



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Final Straw  
Sale KL-341-2019-W00511-01

District: Klamath/Lake

Date: September 11, 2018

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**Cost Summary**

	<b>Conifer</b>	<b>Hardwood</b>	<b>Total</b>
<b>Gross Timber Sale Value</b>	\$566,693.96	\$0.00	\$566,693.96
		<b>Project Work:</b>	(\$26,075.04)
		<b>Advertised Value:</b>	\$540,618.92



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**Date: September 11, 2018**

**Timber Description**

**Location:** Township 32S, Range 7½E, Portions of Sections 19, 20, 29, 30, and 32, Willamette Meridian, Klamath County, OR.

**Stand Stocking: 20%**

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
White Fir	14	0	98
Ponderosa Pine	23	0	96

Volume by Grade	2S	3S & 4S 6"-11"	6" - 11"	12"-15"	16"+	Total
White Fir	53	21	0	0	0	74
Ponderosa Pine	0	0	800	897	2,164	3,861
<b>Total</b>	53	21	800	897	2,164	3,935

**Comments:** Pond Values Used: Local Pond Values, June 2018.

Log Markets: Klamath Falls and Medford.

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

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

**ROAD MAINTENANCE**

Move-in: \$500.00

General Road Maintenance: 10 miles x \$211 per mile = \$2,610.00

Total Road Maintenance: \$2,610.00, \$0.66 per Mbf



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**Logging Conditions**

**Combination#: 1**  
White Fir 100.00%  
Ponderosa Pine 12.00%

**Logging System:** Wheel Skidder **Process:** Feller Buncher  
**yarding distance:** Medium (800 ft) **downhill yarding:** Yes  
**tree size:** Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF  
**loads / day:** 10 **bd. ft / load:** 3600  
**cost / mbf:** \$105.46  
**machines:** Log Loader (B)  
Stroke Delimber (B)  
Feller Buncher w/ Delimber  
Tire Skidder

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**Combination#: 2**  
Ponderosa Pine 88.00%

**Logging System:** Track Skidder **Process:** Manual Falling/Delimiting  
**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:** 3800  
**cost / mbf:** \$116.07  
**machines:** Log Loader (B)  
Track Skidder

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### Logging Costs

<b>Operating Seasons:</b> 1.00	<b>Profit Risk:</b> 10%
<b>Project Costs:</b> \$26,075.04	<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:** \$0.66

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

**Hauling Costs**

Species	\$ / MBF	Trips/Day	MBF / Load
White Fir	\$0.00	2.0	3.7
Ponderosa Pine	\$0.00	3.0	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
<b>White Fir</b>									
\$105.46	\$0.67	\$1.12	\$130.95	\$0.00	\$23.82	\$0.00	\$2.00	\$0.00	\$264.02
<b>Ponderosa Pine</b>									
\$114.80	\$0.69	\$1.12	\$86.66	\$0.00	\$20.33	\$0.00	\$2.00	\$0.00	\$225.60

Specie	Amortization	Pond Value	Stumpage	Amortized
White Fir	\$0.00	\$509.97	\$245.95	\$0.00
Ponderosa Pine	\$0.00	\$367.66	\$142.06	\$0.00



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**Summary**

**Amortized**

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

**Unamortized**

Specie	MBF	Value	Total
White Fir	74	\$245.95	\$18,200.30
Ponderosa Pine	3,861	\$142.06	\$548,493.66

**Gross Timber Sale Value**

Recovery: \$566,693.96

Prepared By: Chris Weekly

Phone: 541-883-5681

# Final Straw

KL-341-2019-W00511-01

## *Other Costs*

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### *Road Maintenance*

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Move-in cost (grader):	\$500.00
Number of Miles to be Bladed:	5.0
Number of Bladings:	2
Total Miles	10.0
Miles / Hour for equipment:	0.5
Cost / Hour (grader with operator):	\$105.50
Total Grading Hours:	20
Grading Cost:	<u>\$2,110.00</u>
	<u><b>\$2,610.00</b></u>
<b>Total Cost:</b>	\$2,610.00
Cost / Mbf:	\$0.66

