



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Microwave Thin

Sale AT-341-2016-69-

District: Astoria

Date: September 01, 2015

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$680,185.53	\$10,867.52	\$691,053.05
		Project Work:	(\$152,200.00)
		Advertised Value:	\$538,853.05



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Timber Description

Location: Portions of Sections 3, 9, 10, 15, and 16, T7N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	96
Western Hemlock / Fir	13	0	94
Alder (Red)	13	0	99

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	1,009	786	206	0	2,001
Western Hemlock / Fir	346	141	119	0	606
Alder (Red)	0	0	0	32	32
Total	1,355	927	325	32	2,639

Comments: Pond Values Used: 2nd Quarter Calendar Year 2015.

Expected log markets:

Warrenton, OR; Tillamook, OR; Claskanine, OR; Mist, OR; Garibaldi, OR; Longview, WA.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$993.34/\text{MBF} = \$1,275/\text{MBF} - \$281.66/\text{MBF}$

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):

Branding and Painting: $\$1/\text{MBF} \times 2,639 \text{ MBF} = \$2,639$

Firewood Decking at Accessible Landings: $1 \text{ hr/landing} @ \$129/\text{hrs} \times 4 \text{ landings} = \516

Hand Line Pull Areas 1 and 2: $4 \text{ acres} \times 10.859 \text{ MBF/acre} = 43.5 \text{ MBF} \times \$25/\text{MBF} = \$1,088$

Two D-6 cats for guyline anchors:

Move-in cost $\$778 \times 2 = \$1,556$

3 hours of cat time $@ \$113/\text{hr} = \339

TOTAL Other Costs (with Profit & Risk to be added) = \$6,138

Other Costs (No Profit & Risk added):

Machine Wash for Invasive Species: \$4,000

Loggers Choice Spur: 4 hours to open, close, and water-bar with D6 dozer: $4 \text{ hrs} \times \$113/\text{hr} = \452

Close Project Roads: 2 hours to close and water bar 2E to 2F: $2 \times \$113/\text{hr} = \226

TOTAL Other Costs (No Profit & Risk added): \$4,678



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Logging Conditions

Combination#: 1	Douglas - Fir	48.00%
	Western Hemlock / Fir	48.00%
	Alder (Red)	48.00%
Logging System:	Shovel	Process: Stroke Delimber
yarding distance:	Medium (800 ft)	downhill yarding: No
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF	
loads / day:	9	bd. ft / load: 4000
cost / mbf:	\$88.11	
machines:	Stroke Delimber (B)	
Combination#: 2	Douglas - Fir	45.00%
	Western Hemlock / Fir	45.00%
	Alder (Red)	45.00%
Logging System:	Cable: Medium Tower >40 - <70	Process: Manual Delimbing
yarding distance:	Medium (800 ft)	downhill yarding: No
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF	
loads / day:	7	bd. ft / load: 4100
cost / mbf:	\$212.54	
machines:	Log Loader (A) Tower Yarder (Medium)	
Combination#: 3	Douglas - Fir	7.00%
	Western Hemlock / Fir	7.00%
	Alder (Red)	7.00%
Logging System:	Shovel	Process: Manual Delimbing
yarding distance:	Short (400 ft)	downhill yarding: No
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF	
loads / day:	12	bd. ft / load: 4000
cost / mbf:	\$69.32	
machines:	Shovel Logger	



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Logging Costs

Operating Seasons: 3.00	Profit Risk: 14%
Project Costs: \$152,200.00	Other Costs (P/R): \$6,138.00
Slash Disposal: \$0.00	Other Costs: \$4,678.00

Miles of Road

Road Maintenance: \$9.53

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	5.0
Western Hemlock / Fir	\$0.00	4.0	4.5
Alder (Red)	\$0.00	3.0	4.5



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$142.79	\$9.91	\$4.98	\$81.12	\$2.33	\$33.76	\$0.00	\$5.00	\$1.77	\$281.66
Western Hemlock / Fir									
\$142.79	\$10.10	\$4.98	\$45.93	\$2.33	\$28.86	\$0.00	\$5.00	\$1.77	\$241.76
Alder (Red)									
\$142.79	\$9.63	\$4.98	\$58.36	\$2.33	\$30.53	\$0.00	\$5.00	\$1.77	\$255.39

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$559.09	\$277.43	\$0.00
Western Hemlock / Fir	\$0.00	\$448.11	\$206.35	\$0.00
Alder (Red)	\$0.00	\$595.00	\$339.61	\$0.00



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District: Astoria

Date: September 01, 2015

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,001	\$277.43	\$555,137.43
Western Hemlock / Fir	606	\$206.35	\$125,048.10
Alder (Red)	32	\$339.61	\$10,867.52

Gross Timber Sale Value

Recovery: \$691,053.05

Prepared By: Edward Holloran

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Microwave Thin
Date: July 17, 2015
By: Ed Holloran FL

MBF: 2,639
\$/MBF: \$9.53

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations and snow	Grader 14G	\$778	2	30	\$100	\$4,556
	Dump Truck 12CY	\$163	1	6	\$79	\$637
Final Road Maintenance	Grader 14G	\$778	1	70	\$100	\$7,778
	Dump Truck 12CY	\$163	1	10	\$79	\$953
	FE Loader C966	\$778	1	2	\$83	\$944
	Vibratory Roller	\$778	1	70	\$77	\$6,168
	Water Truck 2,500 gallon	\$190	1	30	\$89	\$2,860
	Rubber Tired Backhoe-small Labor	\$321	1	8	\$77	\$937
				8	\$40	\$320
Total						\$25,153

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	3.0	4.50	1.5	15

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Process - Grader	1.5	10.3	6.9	69
Vibratory Roller	1.5	10.3	6.9	69

Process and compact: All crushed rock roads -

Nicolai Mainline (7.1 miles), I1-I2 (1.2 miles)

I7 to I8 (0.5 miles), 1A to 1B + 1C to 1D + 1E to 1F (0.8 miles), 2A to 2B + 2C to 2D + 2G to 2H (0.7 miles)

Grade & Process Total = 10.4 miles

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Microwave Thin

ROAD CONSTRUCTION:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Surfaced	1A-1B, 1C-1D, 1E-1F		
	2A-2B, 2C-2D, 2G-2H	77.90	\$83,755
Dirt	2E-2F	13.30	\$3,859
	TOTAL	91.20	\$87,614

1.73 Miles

ROAD IMPROVEMENT:

Project No. 2

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	11 - 12, 15 - 16		
	17 - 18	208.90	\$22,872
	TOTAL	208.90	\$22,872

3.96 Miles

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 3	Vacating: (V1-V2, V3-V4)	\$14,876
Project No. 4	Bridge Deck Replacement: (Bridge A & Bridge B)	\$19,084
	TOTAL	\$33,960

Project Road Maintenance 0

TOTAL

MOVE IN:

	<u>Equipment</u>	<u>Cost</u>
	Excavator (C330 @ \$1,406 x 1)	\$1,406
	Dozer (D8 @ \$1,406 x 1)	\$1,406
	Rubber Tired Skidder (@\$717)	\$717
	Loader (966 @ \$778)	\$778
	Excavator (C315 @ \$805)	\$805
	Large Grader (14G @ \$778)	\$778
	Vibratory Roller (@\$778)	\$778
	10-12 yd³ dump truck (@ \$163 x 4)	\$652
	20 yd³ Highway dump w/pup (@ 191 x 1)	\$191
	Water Truck (2,500 gal @ \$190)	\$190
	20' Tilt Deck Trailer	\$53
	TOTAL	\$7,754

GRAND TOTAL

\$152,200

Compiled By: Ed Holloran

Date: 07/16/2015

SUMMARY OF NEW CONSTRUCTION COSTS

SALE NAME: Microwave Thin NEW SUBGRADE CONSTRUCTION: 77.90 STATIONS 1.48 MILES
 ROAD: 1A-1B (6+90), 1C-1D (28+00), 1E-1F (8+00), 2A-2B (5+10) DIRT CONSTRUCTION: 13.30 STATIONS 0.25 MILES
 POINTS: 2C-2D (26+60), 2E-2F (13+30) dirt, 2G-2H (3+30)

