



Timber Sale Appraisal
Doe Over
Sale WO-341-2017-049-

District: West Oregon

Date: October 10, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$858,218.19	\$19,527.32	\$877,745.51
		Project Work:	(\$92,794.00)
		Advertised Value:	\$784,951.51



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Timber Description

Location: Portions of Section 35, T11S, R9W and portions of Section 2, T12S, R9W, W.M., Lincoln County, Oregon.

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	90
Alder (Red)	16	0	90

Volume by Grade	2S	3S	3S 12"+	4S	CR 6" - 8"	CR 8" - 14"	CR 12"+	Total
Douglas - Fir	1,359	425	368	115	0	0	0	2,267
Alder (Red)	0	0	0	0	30	11	20	61
Total	1,359	425	368	115	30	11	20	2,328

Comments: Pond Values Used: 3rd Quarter Calendar Year 2016.

Local Pond Values Used for Douglas-fir (August 2016).

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$223/\text{MBF} = \$450/\text{MBF} - \$227/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$923/\text{MBF} = \$1,150/\text{MBF} - \$227/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

LOG HAUL:

Conifer costed to Eugene.

Hardwood costed to Eugene.

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Flaggers for Harlan County Road: 2 flaggers x 6 days @ \$320/day = \$3,840

Loader Cleanup Harlan County Road: 4 hrs @ \$150/hr = \$600

Dump Truck Harlan County Road Cleanup: 4 hrs @ \$80/Hr = \$320

Directional Felling Harlan County Road: 3 acres @ \$200/acre = \$600

TOTAL Other Costs (with Profit & Risk to be added) = \$5,360

Other Costs (No Profit & Risk added):

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

Move Tower from Top to Bottom of Sale = \$1,000

Move Loader from Top to Bottom of Sale = \$200

Lincoln County Road Permit = \$150

Down Wood: (10 trees~2 fallers) @ \$450/day x 1 day = \$450

Firewood Sorting: 10 landings x \$100 per landing = \$1,000

TOTAL Other Costs (No Profit & Risk added) = \$4,800

SLASH DISPOSAL

Move-in = \$750

On Site Move = \$750

Project Work: 18 hrs @ \$150/hr = \$2,700

TOTAL Slash Disposal = \$4,200



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Logging Conditions

Combination#: 1 Douglas - Fir 75.47%
 Alder (Red) 77.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 9 **bd. ft / load:** 5000

cost / mbf: \$133.33

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

Combination#: 2 Douglas - Fir 24.53%
 Alder (Red) 23.00%

Logging System: Shovel **Process:** Manual Falling/Delimbing

yarding distance: Short (400 ft) **downhill yarding:** No

tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 9 **bd. ft / load:** 5000

cost / mbf: \$87.50

machines: Shovel Logger



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Logging Costs

Operating Seasons: 1.00	Profit Risk: 12%
Project Costs: \$92,794.00	Other Costs (P/R): \$5,360.00
Slash Disposal: \$4,200.00	Other Costs: \$4,800.00

Miles of Road

Road Maintenance: \$9.02

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	3.0	5.0
Alder (Red)	\$0.00	3.0	3.5



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$122.09	\$9.92	\$1.88	\$57.20	\$2.30	\$23.21	\$1.80	\$7.00	\$2.06	\$227.46
Alder (Red)									
\$122.79	\$9.92	\$1.88	\$81.72	\$2.30	\$26.23	\$1.80	\$7.00	\$2.06	\$255.70

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$606.03	\$378.57	\$0.00
Alder (Red)	\$0.00	\$575.82	\$320.12	\$0.00



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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	2,267	\$378.57	\$858,218.19
Alder (Red)	61	\$320.12	\$19,527.32

Gross Timber Sale Value

Recovery: \$877,745.51

Prepared By: Dave Wiger

Phone: 541-929-3266

SUMMARY OF ALL PROJECT COSTS

Sale Name: Doe Over

Date: August 12, 2016
Time: 12:04

Project #1 - Construct

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
1A to 1B	32.5 sta	\$ 28,716
1C to 1D	3.5 sta	\$ 1,099

TOTALS	36.0 sta	\$ 29,815
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Project #2 - Improve

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
I1 to I2	149.8 sta	\$ 10,287
I2 to I10	14.5 sta	\$ 2,536
I2 to I3	7.9 sta	\$ 4,916
I3 to I4	6.3 sta	\$ 13,438
I3 to I5	8.1 sta	\$ 149
I5 to I6	6.4 sta	\$ 560
I7 to I8	17.6 sta	\$ 6,778
I8 to I9	22.4 sta	\$ 16,465

TOTALS	233.0 sta	\$ 55,129
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Project #3 - Post Harvest Activities

Post harvest rock and road closure	\$ 1,854
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Move in

	<u>Cost</u>	<u>On-site move</u>
Crawler tractor, D-7 or equiv.	\$ 805	\$ 144
Grader, Cat 14-G or equiv.	\$ 778	\$ 100
Excavator, Cat 325 or equiv,	\$ 1,290	\$ 150
Vibratory Roller	\$ 778	\$ 77
Backhoe x 2	\$ 680	\$ 77
Dump truck (off Highway)	\$ 774	\$ 64
Water Truck	\$ 190	\$ 89

TOTAL	\$ 5,996
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GRAND TOTAL \$ **92,794**

Compiled by D. Wiger

Date: 08/12/2016

SUMMARY OF CONSTRUCTION COST

SALE Doe Over - Project #1 LENGTH improve 32.5 sta
ROAD 1A to 1B

CLEARING AND GRUBBING

3.20 acres	@	\$1,337.00 /acre	=	\$4,278 road
0.50 acres	@	\$1,337.00 /acre	=	\$669 landing

