"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Side Saddle
Sale 341-13-32

District: **Forest Grove** **Date:** **September 10, 2012**

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$2,662,054.85	$0.00	$2,662,054.85
		Project Work:	$(289,600.00)
		Advertised Value:	$2,372,454.85

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Side Saddle
Sale 341-13-32

District: **Forest Grove** **Date:** **September 10, 2012**

timber description

Location: Portions of Section 6, T1N, R5W, Section 31, T2N, R5W, Section 1, T1N, R6W, and Section 36, T2N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	3,804	3,444	637	7,885
Total	3,804	3,444	637	7,885

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"STEWARDSHIP IN FORESTRY"

District: **Forest Grove** **Date:** **September 10, 2012**

comments:

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Pond Values Used: 2nd Quarter Calendar Year 2012.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Cost:
$259.17/MBF = $450/MBF - $190.83/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
$759.17/MBF = $950/MBF - $190.83/MBF

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus
Logging Cost:
$369.17/MBF = $560/MBF - $190.83/MBF

SCALING COST ALLOWANCE = $5.00/MBF

FUEL COST ALLOWANCE = $4.00/Gallon

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

Other Costs (with Profit & Risk to be added):
Brand and Paint: 7,885 MBF @$1/MBF = $7,885
Total Other Costs (with Profit & Risk to be added) = $7,885

Other Costs (No Profit & Risk added):
Machine time to block/waterbar roads,and skid trails:
15 Hours @ $150/Hr. = $2,250
Equipment Cleaning: 4 x $1,000/Piece = $4,000
Slash Treatment:  40 acres x $150/acre = $6,000
Machine time to pile landing slash and sort firewood:
15 hrs x $150/hr= $2,250
TOTAL Other Costs (No Profit & Risk added) = $14,500

ROAD MAINTENANCE
Move-in:  $2,000
General Road Maintenance:  6.1 miles x $1,000/mile = $6,100
TOTAL:  $8,100 / 7,885 MBF = $1.03/MBF
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"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Side Saddle
Sale 341-13-32

District: **Forest Grove** **Date:** **September 10, 2012**

logging conditions

combination#: 1 Douglas - Fir 34.16%
yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process**: Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,600
cost / mbf: $77.02

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

combination#: 2 Douglas - Fir 26.00%
yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process**: Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 6.0 **bd. ft / load:** 4,600
cost / mbf: $52.11

machines: Stroke Delimber (B)

combination#: 3 Douglas - Fir 12.13%
yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process**: Stroke Delimber
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 4.0 **bd. ft / load:** 3,800
cost / mbf: $186.46

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

combination#: 4 Douglas - Fir 27.70%
yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **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: $63.08

machines: Stroke Delimber (B)

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Side Saddle
Sale 341-13-32

District: **Forest Grove** **Date:** **September 10, 2012**

logging costs

Operating Seasons:	2.00	**Profit Risk:**	15.00%
Project Costs:	$289,600.00	**Other Costs (P/R):**	$7,885.00
Slash Disposal:	$0.00	**Other Costs:**	$14,500.00

Miles of Road

Road Maintenance: $1.03

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	4.5

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Side Saddle
Sale 341-13-32

District: **Forest Grove** **Date:** **September 10, 2012**

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$79.96	$1.05	$1.11	$76.87	$1.00	$24.00	$0.00	$5.00	$1.84	$190.83

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$528.44	$337.61	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Side Saddle
Sale 341-13-32

District: **Forest Grove**

Date: **September 10, 2012**

summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	7,885	$337.61	$2,662,054.85

Gross Timber Sale Value

Recovery: $2,662,054.85

Prepared by: Eric Foucht

Phone: 503-359-7473

TIMBER SALE SUMMARY
Side Saddle
341-13-32

1. Type of Sale: Modified clear cut, Moderate Partial Cut, Group Selection, Recovery, sealed bid auction.

2. Revenue Distribution: 100% BOF, Tillamook County, Tax Codes 9-2.

3. Sale Acreage: This is a 476 acre Combination Sale with 104 acres of Modified Clearcut, 28 acres of Group Selection Thinning, 334 acres of Moderate Partial Cut and 10 acres of new construction right of way. Acres were determined using ESRI Arcmap GIS software.

4. **Cruise**: The Timber Sale was cruised by inventory contract cruisers and ODF cruisers using variable radius plots. Volume estimates and plot data statistics were computed using SuperACE timber cruise software. For more information see the Cruise Report

5. Timber Description: The timber in the Sale Areas is approximately 55 years old and is comprised primarily of Douglas-fir. The sale DBH is approximately 18 to 20 inches in the clearcut and group selection areas and 14 inches in the partial cut areas. The sale volumes are approximately 33 mbf per acre in the clearcut and 38 mbf per acre in the group selection areas. The partial cut take tree volume is approximately 10 mbf per acre in Area 2 and 8 mbf per acre in Area 4.

6. Topography and Logging Method:

Area 1: 51% tractor yarding and 49% cable yarding

Area 2: 73% tractor yarding and 27% cable yarding

Area 3: 100% tractor yarding

Area 4: 51% tractor yarding and 49% cable yarding

Area 5: 100% tractor yarding

The maximum yarding distance is approximately 800 feet horizontal distance, with an average yarding distance of about 400 feet. Slopes range from 10% to 55%.

8. Access: From Forest Grove travel north seven miles on Highway 8 to its junction with Highway 6 and turn left. Continue west on Highway 6 for 9.5 miles to the Beaverdam Road. Proceed south on the Beaverdam Road 2.6 miles to the northwest portion of the sale area.

9. Projects:

***Projects**:* Project costs are approximately 11% of the sale value

Project 1: Road improvement and construction.	$79,763.26
Project 2: Road surfacing.	$131,921.59
Project 3: Crush and build Stockpile.	$62,060.00
Project 4: Grass seed, fertilize and mulch .	$2,065.20

Project 5: Road blocking and vacating .	$2,245.24
Poject 6: Road vacating.	$4,382.10
Move in and Equipment Cleaning.	$7,144.50
Total Project Costs (rounded).	$289,600.00

10. <u>Other Costs:</u>

<u>Other Costs with (P/R)</u>

Brand and Paint: 7,885MBF @ $1.00/MBF	$7,885.00
Total Other Costs with (P/R):	$7,885.00

<u>Other Costs (no P/R)</u>

Blocking/Waterbarring skid roads: 15 Hours @ $150.00/hour	$2,250.00
Piling Landing Slash, firewood sort: 15 hours @ $150.00/hour	$2,250.00
Slash Treatment: 40 acres @ $150.00/ acre	$6,000.00
Equipment Cleaning: 4 machines @1000/machine	$4,000.00
Total Other Costs (no P/R):	$14,500.00
Total Other Costs:	**$22,385.00**

PROJECT COST SUMMARY SHEET

Timber Sale: Side Saddle

Sale Number: 341-13-32

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
A to B	4+00	$1,259.75
C to D	13+00	$4,070.45
E to F	6+80	$1,992.08
G to H	27+00	$8,652.09
I to J	6+50	$2,012.73
K to L	8+60	$2,348.22
M to N	3+75	$1,141.96
O to P	4+50	$1,300.35
Q to R	32+75	$10,931.42
S to T	3+70	$1,215.40
U to V	1+80	$701.14
W to X	5+60	$1,654.66
Y to Z	33+00	$11,169.22
AA to BB	5+00	$1,355.94
	156+00 stations	
	2.95 miles	

SUBTOTAL CONSTRUCTION $49,805.41

IMPROVEMENTS

Road Segment	Length	Cost
CC to C	57+50	$4,610.66
DD to EE	17+50	$767.40
FF to GG	16+00	$21,259.20
HH to A	115+70	$3,320.59
	206+70 stations	
	3.91 miles	

SUBTOTAL IMPROVEMENTS $29,957.85

TOTAL PROJECT NO. 1 COST = $79,763.26

PROJECT NO. 2: SURFACING

Road Segment	Amount	Type	Cost
C to D	654 cy	3" - 0	$8,959.80
E to F	440 cy	3" - 0	$5,860.80
G to H	1,482 cy	3" - 0	$21,933.60
M to N	226 cy	3" - 0	$2,761.72
O to P	240 cy	3" - 0	$2,920.80
Q to R	1,664 cy	3" - 0	$21,648.64
S to T	309 cy	3" - 0	$4,047.90
U to V	216 cy	3" - 0	$2,836.08
W to X	389 cy	3" - 0	$5,041.44
Y to Z	1,716 cy	3" - 0	$23,749.44
CC to C	1,149 cy	3" - 0	$15,150.91
CC to C	302 cy	1 1/2" - 0	$3,983.38
DD to EE	543 cy	3" - 0	$6,896.10
FF to GG	160 cy	3" - 0	$2,009.70
HH to A	288 cy	1 1/2" - 0	$4,121.28
Total			
	590 cy	1 1/2" - 0	
	9,187 cy	3" - 0	

TOTAL PROJECT NO. 2 COST = $131,921.59

PROJECT COST SUMMARY SHEET

Timber Sale: Side Saddle

Sale Number: 341-13-32

PROJECT NO. 3: Crush and Build 1½"-0 Stockpile		
5,000 CY 1½"-0 Stockpile	$62,060.00	
	TOTAL PROJECT NO. 3 COST =	$62,060.00
PROJECT NO. 4: GRASS SEED, FERTILIZE, & MULCH		
Grass seed and fertilize areas of disturbed soil.	$2,065.20	
	TOTAL PROJECT NO. 4 COST =	$2,065.20
PROJECT NO. 5: ROAD BLOCKING AND VACATING		
Block and/or vacate roads.	$2,245.24	
	TOTAL PROJECT NO. 5 COST =	$2,245.24
PROJECT NO. 6: ROAD VACATING		
Vacate V1 to V2	$4,382.10	
	TOTAL PROJECT NO. 6 COST =	$4,382.10
MOVE IN & EQUIPMENT CLEANING (Projects 1, 5 & 6)		$7,144.50
	TOTAL ALL PROJECTS	$289,581.90
	TOTAL CREDITS	$289,600.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No. : 341-13-32

