



"STAND FOR THE FOREST"

Timber Sale Appraisal Green Olive

Sale AT-341-2016-37-

District: Astoria

Date: July 20, 2015

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,245,155.24	\$0.00	\$1,245,155.24
		Project Work:	(\$124,559.00)
		Advertised Value:	\$1,120,596.24



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Sale AT-341-2016-37-

District: Astoria

Date: July 20, 2015

Timber Description

Location: Portions of Sections 26, 34, 35, and 36, T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	97
Western Hemlock / Fir	17	0	97
Noble Fir	15	0	97
Red Cedar	12	0	95

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	2,197	676	67	2,940
Western Hemlock / Fir	684	412	90	1,186
Noble Fir	0	89	0	89
Red Cedar	0	1	0	1
Total	2,881	1,178	157	4,216

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

Expected Log Markets: Mist, OR; Clatskanie, OR; Tillamook, OR; Forest Grove, OR; Longview, OR; and Garibaldi, OR.

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$357.97/\text{MBF} = \$595/\text{MBF} - \$237.03/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{Gallon}$

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

Other Costs (with Profit & Risk to be added):
100% Brand and Paint: $\$1/\text{MBF} \times 4,216 \text{ MBF} = \$4,216$
Log Loader Slash & Landing Piling Areas 1 and 3 (includes Move-In and Pile Materials): (see attached appraisal) = $\$6,940$
Endhaul and Burn Slash Area 2 only: (see attached appraisal) = $\$6,744$
Machine Washing for Noxious Weed Compliance = $\$2,000$
Additional Felling Cost for Area 4 R/W = $\$40/\text{MBF} \times 32 \text{ MBF} = \$1,280$
TOTAL Other Costs (with Profit & Risk to be added) = $\$21,180$

Other Costs (No Profit & Risk added):
Waterbar and Block Dirt Road Segments after Harvest:
 $\$15.96/\text{station} \times 9 \text{ stations} = \143.64
TOTAL Other Costs (No Profit & Risk added) = $\$143.64$



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Logging Conditions

Combination#: 1

Douglas - Fir	53.00%
Western Hemlock / Fir	53.00%
Noble Fir	53.00%
Red Cedar	53.00%

Logging System: Cable: Medium Tower >40 - <70 **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: 11 **bd. ft / load:** 4000

cost / mbf: \$136.36

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

Combination#: 2

Douglas - Fir	47.00%
Western Hemlock / Fir	47.00%
Noble Fir	47.00%
Red Cedar	47.00%

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: 14 **bd. ft / load:** 4000

cost / mbf: \$56.64

machines: Stroke Delimber (B)



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District: Astoria

Date: July 20, 2015

Logging Costs

Operating Seasons: 3.00	Profit Risk: 14%
Project Costs: \$124,559.00	Other Costs (P/R): \$21,180.00
Slash Disposal: \$0.00	Other Costs: \$143.64

Miles of Road

Road Maintenance: \$7.00

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.5
Western Hemlock / Fir	\$0.00	2.0	4.0
Noble Fir	\$0.00	2.0	4.0
Red Cedar	\$0.00	1.0	4.0



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Date: July 20, 2015

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$98.89	\$7.21	\$3.12	\$89.27	\$5.02	\$28.49	\$0.00	\$5.00	\$0.03	\$237.03
Western Hemlock / Fir									
\$98.89	\$7.21	\$3.12	\$100.42	\$5.02	\$30.05	\$0.00	\$5.00	\$0.03	\$249.74
Noble Fir									
\$98.89	\$7.21	\$3.12	\$100.42	\$5.02	\$30.05	\$0.00	\$5.00	\$0.03	\$249.74
Red Cedar									
\$98.89	\$7.35	\$3.12	\$204.75	\$5.02	\$44.68	\$0.00	\$5.00	\$0.03	\$368.84

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$572.83	\$335.80	\$0.00
Western Hemlock / Fir	\$0.00	\$452.53	\$202.79	\$0.00
Noble Fir	\$0.00	\$435.00	\$185.26	\$0.00
Red Cedar	\$0.00	\$1,275.00	\$906.16	\$0.00



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District: Astoria

Date: July 20, 2015

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,940	\$335.80	\$987,252.00
Western Hemlock / Fir	1,186	\$202.79	\$240,508.94
Noble Fir	89	\$185.26	\$16,488.14
Red Cedar	1	\$906.16	\$906.16

Gross Timber Sale Value

Recovery: \$1,245,155.24

Prepared By: Dave Rygell

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-16-37
Sale Name: Gren Olive
Date: 06/22/2015

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	0.5	2.0
Hemlock/Fir	B	1.5	4.5
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	4.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	A	27	13.5	\$110.00	\$1,485.00
3	MC	A	34	17	\$110.00	\$1,870.00
Sub Total =						\$3,355.00
Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Landing Piling Cost/Area	Number of In- Unit Piles	Material Cost/Pile	Total Materials Cost/Area
1	3	\$220.00	\$660.00	54	\$5.00	\$270.00
2	1	\$221.00	\$221.00	0	\$6.00	\$6.00
3	3	\$220.00	\$660.00	68	\$5.00	\$340.00
*Cost includes separating firewood and materials						
Sub Total =						\$2,295.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance				
\$1,290.00	1	\$1,290.00	Sub Total = \$1,290.00			
Grand Total =						\$6,940.00

Green Olive (341-16-37)

Area 2 38 Acres of Modified Clearcut Additional Slash Disposal Costs

Equipment	Hourly Rate
Dump Truck (12cy)	\$ 85.00
Log Loader (315)	\$ 140.00

Slash Estimate
95 loads
38 days of logging (~1 ac/day)
2-3 loads of slash/day

Slash Hauling and Burning Estimate

0.25 hours/round trip
0.25 hours/load time
2 hours/round trip for shovel to
walk to waste area, pile slash,
and facilitate burning

	Estimate	Total
Work	2.5 loads/day x 38 days	95 loads
Haul	0.25 hrs x \$85/hr x 95 loads	\$ 2,019
Load	0.25 hrs x \$140/hr x 95 loads	\$ 3,325
Pile/Burn	2 hrs/trip x \$140/hr x 5 trips	\$ 1,400
Grand Total		\$ 6,744

