



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Tooth
Sale KL-341-2021-W00675-01

District: Klamath/Lake

Date: March 11, 2021

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$129,645.87	\$0.00	\$129,645.87
		Project Work:	(\$39,004.11)
		Advertised Value:	\$90,641.76



Timber Sale Appraisal Buck Tooth Sale KL-341-2021-W00675-01

District: Klamath/Lake

Date: March 11, 2021

Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Sugar Pine	31	0	95
Ponderosa Pine	16	0	95
Lodgepole Pine	10	0	90

Volume by Grade	6" - 11"	12"-15"	16"+	Camprun	Total
Sugar Pine	20	20	138	0	178
Ponderosa Pine	214	143	229	0	586
Lodgepole Pine	0	0	0	165	165
Total	234	163	367	165	929

Comments: Pond Values Used: Local Pond Values, November 2020.

Log Markets: Klamath Falls and Medford.

Other Costs (no Profit & Risk): The permittee will deposit the \$3,699.23 with the Forest Service on or before commencing haul. Once road maintenance is completed \$2,492.86 will be refunded to the purchaser.

Fees: USFS Road Use Fee = \$1,206.37

Other Costs (with Profit & Risk to be added): None

ROAD MAINTENANCE

Move-in: \$500.00

General Road Maintenance: 5.0 miles x \$211.00 per mile x 1 bladings = \$1,055.00

Total Road Maintenance: \$1,555.00, \$1.67 per Mbf



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Logging Conditions

Combination#: 1 Ponderosa Pine 80.00%
 Lodgepole Pine 100.00%

Logging System: Wheel Skidder **Process:** Feller Buncher
yarding distance: Medium (800 ft) **downhill yarding:** Yes
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 10 **bd. ft / load:** 4000
cost / mbf: \$94.92
machines: Log Loader (B)
 Stroke Delimber (B)
 Feller Buncher w/ Delimber
 Tire Skidder

Combination#: 2 Sugar Pine 100.00%
 Ponderosa Pine 20.00%

Logging System: Track Skidder **Process:** Manual Falling/Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** Yes
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 10 **bd. ft / load:** 4200
cost / mbf: \$105.02
machines: Log Loader (B)
 Track Skidder



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Logging Costs

Operating Seasons: 1.00	Profit Risk: 10%
Project Costs: \$39,004.11	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$1,206.37

Miles of Road

Road Maintenance: \$1.67

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Sugar Pine	\$0.00	4.0	4.2
Ponderosa Pine	\$0.00	4.0	4.2
Lodgepole Pine	\$0.00	4.0	3.8



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Sugar Pine									
\$105.02	\$1.75	\$4.72	\$59.38	\$0.00	\$17.09	\$0.00	\$2.00	\$1.30	\$191.26
Ponderosa Pine									
\$96.94	\$1.75	\$4.72	\$59.38	\$0.00	\$16.28	\$0.00	\$2.00	\$1.30	\$182.37
Lodgepole Pine									
\$94.92	\$1.84	\$4.72	\$68.75	\$0.00	\$17.02	\$0.00	\$2.00	\$1.30	\$190.55

Specie	Amortization	Pond Value	Stumpage	Amortized
Sugar Pine	\$0.00	\$338.76	\$147.50	\$0.00
Ponderosa Pine	\$0.00	\$319.54	\$137.17	\$0.00
Lodgepole Pine	\$0.00	\$330.00	\$139.45	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
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District: Klamath/Lake

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Summary

Amortized

Specie	MBF	Value	Total
Sugar Pine	0	\$0.00	\$0.00
Ponderosa Pine	0	\$0.00	\$0.00
Lodgepole Pine	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Sugar Pine	178	\$147.50	\$26,255.00
Ponderosa Pine	586	\$137.17	\$80,381.62
Lodgepole Pine	165	\$139.45	\$23,009.25

Gross Timber Sale Value

Recovery: \$129,645.87

Prepared By: Chris Weekly

Phone: 541-883-5681

Buck Tooth

KL-341-2021-W00675-01

Other Costs

Road Maintenance

Move-in cost (grader):	\$500.00
Number of Miles to be Bladed:	5.0
Number of Bladings:	1
Total Miles	5.0
Miles / Hour for equipment:	0.5
Cost / Hour (grader with operator):	\$105.50
Total Grading Hours:	10
Grading Cost:	\$1,055.00
	\$1,555.00
Total Cost:	\$1,555.00
Cost / Mbf:	\$1.67

