



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Cougar Ridge  
Sale 341-08-59

District: Forest Grove

Date: April 02, 2008

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**cost summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$332,492.59	\$0.00	\$332,492.59
		Project Work:	\$(67,335.00)
		Advertised Value:	\$265,157.59



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cougar Ridge Sale 341-08-59

District: Forest Grove

Date: April 02, 2008

## timber description

Location: Portions of Sections 20 & 21, T2N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	98
Western Hemlock / Fir	17	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	209	1,530	320	2,059
Western Hemlock / Fir	2	2	0	4
Total	211	1,532	320	2,063

comments: Pond Values Used: 1st Quarter Calender Year 2008.

Western Red Cedar Stumpage Price = Pond Value minus Logging Cost  
\$834/MBF = \$1,050/MBF - \$216/MBF

Red Alder Stumpage Price = Pond Value minus Logging Cost  
\$429/MBF = \$645/MBF - \$216/MBF

### HAULING

Hauling costs equivalent to \$700 daily truck cost.

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

Brand and Paint: \$1/MBF x 2,059 MBF = \$2,059

TOTAL Other Costs (with Profit & Risk to be added) = \$2,059

Other Costs (No Profit & Risk to be added):

Shovel Time for Firewood Sorting:

10 hrs x \$110.00/hr = \$1,100

TOTAL Other Costs (No Profit & Risk added) = \$1,100



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**logging conditions**

<b>combination#:</b>	<b>1</b>	Douglas - Fir	95.00%
		Western Hemlock / Fir	95.00%
<b>yarding distance:</b>	Medium (800 ft)	<b>downhill yarding:</b>	No
<b>logging system:</b>	Cable: Small Tower <=40	<b>Process:</b>	Stroke Delimber
<b>tree size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>loads / day:</b>	6.0	<b>bd. ft / load:</b>	3,800
<b>cost / mbf:</b>	\$124.31		
<b>machines:</b>	Log Loader (A) Stroke Delimber (A) Tower Yarder (Small)		
<b>combination#:</b>	<b>2</b>	Douglas - Fir	5.00%
		Western Hemlock / Fir	5.00%
<b>yarding distance:</b>	Short (400 ft)	<b>downhill yarding:</b>	No
<b>logging system:</b>	Track Skidder	<b>Process:</b>	Manual Falling/Delimbing
<b>tree size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>loads / day:</b>	8.0	<b>bd. ft / load:</b>	3,800
<b>cost / mbf:</b>	\$113.17		
<b>machines:</b>	Log Loader (B) Track Skidder		



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**logging costs**

Operating Seasons:	1.00	Profit Risk:	15.00%
Project Costs:	\$67,335.00	Other Costs (P/R):	\$2,059.00
Slash Disposal:	\$0.00	Other Costs:	\$1,100.00

**Miles of Road**

Road Maintenance: \$0.00

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	5.0	0.0

**Hauling Costs**

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.8
Western Hemlock / Fir	\$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	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$123.75	\$4.18	\$2.13	\$54.46	\$1.00	\$27.83	\$0.00	\$2.00	\$0.53	\$215.88
<b>Western Hemlock / Fir</b>									
\$123.75	\$4.18	\$2.13	\$54.46	\$1.00	\$27.83	\$0.00	\$2.00	\$0.53	\$215.88

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$377.17	\$161.29	\$0.00
Western Hemlock / Fir	\$0.00	\$315.00	\$99.12	\$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

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	2,059	\$161.29	\$332,096.11
Western Hemlock / Fir	4	\$99.12	\$396.48

**Gross Timber Sale Value**

Recovery: \$332,492.59

Prepared by: Nathan Agalzoff

Phone: 503-357-2191

**PROJECT COST SUMMARY SHEET**

Timber Sale: Cougar Ridge  
Sale Number: 341-08-59

**PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT**

CONSTRUCTION

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
C to D	21+10	\$6,653.37
E to F	13+80	\$22,802.51
G to H	10+10	\$4,745.27
	45+00 stations	
	0.85 miles	

SUBTOTAL CONSTRUCTION      \$34,201.15

**TOTAL PROJECT NO. 1 COST =      \$34,201.15**

**PROJECT NO. 2: SURFACING**

C to D	1,351 cy	6" - 0	\$12,411.50
E to F	919 cy	6" - 0	\$6,596.89
E to F	77 cy	1 1/2" - 0	\$964.56
G to H	772 cy	6" - 0	\$5,731.66
Total			
	77 cy	1 1/2" - 0	
	3,042 cy	6" - 0	