Road Maintenance Cost Summary

Sale: Green Olive
Date: 03-Jun-15
By: D. Rygell FL

MBF: 4,216
\$/MBF: \$7.00

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$778	1	25	\$100	\$3,278
	Dump Truck 12CY x 1	\$163	1	10	\$79	\$953
	FE Loader C966	\$778	1	10	\$83	\$1,608
	Vibratory Roller	\$778	1	8	\$77	\$1,394
Final Haul Maintenance Haul Route	Grader 14G	\$778	1	70	\$100	\$7,778
	Dump Truck 12CY x 2	\$163	2	20	\$79	\$3,486
	Vibratory Roller	\$778	1	40	\$77	\$3,858
	Water Truck 2,500 gallon	\$190	1	30	\$89	\$2,860
	FE Loader C966	\$778	1	16	\$83	\$2,106
	Rubber Tire Backhoe	\$321	1	16	\$77	\$1,553
	Labor		1	16	\$40	\$640
Total						\$29,514

Production Rates	Miles/day	Distance(miles)	Days
Grader	2.5	6.0	2.4

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	11.0	7.3
Vibratory Roller	1.5	6.0	4.0

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Green Olive

ROAD CONSTRUCTION:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	<u>3A-3B (Dirt)</u>	<u>9.00</u>	<u>\$5,262</u>
	<u>2A, 2B, 2C</u>	<u>n/a</u>	<u></u>
	TOTALS		\$5,262

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 2	<u>I1-I2, I3-I4, I5-I6,</u>	<u>603.05</u>	<u>\$106,857</u>
	<u>I7-I8, I9-I10</u>	<u>4.00</u>	<u></u>
	TOTALS	4.00	\$106,857

SPECIAL PROJECTS:

<u>Description</u>	<u>Cost</u>
<u>Project Road Maintenance</u>	<u>\$3,225</u>
TOTAL	\$3,225

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
<u>Dozer (D8)</u>	<u>\$1,406.00</u>
<u>Excavator (C315)</u>	<u>\$805.00</u>
<u>Excavator (C330)</u>	<u>\$1,406.00</u>
<u>Dump Trucks (12cy x 5)</u>	<u>\$815.00</u>
<u>Dump Trucks (20cy x 2)</u>	<u>\$382.00</u>
<u>Front End Loader (C966) X 2</u>	<u>\$1,556.00</u>
<u>Grader (14G)</u>	<u>\$778.00</u>
<u>Vibratory Roller</u>	<u>\$778.00</u>
<u>Water Truck (2,500 gallon)</u>	<u>\$190.00</u>
<u>Backhoe (C 580)</u>	<u>\$321.00</u>
Secondary Move (Northrup Stockpile)	
<u>Front End Loader (C966) X 1</u>	<u>\$778.00</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
TOTAL	\$9,215.00

GRAND TOTAL **\$124,559.00**

Compiled By: Kraig Kirkpatrick / D. Rygell

Date: 06/22/2015

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Green Olive
ROAD: 3A-3B (9.00)
POINTS: 2A, 2B, 2C
NEW CONSTRUCTION: 9.00 STATIONS
IMPROVEMENT: STATIONS
0.17 MILES
MILES

CLEARING & GRUBBING				
Method	Acres/amount	x	Rate	= Cost
Scatter Outside R/W	1.00	x	\$ 1,337.00	\$1,337.00
		x		
SUB TOTAL FOR CLEARING & GRUBBING				\$1,337

EXCAVATION				
Material	Cy/amount	x	Rate	= Cost
3A to 3B Balanced Construction	9.00	x	\$122.00	\$1,098.00
2A, 2B, 2C, 3B Landing Construction	4.00	x	\$389.00	\$1,556.00
		x		
SUB TOTAL FOR EXCAVATION				\$2,654

CULVERT MATERIALS AND INSTALLATION					
Location	Dia/type	Lineal ft.	Rate	Cost	
Other/miscellaneous:					
Culvert stakes & markers:					
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION					\$3,991

Subtotal of Clearing, Exc., Culv.

SURFACING																	
Subgrade prep:				Description			Stations/ amount	x	Rate/ sta/amt	Cost							
Outslope 14' (3A-3B)							9.00	x	\$18.35	\$165.15							
								x									
								x									
ROAD SEGMENT 3A to 3B																	
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost							
				3A to 3B	Volume (CY) per junction	0+00 to 9+00 Number of junctions											
Junctions	4"-0" crushed	0+00	n/a	3A to 3B	22	1		22	\$5.17	\$114							
Total Rock for Road Segment:																	
ROAD SEGMENT 2A, 2B, 2C																	
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost							
				2A, 2B, 2C	Volume (CY) per landing	n/a Number of landings											
Landings	6"-0" Pit-Run	2A, 2B, 2C	N/A	2A, 2B, 2C	55	3		165	\$3.41	\$563							
Total Rock for Road Segment:																	
SUB TOTAL FOR SURFACING									Total	\$842							
									187								
SPECIAL PROJECTS																	
				Description			Cost										
				Pit-run development 165CY X \$2.60			\$ 429										
SUB TOTAL FOR SPECIAL PROJECTS																	
Subtotal of Surfacing & Spec. Proj.																	
Subtotal of Clearing, Exc., Culv.																	
GRAND TOTAL																	
\$5,262																	

Compiled By: D Rygell Date: 05/26/2015

SURFACING		Stations/ amount		Rate/ sta/amt	Cost
Subgrade prep:	Description				
All Roads	Grade, Shape and Ditch 16'	603.50	x	\$24.83	\$14,984.91
11-12(143.5), 13-14(17.95), 17-18(6.7),19-110(4.75)	Additional Grader time to prep ditches and remove sod \$/Hr	20.00	x	\$100.00	\$2,000.00
11-12(143.5), 13-14(17.95), 17-18(6.7),19-110(4.75)	Load & Haul ditch waste & road sod material w/315 - 50% of all road improvem	71.75	x	\$22.92	\$1,644.51
11-12(143.5), 13-14(17.95), 17-18(6.7),19-110(4.75)	Scatter ditch waste & road sod material w/315 - 50% of all road improvement	71.75	x	\$12.41	\$890.42
All Roads	Subgrade Compaction	603.50	x	\$20.19	\$12,184.67

