"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Mapletini
Sale 341-13-98

District: Forest Grove **Date:** May 14, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$2,836,273.44	$29,734.32	$2,866,007.76
		Project Work:	$(240,580.00)
		Advertised Value:	$2,625,427.76

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Mapletini
Sale 341-13-98

District: **Forest Grove** **Date:** **May 14, 2013**

timber description

Location: Portions of Sections 14 and 23, T1S, R6W, W.M., Washington County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	18	0	98
Alder (Red)	21	0	98

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	4,415	2,117	332	0	6,864
Alder (Red)	0	0	0	88	88
Total	4,415	2,117	332	88	6,952

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District: **Forest Grove** **Date:** **May 14, 2013**

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comments:

Pond Values Used: 1st Quarter Calendar Year 2013.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
$294.63/MBF = $480/MBF - $185.37/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
$814.63/MBF = $1,000/MBF - $185.37/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: 6,952 MBF x $1/MBF = $6,952
TOTAL Other Costs (with Profit & Risk to be added)= $6,952

Other Costs (No Profit & Risk added):
Machine Time to Block/Waterbar Roads,and Skid Trails:
15 hours x $150/hour = $2,250
Machine Time to Pile Landing Slash and Sort Firewood:
15 hours x $150/hour = $2,250
Equipment Cleaning: 4 x $1,000/Piece = $4,000
Slash Treatment: 45 acres x $200/acre = $9,000
Snag Creation: 107 trees x $40/tree = $4,280
Weyerhaeuser Road Use Fee = $66,484.76
TOTAL Other Costs (No Profit & Risk added) = $88,264.76

ROAD MAINTENANCE
Move-in: $2,000
General Road Maintenance: 8 miles x $1,000/mile = $8,000
TOTAL Road Maintenance: $10,000 / 6,952 MBF = $1.44/MBF

Timber Sale Appraisal
Mapletini
Sale 341-13-98

"STEWARDSHIP IN FORESTRY"

District: **Forest Grove** **Date:** **May 14, 2013**

logging conditions

combination#: 1 Douglas - Fir 42.67%
Alder (Red) 60.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,800
cost / mbf: $59.93

machines: Stroke Delimber (B)

combination#: 2 Douglas - Fir 26.67%
Alder (Red) 40.00%

yarding distance: Medium (800 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: 5.0 **bd. ft / load:** 4,800
cost / mbf: $118.09

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

combination#: 3 Douglas - Fir 14.41%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,800
cost / mbf: $139.34

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

combination#: 4 Douglas - Fir 16.25%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,800
cost / mbf: $59.93

machines: Stroke Delimber (B)

“STEWARDSHIP IN FORESTRY”

Timber Sale Appraisal
Mapletini
Sale 341-13-98

District: **Forest Grove** **Date:** **May 14, 2013**

logging costs

Operating Seasons:	2.00	**Profit Risk:**	15.00%
Project Costs:	$240,580.00	**Other Costs (P/R):**	$6,952.00
Slash Disposal:	$0.00	**Other Costs:**	$88,264.76

Miles of Road

Road Maintenance: $1.44

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	4.8
Alder (Red)	$0.00	2.0	4.0

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Mapletini
Sale 341-13-98

District: **Forest Grove** **Date:** **May 14, 2013**

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$86.88	$1.47	$1.26	$72.06	$1.00	$24.40	$0.00	$5.00	$12.70	$204.77
Alder (Red)									
$83.19	$1.47	$1.26	$86.48	$1.00	$26.01	$0.00	$5.00	$12.70	$217.11

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$617.98	$413.21	$0.00
Alder (Red)	$0.00	$555.00	$337.89	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Mapletini
Sale 341-13-98

District: **Forest Grove** **Date:** **May 14, 2013**

summary

Amortized

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

Unamortized

Specie	**MBF**	**Value**	Total
Douglas - Fir	6,864	$413.21	$2,836,273.44
Alder (Red)	88	$337.89	$29,734.32

Gross Timber Sale Value

Recovery: $2,866,007.76

Prepared by: Mark Savage **Phone:** 503-357-2191

TIMBER SALE SUMMARY
Mapletini
Contract No. 341-13-98

1. **Location:** Portions of Sections 14 and 23, T1S, R6W, W.M, Washington County, Oregon.

2. **Type of Sale:** This timber sale is a combination sale consisting of 107 acre modified clearcut, 156 acre partial cut, and 4 acres of right-of-way. The timber will be sold on a recovery basis at a sealed bid auction.

3. **Revenue Distribution:** 100% BOF, Washington County

4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.

5. **Cruise Data**: The Timber Sale was cruised by ODF Cruisers in February of 2013. For more information see Cruise Report.

6. **Timber Description:** The Timber Sale Area is medium to well stocked, approximately 60 years old, and primarily Douglas-fir stand with minor amounts of western hemlock, true firs, and hardwoods. The average "Take" Douglas-fir DBH is 21 inches in Area 1 and 15 inches in Area 2. The estimated average net per acre Douglas-fir take volume in Area 1 is 43.6 MBF, and it is 13.8 MBF in Area 2.

7. **Topography and Logging Method:** Slopes within the sale areas vary in aspect and vary in range from 5% to 70%, with variable aspects. Area 1 is 60% ground-based yarding, and 40% cable-based yarding. Area 2 is 53% ground-based yarding, and 47% cable-based logging.

8. **Access:** From Forest Grove, proceed south on Highway 47 for 15 miles. Turn right onto Pike Road and continue for 4.5 miles. Pike Road then becomes Turner Creek Road. Continue on Turner Creek Road for 4 to a Weyerhaeuser gate. Continue through this gate on Turner Creek Road for 4.5 miles. Turn right onto North Fork Trask River Road and continue for 1.5 miles to a second Weyerhaeuser gate. Continue through this gate on North Fork Trask River Road for 4.3 miles. Turn right onto Sunday Creek Road and follow for 1.7 miles to the Timber Sale Area. The Weyerhaeuser gates require keys or combinations that are available at the Forest Grove District Office.

