



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Duchess And The Duke
Sale FG-341-2020-W00544-01

District: Forest Grove

Date: June 12, 2019

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,410,605.38	\$20,909.48	\$1,431,514.86
		Project Work:	(\$57,313.00)
		Advertised Value:	\$1,374,201.86



Timber Sale Appraisal
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Sale FG-341-2020-W00544-01

District: Forest Grove

Date: June 12, 2019

Timber Description

Location: Portions of Section 10, T1N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	98
Western Hemlock / Fir	19	0	98
Alder (Red)	13	0	95
Maple	12	0	90

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,096	1,032	0	3,128
Western Hemlock / Fir	7	11	0	18
Alder (Red)	0	0	84	84
Maple	0	0	16	16
Total	2,103	1,043	100	3,246

Comments: Pond Values Used: Local Pond Values, April 2019.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
\$676.03/MBF = \$909/MBF - \$232.97/MBF

BRANDING AND PAINTING COST ALLOWANCE =\$2.00/MBF

FUEL COST ALLOWANCE =\$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$950 daily truck cost.

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

None

Other Costs (No Profit & Risk added):

Machine Time to Block/Waterbar Roads, and Skid Trails:

20 hours x \$150/hour = \$3,000

Machine Time to Pile Landing Slash:

10 hours x \$150/hour = \$1,500

Equipment Cleaning: 3 pieces x \$1,000/Piece = \$3,000

Slash Treatment: 20 acres x \$200/acre = \$4,000

TOTAL Other Costs (No Profit & Risk added) = \$11,500

ROAD MAINTENANCE

Move-in: \$4,000

General Road Maintenance: \$11,628

9.69 miles x \$1,200/mile = \$11,628

TOTAL Road Maintenance: \$15,628/3,246 MBF = \$4.81/MBF



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Logging Conditions

Combination#: 1

Douglas - Fir	51.00%
Western Hemlock / Fir	51.00%
Alder (Red)	51.00%
Maple	51.00%

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

yarding distance: Medium (800 ft) **downhill yarding:** No

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

loads / day: 8 **bd. ft / load:** 4400

cost / mbf: \$170.45

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

Combination#: 2

Douglas - Fir	49.00%
Western Hemlock / Fir	49.00%
Alder (Red)	49.00%
Maple	49.00%

Logging System: Shovel **Process:** Feller Buncher

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

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

loads / day: 10 **bd. ft / load:** 4000

cost / mbf: \$88.45

machines: Feller Buncher w/ Delimber



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Duchess And The Duke Sale FG-341-2020-W00544-01

District: Forest Grove

Date: June 12, 2019

Logging Costs

Operating Seasons: 1.00	Profit Risk: 10%
Project Costs: \$57,313.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$11,500.00

Miles of Road

Road Maintenance: \$4.81

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.6
Western Hemlock / Fir	\$0.00	2.0	4.6
Alder (Red)	\$0.00	2.0	3.0
Maple	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Duchess And The Duke
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District: Forest Grove

Date: June 12, 2019

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$130.27	\$4.91	\$1.35	\$70.22	\$0.00	\$20.68	\$0.00	\$2.00	\$3.54	\$232.97
Western Hemlock / Fir									
\$130.27	\$4.91	\$1.35	\$105.33	\$0.00	\$24.19	\$0.00	\$2.00	\$3.54	\$271.59
Alder (Red)									
\$130.27	\$5.05	\$1.35	\$166.25	\$0.00	\$30.29	\$0.00	\$2.00	\$3.54	\$338.75
Maple									
\$130.27	\$5.29	\$1.35	\$174.16	\$0.00	\$31.11	\$0.00	\$2.00	\$3.54	\$347.72

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$682.36	\$449.39	\$0.00
Western Hemlock / Fir	\$0.00	\$544.56	\$272.97	\$0.00
Alder (Red)	\$0.00	\$572.00	\$233.25	\$0.00
Maple	\$0.00	\$430.00	\$82.28	\$0.00