PP	586 Mbf	63.1%	Average Load	4.2 Mbf	No. of Loads	140
LP	165 Mbf	17.8%	Average Load	3.8 Mbf	No. of Loads	43
SP	178 Mbf	19.2%	Average Load	4.2 Mbf	No. of Loads	42
Total:	929 Mbf				Total Loads	225

Assume: 4 Trucks/Day
 4 Trips/Day
16 Loads per Day
14 Hauling Days

Buck Tooth

KL-341-2021-W00675-01

Project Costs

Project #1 Road Improvement

Move in Cost Dozer: \$500.00

Improvement

	Points	Distance (ft)	Feet/Hour	Hours	Cost/Hour	Cost
Open/Clear/Shape	A to B	3097	1000	3.1	\$132.50	\$410.35
Open/Clear/Shape	D to E	560	1000	0.6	\$132.50	\$74.20
Open/Clear/Shape	H to I	519	1000	0.5	\$132.50	\$68.77
Open/Clear/Shape	F to G	855	1000	0.9	\$132.50	\$113.29
Open/Clear/Shape	C			1.0	\$132.50	\$132.50
	Total	5031			Total	<u>\$799.11</u>

Road Closures

4	Number of Closure Points - Point A, D, H, and F
\$132.50	Cost per Hour (Cat)
<u>\$530.00</u>	Total
\$0.57	per Mbf
Move in Costs	\$500.00
Improvement Costs	\$799.11
Road Closures	<u>\$530.00</u>
Project #1 Total	<u>\$1,829.11</u>
per MBF	\$1.97

Buck Tooth
KL-341-2021-W00675-01

Project Costs

Project #2 Fell, Skid, and Pile Submerchantable Material

Total Sub-Sawlog Volume: 291 MBF

Fell and Skid/MBF: \$65.00

Sort/MBF: \$10.00

Total \$21,825.00

per MBF \$23.49

Landing Piling

Number of Landings: 24

Shovel Time:	1 Hour per Landing	Cost per Hour:	\$125.00	Total Cost	\$3,000.00
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Cat Time:	1 Hour per Landing	Cost per Hour:	\$132.50	Total Cost	\$3,180.00
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Total \$6,180.00

per MBF \$6.65

Project #2 Summary

Fell, Skid, Pile Submerch.	\$21,825.00
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Landing Piling	<u>\$6,180.00</u>
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Total Cost	<u>\$28,005.00</u>
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per Mbf	\$30.15
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Buck Tooth
KL-341-2021-W00675-01

Project Costs

Project #3 Slash and Brush Piling

Equipment Move In:	\$500.00
Acres to be Piled	51
Hours per Acre	2
Cost per Hour	\$85.00
Cost of Piling	\$8,670.00
Total Cost	\$9,170.00
per Mbf	\$9.87

Summary

Project No. 1 - Road Improvement	\$1,829.11
Project No. 2 - Fell, Skid, and Pile Submerch	\$28,005.00
Project No.3- Slash and Brush Piling	\$9,170.00
Total Cost	\$39,004.11
per Mbf	\$41.99

Buck Tooth

KL-341-2021-W00675-01

Cruise Report



SALE NAME: Buck Tooth

LEGAL DESCRIPTION:

Township 27 South, Range 8 East, Portion of Section 16, and
Township 27 South, Range 8 East, Portions of Sections 32, Willamette Meridian,
Klamath County, Oregon.

ACREAGE:

The timber sale is two Timber Sale Units. The total Timber Sale Area is 481 acres. Unit 1 is 155 acres and located on the west side of Highway 97. Unit 2 is 319 acres and is located on the east side of Highway 97.

Acreage was determined using data collected using GPS and compiled using ArcMap.

TREATMENT:

The timber sale is a selection cut based on prescription by description and is a purchaser select cut with requirements listed in contract Section 2320, "Thinning Specifications".