9. **Projects:**

Project No. 1 - road construction, improvement, vacating	$68,162.49
Project No. 2 – crushing and road surfacing	$165,000.94
Project No. 3 - grass seed, fertilize, and mulch	$1,369.45
Equipment Move-in and Cleaning	$6,040.93
TOTAL rounded credit for project work:	$240,580.00

10. Other Costs:

Other Costs (with Profit and Risk)	
Brand and Paint: 6,952 MBF @ $1.00/MBF	$6,952.00
Total Other Costs with (P/R)	$6,952.00
Other Costs (no P/R)	
Blocking/Waterbarring skid roads: 15 Hours @ $150.00/hour	$2,250.00
Piling Landing Slash and firewood sort: 15hours @ $150.00/hour	$2,250.00
Slash Treatment/Move-in: 45 acres @ $200.00/ acre	$9,000.00
Equipment Cleaning: 4 machines @1000/machine	$4,000.00
Snag Creation: 107 trees @ $40 per tree	$4,280.00
Weyerhaeuser Road Use Fee	$66,484.76
Total Other Costs (no P/R)	$88,264.76
Total Other Costs	$95,216.76

ROAD MAINTENANCE
Move-in: $2,000
General Road Maintenance: 8 miles x $1,000/mile = $8,000
TOTAL: $10,000 / 6,952 MBF = $1.44/MBF

PROJECT COST SUMMARY SHEET

Timber Sale: Mapletini

Sale Number: 341-13-98

PROJECT NO. 1: ROAD CONSTRUCTION, IMPROVEMENT AND VACATING

CONSTRUCTION

Road Segment	Length	Cost
A to B	44+00	$26,368.53
C to D	3+70	$1,215.40
E to F	3+65	$1,203.84
G to H	54+54	$19,671.54
I to J	1+80	$701.14
K to L	4+50	$1,400.35
M to N	2+75	$920.77
	114+94	stations
	2.18 miles	

SUBTOTAL CONSTRUCTION $51,481.56

IMPROVEMENT

Road Segment	Length	Cost
O to P	87+40	$7,044.19
P to Q	159+00	$5,140.00
	246+40	stations
	4.67 miles	

SUBTOTAL IMPROVEMENTS $12,184.19

VACATING

Road Segment	Length	Cost
V1 to V2	15+00	$4,496.74
	15+00	stations
	0.28 miles	

SUBTOTAL VACATE $4,496.74

TOTAL PROJECT NO. 1 COST = $68,162.49

PROJECT NO. 2: CRUSHING AND ROAD SURFACING

Road Segment	Amount	Type	Cost
A to B	57 cy	1 1/2" - 0	$267.47
	3,220 cy	4" - 0	$48,960.10
	106 cy	6" - 0	$660.38
	72 cy	24" - 12	$448.56
C to D	441 cy	4" - 0	$7,183.89
E to F	437 cy	4" - 0	$7,210.50
G to H	12 cy	1 1/2" - 0	$54.72
	3,905 cy	4" - 0	$65,740.68
	18 cy	24" - 12	$97.38
I to J	297 cy	4" - 0	$4,511.43
K to L	493 cy	4" - 0	$7,794.33
M to N	359 cy	4" - 0	$5,718.87
O to P	200 cy	4" - 0	$2,479.00
	12 cy	24" - 12	$41.04
P to Q	10 cy	1 1/2" - 0	$41.40
	902 cy	4" - 0	$13,701.38
	18 cy	24" - 12	$89.82
Total	79 cy	1 1/2" - 0	
	10,254 cy	4" - 0	
	106 cy	6" - 0	
	120 cy	24" - 12	

TOTAL PROJECT NO. 2 COST = $165,000.94

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

Grass seed and fertilize areas of disturbed soil.	$1,369.45

TOTAL PROJECT NO. 3 COST = $1,369.45

MOVE IN & EQUIPMENT CLEANING $6,040.93

TOTAL ALL PROJECTS $240,573.80

TOTAL CREDITS $240,580.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Mapletini** Timber Sale No. : 341-13-98

Road Segment: **A to B** Construction: 44+00 stations

0.83 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	3.67	acres @	$784.00	per acre =	$2,879.71
Balanced Road Construction	38.00	sta @	$90.00	per sta =	$3,420.00
Drift	6.00	sta @	$150.00	per sta =	$900.00
PUNCHEON EXCAVATION (Culvert Nos. 2, 4 & 6)					
Excavate existing puncheon and fills	918	cy @	$2.18	per cy =	$2,002.17
Endhaul unsuitable fill material	918	cy @	$2.00	per cy =	$1,836.85
Construct fills	1100	cy @	$2.12	per cy =	$2,332.00
Compact fills	1100	cy @	$0.45	per cy =	$495.00
Pump culvert installation	24	hr @	$5.00	per hr =	$120.00
Construct Junction at Point A	200	cy @	$4.75	per sta =	$950.00
Construct Turnouts	4	ea @	$60.00	per ea =	$232.00
Construct Turnaround	1	ea @	$75.00	per ea =	$75.00
Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	44.00	sta @	$28.70	per sta =	$1,262.80

TOTAL EXCAVATION COSTS= **$16,790.53**

CULVERTS - MATERIALS & INSTALLATION

Culverts

150 LF of 18"	$3,000.00	80 LF of 24"	$2,320.00
40 LF of 30"	$1,560.00	50 LF of 36"	$2,500.00

Culvert Markers

5 markers $50.00

Bands

1 ea of 30" @	$44.00	per ea =	44.00
2 ea of 36" @	$52.00	per ea =	104.00

TOTAL CULVERT COSTS = **$9,578.00**

PROJECT NO. 1 TOTAL COST = $26,368.53

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta				
A to B	2,860	cy of	4" - 0	@	$15.21	per cy =	$43,486.30
Curve Widening	24	cy of	4" - 0	@	$15.21	per cy =	$364.92
Turnouts (4)	88	cy of	4" - 0	@	$15.21	per cy =	$1,338.04
Turnaround (1)	20	cy of	4" - 0	@	$15.21	per cy =	$304.10
Junctions (3)	48	cy of	4" - 0	@	$15.21	per cy =	$729.84
Landing (1)	180	cy of	4" - 0	@	$15.21	per cy =	$2,736.90
Culvert Bedding	57	cy of	1 1/2" - 0	@	$4.72	per cy =	$267.47
Subgrade Reinforcement	106	cy of	6" - 0	@	$6.23	per cy =	$660.38
Riprap (4)	48	cy of	24" - 12"	@	$6.23	per cy =	$299.04
Fill Armor (4)	24	cy of	24" - 12"	@	$6.23	per cy =	$149.52
Total =	3,455						
	57	cy of	1 1/2" - 0		$4.72	per cy =	$267.47
	3220	cy of	4" - 0		$15.21	per cy =	$48,960.10
	106	cy of	6" - 0		$6.23	per cy =	$660.38
	72	cy of	24" - 12"		$6.23	per cy =	$448.56

PROJECT NO. 2 TOTAL COST = $50,336.51

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	1.84	acres @	$220.00	per acre =	$404.04
Mulch	6.00	bales @	$4.50	per bale =	$27.00

PROJECT NO. 3 TOTAL COST = $431.04

TOTAL COST = $77,136.07

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**C to D**	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	ea @	$75.00	per ea =	$75.00
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	12	" deep =	65 cy/sta				
C to D	241	cy of	4" - 0	@	$16.29	per cy =	$3,925.89
Turnaround (1)	20	cy of	4" - 0	@	$16.29	per cy =	$325.80
Landing (1)	180	cy of	4" - 0	@	$16.29	per cy =	$2,932.20
Total =	441	cy of	4" - 0		$16.29	per cy =	$7,183.89

