



"STAND FOR THE FOREST"

Timber Sale Appraisal
Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,560,119.67	\$0.00	\$1,560,119.67
		Project Work:	(\$199,280.00)
		Advertised Value:	\$1,360,839.67



"SUSTAINABLE FORESTRY"

Timber Sale Appraisal Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Timber Description

Location: Portions of Sections 13,14, 23, and 24, T3N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	18	0	98
Western Hemlock / Fir	13	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	2,271	1,909	229	4,409
Western Hemlock / Fir	61	183	7	251
Total	2,332	2,092	236	4,660

Comments: Pond Values Used: 1st Quarter Calendar Year 2015.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$928.89/\text{MBF} = \$1,160/\text{MBF} - \$231.11/\text{MBF}$

Red alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$368.89/\text{MBF} = \$600/\text{MBF} - \$231.11/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

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

Other Costs (with Profit & Risk to be added):
Brand and Paint: $4,660 \text{ MBF} \times \$2/\text{MBF} = \$9,320$
TOTAL Other Costs (with Profit & Risk to be added) = \$9,320

Other Costs (No Profit & Risk added):
Block/waterbar roads, & skid trails: $20 \text{ hrs} \times \$150/\text{hour} = \$3,000$
Pile landing slash and sort firewood: $20 \text{ hrs} \times \$150/\text{hour} = \$3,000$
Equipment cleaning: $4 \times \$1,000/\text{Piece} = \$4,000$
TOTAL Other Costs (No Profit & Risk added) = \$10,000

ROAD MAINTENANCE
Move-in: \$4,000
General Road Maintenance: $4.6 \text{ miles} \times \$1,200/\text{mile} = \$5,520$
TOTAL Road Maintenance: $\$9,520/4,660 \text{ MBF} = \$2.04/\text{MBF}$



Timber Sale Appraisal Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Logging Conditions

Combination#: 1 Douglas - Fir 51.83%
 Western Hemlock / Fir 43.37%

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

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

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

loads / day: 8 **bd. ft / load:** 4100

cost / mbf: \$182.93

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

Combination#: 2 Douglas - Fir 48.17%
 Western Hemlock / Fir 56.63%

Logging System: Shovel **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: 10 **bd. ft / load:** 4100

cost / mbf: \$77.37

machines: Stroke Delimber (B)



STRONGER FORESTRY

Timber Sale Appraisal Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Logging Costs

Operating Seasons: 1.00	Profit Risk: 15%
Project Costs: \$199,280.00	Other Costs (P/R): \$9,320.00
Slash Disposal: \$0.00	Other Costs: \$10,000.00

Miles of Road

Road Maintenance: \$2.04

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	4.6
Western Hemlock / Fir	\$0.00	3.0	3.7



STANDARDS IN FORESTRY

Timber Sale Appraisal Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$132.08	\$2.08	\$0.94	\$57.65	\$2.00	\$29.21	\$0.00	\$5.00	\$2.15	\$231.11
Western Hemlock / Fir									
\$123.16	\$2.08	\$0.94	\$71.68	\$2.00	\$29.98	\$0.00	\$5.00	\$2.15	\$236.99

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$571.88	\$340.77	\$0.00
Western Hemlock / Fir	\$0.00	\$466.73	\$229.74	\$0.00



Timber Sale Appraisal Motley Lou

Sale FG-341-2016-06-

District: Forest Grove

Date: June 02, 2015

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,409	\$340.77	\$1,502,454.93
Western Hemlock / Fir	251	\$229.74	\$57,664.74

Gross Timber Sale Value

Recovery: \$1,560,119.67

Prepared By: Eric Foucht

Phone: 503-359-7473

TIMBER SALE SUMMARY
Motley Lou
Contract No. 341-15-18

1. **Location:** Portions of Sections 13, 14, 23, & 24, T3N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is a 151 acre Moderate Partial Cut, and 7 acres of right-of-way. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Tillamook County, Tax Code 56-1.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in March of 2015. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists s well stocked 88 year old Douglas-fir stand with minor amounts of western hemlock. The average 'Take' Douglas-fir DBH is 18 inches. In Area 1, the estimated average net 'Take' volume is 27.8 MBF/acre. For Area 2, the estimated net volume is 65.6 MBF/acre.
7. **Topography and Logging Method:** Slopes within the sale areas range from 10% to 75% and are generally of a north aspect. Area 1 is 43% ground-based yarding, and 57% cable-based yarding. Area 2 is 100% ground-based yarding. The average horizontal cable corridor length is approximately 380 feet and the maximum is approximately 750 feet. The average horizontal tractor skid trail length is approximately 650 feet and the maximum is approximately 880 feet
8. **Access:** All access routes are open, surfaced, all-weather roads. From Forest Grove, travel north on Highway 8 to its junction with Highway 6. Turn left and travel west approximately 3.5 miles to Timber Road. Turn right, proceed north on Timber Road approximately 6.5 miles and turn onto Cochran Road. Continue west on Cochran Road for 2.7 miles to Wheeler Road. Turn right onto Wheeler Road and continue north for 4.6 miles to the southwest portion of the Timber Sale Area.

9. **Projects:**

Project No. 1: Road Construction & Improvement	\$47,885.08
Project No. 2: Road Surfacing	\$120,385.03
Project No. 3: Grass Seed and Fertilize	\$1,879.91
Project No. 4: Drilling of Rock Pit Test Holes	\$1,320.00
Project No. 5: Construct Rock Stockpile	\$22,086.40
Move in and equipment cleaning;	\$5,715.43

Total Credit for all Projects (rounded)	\$199,280
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PROJECT COST SUMMARY SHEET

Timber Sale: Motley Lou
 Sale Number: 341-16-06

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
D to E	35+00	\$14,652.15
F to G	3+50	\$1,253.96
H to I	2+45	\$996.73
J to K	24+50	\$8,294.75
L to M	3+75	\$1,315.21
N to O	5+50	\$1,743.94
P to Q	5+85	\$1,829.69
R to S	3+65	\$1,360.71
T to U	6+40	\$2,411.94
	90+60 stations	
	1.72 miles	

SUBTOTAL CONSTRUCTION \$33,859.08

IMPROVEMENTS

Road Segment	Length	Cost
A to B	348+50	\$12,196.00
C to D	35+25	\$1,830.00
	383+75 stations	
	7.27 miles	

SUBTOTAL IMPROVEMENTS \$14,026.00

TOTAL PROJECT NO. 1 COST = \$47,885.08

PROJECT NO. 2: SURFACING

Road Segment	Amount	Type	Cost
A to B	432 cy	1 1/2" - 0	\$2,449.44
C to D	72 cy	1 1/2" - 0	\$426.96
	256 cy	4" - 0	\$2,910.72
D to E	12 cy	1 1/2" - 0	\$50.40
	3,134 cy	4" - 0	\$39,457.06
	178 cy	24" - 6"	\$537.56
F to G	468 cy	4" - 0	\$5,995.08
H to I	359 cy	4" - 0	\$4,598.79
J to K	1,875 cy	4" - 0	\$24,487.50
	65 cy	24" - 6"	\$224.90
L to M	444 cy	4" - 0	\$5,838.60
N to O	558 cy	4" - 0	\$7,426.98
P to Q	600 cy	4" - 0	\$7,830.00
R to S	457 cy	4" - 0	\$6,059.82
T to U	893 cy	4" - 0	\$12,091.22
Total	9,803 cy		
	516 cy	1 1/2" - 0	
	9,044 cy	4" - 0	
	243 cy	24" - 6"	