**Final Straw**  
**KL-341-2019-W00511-01**  
**Project Costs**

*Project #1 Dust Abatement*

PP	3860 Mbf	98.1%	Average Load	3.7 Mbf	No. of Loads	1043
WF	74 Mbf	1.9%	Average Load	3.8 Mbf	No. of Loads	19
<b>Total:</b>	<b>3934 Mbf</b>				<b>Total Loads</b>	<b>1062</b>

Assume:           6 Trucks/Day  
                       2 Trips/Day  


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**12 Loads per Day**  


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**89 Hauling Days**

89 Days of Dust Abatement  
 1.5 Hours/Day  
 \$88.00 Cost/Hour  
 133 Total Hours  
 \$200.00 Move in for Water Truck  
 \$11,887.21 Dust Abatement Cost  


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**\$11,887.21 Total Cost**  


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 \$3.02 Cost/Mbf

*Project #2 Road Improvement*

Move in Cost Dozer:   \$500.00

**Improvement**

	<b>Points</b>	<b>Distance (ft)</b>	<b>Feet/Hour</b>	<b>Hours</b>	<b>Cost/Hour</b>	<b>Cost</b>
Open/Clear/Shape	A to B	2646	1000	2.6	\$132.50	\$350.60
Open/Clear/Shape	C to D	574	1000	0.6	\$132.50	\$76.06
Open/Clear/Shape	E to G	2578	1000	2.6	\$132.50	\$341.59
Open/Clear/Shape	F to H	881	1000	0.9	\$132.50	\$116.73
Open/Clear/Shape	I to J	1941	1000	1.9	\$132.50	\$257.18
	Total	8620		Total		\$1,142.15

**Grub and Scatter designated stumps on 3 Road**

Equipment:   \$132.50 per hour                      12 Hours                      **Total**    \$1,590.00

*Project #2 Summary*

Equipment Costs	\$500.00
Improvement Costs	\$1,142.15
Grubbing Costs	\$1,590.00
<b>Project #1 Total</b>	<b>\$3,232.15</b>
per MBF	\$0.82



Final Straw  
 KL-341-2019-W00511-01  
*Project Costs*

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*Project #3 Slash and Brush Piling*

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*Landing Piling*

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Number of Landings: 10

Shovel Time:	1 Hour per Landing	Cost per Hour:	\$125.00	Total Cost	\$1,250.00
Cat Time:	1 Hour per Landing	Cost per Hour:	\$132.50	Total Cost	\$1,325.00

<b>Total</b>	<b><u><u>\$2,575.00</u></u></b>
per MBF	\$0.65

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*Unit Piling*

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Equipment Move In:           \$500.00

Acres to be Piled	15
Hours per Acre	2
Cost per Hour	\$85.00
Cost of Piling	<u>\$2,550.00</u>
<b>Total Cost</b>	<b><u><u>\$3,050.00</u></u></b>
per Mbf	\$0.78

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*Project #3 Summary*

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Landing Piling	\$2,575.00
Unit Piling	<u>\$3,050.00</u>
<b>Total Cost</b>	<b><u><u>\$5,625.00</u></u></b>
per Mbf	\$1.43

# Final Straw

## KL-341-2019-W00511-01

### Project Costs

#### Project #4 Spot Rocking

#### Spot Rocking - Delivered

<b>3/4 - Rock Size</b>	
180	Cubic Yards
1.5	Tons per Cubic Yard
270	Tons
<u>\$14.00</u>	cost per ton (delivered)
<b><u>\$3,780.00</u></b>	<b>Total</b>
\$0.96	per MBF

#### Rock Spreading (Grader)

	8	Total Grader Hours
	<u>\$105.50</u>	Cost per Hour
	\$844.00	Total
	8	Total Water Truck Hours
	<u>\$88.00</u>	Cost per Hour
	\$704.00	Total
	<b><u>\$1,548.00</u></b>	<b>Total Rock Spreading</b>
	\$0.39	per MBF

#### Project #4 Summary

Total cost Rock	\$3,780.00
Total cost Spreading	<u>\$1,548.00</u>
<b>Total</b>	<b><u>\$5,328.00</u></b>
per MBF	\$1.35

#### Cost Summary All Projects

Project No. 1 - Dust Abatement	\$11,887.21
Project No. 2 - Road Improvement	\$3,232.15
Project No. 3 - Slash and Brush Piling	\$5,625.00
Project No. 4 - Spot Rocking	\$5,328.00
<b>Total Cost</b>	<b><u>\$26,072.36</u></b>
per Mbf	\$6.63