PROJECT NO. 2 TOTAL COST = $7,183.89

PROJECT NO. 3:

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

PROJECT NO. 3 TOTAL COST = $46.72

TOTAL COST = $8,446.00

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**E to F**	Construction:	3+65 stations
			0.07 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.42	acres @	$980.00	per acre =	$410.58	
Balanced Road Construction	3.65	sta @	$90.00	per sta =	$328.50	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	3.65	sta @	$28.70	per sta =	$104.76	
				TOTAL EXCAVATION COSTS=		**$1,203.84**

PROJECT NO. 1 TOTAL COST = $1,203.84

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta				
E to F	237	cy of	4" - 0	@	$16.50	per cy =	$3,910.50
Turnaround (1)	20	cy of	4" - 0	@	$16.50	per cy =	$330.00
Landing (1)	180	cy of	4" - 0	@	$16.50	per cy =	$2,970.00
Total =							
	437	cy of	4" - 0		$16.50	per cy =	$7,210.50

PROJECT NO. 2 TOTAL COST = $7,210.50

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.21	acres @	$220.00	per acre =	$46.09

PROJECT NO. 3 TOTAL COST = $46.09

TOTAL COST = $8,460.42

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Mapletini** Timber Sale No. : 341-13-98

Road Segment: **G to H** Construction: 54+54 stations
1.03 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	6.26	acres @	$980.00	per acre =	$6,135.12
Balanced Road Construction	47.64	sta @	$90.00	per sta =	$4,287.60
Drift	6.90	sta @	$150.00	per sta =	$1,035.00
PUNCHEON EXCAVATION (Culvert No. 11)					
Excavate existing puncheon and fill	59	cy @	$2.18	per cy =	$129.19
Endhaul unsuitable fill material	59	cy @	$2.94	per cy =	$174.22
Construct fill	222	cy @	$2.12	per cy =	$471.11
Compact fill	222	cy @	$0.45	per cy =	$100.00
Pump culvert installation	4	hr @	$5.00	per hr =	$20.00
Construct Turnouts	4	ea @	$60.00	per ea =	$240.00
Construct Turnaround	1	ea @	$75.00	per ea =	$75.00
Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	54.54	sta @	$28.70	per sta =	$1,565.30

TOTAL EXCAVATION COSTS= **$14,517.54**

CULVERTS - MATERIALS & INSTALLATION

Culverts

150 LF of 18" $3,000.00 40 LF of 36" $2,000.00

Culvert Markers

5 markers $50.00

Bands

2 ea of 36" @ $52.00 per ea = 104.00

TOTAL CULVERT COSTS = **$5,154.00**

PROJECT NO. 1 TOTAL COST = $19,671.54

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta				
G to H	3,545	cy of	4" - 0	@	$16.84	per cy =	$59,680.08
Curve Widening	24	cy of	4" - 0	@	$16.84	per cy =	$404.04
Turnouts (4)	88	cy of	4" - 0	@	$16.84	per cy =	$1,481.48
Turnaround (1)	20	cy of	4" - 0	@	$16.84	per cy =	$336.70
Junctions (3)	48	cy of	4" - 0	@	$16.84	per cy =	$808.08
Landing (1)	180	cy of	4" - 0	@	$16.84	per cy =	$3,030.30
Culvert Bedding	12	cy of	1 1/2" - 0	@	$4.56	per cy =	$54.72
Riprap	12	cy of	24" - 12"	@	$5.41	per cy =	$64.92
Fill Armor	6	cy of	24" - 12"	@	$5.41	per cy =	$32.46
Total =	3,935						
	12	cy of	1 1/2" - 0		$4.56	per cy =	$54.72
	3905	cy of	4" - 0		$16.84	per cy =	$65,740.68
	18	cy of	24" - 12"		$5.41	per cy =	$97.38

PROJECT NO. 2 TOTAL COST = $65,892.78

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	3.13	acres @	$220.00	per acre =	$688.64
Mulch	2.00	bales @	$4.50	per bale =	$9.00

PROJECT NO. 3 TOTAL COST = $697.64

TOTAL COST = $86,261.95

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**I to J**	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	
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	12	" deep =	65 cy/sta				
I to J	117	cy of	4" - 0	@	$15.19	per cy =	$1,777.23
Landing (1)	180	cy of	4" - 0	@	$15.19	per cy =	$2,734.20
Total =							
	297	cy of	4" - 0		$15.19	per cy =	$4,511.43

PROJECT NO. 2 TOTAL COST = $4,511.43

PROJECT NO. 3:

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

PROJECT NO. 3 TOTAL COST = $22.73

TOTAL COST = $5,235.30

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**K to L**	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 Turnaround	1	ea @	$75.00	per ea =	$75.00
Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	4.50	sta @	$28.70	per sta =	$129.15

TOTAL EXCAVATION COSTS= **$1,400.35**

PROJECT NO. 1 TOTAL COST = $1,400.35

PROJECT NO. 2:

SURFACING 12 " deep = 65 cy/sta

K to L	293	cy of	4" - 0	@	$15.81	per cy =	$4,632.33
Turnaround (1)	20	cy of	4" - 0	@	$15.81	per cy =	$316.20
Landing (1)	180	cy of	4" - 0	@	$15.81	per cy =	$2,845.80
Total =	493	cy of	4" - 0		$15.81	per cy =	$7,794.33

PROJECT NO. 2 TOTAL COST = $7,794.33

PROJECT NO. 3:

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

PROJECT NO. 3 TOTAL COST = $56.82

TOTAL COST = $9,251.50

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**M to N**	Construction:	2+75 stations
			0.05 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.32	acres @	$980.00	per acre =	$309.34
Balanced Road Construction	2.75	sta @	$90.00	per sta =	$247.50
Landing	1	ea @	$285.00	per ea =	$285.00
Grade, Ditch, and Roll	2.75	sta @	$28.70	per sta =	$78.93

TOTAL EXCAVATION COSTS= **$920.77**

PROJECT NO. 1 TOTAL COST = $920.77

PROJECT NO. 2:

SURFACING 12 " deep = 65 cy/sta

M to N	179	cy of	4" - 0	@	$15.93	per cy =	$2,851.47
Landing (1)	180	cy of	4" - 0	@	$15.93	per cy =	$2,867.40
Total =							
	359	cy of	4" - 0		$15.93	per cy =	$5,718.87

PROJECT NO. 2 TOTAL COST = $5,718.87

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.16	acres @	$220.00	per acre =	$34.72