TOTAL CLEARING AND GRUBBING = \$4,947

EXCAVATION

With D7 dozer or equivalent

Construct road	32.5 sta.	@	\$190.00 /sta.	=	\$6,175
Additional Drift	3 sta.	@	\$190.00 /sta.	=	\$570
Endhaul ¹	1200 cy.	@	\$4.00 /cy.	=	\$4,800
(8+30 to W1)					
Endhaul ²	2000 cy.	@	\$4.00 /cy.	=	\$8,000
(Forward 1000')					
Construct 5 landings	7 hr.	@	\$144.00 /hr.	=	\$1,008
(Sta. 15+60, 19+00, 22+70, 26+60, 1B)					
Compact fills	2230 cy.	@	\$0.70 /cy.	=	\$1,561
Compact waste area	1200 cy.	@	\$0.40 /cy.	=	\$480
Shape subgrade	32.5 sta.	@	\$15.96 /sta	=	\$519
(with road grader)					
Compact subgrade	32.5 sta.	@	\$20.19 /sta	=	\$656
(with vibratory roller)					

TOTAL EXCAVATION = \$23,769

1) Some endhaul may be required to construct landings.

2) Endhaul required to balance construction of subgrade

GRAND TOTAL =====> \$28,716

Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE Doe Over - Project #1 LENGTH improve 3.5 sta
ROAD 1C to 1D

CLEARING AND GRUBBING

0.20 acres	@	\$1,337.00 /acre	=	\$267 road
0.10 acres	@	\$1,337.00 /acre	=	\$134 landing

TOTAL CLEARING AND GRUBBING = \$401

EXCAVATION

With D7 dozer or equivalent

Construct road	3.5 sta.	@	\$122.00 /sta.	=	\$427
Construct landing	1 hr.	@	\$144.00 /hr.	=	\$144
Shape subgrade (with road grader)	3.5 sta.	@	\$15.96 /sta	=	\$56
Compact subgrade (with vibratory roller)	3.5 sta.	@	\$20.19 /sta	=	\$71

TOTAL EXCAVATION = \$698

GRAND TOTAL =====> \$1,099

Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH improve	149.8 sta
ROAD	I1 to I2	Surfaced, ditched	Wolf Creek, Baber Ridge, & Deer Creek Ridge roads	

IMPROVEMENT

Shape surface (with road grader)	149.8 sta.	@	\$24.83 /sta	=	\$3,720
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TOTAL IMPROVEMENT	\$3,720
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SURFACING

Spot Rock	280 cy of	Size 1½-0"	Cost/yd \$23.09	=	\$6,465
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TOTAL ROCK COST =	\$6,516
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SPECIAL PROJECTS

Culvert cleaning (Clean inlet and outlet)	2	@	\$25.67 /culvert	=	\$51
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TOTAL OTHER	\$51
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Note: Culverts are from Deer Swing road to I2.

Note: King Wolf sale will add a 2" lift of rock to the Salmon Creek Road.
This grading may be held for an interim grading if both sales are hauling concurrently.

GRAND TOTAL =====>	\$10,287
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Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH improve	14.5 sta
ROAD	I2 to I10	Surfaced, ditched	Deer Crk Ridge rd	

IMPROVEMENT

Construct 2 landings (Sta. 151+20, 155+80)	4 hr.	@	\$144.00 /hr.	=	\$576
Shape surface (with road grader)	14.5 sta.	@	\$24.83 /sta	=	\$360

TOTAL IMPROVEMENT	\$936
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SURFACING

		Size	Cost/yd		
Spot Rock	30 cy of	1½-0"	\$23.09	=	\$693
Landings (2)	40 cy of	Jaw run	\$21.40	=	\$856

TOTAL ROCK COST =	\$1,549
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SPECIAL PROJECTS

Culvert cleaning (Clean inlet and outlet)	2	@	\$25.67 /culvert	=	\$51
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TOTAL OTHER	\$51
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GRAND TOTAL =====>	\$2,536
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Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH	improve	6.3 sta
ROAD	I2 to I3	Surfaced, Ditched			

IMPROVEMENT

Construct landing (Sta. 3+60)	2 hr.	@	\$144.00 /hr.	=	\$288
Shape surface	6.4 sta.	@	\$24.83 /sta	=	\$159

TOTAL IMPROVEMENT	\$447
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SURFACING

			Size	Cost/yd		
Surface rock, 4"lift (I2-I3)	140	cy of	1½-0"	\$23.09	=	\$3,233
Landing rock	20	cy of	jaw-run	\$21.40	=	\$428
Process Surface rock (Grader, vibratory roller, water truck)	14.3 sta.	@	\$56.48 /sta	=	\$808	

TOTAL ROCK COST =	\$4,469
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GRAND TOTAL =====>	\$4,916
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Compiled by:	D. Wiger	Date:	Aug 12, 2016
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SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH	improve	7.9 sta
ROAD	I3 to I4	Unsurfaced, Outsloped			

IMPROVEMENT

Re-open I3 to I4 with dozer (D-7 or equiv.)	3 hr.	@	\$144.00 /hr.	=	\$432
Re-open landing I4	1 hr.	@	\$144.00 /hr.	=	\$144
Construct landing (Sta. 10+20)	2 hr.	@	\$144.00 /hr.	=	\$288
Shape dirt surface (with road grader)	7.9 sta.	@	\$15.96 /sta	=	\$126
TOTAL IMPROVEMENT					\$990