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
Clear & scatter per acre	9	x	\$1,337.00	=	\$12,033.00

SUB TOTAL FOR CLEARING & GRUBBING

\$12,033

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
1A-1B, 2A-2B 2C-2D, 2G-2H & 3A-3F Balanced Construction per station	108.20	x	\$122.00	=	\$13,200.40
2E-2F Balanced Construction per station	13.30	x	\$122.00	=	\$1,622.60
1C-1D & 1E-1F Construction w/200 ft. drift per station	36.00	x	\$190.00	=	\$6,840.00
1C-1D & 1E-1F Fill compaction per yard	1,600	x	\$0.70	=	\$1,120.00
1C-1D Cut slope rounding per station	2.50	x	\$43.00	=	\$107.50
1C-1D & 1E-1F Removal of unsuitable material (C330) per hour	4.00	x	\$155.00	=	\$620.00
1C-1D & 1E-1F Haul Material to Waste Area 12 yd ³ Dump Truck per hour	3.00	x	\$79.00	=	\$237.00
1C-1D & 1E-1F Placement of Drain Rock & Riprap (C330) per hour	4.00	x	\$155.00	=	\$620.00
Landing Construction per landing	8.00	x	\$389.00	=	\$3,112.00

SUB TOTAL FOR EXCAVATION

\$27,480

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost	
1A-1B 0+25	18" CPP	35	\$19.53	\$683.55	5+00	18" CPP	30	\$19.53	\$585.90	2C-2D
3+50	18" CPP	30	\$19.53	\$585.90	15+50	18" CPP	35	\$19.53	\$683.55	
					16+80	18" CPP	30	\$19.53	\$585.90	
1C-1D 3+10	18" CPP	35	\$19.53	\$683.55	24+00	18" CPP	30	\$19.53	\$585.90	
11+45	18" CPP	35	\$19.53	\$683.55						
16+70	18" CPP	30	\$19.53	\$585.90	0+00	18" CPP	35	\$19.53	\$683.55	2G-2H
18+20-19+75	8" CPP **	120	\$15.40	\$1,848.00						
18+20-19+75	15" CPP**	35	\$21.74	\$760.90						
18+70	24" CPP	45	\$27.04	\$1,216.80						
19+75	18" CPP	35	\$19.53	\$683.55						
22+10	18" CPP	35	\$19.53	\$683.55						
25+90	18" CPP	30	\$19.53	\$585.90						
1E-1F 1+60	24" CPP	35	\$27.04	\$946.40						
2+90	18" CPP	35	\$19.53	\$683.55						
2A-2B 3+80	18" CPP	30	\$19.53	\$585.90						

** Perforated Polyethylene pipe

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	White Fiberglass (Carsonite) 6' x 2 1/2" posts	18	\$20.00	\$360.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$14,702

Subtotal of Clearing, Exc., Culv.

\$54,214

Compiled By: Ed HolloranDate: 07/16/2015

SURFACING				Stations/ amount		x	Rate/ sta/amt	Cost
Subgrade prep: Description								
Grade, Shape and Ditch 16'				77.90		x	\$24.83	\$1,934.26
Grade, Shape, outslope				13.30		x	\$18.35	\$244.06
Subgrade Compaction				77.90		x	\$20.19	\$1,572.80
Total Stations				91.20				

ROAD SEGMENT 1A-1B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A-1B		0+00 to 6+90				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	0+00 to 6+90	8	station	50	stations	6.90	345	\$2.98	\$1,028.10
Junctions	4"-0" Crushed	0+00	N/A	junction	24	junctions	1	24	\$2.98	\$71.52
Junctions	3/4"-0" Crushed	0+00	N/A	junction	24	junctions	1	24	\$2.98	\$71.52
Turnouts	4"-0" Crushed	3+90	N/A	turnout	24	turnouts	1	24	\$2.98	\$71.52
Turnarounds	4"-0" Crushed	6+60	N/A	turnaround	24	turnarounds	1	24	\$2.98	\$71.52
Landings	6"-0" Pit-run	6+90	N/A	landing	60	landings	1	60	\$3.88	\$232.80
Total Rock for Road Segment:				1A-1B				501		

\$1,547

ROAD SEGMENT 1C-1D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1C-1D		0+00 to 28+00				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	0+00 to 28+00	8	station	50	stations	28.00	1400	\$2.98	\$4,172.00
Subgrade Reinforcement	24"6" Riprap	18+20 to 19+75	36	N/A		N/A		240	\$7.50	\$1,800.00
Surface Rock	1½"-0" Crushed	0+00 to 19+00	3	station	19	stations	19.00	361	\$2.98	\$1,075.78
Junctions	4"-0" Crushed	0+00	8	junction	24	junctions	1	24	\$2.98	\$71.52
Junctions	1½"-0" Crushed	0+00	3	junction	24	junctions	1	24	\$2.98	\$71.52
Turnouts	4"-0" Crushed	2+70, 6+85, 12+80, 24+10	8	turnout	33	turnouts	4	132	\$2.98	\$393.36
Turnouts	1½"-0" Crushed	2+70, 6+85, 12+80	3	turnout	12	turnouts	3	36	\$2.98	\$107.28
Culvert Bedding/Backfill	1½"-0" Crushed	18+70, +1, 19+75	N/A	culvert	36	culverts	3	108	\$2.98	\$321.84
Dissipator	24"-6" Riprap	3+10, 16+70, 25+90	N/A	culvert	12	culverts	3	36	\$7.50	\$270.00
Dissipator	24"-6" Riprap	11+45, 22+10	N/A	culvert	24	culverts	2	48	\$7.50	\$360.00
Turnarounds	4"-0" Crushed	10+00, 20+00, 23+85	N/A	TA	24	TA's	3	72	\$2.98	\$214.56
Turnarounds	1½"-0" Crushed	10+00	N/A	TA	12	TA's	1	12	\$2.98	\$35.76
Ditch Drain Rock	2"	18+20 to 19+75	N/A	N/A		N/A		70	\$2.98	\$208.60
Drain Rock Ends/Cover	24"6" Riprap	18+20 to 19+75	N/A	N/A		N/A		96	\$7.50	\$720.00
Landings	6"-0" Pit-run	20+40, 28+00	N/A	landing	60	landings	2	120	\$3.88	\$465.60
Total Rock for Road Segment:				1C-1D				2,779		

\$10,288

ROAD SEGMENT 1E-1F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1E-1F		0+00 to 8+00				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	0+00 to 8+00	8	station	50	stations	8.00	400	\$2.98	\$1,192.00
Subgrade Reinforcement	24"6" Riprap	0+00 to 3+00	36	N/A		N/A		480	\$7.50	\$3,600.00
Junctions	4"-0" Crushed	0+00	8	junction	24	junctions	1	24	\$2.98	\$71.52
Junctions	1½"-0" Crushed	0+00	3	junction	24	junctions	1	24	\$2.98	\$71.52
Turnouts	4"-0" Crushed	3+50	8	turnout	33	turnouts	1	33	\$2.98	\$98.34
Culvert Bedding/Backfill	1½"-0" Crushed	1+60, 2+90	N/A	culvert	24	culverts	2	48	\$2.98	\$143.04
Turnarounds	4"-0" Crushed	4+40	N/A	turnaround	24	turnarounds	1	24	\$2.98	\$71.52
Landings	6"-0" Pit-run	8+00	N/A	landing	60	landings	1	60	\$3.88	\$232.80
Total Rock for Road Segment:				1E-1F				1,093		

\$5,481

ROAD SEGMENT 2A-2B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A-2B		0+00 to 5+10				
				Volume (CY) per		Number of				
Base Rock	4"- 0" crushed	0+00-5+10	8	station	50	stations	5.10	255	\$2.98	\$759.90
Junctions	4"- 0" crushed	0+00	8	junction	24	junctions	1	24	\$2.98	\$71.52
Junctions	1½"-0" crushed	0+00	N/A	junction	24	junctions	1	24	\$2.98	\$71.52
Turnarounds	4"-0" Crushed	4+00	N/A	turnaround	24	turnarounds	1	24	\$2.98	\$71.52
Landings	6"-0" Pit-run	5+10	N/A	landing	60	landings	1	60	\$3.88	\$232.80
Total Rock for Road Segment:				2A-2B				387		