# Summary of Project Work



"STEWARDSHIP IN FORESTRY"

## **Final Straw**

**KL-341-2019-W00511-01**

<b>Project No. 1: Dust Abatement</b>	<b>\$11,889.89</b>
<b>Project No. 2: Road Improvement</b>	<b>\$1,642.15</b>
<b>Project No. 3: Slash and Brush Piling</b>	<b>\$3,050.00</b>
<b>Project No. 4: Spot Rocking</b>	<b>\$5,328.00</b>
<b>Total:</b>	<b>\$21,910.04</b>

**OREGON DEPARTMENT OF FORESTRY**  
(Klamath-Lake District)  
**STREAM PROTECTION WRITTEN PLAN FORM**

A Written Plan is to contain complete, detailed information describing HOW your operation will meet the required standards for resource protection prescribed in the Forest Practices Rules. This form is intended to be a helpful tool guiding you through the necessary information addressing the protection of **STREAMS** (OAR 629-635-0000 through 629-660-0060). Please attach additional comments on a separate piece of paper if this form does not provide enough space.

**LANDOWNER NAME & MAILING ADDRESS:**

Oregon Department Forestry Telephone: 541-883-5681  
3200 Delap Road  
Klamath Falls, OR 97601

**OPERATOR NAME & MAILING ADDRESS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ Telephone: \_\_\_\_\_

**WRITTEN PLAN SUBMITTED BY:** Chris Weekly  
(Print Name)  
\_\_\_\_\_  
(Signature) (Date)

**LEGAL DESCRIPTION:** Sections 19, 20, 29, 30 and 32, T32S, R7½E, W.M.  
(Township, Range, & Section)

**NOTIFICATION NUMBER:** \_\_\_\_\_

<b>FOR ADMINISTRATIVE USE ONLY</b>			
DATE RECEIVED..... _____			
SUBJECT TO 14-DAY COMMENT PERIOD..... <input checked="" type="checkbox"/> YES      NO			
WERE SUBSCRIBER COMMENTS RECEIVED..... YES      NO			
<b>COPIES SENT TO:</b>			
LO__ OP__ SUBSCRIBERS__ ODF&W__ OTHER			

The following Written Plan addresses how the operation will be conducted within the Riparian Management Area (RMA) along each side of the stream. The RMA extends the specified distance (generally slope distance) from the high water level of the main channel. See OAR 629-635-310 for exceptions on locating the RMA and note in the Written Plan if they apply to this operation.

A. STREAM NAME: Sun Creek

B. STREAM TYPE:

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Large F (100' RMA) | <input type="checkbox"/> Large D (70' RMA)  | <input type="checkbox"/> Large N (70' RMA)  |
| <input type="checkbox"/> Medium F (70' RMA)            | <input type="checkbox"/> Medium D (50' RMA) | <input type="checkbox"/> Medium N (50' RMA) |
| <input type="checkbox"/> Small F (50' RMA)             | <input type="checkbox"/> Small D (20' RMA)  |   |

C. LENGTH OF STREAM WITHIN THE OPERATION AREA: 6,213 ft.

(NOTE: This is the length of each side of the stream, double the length if the operation is on both sides of the stream)

D. OPERATION WILL BE A:  clearcut,  partial cut.

E. AVERAGE SLOPE WITHIN THE RMA IS: 0-20 %

F. THE OPERATION SHALL RETAIN:

(Required unless addressed under road construction, yarding corridors, temporary crossings, or for stream improvement)

1. ALL UNDERSTORY VEGETATION WITHIN 10' OF HIGH WATER LEVEL?

yes  no

2. ALL TREES WITHIN 20' OF THE HIGH WATER LEVEL?

yes  no

3. ALL TREES THAT LEAN OVER THE CHANNEL AND GROW IN THE RMA?

yes  no

G. RETENTION OF ALL SNAGS AND DOWN WOOD IN THE CHANNEL AND RMA? (Required unless addressed as safety hazard, fire hazard, stream improvement, or an alternative prescription for catastrophic event)

yes  no

IF NO, address: \_\_\_\_\_

H. LIVE CONIFERS RETAINED PER 1000' (Required):

1. LARGE STREAM: 40 which are at least 11" DBH  yes  no

2. MEDIUM STREAM: 30 which are at least 8" DBH  yes  no

I. BASAL AREA PER 1000' OF STREAM REQUIRED TO BE RETAINED:

standard target, 130 active management target.