ROAD SEGMENT I1 to 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 to I2 Volume (CY) per		0+00 to 488+65 Number of				
Surface Rock	1 1/2"-0" Crushed	248+20-335+95,432+90-451+60	2	station	13	stations	116	1,514	\$5.69	\$8,614
Surface Rock	1 1/2"-0" Crushed	28+35-30+35,67+45-69+45,75+95-77+95,95+10-97+10,143+90-146+35	2	station	16	stations	11	176	\$11.00	\$1,936
Base Rock	4"-0" Crushed	346+15-365+65,451+60-488+65	4	station	25	stations	57	1,414	\$5.17	\$7,309
Subgrade Leveling	1 1/2"-0" Crushed		N/A	station	n/a	stations	n/a	330	\$5.69	\$1,878
Junctions	1 1/2"-0" Crushed	303+55,305+80,306+25,306+70,308+30,432+90,444+35,446+70,451+60	2	junction	11	junctions	9	99	\$5.69	\$563
Turnouts	4"-0" Crushed	349+95,354+20,362+05,455+00,469+90,476+75	4	turnout	22	turnout	6	132	\$5.17	\$682
Turnouts	1 1/2"-0" Crushed	251+45,255+65,260+55,266+30,277+05,282+62,286+90,297+90,310+20,314+85,317+80,321+90,432+90,438+70	2	TO	11	TO's	14	154	\$5.69	\$876
Turnarounds	4"-0" Crushed	452+50,488+65	4	TA	22	TA's	2	44	\$5.17	\$227
Culvert Bedding/Backfill	1 1/2"-0" Crushed	171+80,208+75,308+90,313+40,335+95342+65,345+00	N/A	culvert	See Specific Instr.	culverts	2	231	\$5.69	\$1,314
Dissipator	24"-6"RR	313+40,348+00	N/A	dissipator	11	dissipator	2	22	\$7.64	\$168
Ditch Filters	6"-4" Pit-Run	68+45,76+95,144+60,360+40	N/A	filter	n/a	junctions	n/a	44	\$3.41	\$150
Total Rock for Road Segment:				I1 to I2				4,160		

\$23,719

ROAD SEGMENT I3 to I4				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4 Volume (CY) per		0+00 to 62+80 Number of				
Subgrade Leveling	1 1/2"-0" Crushed		N/A	station	n/a	stations	n/a	110	\$5.69	\$626
Subgrade Leveling	4"-0" Crushed	44+85-62+80	N/A	station	n/a	stations	n/a	110	\$5.17	\$569
Base Rock	4"-0" Crushed	15+35,51+20	N/A	station	n/a	stations	n/a	44	\$5.17	\$227
Culvert Bedding/Backfill	1 1/2"-0" Crushed	14+10,15+35,17+40,23+55,49+10,51+20,52+05,54+75,61+00	N/A	culvert	See Specific Instr.	culverts	9	297	\$5.69	\$1,690
Fill Armor	24"-6"RR	15+35,51+20	N/A	fill	See Specific Instr.	fills	2	132	\$7.64	\$1,008
Ditch Filters	6"-4" Pit-Run	15+35,54+75	N/A	filter	n/a	junctions	n/a	22	\$3.41	\$75
Landings	6"-0" Pit-Run	62+80	N/A	Landing	55	Landings	1	55	\$3.41	\$188
Total Rock for Road Segment:				I3 to I4				770		

\$4,383

ROAD SEGMENT I5 to I6			
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Fill Reconstruction Cost Estimate

Kraig Kirkpatrick
05/28/2015

Segment: I3 to I4 Station: 15+35
Fill: 1 Height: 6

Materials	Quantity	\$	Total
30"x45', 14ga, ACMP	45	\$33.58	\$1,511.10
Inlet beveled			
			\$0.00
24"-6" Riprap Fill Armor	88 cy	\$7.64	\$672.32 *
1 1/2"-0" Crushed Rock for Bedding/Backfill	33 cy	\$5.69	\$187.77 *
4"-0" Crushed Rock for Road	22 cy	\$5.17	\$113.74 *

\$2,484.93

*Rock Haul Cost is totaled on the Surfacing Project Cost Sheet

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$4.00	66	\$264.00
Backfill from borrow site	\$4.00	55	\$220.00
Compaction			
Backfill (borrow & crushed rock)	\$0.70	77	\$53.90
Waste material compaction	\$0.40	66	\$26.40
Fill armor placement w/330, \$/hr	\$155.00	2	\$310.00
Laborer \$/hr	\$40.00	2	\$80.00
Erosion Control	0.1 ac	\$628.00	\$62.80
Mulch and seed			

\$1,017.10

Project Total \$3,502

Fill Reconstruction Cost Estimate

Kraig Kirkpatrick
05/28/2015

Segment: I3 to I4 Station: 51+20
Fill: 2 Height: 4

Materials	Quantity	\$	Total
30"x45', 14ga, CMP	45	\$33.58	\$1,511.10
Inlet beveled			
			\$0.00
24"-6" Riprap Fill Armor	44 cy	\$7.64	\$336.16 *
1 1/2"-0" Crushed Rock for Bedding/Backfill	33 cy	\$5.69	\$187.77 *
4"-0" Crushed Rock for Road	22 cy	\$5.17	\$113.74 *

\$2,148.77

*Rock Haul Cost is totaled on the Surfacing Project Cost Sheet

Excavation	Rate	CY/amount	Total
End-Haul excavation \$/cy			
Excavate Fill	\$4.00	50	\$200.00
Backfill from borrow site	\$4.00	33	\$132.00
Compaction			
Backfill (borrow & crushed rock)	\$0.70	66	\$46.20
Waste material compaction	\$0.40	55	\$22.00
Fill armor placement w/330, \$/hr	\$155.00	2	\$310.00
Laborer \$/hr	\$40.00	2	\$80.00
Erosion Control	0.1 ac	\$628.00	\$62.80
Mulch and seed			

\$853.00

Project Total \$3,002

Projects Road Maintenance Cost Summary

Sale: Green Olive
Date: 03-Jun-15
By: D. Rygell *AR*

Type	Equipment/Rationale	Hours	Rate	Cost
Projects Road Maintenance	Grader 14G	10	\$100	\$1,000
	Dump Truck 12CY	4	\$79	\$316
	FE Loader C966	3	\$83	\$249
	Vibratory Roller	10	\$77	\$770
	Water Truck 2,500 gallon	10	\$89	\$890
Total				\$3,225

Miles/day	Distance(miles)	Days
1.5	1.4	0.9
1.5	1.4	0.9

Roads to maintain: Military Road (.75 miles), Northrup Creek Road (.6 miles)

**Cruise Report
Green Olive
FY 2016**

1. Sale Area Location: Areas 1 through 4 are located in portions of Sections 26, 34, 35, & 36, T5N, R6W, W.M., Clatsop County, OR.