\$1,207

ROAD SEGMENT 2C-2D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C-2D		0+00 to 26+60				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	0+00 to 26+60	8	station	50	stations	26.60	1330	\$2.98	\$3,963.40
Traction Rock	1½"-0" crushed	9+00-12+50; 22+00- 24+00	2	station	13	stations	5.50	72	\$2.98	\$213.07
Junctions	4"-0" Crushed	0+00	N/A	station	24	stations	1	24	\$2.98	\$71.52
Junctions	1½"-0" crushed	0+00	N/A	junction	24	junctions	1	24	\$2.98	\$71.52
Turnouts	4"-0" Crushed	3+00, 9+70, 20+00	N/A	turnout	33	turnouts	3	99	\$2.98	\$295.02
Turnarounds	4"-0" Crushed	25+50	N/A	turnaround	24	turnarounds	1	24	\$2.98	\$71.52
Landings	6"-0" pit-run	21+40, 26+60	N/A	landing	60	landings	2	120	\$3.88	\$465.60
Total Rock for Road Segment:				2C-2D				1,693		

\$5,152

ROAD SEGMENT 2E-2F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2E-2F		0+00 to 13+30				
				Volume (CY) per		Number of				
Junctions	4"-0" Crushed	0+00	N/A	junction	50	junctions	1	50	\$2.98	\$149.00
Total Rock for Road Segment:				2E-2F				50		

\$149

ROAD SEGMENT 2G-2H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2G-2H		0+00 to 3+30				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	0+00 to 3+30	8	station	50	stations	3.30	165	\$2.98	\$491.70
Junctions	4"-0" Crushed	0+00	N/A	junction	24	junctions	1	24	\$2.98	\$71.52
Turnarounds	4"-0" Crushed	2+30	N/A	turnaround	24	turnarounds	1	24	\$2.98	\$71.52
Landings	6"-0" Pit-run	3+30	N/A	landing	60	landings	1	60	\$3.88	\$232.80
Total Rock for Road Segment:				2G-2H				273		

\$868

SPECIAL PROJECTS					
Description			Quantity	Rate/Qu.	Cost
Project No. 1	4.5 oz. non-woven fabric (for ditch drain)	per yd ²	52	\$1.10	\$57.20
Project No. 1	6.5 oz. woven road fabric	per ft.	455	\$1.10	\$500.50
SUB TOTAL FOR SPECIAL PROJECTS					\$558
					\$558

SUMMARY OF ROAD IMPROVEMENT COSTS

SALE NAME: Microwave Thin

ROAD IMPROVEMENT: 208.90 STATIONS

3.96 MILES

ROAD: I1-I2 (64.5), I5-I6 (116.0), & I7-I8 (28.55)

DIRT CONSTRUCTION: STATIONS

 MILES

POINTS:

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
I1 - I2 Ditch reconstruction - C315 (4 sta.) per hour	4.00	x	\$101.00	=	\$404.00
I1 - I2 Clean catch basins - C315 per hour	2.00	x	\$101.00	=	\$202.00
I1 - I2 Clean outlets - C 315 per hour	3.00	x	\$101.00	=	\$303.00
I1 - I2 End Haul material - Tr. 12 yd. per hour	3.00	x	\$79.00	=	\$237.00
I1 - I2 Place Dissapator Rock - C 315 per hour	1.50	x	\$101.00	=	\$151.50
I1 - I2 Construct Rock Ditch Filters - C315 per hour	2.00	x	\$101.00	=	\$202.00
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR EXCAVATION \$1,500

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1 - I2 0+90	18" CPP	30	\$19.53	\$585.90					
64+35	18" CPP	30	\$19.53	\$585.90					

	Description	Quantity	Rate	Cost
Other/miscellaneous:				
Culvert stakes & markers:	White Fiberglass 6" x 2½" posts	13	\$20.00	\$260.00
	2 New + 11 Replacements			

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION \$1,432

Subtotal of Clearing, Exc., Culv. **\$2,931**

Compiled By: Ed Holloran

Date: 07/16/2015

SURFACING						Stations/ amount	x	Rate/ sta/amt	Cost	
Subgrade prep:						Description				
						Grade, Shape and Ditch 16'	11-12 (60.85), 15-16 (52.1) & 17-18 (28.55)	141.50	\$24.83	\$3,513.45
						Grade, Shape, outslope	11-12	3.50	\$18.35	\$64.23
						Subgrade Compaction	11-12 (64.35), 15-16 (52.1) & 17-18 (28.55)	145.00	\$20.19	\$2,927.55
							208.90			

ROAD SEGMENT I1 - I2				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 - I2		0+00 to 64+35				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	60+60 to 62+00	8	station	50	stations	1.40	70	\$2.98	\$209
Patch - Base Rock	4"-0" Crushed		N/A	load	12	loads	5	60	\$2.98	\$179
Surface Rock	1½"-0" Crushed	0+00 to 64+35	2	station	13	stations	64.35	837	\$2.98	\$2,493
Junctions	4"-0" Crushed	61+30	N/A	junction	24	junctions	1	24	\$2.98	\$72
Junctions	1½"-0" Crushed	1+20, 16+90, 31+80, 47+50, 61+30	N/A	junction	12	junctions	5.00	60	\$2.98	\$179
Turnouts	1½"-0" Crushed	4+70, 10+90, 15+50, 21+50, 30+40, 33+75, 50+25	N/A	turnout	24	turnouts	7	168	\$2.98	\$501
Turnarounds	4"-0" Crushed	30+50, 61+30	N/A	turnaround	12	turnarounds	2	24	\$2.98	\$72
Turnarounds	1½"-0" Crushed	30+50, 33+75, 61+30	N/A	turnaround	12	turnarounds	3	36	\$2.98	\$107
Culvert Bedding/Backfill	1½"-0" Crushed	0+90, 64+35	N/A	culvert	24	culverts	3	72	\$2.98	\$215
Rock Ditch Filter	4"-0" Crushed	17+50, 18+00	N/A	filter	11	filters	2	22	\$2.98	\$66
Dissapator	24"-6" Riprap	12+55	N/A	culvert	12	culverts	1	12	\$7.50	\$90
Dissapator	24"-6" Riprap	16+50	N/A	culvert	24	culverts	1	24	\$7.50	\$180
Total Rock for Road Segment:								1409		\$4,360

ROAD SEGMENT I5 - I6				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 - I6		0+00 to 116+00				
				Volume (CY) per		Number of				
Patch - Surface Rock	¾"-0" Crushed		N/A	load	2	loads	12	24	\$2.98	\$72
Total Rock for Road Segment:								24		\$72

ROAD SEGMENT I7 - I8				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 - I8		0+00 to 28+55				
				Volume (CY) per		Number of				
Patch - Base Rock	4"-0" Crushed		N/A	load	12	loads	3	36	\$2.98	\$107
Patch - Base Rock	4"-0" Crushed	1+30, 2+70,	N/A	load	12	loads	2	24	\$2.98	\$72
Patch - Base Rock	4"-0" Crushed	18+20	N/A	load	12	loads	2	24	\$2.98	\$72
Surface Rock	1½"-0" Crushed	8+60 to 28+55	2	station	13	stations	9.95	129	\$2.98	\$385
Junctions	1½"-0" crushed	0+00	N/A	junction	12	junctions	2	24	\$2.98	\$72
Turnarounds	4"-0" Crushed	28+55	N/A	turnaround	12	turnarounds	2	24	\$2.98	\$72
Turnarounds	1½"-0" crushed	28+55	N/A	turnaround	12	turnarounds	1	12	\$2.98	\$36
Total Rock for Road Segment:								273		\$815

Processing:		Description	No.sta	Rate/sta	Cost
Water, Process & Compact		11-12 (64.35), 15-16 (52.10) & 17-18 (28.55)	145.00	\$56.48	\$8,190