Road Segment: A to B — Construction: 4+00 stations, 0.08 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.46	acres @	$980.00	per acre =	$449.95
Balanced Road Construction	4.00	sta @	$90.00	per sta =	$360.00
Construct Turnouts (3)	1	ea @	$60.00	per ea =	$60.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Small Landing	1	ea @	$200.00	per ea =	$200.00
Grade, Ditch, and Roll	4.00	sta @	$28.70	per sta =	$114.80

TOTAL EXCAVATION COSTS= $1,259.75

PROJECT NO. 1 TOTAL COST = $1,259.75

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.46	acres @	$220.00	per acre =	$101.01
Mulch	10.00	bales @	$4.50	per bale =	$45.00

PROJECT NO. 4 TOTAL COST = $146.01

PROJECT NO. 5:

Construct Tank Traps	3.00	each @	$50.00	per each =	$150.00
Construct Waterbars	2.00	each @	$25.00	per each =	$50.00
Rip Road Surface	4.00	sta @	$15.00	per sta =	$60.00
Grass seed and fertilize areas of disturbed soil.	4.00	sta @	$8.14	per sta =	$32.56

PROJECT NO. 5 TOTAL COST = $292.56

TOTAL COST = $1,698.32

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: C to D — Construction: 13+00 stations, 0.25 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	1.49	acres @	$980.00	per acre =	$1,462.35
Balanced Road Construction	11.00	sta @	$90.00	per sta =	$990.00
Drift	2.00	sta @	$150.00	per sta =	$300.00
Construct Turnouts (1)	1	ea @	$60.00	per ea =	$60.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Small Landing	1	ea @	$200.00	per ea =	$200.00
Grade, Ditch, and Roll	13.00	sta @	$28.70	per sta =	$373.10

TOTAL EXCAVATION COSTS= $3,460.45

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18" $600.00

Culvert Markers

1 markers $10.00

TOTAL CULVERT COSTS = $610.00

PROJECT NO. 1 TOTAL COST = $4,070.45

PROJECT NO. 2:

SURFACING 8 " deep = 42 cy/sta

C to D	546	cy of	3" - 0	@	$13.70	per cy =	$7,480.20
Turnouts (1)	14	cy of	3" - 0	@	$13.70	per cy =	$191.80
Turnarounds (1)	14	cy of	3" - 0	@	$13.70	per cy =	$191.80
Junctions (1)	20	cy of	3" - 0	@	$13.70	per cy =	$274.00
Total =	654	cy of	3" - 0		$13.70	per cy =	$8,959.80

PROJECT NO. 2 TOTAL COST = $8,959.80

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil. 0.75 acres @ $220.00 per acre = $164.14

PROJECT NO. 4 TOTAL COST = $164.14

TOTAL COST = $13,194.39

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	E to F	Construction:	6+80 stations
			0.13 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.78	acres @	$980.00	per acre =	$764.92	
Balanced Road Construction	5.80	sta @	$90.00	per sta =	$522.00	
Drift	1.00	sta @	$150.00	per sta =	$150.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Large Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	6.80	sta @	$28.70	per sta =	$195.16	
				TOTAL EXCAVATION COSTS=		$1,992.08

PROJECT NO. 1 TOTAL COST = $1,992.08

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
E to F	286	cy of	3" - 0	@	$13.32	per cy =	$3,809.52
Turnarounds (1)	14	cy of	3" - 0	@	$13.32	per cy =	$186.48
Junctions (1)	20	cy of	3" - 0	@	$13.32	per cy =	$266.40
Large Landings (1)	120	cy of	3" - 0	@	$13.32	per cy =	$1,598.40
Total =	440	cy of	3" - 0		$13.32	per cy =	$5,860.80

PROJECT NO. 2 TOTAL COST = $5,860.80

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.39	acres @	$220.00	per acre =	$85.86

PROJECT NO. 4 TOTAL COST = $85.86

PROJECT NO. 5:

Construct Tank Traps	3.00	each @	$50.00	per each =	$150.00
Construct Waterbars	2.00	each @	$25.00	per each =	$50.00

PROJECT NO. 5 TOTAL COST = $200.00

TOTAL COST = $8,138.74

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	G to H	Construction:	27+00 stations
			0.51 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	3.10	acres @	$980.00	per acre =	$3,037.19	
Balanced Road Construction	25.00	sta @	$90.00	per sta =	$2,250.00	
Drift	2.00	sta @	$150.00	per sta =	$300.00	
Construct Turnouts (1)	1	ea @	$60.00	per ea =	$60.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Roadside Landing	3	ea @	$150.00	per ea =	$450.00	
Large Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	27.00	sta @	$28.70	per sta =	$774.90	
				TOTAL EXCAVATION COSTS=		$7,232.09

CULVERTS - MATERIALS & INSTALLATION

Culverts

70	LF of 18"	$1,400.00
		$1,400.00

Culvert Markers

2 markers	$20.00

TOTAL CULVERT COSTS = $1,420.00

PROJECT NO. 1 TOTAL COST = $8,652.09

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
G to H	1,134	cy of	3" - 0	@	$14.80	per cy =	$16,783.20
Turnouts (1)	14	cy of	3" - 0	@	$14.80	per cy =	$207.20
Turnarounds (1)	14	cy of	3" - 0	@	$14.80	per cy =	$207.20
Junctions (1)	20	cy of	3" - 0	@	$14.80	per cy =	$296.00
Roadside Landings (3)	180	cy of	3" - 0	@	$14.80	per cy =	$2,664.00
Large Landings (1)	120	cy of	3" - 0	@	$14.80	per cy =	$1,776.00
Total =							
	1482	cy of	3" - 0		$14.80	per cy =	$21,933.60

PROJECT NO. 2 TOTAL COST = $21,933.60

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	1.55 acres @	$220.00	per acre =	$340.91

PROJECT NO. 4 TOTAL COST = $340.91

TOTAL COST = $30,926.60

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	I to J	Construction:	6+50 stations
			0.12 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.75	acres @	$980.00	per acre =	$731.18	
Balanced Road Construction	6.50	sta @	$90.00	per sta =	$585.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Roadside Landing	1	ea @	$150.00	per ea =	$150.00	
Large Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	6.50	sta @	$28.70	per sta =	$186.55	
				TOTAL EXCAVATION COSTS=		$2,012.73

PROJECT NO. 1 TOTAL COST = $2,012.73

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.37	acres @	$220.00	per acre =	$82.07

PROJECT NO. 4 TOTAL COST = $82.07

PROJECT NO. 5:

Construct Tank Traps	1.00	each @	$50.00	per each =	$50.00
Construct Waterbars	2.00	each @	$25.00	per each =	$50.00
Rip Road Surface	6.50	sta @	$15.00	per sta =	$97.50
Grass seed and fertilize areas of disturbed soil.	6.50	sta @	$8.14	per sta =	$52.91

PROJECT NO. 5 TOTAL COST = $250.41

TOTAL COST = $2,345.21

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: K to L — Construction: 8+60 stations, 0.16 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.99	acres @	$980.00	per acre =	$967.40
Balanced Road Construction	8.60	sta @	$90.00	per sta =	$774.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Large Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	8.60	sta @	$28.70	per sta =	$246.82

TOTAL EXCAVATION COSTS= $2,348.22

PROJECT NO. 1 TOTAL COST = $2,348.22

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.49	acres @	$220.00	per acre =	$108.59

PROJECT NO. 4 TOTAL COST = $108.59

PROJECT NO. 5:

Construct Tank Traps	1.00	each @	$50.00	per each =	$50.00
Construct Waterbars	3.00	each @	$25.00	per each =	$75.00
Rip Road Surface	8.60	sta @	$15.00	per sta =	$129.00
Grass seed and fertilize areas of disturbed soil.	0.32	sta @	$8.14	per sta =	$2.57

PROJECT NO. 5 TOTAL COST = $256.57

TOTAL COST = $2,713.38

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	M to N	Construction:	3+75 stations
			0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.43	acres @	$980.00	per acre =	$421.83	
Balanced Road Construction	3.75	sta @	$90.00	per sta =	$337.50	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Small Landing	1	ea @	$200.00	per ea =	$200.00	
Grade, Ditch, and Roll	3.75	sta @	$28.70	per sta =	$107.63	
				TOTAL EXCAVATION COSTS=		$1,141.96

PROJECT NO. 1 TOTAL COST = $1,141.96

PROJECT NO. 2:

SURFACING	6	" deep =	31 cy/sta				
M to N	116	cy of	3" - 0	@	$12.22	per cy =	$1,417.52
Turnarounds (1)	10	cy of	3" - 0	@	$12.22	per cy =	$122.20
Junctions (1)	30	cy of	3" - 0	@	$12.22	per cy =	$366.60
Small Landings (1)	70	cy of	3" - 0	@	$12.22	per cy =	$855.40
Total =	226	cy of	3" - 0		$12.22	per cy =	$2,761.72

PROJECT NO. 2 TOTAL COST = $2,761.72

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.22	acres @	$220.00	per acre =	$47.35

PROJECT NO. 4 TOTAL COST = $47.35

PROJECT NO. 5:

Construct Tank Traps	1.00	each @	$50.00	per each =	$50.00
Construct Waterbars	2.00	each @	$25.00	per each =	$50.00