SURFACING

			Size	Cost/yd	
Base rock, 6" lift (I3-I4)	260 cy of		3-0"	\$22.75	= \$5,915
Surface rock, 4"lift (I2-I4)	160 cy of		1½-0"	\$23.09	= \$3,694
Turnout rock (2)	20 cy of		3-0"	\$22.75	= \$455
Landing rock (Marked)	20 cy of		jaw-run	\$21.40	= \$428
Landing rock (I4)	40 cy of		jaw-run	\$21.40	= \$856
Junction rock (2 way)	20 cy of		1½-0"	\$23.09	= \$462
Process base rock	7.9 sta.	@	\$24.28 /sta	=	\$192
Process surface rock (Grader, roller, water truck)	7.9 sta.	@	\$56.48 /sta	=	\$446
TOTAL ROCK COST =					\$12,448

GRAND TOTAL =====> \$13,438

Compiled by:	D. Wiger	Date:	Aug 12, 2016
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SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH	Improve	8.1 sta
ROAD	I3 to I5	Surfaced, Ditched			

IMPROVEMENT

Shape rock surface (with road grader)	8.1 sta.	@	\$18.35 /sta	=	\$149
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TOTAL IMPROVEMENT	\$149
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GRAND TOTAL =====>	\$149
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Compiled by:	D. Wiger	Date:	Aug 12, 2016
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SUMMARY OF CONSTRUCTION COST

SALE	Doe Over	- Project #2	LENGTH	Improve	6.4 sta
ROAD	I5 to I6	Unsurfaced, Ditched			

IMPROVEMENT

Re-open I5 to I6 with dozer (D-7 or equiv.)	2 hr.	@	\$144.00 /hr.	=	\$288
Re-open landing I6	1 hr.	@	\$144.00 /hr.	=	\$144
Shape dirt surface (with road grader)	6.4 sta.	@	\$15.96 /sta	=	\$102

TOTAL IMPROVEMENT	\$534
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SPECIAL PROJECTS

Culvert cleaning (Clean inlet and outlet)	1	@	\$25.67 /culvert	=	\$26
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TOTAL OTHER	\$26
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GRAND TOTAL =====>	\$560
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Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE Doe Over - Project #2 LENGTH improve 17.6 sta
ROAD 17 to 18

IMPROVEMENT

Load & haul ditch waste	15.0 sta.	@	\$22.92 /sta	=	\$344
Shape surface (with road grader)	17.6 sta.	@	\$24.83 /sta	=	\$437

TOTAL IMPROVEMENT COST = \$781

SURFACING

			Size	Cost/yd		
Surface rock (2"lift)	190	cy of	1½-0"	\$26.03	=	\$4,946
Curve widening rock	10	cy of	1½-0"	\$26.03	=	\$260
Turnout rock (1)	10	cy of	3-0"	\$25.69	=	\$257
Compaction Surface rock	17.6	sta. @	\$24.48 /sta	=	\$431	

TOTAL ROCK COST = \$5,894

SPECIAL PROJECTS

Culvert cleaning (inlet and outlet)	4 culverts	@	\$25.67 ea.	=	\$103
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TOTAL SPECIAL PROJECTS COST = \$103

GRAND TOTAL =====> \$6,778

Compiled by: D. Wiger

Date:

Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE Doe Over - Project #2 LENGTH improve 22.4 sta
ROAD I8 to I9

IMPROVEMENT

Re-open road 5 hrs. @ \$144.00 /hr. = \$720
Shape surface 22.4 sta. @ \$24.83 /sta = \$556
(with road grader)

TOTAL IMPROVEMENT \$1,276

SURFACING

		Size	Cost/yd		
Base rock (4"lift)	490 cy of	3-0"	\$25.69	=	\$12,588
Curve widening rock	20 cy of	3-0"	\$25.69	=	\$514
Turnout rock (2)	20 cy of	3-0"	\$25.69	=	\$514
Turnaround rock (1A)	10 cy of	3-0"	\$25.69	=	\$257
Process base rock	22.4 sta @		\$56.48 /sta	=	\$1,265

TOTAL ROCK COST = \$15,138

SPECIAL PROJECTS

Culvert cleaning 2 culvert @ \$25.67 ea. = \$51
(inlet and outlet)

TOTAL SPECIAL PROJECTS COST = \$51

GRAND TOTAL =====> \$16,465

Compiled by: D. Wiger

Date: Aug 12, 2016

SUMMARY OF CONSTRUCTION COST

SALE Doe Over - Project #4 Post Harvest
ROAD

SURFACING

		Size	Cost/yd		
Landing patch rock					
4 landings	40 cy of	1½-0"	\$23.09 =		\$924
(I2 to I11 (2), I2 to I3(1), I3 to I4 (1) ²)					
turnaround at Pt. I4	30 cy of	3-0"	\$28.43 =		\$853

TOTAL ROCK COST = \$1,777

MISCELLANEOUS PROJECTS

Tank trap (1) at Pt.I5 ¹	1 hr.	@	\$77.00 /hr. =	\$77
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TOTAL MISCELLANEOUS PROJECTS = \$77

1) May be accomplished with loader, backhoe, cat, or excavator.

2) This is to patch anticipated landings. If landings are not built or used rock should be added to final maintenance rock and placed as needed.

GRAND TOTAL =====> \$1,854

Compiled by: D. Wiger

Date:

Aug 12, 2016

SUMMARY OF MAINTENANCE COST

SALE Doe Over - Final Maintenance Cost Estimate
ROAD *(Costed in appraisal, not in project costs)*

Grading Move-in \$ 778.00

Road Segment	Length	Cost/Sta	Cost	Mileage
I1 to I2	149.8	\$24.83	\$3,719.53	2.8
I2 to I10	14.5	\$24.83	\$360.04	0.3
I3 to I4	7.9	\$24.83	\$196.16	0.1
I5 to I6	6.4	\$24.83	\$158.91	0.1
I7 to I8	17.6	\$24.83	\$437.01	0.3
I8 to I9	22.4	\$24.83	\$556.19	0.4
1A to 1B	32.5	\$15.96	\$518.70	0.6
1C to 1D	3.5	\$15.96	\$55.86	0.1
Totals	254.6		\$6,002.40	4.8

Interim grading: 139.3 \$24.83 \$3,458.82 2.6

Compaction: 304 sta @ \$20.19/sta = \$6,137.76
(Hwy 20 to I1 to I2 to I10 only)

Maintenance Rock: 1½-0"

	Volume	Cost/CY	Cost
	200	\$23.09	\$4,618.00

Grand Total \$ 20,994.98

TS Volume 2,328 MBF

Cost / MBF = \$9.02

NOTES:

Compaction of primary collectors on haul route is required with final maintenance.