PROJECT NO. 3 TOTAL COST = $34.72

TOTAL COST = $6,674.36

SUMMARY OF CONSTRUCTION COST

Timber Sale:	**Mapletini**	Timber Sale No. :	341-13-98
Road Segment:	**O to P**	Improvement:	87+40 stations
			1.66 miles

PROJECT NO. 1

EXCAVATION

Clean or Establish Ditch and Endhaul Waste Materia	43.70	sta @	$100.00	per sta =	$4,370.00	
Grade, Ditch, and Roll	43.70	sta @	$28.70	per sta =	$1,254.19	
				TOTAL EXCAVATION COSTS=		**$5,624.19**

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 = $7,044.19

PROJECT NO. 2:

SURFACING

Spot Rock	200	cy of	4" - 0	@	$12.40	per cy =	$2,479.00
Riprap	12	cy of	24" - 12"	@	$3.42	per cy =	$41.04
Total =							
	200	cy of	4" - 0		$12.40	per cy =	$2,479.00
	12	cy of	24" - 12"		$3.42	per cy =	$41.04

PROJECT NO. 2 TOTAL COST = $2,520.04

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.01 acres @	$220.00	per acre =	$2.20
Mulch	5.00 bales @	$4.50	per bale =	$22.50
Bio Bags with Stakes	36.00 each @	$5.00	per each =	$180.00

PROJECT NO. 3 TOTAL COST = $24.70

TOTAL COST = $9,588.93

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Mapletini** Timber Sale No. : 341-13-98

Road Segment: **P to Q** Improvement: 159+00 stations

3.01 miles

PROJECT NO. 1

CULVERTS - MATERIALS & INSTALLATION

Culverts

210	LF of 18"	$4,200.00	30	LF of 24"	$870.00
		$4,200.00			$870.00

Culvert Markers

7 markers $70.00

TOTAL CULVERT COSTS = **$5,140.00**

PROJECT NO. 1 TOTAL COST = $5,140.00

PROJECT NO. 2:

SURFACING	6	" deep =	31 cy/sta				
P to Q	837	cy of	4" - 0	@	$15.19	per cy =	$12,714.03
Curve Widening	32	cy of	4" - 0	@	$15.19	per cy =	$486.08
Turnouts (3)	33	cy of	4" - 0	@	$15.19	per cy =	$501.27
Culvert Bedding	12	cy of	1 1/2" - 0	@	$4.14	per cy =	$49.68
Riprap	12	cy of	24" - 12"	@	$4.99	per cy =	$59.88
Fill Armor (Outlet)	6	cy of	24" - 12"	@	$4.99	per cy =	$29.94
Total =	932						
	10	cy of	1 1/2" - 0		$4.14	per cy =	$41.40
	902	cy of	4" - 0		$15.19	per cy =	$13,701.38
	18	cy of	24" - 12"		$4.99	per cy =	$89.82

PROJECT NO. 2 TOTAL COST = $13,840.88

PROJECT NO. 3:

Mulch 2.00 bales @ $4.50 per bale = $9.00

PROJECT NO. 3 TOTAL COST = $9.00

TOTAL COST = $18,989.88

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Mapletini	Timber Sale No. :	341-13-98
Road Segment:	V1 to V2	Vacate:	15+00 stations
			0.28 miles

PROJECT NO. 1

EXCAVATION

Clearing	0.41	acres @	$464.00	per acre =	$191.74	
FILL EXCAVATION						
Excavate existing puncheons and fills	1,556	cy @	$2.18	per cy =	$3,391.11	
Compact Waste	1,556	cy @	$0.25	per cy =	$388.89	
Rip un-surfaced road	15.00	sta @	$25.00	per sta =	$375.00	
Construct Waterbars	4	ea @	$25.00	per ea =	$100.00	
Construct Tank Traps	1	ea @	$50.00	per ea =	$50.00	
				TOTAL EXCAVATION COSTS=		$4,496.74

PROJECT NO. 1 TOTAL COST = $4,496.74

PROJECT NO. 3:

Grass seed and fertilize old road grade	1.38	sta @	$8.14	per sta=	$11.21
Mulch old road grade	4.00	sta @	$22.20	per sta =	$88.80

PROJECT NO. 3 TOTAL COST = $100.01

TOTAL COST = $4,596.75

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale: Mapletini

Sale Number: 341-13-98

Pit Name: Barney

Swell:	130%		
Shrinkage:	116%	4"-0 (trk measure)	10,254 cy
Drill Pct.:	100%		
		Total Truck Yardage:	10,254 cy
		Total In Place Yardage:	7,888 cy

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact.					$6,037.64
Drill & Shoot (Downholes):	$2.50	/cy x	7,888 cy	=	$19,719.23
Push Rock:	$0.70	/cy x	10,254 cy	=	$7,177.80
Load Crusher:	$0.70	/cy x	10,254 cy	=	$7,177.80
Crushing (4" - 0):	$3.00	/cy x	10,254 cy	=	$30,762.00
Load Dump Truck:	$0.70	/cy x	10,254 cy	=	$7,177.80
				Subtotal	$78,052.27
Equipment Cleaning					$1,000.00
Move in Crusher (2 Stage)					$1,917.00
Set up Crusher					$1,918.00
Move in and set up Drill and Compressor					$494.83
Move in Excavator					$829.87
Move in D-8					$809.93
Move in Loader					$731.55
Clean Up Pit					$300.00
Gradation Tests ($65/2000 cy)	$65.00	cy/2000cy x	6	tests	$390.00
Change Gradation					$210.00
				Subtotal	$8,601.18

ROCK DEVELOPMENT COST $8.45/cy **TOTAL PRODUCTION COST** $86,653.45

Move-In & Equipment Cleaning

Timber Sale: Mapletini
Sale Number: 341-13-98

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

No.	EQUIPMENT DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Within Area Move ($/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Graders		$300.00	$302.15		$3.65	0.0	0.0	0.0	$0.00	$602.15
1	Rollers (smooth/grid) & Compactors		$308.59	$281.75		$5.00	0.0	0.0	0.0	$0.00	$590.34
1	Excavators (Large)	$1,000	$466.14	$437.66	1	$44.80	0.0	0.0	0.0	$0.00	$1,903.80
1	Tractor (D8)	$1,000	$473.80	$403.49	2	$15.10	0.0	0.0	0.0	$0.00	$1,877.29
6	Dump Truck (10 cy +)		$700.00	$220.50		$2.85	0.0	0.0	0.0	$0.00	$920.50
1	Water Truck (2500 Gal)		$111.67	$35.18		$2.85	0.0	0.0	0.0	$0.00	$146.85

TOTAL MOVE-IN COSTS:	$6,040.93

CRUISE REPORT
Mapletini
341-13-98

1. LOCATION:
Portions of Section 14 and 23, T1S, R6W, W.M., Washington County, Oregon.

2. CRUISE DESIGN:
For Area 1 the cruise design assumed a Coefficient of Variation (CV%) of 32%, an average stand diameter of 15 inches, a desired sampling error (SE%) of 11%, a 68% confidence level, and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 6 trees per plot could be realized with a 40 BAF prism.