SUB TOTAL FOR SURFACING					
	24"-6"rr	4"-0"	1½"-0"	¾"-0"	Total
	36	308	1,338	24	1,706
					1,706
					\$19,941

CRUSHED ROCK COST

SALE NAME:	Microwave Thin
PROJECT:	Nos 1 & 2
QUARRY:	Viewpoint

MATERIAL: Crushed Rock
4"-0", 1 1/2"-0, 3/4"-0"

DATE: 07/16/2015
BY: Ed Holloran

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
1A-1B	9.90	441						0.10	0.08	0.18
1C-1D	28.00	2,239		0.20	0.50	0.70	0.20	0.10	0.21	1.91
1E - 1F	8.00	553		0.20	0.50	0.70	0.20	0.20	0.28	2.08
2A - 2B	5.10	327		1.00	0.40	0.15	0.10	0.10	0.08	1.83
2C - 2D	26.60	1,573		1.00	0.50	0.20	0.20	0.10	0.14	2.14
2E - 2F	1.00	50		1.00	0.50	0.20	0.10	0.10	0.11	2.01
2G - 2H	3.30	213		1.00	0.50	0.20	0.20	0.20	0.14	2.24
I1 - I2	64.35	1,373		0.20	0.50	0.20	0.20	0.20	0.05	1.35
I5 - I6	116.00	24		0.50	0.20	0.10	0.10	0.10	0.10	1.10
I7 - I8	28.55	273		1.00	0.40	0.10	0.10	0.10	0.03	1.73
TOTAL	290.80	7,066								AVERAGE
	STA./NO.	CU. YD.								HAUL
CUBIC YARD WEIGHTED HAUL				0.46	0.46	0.38	0.18	0.13	0.14	1.75
Average Round Trip Distance (miles)										3.51

ROCK HAUL:

Truck type: D20 No. trucks: 1
 Delay min.: 8 Efficiency: 85%

Ave haul:	\$2.20	/cy
Load:	\$0.30	/cy
Spread:	\$0.48	/cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 1,511

CRUSHED ROCK HAUL COSTS 7,066 cy @ **\$2.98 /cy**

PIT RUN ROCK COST

SALE NAME:	Microwave Thin
PROJECT:	No. 1
QUARRY:	Viewpoint

MATERIAL: 6"-0" Pit -run

DATE: 07/16/2015
BY: Ed Holloran

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
1A-1B	1.00	60						0.15	0.10	0.25
1C-1D	2.00	120		0.20	0.50	0.70	0.30	0.30	0.17	2.17
1E - 1F	1.00	60		0.20	0.50	0.70	0.30	0.30	0.15	2.15
2A - 2B	1.00	60		1.00	0.40	0.15	0.10	0.10	0.13	1.88
2C - 2D	2.00	120		1.00	0.50	0.20	0.30	0.20	0.19	2.39
2G - 2H	1.00	60		1.00	0.50	0.20	0.20	0.20	0.17	2.27

ROCK HAUL:

Truck type: D20 No. trucks:
 Delay min.: 8 Efficiency: 85%

Ave haul:	\$2.56	/cy
Load:	\$0.48	/cy
Spread:	\$0.84	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>4</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 988

PIT RUN ROCK HAUL COSTS

480 cy @ \$3.88 /cy

RIP RAP ROCK COST

SALE NAME:	Microwave Thin
PROJECT:	Nos. 1 & 2
QUARRY:	Viewpoint

DATE: 07/16/2015
BY: Ed Holloran

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES								Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH		
										2.00 2.05 1.40	
1C-1D		420		0.20	0.50	0.70	0.30	0.20	0.10		
1E - 1F		480		0.20	0.50	0.70	0.30	0.20	0.15		
I1 - I2		36		0.20	0.50	0.30	0.20	0.10	0.10		

ROCK HAUL:

Truck type:	<u>D12</u>	No. trucks:	<u>4</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>
Truck type:	<u>D10</u>	No. trucks:	<u>4</u>
Delay min.:	<u>5</u>	Efficiency:	<u>85%</u>

Ave haul:	\$2.60	/cy
Load:	\$0.60	/cy
Develop:	<u>\$4.30</u>	/cy

Production: cy/day = 972

RIP RAP ROCK HAUL COSTS

936 cy @ \$7.50 /cy

Project No. 3 Road Vacating

Microwave Thin

Location/Description	C330 #1	C330 #2	D-7 CAT	10/12 CY Truck	Labor	Straw Mulch	Seed	Pulback	Vol. Pump	Total
V1 to V2, 7+45-8+50: 9+80-11+15 Waterbar/sidecast pulback	hrs	hrs	hrs	hrs	4 hrs	10 bales	20 lbs	2.4 Stas.	hrs	\$1,175.90
V1 to V2, 2+00 slope 1½:1 Open Fill Re-establish stream gradient 2' channel	2 hrs	hrs	1 hrs	hrs	2 hrs	6 bales	10 lbs		1 hrs	\$624.68
V1 to V2, 8+00 slope 1½:1 Open Fill Re-establish stream gradient 2' channel	2 hrs	hrs	1 hrs	hrs	2 hrs	6 bales	10 lbs		1 hrs	\$624.68
V1 to V2, 10+15 slope 1½:1 Open stream channel Re-establish stream gradient 6' channel	6 hrs	hrs	4 hrs	hrs	4 hrs	20 bales	30 lbs		5 hrs	\$1,979.50
V1 to V2, 12+45 Open stream channel/drain pond Re-establish stream gradient 5' channel slope 1½:1	8 hrs	hrs	5 hrs	hrs	8 hrs	20 bales	30 lbs		7 hrs	\$2,613.50
V1 to V2, 14+90 Open stream channel Re-establish stream gradient 3' channel	5 hrs	hrs	2 hrs	hrs	4 hrs	10 bales	15 lbs		4 hrs	\$1,394.75
V1 to V2, 18+60 slope 1½:1 Open Fill Re-establish stream gradient 2' channel	2 hrs	hrs	1 hrs	hrs	4 hrs	6 bales	10 lbs		1 hrs	\$704.68
V1 to V2, 19+40 slope 1½:1 Open stream channel Re-establish stream gradient 3' channel	3 hrs	hrs	1 hrs	hrs	3 hrs	8 bales	15 lbs		2 hrs	\$859.29
V1 to V2, 19+85 Open stream channel Re-establish stream gradient 3' channel	3 hrs	hrs	1 hrs	hrs	4 hrs	6 bales	10 lbs		1 hrs	\$859.68
V1 to V2, 21+10 slope 1½:1 Open stream channel Re-establish stream gradient 5' channel	3.5 hrs	hrs	1.5 hrs	hrs	2 hrs	10 bales	15 lbs		2 hrs	\$990.25
V1 to V2, 25+60 slope 2:1 Open Swale Re-establish natural drainage contours	1 hrs	hrs	0 hrs	hrs	1 hrs	3 bales	5 lbs		hrs	\$235.34
V1 to V2, 29+20 slope 1½:1 Open Fill/drain pond Re-establish stream gradient 3' channel	8 hrs	hrs	5 hrs	hrs	3 hrs	20 bales	30 lbs		hrs	\$2,343.50
V3 to V4 slope 1½:1 Open Fill Re-establish stream gradient 3' channel	2 hrs	hrs	hrs	hrs	2 hrs	6 bales	10 lbs		hrs	\$470.68
Totals	45.5 hrs	0 hrs	22.5 hrs	0 hrs	43 hrs	131 bales	210 lbs	2.4 Stas.	24 hrs.	
Rate	\$155 /hr	\$155 /hr	\$144 /hr	\$79 /hr	\$40 /hr	\$10.73 /bale	\$1.63 /lb	\$365.00 /Sta.	\$10.00 /hr.	
Total Cost	\$7,053	\$0	\$3,240	\$0	\$1,720	\$1,406	\$342	\$876	\$240	\$14,876

*Cost for bales/seed includes bales of straw and grass seed @ 100 lbs/ac.