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Sale FG-341-2020-W00544-01

District: Forest Grove

Date: June 12, 2019

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
Maple	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,128	\$449.39	\$1,405,691.92
Western Hemlock / Fir	18	\$272.97	\$4,913.46
Alder (Red)	84	\$233.25	\$19,593.00
Maple	16	\$82.28	\$1,316.48

Gross Timber Sale Value

Recovery: \$1,431,514.86

Prepared By: Adrian Torres

Phone: 503-359-7460

PROJECT COST SUMMARY SHEET

Timber Sale: Duchess and the Duke
Sale Number: FG-341-2020-W00544-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION & RECONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	A to B	24+35	\$35,237.15
	C to D	3+55	\$7,293.39
	E to F	8+00	\$492.82
	<u>G to H</u>	<u>10+40</u>	<u>\$2,360.12</u>
		46+30 stations	
		0.88 miles	
Total Rock =	40 cy	1½" - 0	
	1928 cy	Jaw-run	
		Move-in =	<u>\$5,444.48</u>
		<u>TOTAL PROJECT NO. 1 COST =</u>	<u>\$50,827.96</u>

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Points</u>	<u>Cost</u>
	<u>I, J, K & L</u>	<u>\$4,879.65</u>
Total Rock =	120 cy	1½" - 0
	10 cy	24" - 12"
		Move-in =
		\$585.39
		<u>TOTAL PROJECT NO. 2 COST =</u>
		<u>\$5,465.04</u>

PROJECT NO. 3: ROAD BLOCKING

TOTAL PROJECT NO. 3 COST = **\$1,020.00**

TOTAL CREDITS **\$57,313.00**

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke
 Road Segment: C to D

Sale Number: FG-341-2020-W00544-01
 Construction: 3+55 stations
0.07 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.25	ac @	\$1,078.00	per ac =	\$269.50
Balanced road construction	3.55	sta @	\$110.00	per sta =	\$390.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	3.55	sta @	\$36.00	per sta =	\$127.80

TOTAL CONSTRUCTION COSTS = \$1,101.80

ROCK

	Rock Size	Base & Haul Cost	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock					
Surfacing rock	Jaw-run	\$15.51	\$1.10	189	\$3,139.29
Junction	Jaw-run	\$15.51	\$1.10	30	\$498.30
70' Landing	Jaw-run	\$15.51	\$1.10	150	\$2,491.50
Subtotal				369	\$6,129.09

Totals

All Rock =	369
Jaw-run =	369

TOTAL ROCK COSTS = \$6,129.09

EROSION CONTROL

Grass seed & fertilizer	0.13	ac @	\$500.00	per ac =	\$62.50
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TOTAL EROSION CONTROL COSTS = \$62.50

PROJECT NO. 1 TOTAL COST = \$7,293.39

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke
Road Segment: A to B

Sale Number: FG-341-2020-W00544-01
Construction: 24+35 stations
0.46 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	2.80	ac @	\$1,078.00	per ac =	\$3,018.40
Balanced road construction	21.35	sta @	\$110.00	per sta =	\$2,348.50
Drift	3.00	sta @	\$180.00	per sta =	\$540.00
Turnouts	3	ea @	\$66.00	per ea =	\$198.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
70' Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	24.35	sta @	\$36.00	per sta =	\$876.60

TOTAL CONSTRUCTION COSTS = \$7,378.00

CULVERTS

Culverts and Bands					
18" Diameter	60	LF @	\$20.00	per LF =	\$1,200.00
Markers & Stakes					
Culvert markers	2	ea @	\$10.00	per ea =	\$20.00

TOTAL CULVERT COSTS = \$1,220.00

ROCK

	Rock Size	Base & Haul Cost	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock					
Surfacing rock	Jaw-run	\$15.35	\$1.10	1,291	\$21,236.95
Junction	Jaw-run	\$15.35	\$1.10	30	\$493.50
Turnout	Jaw-run	\$15.35	\$1.10	72	\$1,184.40
Turnaround	Jaw-run	\$15.35	\$1.10	16	\$263.20
Traction rock	1½" - 0	\$6.12	\$1.22	40	\$293.60
70' Landing	Jaw-run	\$15.35	\$1.10	150	\$2,467.50
Subtotal				1,599	\$25,939.15