Compact I1 to I2 to I11 with final maintenance.

Portion of haul route is shared with King Wolf Sale, with approximately 2.5 MBF to be hauled over Salmon Creek Road. Grading for Salmon Creek Road should be reserved for an interim grading on the shared part of the haul route.

TIMBER CRUISE SUMMARY

Sale Name: Doe Over 341-17-49

Sale Type: The Sale Area is a modified clearcut.

Fund Distribution: CSL 79% BOF 21%

Sale Area: Portions of Section 35, T11S, R9W and Section 2, T12S, R9W, W.M., Lincoln County, Oregon.

Area	Treatment	Gross Acres	Acreage Adjustment	Net Sale Acres	Acreage Comp. Method
1	Modified Clearcut	71	Buffer, road, & GTR's	56	Ortho photo, GIS, GPS
2 R/W	Right-of-way	1	Measured	1	RoadEng, GIS

Timber Description: Timber on the sale area consists of a natural stand of 75 year old timber with some 150± year old trees scattered throughout the stand. Conifer trees other than Douglas-fir are reserved from cutting. There were some small hemlock seen during reconnaissance of the sale but none were encountered during the cruise.

Cruise Summary:

Total Volume (MBF) by Species and Grade: (See attached "Stand Table Summary" and "Species, Sort Grade").

Species	Gross Cruise Volume	Cruised D & B ¹	Cruised D & B (MBF) ¹	Hidden D & B	Hidden D & B (MBF)	GTR (MBF) ²	Net Sale Volume
Douglas-fir	2,770	7%	203	10%	257	43	2,267
Red alder	69	1%	< 1	10%	7	--	61
Total	2,839		203		263	43	2,328

¹ Includes volume graded as Utility.

² Trees marked within the posted sale boundary.

Species	DBH	Net Vol.	2-Saw	3-Saw	3-Saw 12"+	4-Saw	Camp Run	Percent by Species
	Grade Percentages		60%	19%	16%	5%	--	
Douglas-fir	19	2,267	1,359	425	368	115	--	97%
	Grade Percentages		--	--	--	--	100%	
Red alder	16	61	--	--	--	--	61	3%
Total		2,328	1,359	441	368	115	61	

Cruise Methods: The sale was cruised using 40 BAF variable radius plots. All species were sampled at D+4 to determine basal area per acre. All trees on every third plot were measured and graded, trees on other plots were counted, by species, for basal area calculation. A total of 19 plots were measured and graded with 36 count plots. Plots were 132 feet apart on lines that were 264 feet apart. Volumes are based on a net acres (approximately 57 acres, this includes 1 acre for the road right-of-way outside the sale area.)

The Green Tree Retention Area, existing roads, and posted stream RMA's were not cruised (approximately 17 acres).

Tree Form: A form point of 16' was used for all species. Form factors were measured or estimated on all measure trees.

Measurement Standards: Heights were measured to the nearest foot to a top cruise diameter of 7 inches outside bark or 40% of Form Point diameter for Douglas-fir. Red alder and big leaf maple were measured to a top cruise diameter of 7 inches outside bark or to the point where the shape of the top would not contain a merchantable log segment.

Grading System: Most trees were graded in 40 foot segments unless breakage, defect, or length to top of grade cruise diameter warranted otherwise.

Utilization Standards: The minimum small end log diameter used for Douglas-fir is 6 inches and for hardwoods is 7 inches (inside bark). The minimum segment length was 13 feet (12 feet plus 1 foot of trim).

Hidden Defect and Breakage: A hidden D&B of 10% was applied to the Douglas-fir and hardwood volumes.

Computation Procedures: The cruise volumes were computed using Atterbury SuperAce 2008. The net acreage for the cruise is 57 acres (including right-of-way outside the sale area.) Hidden defect and breakage were applied to the cruised volumes. Most reserve trees are in GTRA's, RMA's, or posted out of the unit. There are approximately 34 marked wildlife trees within the posted sale area with an estimated volume of 43 MBF which was removed from the net sale volume. No ingrowth was added to the volumes.

Statistics: Target coefficient of variation for the sale was estimated at 55% with a desired sampling error not to exceed 9%. For Net board-foot per acre Douglas-fir the calculated coefficient of variation is 52% and the sampling error is 7.0%.

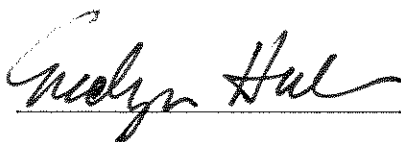
Cruisers/Dates: Long, McBride, Morgan, and Wiger in June of 2016.

Attachments: Cruise plan, Cruise Map, Statistics, Stand, Species-Sort-Grade, and Log Stock Tables.

