



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Replacement - GNA  
Sale KL-341-2024-GF8023-01

District: Klamath/Lake

Date: January 16, 2024

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**Cost Summary**

	<b>Conifer</b>	<b>Hardwood</b>	<b>Total</b>
<b>Gross Timber Sale Value</b>	\$163,196.46	\$0.00	\$163,196.46
		<b>Project Work:</b>	(\$135,333.12)
		<b>Advertised Value:</b>	\$27,863.34



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### Timber Description

**Location:**

**Stand Stocking: 20%**

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	98
White Fir	17	0	98
Ponderosa Pine	14	0	98

Volume by Grade	2S	3S & 4S 6"-11"	3S 12"+	6" - 11"	12"-15"	Total
Douglas - Fir	70	217	0	0	0	287
White Fir	300	126	27	0	0	453
Ponderosa Pine	0	0	0	701	315	1,016
<b>Total</b>	370	343	27	701	315	1,756

**Comments:** Pond Values Used: Local Pond Values, December 2023

Lodgepole Pine \$35 MBF

Log Markets: Klamath Falls and Medford.

Other Costs (no Profit & Risk): None

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

ROAD MAINTENANCE

Move-in: \$400.00

General Road Maintenance: 9.5 miles x \$270 per mile x 1 bladings =

\$2,565.00 Total Road Maintenance: \$2,965, \$1.59 per Mbf



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### Logging Conditions

<b>Combination#:</b> 1	Douglas - Fir	100.00%
	White Fir	100.00%
	Ponderosa Pine	100.00%
<b>Logging System:</b>	Wheel Skidder	<b>Process:</b> Feller Buncher
<b>yarding distance:</b>	Medium (800 ft)	<b>downhill yarding:</b> Yes
<b>tree size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
<b>loads / day:</b>	14	<b>bd. ft / load:</b> 4000
<b>cost / mbf:</b>	\$178.58	
<b>machines:</b>	Log Loader (B) Stroke Delimber (B) Feller Buncher w/ Delimber Tire Skidder	



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**Logging Costs**

<b>Operating Seasons:</b> 1.00	<b>Profit Risk:</b> 10%
<b>Project Costs:</b> \$135,333.12	<b>Other Costs (P/R):</b> \$0.00
<b>Slash Disposal:</b> \$0.00	<b>Other Costs:</b> \$0.00

**Miles of Road**

**Road Maintenance:** \$1.59

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	3.0	4.3
White Fir	\$0.00	4.0	4.4
Ponderosa Pine	\$0.00	4.0	4.2



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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
<b>Douglas - Fir</b>									
\$178.58	\$1.62	\$2.50	\$98.84	\$0.00	\$28.15	\$0.00	\$2.00	\$0.00	\$311.69
<b>White Fir</b>									
\$178.58	\$1.62	\$2.50	\$72.44	\$0.00	\$25.51	\$0.00	\$2.00	\$0.00	\$282.65
<b>Ponderosa Pine</b>									
\$178.58	\$1.62	\$2.50	\$75.89	\$0.00	\$25.86	\$0.00	\$2.00	\$0.00	\$286.45

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$624.76	\$313.07	\$0.00
White Fir	\$0.00	\$415.74	\$133.09	\$0.00
Ponderosa Pine	\$0.00	\$299.30	\$12.85	\$0.00



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**Summary**

**Amortized**

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
White Fir	0	\$0.00	\$0.00
Ponderosa Pine	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	287	\$313.07	\$89,851.09
White Fir	453	\$133.09	\$60,289.77
Ponderosa Pine	1,016	\$12.85	\$13,055.60

**Gross Timber Sale Value**

Recovery: \$163,196.46

Prepared By: Chris Weekly

Phone: 541-883-5681

# Replacement - GNA

## KL-341-2024-GF8023-01

### *Other Costs*

#### *Road Maintenance*

Move-in cost (grader):	\$400.00
Number of Miles to be Bladed:	9.5
Number of Bladings:	1
Total Miles:	9.5
Miles/Hour for Equipment:	0.5
Cost/Hour (grader with operator):	\$135.00
Total Grading Hours:	19
Grading Cost:	<u>\$2,565.00</u>
<b>Total Cost:</b>	<b><u>\$2,965.00</u></b>
Cost/Mbf:	\$1.59