Ed Holloran

02/17/2015

BRIDGE DECK REPLACEMENT**Project No. 4**

FL-2/23/15

*Bridge A, Plympton Ridge Road***Materials:**

Running Boards: Pressure Treated, 4"x12"x20'	32 each	\$110.50	\$3,536.00
Hardware: Bolts, nuts, and washers	66 each	\$6.25	\$412.50
Staging Material: Douglas-fir, 2"x6"x8'	20 each	\$5.00	\$100.00

Equipment:

Miscellaneous Equipment Rental (generator, saw, lights, hand tools)	1 each	\$1,000.00	\$1,000.00
--	--------	------------	------------

Labor:	Four workers to remove running boards and bolts, clean deck, and install new running boards. (7 days)	224 hours	\$40.00	<u>\$8,960.00</u>
			<i>Total</i>	<i>\$14,008.50</i>

*Bridge B, Coke Shack Road***Materials:**

Running Boards: Pressure Treated, 4"x12"x20'	21 each	\$110.50	\$2,320.50
Hardware: Bridge Spikes, 3/8"x8" Galv. Steel	3 box	\$65.00	\$195.00

Labor:	Four workers to remove running boards, clean deck, and install new running boards. (2 days)	64 hours	\$40.00	<u>\$2,560.00</u>
			<i>Total</i>	<i>\$5,075.50</i>

Grand Total \$19,084.00

**MICROWAVE THIN
FY 2015
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Areas 1, 2, and 3 are located in portions of Sections 3, 9, 10, 15 and 16 T7N, R6W, W.M., Clatsop County, Oregon.

2. **Fund Distribution: Fund:** BOF 100% CSL 0%
Tax Code: 1-02 44.4%
 30-05 24.4%
 6J-01 31.2%

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acres	Stream Buffer Acres	NO – Harvest Acres	New R/W Acres	Existing R/W Acres	Net Acreage
1	PC	92	0	2	5	3	82
2	PC	77	1	1	4	1	70
3	R/W	9					9
	Vacate R/W	2					2
TOTALS		180	1	3	9	4	163

4. **Cruisers and Cruise Dates:** Areas 1 and 2 were cruised by Andrew Arvin, John Choate, Jon Long, and Ed Holloran with Derek Snow. The cruise was performed in early January, 2015.
5. **Cruise Method and Computation:** Areas 1 and 2 are partial cut units. A variable plot cruise with a 40 BAF was used in these Areas. These plots were located on a 8 chain by 5 chain grid, with a count/cruise plot ratio of 1 to 2. A total of 39 plots were sampled, with 18 measured plots and 21 count plots.

Area 3 R/W was calculated applying road R/W acreage and using volume per acre from the sale Areas the Right-of-Way is located in or adjacent to.

Cruisers used Corvallis Micro Technology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program at the Astoria District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

<u>AREAS</u>	<u>PROJECT</u>	<u>TRACT</u>	<u>CRUISE TYPE</u>
1 & 2	MWT	A12	PC1, TAKE, STAY
3 R/W	MWT	RW12	RW1

6. **Timber Description:** Areas 1 and 2 are approximately 62 to 65 years stand of Douglas-fir, with hemlock and some alder. The average take Douglas-fir tree size for harvest is approximately 16 inches DBH, with an average merchantable tree height of 55 feet. The average take hemlock tree size is approximately 12 inches DBH, with an average merchantable tree height of 30 feet. The average take alder tree size is approximately 13 inches DBH with an average merchantable tree height of 62 feet. The average volume per acre to be harvested (net) is approximately 15 MBF. All trees were cruised to a merchantable top of 6 inch DIB or 40% fp. This unit was cruised to a leave basal area of 150 square feet, with an SDI of 33.

Area 3 R/W. The volume to be removed from the R/W is based on the cruise for the surrounding Areas. The R/W in Areas 1, and 2 along with the Right-of-Way from the road vacate project is based on the cruises for Areas 1 and 2. The average tree sizes are shown above. The average volume per acre to be harvested (net) is approximately 37 MBF. All trees were cruised to a merchantable top of 6 inch DIB or 40% fp.

Cedar was a reserved species in Areas 1 and 2.

7. Statistical Analysis: (See also "Statistics Reports," attached.)

Area	Target CV	Target SE%	Actual CV	Actual SE%
1 & 2	45	11	28	4

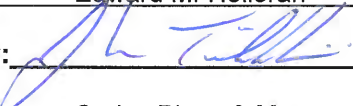
The statistics are for all areas and Take and Leave trees combined based on Net BF/Acre.

8. Take Volumes by Species and Log Grades for All Sale Areas by MBF: (See "Species, Sort Grade-Board Feet Volumes (Project)", "Statistics (Project)", and the "Stand Table Summary" attached). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	Camp Run	% D & B	% Sale
Douglas-fir	16	2,001	1,009	786	206		3.5	64
W. Hemlock & True Fir	13	606	346	141	119		5.5	16
Alder	13	32				32	1	0
TOTAL NET VOLUME		2,639						100

9. Prepared by: Edward M. Holloran

Date: July 16, 2015

10. Approved by: 

Date: 7/23/2015

11. Attachments:
 Cruise Plans & Maps – (3 pages)
 Species, Sort, Grade Reports – Take (3 pages)
 Statistics Reports – (3 pages)
 Stand Table Report – (2 page)
 Log Stock Table Report – Take (2 pages)

X:\Sunset\2015FY\Microwave Thin\Sale Prep\Cruise\Cruise report MWT-Redo_7-15-2015

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Microwave Thin **Area(s)** 1 & 2

Harvest Type: PC "Automark Thinning"

Approx. Cruise Acres: 156 **Estimated CV%** 45 Net BF **SE% Objective** 11 Net BF

Planned (Unit) Sale Volume: 1,872 MBF **Estimated Sale Area Value/Acre:** \$3,765

- A. Cruise Goals:** (a) Grade minimum 100 conifer and 20 hardwood trees:
(b) Sample 38 cruise plots; (c) Other goals (X Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes; Determine LWD (down wood) cubic feet and decay classes; Determine "diameter limit" harvest parameters;

B. Cruise Design:

- 1. Plot Cruises:** BAF 40 for all species Full point
Fixed Plot Size Plot Radius feet
Cruise Line Direction(s) 315°/135°
Cruise Line Spacing 8 chains
Cruise Plot Spacing 5 chains
Grade/Count Ratio 1 : 2 (15 measure – 23 count)

This is a partial cut with a planned residual B/A of 160.

Leave 4 leave trees per cruise plot.

If plot falls clearly inside a buffer or No Harvest Area drop the plot. Take plots as marked on map. Grade all hardwoods as Camp Run. All Cedar is reserved Timber.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods. Record DBH to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" or 40% of DOB at 16' form point. Generally, use 7" outside bark for trees < 18" DBH and 40% of DOB @ FP for trees > 18" DBH.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 16', 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.
6. **Species, Sort, and Grade Codes:**
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple).
For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
- D. Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, or R = Camp Run; 0 = Cull.
7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at Intervisible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.
ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.
9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back), Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design Cruise Map, Yellow Flagging, Blue Flagging
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.
B. Data Recorder Instructions
C. Other

Cruise Design by: Ed Holloran

Approved by: [Signature]

