



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Bonney Burgett Combo

Sale WO-341-2016-03-

District: West Oregon

Date: January 26, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$122,355.76	\$0.00	\$122,355.76
		Project Work:	(\$36,061.00)
		Advertised Value:	\$86,294.76



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Timber Description

Location: Portions of Section 30, T10S, R6W, and portions of Sections 25 and 36, T10S, R7W, W.M., Benton County, Oregon.

Stand Stocking: 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	95

Volume by Grade	3S	4S	Total
Douglas - Fir	576	248	824
Total	576	248	824

Comments: Pond Values Used: 4th Quarter Calendar Year 2015.

Western Hemlock and Other Conifers Stumpage Price = Douglas-fir bid price.

Western redcedar and Other Cedars Stumpage Price = Douglas-fir bid price.

Red Alder and Other Hardwoods Stumpage Price = Douglas-fir bid price.

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

LOG HAUL:

Costed to Philomath.

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):

Intermediate Supports/Tail Trees: 8 trees @ \$100/tree = \$800

Branding & Painting: 824 MBF @ \$1/MBF = \$824

Felling Un-merchantable Material: 10 acres @ \$100/acre = \$1,000

TOTAL Other Costs (with Profit & Risk to be added) = \$2,624

Other Costs (No Profit & Risk added):

Non-Project Roads and Landings: \$1,105

Invasive Species Equipment Cleaning: \$2,000

Firewood Sorting: 4 landings @ \$100/landing = \$400

TOTAL Other Costs (No Profit & Risk added) = \$3,505

SLASH DISPOSAL

None.



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Logging Conditions

Combination#: 1 Douglas - Fir 7.50%

Logging System: Cable: Small Tower <=40 **Process:** Stroke Delimber

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

tree size: Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF

loads / day: 5 **bd. ft / load:** 3500

cost / mbf: \$320.00

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

Combination#: 2 Douglas - Fir 50.85%

Logging System: Cable: Small Tower <=40 **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: 6 **bd. ft / load:** 3500

cost / mbf: \$266.67

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

Combination#: 3 Douglas - Fir 18.64%

Logging System: Cable: Small Tower <=40 **Process:** Stroke Delimber

yarding distance: Long (1,500 ft) **downhill yarding:** No

tree size: Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF

loads / day: 4 **bd. ft / load:** 3500

cost / mbf: \$400.00

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

Combination#: 4 Douglas - Fir 23.01%

Logging System: Track Skidder **Process:** Stroke Delimber

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

tree size: Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF

loads / day: 7 **bd. ft / load:** 3500

cost / mbf: \$129.47

machines: Stroke Delimber (B)



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Logging Costs

Operating Seasons: 2.00	Profit Risk: 12%
Project Costs: \$36,061.00	Other Costs (P/R): \$2,624.00
Slash Disposal: \$0.00	Other Costs: \$3,505.00

Miles of Road

Road Maintenance: \$4.06

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.5



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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									
\$263.95	\$4.26	\$10.64	\$78.00	\$3.18	\$43.20	\$0.00	\$5.00	\$4.25	\$412.48

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$560.97	\$148.49	\$0.00



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Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	824	\$148.49	\$122,355.76

Gross Timber Sale Value

Recovery: \$122,355.76

Prepared By: Matt McBride

Phone: 541-929-3266

SUMMARY OF ALL PROJECT COSTS

Sale Name: Bonney Burgett Combo

Date: June 2015

Time: 10:01

Project #1 - New Construction

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
B2 to B3	3.2 sta	\$3,202
C2 to C3	8.3 sta	\$1,571
C4 to C5	9.2 sta	\$1,677

TOTALS	20.7 sta	\$6,450
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Project #2 - Improvements

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to A1	90.3 sta	\$4,509
A1 to A2	13.2 sta	\$476
B to B1	36.2 sta	\$14,643
C to C1	42.6 sta	\$5,593

TOTALS	182.3 sta	\$25,221
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Project #3 - Post Harvest Activities

Landing patch rock and turnaround rock \$1,237

<u>Move in</u>	<u>Cost</u>	<u>On-site move</u>
Excavator	\$753	\$60
Crawler tractor, D-7 or equiv.	\$547	\$52
Grader, Cat 14-G or equiv.	\$681	\$20
Backhoe	\$681	
Vibratory roller	\$340	\$19

TOTAL		\$3,153
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GRAND TOTAL **\$36,061**