**TOTAL PROJECT NO. 2 COST =      \$25,704.60**

**PROJECT NO. 3: GRASS SEED AND FERTILIZING**

Grass seed and fertilize areas of disturbed soil      \$460.00

**TOTAL PROJECT NO. 3 COST =      \$460.00**

**PROJECT NO. 4: SEDIMENT FENCE INSTALLATION**

Install sediment fence on Segment A to B      \$1,880.00

**TOTAL PROJECT NO. 4 COST =      \$1,880.00**

**PROJECT NO. 5: VACATE ROAD SEGMENTS**

Vacate segments E to F and G to H      \$2,129.38

**TOTAL PROJECT NO. 5 COST =      \$2,129.38**

**MOVE IN      \$2,957.65**

<b><u>TOTAL ALL PROJECTS</u></b>	<b><u>\$67,332.77</u></b>
<b><u>TOTAL CREDITS</u></b>	<b><u>\$67,335.00</u></b>

# SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Cougar Ridge</u>	Timber Sale No. :	<u>341-08-59</u>
Road Segment:	<u>A to B</u>	Improvement :	<u>22+00</u> stations
			<u>0.42</u> miles

## PROJECT NO. 4: Sediment Fence

Remove existing sediment fence.

Install new sediment fence. 470.00 feet @ \$4.00 per foot = \$1,880.00

**TOTAL COST = \$1,880.00**



**SUMMARY OF CONSTRUCTION COST**

Timber Sale: Cougar Ridge  
 Road Segment: C to D

Timber Sale No. : 341-08-59  
 Construction : 21+10 stations  
                     0.40 miles

**PROJECT NO. 1****EXCAVATION**

Clearing and Grubbing (Scatter)	1.93	acres @	\$980.00	per acre =	\$1,891.40
Balanced Road Construction	18.10	sta @	\$90.00	per sta =	\$1,629.00
Drift	3.00	sta @	\$150.00	per sta =	\$450.00
Construct Turnouts (2)	2	ea @	\$60.00	per ea =	\$120.00
Construct Turnaround (1)	1	ea @	\$75.00	per ea =	\$75.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	21.10	sta @	\$28.70	per sta =	\$605.57
					<u>\$5,055.97</u>

**CULVERTS - MATERIALS & INSTALLATION****Culverts**

66	LF of 30"	\$1,577.40	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
		<u>\$1,577.40</u>			<u>\$0.00</u>

**Half Rounds**

0	LF of 21"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
0	LF of 48"	\$0.00	0	LF of 54"	\$0.00
0	LF of 60"	\$0.00	0	LF of 66"	\$0.00
		<u>\$0.00</u>			<u>\$0.00</u>

**Culvert Markers**

2 markers \$20.00

TOTAL CULVERT COSTS = \$1,597.40

**PROJECT NO. 1 TOTAL COST = \$6,653.37**

**PROJECT NO. 2:****SURFACING**

10 " deep = 56 cy/sta

C to D	1,154	cy of	6" - 0	@	\$9.19	per cy =	\$10,601.14
Curve Widening	45	cy of	6" - 0	@	\$9.19	per cy =	\$413.53
Turnouts (2)	56	cy of	6" - 0	@	\$9.19	per cy =	\$514.62
Landing (1)	80	cy of	6" - 0	@	\$9.19	per cy =	\$735.17
Turnaround (1)	16	cy of	6" - 0	@	\$9.19	per cy =	\$147.03
<b>Total =</b>	<u>1,351</u>	<b>cy of</b>	<b>6" - 0</b>				

**PROJECT NO. 2 TOTAL COST = \$12,411.50**

**PROJECT NO. 3:**

Grass seed and fertilize areas of disturbed soil. 1.00 acres @ \$200.00 per acre = \$200.00

**PROJECT NO. 3 TOTAL COST = \$200.00**

**TOTAL COST = \$19,263.87**

**SUMMARY OF CONSTRUCTION COST**

Timber Sale: **Cougar Ridge**  
 Road Segment: **E to F**

Timber Sale No. : **341-08-59**  
 Construction : **13+80** stations  
                   **0.26** miles

**PROJECT NO. 1****EXCAVATION**

Clearing and Grubbing (Scatter)	1.60	acres @	\$980.00	per acre =	\$1,568.00
Balanced Road Construction (0+00 to 2+00)	2.00	sta @	\$90.00	per sta =	\$180.00
Balanced Road Construction (10+00 to 13+80)	3.80	sta @	\$91.00	per sta =	\$345.80
Drift	3.00	sta @	\$150.00	per sta =	\$450.00
Endhaul					
Excavate & Load	3,250	cy @	\$1.58	per cy =	\$5,122.14
Haul	3,250	cy @	\$3.04	per cy =	\$9,884.01
Place Fill (at 7+00)	800	cy @	\$2.12	per cy =	\$1,696.00
Compact Fill	800	cy @	\$0.45	per cy =	\$360.00
Compact Waste Area	3,250	cy @	\$0.25	per cy =	\$812.50
Construct "Y" Junction (1)	1.00	sta @	\$90.00	per sta =	\$90.00
Construct Turnouts (1)	1	ea @	\$60.00	per ea =	\$60.00
Construct Turnaround (1)	1	ea @	\$75.00	per ea =	\$75.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	13.80	sta @	\$28.70	per sta =	\$396.06
TOTAL EXCAVATION COSTS=					<b>\$21,324.51</b>