Date: 1/7/15

C:\My Documents\Doc\Other\Cruise Design Form- Aug02.doc

Exhibit A - Base Map

#341-15-55

Microwave Thin

Sections 2, 3, 8, 9, 10, 15, and 16,
T7N, R6W, WM, Clatsop County, OR

AREAS 1 & 2

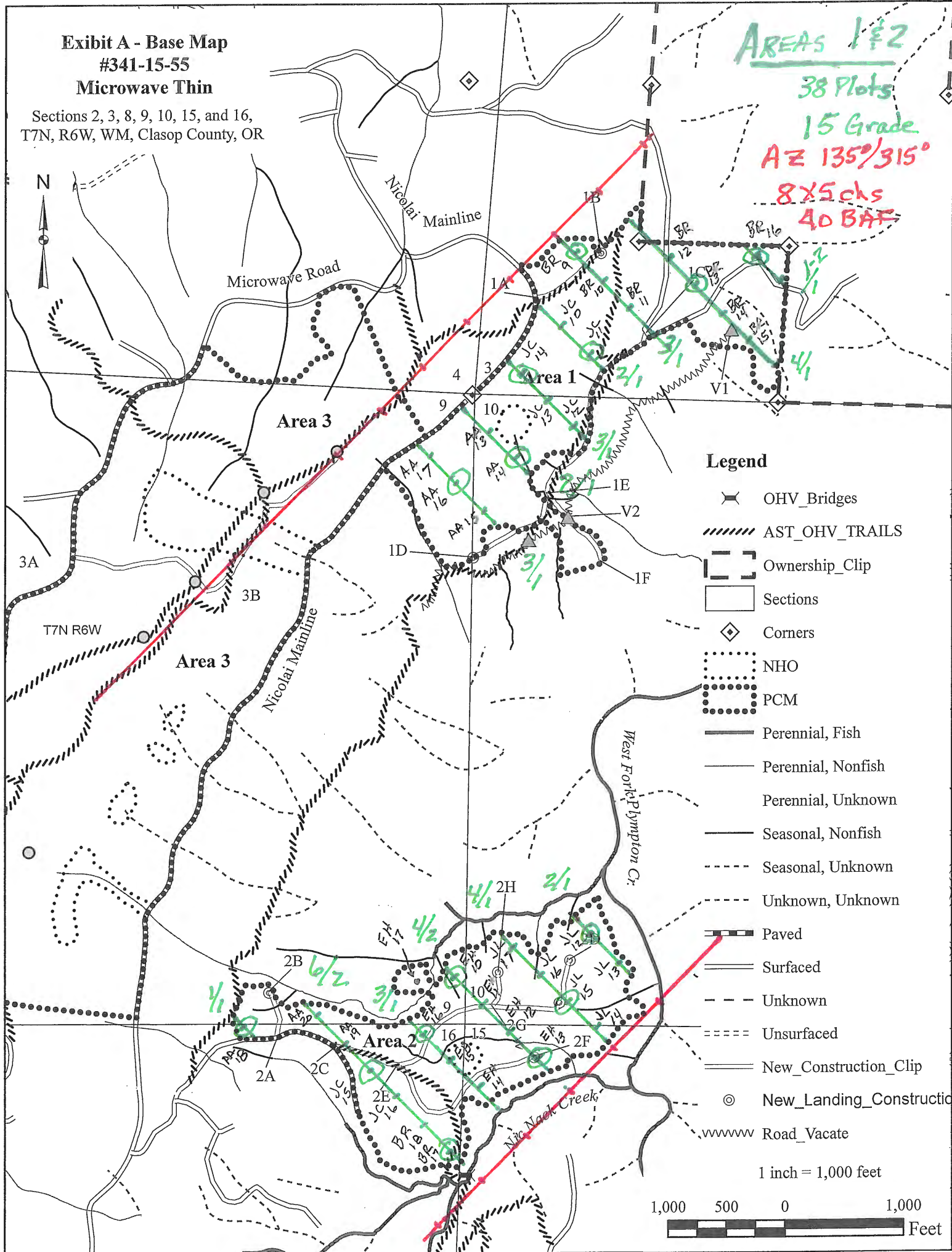
38 Plots

15 Grade

AZ 135°/315°

8X5 chs

40 BAF



Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S10 TyTAKE 152.00
T07N R06W S10 TyRW1 11.00

Project: MWT
Acres 163.00

Page 1
Date 7/14/2015
Time 3:32:16PM

Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D	DOCU		100.0	364												14	17		0.00	2.2
D	DO2S	49	3.8	6,383	6,138	1,000		8	57	35			12	88		38	14	284	1.90	21.6
D	DO3S	40	4.4	5,041	4,821	786		100	0	0	2	2	41	55		35	8	86	0.76	56.4
D	DO4S	10	1.1	1,281	1,267	206		22	78		26	59	3	12		25	6	30	0.41	42.5
D	DOSM	1		54	54	9				100				100		40	20	729	3.81	.1
D Totals		76	6.4	13,123	12,279	2,001 2,002		2	51	29	18	3	7	22	67	32	8	100	0.90	122.8
H	DOCU		100.0	273												12	14		0.00	3.0
H	DO2S	56		2,113	2,113	344			67	33			35	65		36	15	324	1.94	6.5
H	DO3S	24	8.0	941	866	141		100					86	14		34	7	60	0.71	14.5
H	DO4S	20		732	732	119		100			70	30				16	6	23	0.38	31.8
H Totals		23	8.6	4,059	3,711	604 605		43	38	19	14	6	40	41		23	8	67	0.79	55.7
A	DOCR	100	.9	198	196	32		88	12		14		12	74		30	8	73	0.68	2.7
A Totals		1	.9	198	196	32		88	12		14		12	74		30	8	73	0.68	2.7
SF	DOCU		100.0	2												4	20		0.00	.0
SF	DO2S	81	2.5	10	10	2			100					100		40	16	390	1.95	.0
SF	DO3S	19		2	2	0		100						100		40	8	90	0.93	.0
SF Totals		0	14.3	15	13	2		19	81					100		28	15	160	1.37	.1
Totals			6.9	17,395	16,199	2,639 2,640		2	50	31	18	6	7	26	61	29	8	89	0.87	181.3

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1					
				Project: MWT										Date		7/14/2015					
														Time		3:32:17PM					
T07N R06W S10 TTAKE										T07N R06W S10 TTAKE											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt			
07N		06W		10		A12		TAKE		152.00		39		44		1		W			
S So Gr T rt ad Spp			%	Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Dia Bd CF/ Ft In Ft Lf				
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D DO CU					100.0	329											15	17		0.00	2.1
D DO 2S			47		4.1	5,422	5,202	791		9	58	33			13	87	38	14	274	1.85	19.0
D DO 3S			41		4.6	4,767	4,547	691		100			1	2	41	56	35	8	85	0.75	53.5
D DO 4S			12		1.1	1,262	1,248	190	22	78			25	60	3	12	25	6	30	0.41	41.8
D Totals			75		6.7	11,780	10,996	1,671	3	54	27	16	3	7	23	66	31	8	94	0.87	116.4
H DO CU					100.0	257											12	14		0.00	2.9
H DO 2S			55			1,966	1,966	299			64	36			37	63	36	15	328	1.96	6.0
H DO 3S			24		8.4	902	826	125		100					87	13	34	7	58	0.70	14.1
H DO 4S			21			726	726	110		100			70	30			16	6	23	0.37	31.5
H Totals			24		8.6	3,851	3,518	535		44	36	20	14	6	41	38	23	8	65	0.77	54.4
A DO CR			100			156	156	24		100			14			86	30	8	70	0.65	2.2
A Totals			1			156	156	24		100			14			86	30	8	70	0.65	2.2
Type Totals					7.1	15,787	14,670	2,230	2	52	29	17	6	7	27	59	29	8	85	0.84	173.1

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1									
Project: MWT										Date	7/14/2015										
										Time	3:32:17PM										
T07N R06W S10 TRW1										T07N R06W S10 TRW1											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
07N	06W	10	RW12	RW1	11.00	39	100	1	W												
S Spp	So T	Gr rt	ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln	Dia	Bd		CF/ Lf
					Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		Lf
D	DO	CU		100.0	842											11	21		0.00	4.6	
D	DO	2S	63	3.0	19,662	19,071	210		4	53	43			9	91	39	15	332	2.10	57.5	
D	DO	3S	29	2.5	8,833	8,611	95		97	2	2	2	2	43	53	35	8	91	0.82	95.1	
D	DO	4S	5	.9	1,546	1,532	17	23	77			35	57	3	5	23	6	29	0.44	52.5	
D	DO	SM	3		795	795	9				100				100	40	20	729	3.81	1.1	
D Totals				80	5.3	31,680	30,010	330	1	34	35	30	2	3	18	76	33	10	142	1.18	210.8
H	DO	CU		100.0	493											13	15		0.00	4.3	
H	DO	2S	64		4,132	4,132	45			84	16				17	83	38	14	302	1.84	13.7
H	DO	3S	23	4.8	1,492	1,421	16		100						77	23	35	7	72	0.77	19.8
H	DO	4S	13		821	821	9		100			75	25			16	6	23	0.41	35.8	
H Totals				17	8.1	6,938	6,374	70		35	54	10	10	3	28	59	25	9	87	0.94	73.5
A	DO	CR	100	3.3	780	755	8		55	45		14		45	42	29	8	84	0.81	9.0	
A Totals				2	3.3	780	755	8		55	45		14		45	42	29	8	84	0.81	9.0
SF	DO	CU		100.0	27											4	20		0.00	.4	
SF	DO	2S	81	2.5	155	152	2			100					100	40	16	390	1.95	.4	
SF	DO	3S	19		35	35	0		100						100	40	8	90	0.93	.4	
SF Totals				0	14.3	218	186	2		19	81				100	28	15	160	1.37	1.2	
Type Totals					5.8	39,616	37,325	411	1	35	38	26	4	3	20	73	31	9	127	1.12	294.5

