



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Western Knife  
Sale 341-08-34

District: Coos

Date: June 29, 2007

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**Cost Summary**

	<b>Conifer</b>	<b>Hardwood</b>	<b>Total</b>
<b>Gross Timber Sales Value</b>	\$1,858,368.94	\$85,714.44	\$1,944,083.38
		<b>Project Work:</b>	\$(62,443.00)
		<b>Advertised Value:</b>	\$1,881,640.38



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**Timber Description**

**Location:** Portions of Section 1, 2 and 36 T22S & T23S, R11W, W.M. Coos & Douglas  
County, Oregon

**Stand Stocking:** 40%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	26	0	95
Western Hemlock / Fir	15	0	90
Red Cedar	23	0	90
Alder (Red)	16	0	90

Volume by Grade	10" - 11"	12"+	2S	3P	3S	3S 12"+	7"	8" - 9"	SM	Total
Douglas - Fir	0	0	3,253	279	262	296	0	0	558	4,648
Western Hemlock / Fir	0	0	0	0	27	10	0	0	0	37
Red Cedar	0	0	0	0	0	1	0	0	0	1
Alder (Red)	17	19	0	0	0	0	7	91	0	134
Total	17	19	3,253	279	289	307	7	91	558	4,820



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**Comments:** Pond Values Used: 2nd Quarter Calendar Year 2007 + Local Pond Values.

HAULING

Hauling costs equivalent to \$700 daily truck cost.

Other Costs (Profit and Risk to be added):

Directional Felling/Tree Jacking: \$2/tree x 99 trees = \$198

Brand & Paint Logs: \$1/MBF x 3,930 MBF = \$3,930

Cull Sorting/Slash Piling on Landings: \$125/landing x 3 landings = \$375

Rig Lift Trees: \$100/tree x 3 trees = \$300

Artificial Guy Anchors (dozer, skidder): \$500/anchor x 5 anchors = \$3,000

Skid Road Layout: \$5 x 30 = \$150

Log Placement in Stream: \$505/crossing x 13 crossings = \$6,565

Additional Fire Equipment: 1 Season = \$2,000

Tree Topping: \$100/tree x 43 trees = \$4,300

TOTAL Other Costs (Profit and Risk to be added) = \$20,818



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**Logging Conditions**

<b>Combination#:</b> 1	Douglas - Fir	100.00%	
	Western Hemlock / Fir	100.00%	
	Red Cedar	100.00%	
	Alder (Red)	100.00%	
<b>Yarding Distance</b>	Long (1,500 ft)		<b>Downhill Yarding:</b> No
<b>Logging System:</b>	Cable: Large Tower >=70		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
<b>Loads / Day:</b>	12.0	<b>Bd. Ft / Load:</b>	4,500
<b>Cost / MBF:</b>	\$68.40		
<b>Machines:</b>	Log Loader (A)		
	Tower Yarder (Large)		



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**Logging Costs**

Operating Seasons:	0.80	Profit Risk:	15.00%
Project Costs:	\$62,443.00	Other Costs (P/R):	\$20,818.00
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	0.0	0.0

**Hauling Costs**

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.5
Western Hemlock / Fir	\$0.00	2.0	4.5
Red Cedar	\$0.00	2.0	4.5
Alder (Red)	\$0.00	2.0	3.5

**Local Pond Values**

Date	Specie	Grade	Value
6/29/07	Red Cedar	3S 12"+	\$1,000.00



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**Logging Costs Breakdown**

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$68.40	\$0.63	\$0.73	\$71.01	\$4.32	\$21.76	\$0.00	\$2.00	\$0.00	\$168.85
<b>Western Hemlock / Fir</b>									
\$68.40	\$0.66	\$0.73	\$74.39	\$4.32	\$22.28	\$0.00	\$2.00	\$0.00	\$172.78
<b>Red Cedar</b>									
\$68.40	\$0.66	\$0.73	\$74.39	\$4.32	\$22.28	\$0.00	\$2.00	\$0.00	\$172.78
<b>Alder (Red)</b>									
\$68.40	\$0.66	\$0.73	\$95.66	\$4.32	\$25.47	\$0.00	\$2.00	\$0.00	\$197.24

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$567.26	\$398.41	\$0.00
Western Hemlock / Fir	\$0.00	\$327.70	\$154.92	\$0.00
Red Cedar	\$0.00	\$1,000.00	\$827.22	\$0.00
Alder (Red)	\$0.00	\$836.90	\$639.66	\$0.00



