



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Shake-N-Baker
Sale 341-14-51

District: Coos

Date: August 06, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$388,885.63	\$2,601.34	\$391,486.97
		Project Work:	\$(18,216.00)
		Advertised Value:	\$373,270.97



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District: Coos

Date: August 06, 2013

timber description

Location: Portions of Section 22, T23S, R10W. W.M., Douglas County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	17	0	95
Western Hemlock / Fir	20	0	95
Alder (Red)	12	0	90

Volume by Grade	12"+	2S	3S	4S	5" - 7"	8" - 9"	Total
Douglas - Fir	0	678	408	79	0	0	1,165
Western Hemlock / Fir	0	94	33	7	0	0	134
Alder (Red)	2	0	0	0	5	7	14
Total	2	772	441	86	5	7	1,313



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comments: Pond Values Used: 2nd Quarter Calendar Year 2013.

Regeneration harvest 58 net acres of 3rd growth timber. Timber is predominately 48 year old Douglas-fir with a minor amount of western hemlock and red alder.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$561.57/\text{MBF} = \$850/\text{MBF} - \$288.43/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):

FELLING:

Felling of Unmerchantable Material: $5 \text{ MBF} \times \$1/\text{MBF} = \5

YARDING & LOADING:

Ground Based Equipment Wash: $6 \text{ Hours} \times \$65/\text{hour} = \390

Locate Corridors & Skid Roads: $15 \text{ MBF} \times \$5/\text{MBF} = \75

Artificial guyline support $3 \times \$500 = \$1,500$

Brand & Paint Logs: $1,313 \text{ MBF} \times \$1/\text{MBF} = \$1,313$

Loader Time for Firewood Stacking & Slash Piling: $10 \text{ Hours} \times \$75/\text{hour} = \$750$

Cover Landing & Slash Piles w/Sheeting: $10 \text{ piles} \times \$50/\text{pile} = \$500$

Maintenance Rock: $100 \text{ Cubic yards} \times \$30/\text{Cubic yard} = \$3,000$

TOTAL Other Costs (with Profit & Risk to be added) = \$7,533

Other Costs (No Profit & Risk added):

None.



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logging conditions

combination#: 1 Douglas - Fir 83.00%
 Western Hemlock / Fir 83.00%
 Alder (Red) 83.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 6.0 **bd. ft / load:** 3,800
cost / mbf: \$146.67

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 2 Douglas - Fir 17.00%
 Western Hemlock / Fir 17.00%
 Alder (Red) 17.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 6.0 **bd. ft / load:** 3,800
cost / mbf: \$63.08

machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

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logging costs

Operating Seasons:	2.00	Profit Risk:	20.00%
Project Costs:	\$18,216.00	Other Costs (P/R):	\$7,533.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

Miles of Road

Road Maintenance: \$0.00

Dirt	Rock (Contractor)	Rock (State)	Paved
1.0	0.0	1.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	3.8
Western Hemlock / Fir	\$0.00	2.0	3.8
Alder (Red)	\$0.00	2.0	3.6



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District: Coos

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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$132.46	\$1.49	\$6.68	\$89.81	\$5.74	\$47.24	\$0.00	\$5.00	\$0.00	\$288.42
Western Hemlock / Fir									
\$132.46	\$1.49	\$6.68	\$89.81	\$5.74	\$47.24	\$0.00	\$5.00	\$0.00	\$288.42
Alder (Red)									
\$132.46	\$1.56	\$6.68	\$99.31	\$5.74	\$49.15	\$0.00	\$5.00	\$0.00	\$299.90

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$598.87	\$310.45	\$0.00
Western Hemlock / Fir	\$0.00	\$491.49	\$203.07	\$0.00
Alder (Red)	\$0.00	\$485.71	\$185.81	\$0.00



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District: Coos

Date: August 06, 2013

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	1,165	\$310.45	\$361,674.25
Western Hemlock / Fir	134	\$203.07	\$27,211.38
Alder (Red)	14	\$185.81	\$2,601.34