CRUISE METHOD:

Merchantable volume on the timber sale was sampled using a variable plot cruise with a ratio of one measure plot for every count plot. Submerchantable material (5.0" to 8.0" dbh) was measured with a 1/50 acre fixed plot.

BASAL AREA FACTOR:

Stand	BAF	Type Acreage
Area	10 BAF	467 acres

FIXED PLOT:

Stand	Radius	Type Acreage
Area	16.6	467

PLOT DESIGNATION:

Plot centers were established at every plot with pin flags and candy stripe blue and white flagging attached to the nearest available tree branch listing the plot number.

SAMPLE SIZE:

Unit 1: 34 Plots

Unit 2: 39 Plots

Measurements and Grading:

- DBH and Height were measured on all “in” trees for measure plots.
- Submerch volume and sawlog volume cruised.
- See attached species and grade tables for minimum requirements.
- All trees were graded using the segment system.

TREE HEIGHT:

All trees were measured to a fixed diameter outside bark. This height is usually taken as high up the bole as possible, where the cruiser can clearly see the bole, and the taper remains constant (usually 6 or 8 inches). The log segments are broken out and graded accordingly.

MINIMUM D.B.H:

8” dbh for sawlog volume.

DIAMETER STANDARDS:

1” diameter class

BTR:

Standard ratios were used. See attached species tables.

FORM FACTOR:

Form factor was measured or estimated at 16' for each tree. Each tree was assigned its own form factor.

FORM POINT:

All trees were sighted at D.B.H.

VOLUME COMPUTATION:

All cruise data was compiled using SuperACE.

FINAL CRUISE RESULTS:

STAND	CV%	SE%	Acres
Combined Units	137.4	16.1	467

SAMPLE SIZE CALCULATIONS:

CV%	DESIRED SE%	ACRES
137.4	16.1	467

$$\text{Number of Plots} = \frac{T^2 C^2}{A^2}$$

C = Coefficient of Variation in Percent (Taken from inventory data)

T = Number of Standard Errors

A = Desired Sampling Error for a sale of this size and value

$$N = \frac{(1)^2(137.4)^2}{(16.1)^2} = 73 \text{ plots}$$

Measurements and Grading:

- Ratio of a count plot for every measure plot.
- DBH and Height were measured on all "in" trees for measure plots.
- Pulp volume and sawlog volume cruised.
- See attached species and grade tables for minimum requirements.
- All trees were graded using the segment system.

TIMBER DESCRIPTION

SAWLOG VOLUME:

All material graded camprun. See grade table for minimum standards.

Unit 1

Species	Average DBH	Gross Volume per acre (bf/acre)	Net Volume per acre (bf/acre)	Gross Volume per unit (Mbf)	Net Volume per unit (Mbf)
Ponderosa pine	16.0	965	938	150	145
Sugar pine	31.0	546	531	85	82
Lodgepole pine	9.7	157	157	24	24
Combined	15.6	1,668	1,626	259	251

Unit 2

Species	Average DBH	Gross Volume per acre (bf/acre)	Net Volume per acre (bf/acre)	Gross Volume per unit (Mbf)	Net Volume per unit (Mbf)
Ponderosa pine	16.8	1,397	1,381	446	441
Lodgepole pine	9.9	441	441	141	141
Sugar pine	34.8	301	301	96	96
Combined	13.3	2,139	2,123	683	678

TOTAL SAWLOG VOLUME

Species	Average DBH	Gross Volume (Mbf)	Net Volume (Mbf)
Ponderosa pine	16.4	596	586
Lodgepole pine	9.8	165	165
Sugar pine	31.8	181	178
Combined	14.3	942	929

TOTAL NET SAWLOG VOLUME: 929 MBF

GREEN PULP VOLUME

This volume was obtained by combining the green pulp volume from the variable plot cruise with the fixed plot cruise (5.0" – 8.0" DBH). All material was graded green pulp, see grade table for minimum standards.

