



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$501,401.84	\$71,610.32	\$573,012.16
		Project Work:	\$(59,473.00)
		Advertised Value:	\$513,539.16



"STEWARDSHIP IN FORESTRY"

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Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

timber description

Location: Portions of Section 21, T11S, R9W, W.M., Lincoln County, Oregon.

Stand Stocking: 40%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	95
Alder (Red)	14	0	95

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	1,179	216	43	0	1,438
Alder (Red)	0	0	0	283	283
Total	1,179	216	43	283	1,721



Timber Sale Appraisal
Back Eddy
Sale 341-13-92

"STEWARDSHIP IN FORESTRY"

District: West Oregon

Date: April 16, 2013

comments: Pond Values Used: 1st Quarter Calendar Year 2013.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Cost
 $\$202/\text{MBF} = \$480/\text{MBF} - \$278/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost (NOTE: Cedar must be scaled)
 $\$722/\text{MBF} = \$1,000/\text{MBF} - \$278/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

LOG HAUL:

Conifer costed to Philomath.
Hardwood costed to Eugene.

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Other Costs (No Profit & Risk added):

Equipment Cleaning (Invasive Species Prevention) = \$2,000

Snag Creation: 60 snags @ \$75 ea = \$4,500

Down Wood: 60 trees~3 fallers x \$430/day = \$1,290

Firewood Sorting: 4 landings x \$100 landing = \$400

TOTAL Other Costs (No Profit & Risk added) = \$8,190

SLASH DISPOSAL

Move-in: \$500

Project Work: 32 hrs @ \$125/hr = \$4,000

TOTAL Slash Disposal = \$4,500



"STEWARDSHIP IN FORESTRY"

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Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

logging conditions

combination#: 1 Douglas - Fir 63.00%
 Alder (Red) 63.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Large Tower >=70 **Process:** Stroke Delimber
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 6.0 **bd. ft / load:** 3,800
cost / mbf: \$167.84

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

combination#: 2 Douglas - Fir 37.00%
 Alder (Red) 37.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 3,800
cost / mbf: \$75.70

machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

logging costs

Operating Seasons:	1.00	Profit Risk:	11.00%
Project Costs:	\$59,473.00	Other Costs (P/R):	\$0.00
Slash Disposal:	\$4,500.00	Other Costs:	\$8,190.00

Miles of Road

Road Maintenance: \$5.31

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	3.8
Alder (Red)	\$0.00	2.0	3.1



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$133.75	\$5.58	\$2.55	\$97.08	\$0.00	\$26.29	\$2.61	\$5.00	\$4.76	\$277.62
Alder (Red)									
\$133.75	\$5.58	\$2.55	\$119.01	\$0.00	\$28.70	\$2.61	\$5.00	\$4.76	\$301.96

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$626.30	\$348.68	\$0.00
Alder (Red)	\$0.00	\$555.00	\$253.04	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Back Eddy
Sale 341-13-92

District: West Oregon

Date: April 16, 2013

summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,438	\$348.68	\$501,401.84
Alder (Red)	283	\$253.04	\$71,610.32

Gross Timber Sale Value

Recovery: \$573,012.16

Prepared by: Dave Wiger

Phone: 541-929-3266

SUMMARY OF ALL PROJECT COSTS

Sale Name: Back Eddy

Date: February 28, 2013
Time: 15:13

Project #1 - Improvements

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to C	257.4 sta	\$ 33,570
B to B1	26.3 sta	\$ 17,591
C to C1	5.7 sta	\$ 271
C1 to C2	17.8 sta	\$ 833

TOTALS	307.2 sta	\$ 52,265
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Project #2 - Brushing

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to C (2+00 to 32+00)	30.0 sta	\$ 455
A to C (72+00 to 201+70)	129.7 sta	\$ 1,473
B to B1	26.3 sta	\$ 299

TOTALS	186.0 sta	\$ 2,227
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Project #3 - Post Harvest Activities

Post harvest rock and road closure	\$ 2,335
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Move in

	<u>Cost</u>	<u>On-site move</u>
Excavator	\$ 752	\$ 127
Crawler tractor, D-4 or equiv.	\$ 340	
Grader, Cat 14-G or equiv.	\$ 340	
Water Truck	\$ 223	\$ 25
Backhoe	\$ 340	\$ 77
Vibratory roller	\$ 340	\$ 82