Prepared by: Dave Wiger

Date: August 9, 2016

Approved:



Date:

8/15/16

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	DOE OVER			DATE	8/3/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
12S	09W	02	AREA1	00MC	56.00	55	385	1	W		
				TREES	ESTIMATED TOTAL		PERCENT SAMPLE				
				PLOTS	TREES	PER PLOT	TREES	TREES			
TOTAL		55	385	7.0							
CRUISE		19	137	7.2		7,925		1.7			
DBH COUNT											
REFOREST											
COUNT		36	247	6.9							
BLANKS											
100 %											
STAND SUMMARY											
		SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
		TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DF		115	127.4	18.5	72	55.2	237.1	41,712	40,882	10,268	10,196
DF TAKE		10	1.8	52.3	115	3.6	26.2	6,893	4,536	1,220	932
R ALDER		12	12.4	15.7	39	4.2	16.7	1,204	1,191	416	416
TOTAL		137	141.5	19.0	70	64.2	280.0	49,809	46,609	11,904	11,543
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		89.0	8.3	530	578	626					
DF TAKE		48.6	16.2	2,476	2,954	3,432					
R ALDER		81.5	24.5	87	116	144					
TOTAL		123.8	10.6	636	711	786	612		153	68	
CL:	68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
DF		58.0	7.8	117	127	137					
DF TAKE		219.0	29.5	1	2	2					
R ALDER		223.1	30.1	9	12	16					
TOTAL		49.6	6.7	132	142	151	98		25	11	
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		50.8	6.8	221	237	253					
DF TAKE		218.5	29.4	18	26	34					
R ALDER		209.3	28.2	12	17	21					
TOTAL		36.3	4.9	266	280	294	53		13	6	
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		51.4	6.9	38,051	40,882	43,713					
DF TAKE		218.7	29.5	3,199	4,536	5,872					
R ALDER		210.7	28.4	853	1,191	1,529					
TOTAL		39.3	5.3	44,140	46,609	49,079	62		15	7	

TC		TSTNDSUM												Stand Table Summary																			
														Project				DOE_OVER															
T12S R09W S02 T00MC														T12S R09W S02 T00MC																			
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page: 1																	
12S		09W		02		AREA1		00MC		56.00		55		138		Date: 08/03/2010																	
																Time: 10:30:18AM																	
S Spc	T	Sample		FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals																			
		DBH	Trees						Net	Net				Tons	Cunits	MBF																	
DF		9	1	82	21	4.667	2.06	4.67	5.0	20.0		23	93		13	5																	
DF		10	2	83	21	7.560	4.12	7.56	6.0	20.0		45	151		25	8																	
DF		11	4	89	64	12.496	8.25	15.62	12.6	42.0		197	656		110	37																	
DF		12	4	88	62	10.500	8.25	7.87	19.7	63.3		155	499		87	28																	
DF		13	5	87	55	11.183	10.31	11.18	21.0	56.0		235	626		132	35																	
DF		14	2	87	101	3.857	4.12	7.71	19.8	67.5		152	521		85	29																	
DF		15	2	91	113	3.360	4.12	6.72	26.8	107.5		180	722		101	40																	
DF		16	7	86	88	10.336	14.43	19.20	26.0	87.7		499	1,683		279	94																	
DF		17	5	83	126	6.540	10.31	15.70	30.1	102.5		472	1,609		264	90																	
DF		18	6	89	110	7.000	12.37	15.17	34.2	125.4		518	1,902		290	106																	
DF		19	9	88	122	9.424	18.55	24.08	35.9	137.0		864	3,298		484	185																	
DF		20	5	88	129	4.725	10.31	12.28	41.6	166.9		511	2,051		286	115																	
DF		21	6	88	123	5.143	12.37	13.71	43.7	174.4		599	2,391		336	134																	
DF		22	7	88	126	5.467	14.43	15.62	45.5	185.0		711	2,890		398	162																	
DF		23	5	88	129	3.573	10.31	10.72	48.7	199.3		522	2,137		293	120																	
DF		24	7	86	140	4.594	14.43	13.78	55.4	234.3		764	3,229		428	181																	
DF		25	3	85	110	1.814	6.18	4.23	61.3	224.3		259	950		145	53																	
DF		26	7	85	129	3.914	14.43	11.74	60.0	248.1		705	2,913		395	163																	
DF		27	4	86	118	2.074	8.25	5.70	65.8	270.0		375	1,540		210	86																	
DF		28	6	84	135	2.893	12.37	8.68	71.7	307.2		622	2,666		349	149																	
DF		29	1	78	135	.449	2.06	1.35	72.3	266.7		98	360		55	20																	
DF		30	5	87	122	2.100	10.31	5.88	82.7	375.7		486	2,209		272	124																	
DF		31	1	80	123	.393	2.06	1.18	79.7	330.0		94	389		53	22																	
DF		32	2	89	138	.738	4.12	2.21	99.8	446.7		221	989		124	55																	
DF		33	2	89	129	.694	4.12	1.39	116.3	587.5		161	816		90	46																	
DF		34	2	85	124	.654	4.12	1.63	117.2	528.0		192	863		107	48																	
DF		35	1	80	165	.309	2.06	1.23	94.0	457.5		116	565		65	32																	
DF		36	1	87	152	.292	2.06	.87	134.0	700.0		117	612		66	34																	
DF		40	1	95	149	.236	2.06	.71	174.3	990.0		124	702		69	39																	
DF		44	1	89	152	.195	2.06	.59	202.7	913.3		119	535		66	30																	
DF		45	1	75	145	.187	2.06	.56	104.0	563.3		58	315		33	18																	
DF		Totals	115	87	94	127.367	237.09	249.57	40.9	163.8		10,196	40,882		5,710	2,289																	
DFT		38	1	87	151	.332	2.62																										
DFT		48	1	88	138	.208	2.62	.42	174.0	795.0	.00	73	331	0	41	19																	
DFT		51	1	90	136	.185	2.62	.37	339.0	1755.0	.00	125	648	0	70	36																	
DFT		52	2	89	158	.355	5.24	1.07	257.7	1323.3	.01	274	1,410	0	154	79																	
DFT		54	1	88	151	.165	2.62	.49	170.7	850.0	.00	84	420	0	47	24																	
DFT		58	1	83	138	.143	2.62	.43	176.7	890.0	.00	76	381	0	42	21																	
DFT		60	1	89	138	.133	2.62	.27	270.0	1175.0	.00	72	313	0	40	18																	
DFT		63	1	72	151	.121	2.62	.36	321.0	1510.0	.00	116	548	0	65	31																	
DFT		66	1	86	112	.110	2.62	.22	504.0	2200.0	.00	111	485	0	62	27																	
DFT		Totals	10	87	145	1.752	26.18	3.62	257.1	1251.9	0.03	932	4,536	2	522	254																	
RA		12	1	86	40	1.775	1.39	1.77	14.0	40.0		25	71		14	4																	
RA		14	2	87	45	2.608	2.79	2.61	21.5	50.0		56	130		31	7																	
RA		16	6	86	52	5.990	8.36	6.99	27.9	70.0		195	489		109	27																	
RA		18	1	87	94	.789	1.39	1.58	36.5	125.0		58	197		32	11																	
RA		19	1	85	61	.708	1.39	1.42	26.5	95.0		38	135		21	8																	
RA		22	1	87	68	.528	1.39	1.06	42.5	160.0		45	169		25	9																	
RA		Totals	12	86	53	12.398	16.73	15.42	26.9	77.3		416	1,191		233	67																	
Totals		137	87	91		141.516	280.00	268.61	43.0	173.5		.03	11543	46,609	2	6,464	2,610																