Cruise	Volume per Acre (bf/ac)	Gross Volume (Mbf)
Variable	113	53
Fixed	510	238
Total	623	291

TOTAL GREEN PULP VOLUME: 291 MBF

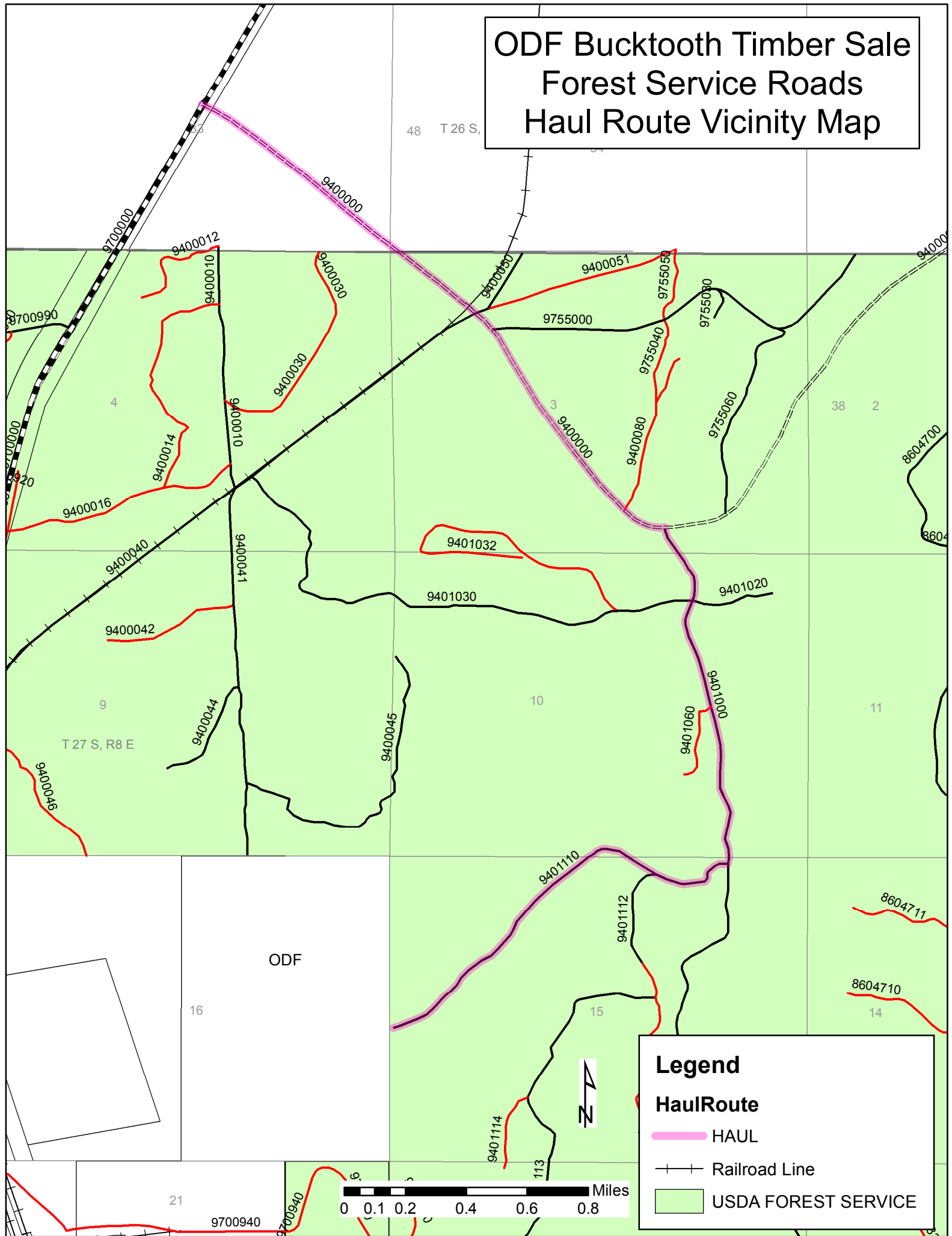
TC PSTATS				PROJECT STATISTICS				PAGE	1				
				PROJECT		BTOOTH		DATE	2/10/2021				
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt				
027	008	16	EAST	VARC	474.00	73	136	1	E				
027	008	32	WEST	VARI									
				TREES	ESTIMATED	PERCENT							
				PER PLOT	TOTAL	SAMPLE							
				TREES	TREES	TREES							
TOTAL				73	136	1.9							
CRUISE				19	45	2.4	8,528	.5					
DBH COUNT													
REFOREST													
COUNT				26	84	3.2							
BLANKS				28									
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	
P PINE				26	7.6	16.5	39	2.8	11.4	1,275	1,256	274	274
LP PINE				15	9.9	9.8	27	1.7	5.3	440	440	102	102
SUG PINE				4	.4	32.3	72	0.4	2.3	381	376	71	71
TOTAL				45	18.0	13.9	33	5.1	19.0	2,096	2,072	447	447
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			
P PINE			99.7	19.9	285	356	427						
LP PINE			61.1	16.3	40	48	56						
SUG PINE			54.9	31.4	621	905	1,189						
TOTAL			126.3	18.8	245	302	359	637	159	71			
CL	68.1	COEFF	SAMPLE TREES - CF						# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15			
P PINE			88.0	17.6	60	72	85						
LP PINE			48.4	12.9	10	11	12						
SUG PINE			40.5	23.1	136	177	217						
TOTAL			113.2	16.9	51	61	71	512	128	57			
CL	68.1	COEFF	TREES/ACRE						# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15			
P PINE			163.5	19.1	6	8	9						
LP PINE			261.2	30.5	7	10	13						
SUG PINE			254.2	29.7	0	0	1						
TOTAL			148.7	17.4	15	18	21	883	221	98			
CL	68.1	COEFF	BASAL AREA/ACRE						# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15			
P PINE			167.1	19.5	9	11	14						
LP PINE			266.3	31.1	4	5	7						
SUG PINE			259.1	30.3	2	2	3						
TOTAL			121.3	14.2	16	19	22	588	147	65			
CL	68.1	COEFF	NET BF/ACRE						# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15			
P PINE			181.1	21.2	990	1,256	1,522						
LP PINE			277.5	32.4	297	440	583						
SUG PINE			298.0	34.9	245	376	507						
TOTAL			136.1	15.9	1,743	2,072	2,402	740	185	82			
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			
P PINE			175.5	20.5	218	274	330						
LP PINE			275.2	32.2	69	102	135						