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**Summary**

**Amortized**

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Red Cedar	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	4,648	\$398.41	\$1,851,809.68
Western Hemlock / Fir	37	\$154.92	\$5,732.04
Red Cedar	1	\$827.22	\$827.22
Alder (Red)	134	\$639.66	\$85,714.44

**Gross Timber Sale Value**

Recovery: \$1,944,083.38

Prepared by: Nickolus Morris

Phone: 541-267-1756

## Summary of "Other Costs" for Timber Sale Appraisals

Sale Name: Western Knife

### 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>
<b>Felling</b>				
Locate Corridors and Skid Roads	MBF	0	\$ 5.00	\$ -
Small Tree Volume Cost addition	MBF	0	\$ 10.00	\$ -
Directional Felling/Tree Jacking	MBF	99	\$ 2.00	\$ 198.00
Felling of unmerch material	MBF	0	\$ 1.00	\$ -
<b>Yarding and Loading</b>				
Brand and paint logs	MBF	3,930	\$ 1.00	\$ 3,930.00
Cull sorting/slash piling on landings	landing	3	\$ 125.00	\$ 375.00
Rig lift trees	lift tree	3	\$ 100.00	\$ 300.00
Artificial guy anchors(dozer, skidder)	anchor	6	\$ 500.00	\$ 3,000.00
Log Processing at landing	MBF	0	\$ 10.00	\$ -
Skid Road Layout	MBF	30	\$ 5.00	\$ 150.00
<b>Miscellaneous Costs</b>				
Log Placement in Stream	Crossings	13	\$ 505.00	\$ 6,565.00
Additional fire equipment	Seasons	1	\$ 2,000.00	\$ 2,000.00
Maintenance rock per section 2610	Cubic Yards	0	\$ 18.00	\$ -
Safety Flagging and/or signing	per day	0	\$ 110.00	\$ -
Tree topping	per tree	43	\$ 100.00	\$ 4,300.00

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

**\$ 20,818.00**

### Additional "Other Cost" with no additional profit and Risk

	<u>Units</u>	<u>Quantity</u>	<u>Cost/unit</u>	<u>Total Cost</u>
Non-required road construction	Stations	N/A		
Non-required road rocking	Cubic Yards	N/A		
Stream clearance	Feet	N/A		
Scaling (high piece count)	MBF	N/A	\$ 2.00	
Grass Seeding and Fertilizing	Ac	N/A		

**Total additional "Other Cost" with no additional profit and Risk**

**\$ -**



## Log Placement in Stream Calculations

Sale Name: Western Knife

Sale # : 341-07-70

Stream: Deer Creek

# of Yarding roads crossing Type F stream:	13
# of logs at each crossing:	4
Total number of logs required	52
Minimum Length of Logs (ft)	40
Minimum Diameter at small end (in)	20
Volume for Minimum Specifications	700
<b>Assume 2.5 hrs/crossing</b>	32.5 hours
X hrs for yarder/skycar @ 150/hr	4875
X hrs for 4 man rigging crew @ 20/hr/ea	650
.5 hours of felling/tree @ 40/hr	1040

Volume total 36.4 MBF
Removed from Cruise

Total \$6,565	Include this amount on additional cost sheet.
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Logs Are to be obtained from within Areas I & II of the Western Knife Timber Sale, NOT from reserve timber. The trees will be felled within the timber sale boundary and placed into the Type F stream, (Deer Creek) by way of yarding. Where skyline corridors cross stream reach, place logs within the active channel to provide for instream habitat. The stream reach is approximately 3,600 feet in length. A total of 52 logs will be placed in the stream with a minimum small end diameter of 20" and a minimum length of 40', approximately 36.4 MBF in total.