PROJECT NO. 5 TOTAL COST = $100.00

TOTAL COST = $4,051.03

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: O to P — Construction: 4+50 stations, 0.09 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.52	acres @	$980.00	per acre =	$506.20
Balanced Road Construction	4.50	sta @	$90.00	per sta =	$405.00
Construct Turnouts (1)	1	ea @	$60.00	per ea =	$60.00
Small Landing	1	ea @	$200.00	per ea =	$200.00
Grade, Ditch, and Roll	4.50	sta @	$28.70	per sta =	$129.15

TOTAL EXCAVATION COSTS= $1,300.35

PROJECT NO. 1 TOTAL COST = $1,300.35

PROJECT NO. 2:

SURFACING	6	" deep =	31 cy/sta				
O to P	140	cy of	3" - 0	@	$12.17	per cy =	$1,703.80
Turnarounds (1)	10	cy of	3" - 0	@	$12.17	per cy =	$121.70
Junctions (1)	20	cy of	3" - 0	@	$12.17	per cy =	$243.40
Total =	240	cy of	3" - 0		$12.17	per cy =	$2,920.80

PROJECT NO. 2 TOTAL COST = $2,920.80

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil. 0.26 acres @ $220.00 per acre = $56.82

PROJECT NO. 4 TOTAL COST = $56.82

PROJECT NO. 5:

Construct Waterbars 1.00 each @ $25.00 per each = $25.00

PROJECT NO. 5 TOTAL COST = $25.00

TOTAL COST = $4,302.97

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	Q to R	Construction:	32+75 stations
			0.62 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	3.76	acres @	$980.00	per acre =	$3,684.00	
Balanced Road Construction	32.75	sta @	$90.00	per sta =	$2,947.50	
Construct Turnouts (1)	1	ea @	$60.00	per ea =	$60.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Roadside Landing	2	ea @	$150.00	per ea =	$300.00	
Large Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	32.75	sta @	$28.70	per sta =	$939.93	
				TOTAL EXCAVATION COSTS=		$8,291.42

CULVERTS - MATERIALS & INSTALLATION

Culverts

130 LF of 18" $2,600.00

Culvert Markers

4 markers $40.00

TOTAL CULVERT COSTS = $2,640.00

PROJECT NO. 1 TOTAL COST = $10,931.42

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
Q to R	1,376	cy of	3" - 0	@	$13.01	per cy =	$17,901.76
Turnouts (1)	14	cy of	3" - 0	@	$13.01	per cy =	$182.14
Turnarounds (1)	14	cy of	3" - 0	@	$13.01	per cy =	$182.14
Junctions (1)	20	cy of	3" - 0	@	$13.01	per cy =	$260.20
Roadside Landings (2)	120	cy of	3" - 0	@	$13.01	per cy =	$1,561.20
Large Landings (1)	120	cy of	3" - 0	@	$13.01	per cy =	$1,561.20
Total =							
	1664	cy of	3" - 0		$13.01	per cy =	$21,648.64

PROJECT NO. 2 TOTAL COST = $21,648.64

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	1.88	acres @	$220.00	per acre =	$413.51

PROJECT NO. 4 TOTAL COST = $413.51

TOTAL COST = $32,993.57

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No. : 341-13-32

Road Segment: S to T — Construction: 3+70 stations

0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.42	acres @	$980.00	per acre =	$416.21
Balanced Road Construction	3.70	sta @	$90.00	per sta =	$333.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Large Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	3.70	sta @	$28.70	per sta =	$106.19

TOTAL EXCAVATION COSTS= $1,215.40

PROJECT NO. 1 TOTAL COST = $1,215.40

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
S to T	155	cy of	3" - 0	@	$13.10	per cy =	$2,030.50
Turnarounds (1)	14	cy of	3" - 0	@	$13.10	per cy =	$183.40
Junctions (1)	20	cy of	3" - 0	@	$13.10	per cy =	$262.00
Large Landings (1)	120	cy of	3" - 0	@	$13.10	per cy =	$1,572.00
Total =	309	cy of	3" - 0		$13.10	per cy =	$4,047.90

PROJECT NO. 2 TOTAL COST = $4,047.90

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.21	acres @	$220.00	per acre =	$46.72

PROJECT NO. 4 TOTAL COST = $46.72

TOTAL COST = $5,310.01

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: U to V — Construction: 1+80 stations, 0.03 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.21	acres @	$980.00	per acre =	$202.48
Balanced Road Construction	1.80	sta @	$90.00	per sta =	$162.00
Large Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	1.80	sta @	$28.70	per sta =	$51.66

TOTAL EXCAVATION COSTS= $701.14

PROJECT NO. 1 TOTAL COST = $701.14

PROJECT NO. 2:

SURFACING 8 " deep = 42 cy/sta

U to V	76	cy of	3" - 0	@	$13.13 per cy =	$997.88
Junctions	20	cy of	3" - 0	@	$13.13 per cy =	$262.60
Large Landings (1)	120	cy of	3" - 0	@	$13.13 per cy =	$1,575.60
Total =	216	cy of	3" - 0		$13.13 per cy =	$2,836.08

PROJECT NO. 2 TOTAL COST = $2,836.08

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil. 0.10 acres @ $220.00 per acre = $22.73

PROJECT NO. 4 TOTAL COST = $22.73

TOTAL COST = $3,559.95

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle

Timber Sale No. : 341-13-32

Road Segment: W to X

Construction: 5+60 stations

0.11 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.64	acres @	$980.00	per acre =	$629.94
Balanced Road Construction	5.60	sta @	$90.00	per sta =	$504.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Large Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	5.60	sta @	$28.70	per sta =	$160.72

TOTAL EXCAVATION COSTS= $1,654.66

PROJECT NO. 1 TOTAL COST = $1,654.66

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
W to X	235	cy of	3" - 0	@	$12.96	per cy =	$3,045.60
Turnarounds (1)	14	cy of	3" - 0	@	$12.96	per cy =	$181.44
Junctions	20	cy of	3" - 0	@	$12.96	per cy =	$259.20
Large Landings (1)	120	cy of	3" - 0	@	$12.96	per cy =	$1,555.20
Total =							
	389	cy of	3" - 0		$12.96	per cy =	$5,041.44

PROJECT NO. 2 TOTAL COST = $5,041.44

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.32	acres @	$220.00	per acre =	$70.71

PROJECT NO. 4 TOTAL COST = $70.71

TOTAL COST = $6,766.80

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: Y to Z — Construction: 33+00 stations, 0.63 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	3.79	acres @	$980.00	per acre =	$3,712.12
Balanced Road Construction	33.00	sta @	$90.00	per sta =	$2,970.00
Construct Turnouts (1)	4	ea @	$60.00	per ea =	$240.00
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00
Roadside Landing	2	ea @	$150.00	per ea =	$300.00
Large Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	33.00	sta @	$28.70	per sta =	$947.10

TOTAL EXCAVATION COSTS= $8,529.22

CULVERTS - MATERIALS & INSTALLATION

Culverts

130 LF of 18" $2,600.00

$2,600.00

Culvert Markers

4 markers $40.00

TOTAL CULVERT COSTS = $2,640.00

PROJECT NO. 1 TOTAL COST = $11,169.22

PROJECT NO. 2:

SURFACING	8	" deep =	42 cy/sta				
Y to Z	1,386	cy of	3" - 0	@	$13.84	per cy =	$19,182.24
Turnouts (4)	56	cy of	3" - 0	@	$13.84	per cy =	$775.04
Turnarounds (1)	14	cy of	3" - 0	@	$13.84	per cy =	$193.76
Junctions (1)	20	cy of	3" - 0	@	$13.84	per cy =	$276.80
Roadside Landings (2)	120	cy of	3" - 0	@	$13.84	per cy =	$1,660.80
Large Landings (1)	120	cy of	3" - 0	@	$13.84	per cy =	$1,660.80
Total =	1716	cy of	3" - 0		$13.84	per cy =	$23,749.44

PROJECT NO. 2 TOTAL COST = $23,749.44

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	1.89	acres @	$220.00	per acre =	$416.67

PROJECT NO. 4 TOTAL COST = $416.67

PROJECT NO. 5:

Construct Tank Traps	3.00	each @	$50.00	per each =	$150.00
Construct Waterbars	5.00	each @	$25.00	per each =	$125.00

PROJECT NO. 5 TOTAL COST = $275.00

TOTAL COST = $35,610.33

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle   Timber Sale No. : 341-13-32

Road Segment: AA to BB   Construction: 5+00 stations
0.09 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.57	acres @	$980.00	per acre =	$562.44	
Balanced Road Construction	5.00	sta @	$90.00	per sta =	$450.00	
Small Landing	1	ea @	$200.00	per ea =	$200.00	
Grade, Ditch, and Roll	5.00	sta @	$28.70	per sta =	$143.50	
				TOTAL EXCAVATION COSTS=		$1,355.94

PROJECT NO. 1 TOTAL COST = $1,355.94

PROJECT NO. 4:

Grass seed and fertilize areas of disturbed soil.	0.29	acres @	$220.00	per acre =	$63.13

PROJECT NO. 4 TOTAL COST = $63.13

PROJECT NO. 5:

Construct Tank Traps	1.00	each @	$50.00	per each =	$50.00
Construct Waterbars	2.00	each @	$25.00	per each =	$50.00
Rip Road Surface	5.00	sta @	$15.00	per sta =	$75.00
Grass seed and fertilize areas of disturbed soil.	5.00	sta @	$8.14	per sta =	$40.70

PROJECT NO. 5 TOTAL COST = $215.70

TOTAL COST = $1,634.77

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: CC to C — Improvement: 57+50 stations

1.09 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Parking Area)	0.25	acres @	$980.00	per acre =	$245.00
Construct Parking Area	1	ea @	$500.00	per ea =	$500.00
Roadside Brushing (Light) from 6+10 to 57+50	1	miles @	$600.00	per mile =	$653.41
Grade, Ditch, and Roll	57.50	sta @	$28.70	per sta =	$1,650.25