TOTAL PROJECT NO. 2 COST = \$120,385.03

PROJECT NO. 3: GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = \$1,879.91

PROJECT NO. 4: Drill ten test holes 40' deep at Straight Arrow Pit

TOTAL PROJECT NO. 4 COST = \$1,320.00

PROJECT NO. 5: Construct a 2,000cy 4"-0" Stockpile (stockpile measure)

TOTAL PROJECT NO. 5 COST = \$22,086.40

MOVE IN & EQUIPMENT CLEANING

Graders	\$717.68
Loader (in area Move included)	\$667.97
Rollers (smooth/grid) & Compactors	\$434.33
Excavators (Large) - Equipment Cleaning	\$1,717.68
Tractor (D8) - Equipment Cleaning	\$1,759.85
Dump Truck (10 cy +)	\$291.50
Water Truck (1500 Gal)	\$126.42

TOTAL MOVE IN & EQUIPMENT CLEANING COST = \$5,715.43

TOTAL ALL PROJECTS \$199,271.85
TOTAL CREDITS \$199,280.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
Road Segment: A to B

Timber Sale No. : 341-16-06
Improvement: 348+50 stations
6.60 miles

PROJECT NO. 1

EXCAVATION

Clean ditch & Endhaul waste material 12.70 sta @ \$80.00 per sta = \$1,016.00
TOTAL EXCAVATION COSTS= \$1,016.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

550 LF of 18" \$11,000.00

Culvert Markers

18 markers \$180.00

TOTAL CULVERT COSTS = \$11,180.00

PROJECT NO. 1 TOTAL COST = \$12,196.00

PROJECT NO. 2:

SURFACING

Culvert Bedding &
Backfill

432 cy of 1 1/2" - 0 @ \$5.67 per cy = \$2,449.44
Total = 432
432 cy of 1 1/2" - 0 \$5.67 per cy = \$2,449.44

PROJECT NO. 2 TOTAL COST = \$2,449.44

PROJECT NO. 3:

Mulch 4 bales @ \$8.00 per bale = \$32.00

PROJECT NO. 3 TOTAL COST = \$32.00

TOTAL COST = \$14,677.44

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
 Road Segment: C to D

Timber Sale No. : 341-16-06
 Improvement: 35+25 stations
0.67 miles

PROJECT NO. 1

CULVERTS - MATERIALS & INSTALLATION

Culverts

90 LF of 18" \$1,800.00

Culvert Markers

3 markers \$30.00

TOTAL CULVERT COSTS = \$1,830.00

PROJECT NO. 1 TOTAL COST = \$1,830.00

PROJECT NO. 2:

SURFACING 6 " deep = 31 cy/sta

27+00 to 35+25 256 cy of 4" - 0 @ \$11.37 per cy = \$2,910.72

Culvert Bedding & Backfill 72 cy of 4" - 0 @ \$5.93 per cy = \$426.96

Total = 328

72 cy of 1 1/2" - 0 \$5.93 per cy = \$426.96

256 cy of 4" - 0 \$11.37 per cy = \$2,910.72

PROJECT NO. 2 TOTAL COST = \$3,337.68

TOTAL COST = \$5,167.68

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
Road Segment: D to E

Timber Sale No. : 341-16-06
Construction: 35+00 stations
0.66 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	3.21	acres @	\$1,078.00	per acre =	\$3,464.65
Balanced Road Construction	30.50	sta @	\$110.00	per sta =	\$3,355.00
Drift	4.50	sta @	\$180.00	per sta =	\$810.00
Construct Turnouts (2)	2	ea. @	\$66.00	per ea. =	\$110.00
Construct Turnaround (1)	1	ea. @	\$82.50	per ea. =	\$82.50
Approach to landing	3.00	sta @	\$110.00	per sta =	\$330.00
Landing	3	ea. @	\$314.00	per ea. =	\$942.00
Grade, Ditch, and Roll	35.00	sta @	\$36.00	per sta =	\$1,260.00
Grade, Ditch, and Roll approaches to Landings	3.00	sta @	\$36.00	per sta =	\$108.00
TOTAL EXCAVATION COSTS=					<u>\$10,462.15</u>

CULVERTS - MATERIALS & INSTALLATION

Culverts

120 LF of 18" \$2,400.00
30 LF of 24" \$870.00

Culvert Markers

5 markers \$50.00

TOTAL CULVERT COSTS = \$4,190.00

PROJECT NO. 1 TOTAL COST = \$14,652.15

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta			
D to E	2,275	cy of	4" - 0	@	\$12.59 per cy =	\$28,642.25
Turnout (2)	44	cy of	4" - 0	@	\$12.59 per cy =	\$553.96
Turnaround (1)	20	cy of	4" - 0	@	\$12.59 per cy =	\$251.80
Junctions (3)	60	cy of	4" - 0	@	\$12.59 per cy =	\$755.40
Landings (3)	540	cy of	4" - 0	@	\$12.59 per cy =	\$6,798.60
Culvert Bedding	12	cy of	1 1/2" - 0	@	\$4.20 per cy =	\$50.40
Subgrade Reinforcement	130	cy of	24" - 6"	@	\$3.02 per cy =	\$392.60
Approach to landing	195	cy of	4" - 0	@	\$12.59 per cy =	\$2,455.05
Fill Armor	48	cy of	24" - 6"	@	\$3.02 per cy =	\$144.96
Total =	3,324					
	12	cy of	1 1/2" - 0		\$4.20 per cy =	\$50.40
	3,134	cy of	4" - 0		\$12.59 per cy =	\$39,457.06
	178	cy of	24" - 6"		\$3.02 per cy =	\$537.56
PROJECT NO. 2 TOTAL COST =						<u>\$40,045.02</u>

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil. 1.61 acres @ \$425.00 per acre = \$682.97
Mulch 6 bales @ \$8.00 per bale = \$48.00

PROJECT NO. 3 TOTAL COST = \$730.97

TOTAL COST = \$55,428.13

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou

Timber Sale No. : 341-16-06

Road Segment: F to G

Construction: 3+50 stations
0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.32	acres @	\$1,078.00	per acre =	\$346.46
Balanced Road Construction	3.50	sta @	\$110.00	per sta =	\$385.00
Construct Turnaround (1)	1	ea. @	\$82.50	per ea. =	\$82.50
Landing	1	ea. @	\$314.00	per ea. =	\$314.00
Grade, Ditch, and Roll	3.50	sta @	\$36.00	per sta =	\$126.00
TOTAL EXCAVATION COSTS=					\$1,253.96

PROJECT NO. 1 TOTAL COST = \$1,253.96

PROJECT NO. 2:

SURFACING 12 " deep = 65 cy/sta

F to G	228	cy of 4" - 0 @	\$12.81	per cy =	\$2,920.68
Turnaround (1)	20	cy of 4" - 0 @	\$12.81	per cy =	\$256.20
Junctions (2)	40	cy of 4" - 0 @	\$12.81	per cy =	\$512.40
Landing (1)	180	cy of 4" - 0 @	\$12.81	per cy =	\$2,305.80
Total =	468				
	468	cy of 4" - 0	\$12.81	per cy =	\$5,995.08

PROJECT NO. 2 TOTAL COST = \$5,995.08

PROJECT NO. 3:

Grass seed and fertilize areas of distur 0.16 acres @ \$425.00 per acre = \$68.30

PROJECT NO. 3 TOTAL COST = \$68.30

TOTAL COST = \$7,317.34

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou Timber Sale No. : 341-16-06
 Road Segment: H to I Construction: 2+45 stations
0.05 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.22 acres @	\$1,078.00 per acre =	\$242.53
Balanced Road Construction	2.45 sta @	\$110.00 per sta =	\$269.50
Construct Turnaround (1)	1 ea. @	\$82.50 per ea. =	\$82.50
Landing	1 ea. @	\$314.00 per ea. =	\$314.00
Grade, Ditch, and Roll	2.45 sta @	\$36.00 per sta =	\$88.20
TOTAL EXCAVATION COSTS=			\$996.73

PROJECT NO. 1 TOTAL COST = **\$996.73**

PROJECT NO. 2:

SURFACING 12 " deep = 65 cy/sta

H to I	159	cy of 4" - 0 @	\$12.81 per cy =	\$2,036.79
Turnaround (1)	20	cy of 4" - 0 @	\$12.81 per cy =	\$256.20
Landing (1)	180	cy of 4" - 0 @	\$12.81 per cy =	\$2,305.80
Total =	359			
	359	cy of 4" - 0	\$12.81 per cy =	\$4,598.79

PROJECT NO. 2 TOTAL COST = **\$4,598.79**

PROJECT NO. 3:

Grass seed and fertilize areas of distur	0.11 acres @	\$425.00 per acre =	\$47.81
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PROJECT NO. 3 TOTAL COST = **\$47.81**

TOTAL COST = **\$5,643.32**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
Road Segment: J to K

Timber Sale No. : 341-16-06
Construction: 24+50 stations
0.46 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	2.25 acres @	\$1,078.00	per acre =	\$2,425.25
Balanced Road Construction	24.50 sta @	\$110.00	per sta =	\$2,695.00
Construct Turnouts (1)	1 ea. @	\$66.00	per ea. =	\$66.00
Construct Turnaround (1)	1 ea. @	\$82.50	per ea. =	\$82.50
Landing	1 ea. @	\$314.00	per ea. =	\$314.00
Grade, Ditch, and Roll	24.50 sta @	\$36.00	per sta =	\$882.00
TOTAL EXCAVATION COSTS=				\$6,464.75

CULVERTS - MATERIALS & INSTALLATION

Culverts

90 LF of 18" \$1,800.00

Culvert Markers

3 markers \$30.00

TOTAL CULVERT COSTS = **\$1,830.00**

PROJECT NO. 1 TOTAL COST = **\$8,294.75**

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta			
J to K	1,593	cy of	4" - 0	@	\$13.06 per cy =	\$20,804.58
Turnouts (1)	22	cy of	4" - 0	@	\$13.06 per cy =	\$287.32
Turnaround (1)	20	cy of	4" - 0	@	\$13.06 per cy =	\$261.20
Junctions (3)	60	cy of	4" - 0	@	\$13.06 per cy =	\$783.60
Landings (1)	180	cy of	4" - 0	@	\$13.06 per cy =	\$2,350.80
Subgrade Reinforcemen	65	cy of	24" - 6"	@	\$3.46 per cy =	\$224.90
Total =	1,940					
	1,875	cy of	4" - 0		\$13.06 per cy =	\$24,487.50
	65	cy of	24" - 6"		\$3.46 per cy =	\$224.90
PROJECT NO. 2 TOTAL COST =						\$24,712.40

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	1.12 acres @	\$425.00	per acre =	\$478.08
Mulch	4 bales @	\$8.00	per bale =	\$32.00
PROJECT NO. 3 TOTAL COST =				\$510.08

TOTAL COST = **\$33,517.23**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou Timber Sale No. : 341-16-06
Road Segment: L to M Construction: 3+75 stations
0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.34 acres @	\$1,078.00 per acre =	\$371.21
Balanced Road Construction	3.75 sta @	\$110.00 per sta =	\$412.50
Construct Turnaround (1)	1 ea. @	\$82.50 per ea. =	\$82.50
Landing	1 ea. @	\$314.00 per ea. =	\$314.00
Grade, Ditch, and Roll	3.75 sta @	\$36.00 per sta =	\$135.00
TOTAL EXCAVATION COSTS=			\$1,315.21
PROJECT NO. 1 TOTAL COST =			\$1,315.21

PROJECT NO. 2:

SURFACING	12	" deep = 65 cy/sta		
L to M	244	cy of 4" - 0	@	\$13.15 per cy = \$3,208.60
Turnaround (1)	20	cy of 4" - 0	@	\$13.15 per cy = \$263.00
Landings (1)	180	cy of 4" - 0	@	\$13.15 per cy = \$2,367.00
Total =	444			
	444	cy of 4" - 0		\$13.15 per cy = \$5,838.60
PROJECT NO. 2 TOTAL COST =			\$5,838.60	

PROJECT NO. 3:

Grass seed and fertilize areas of distur	0.17 acres @	\$425.00 per acre =	\$73.17
PROJECT NO. 3 TOTAL COST =			\$73.17

TOTAL COST = \$7,226.99

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
Road Segment: N to O

Timber Sale No. : 341-16-06
Construction: 5+50 stations
0.10 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.51 acres @	\$1,078.00 per acre =	\$544.44
Balanced Road Construction	5.50 sta @	\$110.00 per sta =	\$605.00
Construct Turnaround (1)	1 ea. @	\$82.50 per ea. =	\$82.50
Landing	1 ea. @	\$314.00 per ea. =	\$314.00
Grade, Ditch, and Roll	5.50 sta @	\$36.00 per sta =	\$198.00
TOTAL EXCAVATION COSTS=			\$1,743.94
PROJECT NO. 1 TOTAL COST =			\$1,743.94

PROJECT NO. 2:

SURFACING	12	" deep = 65 cy/sta			
N to O	358	cy of 4" - 0	@	\$13.31 per cy =	\$4,764.98
Turnaround (1)	20	cy of 4" - 0	@	\$13.31 per cy =	\$266.20
Landings (1)	180	cy of 4" - 0	@	\$13.31 per cy =	\$2,395.80
Total =	558				
	558	cy of 4" - 0		\$13.31 per cy =	\$7,426.98
PROJECT NO. 2 TOTAL COST =					\$7,426.98

PROJECT NO. 3:

Grass seed and fertilize areas of distur	0.25 acres @	\$425.00 per acre =	\$107.32
PROJECT NO. 3 TOTAL COST =			\$107.32

TOTAL COST = \$9,278.25

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou

Timber Sale No. : 341-16-06

Road Segment: P to Q

Construction: 5+85 stations
0.11 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.54 acres @	\$1,078.00 per acre =	\$579.09
Balanced Road Construction	5.85 sta @	\$110.00 per sta =	\$643.50
Construct Turnaround (1)	1 ea. @	\$82.50 per ea. =	\$82.50
Landing	1 ea. @	\$314.00 per ea. =	\$314.00
Grade, Ditch, and Roll	5.85 sta @	\$36.00 per sta =	\$210.60
TOTAL EXCAVATION COSTS=			<u>\$1,829.69</u>

PROJECT NO. 1 TOTAL COST = \$1,829.69

PROJECT NO. 2:

SURFACING	12	" deep = 65 cy/sta			
P to Q	380	cy of 4" - 0	@	\$13.05 per cy =	\$4,959.00
Turnaround (1)	20	cy of 4" - 0	@	\$13.05 per cy =	\$261.00
Junction (1)	20	cy of 4" - 0	@	\$13.05 per cy =	\$261.00
Landing (1)	180	cy of 4" - 0	@	\$13.05 per cy =	<u>\$2,349.00</u>
Total =	600				
	600	cy of 4" - 0		\$13.05 per cy =	\$7,830.00
PROJECT NO. 2 TOTAL COST =					<u>\$7,830.00</u>

PROJECT NO. 3:

Grass seed and fertilize areas of distur	0.27 acres @	\$425.00 per acre =	\$114.15
PROJECT NO. 3 TOTAL COST =			<u>\$114.15</u>

TOTAL COST = \$9,773.84

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
 Road Segment: R to S

Timber Sale No. : 341-16-06
 Construction: 3+65 stations
0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.34 acres @	\$1,078.00 per acre =	\$361.31
Balanced Road Construction	2.65 sta @	\$110.00 per sta =	\$291.50
Drift	1.00 sta @	\$180.00 per sta =	\$180.00
Construct Turnaround (1)	1 ea. @	\$82.50 per ea. =	\$82.50
Landing	1 ea. @	\$314.00 per ea. =	\$314.00
Grade, Ditch, and Roll	3.65 sta @	\$36.00 per sta =	\$131.40
TOTAL EXCAVATION COSTS=			\$1,360.71

PROJECT NO. 1 TOTAL COST = **\$1,360.71**

PROJECT NO. 2:

SURFACING 12 " deep = 65 cy/sta

R to S	237	cy of 4" - 0 @	\$13.26 per cy =	\$3,142.62
Turnaround (1)	20	cy of 4" - 0 @	\$13.26 per cy =	\$265.20
Junction	20	cy of 4" - 0 @	\$13.26 per cy =	\$265.20
Landing (1)	180	cy of 4" - 0 @	\$13.26 per cy =	\$2,386.80
Total =	457			
	457	cy of 4" - 0	\$13.26 per cy =	\$6,059.82

PROJECT NO. 2 TOTAL COST = **\$6,059.82**

PROJECT NO. 3:

Grass seed and fertilize areas of distur 0.17 acres @ \$425.00 per acre = \$71.22

PROJECT NO. 3 TOTAL COST = **\$71.22**

TOTAL COST = **\$7,491.76**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
 Road Segment: T to U

Timber Sale No. : 341-16-06
 Construction: 6+40 stations
0.12 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.59 acres @	\$1,078.00	per acre =	\$633.54
Balanced Road Construction	5.40 sta @	\$110.00	per sta =	\$594.00
Drift	1.00 sta @	\$180.00	per sta =	\$180.00
Approach to landing	1.00 sta @	\$110.00	per sta =	\$110.00
Landing	2 ea. @	\$314.00	per ea. =	\$628.00
Grade, Ditch, and Roll	6.40 sta @	\$36.00	per sta =	\$230.40
Grade, Ditch, and Roll approach to Landir	1.00 sta @	\$36.00	per sta =	\$36.00
TOTAL EXCAVATION COSTS=				\$2,411.94
PROJECT NO. 1 TOTAL COST =				\$2,411.94

PROJECT NO. 2:

SURFACING	12	" deep = 65 cy/sta			
T to U	416	cy of 4" - 0	@	\$13.54 per cy =	\$5,632.64
Turnaround (1)	12	cy of 4" - 0	@	\$13.54 per cy =	\$162.48
Junctions (2)	40	cy of 4" - 0	@	\$13.54 per cy =	\$541.60
Landings (2)	360	cy of 4" - 0	@	\$13.54 per cy =	\$4,874.40
Approach to landing	65	cy of 4" - 0	@	\$13.54 per cy =	\$880.10
Total =	893				
	893	cy of 4" - 0		\$13.54 per cy =	\$12,091.22
PROJECT NO. 2 TOTAL COST =					\$12,091.22

PROJECT NO. 3:

Grass seed and fertilize areas of disturber	0.29 acres @	\$425.00	per acre =	\$124.89
PROJECT NO. 3 TOTAL COST =				\$124.89

TOTAL COST = \$14,628.04

SUMMARY OF CONSTRUCTION COST

Timber Sale: Motley Lou
Project 4

Timber Sale No. : 341-16-06

PROJECT NO. 4

Drill test hole 40' deep with report.	10.00	hr @ \$132.00 per hr =	\$1,320.00
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PROJECT NO. 4 TOTAL COST = \$1,320.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Motley Lou**
 Project 5

Timber Sale No. : 341-16-06

PROJECT NO. 5

2,000cy 4"-0 Stockpile (stockpile measure)	2,320	cy @	\$9.52	per cy =	\$22,086.40
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PROJECT NO. 5 TOTAL COST = \$22,086.40

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale: Motley Lou

Sale Number: 341-16-06

Pit Name: Straight Arrow

Swell:	<u>130%</u>	4"-0 (trk measure)	<u>9,044 cy</u>
Shrinkage:	<u>116%</u>	Stockpile (trk measure)	<u>2,320 cy</u>
Drill Pct.:	<u>100%</u>	Total Truck Yardage:	<u>11,364 cy</u>
		Total In Place Yardage:	<u>8,742 cy</u>

Overburden Removal, Bench Construction & Cleaning		=	\$4,221.14
Drill & Shoot:	<u>\$2.80 /cy x</u>	<u>8,742 cy</u>	= <u>\$24,476.31</u>
Oversize Reduction:	<u>\$5.80 /cy x</u>	<u>874 cy</u>	= <u>\$5,070.09</u>
Load Crusher:	<u>\$0.80 /cy x</u>	<u>11,364 cy</u>	= <u>\$9,091.20</u>
Crushing (4" - 0):	<u>\$3.30 /cy x</u>	<u>11,364 cy</u>	= <u>\$37,501.20</u>
Crushing (Stockpile):	<u>\$3.30 /cy x</u>	<u>2,320 cy</u>	= <u>\$7,656.00</u>
Build and Shape Stockpile:	<u>\$1.10 /cy x</u>	<u>2,320 cy</u>	= <u>\$2,552.00</u>
Load Dump Truck:	<u>\$0.80 /cy x</u>	<u>11,364 cy</u>	= <u>\$9,091.20</u>
		Subtotal	<u>\$99,659.14</u>

Move in Crusher (2 Stage)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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ROCK DEVELOPMENT COST = \$9.52/cy TOTAL PRODUCTION COST \$108,161.18

**CRUISE REPORT
MOTLEY LOU
341-16-06**

1. LOCATION: Portions of Sections 13, 14, 23, & 24, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation of 50%, an average stand diameter of 20 inches, a desired sampling error of 8% and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 8 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:

The Sale Area was cruised in February, 2015 with 25 variable radius count plots and 25 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 4 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Cruisers 'thinned' plots from below to 160 ft² of basal area by assigning a 'Take' or 'Leave' status to each tree in every plot.