TOTAL	\$ 2,646
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GRAND TOTAL \$ 59,473

Compiled by D. Wiger

Date 02/28/2013

SUMMARY OF CONSTRUCTION COST

SALE	Back Eddy	- Project #1	LENGTH improve	257.4 sta
ROAD	A to C	Surfaced, Ditched		

IMPROVEMENT

(208+10 to 210+10)

Excavate 750 CY	16 hrs.	@	\$ 127.68 /hr.	=	\$2,043
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(with excavator)

Load 750 CY	750 cy	@	\$0.77 /cy	=	\$578
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(with excavator)

Endhaul 750 CY to	750 cy	@	\$2.81 /cy	=	\$2,108
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Waste area II

Sidecaste pullback	4 hrs.	@	\$ 127.68 /hr.	=	\$511
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Sidecaste loading	200 cy	@	\$0.77 /cy	=	\$154
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Sidecaste endhaul	200 cy	@	\$2.81 /cy	=	\$562
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(210+10 to 219+00)

Slough Removal	4 hrs.	@	\$ 127.68 /hr.	=	\$511
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Slough loading	100 cy	@	\$0.77 /cy	=	\$77
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Slough endhaul	100 cy	@	\$2.81 /cy	=	\$281
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Process Waste Area	1050 cy	@	\$0.38 /cy	=	\$399
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Shape surface	255.4 sta.	@	\$13.75 /sta	=	\$3,512
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(with road grader)

TOTAL IMPROVEMENT	\$10,736
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SURFACING

	Size	Cost/yd	
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4" Lift 2+00 to 24+00	484 cy of	3-0"	\$22.90	=	\$11,084
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8" Lift 208+10 to 210+10	88 cy of	3-0"	\$22.90	=	\$2,015
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Curve widening	13 cy of	3-0"	\$22.90	=	\$298
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Spot rock (4.4 miles)	441 cy of	3-0"	\$21.40	=	\$9,437
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(100 CY/Mile)

TOTAL ROCK COST =	\$22,834
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Compiled by:

D. Wiger

Date:

Feb 28, 2013

GRAND TOTAL =====>

\$33,570

SUMMARY OF CONSTRUCTION COST

SALE	Back Eddy	- Project #1	LENGTH	improve	26.3 sta
ROAD	B to B1	Surfaced, Outsloped			

CLEARING AND GRUBBING

0.30 acres @ \$902.00 /acre = \$271 for 3 landing

TOTAL CLEARING AND GRUBBING = \$271

EXCAVATION With Cat 320 Excavator or equivalent

Construct 3 landings	5 hr.	@	\$127.68 /hr.	=	\$638
Loading	400 CY	@	\$0.77 /CY	=	\$308
Endhaul: Sta 4+50	100 CY	@	\$1.10 /CY	=	\$110
Sta 13+50	150 CY	@	\$1.45 /CY	=	\$218
Sta 24+80	150 CY	@	\$1.86 /CY	=	\$279
Process Waste Area	400 CY	@	\$0.38 /CY	=	\$152
Shape subgrade (with road grader)	26.3 sta.	@	\$9.90 /sta	=	\$260

TOTAL EXCAVATION = \$1,965

SURFACING

		Size	Cost/yd		
4" lift	576 cy of	3-0"	\$22.90	=	\$13,190
Jaw Run (3 landings) (4+50, 13+50, 24+80)	108 cy of	jaw-run	\$20.05	=	\$2,165

TOTAL ROCK COST = \$15,355

Compiled by: D. Wiger
Date: Feb 28, 2013

GRAND TOTAL =====> \$17,591

SUMMARY OF CONSTRUCTION COST

SALE	Back Eddy	- Project #1	LENGTH	improve	5.7 sta
ROAD	C to C1	Surfaced, Ditched			

IMPROVEMENT

Shape surface (with road grader)	5.7 sta.	@	\$13.75 /sta	=	\$78
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TOTAL IMPROVEMENT	\$78
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SURFACING

			Size	Cost/yd	
Spot rock	9	cy of	3-0"	\$21.40	= \$193

TOTAL ROCK COST =	\$193
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Compiled by:
Date:

D. Wiger
Feb 28, 2013

GRAND TOTAL =====>

\$271

SUMMARY OF CONSTRUCTION COST

SALE	Back Eddy	- Project #1	LENGTH	improve	17.8 sta
ROAD	C1 to C2	Unsurfaced, Outsloped			

EXCAVATION

With D4 dozer or equivalent

Re-open existing	6 hr.	@	\$89.60 /hr.	=	\$538
re-open landings	1 hr.	@	\$89.60 /hr.	=	\$90
Shape subgrade (with road grader)	17.8 sta.	@	\$11.54 /sta	=	\$205

TOTAL EXCAVATION = \$833

Compiled by:
Date:

D. Wiger
Feb 28, 2013

GRAND TOTAL =====>

\$833

SUMMARY OF CONSTRUCTION COST

SALE
ROAD

Back Eddy

- Project #2

Roadside Brushing

Road segment	Stations	Cost/sta.	Total
A to C (2+00 to 32+00)	30.0	\$15.15	\$455
A to C (72+00 to 201+70)	129.7	\$11.36	\$1,473
B to B1	26.3	\$11.36	\$299
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	186.0 sta		\$2,227

Compiled by:
Date:

D. Wiger
Feb 28, 2013

GRAND TOTAL =====> \$2,227

SUMMARY OF CONSTRUCTION COST

SALE Back Eddy - Project #3 Post Harvest
ROAD

SURFACING

		Size	Cost/yd		
Turnaround rock					
A to C (1 landing)	27 cy of	3-0"	\$21.40	=	\$578
(247+80)					
B to B1 (3 landings)	81 cy of	3-0"	\$21.40	=	\$1,733
(4+50, 13+50, 24+80)					

TOTAL ROCK COST = \$2,311

MISCELLANEOUS PROJECTS

Tank trap (1) at Pt. C1	0.5 hr.	@	\$48.35 /hr.	=	\$24
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TOTAL MISCELLANEOUS PROJECTS = \$24

Compiled by:
Date:

D. Wiger
Feb 28, 2013

GRAND TOTAL =====>

\$2,335

SUMMARY OF MAINTENANCE COST

SALE
ROAD

Back Eddy

- Final Maintenance Cost Estimate
(Costed in appraisal, not in project costs)

Grading Move-in \$ 304.00

Road Segment	Length	Cost/Sta	Cost	Mileage
A-C	255.4	\$13.75	\$3,511.75	4.84
B-B1	26.3	\$13.75	\$361.63	0.50
C-C1	5.7	\$9.90	\$56.43	0.11
C1-C2	17.8	\$11.54	\$205.41	0.34

Totals	305.2		\$ 4,439.22	5.78
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Maintenance Rock: 1½-0"

	Volume	Cost/CY	Cost
	216	\$21.74	\$4,695.84

Grand Total \$9,135.06

TS Volume 1,721 MBF

Cost / MBF = \$5.31

NOTE:

Final grading on C2-C3 is in Project 3 - Post Harvest

Rock Haul Cost Computation

SALE NAME: Back Eddy DATE: Feb 28, 2013
ROAD NAME: Burntwoods Ridge CLASS: Medium
ROCK SOURCE: Wild Rose 9 CY truck
Route: Hwy 223, Hwy 20, Deer Creek, Baber Ridge, Beaver Line

TIME Computation:

Road speed time factors:

1.	55 MPH	19.4	MRT	21.2	minutes
2.	50 MPH	19.4	MRT	23.3	minutes
3.	45 MPH	3.5	MRT	4.7	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH		MRT	0.0	minutes
8.	20 MPH		MRT	0.0	minutes
9.	15 MPH	10.2	MRT	40.8	minutes
10.	10 MPH		MRT	0.0	minutes
11.	05 MPH		MRT	0.0	minutes

Dump or spread time per RT 0.50 minutes

Total hauling cycle time for this setting
(100% efficiency) 90.50 minutes

Operator efficiency correction 0.85 106.47 minutes

Job efficiency correction 0.90 118.30 minutes

Truck capacity (CY) 9.00 13.14 min/CY

Loading time, delay time per CY 0.25 min/CY

TIME (minutes) per cubic yard 13.39 min/CY

COST per CY computation

Cost of truck and operator per hour \$68.88 /hr.