**CULVERTS - MATERIALS & INSTALLATION****Culverts**

90	LF of 18"	\$1,458.00	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
		<b>\$1,458.00</b>			<b>\$0.00</b>

**Half Rounds**

0	LF of 21"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
0	LF of 48"	\$0.00	0	LF of 54"	\$0.00
0	LF of 60"	\$0.00	0	LF of 66"	\$0.00
		<b>\$0.00</b>			<b>\$0.00</b>

**Culvert Markers**

2 markers **\$20.00**

TOTAL CULVERT COSTS = **\$1,478.00**

**PROJECT NO. 1 TOTAL COST = \$22,802.51**

**PROJECT NO. 2:****SURFACING**

	10	" deep =	56 cy/sta			
E to F	745	cy of	6" - 0	@	\$7.18 per cy =	\$5,347.86
Curve Widening	30	cy of	6" - 0	@	\$7.18 per cy =	\$215.35
Turnouts (1)	28	cy of	6" - 0	@	\$7.18 per cy =	\$200.99
Turnaround	16	cy of	6" - 0	@	\$7.18 per cy =	\$114.85
Landing (1)	80	cy of	6" - 0	@	\$7.18 per cy =	\$574.27
Junction	20	cy of	6" - 0	@	\$7.18 per cy =	\$143.57
Sta. 2+00 to 6+50	77	cy of	1 1/2" - 0	@	\$12.53 per cy =	\$964.56
Total =						
	77	cy of	1 1/2" - 0			
	919	cy of	6" - 0			

**PROJECT NO. 2 TOTAL COST = \$7,561.44**

**PROJECT NO. 3:**

Grass seed and fertilize areas of disturbed soil. 0.80 acres @ \$200.00 per acre = \$160.00

**PROJECT NO. 3 TOTAL COST = \$160.00**

**TOTAL COST = \$30,523.95**

**SUMMARY OF CONSTRUCTION COST**

Timber Sale: Cougar Ridge  
 Road Segment: G to H

Timber Sale No. : 341-08-59  
 Construction : 10+10 stations  
0.19 miles

**PROJECT NO. 1****EXCAVATION**

Clearing and Grubbing (Scatter)	0.93	acres @	\$980.00	per acre =	\$911.40
Balanced Road Construction	8.10	sta @	\$90.00	per sta =	\$729.00
Drift	2.00	sta @	\$150.00	per sta =	\$300.00
Road Widening (Landing)	1.00	sta @	\$90.00	per sta =	\$90.00
Construct Turnouts (1)	1	ea @	\$60.00	per ea =	\$60.00
Construct Turnaround (1)	1	ea @	\$75.00	per ea =	\$75.00
Landing (2)	2	ea @	\$285.00	per ea =	\$570.00
Grade, Ditch, and Roll	10.10	sta @	\$28.70	per sta =	\$289.87
<b>TOTAL EXCAVATION COSTS=</b>					<b>\$3,025.27</b>

**CULVERTS - MATERIALS & INSTALLATION****Culverts**

100	LF of 18"	\$1,700.00	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
		<u>\$1,700.00</u>			<u>\$0.00</u>

**Half Rounds**

0	LF of 21"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
0	LF of 48"	\$0.00	0	LF of 54"	\$0.00
0	LF of 60"	\$0.00	0	LF of 66"	\$0.00
		<u>\$0.00</u>			<u>\$0.00</u>

**Culvert Markers**

2 markers \$20.00

**TOTAL CULVERT COSTS = \$1,720.00**

**PROJECT NO. 1 TOTAL COST = \$4,745.27**

**PROJECT NO. 2:****SURFACING**

	10	" deep =	56 cy/sta			
G to H	538	cy of	6" - 0	@	\$7.42	per cy = \$3,994.34
Curve Widening	30	cy of	6" - 0	@	\$7.42	per cy = \$222.73
Turnouts (1)	28	cy of	6" - 0	@	\$7.42	per cy = \$207.88
Landing (2)	160	cy of	6" - 0	@	\$7.42	per cy = \$1,187.91
Turnaround (1)	16	cy of	6" - 0	@	\$7.42	per cy = \$118.79
<b>Total =</b>	<b>772</b>	<b>cy of</b>	<b>6" - 0</b>			

**PROJECT NO. 2 TOTAL COST = \$5,731.66**

**PROJECT NO. 3:**

Grass seed and fertilize areas of disturbed soil. 0.50 acres @ \$200.00 per acre = \$100.00