Gross Timber Sale Value

Recovery: \$391,486.97

Prepared by: Greg Erb

Phone: 541-267-1756

Summary of "Other Costs" for Timber Sale Appraisals

Sale Name: Shake-N-Baker

Additional "Other Cost" with additional profit and risk to be added:

	<u>Units</u>	<u>Quantity</u>	<u>Cost/unit</u>	<u>Total Cost</u>
Felling				
Felling of unmerch material	MBF	5	\$ 1.00	\$ 5.00
Directional Felling	MBF		\$ 2.00	\$ -
Yarding and Loading				
Ground Based Equipment Wash	Hours	6	\$ 65.00	\$ 390.00
Locate Corridors and Skid Roads	MBF	15	\$ 5.00	\$ 75.00
Artificial guyline support (Dozer/Skidder)	anchor	3	\$ 500.00	\$ 1,500.00
Brand and paint logs	MBF	1313	\$ 1.00	\$ 1,313.00
Loader time for firewood stacking & slash piling	Hours	10	\$ 75.00	\$ 750.00
Cover landing slash pile w/sheeting	pile	10	\$ 50.00	\$ 500.00
Snag Creation				
Tree Topping @ 60 feet +	Trees	0	\$ 100.00	\$ -
Tree Girdling @ 60 feet +	Trees	0	\$ 125.00	\$ -
Tree Girdling @ DBH	Trees	0	\$ 75.00	\$ -
Miscellaneous Costs				
Log Placement in Stream	Crossings	0	\$ -	\$ -
Additional Fire Equipment	Seasons	0	\$ 1,500.00	\$ -
Maintenance rock per section 5	Cubic Yards	100	\$ 30.00	\$ 3,000.00
Safety Flagging and/or signing	per day		\$ 110.00	\$ -

Total additional "Other Cost" with additional profit and risk to be added

\$ 7,533.00

SUMMARY OF CONSTRUCTION COST

Shake N Baker

Project 1A: Road and Landing Construction

Points: B to C Length: 250' Type: 14' no ditch

Excavator	10	hrs at	\$140.00	per hour	\$1,400.00
Cat time	10	hrs at	\$140.00	per hour	\$1,400.00
Laborer	10	hrs at	\$38.00	per hour	\$380.00
Grader	1	hrs at	\$85.00	per hour	\$85.00

Total Project 1A: \$3,265.00

Project 1B: Landing Construction

Points: D Length: n/a Type: n/a

Excavator - remove small trees and brush	4	hrs at	\$140.00	per hour	\$560.00
Cat time - spread material, smooth area	4	hrs at	\$140.00	per hour	\$560.00
Laborer	4	hrs at	\$38.00	per hour	\$152.00

Total Project 1B: \$1,272.00

Project 1C: Landing Construction

Points: G Length: n/a Type: n/a

Excavator - remove small trees and brush	4	hrs at	\$140.00	per hour	\$560.00
Cat time - spread material, smooth area	4	hrs at	\$140.00	per hour	\$560.00
Laborer	4	hrs at	\$38.00	per hour	\$152.00

Total Project 1C: \$1,272.00

Move-in

Equipment	Miles	hrs/RT	Lowboy Rate/hr	Total
Excavator	45	6	\$100.00	\$600.00
Cat	45	6	\$100.00	\$600.00
Grader	45	5	\$100.00	\$500.00

Total Move-in: \$1,700.00

Project 1 Total \$7,509.00

Project 2A: Road Improvement

Points: A to H Length: 2435' Type: 14' w/ ditch

Grader	2	hrs at	\$85.00	per hour	\$170.00
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Total Project 2A: \$170.00

Project 2B: Road and Landing Improvement

Points: E to F Length: 780' Type: 14' no ditch

Cat time	10	hrs at	\$140.00	per hour	\$1,400.00
Excavator time - widen landing area	10	hrs at	\$140.00	per hour	\$1,400.00
Grader time	1	hrs at	\$85.00	per hour	\$85.00
Laborer	10	hrs at	\$38.00	per hour	\$380.00