DF	287 Mbf	15%	Average Load	4.0 Mbf	No. of Loads	72
WF	453 Mbf	24%	Average Load	4.0 Mbf	No. of Loads	113
PP	1,126 Mbf	60%	Average Load	4.0 Mbf	No. of Loads	<u>282</u>
<b>Total:</b>	<b>1,866 Mbf</b>				<b>Total Loads</b>	<b>467</b>

Assume:

4 Trucks/Day
4 Trips/Day
<u>16 Loads per Day</u>
<u>29 Hauling Days</u>

# Replacement - GNA

## KL-341-2024-GF8023-01

### *Project Costs*

*Project #1 Road Improvement and Construction*

#### Improvement

Move in Cost Cat:     **\$500**

	<b>Points</b>	<b>Distance(ft)</b>	<b>Feet/Hour</b>	<b>Hours</b>	<b>Cost/Hour</b>	<b>Cost</b>
Open/Clear/Shape	C to D	1,238	1000	1.24	\$150.00	\$185.70
Open/Clear/Shape	J to K	1,607	1000	1.61	\$150.00	\$241.05
Open/Clear/Shape	N to O	11,566	1000	11.57	\$150.00	\$1,734.90
Open/Clear/Shape	E to F	6,454	1000	6.45	\$150.00	\$968.10
Open/Clear/Shape	G to H	5,134	1000	5.13	\$150.00	\$770.10
Open/Clear/Shape	L to M	3,243	1000	3.24	\$150.00	\$486.45
Open/Clear/Shape	R to S	7,782	1000	7.78	\$150.00	\$1,167.30
Open/Clear/Shape	T to U	3,078	1000	3.08	\$150.00	\$461.70
Open/Clear/Shape	V to X	3,097	1000	3.10	\$150.00	\$464.55
Open/Clear/Shape	V to W	1,495	1000	1.50	\$150.00	\$224.25
Open/Clear/Shape	A to B	1,087	1000	1.09	\$150.00	\$163.05

#### Construction

Open/Clear/Shape	H to I	248	1000	0.25	\$150.00	\$37.17
Open/Clear/Shape	P to Q	859	1000	0.86	\$150.00	\$128.80
	<b>Total</b>	46,887		• 46.89		\$7,033.12



Replacement - GNA  
 KL-341-2024-GF8023-01  
*Project Costs*

*Project #1 Road Improvement and Construction*

*Project #1 Summary*

Move In Costs	\$500.00
Improvement Cost	\$7,033.12
<b>Project # 2 Total</b>	<b><u>\$7,533.12</u></b>
per Mbf	\$4.04

Replacement - GNA  
 KL-341-2024-GF8023-01  
*Project Costs*

*Project #2 Fell, Skid, and Pile Submerchantable Material*

Total Sub-Sawlog Volume: 1,014 MBF

Fell and Skid/MBF:	\$75.00
Sort/MBF:	\$25.00
<b>Total</b>	<b><u>\$101,400.00</u></b>
per MBF	\$54.34

*Landing Slash Piling*

Number of Landings: 44

Shovel Time:	1 Hour per Landing	Cost per Hour: \$150.00	Total Cost	\$6,600.00
Cat Time:	1 Hour per Landing	Cost per Hour: \$150.00	Total Cost	\$6,600.00
<b>Total</b>				<b><u>\$13,200.00</u></b>
per MBF				\$7.07

*Project #2 Summary*

Fell, Skid, Pile Submerchantable Material	\$101,400.00
Landing Slash Piling	\$13,200.00
<b>Total Cost</b>	<b><u>\$114,600.00</u></b>
per Mbf	\$61.41