**PROJECT NO. 3 TOTAL COST = \$100.00**

**TOTAL COST = \$10,576.93**

### SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Cougar Ridge</u>	Timber Sale No. :	<u>341-08-59</u>
Road Segment:	<u>Vacate</u>	Vacate :	<u>23+90</u> stations
			<u>0.45</u> miles

#### PROJECT NO. 5

##### EXCAVATE

Remove cross drain culverts (4)	4.00	each @	\$150.00	per ea. =	\$600.00
Construct Water Bars	12.00	each @	\$25.00	per ea. =	\$300.00
Construct Tank Trap	1.00	each @	\$75.00	per sta =	\$75.00
Fill Ditch and Outslope Surface	5.00	hr. @	\$130.00	per hr. =	\$650.00
				TOTAL EXCAVATION COSTS=	

Move In for Project No. 5					\$404.38
Grass seed and fertilize areas of disturbed soil.	0.50	acres @	\$200.00	per acre =	\$100.00

**PROJECT NO. 5 TOTAL COST =** \$2,129.38

**TOTAL COST =** \$2,129.38

# ROCK DEVELOPMENT COST SUMMARY

Timber Sale: Cougar Ridge

Sale Number: 341-08-59

Pit Name: Idiot Creek

Swell:	<u>1.30</u>	Pit Run (trk measure)	<u>3,042 cy</u>
Shrinkage:	<u>1.16</u>	Total Truck Yardage:	<u>3,042 cy</u>
Drill Pct.:	<u>100%</u>	Total In Place Yardage:	<u>2,340 cy</u>

Scalp & Clear Overburden:	<u>\$150.00 /hr</u> x	<u>0 hr</u>	=	<u>\$0.00</u>
Rip Rock:	<u>\$1.90 /cy</u> x	<u>2,340 cy</u>	=	<u>\$4,445.42</u>
Move Rock:	<u>\$0.70 /cy</u> x	<u>3,042 cy</u>	=	<u>\$2,129.12</u>
Load Dump Truck:	<u>\$0.70 /cy</u> x	<u>3,042 cy</u>	=	<u>\$2,129.12</u>
		Subtotal		<u>\$8,703.66</u>

Move in Excavator	<u>\$750.00</u>
Move in D-8	<u>\$750.00</u>
Clean Up Pit	<u>\$300.00</u>
Subtotal	<u>\$1,800.00</u>

**PIT DEVELOPMENT COST** \$3.45/cy

**TOTAL PRODUCTION COST** \$10,503.66

## Move-In Calculations

Timber Sale: **Cougar Ridge**  
 Sale Number: **341-08-59**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
0.0	Main Lines	7
2.5	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Base Cost	Woods Cost	Pilot Cars	Within Area			Within	
					Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Total Cost
0	Drill & Compressor	\$0.00	\$0.00		\$46.00	0.00	0.00	0.00	\$0.00
0	Brush Cutter	\$0.00	\$0.00		\$4.00	0.00	0.00	0	\$0.00
1	Graders	\$150.00	\$144.64		\$3.65	0.00	2.50	2.5	\$303.77
1	Loader (Small)	\$219.27	\$121.24	1	\$3.55	0.00	0.00	0	\$340.51
0	Loader (Med. & Large)	\$101.97	\$0.00	1	\$9.00	0.00	0.00	0	\$101.97
1	Rollers (smooth/grid) & Compact	\$174.42	\$97.75		\$5.00	0.00	2.50	2.5	\$284.67
0	Excavators (Small)	\$40.25	\$0.00		\$22.00	0.00	0.00	0	\$40.25
0	Excavators (Med.)	\$62.10	\$0.00		\$35.50	0.00	0.00	0	\$62.10
1	Excavators (Large)	\$274.47	\$267.62	1	\$44.80	0.00	2.50	2.5	\$654.09
0	Tired Backhoes/Skidlers	\$0.00	\$0.00		\$3.00	0.00	0.00	0	\$0.00
0	Tractors (D6)	\$0.00	\$0.00	2	\$7.10	0.00	0.00	0	\$0.00
0	Tractors (D7)	\$0.00	\$0.00	2	\$11.30	0.00	0.00	0	\$0.00
1	Tractor (D8)	\$278.30	\$244.62	2	\$15.10	0.00	2.50	2.5	\$560.67
2	Dump Truck (10 cy +)	\$116.67	\$50.00		\$2.85	0.00	2.50	2.5	\$180.92
1	Dump Truck (Off Hiway)	\$208.73	\$208.11	1	\$4.75	0.00	2.50	2.5	\$428.71
0	Water Truck (1500 Gal)	\$0.00	\$0.00		\$2.85	0.00	0.00	0	\$0.00
0	Water Truck (2500 Gal)	\$0.00	\$0.00		\$2.85	0.00	0.00	0	\$0.00
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