Total Project 2B: \$3,265.00

SUMMARY OF CONSTRUCTION COST
Shake N Baker

Project 2C: Road and Landing Improvement

Points: H to I Length: 420' Type: 14' no ditch

Cat time - fix through-cut area, smooth road	<u>10</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$1,400.00</u>
Excavator time	<u>10</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$1,400.00</u>
Grader time	<u>1</u>	hrs at	<u>\$85.00</u>	per hour	<u>\$85.00</u>
Laborer	<u>10</u>	hrs at	<u>\$38.00</u>	per hour	<u>\$380.00</u>

Total Project 2C: \$3,265.00

Project 2D: Road and Landing Improvement

Points: J to K Length: 605' Type: 14' w/ditch

Cat/Excavator time for landing at Pt K	<u>5</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$700.00</u>
Grader time	<u>1</u>	hrs at	<u>\$85.00</u>	per hour	<u>\$85.00</u>
Laborer	<u>5</u>	hrs at	<u>\$38.00</u>	per hour	<u>\$190.00</u>

Total Project 2D: \$975.00

Project 2E: Road and Landing Improvement

Points: L to M Length: 225' Type: 14' no ditch

Cat time	<u>5</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$700.00</u>
Excavator time	<u>5</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$700.00</u>
Grader time	<u>1</u>	hrs at	<u>\$85.00</u>	per hour	<u>\$85.00</u>
Laborer	<u>5</u>	hrs at	<u>\$38.00</u>	per hour	<u>\$190.00</u>

Total Project 2E: \$1,675.00

Project 2F: Road and Landing Improvement

Points: N to O Length: 935' Type: 14' no ditch

Cat time - for landing improvement	<u>4</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$560.00</u>
Excavator time - for landing improvement	<u>4</u>	hrs at	<u>\$140.00</u>	per hour	<u>\$560.00</u>
Grader time	<u>1</u>	hrs at	<u>\$85.00</u>	per hour	<u>\$85.00</u>
Laborer	<u>4</u>	hrs at	<u>\$38.00</u>	per hour	<u>\$152.00</u>

Total Project 2F: \$1,357.00

Project 2 Total \$10,707.00

Total Project Costs \$18,216.00

Operating Periods Restrictions Matrix for Shake-N-Baker 341-14-51

Harvesting	January	February	March	April	May	June		July		August		September		October		November		December	
						1st	15th	7th	8th	5th	6th	15th	16th	14th	15th				
Ground-based Yarding																			
Cable Yarding on unsurfaced roads																			
Cable Yarding operations and Loading in seasonally restricted areas																			
Cable yarding operations in Unsurveyed Mature Timber																			

Hauling	January	February	March	April	May	June		July		August		September		October		November		December	
						1st	15th			5th	6th	15th	16th	15th					
Log Hauling on Unsurfaced Roads																			
Warrior Creek (1000) Rd (mile 0.0 to 5.0)																			
logs, rock, empties																			

Project Work	January	February	March	April	May	June		July		August		September		October		November		December	
						1st	15th			5th	6th	15th	16th	15th					
Projects 1 & 2																			

Operations Allowed

Operations Prohibited - T & E

Operations Prohibited for weather conditions: unless otherwise approved in writing by STATE

Operating Matrix represents the seasonal restrictions contained within the body of the timber sale contract. See the contract for further information on seasonal restrictions.

TIMBER SALE SUMMARY

Shake-N-Baker

1. Type of Sale: Final Harvest, Recovery, Sealed Bid.

2. Boundary Lines: The timber sale boundary is marked on the ground with "Timber Sale Boundary" posters, red flagging, and red paint at locations shown on the Exhibit "A."

3. Revenue Distribution: 100% CSL, 100% Douglas County.

4. Sale Acreage: The sale is comprised of one unit of approximately 58 acres. Sale acreage was determined from electronic digitizing using the Arc Map 10 GIS program and 2008 Lidar (Light Detection and Ranging) layers. Existing roads, landings, and non-stocked areas were removed from the cruised acreage.