For Area 2 the cruise design assumed a Coefficient of Variation (CV%) of 41%, an average stand diameter of 17 inches, a desired sampling error (SE%) of 11%, a 68% confidence level, and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 2 to 3 'Take' trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:
Clearcuts: Sale Area 1 was cruised in February 2013 with 12 variable radius grade plots using a 40 BAF prism. The ODF cruise data was supplemented with an additional 29 count plots derived from the inventory cruise. Plots were laid out on a single line with plot spacing of 6 chains. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

Thinning: Sale Area 2 was cruised in February 2013 with 21 variable radius grade plots and using a 40 BAF prism. The ODF cruise data was supplemented with an additional 44count plots derived from the inventory cruise. The ODF cruise plots were laid out on a 6 chain x 12 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Cruisers 'thinned' plots from below to 140 ft^2 of basal area by assigning a 'Take' or 'Leave' status to each tree in every plot.

4. CRUISE RESULTS
204 trees were measured and graded and 428 trees were counted, producing a .7 percent sample and a cumulative sampling error of 8.4% on the Board Foot Volume. These statistics are well within ODF cruise standards.

5. TREE MEASUREMENT AND GRADING:

All grade plot 'Take' 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.

6. DATA PROCESSING

a) **Volumes and Statistics**, Cruise volume estimates and sampling statistics were derived using 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.

7. CRUISERS

The sale was cruised by Inventory cruisers and ODF cruisers Joe Koch, Skylar Hoefer, and MarkSavage.

Prepared by: ____________________________________

Mark Savage 3/14/2013

Reviewed by: ____________________________________

Eric Foucht 3/14/2013

TC TLOGSTVB

Log Stock Table - MBF

Project: MAPLETI

T01S R06W S14 T00A1 **T01S R06W S14 T00A1**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
01S	06W	14	0001	00A1	107.00	41	69	Page 1 Date 3/20/2013 Time 9:39:38AM

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+
DF	L	CU	4																
DF	L	2M	40	101		101	2.1									34	49	18	
DF	L	3M	34	2		2	.0						2						
DF	L	3M	40	3		3	.1			1	1	1							
DF	L	4M	16	0		0	.0			0									
DF	T	CU	2																
DF	T	CU	4																
DF	T	CU	8																
DF	T	CU	12																
DF	T	2M	24	35		35	.7								35				
DF	T	2M	30	12		12	.2						12						
DF	T	2M	36	172		172	3.6									56	116		
DF	T	2M	40	3,470	1.2	3,429	71.8						258	350	1045	999	777		
DF	T	3M	22	5		5	.1						5						
DF	T	3M	30	16		16	.3			3		12							
DF	T	3M	32	34		34	.7			20		14							
DF	T	3M	34	25		25	.5			4		10	11						
DF	T	3M	36	85	1.8	84	1.8			73	11								
DF	T	3M	38	56		56	1.2			40	16								
DF	T	3M	40	659	.8	654	13.7			100	385	148	21						
DF	T	4M	12	17		17	.4		2	15	1								
DF	T	4M	14	13		13	.3			13									
DF	T	4M	16	4		4	.1			3	2								
DF	T	4M	18	2		2	.0			2									
DF	T	4M	24	50		50	1.0			47	3								
DF	T	4M	26	46		46	1.0		14	33									
DF	T	4M	28	9		9	.2			9									
DF	T	4M	30	6		6	.1			6									
DF		Totals		4,823		4,776	93.2		15	368	419	185	309	350	1080	1088	943	18	
RA	T	CU	6																
RA	T	CR	12	12		12	13.2			5	7								
RA	T	CR	30	34		34	38.2					34							
RA	T	CR	40	43		43	48.6						43						
RA		Totals		89		89	1.7			5	7	34	43						
WH	L	2M	40	247		247	96.1								77		170		
WH	L	4M	36	10		10	3.9			10									
WH		Totals		257		257	5.0			10					77		170		
Total All Species				5,170		5,122	100.0		15	383	425	220	353	350	1158	1088	1113	18	

TC TLOGSTVB

Log Stock Table - MBF

Project: MAPLETI

T01S R06W S14 T00A2 **T01S R06W S14 T00A2**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
01S	06W	14	0002	00A2	156.00	65	135	Page 1 Date 3/20/2013 Time 1:46:08PM

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	630		630	9.3						104	128	157	242			
DF	L	3M	32	14		14	.2			7		7							
DF	L	3M	34	12		12	.2				12								
DF	L	3M	36	23		23	.3			23									
DF	L	3M	38	4		4	.1			4									
DF	L	3M	40	241		241	3.6			32		175	34						
DF	L	3M	58	39		39	.6			39									
DF	L	3M	70	46		46	.7			46									
DF	L	3M	72	111		111	1.6			111									
DF	L	3M	74	42		42	.6			42									
DF	L	3M	76	91		91	1.3			91									
DF	L	3M	78	183		183	2.7			183									
DF	L	3M	80	51		51	.8			51									
DF	L	3M	82	152		152	2.2			152									
DF	L	3M	84	51		51	.8			51									
DF	L	3M	86	109		109	1.6			109									
DF	L	3M	88	172		172	2.5			172									
DF	L	3M	90	161		161	2.4			161									
DF	L	3M	94	173		173	2.6			173									
DF	L	3M	96	61		61	.9			61									
DF	L	3M	99	2,234		2,234	33.0			373	491	711	91	271	296				
DF	L	4M	12	3		3	.0			3									
DF	L	4M	16	6		6	.1				6								
DF	L	4M	20	6		6	.1			6									
DF	L	4M	24	3		3	.0		3										
DF	L	4M	32	4		4	.1			4									
DF	T	2M	40	822		822	12.1						160	266	244	152			
DF	T	3M	32	19		19	.3			7		12							
DF	T	3M	34	21		21	.3			21									
DF	T	3M	36	57		57	.8			40	18								
DF	T	3M	38	74		74	1.1			35	40								
DF	T	3M	40	940	1.0	931	13.8			160	393	311	51		17				
DF	T	3M	74	38		38	.6			38									
DF	T	4M	12	15		15	.2			15									
DF	T	4M	14	5		5	.1			5									
DF	T	4M	16	28		28	.4		2	27									
DF	T	4M	18	9		9	.1			9									
DF	T	4M	20	23		23	.3		1	22									
DF	T	4M	22	19		19	.3			19									
DF	T	4M	24	20		20	.3			20									
DF	T	4M	26	14		14	.2			14									
DF	T	4M	30	27		27	.4		13	14									
DF	T	4M	32	4		4	.1		4										
DF	T	4M	34	10		10	.1			10									
DF	T	4M	38	10		10	.1			10									
DF		Totals		6,776		6,767	100.0		22	2356	959	1217	439	666	714	394			
Total All Species				6,776		6,767	100.0		22	2356	959	1217	439	666	714	394			