2. Fund Distribution: BOF 100%
Tax Code 8-01 (100%)

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Green Tree Reserve Area	Existing ROW	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	55	0	3	2	50	GIS
2	Modified Clearcut	43	1	2	2	38	GIS
3	Modified Clearcut	52	0	3	5	44	GIS
4 R/W	*Right-of-way	1			n/a	1	GIS
TOTALS		151	1	8	9	133	

*Area 4 R/W consist of 1 acre of in-sale right of way

4. Cruisers and Cruise Dates:

All areas were cruised by Nick Haile, Derek Bangs, Kevin Berry, Ty Williams and Dave Rygell on May 1, 2015.

5. Cruise Method and Computation:

Areas 1, 2, and 3 are modified clearcut units and were variable plot cruised using a 40 BAF. These plots are located on a 4 chain by 11 chain grid, with every third plot measured and graded. A total of 32 plots were sampled, with 12 measured and graded plots, and 20 count plots.

Data was collected on Corvallis MicroTechnology (CMT) data collectors, and downloaded to the Atterbury Super A.C.E. program for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2, 3, and 4	GOLIVE	01	EDIT	133
1, 2, and 3	GOLIVE	01	TAKE	132
4 R/W	GOLIVE	01	ROW	1

6. Timber Description:

Areas 1, 2, and 3 are modified clearcut units, approximately 70 to 80 years-old, consisting of Douglas-fir, with minor amounts of western hemlock and pacific silver fir. The average Douglas-fir tree size to be harvested is 19.1 inches DBH, with an average height of 73 feet to a merchantable top (7 inch d.o.b.) The average western hemlock tree size is 17.0 inches DBH and 64 feet to a merchantable top (7 inch d.o.b) The average pacific silver fir tree size 15.0 inches DBH and 85 feet to a merchantable top (7 inch d.o.b). The net volume per acre to be harvested is 31.7 MBF/acre.

Area 4 R/W is similar to the timber description mentioned above in Areas 1, 2, and 3. The average volume per acre to be harvested 31.7 MBF/acre.

7. Statistical Analysis and Stand Summary

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, and 3	50%	11%	34.8%	6.1%

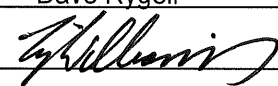
8. Volumes by Species and Log Grade:

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	19.1"	2,940	2,197	676	67	3.3	70
Western hemlock	17.0"	1,186	684	412	90	4	28
True fir	15.0"	89	0	89	0	-	2
Cedar	11.9"	1	0	1	0	-	<1
TOTALS		4,216	2,881	1,178	157		100

9. Approvals:

Prepared by: Dave Rygell Date: 5/19/2015

Unit Forester Approval:  Date: 6/5/15

10. Attachments:
- Cruise Designs and Maps - 3 pages
 - Volume Reports - 3 pages
 - Statistics Reports - 4 pages
 - Stand Table Summary - 1 page
 - Log Stock Tables - 2 pages

X:\STATE_FORESTS\UNIT_JEWELL\Timber Sales\2016\GreenOlive\GreenOlive_CruiseReport.docx

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Green Olive **Area(s)** 1, 2, 3

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 133 **Estimated CV%** 50 Net BF or
BA/Acre **SE% Objective** 11

Planned Sale Volume: 4.362 MMBF **Estimated Sale Area Value/Acre:** \$ 9,417.00

A. Cruise Goals: (a) Grade minimum 70 trees:

Determine log grades for sale value; Determine snag and leave tree species and sizes;
Determine "diameter limit" harvest parameters;

B. Cruise Design:

1. Plot Cruises: BAF 40 Full point
Cruise Line Direction(s) N-S
Cruise Line Spacing 11 chains
Cruise Plot Spacing 4 chains
Grade/Count Ratio 1:2

Record all hardwood as camp run. Record all cedar as leave. Record all snags as SN
and record diameter & total height. If plot lands in buffer then offset at least ½ chain
outside the buffer.

C. Tree Measurements:

1. Diameter: Minimum DBH to cruise is 8 " for conifers and 10" for hardwoods.
Record dbh to nearest 1" for trees 8"-24", and to nearest 2" for trees > 24".

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 less than 18" dbh and 40% of dob
@ FP for trees greater than 18" dbh.

4. Form Factors: (1) Measure or estimate a 16' form factor for every conifer tree
measured/graded; Hardwood form factors are a Standard 87.

5. Tree Segments: Record log segments in "standard" 32" and 40' log lengths
whenever possible. Do not record odd segments just to maximize grade. The
maximum segment length is 40'. The minimum segment length is 12' for conifer and 8'
for hardwoods. Minimum merchantable diameter for conifer is 8" dbh and 10" dbh for
hardwoods. One foot of trim is assumed for each merchantable segment.

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); DL(Douglas-fir over 30"dbh); HL(Western hemlock over 30" dbh); SL(Sitka spruce over 30" dbh); CL (Western red cedar over 30" dbh); NFL (Noble fir over 30" dbh); SFL (Silver fir over 30" dbh)

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

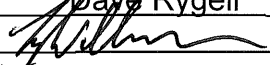
7. Deductions: Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable.

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. On "measure/grade" plots paint the tree diameter on each tree starting with the first tree right of the cruise line direction and continuing clockwise.

9. Cruising Equipment: Relaskop, Rangefinder, Biltmore Stick, Compass, Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging.

10. Attachments: A. Cruise Map (showing cruise unit boundaries, cruise lines and plot locations, BAF or plot size, measure/count plot ratio, north arrow, and scale bar.

Cruise Design by: Daye Rygell

Approved by: 