Replacement - GNA  
KL-341-2024-GF8023-01  
*Project Costs*

*Project #3 Road Closures and Waterbarring*

*Skid Trail Waterbarring*

44	Number of Landings
2	Hours per Landing
<u>\$150.00</u>	Cost per Hour (Cat)
<b>\$13,200.00</b>	<b>Total</b>
\$7.07	per Mbf

*Project #3 Summary*

Waterbarring:	<u>\$13,200.00</u>
<b>Total:</b>	<b><u>\$13,200.00</u></b>
per Mbf:	\$7.07

*Cost Summary All Projects*

Project No.1 - Road Improvement and Construction	\$7,533.12
Project No.2 - Fell, Skid, and Pile Submerchantable Material	\$114,600.00
Project No.3 - Waterbarring	\$13,200.00
<b>Total Cost</b>	<b><u>\$135,333.12</u></b>
per Mbf	\$72.53

# *Replacement - GNA*

*KL-341-2024-GF8023-01*  
*Cruise Report*



**SALE NAME:** Replacement- GNA

**LEGAL DESCRIPTION:**

Located in Section(s) 5,6, T36S, R8W; 7,8,16,17,18,19,20,29,30,31 and 32 of T35S, R8E, Willamette Meridian, Klamath County, Oregon

**BOUNDARY LINES:**

Unit boundaries are unmarked.

**ACREAGE:**

Gross Sale Acreage:	868 Acres
Exclusion Acreage:	100 Acres
Net Sale Acreage:	768 Acres

Mapping was accomplished using Avenza pdf Maps with the data processed through ArcMap.

**TREATMENT:**

The Timber Sale is a purchaser select, partial cut harvest.

**CRUISE METHOD:**

Variable plot cruise with a ratio of two count plot for every measure plot. Fixed plot cruise for sub-merchantable material was 5 – 9 inch DBH for all species.

**BASAL AREA FACTOR:**

A basal area factor of 10 was used for all variable cruise plots. Fixed plots were cruised at  $\frac{1}{50}$  of an acre

**PLOT DESIGNATION:**

Plot centers were established at every plot with pink flag wire stakes with the corresponding plot number. Blue and white stripped flagging was attached to the nearest available tree branch.

**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:**

5.0" DBH.

**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 FF.

**FORM POINT:**

All trees were sighted at DBH.

**VOLUME COMPUTATION:**

All cruise data was input and run at the district on Atterbury's Super Ace program.

**FINAL CRUISE RESULTS:**

<b>CV%</b>	<b>SE%</b>	<b>ACRES</b>
64.9	9.6	768

**TIMBER DESCRIPTION**

**SAWLOG VOLUME:**

This volume was obtained from the variable plot cruise. All material graded camprun. See grade table for minimum standards.

**TOTAL SAWLOG VOLUME**

<b>Species</b>	<b>Ave. DBH</b>	<b>Acres</b>	<b>Gross Vol/Acre (bf)</b>	<b>Net Vol/Acre (bf)</b>	<b>Net Sale Vol (Mbf)</b>
Ponderosa pine	13.9	768	1,488	1,466	1,126
White fir	17.2	768	590	590	453
Douglas fir	15.5	768	374	374	287
		<b>Total</b>	2,452	2,430	1,866

**TOTAL NET SAWLOG VOLUME: 1,937 MBF**

**GREEN PULP VOLUME:**

This volume was obtained by combining material from the fixed plot cruise with non-saw material from the variable plot cruise.

All material was graded green pulp, see grade table for minimum standards.