T	TSPCSTGR	**Species, Sort Grade - Board Foot Volumes (Type)**	Page	1
		Project: MAPLETI	Date	3/20/2013
			Time	9:39:39AM

T01S R06W S14 T00A1 | **T01S R06W S14 T00A1**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01S	06W	14	0001	00A1	107.00	41	69	S	W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	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	T		CU														6	17		0.00	8.2
DF	T		2M	78	1.1	34,473	34,090	3,648			24	76		1		99	39	18	527	2.58	64.7
DF	T		3M	18	.8	8,228	8,165	874		96	4			2	7	91	38	8	95	0.68	86.0
DF	T		4M	4		1,381	1,381	148	10	90			25	75			20	6	24	0.35	56.5
DF	**T**	**Totals**		91	1.0	44,082	43,636	4,669	0	21	20	59	1	4	1	94	33	11	203	1.31	215.4
DF	L		CU														4	29		0.00	.1
DF	L		2M	94		945	945	101				100				100	40	25	1160	5.29	.8
DF	L		3M	5		49	49	5		61	39				39	61	38	9	121	1.44	.4
DF	L		4M	1		2	2	0		100			100				16	6	20	0.49	.1
DF	**L**	**Totals**		2		996	996	107		3	2	95	0		2	98	35	19	694	3.89	1.4
RA	T		CU														6	17		0.00	2.5
RA	T		CR	100		836	836	89		51	49		13	38		49	23	10	93	1.30	9.0
RA	**T**	**Totals**		2		836	836	89		51	49		13	38		49	20	11	73	1.21	11.4
WH	L		2M	96		2,311	2,311	247				100				100	40	21	735	3.28	3.1
WH	L		4M	4		94	94	10		100						100	36	6	60	0.89	1.6
WH	**L**	**Totals**		5		2,405	2,405	257		4		96				100	39	16	510	2.53	4.7
Type Totals					.9	48,319	47,874	5,122	0	20	19	61	1	4	1	94	32	11	205	1.35	233.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MAPLETI

Page 1
Date 3/20/2013
Time 1:46:09PM

T01S R06W S14 T00A2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01S	06W	14	0002	00A2	156.00	65	135	S	W

T01S R06W S14 T00A2

Spp	S T	So rt	Gr ad	% Net BdFt	Def%	Bd. Ft. per Acre Gross	Net	Total Net MBF	Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		L	2M	13		4,039	4,039	630			43	57				100	40	16	410	2.01	9.9
DF		L	3M	86		25,444	25,444	3,969		83	15	3			1	99	72	7	422	1.28	60.3
DF		L	4M	1		140	140	22	13	87			70	13	17		18	6	24	0.43	5.8
DF		**L**	**Totals**	68		29,623	29,623	4,621	0	71	19	10	0	0	1	99	64	8	390	1.32	75.9
DF		T	2M	38		5,269	5,269	822			64	36				100	40	15	362	1.85	14.6
DF		T	3M	53	.8	7,370	7,312	1,141		94	6				3	97	40	8	102	0.64	71.3
DF		T	4M	9		1,177	1,177	184	11	89			44	44	7	6	20	6	24	0.31	49.7
DF		**T**	**Totals**	32	.4	13,815	13,757	2,146	1	58	28	14	4	4	2	90	33	8	101	0.72	135.6
Type Totals					.1	43,438	43,380	6,767	0	67	22	11	1	1	1	96	44	8	205	1.04	211.5

TC TSTNDSUM

Stand Table Summary

Project MAPLETI

T01S R06W S14 T00A1 | **T01S R06W S14 T00A1**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01S	06W	14	0001	00A1	107.00	41	69

Page: 1
Date: 03/20/201:
Time: 9:39:39AM

Spc	ST	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	10	1	88	96	6.233	3.40	12.47	6.9	35.0	2.46	86	436	263	92	47
DF	T	12	3	89	85	12.985	10.20	21.64	12.9	54.0	7.96	279	1,169	852	299	125
DF	T	14	6	88	99	19.080	20.40	38.16	17.9	77.5	19.46	683	2,957	2,082	730	316
DF	T	15	2	88	93	5.540	6.80	11.08	20.0	82.5	6.30	221	914	674	237	98
DF	T	17	2	88	122	4.313	6.80	10.78	25.9	106.0	7.95	279	1,143	850	298	122
DF	T	18	1	90	120	1.924	3.40	5.77	24.0	90.0	3.95	139	519	423	148	56
DF	T	19	1	88	102	1.727	3.40	3.45	33.9	130.0	3.34	117	449	357	125	48
DF	T	20	1	89	138	1.558	3.40	4.67	34.5	156.7	4.59	161	732	491	172	78
DF	T	21	3	86	98	4.240	10.20	9.89	35.6	130.0	10.03	352	1,286	1,074	377	138
DF	T	23	4	90	133	4.713	13.60	14.14	45.0	215.0	18.14	636	3,040	1,941	681	325
DF	T	24	1	88	106	1.082	3.40	3.25	40.6	180.0	3.76	132	584	402	141	63
DF	T	25	1	88	134	.997	3.40	2.99	52.7	253.3	4.50	158	758	481	169	81
DF	T	26	1	89	140	.922	3.40	2.77	57.1	280.0	4.50	158	775	481	169	83
DF	T	28	2	88	134	1.590	6.80	4.77	68.0	321.7	9.24	324	1,534	989	347	164
DF	T	29	2	87	124	1.482	6.80	4.45	67.7	313.3	8.58	301	1,393	918	322	149
DF	T	30	6	89	135	4.155	20.40	12.47	78.2	388.3	27.79	975	4,841	2,974	1,043	518
DF	T	31	5	87	133	3.243	17.00	9.73	82.4	393.3	22.84	801	3,827	2,444	858	409
DF	T	32	6	88	150	3.652	20.40	12.17	87.0	448.0	30.18	1,059	5,454	3,230	1,133	584
DF	T	33	2	91	139	1.145	6.80	3.43	101.6	505.0	9.94	349	1,734	1,064	373	186
DF	T	34	4	88	140	2.157	13.60	7.01	96.5	493.8	19.28	676	3,462	2,063	724	370
DF	T	35	2	86	145	1.018	6.80	3.05	112.4	545.0	9.78	343	1,664	1,046	367	178
DF	T	36	2	85	138	.962	6.80	2.89	113.1	538.3	9.30	326	1,553	995	349	166
DF	T	37	1	89	136	.455	3.40	1.37	127.7	676.7	4.97	174	924	532	187	99
DF	T	38	3	86	141	1.295	10.20	4.75	105.2	523.6	14.24	500	2,486	1,524	535	266
DF		Totals	62	88	111	86.470	210.77	207.15	44.6	210.6	263.09	9,231	43,636	28,150	9,877	4,669
WH	L	32	1	91	134	1.572	8.78	4.72	98.0	510.0	14.79	462	2,405	1,582	494	257
WH		Totals	1	91	134	1.572	8.78	4.72	98.0	510.0	14.79	462	2,405	1,582	494	257
DF	L	40	1	83	148	.112	.98	.45	108.9	565.0	1.39	49	253	148	52	27
DF	L	42	2	85	141	.203	1.95	.61	157.9	776.7	2.74	96	473	293	103	51
DF	L	44	1	89	144	.092	.98	.28	183.8	976.7	1.45	51	271	155	55	29
DF		Totals	4	85	144	.407	3.90	1.33	146.9	747.2	5.58	196	996	597	209	107
RA	T	20	1	75	68	2.460	5.37	4.92	19.6	75.0	2.65	96	369	283	103	39
RA	T	22	1	76	76	2.033	5.37	4.07	43.0	115.0	4.80	175	468	514	187	50
RA		Totals	2	75	72	4.492	10.73	8.98	30.1	93.1	7.45	271	836	797	290	89
Totals			69	88	110	92.941	234.19	222.18	45.7	215.5	290.90	10160	47,874	31,126	10,871	5,122