Date: 4/29/15

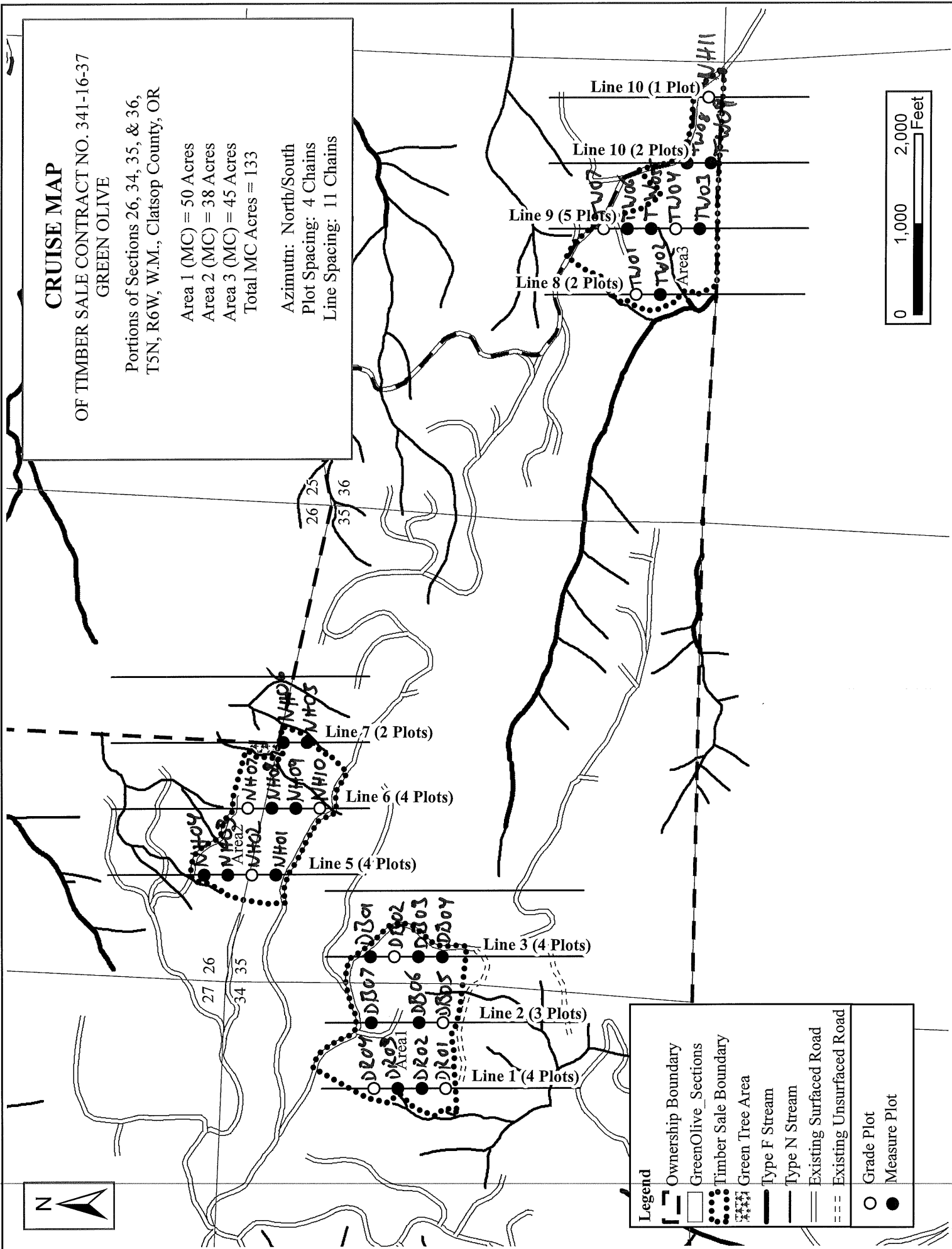
CRUISE MAP

OF TIMBER SALE CONTRACT NO. 341-16-37
GREEN OLIVE

Portions of Sections 26, 34, 35, & 36,
T5N, R6W, W.M., Clatsop County, OR

Area 1 (MC) = 50 Acres
Area 2 (MC) = 38 Acres
Area 3 (MC) = 45 Acres
Total MC Acres = 133

Azimuth: North/South
Plot Spacing: 4 Chains
Line Spacing: 11 Chains



Species, Sort Grade - Board Foot Volumes (Project)

T05N R06W S35 TyROW 1.00
T05N R06W S35 TyTAKE 132.00

Project: **GOLIVE**Acres **133.00**

Page **1**
Date **5/12/2015**
Time **1:01:01PM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			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	
					Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D		DOCU			100.0	475											6	18		0.00	4.9
D		DO2S		74	1.4	16,750	16,516	2,197		8	61	32		2	17	81	37	14	278	1.78	59.4
D		DO3S		23	.9	5,131	5,086	676		96	4		1	2	30	67	37	8	83	0.74	61.1
D		DO4S		3		505	505	67	35	65			33	42	24		20	5	22	0.42	22.7
D Totals				70	3.3	22,861	22,108	2,940	1	29	46	24	1	3	21	76	33	10	149	1.17	148.1
H		DOCU			100.0	113											1	8		0.00	11.3
H		DO2S		57	3.5	5,329	5,142	684			84	16	4		27	69	37	14	265	1.86	19.4
H		DO3S		35	2.1	3,171	3,104	412		84	16		1	0	57	42	35	9	97	0.83	32.2
H		DO4S		8		674	674	90	100				30			70	21	6	29	0.43	22.9
H Totals				28	4.0	9,287	8,920	1,186		37	54	9	5	0	35	60	27	9	104	1.06	85.8
SF		DOCU															7			0.00	3.1
SF		DO3S		100		672	672	89	100							100	40	9	110	0.73	6.1
SF Totals				2		672	672	89	100							100	27	8	73	0.73	9.2
C		DO3S		58		1	1	1	100							100	40	6	60	0.55	.0
C		DO4S		42		0	0	0	100				100				25	6	30	0.44	.0
C Totals				0		1	1	0	100				41		59		31	6	43	0.50	.0
Totals					3.4	32,822	31,700	4,216	1	33	47	19	2	2	24	72	31	10	130	1.12	243.1

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)								Page	1								
		Project: GOLIVE								Date	5/12/2015								
										Time	1:01:01PM								
T05N R06W S35 TTAKE										T05N R06W S35 TTAKE									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
05N	06W	35	01	TAKE	132.00	32	53	1	W										
S So Gr T rt ad Spp		% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Logs Per /Acre				
		Def%	Gross	Net	Log Scale Dia.				Log Length										
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ln Dia Ft In	Bd Ft	CF/ Lf		
D	DO	CU		100.0	475										6	18	0.00	4.9	
D	DO	2S	74	1.4	16,750	16,516	2,180	8	61	32		2	17	81	37	14	278	1.78	59.4
D	DO	3S	23	.9	5,131	5,086	671	96	4		1	2	30	67	37	8	83	0.74	61.1
D	DO	4S	3		505	505	67	35	65		33	42	24		20	5	22	0.42	22.7
D Totals		70	3.3	22,861	22,108	2,918	1	29	46	24	1	3	21	76	33	10	149	1.17	148.1
H	DO	CU		100.0	111										1	8	0.00	11.3	
H	DO	2S	57	3.5	5,329	5,141	679		84	16	4		27	69	37	14	265	1.86	19.4
H	DO	3S	35	2.1	3,172	3,104	410	84	16		1		57	42	35	9	97	0.83	32.2
H	DO	4S	8		675	675	89	100			30			70	21	6	29	0.43	22.9
H Totals		28	3.9	9,287	8,920	1,177		37	54	9	5		35	60	27	9	104	1.06	85.8
SF	DO	CU													7		0.00	3.1	
SF	DO	3S	100		672	672	89	100						100	40	9	110	0.73	6.1
SF Totals		2			672	672	89	100						100	27	8	73	0.73	9.2
Type Totals			3.4	32,820	31,700	4,184	1	33	47	19	2	2	24	72	31	10	130	1.12	243.0