TOTAL EXCAVATION COSTS= $3,048.66

CULVERTS - MATERIALS & INSTALLATION

Culverts

60 LF of 18" $1,200.00

$1,200.00

Culvert Markers

2 markers $20.00

TOTAL CULVERT COSTS = $1,562.00

PROJECT NO. 1 TOTAL COST = $4,610.66

PROJECT NO. 2:

SURFACING

6 " deep = 31 cy/sta

4 " deep = 20 cy/sta

0+00 - 6+10, 4" Deep	122	cy of	1 1/2" - 0	@	$13.19	per cy =	$1,609.18
30+40 - 57+50, 6" Deep	840	cy of	3" - 0	@	$13.19	per cy =	$11,079.60
Spot Rock	50	cy of	1 1/2" - 0	@	$13.19	per cy =	$659.50
Junctions	20	cy of	1 1/2" - 0	@	$13.19	per cy =	$263.80
Large Landings (1)	120	cy of	3" - 0	@	$13.19	per cy =	$1,582.80
Parking Area 6" Base	167	cy of	3" - 0	@	$13.19	per cy =	$2,198.33
Parking Area 4" Surfac	110	cy of	1 1/2" - 0	@	$13.19	per cy =	$1,450.90
Total =							
	302	cy of	1 1/2" - 0		$13.19	per cy =	$3,983.38
	1149	cy of	3" - 0		$13.19	per cy =	$15,150.91

PROJECT NO. 2 TOTAL COST = $19,134.29

TOTAL COST = $23,744.95

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	DD to EE	Improvement:	17+50 stations
			0.33 miles

PROJECT NO. 1

EXCAVATION

Roadside Brushing (Medium)	0.33	mi @	$800.00	per mi =	$265.15	
Grade, Ditch, and Roll	17.50	sta @	$28.70	per sta =	$502.25	
				TOTAL EXCAVATION COSTS=		$767.40

PROJECT NO. 1 TOTAL COST = $767.40

PROJECT NO. 2:

SURFACING	6	" deep =	31 cy/sta				
DD to EE	543	cy of	3" - 0	@	$12.70	per cy =	$6,896.10
Total =							
	543	cy of	3" - 0		$12.70	per cy =	$6,896.10

PROJECT NO. 2 TOTAL COST = $6,896.10

PROJECT NO. 5:

Reconstruct OHV filter	1.00	each @	$200.00	per each =	$200.00
Construct Waterbars	4.00	each @	$25.00	per each =	$100.00

PROJECT NO. 5 TOTAL COST = $330.00

TOTAL COST = $7,993.50

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Side Saddle	Timber Sale No. :	341-13-32
Road Segment:	FF to GG	Improvement:	16+00 stations
			0.30 miles

PROJECT NO. 1

EXCAVATION

Roadside Brushing (Heavy)	16.00	sta @	$1,300.00	per sta =	$20,800.00	
Grade, Ditch, and Roll	16.00	sta @	$28.70	per sta =	$459.20	
				TOTAL EXCAVATION COSTS=		$21,259.20

PROJECT NO. 1 TOTAL COST = $21,259.20

PROJECT NO. 2:

SURFACING 6 " deep = 31 cy/sta

0+00 - 1+00	31	cy of	3" - 0	@	$12.60	per cy =	$390.60
12+50 - 16+00	109	cy of	3" - 0	@	$12.60	per cy =	$1,367.10
Total =							
	160	cy of	3" - 0		$12.60	per cy =	$2,009.70

PROJECT NO. 2 TOTAL COST = $2,009.70

PROJECT NO. 5:

Reconstruct OHV filter	1.00	each @	$200.00	per each =	$200.00
Construct Waterbars	4.00	each @	$25.00	per each =	$100.00

PROJECT NO. 5 TOTAL COST = $300.00

TOTAL COST = $23,568.90

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Side Saddle**	Timber Sale No. :	341-13-32
Road Segment:	**HH to A**	Improvement:	115+70 stations
			2.19 miles

PROJECT NO. 1

EXCAVATION

Grade, Ditch, and Roll	115.70	sta @	$28.70	per sta =	$3,320.59	
				TOTAL EXCAVATION COSTS=		**$3,320.59**

PROJECT NO. 1 TOTAL COST = $3,320.59

PROJECT NO. 2:

SURFACING	4	" deep =	20 cy/sta				
106+30 - 115+70	188	cy of	1 1/2" - 0	@	$14.31	per cy =	$2,690.28
Spot Rock	100	cy of	1 1/2" - 0	@	$14.31	per cy =	$1,431.00
Total =							
	288	cy of	1 1/2" - 0		$14.31	per cy =	$4,121.28

PROJECT NO. 2 TOTAL COST = $4,121.28

TOTAL COST = $7,441.87

SUMMARY OF CONSTRUCTION COST

Timber Sale: Side Saddle — Timber Sale No.: 341-13-32

Road Segment: V1 to V2 — Vacating: 26+00 stations, 0.49 miles

PROJECT NO. 6:

Construct Tank Traps	2.00	each @	$50.00	per each =	$100.00
Construct Waterbars	3.00	each @	$25.00	per each =	$75.00
Rip Road Surface	23.60	sta @	$50.00	per sta =	$1,180.00
Rip and Narrow Landing	1.00	sta @	$150.00	per sta =	$150.00
Remove Existing Culverts	5.00	each @	$150.00	per each =	$750.00
Install Culvert	1.00	each @	$1,440.00	per each =	$1,440.00
Place Fill Armor	20.00	cy @	$15.90	per cy =	$318.00
Place Energy Dissipator	10.00	cy @	$15.90	per cy =	$159.00
Grass seed and fertilize areas of disturbed soil.	23.60	sta @	$8.14	per sta =	$192.10
Mulch	4.00	bales @	$4.50	per bale =	$18.00

PROJECT NO. 6 TOTAL COST = $4,382.10

TOTAL COST = $4,382.10

Move-In & Equipment Cleaning

Timber Sale: Side Saddle
Sale Number: 341-13-32

LOWBOY HAUL (One-way)		
DIST. (mi)	ROAD	AVE SPEED (mph)
3.0	Main Lines	**7**
1.0	Steep Grades	**2**

No.	EQUIPMENT DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Within Area Move	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Brush Cutter		$268.34	$120.75		$4.00	0.0	0.0	0.0	$0.00	$389.09
1	Graders		$300.00	$135.00		$3.65	0.0	0.0	0.0	$0.00	$435.00
1	Rollers (smooth/grid) & Compactors		$308.59	$132.25		$5.00	0.0	0.0	0.0	$0.00	$440.84
2	Excavators (Large)	$2,000	$932.27	$490.89	1	$44.80	0.0	0.0	0.0	$0.00	$3,423.16
1	Tractor (D8)	$1,000	$473.80	$228.36	2	$15.10	0.0	0.0	0.0	$0.00	$1,702.16
4	Dump Truck (10 cy +)		$466.67	$160.00		$2.85	0.0	0.0	0.0	$0.00	$626.67
1	Water Truck (1500 Gal)		$95.00	$32.58		$2.85	0.0	0.0	0.0	$0.00	$127.58

TOTAL MOVE-IN COSTS: $7,144.50

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale: Side Saddle

Sale Number: 341-13-32

Pit Name: Browns Camp Pit

Swell:	130%	1-1/2"-0 (trk measure)	590 cy
Shrinkage:	116%	3"-0 (trk measure)	9,187 cy
Drill Pct.:	100%	6"-0 (trk measure)	cy
		1½"-0 Stockpile (stockpile measure)	5,000 cy
		Total Truck Yardage:	15,577 cy
		Total In Place Yardage:	11,982 cy

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact.				$12,000.00
Drill & Shoot (Downholes):	$2.50 /cy x	11,982 cy	=	$29,956.09
Push Rock:	$0.70 /cy x	15,577 cy	=	$10,904.02
Load Crusher:	$0.70 /cy x	15,577 cy	=	$10,904.02
Crushing (1-1/2" - 0):	$3.00 /cy x	590 cy	=	$1,770.00
Crushing (3" - 0):	$3.00 /cy x	9,187 cy	=	$27,561.50
Crushing (Stockpile 1½"-0):	$3.00 /cy x	5,800 cy	=	$17,400.00
Load Dump Truck:	$0.70 /cy x	15,577 cy	=	$10,904.02
			Subtotal	$121,399.64
Move in Crusher (3 Stage)				$2,987.00
Set up Crusher				$3,024.00
Move in and set up Drill and Compressor				$376.55
Move in D-8				$675.22
Move in Loader				$605.87
Clean Up Pit				$300.00
Gradation Tests ($65/2000 cy)	$65.00 cy/2000cy x	8 tests		$520.00
Change Gradation				$210.00
			Subtotal	$8,698.64

PIT DEVELOPMENT COST $8.35/cy TOTAL PRODUCTION COST $130,098.28

VOLUME SUMMARY
(Shown in MBF)
Side Saddle
Sale No. 341-13-32
Date 6/21/2012

AREA 1:MC (104 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	2,088	1,166	196	3,450
	Hidden D&B (2%)	(42)	(23)	(4)	(69)
	NET TOTAL	2,046	1,143	192	3,381
	% of Total	61	34	6	

AREA 2: PC-M (273 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	666	1,650	385	2,701
	Hidden D&B (2%)	(13)	(33)	(8)	(54)
	NET TOTAL	653	1,617	377	2,647
	% of Total	25	61	14	

AREA 3: PC-GR (28 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	790	240	29	1,059
	Hidden D&B (2%)	(16)	(5)	(1)	(21)
	NET TOTAL	774	235	28	1,038
	% of Total	75	23	3	