<b>TOTAL MOVE-IN COSTS:</b>	<b>\$2,957.65</b>
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TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		2/6/2008	
T02N R06W S21 TyPC 127.00				Project COUGAR										Time:		2:07:23PM	
				Acres 127.00										Grown Year:			
S Spec T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals				
	DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF		
DL	14	1	88	115	1.367	1.46	2.73	19.5	90.0	1.25	53	246	159	68	31		
DL	15	6	87	108	7.143	8.77	15.48	20.4	88.5	7.40	315	1,369	940	400	174		
DL	16	5	88	108	5.231	7.30	11.51	22.8	97.3	6.16	262	1,120	782	333	142		
DL	17	8	87	105	7.414	11.69	14.83	28.5	118.7	9.93	423	1,761	1,262	537	224		
DL	18	7	88	100	5.787	10.23	13.23	27.1	105.0	8.43	359	1,389	1,071	456	176		
DL	19	12	88	110	8.903	17.53	19.29	34.6	135.0	15.67	667	2,604	1,990	847	331		
DL	20	7	87	103	4.715	10.23	9.43	39.9	150.7	8.85	377	1,421	1,124	478	180		
DL	21	5	87	110	3.037	7.30	7.90	36.0	143.1	6.68	284	1,130	848	361	143		
DL	22	8	88	112	4.427	11.69	12.73	36.9	163.5	11.05	470	2,081	1,403	597	264		
DL	23	8	87	117	4.051	11.69	12.15	39.7	175.0	11.34	483	2,127	1,440	613	270		
DL	24	1	88	118	.465	1.46	1.40	43.5	190.0	1.42	61	265	181	77	34		
DL	25	6	87	117	2.571	8.77	7.71	47.5	208.9	8.62	367	1,611	1,094	466	205		
DL	26	2	88	118	.792	2.92	2.38	53.3	243.3	2.98	127	578	378	161	73		
DL	27	1	88	123	.367	1.46	1.10	57.1	253.3	1.48	63	279	188	80	35		
DL	28	2	88	137	.683	2.92	2.05	67.5	320.0	3.25	138	656	413	176	83		
DL	29	1	88	125	.318	1.46	.96	68.6	323.3	1.54	66	309	196	83	39		
DL	44	1	89	138	.138	1.46	.42	174.1	896.7	1.70	72	372	216	92	47		
DL	Totals	81	87	109	57.411	118.33	135.28	33.9	142.8	107.75	4,585	19,318	13,685	5,823	2,453		
DT	8	2	87	70	8.370	2.92	8.37	5.1	30.0	1.00	43	251	127	54	32		
DT	9	4	88	80	13.227	5.84	13.23	9.1	50.0	2.84	121	661	361	153	84		
DT	10	8	87	74	21.428	11.69	21.43	12.0	58.7	6.05	257	1,259	768	327	160		
DT	11	5	88	92	11.068	7.30	22.14	9.3	39.0	4.82	205	863	613	261	110		
DT	12	12	88	88	22.320	17.53	44.64	10.8	43.3	11.34	483	1,934	1,440	613	246		
DT	13	9	88	101	14.264	13.15	28.53	14.8	58.9	9.89	421	1,680	1,256	535	213		
DT	14	17	88	99	23.231	24.83	46.46	17.8	76.2	19.43	827	3,539	2,468	1,050	450		
DT	15	9	87	102	10.714	13.15	21.43	21.0	87.8	10.56	449	1,881	1,341	571	239		
DT	16	5	88	101	5.231	7.30	10.46	23.9	100.0	5.87	250	1,046	746	317	133		
DT	17	2	87	108	1.854	2.92	3.71	29.1	120.0	2.54	108	445	322	137	56		
DT	18	4	88	107	3.307	5.84	6.61	32.4	126.2	5.04	214	835	640	272	106		
DT	19	1	88	110	.742	1.46	1.48	38.8	155.0	1.35	58	230	172	73	29		
DT	20	2	87	111	1.339	2.92	3.35	33.4	130.0	2.63	112	435	334	142	55		
DT	21	1	88	105	.607	1.46	1.21	45.9	180.0	1.31	56	219	166	71	28		
DT	23	1	87	120	.506	1.46	1.52	41.0	180.0	1.46	62	273	186	79	35		
DT	Totals	82	88	90	138.209	119.79	234.57	15.6	66.3	86.14	3,665	15,553	10,939	4,655	1,975		
HL	14	2	88	98	2.733	2.92	5.47	19.6	77.5	2.68	107	424	340	136	54		
HL	16	1	87	110	1.046	1.46	2.09	29.1	120.0	1.52	61	251	194	77	32		
HL	21	1	88	124	.607	1.46	1.82	38.4	176.7	1.75	70	322	222	89	41		
HL	25	1	87	117	.429	1.46	1.29	50.6	220.0	1.63	65	283	206	83	36		
HL	Totals	5	88	105	4.815	7.30	10.67	28.4	120.0	7.57	303	1,279	962	385	162		
NL	22	1	87	130	.553	1.46	1.66	38.9	180.0	1.61	65	299	205	82	38		
NL	Totals	1	87	130	.553	1.46	1.66	38.9	180.0	1.61	65	299	205	82	38		
Totals		169	88	96	200.989	246.89	382.17	22.6	95.4	203.08	8,618	36,449	25,791	10,945	4,629		