Cost of truck and operator per minute \$1.15 /min

Cost per CY \$15.40 /CY

Spread and compact Water truck, Grader & Roller \$1.50 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ - 0"	\$ 10.80	\$26.20	\$27.70
3 - 0"	\$ 10.46	\$25.86	\$27.36
Jaw Run	\$ 9.11	\$24.51	\$26.01

Note: Pit costs November 2012

Rock Haul Cost Computation

SALE NAME: Back Eddy DATE: Feb 28, 2013
ROAD NAME: CLASS: Medium
ROCK SOURCE: Wild Rose 18 CY truck
Route: Hwy 223, Hwy 20, Deer Creek, Baber Ridge, Beaver Line

TIME Computation:

Road speed time factors:

1.	55 MPH	10.0	MRT	10.9	minutes
2.	50 MPH	28.8	MRT	34.6	minutes
3.	45 MPH	3.5	MRT	4.7	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH		MRT	0.0	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH		MRT	0.0	minutes
8.	20 MPH		MRT	0.0	minutes
9.	15 MPH	10.2	MRT	40.8	minutes
10.	10 MPH		MRT	0.0	minutes
11.	05 MPH		MRT	0.0	minutes

Dump or spread time per RT 0.50 minutes

Total hauling cycle time for this setting
(100% efficiency) 91.50 minutes

Operator efficiency correction 0.85 107.65 minutes

Job efficiency correction 0.85 126.65 minutes

Truck capacity (CY) 18.00 7.04 min/CY

Loading time, delay time per CY 0.25 min/CY

TIME (minutes) per cubic yard 7.29 min/CY

COST per CY computation

Cost of truck and operator per hour \$90.22 /hr.

Cost of truck and operator per minute \$1.50 /min

Cost per CY \$10.94 /CY

Spread and compact Water truck, Grader & Roller \$1.50 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ - 0"	\$ 10.80	\$21.74	\$23.24
3 - 0"	\$ 10.46	\$21.40	\$22.90
Jaw Run	\$ 9.11	\$20.05	\$21.55

Note: Pit costs November 2012 Hardrock Quarry

Excavator Endhaul Production computation - CAT 320 series or equivalent

Sale Name Back Eddy

Date

February 28, 2013

BUCKET PAYLOAD COMPUTATION

Average Bucket Payload = (heaped bucket capacity) X (bucket fill factor)

Heaped bucket capacity for a 48" cutting width = 1.5 cy. for rock and

1.88 cy for soil

(1)

1.75 cy

Bucket fill factor:

Material

Fill Factor Range

Moist Loam or Sandy Clay

1.0 to 1.1

Sand and Gravel

.95 to 1.0

Hard, Tough Clay

.80 to .90

Rock - Well Blasted

.60 to .70

Rock - Poorly Blasted

.40 to .50

(2)

1.00

Average Bucket Payload =

(3)

1.75 cy

CYCLE TIME COMPUTATIONS

Cycle time Estimate from Chart (Seconds)

(4)

13.80 sec

CYCLE TIME (100% EFFICIENCY in Minutes)

(5)

0.23 min

Operator Efficiency Corr.

75%

(6)

0.31 min

Job Efficiency Corr.

66%

(7)

0.47 min

Swell Factor (Banked yards)

75%

(8)

0.63 min

Time per cubic yard (Min)

(9)

0.36 min

COST PER CUBIC YARD COMPUTATION

Cost of Excavator and Operator per Hr.

\$127.68

(10)

\$2.13 /min

Cost per Cubic Yard

(11)

\$0.77 /cy

End Haul Cost Computation

SALE NAME: Back Eddy
ROAD NAME: B to B1 Landing

DATE: Feb 28, 2013
CLASS: Medium
10 CY truck

Route: B to B1 Station 4+50 to W1

TIME Computation:

Road speed time factors:

1.	55 MPH	MRT	0.0 minutes
2.	50 MPH	MRT	0.0 minutes
3.	45 MPH	MRT	0.0 minutes
4.	40 MPH	MRT	0.0 minutes
5.	35 MPH	MRT	0.0 minutes
6.	30 MPH	MRT	0.0 minutes
7.	25 MPH	MRT	0.0 minutes
8.	20 MPH	MRT	0.0 minutes
9.	15 MPH	1.3 MRT	5.2 minutes
10.	10 MPH	1.0 MRT	6.0 minutes
11.	05 MPH	MRT	0.0 minutes