AREA 4: PC-M (61 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	138	346	20	504
	Hidden D&B (2%)	(3)	(7)	()	(10)
	NET TOTAL	135	339	20	494
	% of Total	27	69	4	

AREA 5: R/W (10 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	200	112	20	332
	Hidden D&B (2%)	(4)	(2)	()	(7)
	NET TOTAL	196	110	20	325
	% of Total	60	34	6	

SALE TOTAL

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir		3,804	3,444	637	7,885

RESIDUAL STAND SPECIFICATIONS

SALE NAME: Side Saddle
SALE NUMBER: 341-13-32

AREA 2

Residual QMD assumption (from leave tree cruise information)	=	18.7
Target Relative Density	=	32

	Minimum	Target	Maximum
Relative Density	30	32	35
Basal Area	130	140	150
Trees per Acre	68	73	79

AREA 4

Residual QMD assumption (from leave tree cruise information)	=	20.5
Target Relative Density	=	31

	Minimum	Target	Maximum
Relative Density	29	31	33
Basal Area	130	140	150
Trees per Acre	57	61	65

RD = BA / √ DBH
BA = √DBH (RD)
TPA = (BA/acre) / (BA/tree)
BA / tree = (π r^2) / (144)

TC TLOGSTVB

Log Stock Table - MBF

Project: SIDESADL

T01_ R05_ S06 TCC M

T01_ R05_ S06 TCC M

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1
01_	05_	06	01	CC M	104.00	11	70	Date	7/23/2012
								Time	2:41:20PM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	% Def	Net 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+
									Net Volume by Scaling Diameter in Inches											
DF	T		2M	40	2,088		2,088	60.5						582	435	794	180	97		
DF	T		3M	32	116		116	3.4			39	77								
DF	T		3M	34	17		17	.5			7	10								
DF	T		3M	36	37		37	1.1			13	24								
DF	T		3M	38	13		13	.4			3	11								
DF	T		3M	40	983		983	28.5			170	255	521	18	19					
DF	T		4M	10																
DF	T		4M	12	24		24	.7			24									
DF	T		4M	14	8		8	.2			8									
DF	T		4M	16	12		12	.4			12									
DF	T		4M	18	18		18	.5			18									
DF	T		4M	20	5		5	.1			5									
DF	T		4M	22	12		12	.3			12									
DF	T		4M	24	2		2	.1			2									
DF	T		4M	26	5		5	.2			5									
DF	T		4M	28	3		3	.1			3									
DF	T		4M	30	26		26	.7			26									
DF	T		4M	32	26		26	.8			26									
DF	T		4M	36	23		23	.7			23									
DF	T		4M	38	7		7	.2			7									
DF	T		4M	40	26		26	.7			26									
DF			Totals		3,451		3,451	100.0			428	377	521	600	454	794	180	97		
Total All Species					3,451		3,451	100.0			428	377	521	600	454	794	180	97		

T TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)	Page 1
	Project: SIDESADL	Date 7/23/2012
		Time 2:41:20PM

T01_ R05_ S06 TCC M

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01_	05_	06	01	CC M	104.00	11	70	S	W

T01_ R05_ S06 TCC M

Spp	ST	Sort	Grad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Bd. Ft. per Acre Net	Total Net MBF	Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Avg Log Ln Ft	Dia In	Bd Ft	CF/Lf	Logs Per /Acre
DF	T		2M	60		20,078	20,078	2,088			65	35				100	40	15	344	1.82	58.4
DF	T		3M	34		11,215	11,215	1,166		97	3				11	89	38	8	104	0.68	107.5
DF	T		4M	6		1,889	1,889	196		100			34	24	13	28	21	6	26	0.37	72.2
DF T Totals				100		33,182	33,182	3,451		38	41	21	2	1	5	92	33	9	139	0.96	238.1
Type Totals						33,182	33,182	3,451		38	41	21	2	1	5	92	33	9	139	0.96	238.1

TC TSTNDSUM

Stand Table Summary

Project **SIDESADL**

T01_ R05_ S06 TCC M

T01_ R05_ S06 TCC M

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	01	CC M	104.00	11	70

Page: 1
Date: 07/23/2012
Time: 2:41:21PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	T	9	1	87	87	6.476	2.86	6.48	8.7	50.0	1.61	57	324	168	59	34
DF	T	10	1	88	85	5.245	2.86	5.25	12.8	60.0	1.91	67	315	198	70	33
DF	T	11	3	87	77	13.005	8.58	13.01	14.8	60.0	5.50	193	780	572	201	81
DF	T	13	1	88	80	3.104	2.86	6.21	13.0	50.0	2.30	81	310	239	84	32
DF	T	14	3	87	95	8.029	8.58	16.06	16.4	65.0	7.48	263	1,044	778	273	109
DF	T	15	2	88	99	4.663	5.72	9.33	21.7	95.0	5.77	202	886	600	211	92
DF	T	16	4	88	117	8.196	11.44	18.44	24.6	107.8	12.95	455	1,988	1,347	473	207
DF	T	17	4	88	108	7.146	11.11	16.11	26.4	112.2	12.11	425	1,807	1,259	442	188
DF	T	18	8	88	110	12.258	21.88	33.98	24.7	99.0	23.88	838	3,363	2,483	871	350
DF	T	19	3	87	110	4.175	8.25	9.62	32.1	122.1	8.79	308	1,174	914	321	122
DF	T	20	4	88	111	5.069	11.11	14.07	29.8	115.5	11.95	419	1,626	1,243	436	169
DF	T	21	2	87	123	2.249	5.39	6.75	33.5	143.3	6.45	226	967	671	235	101
DF	T	22	7	87	127	7.486	19.69	22.46	38.2	174.0	24.43	857	3,907	2,540	891	406
DF	T	23	7	88	123	6.616	19.02	19.85	41.7	187.2	23.60	828	3,716	2,455	861	386
DF	T	24	3	87	112	2.567	7.91	7.70	41.6	177.4	9.14	321	1,366	950	333	142
DF	T	25	4	87	124	3.203	10.77	9.61	49.3	218.7	13.49	473	2,102	1,403	492	219
DF	T	26	2	88	119	1.334	5.05	4.00	54.2	243.3	6.18	217	974	643	225	101
DF	T	27	4	87	125	2.818	11.11	8.45	58.8	267.2	14.17	497	2,259	1,474	517	235
DF	T	28	1	88	125	.591	2.53	1.77	61.9	276.7	3.13	110	490	325	114	51
DF	T	29	2	87	126	1.167	5.39	3.50	68.8	328.0	6.87	241	1,148	714	251	119
DF	T	31	1	88	132	.546	2.86	1.64	83.7	416.7	3.91	137	682	406	143	71
DF	T	33	1	88	130	.482	2.86	1.45	91.5	450.0	3.77	132	650	392	137	68
DF	T	35	1	87	136	.428	2.86	1.28	109.2	556.7	4.00	140	715	416	146	74
DF	T	37	1	88	118	.383	2.86	1.15	105.7	513.3	3.46	122	590	360	126	61
DF		Totals	70	88	105	107.234	193.55	238.14	31.9	139.3	216.83	7,608	33,182	22,551	7,912	3,451
Totals			70	88	105	107.234	193.55	238.14	31.9	139.3	216.83	7608	33,182	22,551	7,912	3,451

TC	TLOGSTVB			Log Stock Table - MBF																

Log Stock Table - MBF

TC TLOGSTVB

Project: **SIDESADL**

T01_ R05_ S06 TPC M **T01_ R05_ S06 TPC M**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
01_	05_	06	02	PC M	273.00	23	154	Page 1 Date 7/25/2012 Time 10:49:03AM

Spp	S T	So Gr rt de	Log Len	Gross MBF	% Def	Net 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+
								Net Volume by Scaling Diameter in Inches											
DF	L	2M	30	58		58	.6								17	41			
DF	L	2M	40	4,125		4,125	45.6						911	969	1564	681			
DF	L	3M	28	25		25	.3			8	8	9							
DF	L	3M	30	25		25	.3				25								
DF	L	3M	32	329		329	3.6			129	153	48							
DF	L	3M	34	134		134	1.5			27	96		12						
DF	L	3M	36	161		161	1.8			54	84	12	11						
DF	L	3M	38	13		13	.1			13									
DF	L	3M	40	1,126		1,126	12.5			127	372	602		25					
DF	L	4M	12	86		86	.9			85	1								
DF	L	4M	14	19		19	.2			19									
DF	L	4M	16	19		19	.2			19									
DF	L	4M	18	35		35	.4			35									
DF	L	4M	20	9		9	.1			7	2								
DF	L	4M	22	40		40	.4			36	4								
DF	L	4M	24	28		28	.3			28									
DF	L	4M	28	8		8	.1			8									
DF	L	4M	30	20		20	.2			20									
DF	L	4M	32	8		8	.1			8									
DF	L	4M	36	39		39	.4			39									
DF	L	4M	40	32		32	.4			32									
DF	T	2M	40	666		666	7.4						346	155	164				
DF	T	3M	30	13		13	.1				13								
DF	T	3M	32	239		239	2.6			175	63								
DF	T	3M	36	197		197	2.2			197									
DF	T	3M	38	34		34	.4			34									
DF	T	3M	40	1,169		1,169	12.9			82	318	769							
DF	T	4M	12	37		37	.4			37									
DF	T	4M	14	10		10	.1			10									
DF	T	4M	18	16		16	.2			16									
DF	T	4M	20	34		34	.4			34									
DF	T	4M	22	4		4	.0			4									
DF	T	4M	28	17		17	.2			17									
DF	T	4M	30	73		73	.8			73									
DF	T	4M	32	33		33	.4			33									
DF	T	4M	34	33		33	.4			33									
DF	T	4M	36	42		42	.5			42									
DF	T	4M	40	86		86	.9			86									
DF		Totals		9,040		9,040	100.0			1564	1139	1440	1280	1149	1746	722			
Total All Species				9,040		9,040	100.0			1564	1139	1440	1280	1149	1746	722			