J. EXISTING BASAL AREA OF TREES OR SNAGS SIX INCHES OR GREATER DBH ON SITE: 200 sq ft per 1000'

HOW WAS THIS DETERMINED? The RMA was sampled as part of the variable plot cruise determining residual stocking within the timber sale area.

BY WHOM? Klamath-Lake District State Forest staff

- K. IS THE LIVE CONIFER TREE BASAL AREA IN THE RMA GREATER THAN THE STANDARD TARGET: X yes \_\_\_\_\_ no.

DESCRIBE THE VEGETATION RETENTION PRESCRIPTION: (Narrative should include the basal area to be retained, basal area to be removed, if and how live tree retention credit used, if and how alternative vegetation prescription used, if and how site specific vegetation prescription used, etc.)

RMA will be thinned from below by removing select trees to reduce the current basal area. Cut trees have been designated by marking having been chosen to result in lower stocking levels, while minimizing damage to the residual stand.

- L. IS THE RMA BOUNDARY MARKED? \_\_\_\_\_ yes X no

IF SO, HOW – RMA Boundary is marked with yellow paint and pink flagging.

IS THE 20' BOUNDARY MARKED? X yes \_\_\_\_\_ no

IF SO, HOW - Timber Sale boundary tags, Fluorescent Orange paint and Flagging.

ARE TREES TO BE HARVESTED MARKED? X yes \_\_\_\_\_ no

IF SO, HOW? – Leave trees have been marked, unmarked trees will be removed.

- M. WILL LANDINGS BE LOCATED WITHIN THE RMA? \_\_\_\_\_ yes X no.

IF YES, describe how many, location, construction specifications, drainage, post-operation rehabilitation, etc.:

- N. WILL SKID TRAILS BE LOCATED PARALLEL TO THE STREAM AND WITHIN THE RMA? \_\_\_\_\_ yes X no.

IF YES, describe length and specifications of skid trails within RMA, post operation rehabilitation, drainage, etc.:

Skid trails in the RMA will be kept to the minimum length necessary and be perpendicular to the channel. Runoff Mitigation ( waterbarring or spreading of slash) will be conducted if necessary.

- O. WILL THERE BE SKID TRAIL STREAM CROSSINGS? \_\_\_\_\_ yes X no.

IF YES, describe type, how constructed, removal, post operation rehabilitation, time frame, numbers of loads over, etc.:

P. WILL THERE BE NEW ROAD CONSTRUCTION WITHIN RMA? \_\_\_\_\_ yes  X  no.

IF YES, describe length, method of construction, overburden placement, drainage, post operation rehabilitation, etc.:

Q. WILL THERE BE HAUL ROAD STREAM CROSSINGS? \_\_\_\_\_ yes  X  no.

IF YES, describe type (i.e. bridge, ford, culvert, etc.), permanence, temporary (describe removal), time frame of use, approach stabilization, post operation rehabilitation, etc.:

R. RESIDUAL VEGETATION DESCRIPTION:

(narrative to include description of residual species of both brush and overstory canopy).

**The overstory is composed of primarily white fir and some ponderosa pine as well as black cottonwood and quaking aspen adjacent to the stream. Understory and brush components include willow, white alder, choke cherry, and snowbrush.**

S. RESIDUAL VEGETATION PROTECTION MEASURES: How will the operation be conducted to minimize damage/disturbance to residual vegetation? (description to include type and size of equipment used and methods employed to achieve this; i.e. feller buncher, shovel log, directional felling, pulling line, etc.)