Compiled by M. McBride

Date 06/01/2015

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 2 LENGTH improve 90.3 sta
ROAD A to A1 Surfaced, Crowned

IMPROVEMENT

Shape surface

(with road grader)

0+00 to 90+30 90.3 sta. @ \$13.75 /sta = \$1,242

Clear woody debris 3.0 hrs. @ \$ 54.78 /hr. = \$164

(with Chainsaw Pt. A to Pt. B)

TOTAL IMPROVEMENT \$1,406

SURFACING

Spot rock(1.6 miles)

0+00 to 90+30 162 cy of 1½-0" \$17.25 = \$2,795

(100 CY/mile)

TOTAL ROCK COST = \$2,795

SPECIAL PROJECTS

Clean out culverts 12 culverts @ \$25.67 ea. = \$308

0+00 to 90+30

(inlets and outlets)

TOTAL SPECIAL PROJECTS COST = \$308

Compiled by: M. McBride

Date: Jun 1, 2015

GRAND TOTAL =====> \$4,509

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 2 LENGTH improve 13.2 sta
ROAD A1 to A2 Unsurfaced, Outsloped

IMPROVEMENT

Re-open road (with dozer)	2.5 hrs.	@	\$135.80 /hr.	=	\$340
Re-open/enlarge Landing Pt. A2 (with dozer)	1.0 hrs.	@	\$135.80 /hr.	=	\$136

TOTAL IMPROVEMENT \$476

Compiled by: M.McBride
Date: Jun 1, 2015

GRAND TOTAL =====> \$476

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 2 LENGTH improve 36.2 sta
ROAD B to B1 Surfaced, Ditch (0+00 to 4+20), Outsloped (4+20 to 36+20)

IMPROVEMENT

Re-open landing Pt. B1 (with road grader)	1.0 hrs.	@	\$ 90.75 /hr.	=	\$91
Shape surface (with road grader) sta. 0+00 to 4+20	4.2 sta.	@	\$13.75 /sta	=	\$58
Shape surface (with road grader) sta. 4+20 to 36+20	32.0 sta.	@	\$9.90 /sta	=	\$317
Clear woody debris (with Chainsaw Pt. A to Pt. B)	4.0 hrs.	@	\$ 54.78 /hr.	=	\$219

TOTAL IMPROVEMENT \$685

SURFACING

			Size	Cost/yd		
Surface rock (4"lift) (sta. 0+00 to Pt. B2)	657 cy of		1½-0"	\$17.25	=	\$11,333
Surface rock (4"lift) (Pt. B2 to 35+70)	135 cy of		3-0"	\$15.56	=	\$2,101
Landing rock	36 cy of		jaw-run	\$14.55	=	\$524

TOTAL ROCK COST = \$13,958

Compiled by: M. McBride
Date: Jun 1, 2015

GRAND TOTAL =====> \$14,643

SUMMARY OF CONSTRUCTION COST

SALE	Bonney Burgett Cor	Project # 1	LENGTH const	3.2 sta
ROAD	B2 to B3	Surfaced, Outsloped		

CLEARING AND GRUBBING

0.18 acres	@	\$1,010.24 /acre	=	\$182 road
0.10 acres	@	\$1,010.24 /acre	=	\$101 landing

TOTAL CLEARING AND GRUBBING = \$283

EXCAVATION

With D7 dozer or equivalent

Construct road	3.2 sta.	@	\$74.28 /sta.	=	\$238
Construct landing Pt. B3	2 hr.	@	\$135.80 /hr.	=	\$272
Shape subgrade (with road grader)	3.2 sta.	@	\$11.55 /sta	=	\$37
Compact subgrade (with vibratory roller)	3.2 sta.	@	\$8.31 /sta	=	\$27

TOTAL EXCAVATION = \$574

SURFACING

			Size	Cost/yd		
Base rock (8" lift) (0+00 to 2+70)	117 cy of		3-0"	\$15.56	=	\$1,821
Landing rock	36 cy of		jaw-run	\$14.55	=	\$524

TOTAL ROCK COST = \$2,345

Compiled by: M. McBride
Date: Jun 1, 2015

GRAND TOTAL =====> \$3,202

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 2 LENGTH improve 42.6 sta
 ROAD C to C1 Surfaced, Outsloped