TC PLOGSTVB			Log Stock Table - MBF																
T02N R06W S21 TyPC 127.00				Project: COUGAR Acres 127.00												Page 1 Date 2/6/2008 Time 2:07:23PM			
Spp	S T	So Gr rt 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	40+
DL		DO 2S	40	1,391		1,391	56.7					489	391	407	73		31		
DL		DO 3S	32	54		54	2.2				54								
DL		DO 3S	34	20		20	.8			13	6								
DL		DO 3S	36	62		62	2.5			7	33	21							
DL		DO 3S	37	32		32	1.3			32									
DL		DO 3S	38	41		41	1.7			21	20								
DL		DO 3S	40	756		756	30.8			144	104	508							
DL		DO 4S	12	6		6	.2			6									
DL		DO 4S	13	7		7	.3			7									
DL		DO 4S	14	4		4	.2			4									
DL		DO 4S	15	6		6	.2			6									
DL		DO 4S	16	2		2	.1			2									
DL		DO 4S	17	7		7	.3			7									
DL		DO 4S	18	2		2	.1			2									
DL		DO 4S	19	1		1	.1			1									
DL		DO 4S	20	1		1	.1			1									
DL		DO 4S	22	2		2	.1			2									
DL		DO 4S	23	3		3	.1			3									
DL		DO 4S	26	3		3	.1			3									
DL		DO 4S	27	6		6	.2			6									
DL		DO 4S	28	13		13	.5			13									
DL		DO 4S	29	6		6	.2			6									
DL		DO 4S	31	5		5	.2			5									
DL		DO 4S	37	10		10	.4			10									
DL		DO 4S	38	14		14	.6			14									
DL		Totals		2,453		2,453	53.0			315	218	530	489	391	407	73	31		
DT		DO 2S	40	175		175	8.8					126	22	26					
DT		DO 3S	32	21		21	1.1			21									
DT		DO 3S	33	38		38	1.9			38									
DT		DO 3S	34	38		38	1.9			38									
DT		DO 3S	35	21		21	1.1			21									
DT		DO 3S	36	118		118	6.0			118									
DT		DO 3S	37	8		8	.4			8									
DT		DO 3S	40	1,244		1,244	63.0			353	639	252							
DT		DO 4S	12	21		21	1.1			21									
DT		DO 4S	13	2		2	.1			2									



## Log Stock Table - MBF

T02N R06W S21 TyPC 127.00

Project: COUGAR  
Acres 127.00Page 2  
Date 2/6/2008  
Time 2:07:23PM

Spp	S T	So Gr rt 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	40+
DT		DO 4S	14	28		28	1.4			28									
DT		DO 4S	17	4		4	.2			4									
DT		DO 4S	18	13		13	.7			13									
DT		DO 4S	19	4		4	.2			4									
DT		DO 4S	20	3		3	.2			3									
DT		DO 4S	21	10		10	.5			10									
DT		DO 4S	22	32		32	1.6			32									
DT		DO 4S	23	5		5	.2			5									
DT		DO 4S	24	7		7	.4			7									
DT		DO 4S	25	19		19	1.0			19									
DT		DO 4S	26	6		6	.3			6									
DT		DO 4S	27	66		66	3.3			66									
DT		DO 4S	29	56		56	2.8			56									
DT		DO 4S	33	5		5	.3			5									
DT		DO 4S	34	13		13	.7			13									
DT		DO 4S	36	8		8	.4			8									
DT		DO 4S	40	9		9	.5			9									
DT		Totals		1,975		1,975	42.7			910	639	252	126	22	26				
HL		DO 2S	40	53		53	32.5							28	25				
HL		DO 3S	40	95		95	58.4			8	42	45							
HL		DO 4S	17	1		1	.7			1									
HL		DO 4S	19	2		2	.9			2									
HL		DO 4S	25	5		5	3.2			5									
HL		DO 4S	31	7		7	4.3			7									
HL		Totals		162		162	3.5			23	42	45		28	25				
NL		DO 2S	40	25		25	66.7							25					
NL		DO 3S	40	11		11	27.8					11							
NL		DO 4S	23	2		2	5.6			2									
NL		Totals		38		38	.8			2		11		25					
Total		All Species		4,629		4,629	100.0			1250	899	837	615	467	457	73		31	