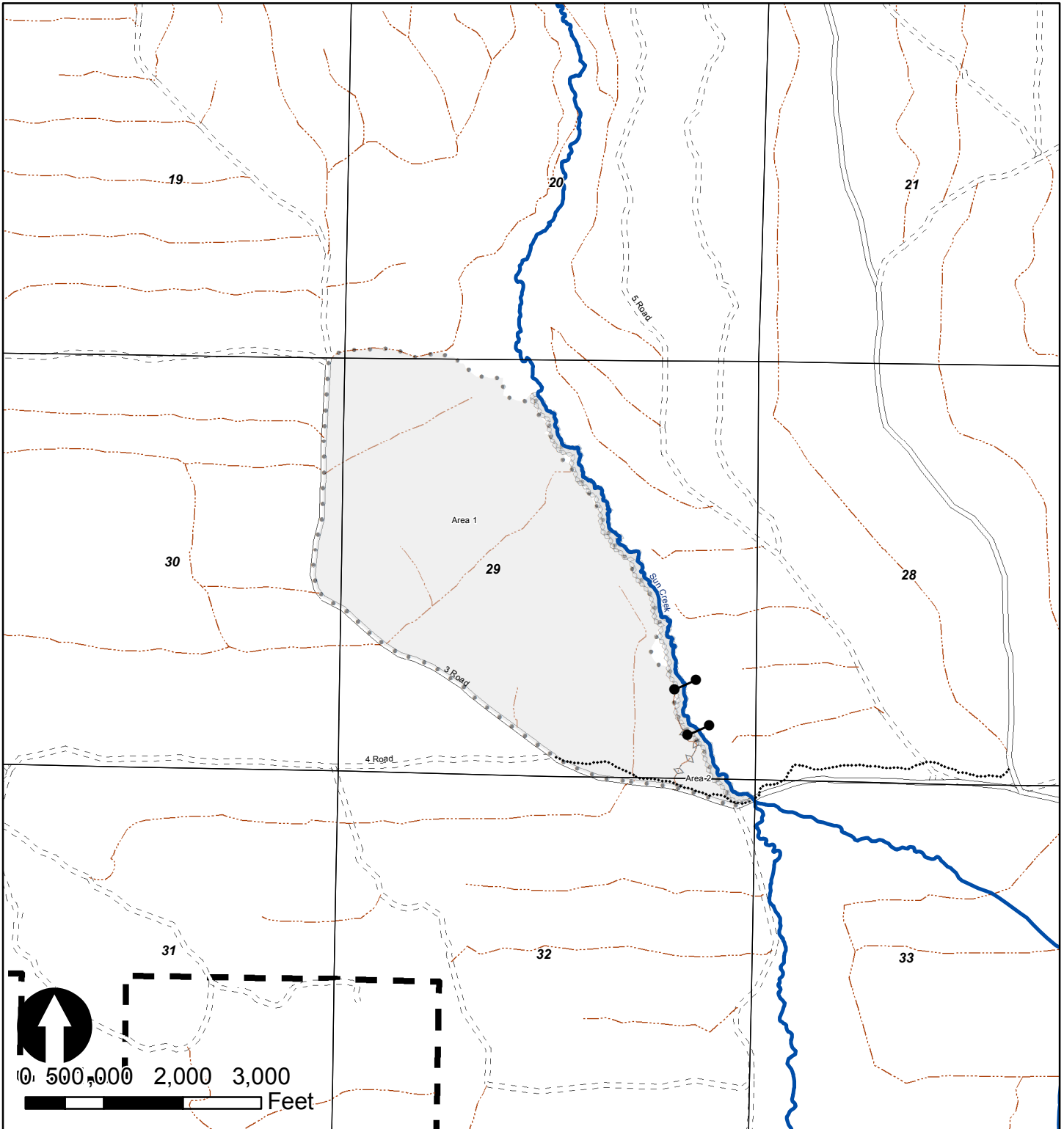
**Skid trails will be flagged within the RMA. All mechanical felling will be performed by a feller buncher with a lateral reaching boom, cut trees will be packed and bunched in designated trails. Oversize trees will be directionally felled to minimize damage and the logs will be bunched in the trails by a shovel.**

T. SOIL AND HYDROLOGIC FUNCTION PROTECTION: How will the operation be conducted to minimize disturbance to soil and damp/wetted areas within the RMA? (Description to include timing of operation and soil conditions during operation; i.e. will only operate machinery on frozen or dry soils)

**Soil is pumice type which is tractor operable year round. If unacceptable soil displacement or rutting occurs, skidding will be suspended until corrective action is taken or soil conditions improve (Section 2355 of contract).**

U. OTHER NOT IDENTIFIED ABOVE: To include description and protection measures of practices other than harvesting (chemical application, slash treatment, fire trail construction, etc.), as well as any other general information useful to approval of this plan.