Totals

All Rock =	1,599
1½" - 0 =	40
Jaw-run =	1,559

TOTAL ROCK COSTS = \$25,939.15

EROSION CONTROL

Grass seed & fertilizer	1.40	ac @	\$500.00	per ac =	\$700.00
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TOTAL EROSION CONTROL COSTS = \$700.00

PROJECT NO. 1 TOTAL COST = \$35,237.1500

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke Sale Number: FG-341-2020-W00544-01
Road Segment: E to F Reconstruction: 8+00 stations
0.15 miles

PROJECT NO. 1

RECONSTRUCTION

Clearing & grubbing (scatter)	0.19	ac @	\$1,078.00	per ac =	\$204.82
Grade, ditch, & roll	8.00	sta @	\$36.00	per sta =	\$288.00

TOTAL RECONSTRUCTION COSTS = \$492.82

PROJECT NO. 1 TOTAL COST = \$492.82

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke Sale Number: FG-341-2020-W00544-01
Road Segment: G to H Reconstruction: 10+40 stations
0.20 miles

PROJECT NO. 1

RECONSTRUCTION

Clearing & grubbing (scatter)	0.24	ac @	\$1,078.00	per ac =	\$258.72
Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	10.40	sta @	\$36.00	per sta =	\$374.40
TOTAL RECONSTRUCTION COSTS =					\$790.12

CULVERTS

Culverts and Bands

18" Diameter	30	LF @	\$20.00	per LF =	\$600.00
24" Diameter	30	LF @	\$29.00	per LF =	\$870.00
TOTAL CULVERT COSTS =					\$1,470.00

EROSION CONTROL

Grass seed & fertilizer	0.12	ac @	\$500.00	per ac =	\$60.00
Straw Mulch Bale	4	ea @	\$10.00	per ea =	\$40.00
TOTAL EROSION CONTROL COSTS =					\$100.00
PROJECT NO. 1 TOTAL COST =					\$2,360.12

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke
Points I, J, K & L

Sale Number: FG-341-2020-W00544-01
Improvement: 158+00 stations
2.99 miles

PROJECT NO. 2

CULVERTS

Culverts and Bands

Point I	24" Diameter	40	LF @	\$29.00	per LF =	\$1,160.00
Point J	18" Diameter	25	LF @	\$20.00	per LF =	\$500.00
Point K	18" Diameter	30	LF @	\$20.00	per LF =	\$600.00
Point L	24" Diameter	50	LF @	\$29.00	per LF =	\$1,450.00

Markers & Stakes

Culvert Markers 4 ea @ \$10.00 per ea = \$40.00

TOTAL CULVERT COSTS = \$3,750.00

ROCK

		Rock Size	Base, Haul, & Processing Cost	Total CY	Rock Cost
Subgrade rock					
Point I	Bedding and backfill	1½" - 0	\$2.85	20	\$57.00
	Surfacing rock	1½" - 0	\$3.57	10	\$35.70
Point J	Bedding and backfill	1½" - 0	\$4.91	10	\$49.10
	Surfacing rock	1½" - 0	\$5.63	10	\$56.30
Point K	Bedding and backfill	1½" - 0	\$5.55	20	\$111.00
	Surfacing rock	1½" - 0	\$6.27	10	\$62.70
	Energy dissipator	24" - 12"	\$4.87	10	\$48.70
Point L	Bedding and backfill	1½" - 0	\$5.88	30	\$176.40
	Surfacing rock	1½" - 0	\$6.60	10	\$66.00
Subtotal				130	\$662.90

Totals

All Rock =	130
1½" - 0 =	120
24" - 12" =	10

TOTAL ROCK COSTS = \$662.90

EROSION CONTROL

Grass seed & fertilizer	0.91	ac @	\$425.00	per ac =	\$386.75
Straw Mulch Bale	8	ea @	\$10.00	per ea =	\$80.00