IMPROVEMENT

Shape surface (with road grader)	42.6 sta.	@	\$9.90 /sta	=	\$422
Compact subgrade (with vibratory roller) sta. 19+30 to Pt.C2)	7.9 sta.	@	\$8.31 /sta	=	\$66
Slough removal	270 cy	@	\$1.27 /cy		\$343
Slough endhaul (Incorporate in to Subgrade C2 to C3)	100 cy	@	\$2.80 /cy		\$280
Slough endhaul	120 cy	@	\$2.80 /cy		\$336
Process Waste Area	120 cy	@	\$0.38 /cy		\$46
Clear woody debris (with chainsaw Pt. C to Pt. C1)	2.0 hrs.	@	\$54.78 /hr.		\$110

TOTAL IMPROVEMENT \$1,603

SURFACING

			Size	Cost/yd		
Surface rock (4"lift) sta. 19+30 to Pt.C2 (7.9 sta.)	171 cy of		1½-0"	\$17.25	=	\$2,950
Spot rock (0.4 miles) (100 CY/mile)	36 cy of		1½-0"	\$17.25	=	\$621
Spot rock (0.2 miles) (100 CY/mile)	27 cy of		1½-0"	\$14.55	=	\$393

TOTAL ROCK COST = \$3,964

SPECIAL PROJECTS

Clean out culverts (inlets and outlets)	1 culverts	@	\$25.67 ea.	=	\$26
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TOTAL SPECIAL PROJECTS COST = \$26

Compiled by: M. McBride
 Date: Jun 1, 2015

GRAND TOTAL =====> \$5,593

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 1 LENGTH const 8.3 sta
ROAD C2 to C3 Unsurfaced, Outsloped

CLEARING AND GRUBBING

0.46 acres @ \$1,010.24 /acre = \$465 road
0.10 acres @ \$1,010.24 /acre = \$101 landing

TOTAL CLEARING AND GRUBBING = \$566

EXCAVATION

With D7 dozer or equivalent

Construct road 8.3 sta. @ \$74.28 /sta. = \$617
Construct landing 2 hr. @ \$135.80 /hr. = \$272
Pt. C3
Shape subgrade 8.3 sta. @ \$11.55 /sta = \$96
(with road grader)
Compact subgrade 2.4 sta. @ \$8.31 /sta = \$20
(with vibratory roller)

TOTAL EXCAVATION = \$1,005

Compiled by: M. McBride
Date: Jun 1, 2015

GRAND TOTAL =====> \$1,571

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Cor Project # 1 LENGTH const 9.2 sta
ROAD C4 to C5 Unsurfaced, Outsloped

CLEARING AND GRUBBING

0.51 acres @ \$1,010.24 /acre = \$515 road
0.10 acres @ \$1,010.24 /acre = \$101 landing

TOTAL CLEARING AND GRUBBING = \$616

EXCAVATION

With D7 dozer or equivalent

Construct road 9.2 sta. @ \$74.28 /sta. = \$683
Construct landing 2 hr. @ \$135.80 /hr. = \$272
Pt. C5
Shape subgrade 9.2 sta. @ \$11.55 /sta = \$106
(with road grader)

TOTAL EXCAVATION = \$1,061

Compiled by: M.McBride
Date: Jun 1, 2015

GRAND TOTAL =====> \$1,677

SUMMARY OF CONSTRUCTION COST

SALE Bonney Burgett Comt - Project #3 Post Harvest
ROAD

SURFACING

		Size	Cost/CY		
Landing patch rock (5) (B to B1)	45 cy of	3-0"	\$15.56	=	\$ 700
Turnaround rock Pt. B1	27 cy of	3-0"	\$15.56	=	\$ 420

TOTAL SURFACING COST = \$1,120

MISCELLANEOUS PROJECTS

Tank traps

Point A1	0.5 hr.	@	\$77.00 /hr. =	\$39
Point C2	0.5 hr.	@	\$77.00 /hr. =	\$39
Point C4	0.5 hr.	@	\$77.00 /hr. =	\$39

TOTAL MISCELLANEOUS PROJECTS = \$117

GRAND TOTAL =====> \$1,237

Compiled by:

M. McBride

Date:

Jun 1, 2015

TIMBER CRUISE REPORT

1. **Sale Area Location:** Portions of Sections 30, T10S, R06W, and Sections 25 and 36, T10S, R07W, W.M., Benton County, Oregon
2. **Fund Distribution:**
 - a. **Fund** BOF 100%
 - b. **Tax Code**
3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Acreage Adjustment	Net Sale Acres	Acreage Comp. Method
1	Modified Clearcut	21	Cruise	19	Ortho photo, GIS, GPS
2	Partial Cut	30	Cruise	28	Ortho photo, GIS, GPS
3	Partial Cut	50	Cruise	48	Ortho photo, GIS, GPS

4. **Cruisers and Cruise Dates:** The sale was cruised by Matt McBride in April of 2015.
5. **Cruise Method and Computation:** The sale consists of 1 modified clear-cut area and 2 partial cut areas that were cruised using variable plot sampling. All areas were cruised using a 20 BAF. Plots were randomly located throughout the areas with 9 plots in Area 1, 12 plots in Area 2, and 20 plots in Area 3. Trees contributing to excess basal area on each plot (above the residual basal area target of 120 ft²/acre) were measured for DBH and height. Data from measured trees was entered into a variable plot density management worksheet to determine removal volumes. Standard grade, defect, and breakage percentages were applied to the resulting volumes.

Stereo photos, digital ortho photos, LiDar data, and GPS data from a Garmin GPSmap 60CSx were used to map the boundaries for the sale, and ArcMap 10.2 was used to determine gross and net acreage.
6. **Measurement Standards:** Heights were measured to the nearest foot, to a top diameter of 5 inches inside bark or total height. Diameters were measured to the nearest inch, and a form point of 16 feet was used to calculate form factor. All trees were graded in 40 foot segments unless breakage, defect, or length to top of grade cruise diameter warranted otherwise.
7. **Timber Description:** Timber in sale area 1 includes 19 acres of 37 year-old Douglas-fir and Red Alder with scattered Big Leaf Maple. Timber in sale area 2 includes 28 acres of 37 year-old Douglas-fir and Red Alder with scattered Big Leaf Maple. Timber in sale area 3 includes 48 acres of 29 year-old Douglas-fir and Red Alder with scattered Big Leaf Maple. Conifer trees other than Douglas-fir are reserved from cutting in all sale areas. Limited amounts of Western Red Cedar observed during cruising or other field work.

8. **Statistical Analysis and Stand Summary:** (See attached “Statistics”).

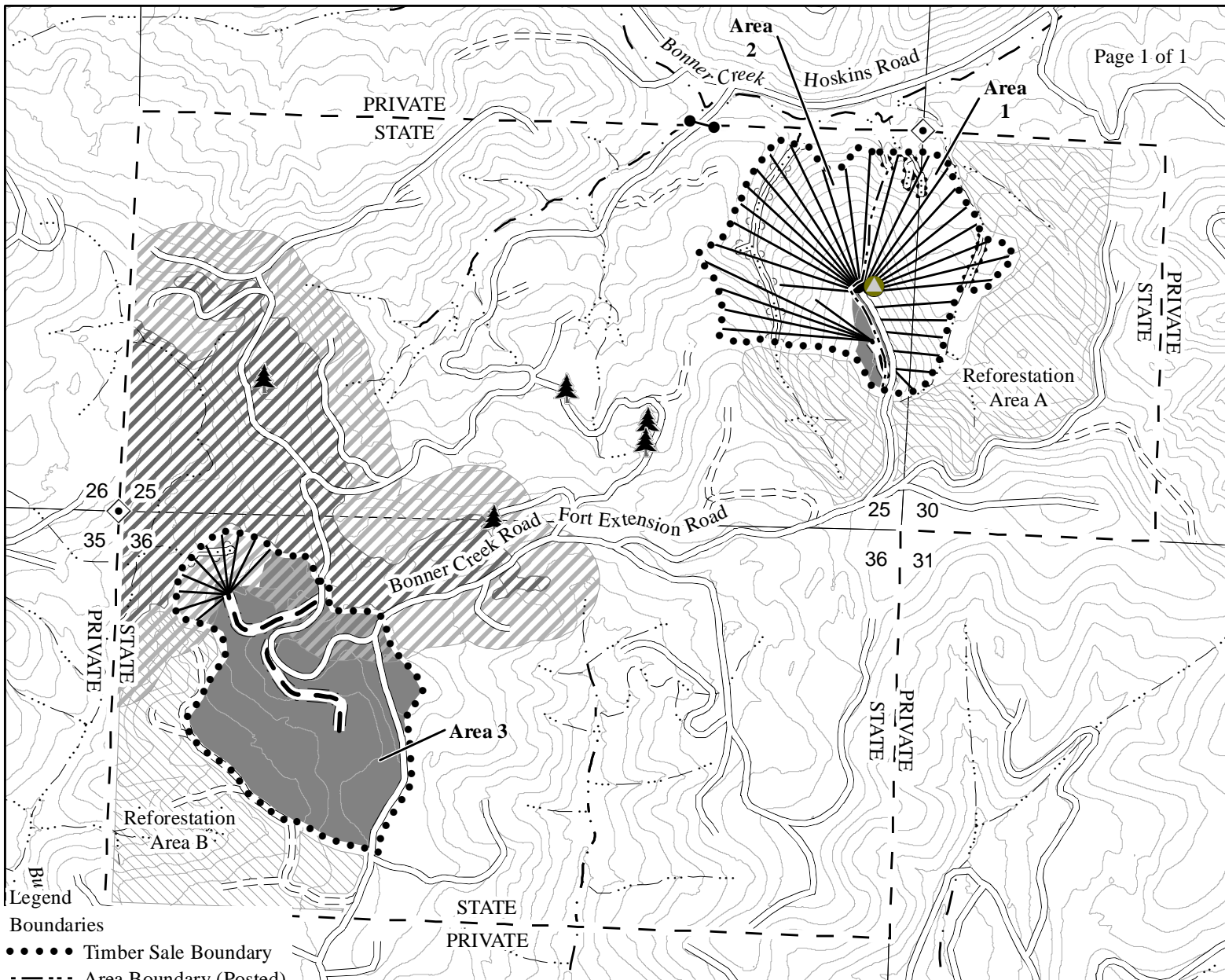
AREA	Target CV	Target SE	Actual CV	Actual SE
1	65%	9%	%	2.66%
2	65%	9%	%	4.23%
3	65%	9%	%	4.21%