**SUMMARY OF CONSTRUCTION COST  
Western Knife**

**Project 1A: Road and Landing Construction**

Points: B to C      Length: 700'      Type: 14' subgrade no ditch

**Clearing and Grubbing**

Clear and Grub	1.1	acres at	\$1,060.00	per acre	\$1,166.00
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**Total Clear and Grub      \$1,166.00**

**Excavation**

Excavator	60	hrs at	\$120.00	per hour	\$7,200.00
Cat time	60	hrs at	\$120.00	per hour	\$7,200.00
Laborer	60	hrs at	\$30.00	per hour	\$1,800.00
Drill & Shoot	800	yds at	\$3.50	per yd	\$2,800.00
Dump Truck - Waste to Pt H (2.1 mi RT)	3110	yds at	\$1.83	per yd	\$5,691.30

**Total Excavation      \$24,691.30**

**Grade and shape road surface**

Grader time	2	hrs at	\$75.00	per hour	\$150.00
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**Total Grader      \$150.00**

**Total Project 1A:      \$26,007.30**

**Project 1B: Landing Tie Construction**

Points: F to G      Length: 175'      Type: n/a

Excavator	10	hrs at	\$120.00	per hour	\$1,200.00
Cat time	10	hrs at	\$120.00	per hour	\$1,200.00
Laborer	10	hrs at	\$30.00	per hour	\$300.00

**Total Project 1B:      \$2,700.00**

**Move-in**

Equipment	Miles	hrs/RT	Lowboy	
			Rate/hr	Total
Excavator	45	3.5	\$95.00	\$332.50
Cat	45	3.5	\$95.00	\$332.50
Grader	45	3.5	\$95.00	\$332.50
Dump Truck	45	3.5	\$95.00	\$332.50
Drill & Comp	45	3.5	\$95.00	\$332.50

**Total Move-in:      \$1,662.50**

**Project 1 Total      \$30,370.00**

**Project 2A: Road Improvement**

Points: A to B      Length: 1020'      Type: 14' subgrade no ditch

Excavator to remove small trees/brush and cutbank slough	10	hrs at	\$120.00	per hour	\$1,200.00
Dump Truck - Waste to Pt H	10	hrs at	\$75.00	per hour	\$750.00
Laborer	10	hrs at	\$30.00	per hour	\$300.00

**SUMMARY OF CONSTRUCTION COST  
Western Knife**

Grader to smooth road surface	3	hrs at	\$75.00	per hour	\$225.00
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**Total Project 2A: \$2,475.00**

**Project 2B: Road Improvement**

Points: D to E      Length: 2065'      Type: 14' subgrade w/ditch

Sawtime to brush road (2 person crew)	10	hrs at	\$73.50	per hour	\$735.00
Grader to smooth road surface	3	hrs at	\$75.00	per hour	\$225.00

**Total Project 2B: \$960.00**

**Project 2C: Road Improvement**

Points: E to F      Length: 485'      Type: 14' subgrade no ditch

Excavator to remove small trees/brush	3	hrs at	\$120.00	per hour	\$360.00
Cat to shape road surface	3	hrs at	\$120.00	per hour	\$360.00
Laborer	3	hrs at	\$30.00	per hour	\$90.00
Grader to smooth road surface	2	hrs at	\$75.00	per hour	\$150.00

**Total Project 2C: \$960.00**

**Project 2D: Road Improvement**

Points: E to G      Length: 340'      Type: 14' subgrade no ditch

Excavator to remove small trees/brush	2	hrs at	\$120.00	per hour	\$240.00
Cat to shape road surface	2	hrs at	\$120.00	per hour	\$240.00
Laborer	2	hrs at	\$30.00	per hour	\$60.00
Grader to smooth road surface	2	hrs at	\$75.00	per hour	\$150.00

**Total Project 2D: \$690.00**

**Project 2 Total \$5,085.00**

**Project 3: Fish Creek Rock Stockpile**

Location: 7500/7000 Roads Jct.  
Measured amount: 1200 cu yds  
Size: 1 1/2" - 0"

Cost per cu yd at crusher (Bear Ck Quarry):	\$8.25	per yd
Haul cost per cu yd (3.0 hr. RT):	\$13.24	per yd
Piling and shaping cost per cu yd:	\$1.00	per yd

Total cost per cu yd:	\$22.49	per yd
Total cu yds:	1200	yards

**Total Cost for Stockpile rock: \$26,988.00**

**Project 3 Total \$26,988.00**

**Total Project Costs \$62,443.00**

## TIMBER SALE SUMMARY

### Western Knife

1. **Type of sale:** Final harvest; Recovery, Sealed Bid.
2. **Boundary Lines:** Sale boundaries are marked on the ground with "Timber Sale Boundary" posters, red paint, and red flagging at locations shown on the Exhibit A.
3. **Revenue Distribution:** 61% CSL and 39% BOF.
4. **Sale Acreage:** The total sale area is 83 net acres. Buffer areas are posted outside the sale area and are not included in the net acreage calculation. The acreage was determined using orthophoto imagery on the ARCVIEW Geographic Information System program.
5. **Volume by Species, Fund, and County:** See attached table.
6. **Grade by Percent:**