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)	Page	1
		Project: SIDESADL	Date	7/25/2012
			Time	10:49:03AM

T01_ R05_ S06 TPC M | **T01_ R05_ S06 TPC M**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01_	05_	06	02	PC M	273.00	23	154	S	W

Spp	S T	So rt	Gr ad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	L		2M	65		15,323	15,323	4,183			68	32		1		99	40	15	352	1.86	43.6
DF	L		3M	29		6,645	6,645	1,814		97	3			3	26	72	37	8	98	0.71	68.0
DF	L		4M	6		1,254	1,254	342		100			49	28	2	21	17	6	20	0.34	61.5
DF	**L**	**Totals**		70		23,221	23,221	6,339		33	45	21	3	3	7	87	31	9	134	1.01	173.1
DF	T		2M	24		2,438	2,438	666			92	8				100	40	13	260	1.46	9.4
DF	T		3M	61		6,045	6,045	1,650		100				1	14	85	37	8	94	0.59	64.1
DF	T		4M	15		1,409	1,409	385		100			25	25	17	33	24	6	31	0.34	45.8
DF	**T**	**Totals**		30		9,891	9,891	2,700		75	23	2	4	4	11	81	32	8	83	0.60	119.3
Type Totals						33,112	33,112	9,040		46	39	16	3	3	9	85	31	9	113	0.84	292.4

TC TSTNDSUM

Stand Table Summary

Project **SIDESADL**

T01_ R05_ S06 TPC M **T01_ R05_ S06 TPC M**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	02	PC M	273.00	23	154

Page: 1
Date: 07/25/201?
Time: 10:49:04AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	L	8	1	87	61	3.138	1.21	3.14	6.5	30.0	.59	21	94	160	56	26
DF	L	10	2	88	65	4.218	2.42	4.22	10.9	55.1	1.31	46	233	357	125	64
DF	L	11	2	87	77	3.564	2.42	7.13	7.9	35.0	1.60	56	250	438	154	68
DF	L	12	2	88	77	3.320	2.42	6.64	9.0	35.0	1.71	60	232	467	164	63
DF	L	13	5	87	80	6.738	6.04	13.48	11.9	43.1	4.59	161	580	1,252	439	158
DF	L	14	5	88	85	5.969	6.04	11.94	14.6	52.0	4.97	174	621	1,358	476	169
DF	L	15	2	87	88	2.149	2.67	4.30	19.8	83.9	2.42	85	360	661	232	98
DF	L	16	2	88	114	1.934	2.67	3.87	26.4	113.1	2.91	102	437	794	279	119
DF	L	17	4	87	102	3.388	5.34	7.70	24.7	100.1	5.42	190	771	1,479	519	210
DF	L	18	6	88	110	4.262	7.50	12.06	23.7	96.5	8.16	286	1,164	2,229	782	318
DF	L	19	4	88	110	2.455	4.83	6.16	30.7	119.8	5.39	189	737	1,472	517	201
DF	L	20	11	87	110	7.170	15.62	19.92	30.3	119.7	17.20	603	2,385	4,694	1,647	651
DF	L	21	5	87	121	2.732	6.55	7.67	35.1	149.7	7.67	269	1,149	2,095	735	314
DF	L	22	9	88	117	5.202	13.73	15.61	35.6	154.2	15.85	556	2,407	4,328	1,519	657
DF	L	23	11	87	131	5.381	15.57	16.65	42.1	192.1	19.98	701	3,199	5,454	1,914	873
DF	L	24	7	87	120	3.201	10.02	9.60	44.3	196.1	12.12	425	1,884	3,309	1,161	514
DF	L	25	6	88	111	2.311	7.78	6.93	45.1	195.0	8.92	313	1,352	2,434	854	369
DF	L	26	4	88	115	1.440	5.34	3.21	66.5	304.8	6.07	213	977	1,658	582	267
DF	L	27	1	88	107	.306	1.21	.92	51.7	226.7	1.35	47	208	369	130	57
DF	L	28	4	88	149	1.248	5.34	4.09	67.5	343.0	7.86	276	1,402	2,145	753	383
DF	L	29	4	88	133	1.212	5.59	3.64	72.1	349.1	7.47	262	1,269	2,039	715	347
DF	L	30	1	87	132	.298	1.46	.89	76.0	366.7	1.93	68	327	528	185	89
DF	L	31	2	87	124	.456	2.42	1.37	77.7	366.7	3.03	106	502	827	290	137
DF	L	33	2	88	101	.415	2.42	1.25	72.7	353.3	2.58	91	440	705	247	120
DF	L	34	1	88	102	.232	1.46	.70	79.7	343.3	1.58	55	239	431	151	65
DF		Totals	103	87	101	72.743	138.04	173.06	31.0	134.2	152.69	5,358	23,221	41,684	14,626	6,339
DF	T	8	1	88	61	3.460	1.21	3.46	4.6	20.0	.46	16	69	125	44	19
DF	T	9	3	88	81	9.345	4.15	9.34	9.0	52.9	2.41	85	495	658	231	135
DF	T	10	7	87	68	15.819	8.71	15.82	11.3	54.5	5.09	179	863	1,390	488	235
DF	T	11	2	87	79	4.433	2.95	7.07	9.7	41.4	1.95	68	292	531	186	80
DF	T	12	1	88	77	1.646	1.21	3.29	8.8	35.0	.83	29	115	226	79	31
DF	T	13	2	88	80	2.937	2.67	5.87	12.5	45.4	2.09	73	267	571	200	73
DF	T	14	6	88	93	8.088	8.54	16.18	16.0	62.0	7.39	259	1,004	2,016	708	274
DF	T	15	6	87	103	6.655	8.26	13.31	22.5	96.8	8.53	299	1,288	2,329	817	352
DF	T	16	6	87	109	6.117	8.54	12.23	25.8	110.0	8.99	316	1,346	2,455	861	367
DF	T	17	4	88	101	3.628	5.62	7.26	27.8	116.3	5.75	202	844	1,571	551	230
DF	T	18	4	88	112	3.308	5.85	9.92	22.9	93.3	6.47	227	926	1,767	620	253
DF	T	19	2	87	105	1.625	3.20	3.25	35.3	130.0	3.27	115	423	894	314	115
DF	T	20	1	88	118	.670	1.46	2.01	28.8	113.3	1.65	58	228	451	158	62
DF	T	21	1	87	120	.608	1.46	1.82	33.2	143.3	1.73	61	261	471	165	71
DF	T	22	2	87	112	1.212	3.20	3.64	34.2	143.1	3.54	124	521	967	339	142
DF	T	23	2	88	146	1.013	2.92	3.55	40.5	188.6	4.09	144	669	1,117	392	183
DF	T	25	1	88	122	.429	1.46	1.29	48.9	220.0	1.79	63	283	490	172	77
DF		Totals	51	87	88	70.993	71.40	119.31	19.4	82.9	66.04	2,317	9,891	18,028	6,326	2,700
Totals			154	87	94	143.735	209.44	292.37	26.2	113.3	218.72	7675	33,112	59,712	20,952	9,040

TC TLOGSTVB

Log Stock Table - MBF

Project: SIDESADL

T01_ R05_ S06 TGR

T01_ R05_ S06 TGR

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	03	GR	28.00	5	33

Page 1
Date 7/24/2012
Time 2:58:24PM

Spp	S T	Sort	Grade	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+
DF	T		CU	7																
DF	T		2M	40	790		790	74.6						137	182	228	215	28		
DF	T		3M	26	2		2	.1				2								
DF	T		3M	28	6		6	.5				6								
DF	T		3M	30	8		8	.8			2	6								
DF	T		3M	32	41		41	3.9			22	14		5						
DF	T		3M	34	6		6	.6				6								
DF	T		3M	36	25		25	2.3				25								
DF	T		3M	40	153		153	14.4			33	32	75		13					
DF	T		4M	12	11		11	1.0			10	1								
DF	T		4M	16	1		1	.1			1									
DF	T		4M	18	3		3	.3			3									
DF	T		4M	20	5		5	.5			5									
DF	T		4M	22	5		5	.5			5									
DF	T		4M	28	2		2	.2			2									
DF	T		4M	30	2		2	.1			2									
DF		Totals			1,059		1,059	100.0			86	91	75	142	195	228	215	28		
Total All Species					1,059		1,059	100.0			86	91	75	142	195	228	215	28		

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: SIDESADL

Page 1
Date 7/24/2012
Time 2:58:25PM

T01_ R05_ S06 TGR

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01_	05_	06	03	GR	28.00	5	33	S	W

T01_ R05_ S06 TGR

Spp	ST	Sort	Grad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Bd. Ft. per Acre Net	Total Net MBF	Log Scale Dia. 4-5	Log Scale Dia. 6-11	Log Scale Dia. 12-16	Log Scale Dia. 17+	Log Length 12-20	Log Length 21-30	Log Length 31-35	Log Length 36-99	Average Log Ln Ft	Average Log Dia In	Average Log Bd Ft	Average Log CF/Lf	Logs Per /Acre
DF	T		CU														7	10		0.00	5.6
DF	T		2M	74		28,227	28,227	790			53	47				100	40	15	386	2.01	73.1
DF	T		3M	23		8,565	8,565	240		93	7			6	20	74	36	8	94	0.68	91.4
DF	T		4M	3		1,031	1,031	29		100			71	29			15	6	16	0.36	62.7
DF	**T**	**Totals**		100		37,822	37,822	1,059		24	41	35	2	2	4	91	31	10	162	1.17	233.0
Type Totals						37,822	37,822	1,059		24	41	35	2	2	4	91	31	10	162	1.17	233.0