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT		MWT					DATE	7/14/2015	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
07N	06	10	A12	TAKE		163.00		78	403	1	W	
07N	06W	10	RW12	RW1								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			78	403	5.2							
CRUISE			33	144	4.4	19,056		.8				
DBH COUNT												
REFOREST												
COUNT			43	231	5.4							
BLANKS			2									
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			113	72.0	16.1	56	25.4	101.8	13,123	12,279	3,576	3,500
WHEMLOCK			24	43.5	12.5	30	10.5	37.3	4,059	3,711	1,050	1,001
R ALDER			5	1.3	13.5	61	0.4	1.3	198	196	54	54
SNAG			1	.0	60.0	20	0.0	.1				
PS FIR			1	.0	22.0	88	0.0	.1	15	13	3	3
TOTAL			144	116.9	14.8	46	36.5	140.6	17,395	16,199	4,684	4,559
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			80.8	7.6	360	390	420					
WHEMLOCK			105.3	21.9	180	230	280					
R ALDER			43.3	21.5	146	186	226					
SNAG												
PS FIR												
TOTAL			86.1	7.2	329	354	380	296	74	33		
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			128.6	14.5	62	72	82					
WHEMLOCK			312.6	35.4	28	44	59					
R ALDER			686.8	77.7	0	1	2					
SNAG			620.4	70.2	0	0	0					
PS FIR			883.2	99.9	0	0	0					
TOTAL			134.5	15.2	99	117	135	722	180	80		
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			113.0	12.8	89	102	115					
WHEMLOCK			282.2	31.9	25	37	49					
R ALDER			641.0	72.5	0	1	2					
SNAG			620.4	70.2	0	0	0					
PS FIR			883.2	99.9	0	0	0					
TOTAL			104.6	11.8	124	141	157	437	109	49		
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			113.1	12.8	10,708	12,279	13,851					
WHEMLOCK			275.4	31.2	2,555	3,711	4,867					
R ALDER			659.0	74.6	50	196	342					
SNAG												
PS FIR			883.2	99.9	0	13	25					
TOTAL			98.9	11.2	14,386	16,199	18,012	391	98	43		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT	MWT	DATE 7/14/2015				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	10	A12	TAKE	152.00	39	127	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		39		127		3.3				
CRUISE		15		44		2.9		17,229 .3		
DBH COUNT										
REFOREST										
COUNT		22		79		3.6				
BLANKS		2								
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR		34	69.2	15.7	55	23.5	93.3	11,780	10,996	3,235 3,166
WHEMLOCK		9	43.1	12.4	30	10.2	35.9	3,851	3,518	995 949
R ALDER		1	1.1	13.0	62	0.3	1.0	156	156	43 43
TOTAL		44	113.3	14.5	45	34.2	130.3	15,787	14,670	4,274 4,159
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		91.4	15.7	228	271	313				
WHEMLOCK		135.7	47.9	104	199	294				
R ALDER										
TOTAL		98.2	14.8	216	253	291	385 96		43	
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		79.9	12.8	60	69	78				
WHEMLOCK		231.6	37.1	27	43	59				
R ALDER		624.5	99.9	0	1	2				
TOTAL		84.1	13.5	98	113	129	282 71		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		72.5	11.6	83	93	104				
WHEMLOCK		213.6	34.2	24	36	48				
R ALDER		624.5	99.9	0	1	2				
TOTAL		61.3	9.8	117	130	143	150 38		17	
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		76.8	12.3	9,644	10,996	12,348				
WHEMLOCK		211.5	33.8	2,328	3,518	4,708				
R ALDER		624.5	99.9	0	156	311				
TOTAL		59.2	9.5	13,280	14,670	16,060	140 35		16	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	MWT	DATE				7/14/2015
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	10	RW12	RW1	11.00	39	276	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		39		276		7.1				
CRUISE		18		100		5.6		1,828		5.5
DBH COUNT										
REFOREST										
COUNT		21		152		7.2				
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR		79	111.0	19.0	64	50.1	218.5	31,680	30,010	8,280
WHEMLOCK		15	50.2	14.4	38	14.9	56.4	6,938	6,374	1,814
R ALDER		4	4.5	15.0	59	1.4	5.5	780	755	208
SNAG		1	.1	60.0	20	0.3	2.1			
PS FIR		1	.4	22.0	88	0.2	1.0	218	186	49
TOTAL		100	166.2	17.7	56	67.4	283.5	39,616	37,325	10,351
										10,088
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		74.5	8.4	404	441	478				
WHEMLOCK		93.3	24.9	187	249	311				
R ALDER		44.6	25.5	147	198	248				
SNAG										
PS FIR										
TOTAL		79.7	8.0	367	399	430		254	63	28
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		54.4	8.7	101	111	121				
WHEMLOCK		199.1	31.8	34	50	66				
R ALDER		283.6	45.4	2	5	7				
SNAG		435.7	69.7	0	0	0				
PS FIR		624.5	99.9	0	0	1				
TOTAL		53.1	8.5	152	166	180		112	28	12
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		45.8	7.3	202	218	234				
WHEMLOCK		178.7	28.6	40	56	73				
R ALDER		266.2	42.6	3	6	8				
SNAG		435.7	69.7	1	2	3				
PS FIR		624.5	99.9	0	1	2				
TOTAL		28.5	4.6	271	283	296		32	8	4
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		47.4	7.6	27,732	30,010	32,287				
WHEMLOCK		178.1	28.5	4,558	6,374	8,190				
R ALDER		272.0	43.5	426	755	1,083				
SNAG										
PS FIR		624.5	99.9	0	186	373				
TOTAL		28.8	4.6	35,604	37,325	39,045		33	8	4