V. MAP REQUIREMENTS: A MAP MUST BE ATTACHED IDENTIFYING THE STREAM, RMA, AND LOCATION OF ACTIVITY DESCRIBED IN THE WRITTEN PLAN



0 500 1,000 2,000 3,000 Feet



"STEWARDSHIP IN FORESTRY"

**WRITTEN PLAN EXHIBIT**

Of Timber Sale Contract  
 KL-341-2019-W00511-01  
 Final Straw  
 Portions of Section 19, 20, 29, 30 and 32,  
 T32S, R7.5E, Willamette Meridain,  
 Klamath County, Oregon

Approximately 376 acres

	<b>Timber Sale Area</b>		Paved Road
	Sun Creek		Surfaced Road
	Sun Creek Barriers		Unsurfaced Road
	Sun Creek Buffer		Snowmobile Trail
			Blocked



# ***Final Straw***

***KL-341-2019-W00511-01***  
***Cruise Report***



"STEWARDSHIP IN FORESTRY"

**SALE NAME:** Final Straw

**LEGAL DESCRIPTION:**

Township 32S, Range 7½E, Portions of Sections 19, 20, 29, 30, and 32, Willamette Meridian, Klamath County, OR.

**BOUNDARY LINES:**

Area 1 boundary is posted with "Timber Sale Boundary" signs, marked with fluorescent orange paint and fluorescent orange flagging.

Area 2 boundary follows the barrier road and is unmarked.

**FUND:**

100% B.O.F.

**ACREAGE:**

Timber Sale is approximately 376 acres.

Areas 1 and 2 were combined for purposes of the cruise as the marking prescription was unchanged. The decision to cut tree mark area 2 was made for aesthetic reasons due to higher public use in the area. Mapping was accomplished using a handheld Global Positioning System unit with the data run on the district Geographical Information System Program.

**TREATMENT:**

The Timber Sale is a single tree selection harvest. In Area 1 leave trees have been marked with an orange band at DBH. In Area 2 cut trees have been marked with a blue band at DBH. All trees less than 9.0 inches DBH are reserved from cutting in the sale area.

**CRUISE METHOD:**

Variable plot cruise with a ratio of a count plot for every measure plot. Fixed plot cruise for all sub-merchantable material (5.0" to 10.0") DBH for all Areas.

**BASAL AREA FACTOR:**

The sale was cruised using a 14 BAF.

**PLOT DESIGNATION:**

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

**SAMPLE SIZE CALCULATIONS:**

CV%	DESIRED SE%	ACRES
70	12	376

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

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

Area 1                       $N = \frac{(1)^2(70)^2}{(12)^2} = 34 \text{ plots}$

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.

**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:**

9.0" 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 DBH.

**VOLUME COMPUTATION:**

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

**FINAL CRUISE RESULTS:**

<b>CV%</b>	<b>SE%</b>	<b>ACRES</b>
64.1	10.5	376

## **TIMBER DESCRIPTION**

### **SAWLOG VOLUME:**

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

### **AREA 1 SAWLOG VOLUME**

<b>Species</b>	<b>Average DBH</b>	<b>Gross Volume per acre (bf/acre)</b>	<b>Net Volume per acre (bf/acre)</b>	<b>Gross Volume per area (Mbf)</b>	<b>Net Volume per area (Mbf)</b>
Ponderosa pine	23.3	10,422	10,267	3,919	3,860
White fir	14.3	198	198	74	74
<b>Combined</b>	<b>22.7</b>	<b>10,620</b>	<b>10,465</b>	<b>3,993</b>	<b>3,935</b>