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1						
				Project: DOE_OVER										Date		8/3/2016						
														Time		10:30:18AM						
T12S R09W S02 T00MC										T12S R09W S02 T00MC												
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt				
12S		09W		02		AREA1		00MC		56.00		55		138		1		W				
S So Gr T rt ad Spp				%	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
				Net BdFt					Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft			
DF				CU													2	16	0.00		.7	
DF				2M	63	1.1	26,190	25,914	1,451		54	46			6	94	39	15	360	2.08	72.0	
DF				3M	30	2.3	12,559	12,268	687		75	16	9	1	2	8	88	38	9	117	0.88	105.0
DF				4M	6		2,313	2,313	130	10	89	1		28	31	13	28	24	6	32	0.44	71.3
DF				MI			22	22	1		100					100	32	6	50	0.59	.4	
DF				CU	CU	100.0	264										34	8		0.00	2.8	
DF				PU	1		364	364	20		16	84	16			84	23	18	431	3.52	.8	
DF		Totals		88	2.0	41,712	40,882	2,289	1	27	40	32	2	2	7	89	34	10	162	1.18	253.1	
DFT				CU		100.0	1,447										28	41		0.00	.7	
DFT				2M	16	11.8	844	745	42			100		34		66	37	34	1776	10.53	.4	
DFT				3M	84	12.1	4,315	3,791	212		2	98		8	7	84	36	27	1183	6.73	3.2	
DFT				CU	CU	100.0	287										24	42		0.00	.1	
DFT		Totals		10	34.2	6,893	4,536	254		2	98		13	6	81	34	30	1019	6.12	4.4		
RA				CR	100	1.1	1,204	1,191	67		66	34	11	18	34	38	31	8	77	0.87	15.4	
RA		Totals		3	1.1	1,204	1,191	67		66	34		11	18	34	38	31	8	77	0.87	15.4	
Type Totals					6.4	49,809	46,609	2,610	1	26	36	38	2	4	7	87	34	10	171	1.25	273.0	

TC	TLOGSTVB																			Log Stock Table - MBF																					
										Project:										DOE_OVER																					
T12S R09W S02 T00MC										T12S R09W S02 T00M																															
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		1																							
12S		09W		02		AREA1		00MC		56.00		55		138		Date		8/3/2016																							
										Time										10:30:17AM																					
S		So		Gr		Log		Gross		%		Net		%		Net Volume by Scaling Diameter in Inches																									
Spp		T		rt		de		Len		MBF		Def		MBF		Spc		2-3		4-5		6-7		8-9		10-11		12-13		14-15		16-19		20-23		24-29		30-39		40+	
DF				CU		2																																			
DF				2M		32		54				54		2.4												23		20		12											
DF				2M		34		28		2.7		27		1.2												27															
DF				2M		36		13		3.1		12		.5												12															
DF				2M		38		35				35		1.5												19				15											
DF				2M		40		1,337		1.1		1,323		57.8												250		266		504		234		45		24					
DF				3M		19		1				1		.1								1																			
DF				3M		20		7				7		.3										7																	
DF				3M		22		3				3		.2														3													
DF				3M		23		1				1		.1						1																					
DF				3M		24		2				2		.1						2						2															
DF				3M		25		1				1		.1						1																					
DF				3M		27		4				4		.2						2				2		2															
DF				3M		28		2				2		.1						2																					
DF				3M		30		2				2		.1										2		2															
DF				3M		31		2				2		.1						2																					
DF				3M		32		40		.6		39		1.7				17		2		10				10															
DF				3M		34		2				2		.1				2																							
DF				3M		35		13				13		.6				11				3																			
DF				3M		36		21		11.9		19		.8				19																							
DF				3M		37		11				11		.5				6		2						3															
DF				3M		38		11				11		.5				11																							
DF				3M		40		579		2.3		565		24.7				80		121		209		57		34		5		11		30		18							
DF				4M		12		1				1		.0								1																			
DF				4M		13		2				2		.1						1				1																	
DF				4M		14		4				4		.2						3				1																	
DF				4M		15		2				2		.1						2		1																			
DF				4M		16		14				14		.6				13						1																	
DF				4M		17		1				1		.1						1																					
DF				4M		18		5				5		.2		4		1																							
DF				4M		20		6				6		.3				6																							
DF				4M		21		3				3		.1				3																							
DF				4M		22		12				12		.5		1		10		1																					
DF				4M		23		2				2		.1				2																							
DF				4M		24		11				11		.5		1		9																							
DF				4M		25		2				2		.1				2																							
DF				4M		27		3				3		.1				3																							
DF				4M		28		6				6		.3				6																							
DF				4M		30		1				1		.1				1																							
DF				4M		31		7				7		.3		2		5																							
DF				4M		32		6				6		.3		4		2																							
DF				4M		33		3				3		.1		1		2																							
DF				4M		36		3				3		.1				3																							
DF				4M		39		6				6		.2				6																							
DF				4M		40		21				21		.9				21																							
DF				4M		41		7				7		.3				7																							
DF				MI		32		1				1		.1				1																							
DF				CU		CU 16		7		100.0																															
DF				CU		CU 35		7		100.0																															
DF				PU		12		3				3		.1												3															