TC PSTATS				PROJECT STATISTICS				PAGE	2
				PROJECT	BTOOTH			DATE	2/10/2021
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
027	008	16	EAST	VARC	474.00	73	136	1	E
027	008	32	WEST	VARI					
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10
SUG PINE			276.0	32.3	48	71	94		
TOTAL			129.3	15.1	380	447	515	668	167
									74

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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TC PLOGSTVB				Log Stock Table - MBF															
<div>T027 R008 S16 TyVARC319.00</div> <div>T027 R008 S32 TyVARI155.00</div>				Project: BTOOTH Acres474.00												Page 1 Date 2/10/2021 Time 9:51:33AM			
Spp	S T	So rt	Gr 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
PP		1	CR	17	78		78	13.2			19	36	8				16		
PP		1	CR	27	112	1.2	111	18.6				28	35	35	12				
PP		1	CR	34	405	1.9	397	66.7				54	34	60	35	136	77		
PP		1	GP	15	9		9	1.5			9								
PP		Totals			604	1.5	595	60.6			28	118	78	95	48	136	93		
SP		1	CR	17	6		6	3.4				2	4						
SP		1	CR	27	5		5	2.9				5							
SP		1	CR	34	169	1.3	167	93.8					9		20	57	22	59	
SP		Totals			181	1.2	178	18.2				7	13		20	57	22	59	
LP		1	CR	17	25		25	12.1			13	12							
LP		1	CR	27	49		49	23.3			16	33							
LP		1	CR	34	91		91	43.6			19	72							
LP		1	GP	10	4		4	2.1		4									
LP		1	GP	11	9		9	4.2				9							
LP		1	GP	14	5		5	2.4			2	2							
LP		1	GP	15	11		11	5.3			11								
LP		1	GP	18	14		14	6.9			14								
LP		Totals			209		209	21.2		4	75	129							
Total		All Species			994	1.1	982	100.0		4	104	254	91	95	67	193	116	59	

ODF Bucktooth Timber Sale Forest Service Roads Haul Route Vicinity Map



LOGGING PLAN

Of Timber Sale Contract
KL-341-2021-W00675-01
Bucktooth
Portions of Section 16 and 32,
T27S, R8E, Willamette Meridian,
Klamath County, Oregon