TC TSTNDSUM

Stand Table Summary

Project **MAPLETI**

T01S R06W S14 T00A2

T01S R06W S14 T00A2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
01S	06W	14	0002	00A2	156.00	65	135

Page: 1
Date: 03/20/2013
Time: 1:46:09PM

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	14	3	88	97	5.351	5.72	5.35	37.6	180.0	5.74	201	963	895	314	150
DF	L	15	2	88	101	3.107	3.81	3.11	46.2	195.0	4.09	144	606	638	224	95
DF	L	16	10	88	107	13.655	19.07	17.75	42.8	178.5	21.65	760	3,168	3,378	1,185	494
DF	L	17	3	89	107	3.629	5.72	3.63	64.8	276.7	6.70	235	1,004	1,045	367	157
DF	L	18	6	88	107	6.474	11.44	10.79	42.3	174.0	13.01	457	1,877	2,030	712	293
DF	L	19	3	89	106	2.905	5.72	3.87	60.3	240.0	6.65	233	930	1,038	364	145
DF	L	21	1	89	96	.793	1.91	.79	92.7	290.0	2.10	74	230	327	115	36
DF	L	22	3	88	115	2.167	5.72	3.61	69.9	294.0	7.20	253	1,062	1,123	394	166
DF	L	23	3	89	114	1.982	5.72	3.30	77.0	328.0	7.25	254	1,084	1,131	397	169
DF	L	24	6	88	118	3.641	11.44	6.07	88.8	383.0	15.36	539	2,324	2,397	841	363
DF	L	25	2	88	129	1.119	3.81	1.12	173.1	780.0	5.52	194	873	861	302	136
DF	L	26	1	90	131	.517	1.91	.52	190.6	950.0	2.81	99	491	438	154	77
DF	L	27	2	87	121	.959	3.81	.96	203.2	840.0	5.55	195	806	866	304	126
DF	L	28	10	89	133	4.459	19.07	7.13	137.1	676.9	27.87	978	4,829	4,348	1,526	753
DF	L	29	3	89	133	1.247	5.72	1.25	240.7	1220.0	8.56	300	1,521	1,335	468	237
DF	L	30	5	88	129	1.942	9.53	2.72	179.9	867.1	13.94	489	2,358	2,175	763	368
DF	L	32	3	89	130	1.024	5.72	2.05	143.2	675.0	8.36	293	1,383	1,304	458	216
DF	L	33	2	88	136	.642	3.81	.64	316.4	1655.0	5.79	203	1,063	903	317	166
DF	L	35	1	89	146	.285	1.91	.29	372.8	2150.0	3.03	106	614	473	166	96
DF	L	36	1	90	146	.270	1.91	.27	399.8	2340.0	3.07	108	631	479	168	98
DF	L	38	3	87	145	.726	5.72	.73	443.0	2490.0	9.17	322	1,808	1,431	502	282
DF		Totals	73	88	113	56.894	139.18	75.94	84.7	390.1	183.43	6,436	29,623	28,614	10,040	4,621
DF	T	8	1	85	65	4.325	1.51	4.33	4.6	20.0	.57	20	87	89	31	13
DF	T	10	1	84	55	2.768	1.51	2.77	8.7	30.0	.68	24	83	107	37	13
DF	T	11	5	86	73	11.439	7.55	13.73	12.7	53.3	4.97	174	732	775	272	114
DF	T	12	3	88	85	5.767	4.53	9.61	12.4	48.0	3.40	119	461	531	186	72
DF	T	13	6	88	89	9.828	9.06	19.66	13.7	55.0	7.70	270	1,081	1,202	422	169
DF	T	14	5	88	91	7.062	7.55	14.12	16.5	65.0	6.62	232	918	1,033	363	143
DF	T	15	9	88	96	11.073	13.59	20.92	22.0	93.5	13.14	461	1,956	2,050	719	305
DF	T	16	4	88	99	4.325	6.04	8.65	25.0	107.5	6.17	217	930	963	338	145
DF	T	17	1	88	92	.958	1.51	1.92	27.0	110.0	1.47	52	211	230	81	33
DF	T	18	3	89	108	2.563	4.53	5.98	29.1	115.7	4.96	174	692	774	272	108
DF	T	19	2	88	111	1.534	3.02	3.83	30.6	122.0	3.35	117	468	522	183	73
DF	T	20	3	89	113	2.076	4.53	5.54	33.5	138.8	5.28	185	768	824	289	120
DF	T	21	2	87	121	1.255	3.02	3.77	33.4	143.3	3.59	126	540	560	197	84
DF	T	22	5	89	122	2.860	7.55	8.58	38.4	178.0	9.39	330	1,527	1,466	514	238
DF	T	23	2	89	116	1.047	3.02	3.14	41.1	181.7	3.68	129	570	574	201	89
DF	T	24	1	90	126	.481	1.51	1.44	48.1	223.3	1.98	69	322	308	108	50
DF	T	25	1	90	136	.443	1.51	1.33	56.6	273.3	2.14	75	363	334	117	57
DF	T	26	2	89	128	.819	3.02	2.46	57.3	270.0	4.01	141	663	626	220	103
DF	T	29	2	89	129	.658	3.02	1.97	72.5	358.3	4.08	143	708	637	223	110
DF	T	30	2	89	129	.615	3.02	1.85	78.3	366.7	4.12	145	677	643	226	106
DF		Totals	60	88	91	71.896	90.59	135.58	23.6	101.5	91.34	3,205	13,757	14,248	4,999	2,146
RA	L	10	1	90	75	2.821	1.54									
RA	L	20	1	90	75	.705	1.54									
RA		Totals	2	90	75	3.526	3.08									
Totals			135	88	100	132.315	232.85	211.52	45.6	205.1	274.76	9641	43,380	42,863	15,040	6,767