Dump or spread time per RT

0.50 minutes

Total hauling cycle time for this setting
(100% efficiency)

11.70 minutes

Operator efficiency correction

0.75

15.60 minutes

Job efficiency correction

0.75

20.80 minutes

Truck capacity (CY)

10.00

2.08 min/CY

Loading time, delay time per CY

0.36 min/CY

TIME (minutes) per cubic yard

2.44 min/CY

COST per CY computation

Cost of truck and operator per hour

\$68.88 /hr

Cost of truck and operator per minute

\$1.15 /min

Cost per CY

\$2.81 /CY

End Haul Cost Computation

SALE NAME: Back Eddy
ROAD NAME: B to B1 Landing

DATE: Feb 28, 2013
CLASS: Medium
10 CY truck

Route: B to B1 Station 4+50 to W1

TIME Computation:

Road speed time factors:

1.	55 MPH	MRT	0.0 minutes
2.	50 MPH	MRT	0.0 minutes
3.	45 MPH	MRT	0.0 minutes
4.	40 MPH	MRT	0.0 minutes
5.	35 MPH	MRT	0.0 minutes
6.	30 MPH	MRT	0.0 minutes
7.	25 MPH	MRT	0.0 minutes
8.	20 MPH	MRT	0.0 minutes
9.	15 MPH	MRT	0.0 minutes
10.	10 MPH	MRT	0.0 minutes
11.	05 MPH	0.2 MRT	2.4 minutes

Dump or spread time per RT 0.50 minutes

Total hauling cycle time for this setting
(100% efficiency) 2.90 minutes

Operator efficiency correction 0.75 3.87 minutes

Job efficiency correction 0.65 5.95 minutes

Truck capacity (CY) 10.00 0.60 min/CY

Loading time, delay time per CY 0.36 min/CY

TIME (minutes) per cubic yard 0.96 min/CY

COST per CY computation

Cost of truck and operator per hour \$68.88 /hr

Cost of truck and operator per minute \$1.15 /min

Cost per CY \$1.10 /CY

End Haul Cost Computation

SALE NAME: Back Eddy
ROAD NAME: B to B1 Landing

DATE: Feb 28, 2013
CLASS: Medium
10 CY truck

Route: B to B1 Station 19+50 to W1

TIME Computation:

Road speed time factors:

1.	55 MPH	MRT	0.0 minutes
2.	50 MPH	MRT	0.0 minutes
3.	45 MPH	MRT	0.0 minutes
4.	40 MPH	MRT	0.0 minutes
5.	35 MPH	MRT	0.0 minutes
6.	30 MPH	MRT	0.0 minutes
7.	25 MPH	MRT	0.0 minutes
8.	20 MPH	MRT	0.0 minutes
9.	15 MPH	MRT	0.0 minutes
10.	10 MPH	0.3 MRT	1.8 minutes
11.	05 MPH	0.2 MRT	2.4 minutes

Dump or spread time per RT 0.50 minutes

Total hauling cycle time for this setting
(100% efficiency) 4.70 minutes

Operator efficiency correction 0.75 6.27 minutes

Job efficiency correction 0.70 8.96 minutes

Truck capacity (CY) 10.00 0.90 min/CY

Loading time, delay time per CY 0.36 min/CY

TIME (minutes) per cubic yard 1.26 min/CY

COST per CY computation

Cost of truck and operator per hour \$68.88 /hr

Cost of truck and operator per minute \$1.15 /min

Cost per CY \$1.45 /CY

End Haul Cost Computation

SALE NAME: Back Eddy
ROAD NAME: B to B1 Landing

DATE: Feb 28, 2013
CLASS: Medium
10 CY truck

Route: B to B1 Station 24+80 to W1

TIME Computation:

Road speed time factors:

1.	55 MPH	MRT	0.0 minutes
2.	50 MPH	MRT	0.0 minutes
3.	45 MPH	MRT	0.0 minutes
4.	40 MPH	MRT	0.0 minutes
5.	35 MPH	MRT	0.0 minutes
6.	30 MPH	MRT	0.0 minutes
7.	25 MPH	MRT	0.0 minutes
8.	20 MPH	MRT	0.0 minutes
9.	15 MPH	MRT	0.0 minutes
10.	10 MPH	0.7 MRT	4.2 minutes
11.	05 MPH	0.2 MRT	2.4 minutes

Dump or spread time per RT

0.50 minutes

Total hauling cycle time for this setting
(100% efficiency)

7.10 minutes

Operator efficiency correction

0.75

9.47 minutes

Job efficiency correction

0.75

12.63 minutes

Truck capacity (CY)

10.00

1.26 min/CY

Loading time, delay time per CY

0.36 min/CY

TIME (minutes) per cubic yard

1.62 min/CY

COST per CY computation

Cost of truck and operator per hour

\$68.88 /hr

Cost of truck and operator per minute

\$1.15 /min

Cost per CY

\$1.86 /CY

TIMBER CRUISE REPORT

1. **Sale Area Location:** Portions of Section 21, T11S, R9W, W.M., Lincoln County, Oregon
2. **Fund Distribution:**
 - a. **Fund** BOF 100%; CSL 0%
 - b. **Tax Code**
3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Acreage Adjustment	Net Acres	Acreage Comp. Method	Closure
I	Modified Clearcut	52.2	Gross Acre	46.5	Ortho photo, GIS, GPS	n/a
II	Modified Clearcut	14.1	Cruise	13.2	Ortho photo, GIS, GPS	n/a

4. **Cruisers and Cruise Dates:** The sale area was cruised by Jim Doyal, Evelyn Hukari, and Dave Wiger in December of 2012.
5. **Cruise Method and Computation:** The sale area is a modified clearcut sale and was variable plot cruised using a 40 BAF. Plots were located on a 207' by 207' grid with lines running north-south. Every third plot was measured and graded. A total of 62 plots were sampled, with 19 measured and graded plots and 41 count plots. All species on measure plots were graded and defect was assessed. The sale areas consist of 4 SLI Type polygons. The cruise data for the 4 polygons was processed as a single cruise for volume computation. This is a gross acre cruise.

Data was recorded on cruise cards in field notebooks and manually entered into Atterbury Super A.C.E. -Version 2.40. Stereo photos, digital ortho photos, LiDar data, and GPS data from a Garmin GPSMap 60CSx was used to map the boundaries for the sale and ArcMap 10.1 was used to determine gross acreage.

6. **Timber Description:** The sale is a naturally seeded 60 to 100 year-old stand of Douglas-fir and red alder. The Douglas-fir is an average of 24 inches DBH. The red alder is an average of 14 inches DBH. There is a small amount of big leaf maple in the stand. The reserved conifer detected in the units where Sitka spruce and western hemlock.
7. **Statistical analysis and stand summary:** (See attached "Statistics" and "Stand Table Summary")

Area	Target CV	Target SE%	Actual CV	Actual SE%
I & II	60%	11%	57%	7.2

NOTE: Statistics shown are for Douglas-fir and red alder take and leave trees combined. Percentages are for Net BF volume, see attached "Project Statistics" and "Type Statistics" for other values.

8. **Total Volume (MBF) by Species and Log Size:** See attached "Stand Table Summary" and "Log Stock Table". Net volume includes 1% Hidden D&B and does not include ingrowth.