4. CRUISE RESULTS

236 trees were measured and graded producing a sampling error of 7.2% on the Douglas-fir 'Take' Basal Area and 7.5% on the Douglas-fir 'Take' Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and 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 measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING

a) **Volumes and Statistics,** Cruise volume estimates, and sampling statistics, were derived from Super Ace 2008 cruise software.

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

6. Cruisers: The sale was cruised by ODF cruisers Savage, Koch, and Gehrig.

Prepared by:

ODF Forester

Date

Reviewed by:

Eric Foucht

Date

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		3/25/2015	
T03N R05W S18 Ty00PC151.00				Project				MOTLEY				Time:		1:18:54PM			
				Acres				151.00				Grown Year:					
S SpC	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
DF L		11	1	87	75	2.292	1.51										
DF L		16	3	89	137	1.625	2.27	4.88	21.1	101.1	2.93	103	493	443	155	74	
DF L		17	1	89	140	.480	.76	1.44	24.4	120.0	1.00	35	173	151	53	26	
DF L		18	5	88	143	2.568	4.54	5.14	29.2	141.7	4.28	150	728	646	227	110	
DF L		20	6	88	134	2.427	5.29	7.28	33.9	165.7	7.03	247	1,206	1,061	372	182	
DF L		21	4	89	143	1.887	4.54	5.66	40.2	193.9	6.48	227	1,097	979	343	166	
DF L		22	7	89	143	2.865	7.56	8.60	44.2	210.0	10.83	380	1,805	1,635	574	273	
DF L		23	2	89	139	.786	2.27	2.36	47.4	227.8	3.19	112	537	481	169	81	
DF L		24	18	88	145	8.186	25.72	28.41	44.6	221.0	36.10	1,267	6,279	5,451	1,913	948	
DF L		25	10	88	145	3.550	12.10	12.65	48.5	247.2	17.48	613	3,126	2,639	926	472	
DF L		26	9	86	151	3.487	12.86	11.49	49.9	256.4	16.33	573	2,946	2,466	865	445	
DF L		27	5	89	149	1.712	6.81	6.47	54.9	294.1	10.11	355	1,902	1,527	536	287	
DF L		28	10	88	155	3.184	13.61	11.67	58.5	316.5	19.47	683	3,695	2,940	1,031	558	
DF L		29	1	89	160	.165	.76	.66	64.3	355.0	1.21	42	234	183	64	35	
DF L		30	10	89	161	2.311	11.35	8.01	70.2	394.8	16.03	563	3,163	2,421	849	478	
DF L		31	1	90	160	.144	.76	.58	72.2	400.0	1.19	42	231	179	63	35	
DF L		32	4	88	155	1.083	6.05	4.06	80.4	428.7	9.31	327	1,742	1,405	493	263	
DF L		34	3	86	156	.480	3.03	1.68	98.0	507.9	4.69	165	853	708	248	129	
DF L		36	2	89	148	.321	2.27	1.07	113.3	612.0	3.45	121	655	522	183	99	
DF L		37	1	89	165	.101	.76	.41	109.9	645.0	1.27	45	261	192	67	39	
DF L		Totals	103	88	142	39.656	124.80	122.50	49.4	254.1	172.37	6,048	31,127	26,028	9,133	4,700	
DF T		11	3	88	86	3.703	2.44	6.17	10.7	48.0	1.88	66	296	284	100	45	
DF T		12	4	89	104	6.223	4.89	11.41	14.3	61.8	4.64	163	705	701	246	107	
DF T		13	2	79	123	2.651	2.44	5.30	16.6	60.0	2.50	88	318	378	133	48	
DF T		14	6	87	112	6.096	6.52	12.95	18.7	82.4	6.89	242	1,067	1,040	365	161	
DF T		15	8	88	121	7.302	8.96	19.25	18.3	82.1	10.04	352	1,580	1,516	532	239	
DF T		16	8	79	122	7.001	9.78	18.67	20.5	76.2	10.88	382	1,424	1,643	577	215	
DF T		17	7	88	128	5.168	8.15	15.50	22.7	100.3	10.03	352	1,556	1,515	532	235	
DF T		18	8	87	130	5.532	9.78	16.60	25.7	104.4	12.14	426	1,733	1,833	643	262	
DF T		19	3	86	136	1.241	2.44	3.72	30.0	127.8	3.19	112	476	481	169	72	
DF T		20	7	88	138	4.107	8.96	13.07	32.6	143.4	12.14	426	1,874	1,833	643	283	
DF T		21	5	87	131	3.048	7.33	9.14	36.1	154.1	9.42	330	1,409	1,422	499	213	
DF T		22	15	85	146	7.715	20.37	26.85	37.4	169.9	28.65	1,005	4,561	4,327	1,518	689	
DF T		23	7	88	151	3.953	11.40	14.68	40.7	191.5	17.03	597	2,812	2,571	902	425	
DF T		24	9	87	147	3.630	11.40	12.71	44.0	204.7	15.94	559	2,601	2,407	845	393	
DF T		25	3	85	143	1.434	4.89	5.26	44.4	200.0	6.66	234	1,051	1,005	353	159	
DF T		26	6	85	156	2.209	8.15	8.84	49.0	234.3	12.35	433	2,070	1,865	654	313	
DF T		27	4	86	163	1.024	4.07	3.89	58.3	297.4	6.46	227	1,158	976	343	175	
DF T		28	1	89	135	.381	1.63	1.14	69.9	346.7	2.28	80	396	344	121	60	
DF T		Totals	106	86	128	72.421	133.60	205.16	29.6	132.0	173.12	6,074	27,088	26,140	9,172	4,090	
WH L		12	2	91	103	4.533	3.56	9.07	14.3	70.0	4.14	129	635	625	195	96	
WH L		14	2	85	111	3.330	3.56	7.77	16.8	70.0	4.19	131	544	632	198	82	
WH L		15	2	93	117	2.901	3.56	8.70	17.2	78.9	4.79	150	687	724	226	104	
WH L		16	4	85	118	5.949	8.31	16.15	20.7	86.8	10.70	335	1,402	1,616	505	212	
WH L		18	2	93	127	2.015	3.56	6.04	28.4	137.8	5.50	172	833	830	259	126	
WH L		19	1	85	130	1.205	2.37	3.62	29.7	136.7	3.44	107	494	519	162	75	
WH L		20	4	93	133	2.176	4.75	6.53	38.5	193.3	8.04	251	1,262	1,214	380	191	
WH L		22	2	94	145	.899	2.37	3.15	42.3	225.7	4.26	133	710	643	201	107	
WH L		24	1	88	119	.755	2.37	2.27	48.9	220.0	3.55	111	499	536	167	75	
WH L		28	1	94	140	.278	1.19	.83	81.5	446.7	2.17	68	372	328	102	56	
WH L		Totals	21	89	118	24.041	35.60	64.12	24.7	116.0	50.78	1,587	7,437	7,668	2,396	1,123	