**TOTAL NET SAWLOG VOLUME: 3,935 MBF**

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	FSTRAW			DATE	8/27/2018	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
032	007	29	112	VARC	376.00	37	162	1	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		37	162	4.4						
CRUISE		19	90	4.7	7,950		1.1			
DBH COUNT										
REFOREST										
COUNT		17	72	4.2						
BLANKS		1								
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
PPINE	85	19.5	23.3	75	12.0	57.8	10,422	10,267	1,931	1,931
WHITE F	5	1.6	14.3	37	0.5	1.8	198	198	40	40
<b>TOTAL</b>	<b>90</b>	<b>21.1</b>	<b>22.7</b>	<b>72</b>	<b>12.5</b>	<b>59.6</b>	<b>10,620</b>	<b>10,465</b>	<b>1,971</b>	<b>1,971</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	
PPINE		64.8	7.0	724	779	834				
WHITE F		105.0	52.2	112	234	356				
<b>TOTAL</b>		<b>67.9</b>	<b>7.2</b>	<b>695</b>	<b>749</b>	<b>802</b>	<b>184</b>	<b>46</b>	<b>20</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	
PPINE		55.7	6.0	133	142	150				
WHITE F		96.9	48.2	24	45	67				
<b>TOTAL</b>		<b>58.9</b>	<b>6.2</b>	<b>128</b>	<b>136</b>	<b>145</b>	<b>139</b>	<b>35</b>	<b>15</b>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
PPINE		72.9	12.0	17	19	22				
WHITE F		426.7	70.1	0	2	3				
<b>TOTAL</b>		<b>65.1</b>	<b>10.7</b>	<b>19</b>	<b>21</b>	<b>23</b>	<b>169</b>	<b>42</b>	<b>19</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	
PPINE		62.5	10.3	52	58	64				
WHITE F		498.3	81.9	0	2	3				
<b>TOTAL</b>		<b>57.6</b>	<b>9.5</b>	<b>54</b>	<b>60</b>	<b>65</b>	<b>132</b>	<b>33</b>	<b>15</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	
PPINE		67.4	11.1	9,130	10,267	11,405				
WHITE F		553.4	90.9	18	198	377				
<b>TOTAL</b>		<b>64.1</b>	<b>10.5</b>	<b>9,362</b>	<b>10,465</b>	<b>11,567</b>	<b>164</b>	<b>41</b>	<b>18</b>	
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	
PPINE		65.5	10.8	1,724	1,931	2,139				
WHITE F		541.0	88.9	4	40	75				
<b>TOTAL</b>		<b>62.0</b>	<b>10.2</b>	<b>1,770</b>	<b>1,971</b>	<b>2,172</b>	<b>154</b>	<b>38</b>	<b>17</b>	

**Log Stock Table - MBF**  
**Project: FSTRAW**

**T032 R007 S29 TVARC**

**T032 R007 S29 TVARC**

**Twp Rge Sec Tract Type Acres Plots Sample Trees Page**  
**032 007 29 112 VARC 376.00 37 91 Date 8/14/2018**  
**Time 8:43:24AM**

Spp	T	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches												
										MBF	MBF	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	16			16		16	.4					2						14		
PP	1	CR	17			119		119	3.1			36	18	32				19		14		
PP	1	CR	20			54	7.0	51	1.3									20		31		
PP	1	CR	26			220		220	5.7			35	57	51	57				21			
PP	1	CR	32			1,378	1.7	1,355	35.1						11	15	410		719	167		33
PP	1	CR	34			2,132	1.5	2,101	54.4			39	229	302	346	468	684		32			
PP		Totals				3,919	1.5	3,861	98.1			110	306	384	414	483	1154		810	167		33
WF	1	CR	17			7		7	9.2			7										
WF	1	CR	26			5		5	6.8			5										
WF	1	CR	34			62		62	83.9					9	32			21				
WF		Totals				74		74	1.9			12		9	32			21				
Total All Species						3,993	1.5	3,935	100.0			122	306	393	447	483	1175		810	167		33