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)								Page 1										
		Project: GOLIVE								Date 5/12/2015										
										Time 1:01:01PM										
T05N R06W S35 TROW										T05N R06W S35 TROW										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
05N	06W	35	01	ROW	1.00	32	56	1	W											
Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log		Logs Per /Acre		
								Log Scale Dia.				Log Length								
			Net BdFt	Def%	Gross	Net	Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ln Ft	Dia In	Bd Ft	CF/ Lf	
D	DO	CU		00.0	475											6	18		0.00	4.9
D	DO	2S	74	1.4	16,750	16,516	17	8	61	32		2	17	81		37	14	278	1.78	59.4
D	DO	3S	23	.9	5,131	5,086	5	96	4			1	2	30	67	37	8	83	0.74	61.1
D	DO	4S	3		505	505	1	35	65			33	42	24		20	5	22	0.42	22.7
D Totals			70	3.3	22,861	22,108	22	1	29	46	24	1	3	21	76	33	10	149	1.17	148.1
H	DO	CU		00.0	352											2	9		0.00	12.2
H	DO	2S	58	3.3	5,349	5,171	5		85	15		4		31	65	36	14	260	1.83	19.9
H	DO	3S	34	2.1	3,064	3,000	3	84	16			1	1	56	41	35	9	94	0.82	32.1
H	DO	4S	8		642	642	1	100				30			70	21	6	29	0.43	21.8
H Totals			28	6.3	9,408	8,813	9	36	55	9		5	0	37	58	27	9	102	1.05	86.0
SF	DO	CU														7			0.00	3.1
SF	DO	3S	100		672	672	1	100						100		40	9	110	0.73	6.1
SF Totals			2		672	672	1	100						100		27	8	73	0.73	9.2
C	DO	3S	58		81	81	0	100						100		40	6	60	0.55	1.4
C	DO	4S	42		57	57	0	100				100				25	6	30	0.44	1.9
C Totals			0		138	138	0	100				41		59		31	6	43	0.50	3.3
Type Totals				4.1	33,079	31,731	32	1	33	48	19	2	2	25	71	31	10	129	1.11	246.5

TC TSTATS				STATISTICS PROJECT GOLIVE				PAGE 1		
								DATE 5/12/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	01	EDIT	133.00	32	175	1	W	
				TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
		PLOTS	TREES							
TOTAL		32	175	5.5						
CRUISE		12	60	5.0	16,537		.4			
DBH COUNT										
REFOREST										
COUNT		20	111	5.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	38	72.1	19.1	73	32.9	143.8	22,861	22,108	5,838	5,760
WHEMLOCK	14	38.9	17.0	64	14.9	61.3	9,287	8,920	2,483	2,465
SNAG	4	6.6	13.2	35	1.7	6.3				
PS FIR	1	3.1	15.0	85	1.0	3.8	672	672	177	177
CEDLEAV	2	3.3	11.9	32	0.7	2.5	138	138	51	51
HEMLEAV	1	.4	23.0	74	0.3	1.3	169	95	43	26
TOTAL	60	124.3	18.0	67	51.6	218.8	33,127	31,934	8,592	8,479
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	77.0	12.5	382	436	491					
WHEMLOCK	44.1	12.2	276	315	354					
SNAG										
PS FIR										
CEDLEAV	47.1	44.1	25	45	65					
HEMLEAV										
TOTAL	84.6	10.9	319	359	398		286	72	32	
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	70.8	12.5	63	72	81					
WHEMLOCK	127.8	22.6	30	39	48					
SNAG	309.8	54.7	3	7	10					
PS FIR	416.2	73.5	1	3	5					
CEDLEAV	399.2	70.5	1	3	6					
HEMLEAV	565.7	99.9	0	0	1					
TOTAL	32.1	5.7	117	124	131		41	10	5	
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	64.3	11.4	127	144	160					
WHEMLOCK	125.2	22.1	48	61	75					
SNAG	286.6	50.6	3	6	9	</				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT GOLIVE				DATE	5/12/2015
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	35	01	EDIT	133.00	32	175	1	W
CL: 68.1 %				NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		COEFF	S.E.%	LOW	AVG	HIGH	5	10	15
CEDLEAV		400.1	70.7	41	138	236			
HEMLEAV		565.7	99.9	0	95	191			
TOTAL		34.8	6.1	29,971	31,934	33,896	48	12	5

TC TSTATS				STATISTICS PROJECT GOLIVE				PAGE 1										
								DATE 5/12/2015										
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt									
05N	06W	35	01	TAKE	132.00	32	167	1	W									
				TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES												
PLOTS		TREES																
TOTAL	32	167	5.2															
CRUISE	11	53	4.8	15,054		.4												
DBH COUNT																		
REFOREST																		
COUNT	21	114	5.4															
BLANKS																		
100 %																		
STAND SUMMARY																		
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC								
DOUG FIR	38	72.1	19.1	73	32.9	143.8	22,861	22,108	5,838	5,760								
WHEMLOCK	14	38.9	17.0	64	14.9	61.3	9,287	8,920	2,483	2,465								
PS FIR	1	3.1	15.0	85	1.0	3.8	672	672	177	177								
TOTAL	53	114.0	18.3	70	48.8	208.8	32,820	31,700	8,499	8,402								
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	77.0	12.5	382	436	491													
WHEMLOCK	44.1	12.2	276	315	354													
PS FIR																		
TOTAL	74.4	10.2	359	400	441	221	55	25										
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	70.8	12.5	63	72	81													
WHEMLOCK	127.8	22.6	30	39	48													
PS FIR	416.2	73.5	1	3	5													
TOTAL	40.4	7.1	106	114	122	65	16	7										
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	64.3	11.4	127	144	160													
WHEMLOCK	125.2	22.1	48	61	75													
PS FIR	416.2	73.5	1	4	7													
TOTAL	34.7	6.1	196	209	222	48	12	5										
CL: 68.1 %	COEFF	NET BF/ACRE																