VOLUME SUMMARY

(Shown in MBF)

Mapletini

341-13-98

March 2013

AREA 1: MC (107 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	3,648	874	148		4,670
	Hidden D&B (2%)	(73)	(17)	(3)		(93)
	NET TOTAL	**3,575**	**857**	**145**		**4,577**
	% of Total	78	19	3		

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Red alder	Cruise Volume				89	89
	Hidden D&B (2%)				(1)	(1)
	NET TOTAL				**88**	**88**
	% of Total				100	

AREA 2: PC-M (156 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	822	1,141	184		2,147
	Hidden D&B (2%)	(16)	(23)	(4)		(43)
	NET TOTAL	**806**	**1,118**	**180**		**2,104**
	% of Total	38	53	9		

AREA 3: R/W (4 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	35	145	7		187
	Hidden D&B (2%)	(1)	(3)	()		(4)
	NET TOTAL	**34**	**142**	**7**		**183**
	% of Total	19	78	4		

SALE TOTAL

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir		4,415	2,117	332		**6,864**
Red alder					88	88
Total		**4,415**	**2,117**	**332**	**88**	**6,952**

RESIDUAL STAND SPECIFICATIONS

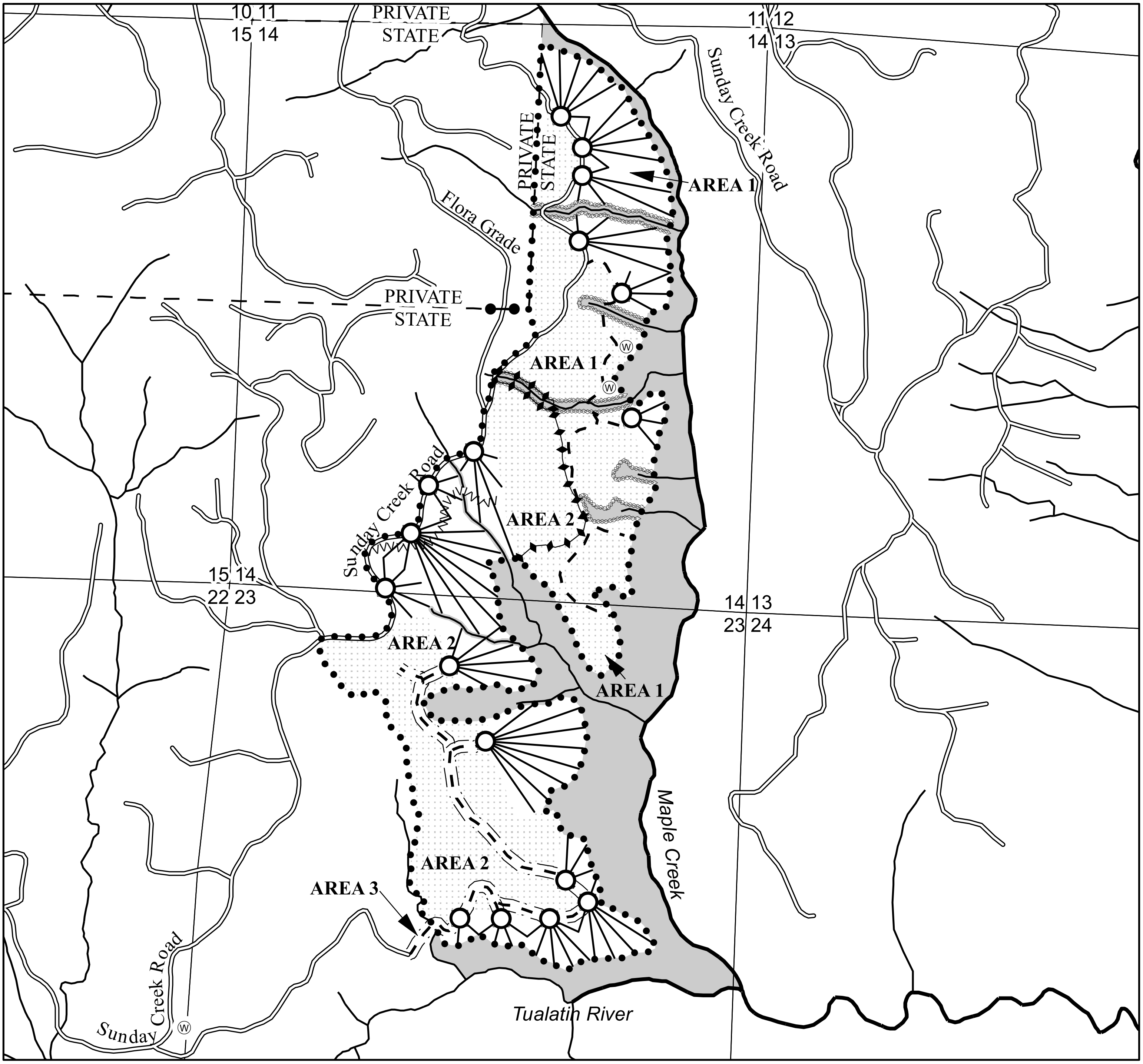
SALE NAME: Mapletini
SALE NUMBER: 341-13-98

AREA 2

Residual QMD assumption (from leave tree cruise information)	=	21
Target Relative Density	=	31

	Minimum	Target	Maximum
Relative Density	28	31	33
Basal Area	130	140	150
Trees per Acre	54	58	62

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



LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-98
MAPLETINI
PORTIONS OF SECTIONS 14, 23, T1S, R6W, W.M.
WASHINGTON COUNTY, OREGON

Forest Grove District GIS
March 2013
This product is for informational use and may not be suitable for legal, engineering, or surveying purposes.

LEGEND

- Timber Sale Boundary
- Area Boundary
- Roads
- New Road Construction
- Posted Right of Way Boundary
- Abandoned Road
- Posted Stream Buffer Boundary
- Stream Buffer
- Type F Stream
- Type N Stream
- Cable Landing
- Tractor Landing
- Cable Yarding Area
- Tractor Yarding Area
- Sections
- ODF Property Boundary
- Waste Area
- Gate

1:15,840
1 inch = 1,320 feet

0 660 1,320 2,640 Feet

N

APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1 (MC)	64	43
AREA 2 (PC-M)	83	73
AREA 3 (R/W)	4	0
TOTAL	151	116