Posted Acres	Interior Roads/Landings	Non-Stocked Acres	Net Cruise Acres	Net Harvest Acres
64	4	2.3	58	58

5. Volume by Species:

Species	Total Volume (MBF)	Volume (MBF) per Acre
Douglas-fir	1165	19.8
Hemlock	134	2.3
Hardwoods	14	.2
Total	1313	22.3

6. Grade: (by Percent)

Species	3 Peeler %	Spec. Mill %	2 Saw %	3 Saw %	Big 3 Saw %	4 Saw %
Douglas-fir			58%	35%	0%	7%
Hemlock			70%	25%		5%
			12"+	10-11"	8-9"	6-7"
Hardwoods			17%	0%	51%	32%

7. Grading System: All trees were graded according to the Southern Oregon Log Scaling and Grading Rules. Trees were graded to maximize grade (i.e. 20 foot 2 Saw), where possible. Timber sale volume was calculated by converting all logs to 40 foot lengths.

8. Cruise: The timber sale area was cruised using a variable plot cruise with a nested Big Basal Area Factor (BAF) plot. The Big BAF method is a combination of count plots and individually measured trees. 20 BAF full plots at BH were used to determine tree counts and to measure minor species. The 20 BAF plots were spaced 120 feet apart on cruise lines spaced 300 feet apart. A total of 59 count plots were measured. Nested, 160 BAF full plots at BH were used to determine which Douglas-fir would be measured. 31 measure plots were taken, and a total of 35 Douglas-fir trees were measured for DBH, height, grade and defect. Cruising was completed in May 2013 by ODF foresters.

A. Summary data:

Diam	Ht. Stand	Form Pt.	Form Factor	CV %	SE %
DBH	Total Height	Conifer: 4.5' Hardwood: 4.5'	Recorded for all cruised trees by estimate and measure	42.8%	5.6%

B. Stand Data:

SPECIES	DBH	TREES/ACRE	BASAL AREA/AC	NET MBF/ACRE
Douglas-fir	17	100	148.1	19.8
Hemlock	20	8	17.6	2.3
Hardwoods	12	4	3.7	.2

C. Green Tree Retention: Reserve areas consist of stream buffers and individually marked trees left along seasonal and perennial drainages. Individually marked green trees are painted with red "W" and have been removed from the cruised volume. The table below summarizes the reserve trees whose volumes have been removed from the cruise. Stream buffers and GTR areas are mapped in Exhibit "A."

Sale Area	Douglas-fir MBF	Hemlock MBF
1	2	0

D. Down Wood: The down woody debris requirement of this sale is to leave 60 – 120 cubic feet per acre of hard logs across the sale areas. This will be achieved by retaining at least 3 and not more than 6 hard logs per acre containing a minimum of 20 cubic feet for any individual piece. Existing down wood can be used to achieve this target provided they meet the definition of a hard log (sound wood in decay class 1 or 2 indicated by intact bark and original wood color).

9. Timber Description: Timber in the sale area is 48 year-old Douglas-fir with minor amounts of western hemlock and red alder. The average cruised Douglas-fir has a 16.5 inch diameter with a total height of 99 feet.

10. Topography: The sale areas range from 0 to 100 percent slope. The majority of the sale is less than 75%, with some steeper areas near draws. Several benches with slopes of 0-35% are throughout the sale. One main stream is located within the sale: Baker creek, along the north edge. Locations of stream buffers and green tree retention areas are indicated on Exhibit "A."

11. Logging Method: Approximately 83% of the sale area is designed to be uphill cable logged, with a medium size yarder (40 to 70 feet in height). Yarding distances range from 300 to 800 feet. The remaining 17% of the sale area is designed to be ground based yarded, with yarding distances of less than 400 feet. Ground based logging on slopes over 35 percent will require written approval prior to operation in these areas. No cable logging activity, including tailholds and stringing of lines, will be allowed from April 1 to September 15 in the Seasonally Restricted Areas shown on Exhibit A. Additionally no cable logging activity of any kind will be allowed in "Unsurveyed Mature Timber" areas shown on Exhibit A. See Operating Periods Restriction Matrix for a summary of seasonal operating restrictions described in Section 2455 of timber sale contract. Final determination of landing locations and logging method must give priority to protection of stream buffers and green tree retention areas. Full suspension will be required when yarding over drainages and stream buffers, and single end suspension will be required over the remainder of the sale areas. This timber sale is intended for dry season operation. Roads and landings are indicated on Exhibit "A" and Logging Plan maps. Artificial guyline anchors costs have been included in the appraisal. 100 cubic yards of rock is to be spread on the 1000 and 7000 roads after logging operations are complete.