**FIXED PLOT CRUISE**

<b>Species</b>	<b>Acres</b>	<b>Vol/Acre (bf)</b>	<b>Sale Vol (Mbf)</b>
Ponderosa pine	768	595	661
Western juniper	768	143	171
<b>Total</b>		738	832

**VARIABLE PLOT CRUISE**

<b>Species</b>	<b>Acres</b>	<b>Vol/Acre (bf)</b>	<b>Sale Vol (Mbf)</b>
Ponderosa pine	768	145	111
Western juniper	768	93	71
<b>Total</b>		238	182

**TOTAL GREEN PULP VOLUME: 1,014 Mbf**

T035 R008 S30 TVAR2	T035 R008 S30 TVAR2
Twp <b>035</b> Rge <b>008</b> Sec <b>30</b> Tract <b>GNA</b> Type <b>VAR2</b> Acres <b>768.00</b> Plots <b>46</b> Sample Trees <b>52</b> CuFt <b>1</b> BdFt <b>E</b>	

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net BdFt	Def%	Gross	Net	Net MBF	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
PP	CR	CR	90	1.7	1,344	1,322	1,015	69	31			42	11	47	20	9	66	0.79	19.9						
PP	CR	GP	10		145	145	111	51	34	15		83	17		15	6	19	0.35	7.6						
<b>PP</b>	<b>Totals</b>		58	1.5	1,488	1,466	1,126	5	65	29		46	11	42	19	8	53	0.69	27.6						
WF	CR	CR	100		590	590	453	28	72			25	11	64	24	11	133	1.24	4.4						
<b>WF</b>	<b>Totals</b>		23		590	590	453	28	72			25	11	64	24	11	133	1.24	4.4						
DF	CR	CR	100		374	374	287	76	24			23		77	23	9	92	0.95	4.1						
<b>DF</b>	<b>Totals</b>		15		374	374	287	76	24			23		77	23	9	92	0.95	4.1						
OC	CR	GP	100		93	93	71	100				100			15	5	20	0.27	4.6						
<b>OC</b>	<b>Totals</b>		4		93	93	71	100				100			15	5	20	0.27	4.6						
<b>Type Totals</b>				.9	2,545	2,523	1,938	7	56	38		40	9	51	19	8	62	0.76	40.7						

TC		TLOGSTVB		Log Stock Table - MBF														
Project:										REPLAC								
T035 R008 S30 TVAR2										T035 R008 S30 TVAR2								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1									
035	008	30	GNA	VAR2	768.00	46	52	Date	1/16/2024									
									Time	7:08:20AM								
Spp	T	So	Gr	Log	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches									
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
PP	CR	CR	16		435	1.2	430	38.2			102	162	118	27	21			
PP	CR	CR	24		19		19	1.6			19							
PP	CR	CR	27		23		23	2.0			23							
PP	CR	CR	28		69		69	6.1				30		39				
PP	CR	CR	32		487	2.4	476	42.2				91	156	179	49			
PP	CR	GP	4															
PP	CR	GP	10		17		17	1.5						17				
PP	CR	GP	11		11		11	1.0		11								
PP	CR	GP	12		11		11	1.0			11							
PP	CR	GP	16		34		34	3.0			8		27					
PP	CR	GP	19		11		11	1.0			11							
PP	CR	GP	20		9		9	.8		9								
PP	CR	GP	21		19		19	1.6			19							
PP	Totals				1,143	1.5	1,126	58.1	9	48	155	283	300	261	70			
WF	CR	CR	16		39		39	8.6					39					
WF	CR	CR	17		75		75	16.5			20		19	36				
WF	CR	CR	27		48		48	10.6					48					
WF	CR	CR	34		70		70	15.5						70				
WF	CR	CR	35		221		221	48.8					153	68				
WF	Totals				453		453	23.4			20	106	260	68				
DF	CR	CR	16		30		30	10.3			30							
DF	CR	CR	17		35		35	12.3			17	18						
DF	CR	CR	32		151		151	52.4				80		70				
DF	CR	CR	34		71		71	24.9				71						
DF	Totals				287		287	14.8			47	170		70				
OC	CR	GP	15		71		71	100.0		71								
OC	Totals				71		71	3.7		71								
Total All Species					1,955		1,938	100.0	9	119	155	350	576	521	208			