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT GOLIVE				DATE	5/12/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	35	01	ROW	1.00	32	170	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
		PLOTS	TREES							
TOTAL		32	170	5.3						
CRUISE		12	56	4.7	117		47.9			
DBH COUNT										
REFOREST										
COUNT		20	110	5.5						
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	38	72.1	19.1	73	32.9	143.8	22,861	22,108	5,838	5,760
WHEMLOCK	15	38.5	17.2	65	15.0	62.5	9,408	8,813	2,508	2,435
PS FIR	1	3.1	15.0	85	1.0	3.8	672	672	177	177
WR CEDAR	2	3.3	11.9	32	0.7	2.5	138	138	51	51
TOTAL	56	116.9	18.3	69	49.7	212.5	33,079	31,731	8,574	8,422
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	77.0	12.5	382	436	491					
WHEMLOCK	44.1	11.8	272	309	345					
PS FIR										
WR CEDAR	47.1	44.1	25	45	65					
TOTAL	77.6	10.4	344	384	424		240	60	27	
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	70.8	12.5	63	72	81					
WHEMLOCK	125.5	22.2	30	39	47					
PS FIR	416.2	73.5	1	3	5					
WR CEDAR	399.2	70.5	1	3	6					
TOTAL	34.6	6.1	110	117	124		48	12	5	
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	64.3	11.4	127	144	160					
WHEMLOCK	121.6	21.5	49	63	76					
PS FIR	416.2	73.5	1	4	7					
WR CEDAR	393.5	69.5	1	3	4					
TOTAL	30.8	5.4	201	213	224</					

TC PSTNDSUM		Stand Table Summary								Page	1				
										Date:	5/12/2015				
T05N R06W S35 TyROW 1.00 T05N R06W S35 TyTAKE 132.00		Project GOLIVE								Time:	1:07:47PM				
		Acres 133.00								Grown Year:					
S Spec T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
	DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D	10	2	88	21	6.936	3.78	6.94	6.0	10.0		42	69	55	9	
D	13	2	89	101	4.104	3.78	8.21	17.5	70.0		144	575	191	76	
D	14	2	89	54	3.539	3.78	3.54	24.0	60.0		85	212	113	28	
D	15	4	85	78	6.165	7.57	12.33	19.5	60.0		240	740	320	98	
D	16	2	85	105	2.709	3.78	5.42	26.0	95.0		141	515	187	68	
D	17	6	88	92	7.200	11.35	14.40	28.8	103.3		415	1,488	552	198	
D	18	6	87	89	6.670	11.35	13.34	29.9	103.7		399	1,383	531	184	
D	19	8	86	108	7.685	15.13	15.37	39.4	135.0		605	2,075	805	276	
D	20	2	85	105	1.734	3.78	3.47	43.5	150.0		151	520	201	69	
D	21	8	88	112	6.291	15.13	12.58	51.4	196.2		646	2,469	860	328	
D	22	4	87	119	2.866	7.57	7.17	46.2	182.0		331	1,304	440	173	
D	23	2	85	125	1.311	3.78	3.93	38.7	163.3		152	642	202	85	
D	24	10	89	118	6.021	18.91	14.45	59.8	242.5		863	3,504	1,148	466	
D	25	12	87	113	6.658	22.70	15.54	61.9	247.1		961	3,840	1,278	511	
D	28	2	86	133	.885	3.78	2.65	71.0	313.3		188	832	251	111	
D	31	2	87	153	.722	3.78	2.17	98.3	480.0		213	1,039	283	138	
D	35	2	88	140	.566	3.78	1.70	107.3	530.0		182	900	242	120	
D	Totals	76	87	94	72.062	143.75	143.19	40.2	154.4		5,760	22,108	7,660	2,940	
H	9	2	83	25	9.899	4.37	9.90	4.0	10.0		40	99	53	13	
H	13	2	88	119	4.745	4.37	9.49	22.5	85.0		214	807	284	107	
H	16	4	87	103	6.264	8.75	15.66	24.8	94.0		388	1,472	517	196	
H	18	2	86	101	2.475	4.37	4.95	38.5	130.0		191	643	253	86	
H	20	8	86	100	8.019	17.49	18.04	41.8	146.7		754	2,646	1,002	352	
H	21	2	86	104	1.818	4.37	3.64	53.0	190.0		193	691	256	92	</

Log Stock Table - MBF

T05N R06W S35 TyROW 1.00
T05N R06W S35 TyTAKE 132.00

Project: GOLIVE
Acres 133.00

Page 1
Date 5/12/2015
Time 1:08:27PM

S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Sp	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	6	44	100.0														
D	DO CU	10	19	100.0														
D	DO 2S	24	43		43	1.5					43							
D	DO 2S	32	392	2.1	384	13.1			29		85	216		55				
D	DO 2S	40	1,792	1.3	1,769	60.2					57	300	472	775	81	84		
D	DO 3S	17	5		5	.2					5							
D	DO 3S	22	6		6	.2				6								
D	DO 3S	27	7		7	.3				7								
D	DO 3S	32	199	3.0	193	6.6			27	49	117							
D	DO 3S	35	13		13	.4			13									
D	DO 3S	36	13		13	.5					13							
D	DO 3S	37	13		13	.4				13								
D	DO 3S	40	426		426	14.5			235	131	29			30				
D	DO 4S	10	2		2	.1			2									
D	DO 4S	13	3		3	.1				3								
D	DO 4S	16	8		8	.3		8										
D	DO 4S	19	9		9	.3		9										
D	DO 4S	21	9		9	.3			9									
D	DO 4S	22	6		6	.2		6										
D	DO 4S	23	8		8	.3			8									
D	DO 4S	24	6		6	.2				6								
D	DO 4S	31	16		16	.6			16									
D	Totals		3,041	3.3	2,940	69.7		24	310	244	306	560	472	859	81	84		
H	DO CU	6	15	100.0														
H	DO CU	15	0	100.0														
H	DO 2S	20	50	40.7	30	2.5								30				
H	DO 2S	32	184	1.0	182	15.4					28		75	80				
H	DO 2S	40	475		472	39.8					255		143	74				
H	DO 3S	14	4		4	.3				4								
H	DO 3S	25	0		0	.0			0									
H	DO 3S	32	239	1.1	236	19.9				50	119	67						