Species	3 Peeler	Special Mill	2 Saw (12"+)	3 Saw (11"-10")	3 Saw Large Diameter	4 Saw/Camp (9"-6")
Douglas-fir	6 %	12 %	70 %	5.6 %	6.4 %	-----
Red Alder	-----	-----	14 %	13 %	-----	73 %
Western Hemlock	-----	-----	-----	26 %	74 %	-----
W. Red Cedar	-----	-----	-----	-----	100%	-----

7. **Cruise:** The unit was variable plot cruised using the Big BAF cruise design, which consisted of 76 nested plots. Each plot consists of both a full 40 BAF count plot and a full 360 BAF measure plot. The 40 BAF count plot was used to tally the number of trees by species to determine the stand basal area. The 40 BAF plot was then used to select hardwoods and minor species to cruise and the 360 BAF plot to select Douglas-fir trees to cruise. Selected trees were cruised for diameter at breast height, height, grade and defect. Fifty-two Big BAF Douglas-fir trees were cruised for diameter, height, grade and defect. The cruise was analyzed using the SuperACE cruising program.

#### A. Cruise Summary Data:

Diameter	Top Diameter	Form Point	Form Factor	CV %	SE %
D4H	Total Height	Conifer: 16' Hardwood: 16'	Estimated or measured on all trees	52.4	7.2

#### B. Stand Summary:

Species	D4H	Trees per Acre	Basal Area (ft <sup>2</sup> /ac)	BF per acre
Douglas-fir	26	69	252	55,990
Red Alder	16	13	19	1,700
Western Hemlock	15	4	5	470
Western red cedar	23	1	1	10

C. **Green Tree Retention Summary:** Most green trees were posted outside of the timber sale, except some scattered and grouped trees which will be removed from the cruise. These scattered trees are marked with a "W" in red.

8. **Timber Description:** The sale area is composed of 87 to 125 year-old Douglas-fir with a minor component of red alder, western hemlock and western red cedar scattered throughout the understory and draws. Conifers range from 65 to 195 feet tall while hardwoods are about 30 to 60 feet.
9. **Topography:** The units range from 25 percent to over 95 percent slope. There are a few benches as well as steep drainages within the sale area.
10. **Logging Method:** The sale will be cable logged uphill with single-end suspension over the unit; full suspension will be required over designated streams and RMAs. A motorized carriage will be required to obtain the necessary suspension. Tail-trees may need to be placed for yarding the sale area as approved in the operations plan.
11. **Access:** From Coos Bay travel North on Highway 101 to the town of Lakeside. From Lakeside proceed on North Lake Drive for approximately 3 miles where it will become the Benson Ridge Road. Proceed for another mile to forest road 4000. Continue on the 4000 road for about 8 miles to the 2000 road. Proceed South on the 2000 road for approximately 1 mile and turn onto the 8000 road. Continue for approximately 2.5 miles to the 7100 road. Proceed on the 7100 road for about 2.25 miles to the 7105 road. The sale area is approximately .5 miles up the 7105.

**12. Projects:**

Project No. 1: Road and landing construction

Project No. 2: Road and landing improvement

Project No. 3: Rock stockpile

## NET VOLUMES AND ACREAGE

SALE AREA & SPECIES		Tree cnt. 100% Units	NET VOLUMES (MBF)							Total Vols.	Vol. per Acre
			By County and Fund								
			Coos			Douglas					
Area	Spec		CSL	BOF	Total	CSL	BOF	Total			
All	D-fir		2835		2835		1813	1813	4648	55.99	
	Hem		23		23		14	14	37	0.45	
	Cedar		0.62		0.62		0.38	0.38	1	0.01	
	Hdwd		83		83		51	51	134	1.61	
TOTALS			2941.62	0	2941.62	0	1878.38	1878.38	4820		

**TOTAL SALE VOLUME BY SPECIES**

Douglas-fir	4648	MBF
Hemlock	37	MBF
RedCedar	1	MBF
Hardwoods	134	MBF
<b>Total</b>	<b>4820</b>	