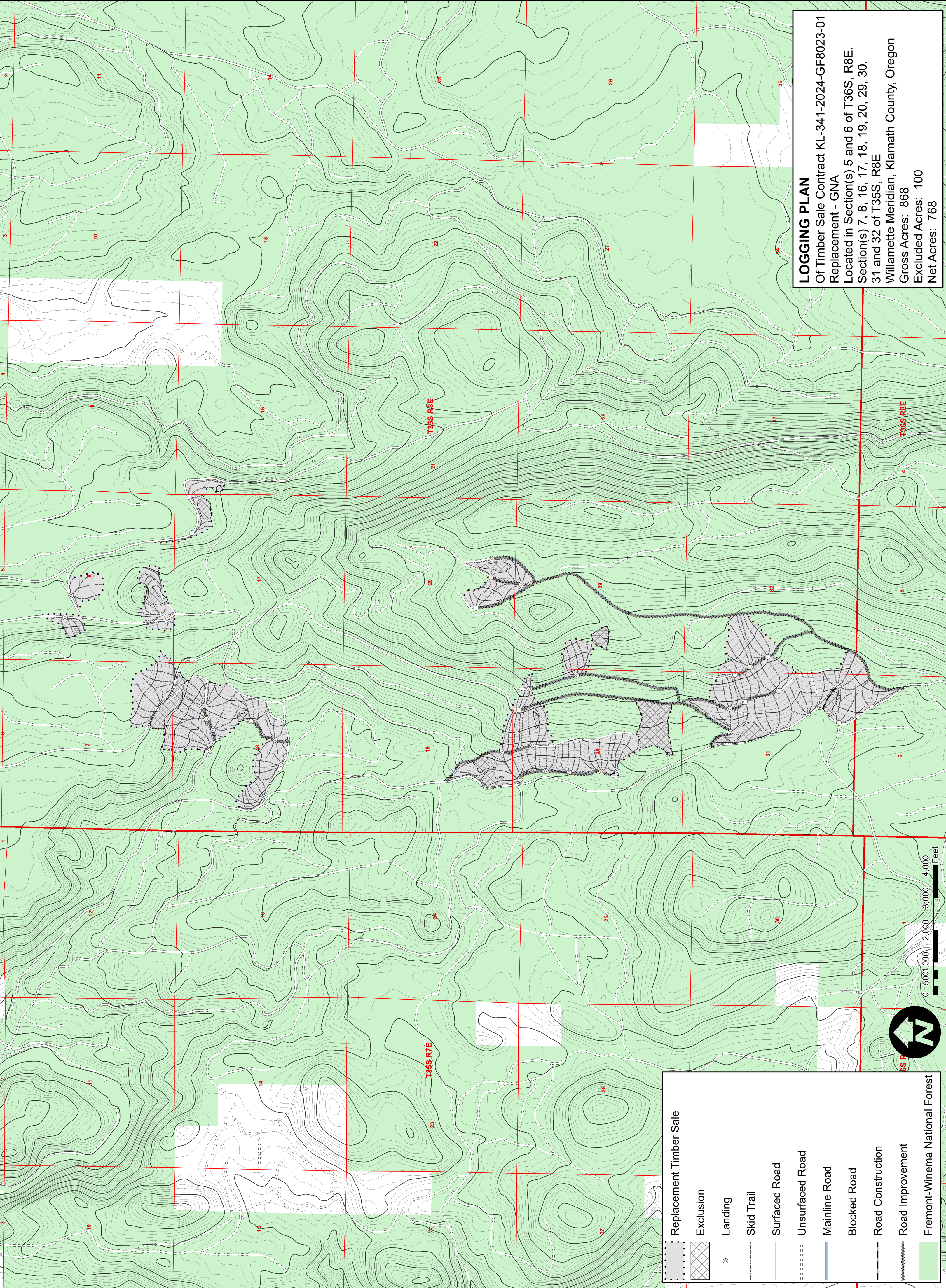
TC PSTATS			<b>PROJECT STATISTICS</b>							PAGE	1
			PROJECT		REPLAC		DATE			1/16/2024	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
035	008	30	GNA	VAR2	768.00	46	163	1	E		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			46	163	3.5						
CRUISE			17	52	3.1	25,927	.2				
DBH COUNT REFOREST COUNT			28	111	4.0						
BLANKS			1								
100 %											
<b>STAND SUMMARY</b>											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
P PINE	37	22.8	13.9	33	6.4	23.9	1,488	1,466	360	360	
WHITE F	7	3.4	17.2	44	1.3	5.4	590	590	130	130	
DOUG-FIR	4	3.0	15.5	47	1.0	3.9	374	374	91	91	
OC	4	4.6	8.3	14	0.6	1.7	93	93	19	19	
<b>TOTAL</b>	<b>52</b>	<b>33.8</b>	<b>13.8</b>	<b>33</b>	<b>9.4</b>	<b>35.0</b>	<b>2,545</b>	<b>2,523</b>	<b>600</b>	<b>600</b>	
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		92.8	15.2	82	97	112					
WHITE F		57.0	23.2	162	211	260					
DOUG-FIR		74.0	42.3	100	173	245					
OC											
<b>TOTAL</b>		<b>86.8</b>	<b>12.4</b>	<b>104</b>	<b>119</b>	<b>134</b>	<b>301</b>	<b>75</b>	<b>33</b>		
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		84.0	13.8	20	23	26					
WHITE F		56.6	23.0	36	47	58					
DOUG-FIR		75.9	43.4	24	42	60					
OC											
<b>TOTAL</b>		<b>81.8</b>	<b>11.7</b>	<b>25</b>	<b>28</b>	<b>31</b>	<b>267</b>	<b>67</b>	<b>30</b>		
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		94.0	13.8	20	23	26					
WHITE F		163.6	24.1	3	3	4					
DOUG-FIR		289.0	42.6	2	3	4					
OC		474.2	69.9	1	5	8					