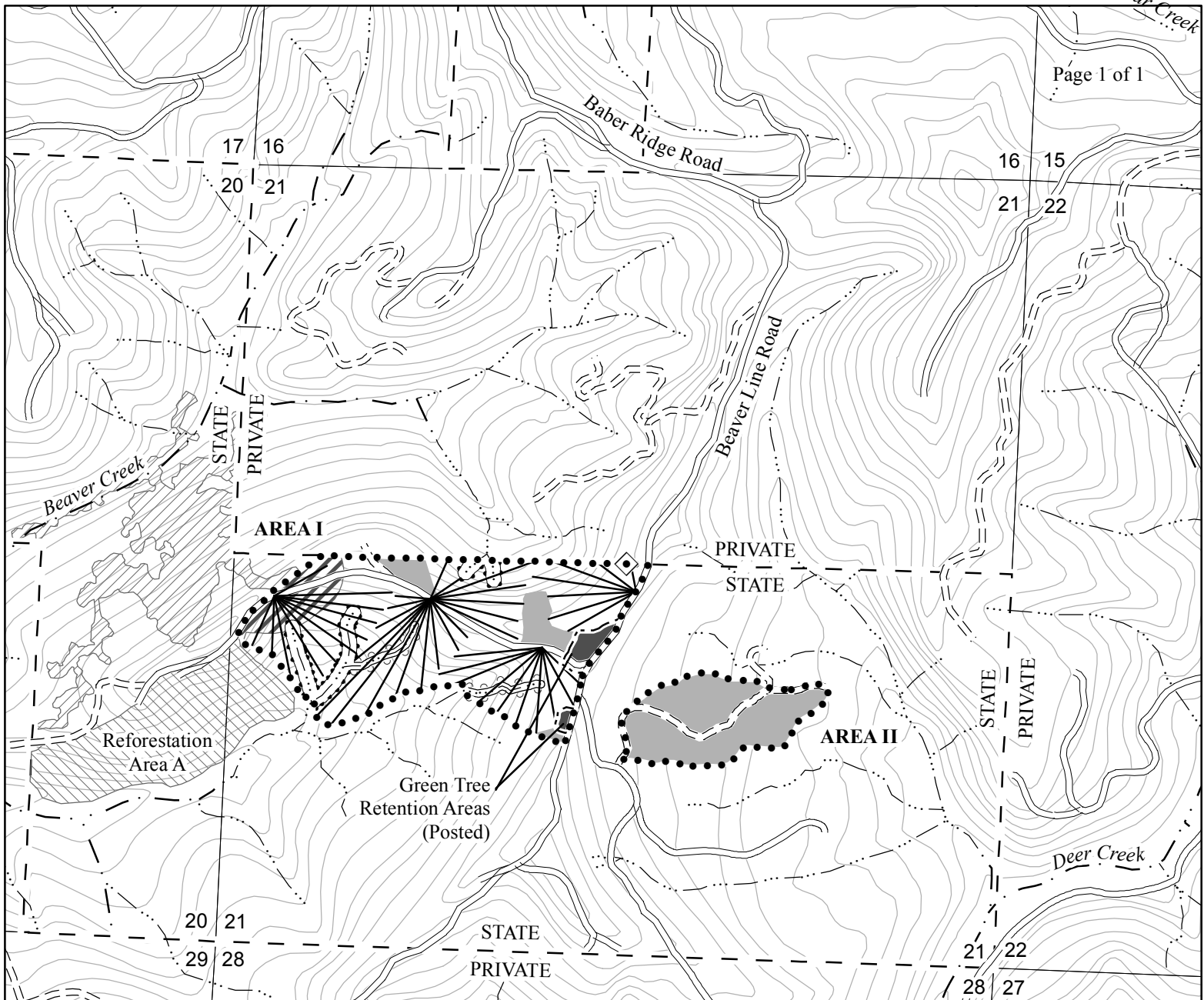
Species	DBH	Net Vol.	2-Saw	3-Saw	4-Saw	Camprun	% D & B
Douglas-fir	24"	1,438	1,179	216	43	--	3%
Red alder	14"	283	--	--	--	283	3%

Signatures:

Unit Forester: _____

Date: _____

[Signature]
2/27/13



LEGEND

Boundaries

- Timber Sale Boundary
- - - - Green Tree Retention Area (Posted)

Roads

- ==== Surfaced Road
- == == Unsurfaced Road

Streams

- — · Type F
- Type N

Stream Buffer

- Posted
- ~~~~~ Unposted

Yarding Method

- Tractor Yarding Area
- Cable Corridors
- ▨ Reforestation Area
- ▧ Potential Suitable Habitat
- ▩ Seasonally Restricted Buffer
- ◆ Land Survey Monument

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-92
BACK EDDY
PORTIONS OF SECTION 21, T11S, R09W, W.M.
LINCOLN COUNTY, OREGON

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

AREA	NET ACRES	
	TRACTOR	CABLE
I (MC)	4	43
II (MC)	13	0
TOTAL	17	43

Scale
1:12,000