Note: Statistics shown are for Douglas-fir and hardwood trees combined. Percentages are for net board foot volume.

9. **Total Volume (MBF) by Species and Grade:** (See attached “Stand Table Summary” and “Species, Sort Grade”).

Species	Gross Cruise Volume	D & B	D & B (MBF)	Net Sale Volume
Area 1				
Douglas-fir	446	6%	27	419
Area 2				
Douglas-fir	201	4.5%	9	192
Area 3				
Douglas-fir	222	4%	9	213
Total				
Douglas-fir	869	5.2%	45	824

Species	DBH	Net Vol.	2-Saw	3-Saw	4-Saw	% D & B
Area 1	Grade Percentages		--	70%	30%	
Douglas-fir	17.5	419	--	293	126	6%
Area 2	Grade Percentages		--	70%	30%	
Douglas-fir	14.8	192	--	134	58	4.5%
Area 3	Grade Percentages		--	70%	30%	
Douglas-fir	11.2	213	--	149	64	4%
Total	Grade Percentages		--	70%	30%	
Douglas-fir	13.4	824	--	576	248	5.2%



- Legend**
- Boundaries**
- Timber Sale Boundary
 - - - - Area Boundary (Posted)
 - - - - State Forest Property Boundary
 - == == Right of Way (Posted)
- Roads**
- ==== Surfaced Road
 - == == Unsurfaced Road
 - - - - New Construction
- Streams**
- · · · Type F Stream
 - · · · Type N Stream
 - Posted Stream Buffer
 - ~~~~~ Unposted Stream Buffer
- Yarding Method**
- Tractor Yarding Area
 - Cable Corridors
- Marbled Murrelet Management Area**
- ▨ Occupied Habitat
 - ▨ Non-Habitat Buffer
 - ▨ Reforestation Area
- ◆ Land Survey Monument
 - Gates
 - ▲ Parent Trees
 - Permanent Inventory Plot

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-16-03
 BONNEY BURGETT COMBO
 PORTIONS OF SECTION 30, T10S, R6W,
 & SECTIONS 25 & 36, T10S, R7W, W.M.,
 BENTON COUNTY, OREGON

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

AREA	NET ACRES	
	TRACTOR	CABLE
1 (MC)	0	19
2 (PC)	2	26
3 (PC)	43	5
TOTAL	45	50

Scale
 1:12,000



Created By: Blake McKinley
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 Date: 06/19/2015