<b>TOTAL</b>		<b>75.1</b>	<b>11.1</b>	<b>30</b>	<b>34</b>	<b>37</b>	<b>225</b>	<b>56</b>	<b>25</b>		
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		90.5	13.3	21	24	27					
WHITE F		167.8	24.7	4	5	7					
DOUG-FIR		287.5	42.4	2	4	6					
OC		474.2	69.9	1	2	3					
<b>TOTAL</b>		<b>60.5</b>	<b>8.9</b>	<b>32</b>	<b>35</b>	<b>38</b>	<b>146</b>	<b>36</b>	<b>16</b>		
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		92.6	13.6	1,266	1,466	1,666					
WHITE F		179.7	26.5	434	590	746					
DOUG-FIR		289.3	42.6	215	374	533					
OC		474.2	69.9	28	93	157					

**PROJECT STATISTICS**

**PROJECT REPLAC**

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
035	008	30	GNA	VAR2	768.00	46	163	1	E
CL	68.1	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
<b>TOTAL</b>		64.9	9.6	2,282	2,523	2,764	168	42	19
CL	68.1	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
P PINE		91.8	13.5	312	360	409			
WHITE F		179.4	26.4	96	130	165			
DOUG-FIR		289.1	42.6	52	91	129			
OC		474.2	69.9	6	19	31			
<b>TOTAL</b>		64.7	9.5	542	600	657	167	42	19





**LOGGING PLAN**

Of Timber Sale Contract KL-341-2024-GF8023-01  
 Replacement - GNA  
 Located in Section(s) 5 and 6 of T36S, R8E,  
 Section(s) 7, 8, 16, 17, 18, 19, 20, 29, 30,  
 31 and 32 of T35S, R8E  
 Willamette Meridian, Klamath County, Oregon  
 Gross Acres: 868  
 Excluded Acres: 100  
 Net Acres: 768

Replacement Timber Sale

Exclusion

Landing

Skid Trail

Surfaced Road

Unsurfaced Road

Mainline Road

Blocked Road

Road Construction

Road Improvement

Fremont-Winema National Forest