Log Stock Table - MBF

Page 2
 Date 5/12/2015
 Time 1:08:27PM

T05N R06W S35 TyROW 1.00
 T05N R06W S35 TyTAKE 132.00

Project: GOLIVE
 Acres 133.00

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	4S	10	13		13	1.1			13									
H		DO	4S	18	14		14	1.2			14									
H		DO	4S	36	25		25	2.1			25									
H		DO	4S	38	38		38	3.2			38									
H		Totals			1,235	4.0	1,186	28.1			172	145	119	350	217	183				
SF		DO	3S	40	89		89	100.0			28		61							
SF		Totals			89		89	2.1			28		61							
C		DO	3S	40	0		0	58.9			0									
C		DO	4S	25	0		0	41.1			0									
C		Totals			0		0	.0			0									
Total		All Species			4,365	3.4	4,216	100.0		24	510	389	486	910	689	1043	81	84		

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-16-37

GREEN OLIVE

Portions of Sections 26, 34, 35, & 36,
T5N, R6W, W.M., Clatsop County, OR

Area 1 (MC) = 50 Acres

Area 2 (MC) = 38 Acres

Area 3 (MC) = 44 Acres

Area 4 R/W = 1 Acre

Total MC Acres = 133

0 1,000 2,000
Feet

1 inch = 1,000 feet

Legend

Ownership Boundary

Timber Sale Boundary

Green Tree Reserve Area

Type F Stream

Type N Stream

Right of Way Boundary

Posted Stream Buffer

Buffer Zone

Existing Surfaced Road

Existing Vacated Road

New Road Construction - Unsurfaced

Existing Landing

New Construction Landing

Known Land Survey Marker

Quarry

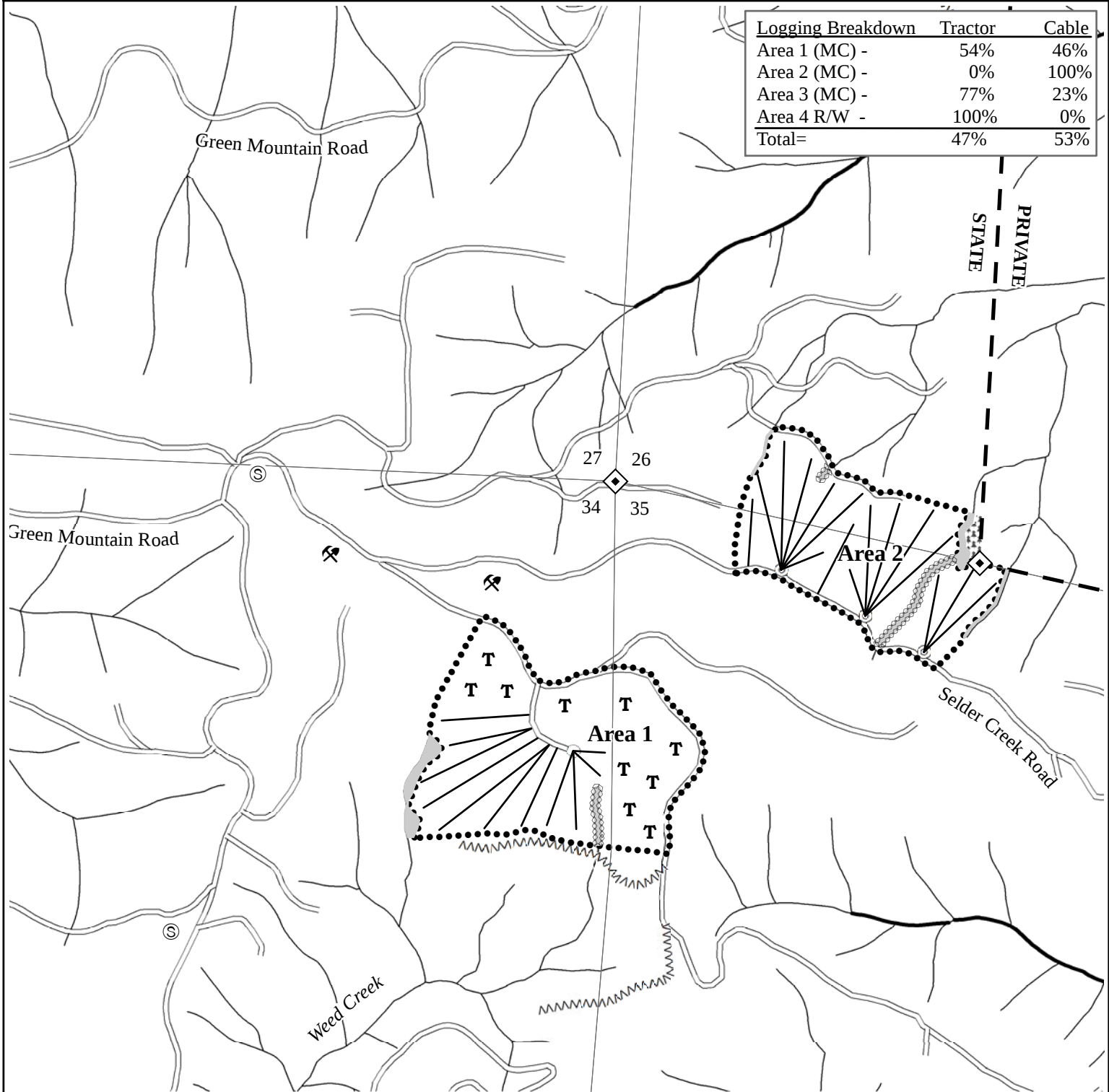
Stockpile

Yarding Area - Cable

Yarding Area - Tractor



Logging Breakdown	Tractor	Cable
Area 1 (MC) -	54%	46%
Area 2 (MC) -	0%	100%
Area 3 (MC) -	77%	23%
Area 4 R/W -	100%	0%
Total=	47%	53%



LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-16-37

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0 1,000 2,000
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Ownership Boundary

Timber Sale Boundary

Green Tree Reserve Area

Type F Stream

Type N Stream

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Buffer Zone

Existing Surfaced Road

Existing Vacated Road

New Road Construction - Unsurfaced

Existing Landing

New Construction Landing

Known Land Survey Marker

Quarry

Stockpile

Yarding Area - Cable

Yarding Area - Tractor

Logging Breakdown	Tractor	Cable
Area 1 (MC) -	54%	46%
Area 2 (MC) -	0%	100%
Area 3 (MC) -	77%	23%
Area 4 R/W -	100%	0%
Total=	47%	53%