TOTAL EROSION CONTROL COSTS = \$466.75

PROJECT NO. 2 TOTAL COST = \$4,879.65

SUMMARY OF CONSTRUCTION COST

Timber Sale: Duchess and the Duke
Road Segment: E to F & G to H

Sale Number: FG-341-2020-W00544-01
Blocking 18+40 stations
0.35 miles

PROJECT NO. 3

Construct tank traps	2	ea @	\$55.00	per ea =	\$110.00
Construct waterbars	4	ea @	\$27.50	per ea =	\$110.00
Remove existing culverts	2	ea @	\$150.00	per ea =	\$300.00
Equipment move-in					\$500.00

TOTAL PROJECT COST = \$1,020.00

MOVE-IN, WITHIN AREA MOVE, & EQUIPMENT CLEANING COSTS

Timber Sale: Duchess and the Duke

Sale Number: FG-341-2020-W00544-01

<u>Equipment</u>	<u>Total</u>
Grader	\$845.57
Roller (smooth/grid) & Compactor	\$674.03
Excavator (Large) - Equipment Cleaning	\$2,144.99
Dozer (Large) - Equipment Cleaning	\$1,857.14
Dump Trucks (10cy +)	\$476.97
TOTAL MOVE-IN COSTS =	<u><u>\$6,029.87</u></u>

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Duchess and the Duke
Sale Number: FG-341-2020-W00544-01
Quarry Name: BD5 Quarry

Jaw-run: 1,928 cy (truck measure)
Total truck yardage: 1,928 cy
Total in place yardage: 1,745 cy
Swell: 130%
Screening Loss: 15%

Move-in & Other Base Cost

Quarry development	\$525.00
Within Area Move - Excavator	\$276.90
Move in & within area move - Loader	\$809.35
Move in & setup Jaw & Screen	\$3,554.10
Clean up quarry	\$500.00
Subtotal =	<u>\$5,665.35</u>
Per CY =	<u>\$2.94</u>

Jaw-run Base Cost

Rip rock	<u>\$2.10</u>	/ cy x	<u>1,745</u>	cy =	\$3,664.07
Push rock	<u>\$0.80</u>	/ cy x	<u>1,134</u>	cy =	\$907.29
Load jaw	<u>\$0.80</u>	/ cy x	<u>2,268</u>	cy =	\$1,814.59
Screen rock	<u>\$2.90</u>	/ cy x	<u>2,268</u>	cy =	\$6,577.88
Waste reject	<u>\$1.16</u>	/ cy x	<u>340</u>	cy =	\$394.67
Crush (Jaw-run)	<u>\$2.10</u>	/ cy x	<u>1,928</u>	cy =	\$4,048.80
Load dump truck	<u>\$0.80</u>	/ cy x	<u>1,928</u>	cy =	\$1,542.40
Subtotal =					<u>\$18,949.71</u>
Per CY =					<u>\$9.83/cy</u>
Total =					<u>\$24,615.06</u>

Jaw-run Base Cost = \$12.77 \$24,620.56

CRUISE REPORT
Duchess And The Duke
FG-341-2020-W00544-01

1. LOCATION: Portions of Section 10, T1N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 18 inches and the coefficient of variation is about 56%. For sales of this size and approximate value, ODF cruise standards require a sampling error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using a 40 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was sampled in May, 2019 with 37 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 5 chain grid for the Timber Sale Area. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

206 trees were measured and graded producing a cumulative Sampling Error of 6.3% on the Douglas-fir basal area and 7.2% for the Douglas-fir board foot volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a top DIB of six inches (or 25% of DBH, whichever is larger) for conifers, and a top DIB of seven inches for hardwoods.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics were derived from Super Ace 2008 cruise software.
- b) **Deductions:** The following percent volume deductions are by species to account for the hidden defect and breakage. For conifers two percent was deducted. For red alder five percent was deducted. For bigleaf maple ten percent was deducted.