12. Access: From Reedsport, travel 12.4 miles on highway 38 to Loon Lake road. Proceed 10.3 miles, turning right onto the 1000(Elk Ridge) road. Continue on the 1000 rd. for 3.4 miles to Point A.

13. Projects:

Project 1: Road and Landing Construction

Project 2: Road and Landing Improvement

CRUISE VOLUME COMPUTATION REPORT

SALE NAME: Shake-N-Baker
LEGAL LOCATION: T23S, R10W Sec. 22

DATE: 07/09/2013
BY: Greg Erb

GROSS VOLUME MBF

SPECIES>>> AREA	Doug-fir	Hemlock	Red Cedar	Sitka Spruce	Hardwds	TOTAL
	1296.7	150.7	0	0	16	1,463
Less GTR Vol.	2	0	0	0	0	2
Less DWD Vol.	0	0	0	0	0	0
TOTAL	1295	151	0	0	16	1462

DEFECT AND BREAKAGE

Species	Doug-fir	Hemlock	Red Cedar	Sitka Spruce	Hardwds
Hidden cull	0.05	0.05	0	0	0.04
Field cull	0.02	0.03	0	0	0.03
Breakage	0.03	0.03	0	0	0.03
Total	0.10	0.11	0.00	0.00	0.10

NET VOLUME BY MBF

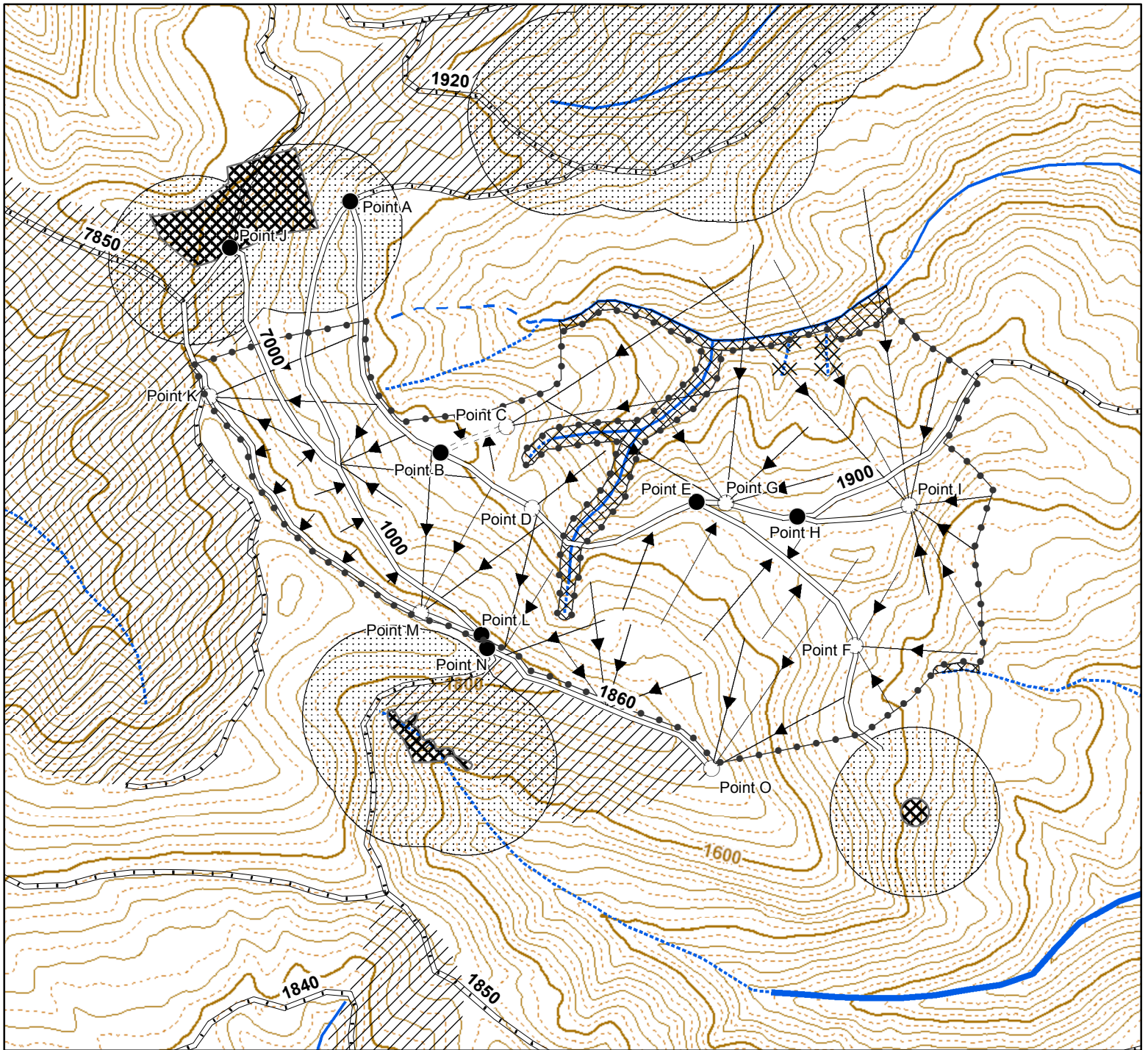
SPECIES AREA	Doug-fir	Hemlock	Red Cedar	Sitka Spruce	Hardwds	TOTALS
	1165	134	0	0	14	1313
TOTALS	1165	134	0	0	14	1313