Report by: Nick Morris

Date: 05/01/2007

Unit For. None Kline 5/2/07  
Date

Asst. Dist. For. Greg Kermeyer 5.2.2007  
Date

UTILITY VOLUME NOT SHOWN TO PROVIDE FOR RETENTION OF DOWN LOGS  
NO INGROWTH INCLUDED

**ACREAGE BY COUNTY (to nearest acre)**

Sale Area	Coos County						Douglas County						TOTAL ACRES
	CSL			BOF			CSL			BOF			
	cc	pc	Hard wood	cc	pc	Hard woods	cc	pc	Hard woods	cc	pc	Hard woods	
I	51									26			77
II										6			6
SUM	51	0	0	0	0	0	0	0	0	32	0	0	83

cc- clearcut

pc- partial cut

BOF - Board of Forestry

CSL - Common School Land

**CRUISE VOLUME COMPUTATION REPORT**

SALE NAME: Western Knife

DATE: 10/27/2006

BY: Nick Morris

**GROSS VOLUME MBF \***

SPECIES>>	Doug-fir	Hemlock	r. cedar	Hardwds	TOTAL
	5810	44	1	164	6019
less retention vol	37	0	0	0	37
less stream vol	36				36
<b>TOTAL</b>	<b>5737</b>	<b>44</b>	<b>1</b>	<b>164</b>	<b>5946</b>

**DEFECT AND BREAKAGE**

Species	Doug-fir	Hemlock	Hardwds	Cedar
Field cull	0.05	0.06	0.06	0.06
Hidden cull	0.09	0.06	0.06	0.09
Breakage	0.05	0.04	0.06	0.04
<b>TOTAL</b>	<b>0.19</b>	<b>0.16</b>	<b>0.18</b>	<b>0.19</b>

**NET VOLUME BY MBF BY AREA\***

SPECIES	Doug-fir	Hemlock	r. cedar	Hardwds	TOTALS
	4647	37	1	134	4819
<b>TOTALS</b>	<b>4647</b>	<b>37</b>	<b>1</b>	<b>134</b>	<b>4819</b>

**NET VOLUME BY GRADE AND MBF \***

Grade >>>>>>>>>>	2PEE	3PEE	S.M.	2SAW (12"+)	3SAW (10"-11")	Big 3 SAW	4SAW (8"-9")	(6"-8")	check
Doug-Fir	0	279	558	3253	262	296	0	0	4648
Hemlock	0	0	0	0	27	10	0	0	37
R. Cedar	0	0	0	0	0	1	0	0	1
Hdwds	0	0	0	19	17	0	91	7	134
									4820

**GRADE DISTRIBUTION BY PERCENT**

Grade >>>>>>>>>>	2PEE	3PEE	S.M.	2SAW (12"+)	3SAW (10"-11")	Big 3 SAW	4SAW (8"-9")	(6"-8")	check
Doug-fir	0.00%	6.00%	12.00%	70.00%	5.64%	6.36%	0.00%	0.00%	100.00%
Hemlock	0.00%	0.00%	0.00%	0.00%	74.00%	26.00%	0.00%	0.00%	100.00%
Cedar	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
Hdwds	0.00%	0.00%	0.00%	14.00%	13.00%	0.00%	68.00%	5.00%	100.00%

**Work-Up Grade Percents\***

	TOTAL	2PEE	3PEE	S.M.	2SAW (12"+)	3SAW (10"-11")	Big 3 SAW	4SAW (8"-9")	(6"-8")	check
Doug-Fir	4647	0	279	558	3253	262	296	0	0	4647
Hemlock	37	0	0	0	0	27	10	0	0	37
Cedar	1	0	0	0	0	0	1	0	0	1
Hardwood	134	0	0	0	19	17	0	91	7	134



# Logging Plan

Of Timber Sale Contract No. 341-08-34  
 Western Knife Areas I & II  
 Portions of Sections 1 & 2, T23S, R11W, W.M.  
 Coos County, OR  
 Portions of Section 36, T22S, R11W, W.M.  
 Douglas County, OR

Sale Area	Harvest Type	Net Acres
1	Clearcut	77
2	Clearcut	06
Total		83

- Landings
- Sale Boundary
- Type F Streams
- Type N Perennial
- Type N Seasonal
- ▨ Reforestation
- ▨ Stream Buffer
- ▶ Logging Corridors
- × Scattered GTR
- Existing Roads
- New Road Construction
- 20 Foot Contours