TC		TLOGSTVB		Log Stock Table - MBF																				
				Project:		DOE_OVER																		
T12S R09W S02 T00MC										T12S R09W S02 T00M														
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	2															
12S	09W	02	AREA1	00MC	56.00	55	138	Date	8/3/2016															
										Time	10:30:17AM													
Spp	S	So	Gr	Log	T	rt	de	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+
DF		PU		40					17		17	.8							17					
DF				Totals					2,336	2.0	2,289	87.7		13	260	135	235	392	340	536	263	74	41	
DFT			CU	16					13	100.0														
DFT			CU	32					68	100.0														
DFT			2M	28					14		14	5.6												14
DFT			2M	40					33	16.9	27	10.8									5		22	
DFT			3M	22					6		6	2.4											6	
DFT			3M	24					12		12	4.6								5		7		
DFT			3M	32					15		15	6.0								4		12		
DFT			3M	38					8		8	3.2							4	4				
DFT			3M	40					200	14.6	171	67.4									5	32	112	21
DFT			CU	CU	24				16	100.0														
DFT				Totals					386	34.2	254	9.7							4	13	10	57	135	35
RA			CR	16					7		7	10.8			2			6						
RA			CR	22					1		1	1.8			1									
RA			CR	25					2		2	2.5			2									
RA			CR	26					4		4	6.0			4									
RA			CR	28					2		2	3.3			2									
RA			CR	30					4	20.0	3	4.4			3									
RA			CR	32					18		18	27.1			2	8		8						
RA			CR	35					4		4	6.6			4									
RA			CR	38					7		7	10.9			7									
RA			CR	40					18		18	26.7			4	5		9						
RA				Totals					67	1.1	67	2.6			31	5	8	9	14					
Total All Species									2,789	6.4	2,610	100.0		13	291	140	242	401	358	548	273	131	176	35

Rock Haul Cost Computation

SALE NAME: Doe Over DATE: Aug 12, 2016
ROAD NAME: CLASS: Medium
ROCK SOURCE: Commercial Quarry 10-12 CY truck
Route: Hwy 20 to Salmon Creek to Sale Area (North end)

TIME Computation:

Road speed time factors:

1.	55 MPH	36.6	MRT	39.9 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	12.8	MRT	51.2 minutes
10.	10 MPH	0.2	MRT	1.2 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) 92.80 minutes

Operator efficiency correction 0.85 109.18 minutes

Job efficiency correction 0.85 128.45 minutes

Truck capacity (CY) 10.00 12.85 min/CY

Loading time, delay time per CY 0.25 min/CY

TIME (minutes) per cubic yard 13.10 min/CY

COST per CY computation

Cost of truck and operator per hour \$79.00 /hr.

Cost of truck and operator per minute \$1.32 /min

Cost per CY \$17.29 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing
1½ - 0"	\$ 11.48	\$28.77
3 - 0"	\$ 11.14	\$28.43
Jaw Run	\$ 9.79	\$27.08

Note: Pit costs May 2016 Wild Rose - Conversion 1.35 ton/CY

Rock Haul Cost Computation

SALE NAME: Doe Over DATE: Aug 12, 2016
ROAD NAME: CLASS: Medium
ROCK SOURCE: Commercial quarry 18-20 CY truck-trailer
Route: Hwy 20 to Salmon Creek to Sale Area (North end)

TIME Computation:

Road speed time factors:

1.	55 MPH		MRT	0.0 minutes
2.	50 MPH	36.6	MRT	43.9 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	12.8	MRT	51.2 minutes
10.	10 MPH	0.2	MRT	1.2 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) 96.80 minutes

Operator efficiency correction 0.85 113.88 minutes

Job efficiency correction 0.85 133.98 minutes

Truck capacity (CY) 20.00 6.70 min/CY

Loading time, delay time per CY 0.25 min/CY

TIME (minutes) per cubic yard 6.95 min/CY

COST per CY computation

Cost of truck and operator per hour \$100.00 /hr.

