Bd.Ft.				Tons	Cunits	MBF
DF		17	4	90	117	60.904	96.00	121.81	32.3	135.0	112.28	3,940	16,444	2,133	749	312
DF		22	2	89	126	18.183	48.00	54.55	38.3	176.7	59.48	2,087	9,637	1,130	397	183
DF		23	1	86	136	8.318	24.00	24.95	43.3	193.3	30.77	1,080	4,825	585	205	92
DF		24	1	85	146	7.639	24.00	22.92	51.6	226.7	33.71	1,183	5,195	641	225	99
DF		29	1	84	140	5.232	24.00	20.93	50.2	255.0	29.95	1,051	5,337	569	200	101
DF		32	1	83	149	4.297	24.00	17.19	64.9	342.5	31.80	1,116	5,887	604	212	112
DF		Totals	10	89	125	104.574	240.00	262.35	39.9	180.4	297.99	10,456	47,325	5,662	1,987	899
Totals			10	89	125	104.574	240.00	262.35	39.9	180.4	297.99	10456	47,325	5,662	1,987	899

TC TLOGSTVB				Log Stock Table - MBF																
				Project: 6CEDARWO																
T01N R06W S13 T00A2										T01N R06W S13 T00A2										
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page 1				
01N		06W		13		6CEDARS		00A2		19.00		5		10		Date 9/5/2019				
																Time 7:38:01AM				
S So Gr Log				Gross		% Net		% Net		Net Volume by Scaling Diameter in Inches										
Spp	T	rt	de	Len	MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF			2M	24	91		91	10.2									91			
DF			2M	32	51		51	5.6								51				
DF			2M	36	32		32	3.6						32						
DF			2M	40	534		534	59.4						263	124	147				
DF			3M	40	148		148	16.4			81		67							
DF			4M	16	2		2	.2			2									
DF			4M	18	9		9	1.0			9									
DF			4M	36	23		23	2.6			9		14							
DF			4M	40	9		9	1.0			9									
DF			Totals		899		899	100.0			111		80	295	124	197	91			
Total All Species					899		899	100.0			111		80	295	124	197	91			

VOLUME SUMMARY
(Shown in MBF)
Six Cedars
FG-341-2020-W00240-01
September 2019

AREA 1: MC (94 ACRES)