TC		PSTNDSUM		Stand Table Summary										Page		2	
														Date:		3/25/2015	
		T03N R05W S18 Ty00PC		151.00		Project		MOTLEY				Time:		1:18:54PM			
						Acres		151.00				Grown Year:					
S Spc	T	Sample		Tot				Average Log		Net		Net		T o t a l s			
		DBH	Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
WH	T	10	1	89	72	4.645	2.53	4.64	12.8	60.0	1.90	59	279	286	90	42	
WH	T	13	1	92	120	2.748	2.53	8.25	12.2	56.7	3.22	101	467	486	152	71	
WH	T	19	1	86	138	1.287	2.53	3.86	32.3	140.0	3.99	125	540	602	188	82	
WH	T	Totals	3	90	97	8.680	7.60	16.75	17.0	76.8	9.10	284	1,286	1,375	430	194	
NF	L	20	1	89	150	.183	.40	.73	28.6	150.0	.50	21	110	76	32	17	
NF	L	Totals	1	89	150	.183	.40	.73	28.6	150.0	.50	21	110	76	32	17	
RC	L	11	1	82	59	1.818	1.20	1.82	13.7	50.0	.59	25	91	88	38	14	
RC	L	Totals	1	82	59	1.818	1.20	1.82	13.7	50.0	.59	25	91	88	38	14	
BM	L	12	1	92	93	.509	.40										
BM	L	Totals	1	92	93	.509	.40										
Totals		236	87	127		147.309	303.60	411.09	34.2	163.3	406.46	14,040	67,139	61,375	21,200	10,138	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																				
T03N R05W S18 Ty00PC151.00				Project: MOTLEY												Page 1								
				Acres 151.00												Date 3/25/2015								
																Time 1:18:54PM								
S Spp			So T	Gr rt	ad	%	Net	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs
						BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	Per	
											4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	/Acre	
DF	L		2M	9	.4	2,904	2,892		437				31	69	3			97	39	17	444	2.35	6.5	
DF	L		3M	90		28,121	28,121		4,246			12	33	54		19	41	39	35	12	247	1.38	113.8	
DF	L		4M	1		115	115		17			100			10	22	68		26	7	51	0.53	2.2	
DF Totals				46	.0	31,140	31,127		4,700			12	33	56	0	18	38	44	35	13	254	1.42	122.5	
DF	T		CU																3	15		0.00	1.2	
DF	T		2M	53	2.0	14,829	14,535		2,195				67	33	1	3		96	39	15	324	1.73	44.9	
DF	T		3M	41	.6	11,149	11,081		1,673			84	16		0	5	6	88	37	9	108	0.71	102.3	
DF	T		4M	6		1,472	1,472		222			100			35	43	12	10	20	6	25	0.32	57.9	
DF Totals				40	1.3	27,451	27,088		4,090			40	42	18	3	6	3	88	33	9	131	0.90	206.3	
WH	L		2M	4		348	348		52					100				100	40	17	460	2.36	.8	
WH	L		3M	95		7,074	7,074		1,068	9	40	42	9			24	46	31	33	9	113	0.74	62.6	
WH	L		4M	1		15	15		2		100				100				18	6	20	0.43	.8	
WH Totals				11		7,437	7,437		1,123	9	38	40	13		0	22	44	34	33	9	116	0.76	64.1	
WH	T		2M	24		309	309		47			100						100	40	13	240	1.45	1.3	
WH	T		3M	73		939	939		142	9	91					50		50	33	7	66	0.43	14.2	
WH	T		4M	3		39	39		6		100					100			26	6	30	0.37	1.3	
WH Totals				2		1,286	1,286		194	6	70	24				39		61	33	8	77	0.52	16.7	
NF	L		3M	100		110	110		17	5	20	75				75	25		31	11	150	0.92	.7	
NF Totals				0		110	110		17	5	20	75				75	25		31	11	150	0.92	.7	
RC	L		4M	100		91	91		14		100						100		32	6	50	0.43	1.8	
RC Totals				0		91	91		14		100						100		32	6	50	0.43	1.8	
Totals					0.6	67,515	67,139		10,138	1	27	37	34		1	14	24	61	33	10	163	1.02	412.3	

TC		PLOGSTVB		Log Stock Table - MBF																	
T03N R05W S18 Ty00PC151.00				Project: Acres		MOTLEY 151.00														Page 1	
																				Date 3/25/2015	
																				Time 1:18:55PM	
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF	L	2M	20	17	11.1	15	.3							15							
DF	L	2M	40	422		422	9.0					29		62	190	141					
DF	L	3M	30	821		821	17.5					12		185	405	219					
DF	L	3M	31	149		149	3.2					76	9		64						
DF	L	3M	32	627		627	13.3			72	7	15	107	12	230	184					
DF	L	3M	33	208		208	4.4					8	26		107	67					
DF	L	3M	34	771		771	16.4			53	16	9	159	49	210	239	35				
DF	L	3M	35	2		2	.0			2											
DF	L	3M	36	453		453	9.6			11		40	13	108	73	110	97				
DF	L	3M	37	171		171	3.6			8				11	140	12					
DF	L	3M	38	629		629	13.4			76		27	240	80	171	13	22				
DF	L	3M	39	59		59	1.3			17		9			33						
DF	L	3M	40	342		342	7.3			30	5	32	75	39	120		40				
DF	L	3M	41	14		14	.3			14											
DF	L	4M	13	1		1	.0			1											
DF	L	4M	18	1		1	.0			1											
DF	L	4M	26	4		4	.1			4											
DF	L	4M	32	12		12	.3			3		9									
DF		Totals		4,702		4,700	46.4			293	29	224	672	546	1756	985	195				
DF	T	2M	12	24	34.6	16	.4							16							
DF	T	2M	20	10		10	.3							10							
DF	T	2M	24	26		26	.6							26							
DF	T	2M	28	25	12.5	22	.5							22							
DF	T	2M	30	15	14.8	13	.3							13							
DF	T	2M	40	2,139	1.4	2,108	51.5					516		481	1029	82					
DF	T	3M	20	8		8	.2				8										
DF	T	3M	22	12		12	.3			7		5									
DF	T	3M	24	15		15	.4			3	5	8									
DF	T	3M	25	7		7	.2					7									
DF	T	3M	26	5		5	.1			5											
DF	T	3M	29	11		11	.3					11									
DF	T	3M	30	30		30	.7			23	7										
DF	T	3M	32	56		56	1.4			22	33										
DF	T	3M	33	5		5	.1			5											
DF	T	3M	34	47		47	1.2			18	29										
DF	T	3M	36	74		74	1.8			23	51										