TC P5PC5TGR		Species, Sort Grade - Board Foot Volumes (Project)																
T02N R06W S21 TyPC 127.00				Project: COUGAR										Page 1				
				Acres 127.00										Date 2/6/2008				
														Time 2:07:22PM				
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
							Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
DL	DO2S	56	10,955	10,955	1,391	74	26							100	40	318	1.72	34.5
DL	DO3S	40	7,594	7,594	964	100							8	92	39	107	0.73	71.0
DL	DO4S	4	769	769	98	100					37	33	5	25	21	27	0.37	28.6
DL Totals		53	19,318	19,318	2,453	43	42	15			1	1	3	94	35	144	0.97	134.1
DT	DO2S	8	1,374	1,374	175	100								100	40	242	1.39	5.7
DT	DO3S	76	11,717	11,717	1,488	100							8	92	39	86	0.53	136.3
DT	DO4S	16	2,462	2,462	313	100					24	64	6	5	22	27	0.29	92.6
DT Totals		43	15,553	15,553	1,975	91	9				4	10	7	79	32	66	0.49	234.6
HL	DO2S	32	416	416	53	53	47							100	40	401	2.10	1.0
HL	DO3S	58	747	747	95	100								100	40	127	0.79	5.9
HL	DO4S	10	116	116	15	100					18	35	47		25	31	0.33	3.8
HL Totals		4	1,279	1,279	162	68	17	15			2	3	4	91	35	120	0.82	10.7
NL	DO2S	66	199	199	25	100								100	40	360	1.82	.6
NL	DO3S	28	83	83	11	100								100	40	150	0.89	.6
NL	DO4S	6	17	17	2	100						100			23	30	0.37	.6
NL Totals		1	299	299	38	33	67					6		94	34	180	1.13	1.7
Totals			36,449	36,449	4,629	64	27	8			2	5	5	88	33	96	0.68	381.0

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT			COUGAR			DATE	2/6/2008		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
02N	06	21	LARCH	PC		127.00	23	169	S	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			23	169	7.3							
CRUISE			23	169	7.3	25,526	.7					
DBH COUNT												
REFOREST												
COUNT												
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DF TAKE			82	138.2	12.6	90		119.8	15,553	15,553	3,665	3,665
DF LEAVE			81	57.4	19.4	109		118.3	19,318	19,318	4,585	4,585
WH LEAVE			5	4.8	16.7	105		7.3	1,279	1,279	303	303
NF LEAVE			1	.6	22.0	130		1.5	299	299	65	65
TOTAL			169	201.0	15.0	96		246.9	36,449	36,449	8,618	8,618
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			
DF TAKE			59.6	6.6	134	143	153					
DF LEAVE			77.3	8.6	379	414	450					
WH LEAVE			66.9	33.2	232	348	464					
NF LEAVE												
TOTAL			95.3	7.3	261	281	302	363	91	40		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DF TAKE			61.5	6.8	32	34	37					
DF LEAVE			64.7	7.2	89	96	103					
WH LEAVE			62.5	31.1	56	81	106					
NF LEAVE												
TOTAL			84.1	6.5	62	66	70	282	71	31		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DF TAKE			64.7	13.8	119	138	157					
DF LEAVE			35.7	7.6	53	57	62					
WH LEAVE			239.8	51.1	2	5	7					
NF LEAVE			479.6	102.2		1	1					
TOTAL			46.6	9.9	181	201	221	91	23	10		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DF TAKE			52.0	11.1	107	120	133					
DF LEAVE			34.1	7.3	110	118	127					
WH LEAVE			238.5	50.8	4	7	11					
NF LEAVE			479.6	102.2		1	3					
TOTAL			32.2	6.9	230	247	264	43	11	5		
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DF TAKE			50.4	10.7	13,882	15,553	17,223					
DF LEAVE			40.9	8.7	17,637	19,318	20,999					
WH LEAVE			239.0	50.9	628	1,279	1,931					
NF LEAVE			479.6	102.2		299	604					

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT	COUGAR			DATE	2/6/2008	
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
02N	06	21	LARCH	PC	127.00		23	169	S	W
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
TOTAL		34.8	7.4	33,749	36,449	39,149	50	13	6	
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	
DF TAKE		51.3	10.9	3,265	3,665	4,066				
DF LEAVE		37.0	7.9	4,224	4,585	4,947				
WH LEAVE		238.5	50.8	149	303	457				
NF LEAVE		479.6	102.2		65	130				
TOTAL		33.5	7.1	8,003	8,618	9,233	47	12	5	