TC TSTNDSUM

Stand Table Summary

Project **SIDESADL**

T01_ R05_ S06 TGR | **T01_ R05_ S06 TGR**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	03	GR	28.00	5	33

Page: 1
Date: 07/24/2012
Time: 2:58:25PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	T	9	1	88	87	13.056	6.29	13.06	12.8	60.0	4.75	167	783	133	47	22
DF	T	12	2	87	77	16.226	12.58	32.45	10.2	39.6	9.45	331	1,286	264	93	36
DF	T	14	1	88	88	5.886	6.29	11.77	15.4	55.0	5.18	182	647	145	51	18
DF	T	18	2	87	112	7.323	12.58	18.33	26.8	105.9	14.02	492	1,941	393	138	54
DF	T	19	3	88	108	9.762	18.88	26.06	27.2	104.8	20.21	709	2,732	566	199	76
DF	T	20	2	88	114	5.711	12.58	17.13	29.2	123.2	14.26	500	2,111	399	140	59
DF	T	21	1	87	120	2.692	6.29	8.08	33.0	140.0	7.60	267	1,131	213	75	32
DF	T	22	1	88	122	2.384	6.29	7.15	37.0	166.7	7.55	265	1,192	211	74	33
DF	T	23	5	88	122	10.986	31.46	30.85	43.4	193.1	38.14	1,338	5,957	1,068	375	167
DF	T	24	1	88	128	2.089	6.29	6.27	45.0	203.3	8.04	282	1,274	225	79	36
DF	T	25	2	87	122	3.662	12.58	9.17	57.3	259.6	14.97	525	2,381	419	147	67
DF	T	26	1	88	122	1.720	6.29	3.44	76.0	355.0	7.45	262	1,221	209	73	34
DF	T	27	2	88	122	3.212	12.58	9.64	56.8	251.7	15.60	548	2,425	437	153	68
DF	T	28	2	88	137	2.932	12.58	8.80	69.8	350.0	17.51	614	3,079	490	172	86
DF	T	29	3	87	134	4.136	18.88	12.41	71.4	346.7	25.26	886	4,302	707	248	120
DF	T	31	1	87	132	1.240	6.29	3.72	80.0	390.0	8.48	297	1,451	237	83	41
DF	T	32	1	87	131	1.120	6.29	3.36	85.2	416.7	8.15	286	1,399	228	80	39
DF	T	34	1	87	102	.998	6.29	2.99	78.7	350.0	6.72	236	1,048	188	66	29
DF	T	36	1	87	130	.880	6.29	2.64	109.5	553.3	8.24	289	1,461	231	81	41
DF		Totals	33	88	106	96.015	207.64	227.31	37.3	166.4	241.58	8,477	37,822	6,764	2,373	1,059
Totals			33	88	106	96.015	207.64	227.31	37.3	166.4	241.58	8477	37,822	6,764	2,373	1,059

TC TLOGSTVB

Log Stock Table - MBF

Project: SIDESADL

T01_ R05_ S06 TPC-M **T01_ R05_ S06 TPC-M**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	04	PC-M	61.00	15	132

Page 1
Date 7/25/2012
Time 11:07:06AM

Spp	S T	So Gr rt de	Log Len	Gross MBF	% Def	Net 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+
								Net Volume by Scaling Diameter in Inches											
DF	L	2M	40	281		281	16.0						90	51	116			24	
DF	L	3M	32	12		12	.7				12								
DF	L	3M	34	8		8	.5				8								
DF	L	3M	36	4		4	.2				4								
DF	L	3M	40	944		944	53.6			6	16	156	164	201	374	26			
DF	L	4M	12	4		4	.2			4									
DF	L	4M	14	1		1	.1			1									
DF	L	4M	16	1		1	.1			1									
DF	L	4M	20	1		1	.0			1									
DF	L	4M	30	1		1	.1			1									
DF	T	CU	32																
DF	T	2M	40	138		138	7.9						69	70					
DF	T	3M	32	30		30	1.7			10	21								
DF	T	3M	34	15		15	.8			15									
DF	T	3M	36	19		19	1.1			19									
DF	T	3M	38	10		10	.6			10									
DF	T	3M	40	271		271	15.4			44	63	143	10	11					
DF	T	4M	12	9		9	.5			9									
DF	T	4M	14	2		2	.1			2									
DF	T	4M	16	4		4	.3			4									
DF	T	4M	18	1		1	.1			1									
DF	T	4M	22	1		1	.1			1									
DF	T	4M	26	2		2	.1			2									
DF		Totals		1,762		1,762	100.0			132	125	298	333	332	490	26		24	
Total All Species				1,762		1,762	100.0			132	125	298	333	332	490	26		24	

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)	Page	1
		Project: SIDESADL	Date	7/25/2012
			Time	11:07:06AM

T01_ R05_ S06 TPC-M									T01_ R05_ S06 TPC-M
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01_	05_	06	04	PC-M	61.00	15	132	S	W

Spp	S T	So rt	Gr ad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	L		2M	22		4,609	4,609	281			56	44				100	40	15	354	1.85	13.0
DF	L		3M	77		15,886	15,886	969		21	43	36			2	98	39	13	272	1.41	58.5
DF	L		4M	1		128	128	8		100			85	15			14	6	16	0.36	7.9
DF L Totals				71		20,623	20,623	1,258		17	45	38	1	0	2	98	37	13	260	1.45	79.5
DF	T		CU														32	6		0.00	.7
DF	T		2M	27		2,268	2,268	138			100					100	40	13	240	1.33	9.4
DF	T		3M	69		5,671	5,671	346		94	6				13	87	38	8	98	0.57	57.7
DF	T		4M	4		323	323	20		100			82	18			14	6	14	0.26	22.4
DF T Totals				29		8,262	8,262	504		68	32		3	1	9	87	32	8	92	0.63	90.3
Type Totals						28,884	28,884	1,762		32	41	27	1	0	4	95	34	10	170	1.04	169.7

TC TSTNDSUM

Stand Table Summary

Project SIDESADL

T01_ R05_ S06 TPC-M **T01_ R05_ S06 TPC-M**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01_	05_	06	04	PC-M	61.00	15	132

Date: 07/25/2012

Time: 11:07:07AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	L	13	1	88	128	1.447	1.33	1.45	24.5	120.0	1.01	36	174	62	22	11
DF	L	15	2	89	111	2.173	2.67	2.17	32.3	150.0	2.00	70	326	122	43	20
DF	L	16	7	88	134	6.685	9.33	6.68	37.7	180.0	7.19	252	1,203	439	154	73
DF	L	17	6	88	118	5.075	8.00	6.77	34.1	148.7	6.58	231	1,007	401	141	61
DF	L	18	7	89	123	5.282	9.33	5.28	49.2	228.6	7.40	260	1,207	452	158	74
DF	L	19	12	88	128	8.515	16.76	9.58	50.1	222.6	13.68	480	2,133	834	293	130
DF	L	20	8	88	120	5.941	12.96	10.49	33.5	141.5	10.01	351	1,484	611	214	91
DF	L	21	3	88	136	1.663	4.00	1.66	67.1	336.7	3.18	112	560	194	68	34
DF	L	22	16	88	136	8.371	22.10	11.98	57.1	280.2	19.51	685	3,357	1,190	418	205
DF	L	23	6	89	245	2.773	8.00	2.77	83.7	450.0	6.62	232	1,248	404	142	76
DF	L	24	15	88	149	6.610	20.76	7.95	77.3	397.3	17.51	614	3,156	1,068	375	193
DF	L	25	10	88	141	4.584	15.63	9.67	63.4	313.8	17.48	613	3,036	1,067	374	185
DF	L	26	1	89	168	.362	1.33	.36	107.6	600.0	1.11	39	217	68	24	13
DF	L	27	1	88	157	.335	1.33	.34	113.1	600.0	1.08	38	201	66	23	12
DF	L	28	2	87	139	.802	3.43	1.78	74.7	364.4	3.80	133	650	232	81	40
DF	L	31	1	87	130	.254	1.33	.25	151.0	840.0	1.09	38	214	67	23	13
DF	L	53	1	90	165	.087	1.33	.26	288.2	1726.7	2.14	75	451	131	46	27
DF		Totals	99	88	137	60.958	139.65	79.45	53.6	259.6	121.41	4,260	20,623	7,406	2,599	1,258
DF	T	10	3	88	104	7.334	4.00	12.22	8.6	40.0	3.00	105	489	183	64	30
DF	T	12	3	88	88	7.040	5.53	14.08	11.0	47.2	4.40	154	665	268	94	41
DF	T	13	2	89	124	2.893	2.67	7.23	14.7	72.0	3.03	106	521	185	65	32
DF	T	14	2	89	117	2.495	2.67	4.99	20.7	97.5	2.95	103	486	180	63	30
DF	T	15	3	89	128	3.259	4.00	9.78	16.6	73.3	4.62	162	717	282	99	44
DF	T	16	6	90	119	5.730	8.00	14.32	23.0	104.0	9.37	329	1,490	572	201	91
DF	T	17	1	90	140	.846	1.33	.85	43.6	200.0	1.05	37	169	64	23	10
DF	T	18	3	89	119	2.696	4.76	8.09	23.8	98.9	5.49	193	800	335	118	49
DF	T	19	7	89	133	5.517	10.86	13.74	35.4	158.1	13.87	487	2,173	846	297	133
DF	T	20	3	90	139	1.833	4.00	4.28	38.0	175.7	4.64	163	752	283	99	46
DF		Totals	33	89	115	39.643	47.82	89.58	20.5	92.2	52.41	1,839	8,262	3,197	1,122	504
Totals			132	88	128	100.601	187.47	169.04	36.1	170.9	173.82	6099	28,884	10,603	3,720	1,762