TC		PLOGSTVB																Log Stock Table - MBF							
T03N R05W S18 Ty00PC				151.00		Project:		MOTLEY								Page		2							
						Acres		151.00								Date		3/25/2015							
																Time		1:18:55PM							
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches																	
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+						
DF	T	3M	37	9		9	.2			9															
DF	T	3M	38	32		32	.8			21	11														
DF	T	3M	39	7		7	.2			7															
DF	T	3M	40	1,366		1,356	33.1			119	407	566	237	27											
DF	T	4M	12	28		28	.7			27	1														
DF	T	4M	13	5		5	.1			5															
DF	T	4M	14	1		1	.0			1															
DF	T	4M	15	1		1	.0			1															
DF	T	4M	16	8		8	.2			8															
DF	T	4M	17	8		8	.2			8															
DF	T	4M	18	9		9	.2			9															
DF	T	4M	19	13		13	.3			13															
DF	T	4M	20	3		3	.1			3															
DF	T	4M	21	2		2	.1			2															
DF	T	4M	22	10		10	.2			10															
DF	T	4M	23	5		5	.1			5															
DF	T	4M	24	2		2	.1			2															
DF	T	4M	25	20		20	.5			12	8														
DF	T	4M	26	7		7	.2			7															
DF	T	4M	27	7		7	.2			7															
DF	T	4M	28	16		16	.4			6		10													
DF	T	4M	29	9		9	.2			9															
DF	T	4M	30	18		18	.4			18															
DF	T	4M	33	23		23	.6			23															
DF	T	4M	35	4		4	.1			4															
DF	T	4M	37	17		17	.4			17															
DF	T	4M	39	5		5	.1			5															
DF		Totals		4,145	1.3	4,090	40.3			464	560	607	753	521	1103	82									
WH	L	2M	40	52		52	4.7							52											
WH	L	3M	26	34		34	3.0					15	19												
WH	L	3M	27	39		39	3.5				19		21												
WH	L	3M	28	103		103	9.2		13			13	77												
WH	L	3M	29	18		18	1.6				18														
WH	L	3M	30	58		58	5.2		16		20			21											
WH	L	3M	31	33		33	3.0					33													
WH	L	3M	32	137		137	12.2		11		64	14		19	29										
WH	L	3M	33	62		62	5.5		18					44											

TC		PLOGSTVB																Log Stock Table - MBF															
T03N R05W S18 Ty00PC				151.00				Project: MOTLEY				Acres 151.00				Page 3																	
																Date 3/25/2015																	
																Time 1:18:55PM																	
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches																									
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+														
WH	L	3M	34	215		215	19.1		18			64		49	84																		
WH	L	3M	35	42		42	3.7						42																				
WH	L	3M	36	131		131	11.7		3	28	56		15		29																		
WH	L	3M	37	20		20	1.8			20																							
WH	L	3M	38	50		50	4.5		3				16		31																		
WH	L	3M	39	38		38	3.4					38																					
WH	L	3M	40	83		83	7.4		10			21			17	35																	
WH	L	3M	41	4		4	.4		4																								
WH	L	4M	18	2		2	.2			2																							
WH		Totals		1,123		1,123	11.1		97	51	178	199	189	133	242	35																	
WH	T	2M	40	47		47	24.0						47																				
WH	T	3M	26	37		37	19.2					37																					
WH	T	3M	28	33		33	17.1		12		21																						
WH	T	3M	40	71		71	36.7			42		29																					
WH	T	4M	26	6		6	3.0			6																							
WH		Totals		194		194	1.9		12	48	21	66	47																				
NF	L	3M	30	12		12	75.0						5	7																			
NF	L	3M	32	4		4	25.0		1				3																				
NF		Totals		17		17	.2		1			3	5	7																			
RC	L	4M	32	14		14	100.0			14																							
RC		Totals		14		14	.1			14																							
Total		All Species		10,195		10,138	100.0		111	869	787	1100	1666	1207	3100	1103	195																

TC PSTATS			PROJECT STATISTICS						PAGE	1	
			PROJECT	MOTLEY					DATE	3/25/2015	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
03N	05	18	00A1	00PC		151.00	50	460	S	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			50	460	9.2						
CRUISE			25	236	9.4	22,244	1.1				
DBH COUNT											
REFOREST											
COUNT			25	224	9.0						
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			103	39.7	24.0	142	25.5	124.8	31,140	31,127	6,048
DOUG FIR-T			106	72.4	18.4	127	31.2	133.6	27,451	27,088	6,074
WHEMLOCK-L			21	24.0	16.5	118	8.8	35.6	7,437	7,437	1,587
WHEMLOCK-T			3	8.7	12.7	97	2.1	7.6	1,286	1,286	284
WR CEDAR-L			1	1.8	11.0	59	0.4	1.2	91	91	25
NOB FIR-L			1	.2	20.0	150	0.1	.4	110	110	21
BL MAPLE-L			1	.5	12.0	93	0.1	.4			
TOTAL			236	147.3	19.4	127	68.9	303.6	67,515	67,139	14,040
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			55.0	5.4	898	949	1,000				
DOUG FIR-T			60.5	5.9	453	481	509				
WHEMLOCK-L			68.3	15.3	370	437	504				
WHEMLOCK-T			85.1	58.9	89	217	344				
WR CEDAR-L											
NOB FIR-L											
BL MAPLE-L											
TOTAL			70.3	4.6	644	674	705	197	49	22	
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			48.9	4.8	172	181	189				
DOUG FIR-T			53.6	5.2	100	105	111				
WHEMLOCK-L			59.9	13.4	77	89	101				
WHEMLOCK-T			88.9	61.5	19	49	79				
WR CEDAR-L											
NOB FIR-L											
BL MAPLE-L											
TOTAL			61.0	4.0	130	135	141	149	37	17	
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			48.3	6.8	37	40	42				
DOUG FIR-T			57.1	8.1	67	72	78				
WHEMLOCK-L			117.8	16.7	20	24	28				
WHEMLOCK-T			472.4	66.7	3	9	14				
WR CEDAR-L			522.7	73.9	0	2	3				
NOB FIR-L			707.1	99.9	0	0	0				
BL MAPLE-L			707.1	99.9	0	1	1				
TOTAL			43.3	6.1	138	147	156	75	19	8	
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
03N	05	18	00A1	00PC	151.00	50	460	S	W			
			DOUG FIR-L	35.0	4.9	119	125	131				
			DOUG FIR-T	51.2	7.2	124	134	143				
			WHEMLOCK-L	114.8	16.2	30	36	41				
			WHEMLOCK-T	472.2	66.7	3	8	13				
			WR CEDAR-L	522.7	73.9	0	1	2				
			NOB FIR-L	707.1	99.9	0	0	1				
			BL MAPLE-L	707.1	99.9	0	0	1				
			TOTAL	25.8	3.6	293	304	315	27	7	3	
			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	36.2	5.1	29,536	31,127	32,719				
			DOUG FIR-T	53.2	7.5	25,051	27,088	29,125				
			WHEMLOCK-L	114.4	16.2	6,235	7,437	8,639				
			WHEMLOCK-T	472.0	66.7	428	1,286	2,144				
			WR CEDAR-L	522.7	73.9	24	91	158				
			NOB FIR-L	707.1	99.9	0	110	220				
			BL MAPLE-L									
			TOTAL	25.9	3.7	64,681	67,139	69,598	27	7	3	
			CL	68.1	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
			SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
			DOUG FIR-L	35.7	5.0	5,743	6,048	6,353				
			DOUG FIR-T	52.4	7.4	5,624	6,074	6,524				
			WHEMLOCK-L	114.6	16.2	1,330	1,587	1,844				
			WHEMLOCK-T	472.0	66.7	95	284	474				
			WR CEDAR-L	522.7	73.9	7	25	43				
			NOB FIR-L	707.1	99.9	0	21	42				
			BL MAPLE-L									
			TOTAL	26.3	3.7	13,517	14,040	14,562	28	7	3	