NET VOLUME BY GRADE AND MBF *

Grade >>>>>>>>>>	2 PEE	3 PEE	SM	2SAW(12"+)	3SAW(12"+)	(RA) 3SAW(10-11")	(RA) 4SAW(8-9")	(RA) (5-7")
Species								
Doug-Fir	0	0	0	678	0	408	79	0
Hdwds	0	0	0	2	0	0	7	5
Red Cedar	0	0	0	0	0	0	0	0
Hemlock	0	0	0	94	0	33	7	0
Sitka Spruce	0	0	0	0	0	0	0	0

GRADE DISTRIBUTION BY PERCENT

Grade >>>>>>>>>>	2 PEE	3 PEE	SM	2SAW(12"+)	3SAW(12"+)	3SAW(10-11")	4SAW(8-9")	(5-7")
Doug-fir	0%	0%	0%	58%	0%	35%	7%	0%
Hardwood	0%	0%	0%	17%	0%	0%	51%	32%
Red Cedar	0%	0%	0%	0%	0%	0%	0%	0%
Hemlock	0%	0%	0%	70%	0%	25%	5%	0%
Sitka Spruce	0%	0%	0%	0%	0%	0%	0%	0%



Timber Sale Boundary

Project Points

- Landing
- Road Point

Roads

- STATE Maintained
- PURCHASER Maintained
- - - New Construction
- ▨ Unserved Mature Timber
- ▤ Seasonally Restricted Area
- ▦ GTR/Stream Buffer
- × Individual GTR Trees

- ↔ Cable Yarding Corridor
- Ground Yarding Corridor
- /// Reforestation Area
- 20ft. Contour Line

Streams

- Type F
- Type N Perennial
- ... Type N Seasonal
- - - Unclassified

Logging Plan
Sale No. 341-14-51
Shake-N-Baker
Portions of Sections 22
T23S, R10W, W.M.
Douglas County, Oregon
Regulated Use Area CS-2
100% CSL
58 Net Acres



1 inch = 500 feet

0 125 250 500 750 1,000 Feet

The information shown on this map is approximate locations. Exact locations of features represented by map symbols will be determined on site and shall depend upon the conditions that exist on site. Activities shall be conducted based upon features determined on site rather than features shown on maps.