**Sale Number**  
 WO-341-2019-W00776-01

**Sale Name**  
 Cold Boulder

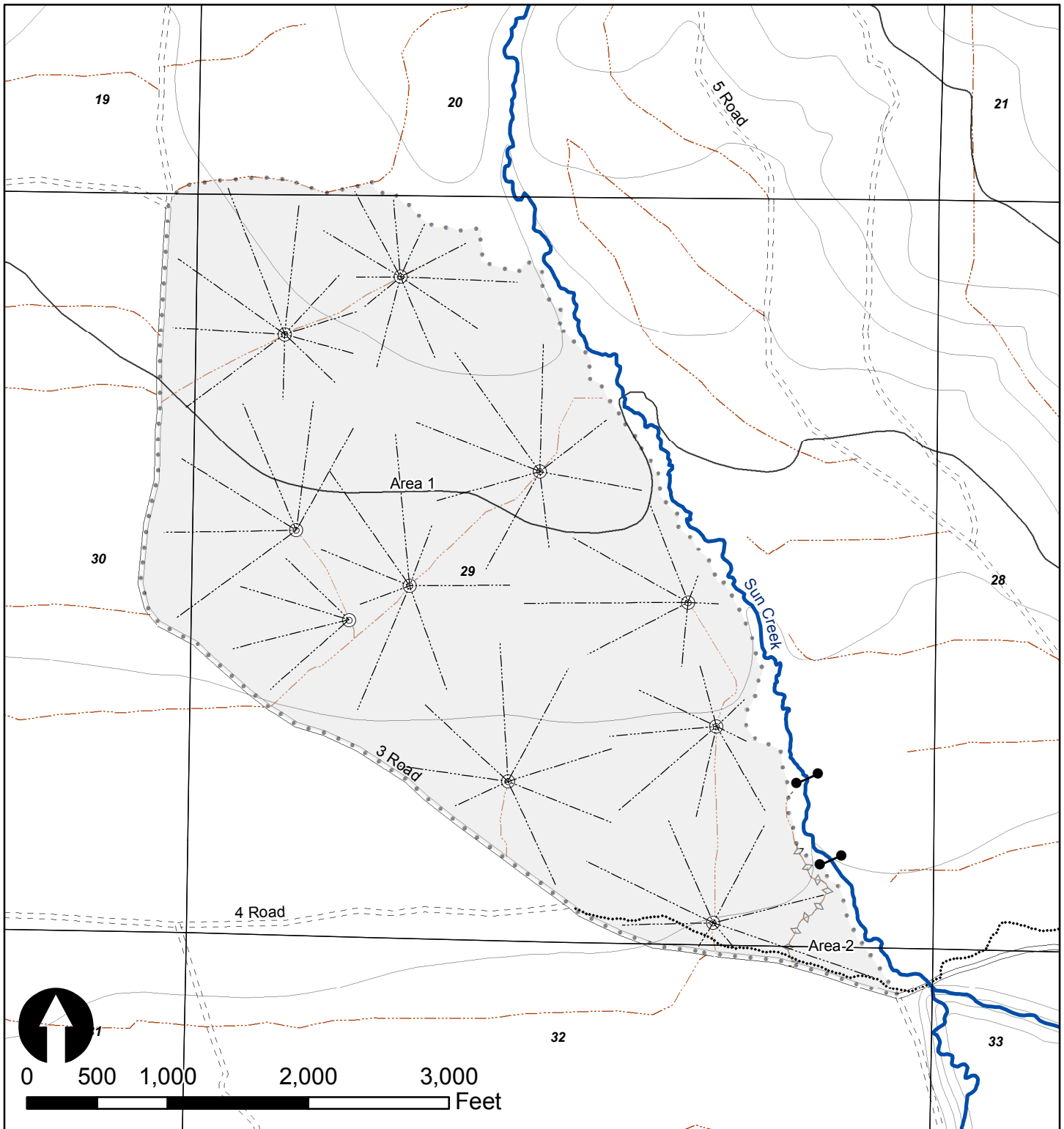
**Expiration Date**  
 December 31, 2020

	Comments	Units	Project	Expiration Date															
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
Harvesting				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Ground yarding																			
Slash Treatment	Machine Slash Piling																		

	Comments	Units	Project	Expiration Date															
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
Hauling				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Hauling as shown on Exhibit A	Hauling on Salmon Creek Road																		
Log Hauling on Unsurfaced Roads																			

	Comments	Units	Project	Expiration Date															
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
Project Work				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Activity in Live Streams																			
Non-project roads and landings																			
Landing and Road Construction or Improvement Operations		1a, 1b																	

Operation Allowed    
  Operation Restricted    
  Activity Restricted 2 hours before sunset and 2 hours after sunrise



"STEWARDSHIP IN FORESTRY"

**LOGGING PLAN**

Of Timber Sale Contract  
 KL-341-2019-W00511-01  
 Final Straw  
 Portions of Section 19, 20, 29, 30 and 32,  
 T32S, R7.5E, Willamette Meridain,  
 Klamath County, Oregon

Approximately 376 acres

	<b>Timber Sale Area</b>		Paved Road
	Sun Creek		Surfaced Road
	Landing		Unsurfaced Road
	Skid Trails		Blocked
	Sun Creek Barriers		Snowmobile Trail