TC	PSTNDSUM										Stand Table Summary										Page	1
												Date:	7/14/2015									
T07N R06W S10 TyTAKE					152.00		Project					MWT					Time:		3:32:18PM			
T07N R06W S10 TyRW1					11.00		Acres					163.00					Grown Year:					
S Spec	T	Sample		Tot					Average Log		Net		Net		Totals							
		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						
D		8	2	88	50	7.868	2.75	7.87	6.0	30.0		47	236		77	38						
D		9	2	88	50	6.217	2.75	6.22	8.0	30.0		50	187		81	30						
D		10	2	86	66	5.036	2.75	5.04	12.0	50.0		60	252		98	41						
D		13	4	84	58	6.202	5.49	9.18	13.6	36.5		125	335		204	55						
D		14	8	86	74	10.277	10.99	17.98	17.5	48.3		315	868		514	142						
D		15	4	87	88	4.476	5.49	8.95	21.5	75.0		192	671		314	109						
D		16	10	88	98	8.135	11.36	16.27	26.8	101.1		437	1,645		712	268						
D		17	6	85	83	5.227	8.24	8.71	30.0	96.0		261	836		426	136						
D		18	8	87	104	3.531	6.24	7.06	36.6	128.5		258	907		421	148						
D		19	2	82	95	1.395	2.75	2.79	35.5	105.0		99	293		161	48						
D		20	5	83	97	1.516	3.31	3.03	26.5	83.8		80	254		131	41						
D		21	11	86	100	3.813	9.17	7.63	47.0	158.9		359	1,212		585	198						
D		22	4	83	93	1.182	3.12	2.43	47.0	150.1		114	365		186	60						
D		23	6	89	105	1.211	3.49	2.55	55.7	212.2		142	541		232	88						
D		24	5	83	94	1.052	3.31	2.16	55.8	167.1		121	362		197	59						
D		25	4	81	105	.915	3.12	1.83	43.4	140.1		80	256		130	42						
D		26	5	88	115	.897	3.31	2.59	57.4	232.8		149	603		242	98						
D		27	5	86	120	1.428	5.68	4.29	60.8	243.3		260	1,043		425	170						
D		28	2	89	130	.087	.37	.26	70.0	295.0		18	77		30	13						
D		29	3	84	106	.122	.56	.24	89.8	333.3		22	81		36	13						
D		30	4	83	104	.636	3.12	1.31	95.1	339.5		124	444		203	72						
D		31	3	83	112	.107	.56	.25	91.9	367.1		23	92		37	15						
D		32	3	88	114	.525	2.93	1.54	84.3	374.3		130	577		212	94						
D		33	1	81	92	.031	.19	.06	51.0	220.0		3	14		5	2						
D		34	1	83	103	.030	.19	.06	83.5	355.0		5	21		8	3						
D		35	1	85	120	.028	.19	.08	102.0	486.7		9	41		14	7						
D		37	2	83	110	.050	.37	.12	122.2	516.0		15	64		25	11						
D		Totals	113	86	79	71.994	101.78	120.52	29.0	101.9		3,500	12,279		5,706	2,002						
H		8	2	85	17	11.382	3.97	11.38	4.0	20.0		46	228		74	37						
H		9	2	85	17	8.994	3.97	8.99	5.0	20.0		45	180		73	29						
H		10	2	85	35	7.285	3.97	7.28	9.0	30.0		66	219		107	36						
H		12	2	86	51	5.059	3.97	5.06	17.0	50.0		86	253		140	41						
H		16	2	91	55	2.846	3.97	2.85	22.0	50.0		63	142		102	23						
H		17	2	83	63	2.521	3.97	5.04	22.0	55.0		111	277		181	45						
H		19	1	89	99	.129	.25	.26	43.5	150.0		11	39		18	6						
H		20	5	90	88	3.759	8.20	7.52	44.4	168.1		334	1,264		544	206						
H		21	2	88	89	.211	.51	.42	38.0	147.5		16	62		26	10						
H		22	2	90	88	.192	.51	.48	42.6	166.0		20	80		33	13						
H		25	2	91	111	1.166	3.97	3.50	58.3	276.7		204	967		332	158						
H		Totals	24	86	39	43.542	37.28	52.78	19.0	70.3		1,001	3,711		1,632	605						
A		12	1	87	100	.110	.09	.22	16.5	55.0		4	12		6	2						
A		13	2	87	92	1.131	1.04	2.26	19.5	70.0		44	158		72	26						
A		17	1	87	58	.073	.11	.15	29.5	120.0		4	17		7	3						
A		24	1	87	59	.028	.09	.06	44.5	150.0		2	8		4	1						
A		Totals	5	87	90	1.342	1.33	2.68	20.3	73.1		54	196		89	32						
SF		22	1	92	107	.026	.07	.05	57.5	240.0		3	13		5	2						
SF		Totals	1	92	107	.026	.07	.05	57.5	240.0		3	13		5	2						
SN		60	1	60	20	.007	.14															
SN		Totals	1	60	20	.007	.14															

TC		PSTNDSUM		Stand Table Summary							Page		2			
											Date:		7/14/2015			
				T07N R06W S10 TyTAKE		152.00		Project		MWT		Time:		3:32:18PM		
				T07N R06W S10 TyRW1		11.00		Acres		163.00		Grown Year:				
S		Tot					Average Log		Net		Net		Totals			
Spec T		Sample		FF	Av	Trees/	BA/	Logs	Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF
		DBH	Trees	16'	Ht	Acre	Acre	Acre	Cu.Ft.	Bd.Ft.	Acre	Acre	Acre			
Totals		144		86	64	116.911	140.60	176.04	25.9	92.0	4,559		16,199	7,431 2,640		

TC PLOGSTVB				Log Stock Table - MBF															
T07N R06W S10 TyTAKE 152.00 T07N R06W S10 TyRW1 11.00				Project: MWT Acres 163.00				Page 1 Date 7/14/2015 Time 3:32:16PM											
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+
D		DO CU	2	0	100.0														
D		DO CU	4	1	100.0														
D		DO CU	10	2	100.0														
D		DO CU	13	25	100.0														
D		DO CU	16	29	100.0														
D		DO CU	20	2	100.0														
D		DO 2S	32	125	5.8	118	5.9					23	64	22	6	3			
D		DO 2S	36	5		5	.2						1		3				
D		DO 2S	40	911	3.6	878	43.9					54	292	171	277	74	9		
D		DO 3S	16	5		5	.3					5	0						
D		DO 3S	20	7		7	.3				6	0							
D		DO 3S	24	6		6	.3			6									
D		DO 3S	26	0		0	.0				0								
D		DO 3S	30	7		7	.4			7		1							
D		DO 3S	32	354	9.3	321	16.0			107	122	89		1	2				
D		DO 3S	34	4		4	.2			1		3							
D		DO 3S	36	12		12	.6			11	1								
D		DO 3S	38	18		18	.9			18									
D		DO 3S	40	408		406	20.3			90	18	298							
D		DO 4S	12	0		0	.0				0								
D		DO 4S	16	5		5	.3			1	4								
D		DO 4S	20	47		47	2.4			42	5	0							
D		DO 4S	24	86		86	4.3		38	47	0								
D		DO 4S	28	11		11	.5			11									
D		DO 4S	30	26		26	1.3			26									
D		DO 4S	34	9	25.0	7	.3		7										
D		DO 4S	40	24		24	1.2		1	23									
D		DO SM	40	9		9	.4									9			
D		Totals		2,139	6.4	2,002	75.8		46	390	157	473	358	195	288	86	9		
H		DO CU	12	42	100.0														
H		DO CU	16	3	100.0														
H		DO 2S	32	119		119	19.7					36		83					
H		DO 2S	40	225		225	37.2					13		92	120				
H		DO 3S	32	92	13.4	80	13.2			38		42							

Log Stock Table - MBF

T07N R06W S10 TyTAKE 152.00
T07N R06W S10 TyRW1 11.00

Project: MWT
Acres 163.00

Page 2
Date 7/14/2015
Time 3:32:16PM

S T Spp	So rt	Gr 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+
H	DO	3S	34	41		41	6.8			41									
H	DO	3S	40	20		20	3.4			20									
H	DO	4S	12	1		1	.1			0	0								
H	DO	4S	14	66		66	11.0			66									
H	DO	4S	16	17		17	2.7			9	8								
H	DO	4S	22	36		36	5.9			36									
H	Totals			662	8.6	605	22.9			211	8	42	49	175	120				
A	DO	CR	16	0		0	.4				0								
A	DO	CR	20	4		4	13.8			4									
A	DO	CR	32	4	7.1	4	11.6						4						
A	DO	CR	40	24		24	74.3				24								
A	Totals			32		32	1.2			4	24			4					
SF	DO	CU	4	0	100.0														
SF	DO	2S	40	2	2.5	2	81.3							2					
SF	DO	3S	40	0		0	18.8				0								
SF	Totals			2	14.3	2	.1				0			2					
Total	All Species			2,835	6.9	2,640	100.0		46	605	189	515	407	374	410	86	9		

APPROXIMATE NET ACRES

AREA	PC ACRES
Area 1	82
Area 2	70
Area 3 R/W	11
TOTAL ACRES = 163	

LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
Area 1	24%	76%
Area 2	83%	17%
Area 3 R/W	100%	0%
TOTAL	55%	45%

LOGGING PLAN MAP

TIMBER SALE CONTRACT NO. 341-16-69
MICROWAVE THIN
PORTIONS OF SECTIONS 3, 9, 10, 15,
AND 16, T7N, R6W, W.M.,
CLATSOP COUNTY, OREGON