TC PSTATS

PROJECT STATISTICS

PROJECT SIDESADL

PAGE 1
DATE 7/25/2012

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
01_	05_	06	01	CC M	THR	466.00	54	389	S	W
01_	05_	06	04	PC-M						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	54	389	7.2		
CRUISE	54	389	7.2	59,217	.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
DOUG FIR-L	202	50.6	19.0	105	22.8	99.1	16,303	16,303	3,696	3,696
DOUG FIR-T	187	76.5	15.8	96	26.1	103.8	16,554	16,554	3,805	3,805
TOTAL	*389*	*127.1*	*17.1*	*100*	*49.1*	*202.9*	*32,857*	*32,857*	*7,502*	*7,502*

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
DOUG FIR-L	71.4	5.6	529	560	591			
DOUG FIR-T	78.4	5.8	382	405	429			
TOTAL	*76.6*	*4.1*	*459*	*478*	*498*	*235*	*59*	*26*

CL 68.1	COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-L	54.9	4.3	114	119	124			
DOUG FIR-T	71.3	5.3	86	91	95			
TOTAL	*63.8*	*3.5*	*100*	*104*	*108*	*162*	*41*	*18*

CL 68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-L	117.4	16.0	43	51	59			
DOUG FIR-T	96.3	13.1	66	76	86			
TOTAL	*83.7*	*11.4*	*113*	*127*	*142*	*280*	*70*	*31*

CL 68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-L	87.4	11.9	87	99	111			
DOUG FIR-T	85.7	11.7	92	104	116			
TOTAL	*57.0*	*7.8*	*187*	*203*	*219*	*130*	*32*	*14*

CL 68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-L	93.9	12.8	14,221	16,303	18,385			
DOUG FIR-T	91.2	12.4	14,501	16,554	18,608			
TOTAL	*60.2*	*8.2*	*30,169*	*32,857*	*35,546*	*145*	*36*	*16*

CRUISE REPORT
Side Saddle
341-13-32

1. CRUISE DESIGN:

The volume estimate was obtained with a combination of SLI and ODF-cruised variable radius plots. Sale Areas 1, 2 and 3 were cruised with Stand Level Inventory plots. The number of sample trees and the statistics on the inventory plots were adequate to meet ODF cruise standards for the sale, however because no inventory plots fell in Area 4, it was cruised by ODF foresters. The supplemental cruise design assumed a Coefficient of Variation CV% of 43%, an average stand diameter of 17 inches, a desired sampling error (SE%) of 11%.

2. SAMPLING METHOD:

Sale Area 1 was cruised in 2005 and 2006 with 9 variable radius grade plots using a combination of 33.61 and 27.78 BAF prisms. Sale Area 3 was cruised in 2006 with 5 variable radius plots using a 27.78 BAF prism.

Sale Area 2 was cruised in 2003, 2006 and 2009 with 23 variable radius grade plots using a combination of 27.78, 33.61, and 40 BAF prisms. Sale Area 4 was cruised in 2012 with 13 variable radius plots using a 20 BAF prism. Plots were laid out on a 5 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Plots were thinned' from below to 140 ft^2 of basal area by assigning a 'Take' or 'Leave' status to each tree in every plot.

3. CRUISE RESULTS

389 trees were measured and graded producing a cumulative sampling error on the 'Take' tree basal area of 11.7% and 12.4% on the Board Foot Volume at a 68% confidence level.

4. TREE MEASUREMENT AND GRADING:

For Area 1 and 3, all sample trees were measured and graded. For Areas 2 and 4, all trees assigned a 'Take' status were measured and graded. Columbia River Log Scale grade rules were used favoring 40 foot segments.

a) **Height Standards:**
Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

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

c) **Form Factors** were estimated to be 88% on Areas 1-3 and measured for each grade tree using a form point of 16 feet on Area 4.

5. DATA PROCESSING

a) **Volumes and Statistics**, Cruise and grown forward volume estimates, and sampling statistics, were derived from Super Ace 2008 cruise software. SLI Plot data was grown forward to June of 2012.

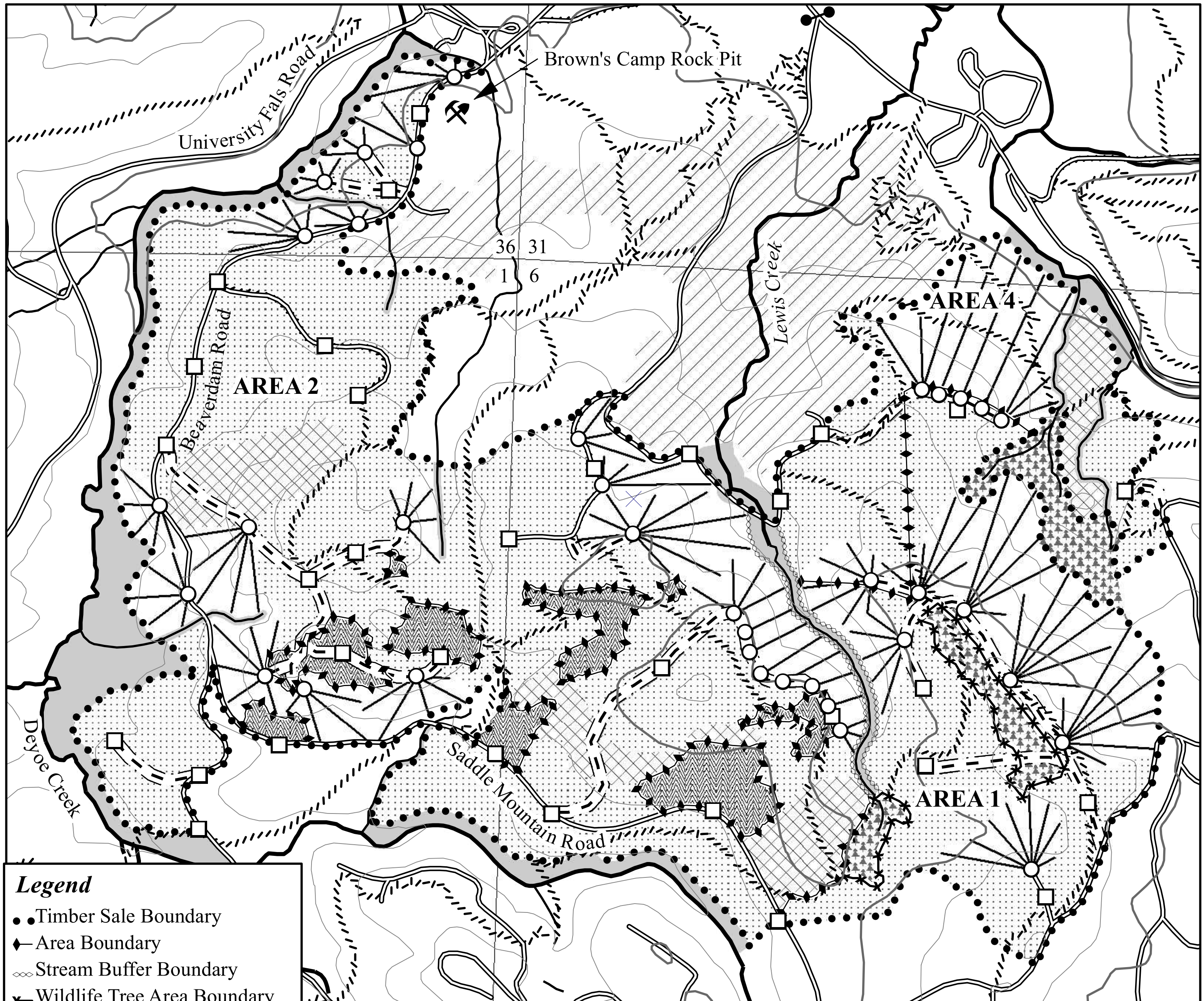
b) **Deductions:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

c) **Right of Way:** The volume for new construction right of way (Area 5) was derived from the total per-acre volume multiplied by the number of acres in a 30 foot right of way width.

6. CRUISERS: The sale was cruised by SLI contract cruisers and ODF cruisers Nathan Hunter and Joe Koch.

Prepared by: ______________________________________

ODF Forester Date



Legend

- Timber Sale Boundary
- Area Boundary
- Stream Buffer Boundary
- Wildlife Tree Area Boundary
- Roads
- New Construction
- Recreation Trail
- Right of Way Boundary
- Type F Stream
- Type N Stream
- Stream Buffer
- Cable Landing
- Tractor Landing
- Cable Yarding Area
- Tractor Yarding Area
- AREA 3 (Group Selection)
- AREA 5 (Right of Way)
- Reforestation Area
- Wildlife Tree Area
- Thinning Not Required Area
- ODF Ownership Boundary
- Sections
- 200 Foot Contour Band
- 40 Foot Contour Band
- Gate

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-13-32
SIDE SADDLE
PORTIONS OF SECTION 6, T1N, R5W, SECTION 31, T2N, R5W
SECTION 1, T1N, R6W, AND SECTION 36, T2N, R6W, W.M,
TILLAMOOK COUNTY, OREGON

N

Forest Grove District GIS
Month, Year
This product is for informational use and may not be suitable for legal, engineering, or surveying purposes.

1:12,000
1 inch = 1,000 feet

0 250 500 1,000 1,500 2,000 Feet

APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1 (MC)	53	51
AREA 2 (PC-M)	200	73
AREA 3 (GR)	28	0
AREA 4 (PC-M)	31	30
AREA 5 (R/W)	10	0
TOTAL	322	154