RESIDUAL STAND SPECIFICATIONS

SALE NAME: MOTLEY LOU

SALE NUMBER: 341-16-06

AREA 1

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

21
34

	Minimum	Maximum
Relative Density	35	52
Basal Area	160	240
Trees per Acre	67	100

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

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

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

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

VOLUME SUMMARY

(Shown in MBF)

Motley Lou**341-16-06****March, 2015****AREA 1: PC-M (151 ACRES)**

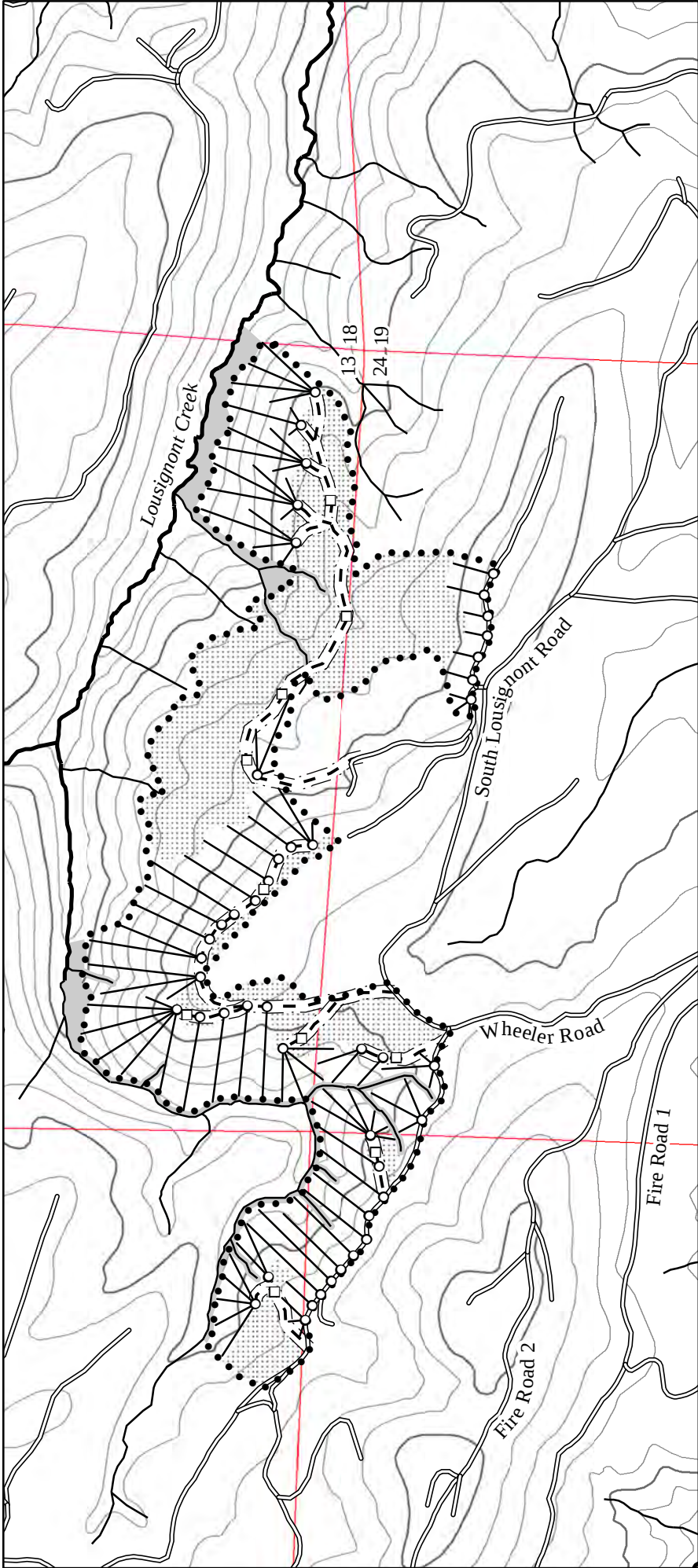
SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	2,195	1,673	222	4,090
	Hidden D&B (2%)	(44)	(33)	(4)	(82)
	NET TOTAL	2,151	1,640	218	4,008
	% of Total	54	41	5	
SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Western hemlock	Cruise Volume	47	142	6	195
	Hidden D&B (2%)	(1)	(3)	()	(4)
	NET TOTAL	46	139	6	191
	% of Total	24	73	3	

AREA 2: R/W (7 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	122	274	11	407
	Hidden D&B (2%)	(2)	(5)	()	(8)
	NET TOTAL	120	269	11	399
	% of Total	30	67	3	
SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Western hemlock	Cruise Volume	15	45	1	61
	Hidden D&B (2%)	()	(1)	()	(1)
	NET TOTAL	15	44	1	60
	% of Total	25	73	2	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	2,271	1,909	229	4,409
Western hemlock	61	183	7	251



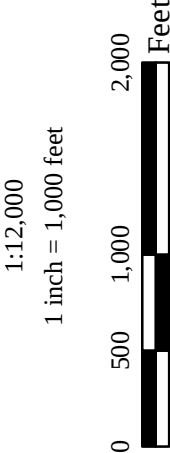
Legend

- Timber Sale Boundary
- Roads
- - - New Construction Road
- · - · - Posted R/W Boundary
- Type F Stream
- Type N Stream
- ▬ Stream Buffer
- Cable Landing
- Tractor Landing
- Cable Yarding Area
- ▨ Tractor Yarding Area
- ▭ Sections
- 400 Foot Contour Band
- 80 Foot Contour Band
- ▬ AREA 2 R/W

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-16-06
MOTELY LOU
PORTIONS OF SECTIONS 13, 14, 23, & 24, T3N, R6W, W.M.
TLLAMOOK COUNTY, OREGON

Forest Grove District GIS
March, 2015
This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.



APPROXIMATE NET ACRES	
TRACTOR CABLE	
AREA 1	65
AREA 2	7
TOTAL	72
	86