Cost of truck and operator per minute \$1.67 /min

Cost per CY \$11.61 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing
1½ - 0"	\$ 11.48	\$23.09
3 - 0"	\$ 11.14	\$22.75
Jaw Run	\$ 9.79	\$21.40

Note: Pit costs May 2016 Wild Rose - Conversion 1.35 ton/CY

Rock Haul Cost Computation

SALE NAME: Doe Over DATE: Aug 12, 2016
ROAD NAME: CLASS: Medium
ROCK SOURCE: Commercial quarry 10-12 CY truck
Route: Hwy 20 to Burntwoods to Harlan to Sale Area (South end)

TIME Computation:

Road speed time factors:

1.	55 MPH	24.6	MRT	26.8 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	15.6	MRT	26.7 minutes
6.	30 MPH	7.6	MRT	15.2 minutes
7.	25 MPH		MRT	0.0 minutes
8.	20 MPH		MRT	0.0 minutes
9.	15 MPH	1.8	MRT	7.2 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) 82.40 minutes

Operator efficiency correction 0.85 96.94 minutes

Job efficiency correction 0.90 107.71 minutes

Truck capacity (CY) 10.00 10.77 min/CY

Loading time, delay time per CY 0.25 min/CY

TIME (minutes) per cubic yard 11.02 min/CY

COST per CY computation

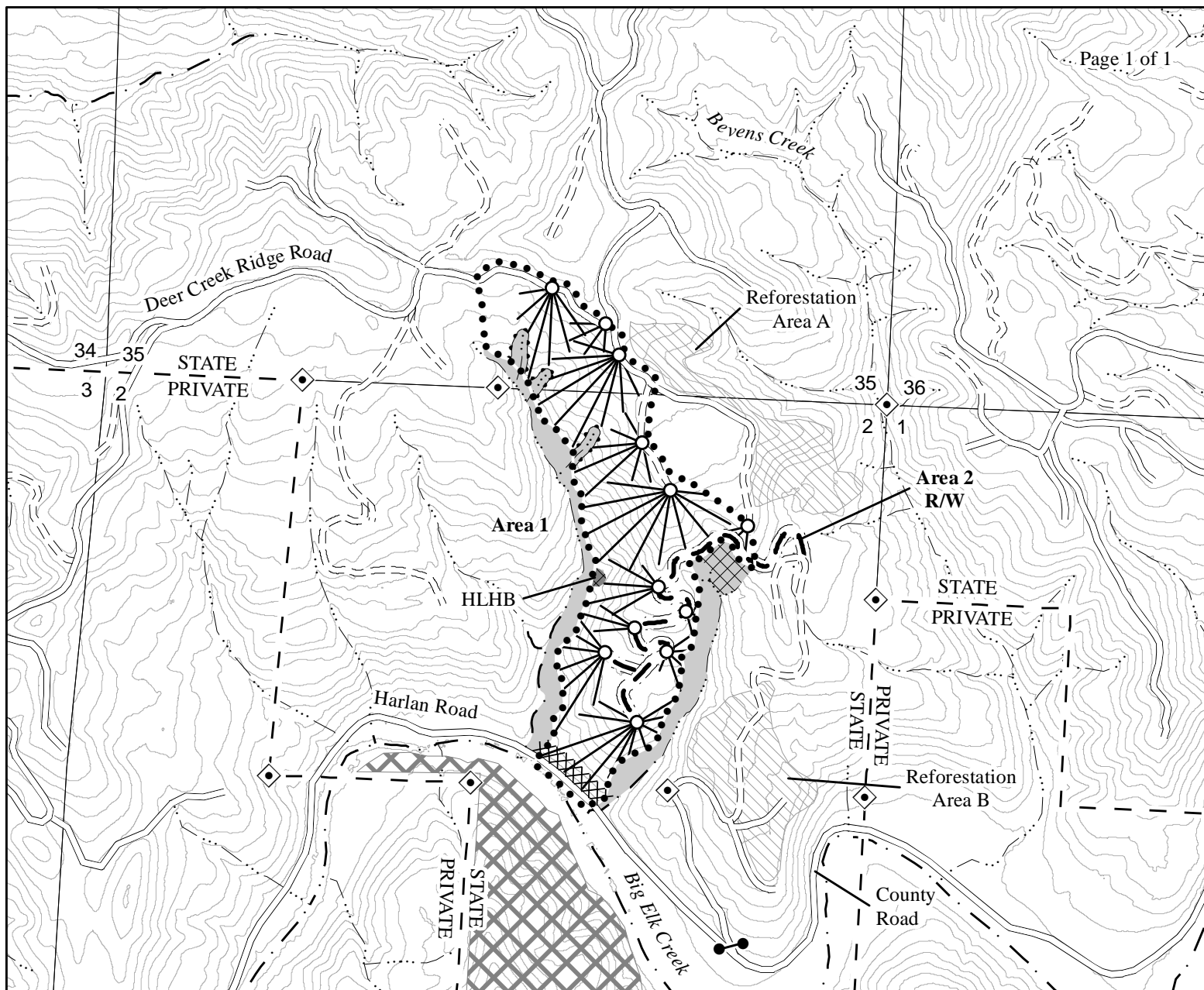
Cost of truck and operator per hour \$79.00 /hr.

Cost of truck and operator per minute \$1.32 /min

Cost per CY \$14.55 /CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing
1½ - 0"	\$ 11.48	\$26.03
3 - 0"	\$ 11.14	\$25.69
Jaw Run	\$ 9.79	\$24.34

Note: Pit costs May 2016 Wild Rose - Conversion 1.35 ton/CY



Legend

Boundaries

••••• Timber Sale Boundary

— — — Right of Way (Posted)

Roads

===== Surfaced Road

== == == Unsurfaced Road

— — — New Construction

Streams

· — · Type F Stream

····· Type N Stream

----- Posted Stream Buffer

Stream Buffer

Reforestation Area

Cable Corridors

○ Landings

◆ Land Survey Monument

● — ● Gates

XXXXXX Controlled Felling Area

Logging Restricted Area

Green Tree Retention Area

High Landslide Hazard Buffer (HLHB)

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-17-49

DOE OVER

PORTIONS OF SECTION 35, T11S, R9W,
& SECTION 2, T12S, R9W, 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 survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

Scale

1:12,000

1,000

0

1,000

2,000

Feet

	NET ACRES TRACTOR	NET ACRES CABLE
1 (MC)	11	45
2 (R/W)	1	0
TOTAL	12	45



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