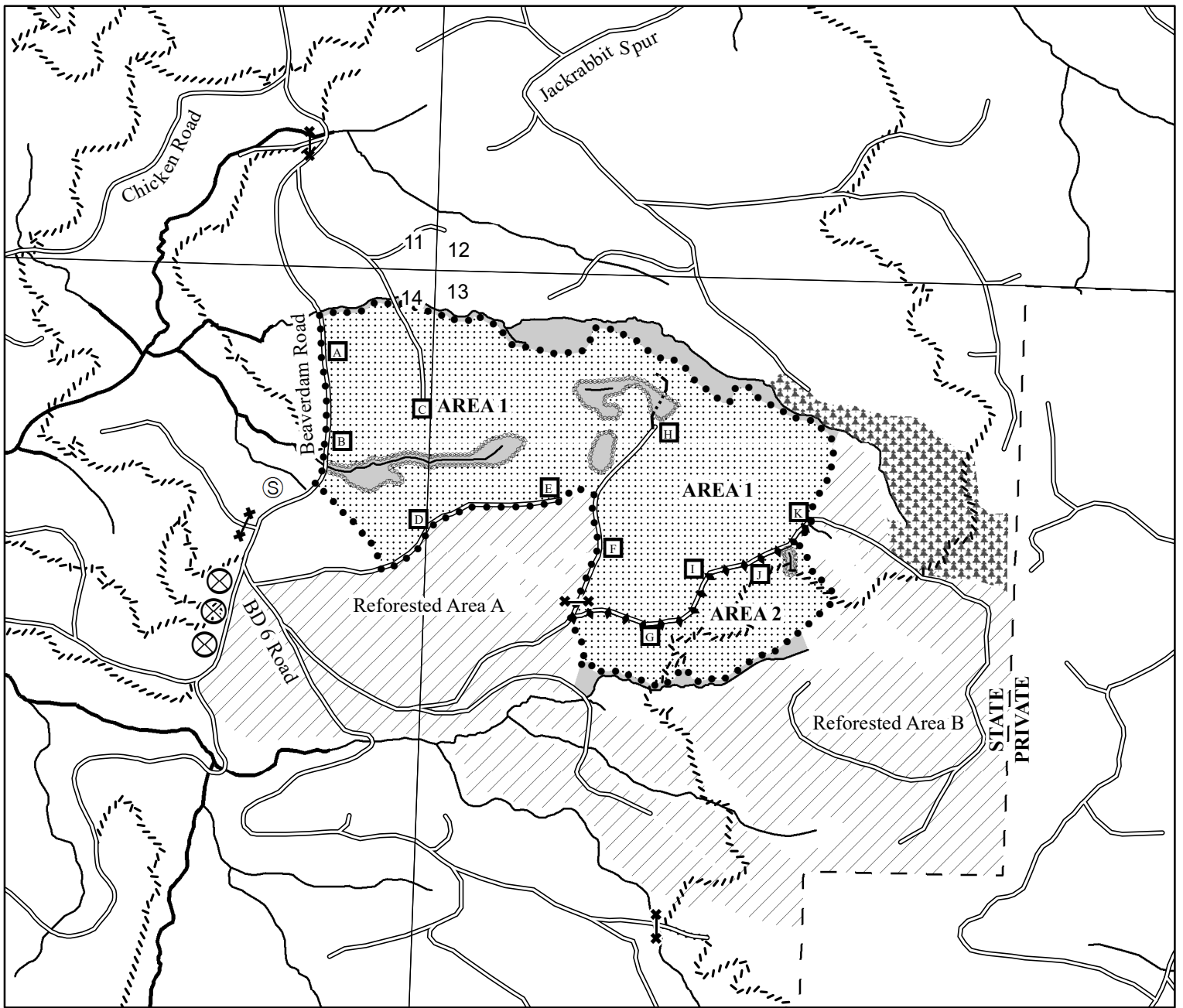
SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	3,404	797	247	0	4,448
	Hidden D&B (2%)	(68)	(16)	(5)	(0)	(89)
	NET TOTAL	3,336	781	242	0	4,359
	% of Total	77	18	6	0	
Western hemlock	Cruise Volume	62	12	4	0	78
	Hidden D&B (2%)	(1)	()	()	(0)	(1)
	NET TOTAL	61	12	4	0	77
	% of Total	79	16	5	0	
Noble fir	Cruise Volume	28	10	1	0	39
	Hidden D&B (2%)	(1)	(0)	(0)	(0)	(1)
	NET TOTAL	27	10	1	0	38
	% of Total	71	26	3	0	
Red alder	Cruise Volume	0	0	0	44	44
	Hidden D&B (5%)	(0)	(0)	(0)	(2)	(2)
	NET TOTAL	0	0	0	42	42
	% of Total	0	0	0	111	

AREA 2: MC (19 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	708	148	43	0	899
	Hidden D&B (2%)	(14)	(3)	(1)	(0)	(18)
	NET TOTAL	694	145	42	0	881
	% of Total	79	16	5	0	

SALE TOTAL: 113 ACRES

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir		4,030	926	284	0	5,240
Western hemlock		61	12	4	0	77
Noble fir		27	10	1	0	38
Red alder		0	0	0	42	42
NET TOTAL						5,397



LEGEND

- • • Timber Sale Boundary
- ◆ ◆ ◆ Area Boundary
- - - - - Stream Buffer Boundary
- ┌ ┐ ODF Ownership Boundary
- • • • • Tractor Yarding Area
- Tractor Landing
- Surfaced Road
- - - - - Non-Project Road Construction
- //// Recreation Trail
- ✕ ✕ Road Blockage
- Ⓢ Stockpile
- Type-F Stream
- Type-N Stream
- Stream Buffer
- ⊗ Hazard Tree Felling
- /// Reforested Area
- ✕ ✕ ✕ Green Tree Retention Area
- Sections

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2020-W00240-01
SIX CEDARS
PORTIONS OF SECTIONS 13 & 14, T1N, R6W, W.M.
TILLAMOOK COUNTY, OREGON

Forest Grove District GIS

September, 2019

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.



1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1	94	0
AREA 2	19	0
TOTAL	113	0