**TIMBER SALE SUMMARY**  
**Cougar Ridge**  
**341-08-59**

1. **Type of Sale:** moderate partial cut, recovery, sealed bid auction
2. **Revenue Distribution:** 100% BOF, Tillamook County, Tax Code 56
3. **Sale Acreage:** Area 1 is 127 net acres, Area 2 (R/W) is 3 acres. Acres were determined using GIS.
4. **Volume:**

Species	2 Saw %	3 Saw %	4 Saw %	Volume
Douglas-fir	10	75	15	2,059 MBF
western hemlock & other conifers	50	50	---	4 MBF
Total				2,063 MBF

5. **Cruise Data:** The area was variable plot cruised with a BAF of 33.6, full plots, using the Stand Level Inventory (SLI) plots and supplemental plots by ODF. Take trees and saw grades were assigned based on the height and diameter measurements provided by the SLI cruise. Data was combined using the Superace 2004 program.

ODF right of way is 2 acres of new construction. The volume was obtained using take and leave tree information derived from Superace 2004.

Cruise statistics for take trees are CV 50.4% and SE 10.7% and leave trees are CV 40.9%, 8.7% SE .

6. **Timber Description:** Cougar Ridge is a well stocked, unmanaged stand of Douglas-fir with a minor component of other conifers and hardwoods. The sale is UDS and will be approximately 45 years old at harvest. The stand does show minor signs of *Phellinus* infection but will not be treated at time of harvest. The average take tree DBH for the sale is 13 inches. Estimated take tree volume averages 15.5 MBF per acre of Douglas-fir.

7. **Topography and Logging Method:** The topography ranges from 0 to 80% with average slope being approximately 50%. The sale area is roughly 95% cable yarding and 5% ground based yarding. The maximum yarding distance is 1500 feet slope distance, average is 700 feet.

8. **Access:** Access is from the Wilson River Hwy to Drift Creek Road to Idiot Creek Road

9. **Projects:**

Project No. 1 consists of constructing .85 miles of road, costing \$34,201.15 for sale access.

Project No.2 consists of spreading 3,042 cubic yards of 6"-0" and 77 cubic yards of 1 ½"-0" rock on Projects No. 1 at a cost of \$25,704.60

Project No. 3 consists of grass seeding and fertilizing at a cost of \$460.00

Project No. 4 consists of removing and replacing a sediment fence at a cost of \$1,880.00

Project No. 5 consists of vacating road segments at a cost of \$2,219.38

Move in cost is \$2,957.65

Total credit for all projects is \$67,335.0

## CRUISE REPORT

Cougar Ridge

341-08-59

**1. Acreage Calculation:** Area 1 is 127 net acres, Area 2 (R/W) is 3 net acres. Acres were determined using GIS.

**2. Cruise Method:** The area was variable plot cruised for the Stand Level Inventory (SLI). Stand 7672 was cruised using a 33.6 BAF. Take trees and saw grades were assigned based on the height, diameter and damage measurements provided by the SLI cruise of May 2006. Additional plots were taken by Matt Perry in July 2007. Data from plots was combined using the Super ACE 2004 program.

ODF right of way volume was obtained using take and leave tree information derived from Super ACE 2004.

### 3. Sampling Intensity:

Area 1	Total	Take	Leave
CV	34.8%	50.4%	40.9%
SE	7.4%	10.7%	8.7%
No. of Plots	23	23	23

**4. Form Factors:** Form factors were assigned based on adjacent cruise data and reconnaissance of the stand.

**5. Height Standards:** Conifer merchantable heights were estimated to the nearest foot.

**6. Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.

**7. Grading System:** All trees were graded favoring 40 foot segments.

**8. Merchantable Top:** Conifer merchantable tops were calculated in Super ACE 2004 to 6 inches DIB or 25% of DBH.

**9. Computation Procedures:** Volumes were computed using the Super ACE 2004 program.

**10. Deductions:** One percent of the conifer volume was subtracted from the computed volumes to account for hidden defect and breakage.

**11. Cruisers:** The sale was cruised by SLIP contract cruisers in May 2006. Additional plots were cruised by Matt Perry in July 2007. Office calculations were prepared by Matthew Perry in July 2007.

### 12. Signatures:

Unit Forester:

\_\_\_\_\_  
Erik Marcy

\_\_\_\_\_  
Date

**Residual Stand Specifications**  
**Cougar Ridge**  
**341-08-59**  
**Moderate Partial Cut**

Residual QMD assumption (from cruise leave tree information) – 19 inches.

Target Relative Density – 28.

	Minimum	Target	Maximum
<b>Relative Density</b>	25	28	30
<b>Basal Area</b>	110	120	130
<b>Trees per Acre</b>	56	61	66

$$RD = BA / \sqrt{DBH}$$

$$BA = \sqrt{DBH} (RD)$$

$$BA/tree = (\pi r^2) / (144)$$

$$TPA = (BA/acre) / (BA/tree)$$