6. CRUISERS: The sale was cruised by ODF cruisers Kenton Burns, Mark Savage and Adrian Torres.

Prepared by:

Adrian Torres

06/12/2019

Date

Reviewed by:


Mark Savage

6/12/2019
Date

TC PSTATS			PROJECT STATISTICS					PAGE 1			
			PROJECT DUDUKRA					DATE 5/16/2019			
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
01N	06	10	00A1	00MC	82.00	37	206	S	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			37	206	5.6						
CRUISE			37	206	5.6	10,174	2.0				
DBH COUNT											
REFOREST											
COUNT											
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			191	106.7	18.8	114	47.6	206.5	39,224	38,937	8,762
R ALDER			11	13.6	12.6	64	3.3	11.9	1,070	1,070	266
WHEMLOCK			2	1.1	18.7	89	0.5	2.2	231	231	69
BL MAPLE			2	2.6	12.2	82	0.6	2.2	217	217	54
TOTAL			206	124.1	18.1	107	52.3	222.7	40,743	40,456	9,151
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			86.1	6.2	551	587	624				
R ALDER			55.2	17.4	78	95	111				
WHEMLOCK			20.2	18.9	170	210	250				
BL MAPLE			81.9	76.7	22	95	168				
TOTAL			90.9	6.3	518	552	587	330	83	37	
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR			72.2	5.2	121	128	134				
R ALDER			50.4	15.9	20	24	27				
WHEMLOCK			24.7	23.1	48	63	77				
BL MAPLE			82.8	77.6	5	24	42				
TOTAL			76.8	5.3	114	120	127	236	59	26	
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			68.6	11.3	95	107	119				
R ALDER			456.5	75.0	3	14	24				
WHEMLOCK			608.3	99.9	0	1	2				
BL MAPLE			436.5	71.7	1	3	5				
TOTAL			68.9	11.3	110	124	138	190	47	21	
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			38.1	6.3	194	206	219				
R ALDER			500.6	82.2	2	12	22				
WHEMLOCK			608.3	99.9	0	2	4				
BL MAPLE			424.1	69.7	1	2	4				
TOTAL			37.3	6.1	209	223	236	55	14	6	
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			43.8	7.2	36,136	38,937	41,739				
R ALDER			501.1	82.3	189	1,070	1,951				
WHEMLOCK			608.3	99.9	0	231	462				
BL MAPLE			458.0	75.2	54	217	381				

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT DUDUKRA				DATE	5/16/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
01N	06	10	00A1	00MC		82.00	37	206	S	W
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL			40.9	6.7	37,736	40,456	43,176	67	17	7
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR			41.1	6.7	8,171	8,762	9,353			
R ALDER			495.4	81.4	50	266	483			
WHEMLOCK			608.3	99.9	0	69	137			
BL MAPLE			459.4	75.5	13	54	95			
TOTAL			38.0	6.2	8,580	9,151	9,722	58	14	6

T01N R06W S10 Ty00MC 82.00

Project: DUDUKRAW
Acres 82.00Page 2
Date 5/16/2019
Time 6:56:18AM

S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	4M	28	4		4	.1			4									
DF	4M	29	10		10	.3		3	7									
DF	4M	30	5		5	.1		2	2									
DF	4M	31	1		1	.0			1									
DF	4M	32	9		9	.3		1	8									
DF	4M	33	7		7	.2			7									
DF	4M	34	15		15	.5		4	11									
DF	4M	35	4		4	.1			4									
DF	4M	38	15		15	.5			15									
DF	4M	39	5		5	.2		5										
DF	4M	40	31		31	1.0		12	8		12							
DF	Totals		3,216		3,193	96.2		60	292	316	361	494	534	794	217	84	42	
RA	R	15	1		1	1.4			1									
RA	R	16	6		6	7.1							6					
RA	R	20	4		4	5.1					4							
RA	R	24	8		8	9.5					8							
RA	R	28	8		8	9.3			8									
RA	R	31	6		6	6.4			6									
RA	R	36	7		7	7.4		7										
RA	R	37	8		8	9.2			8									
RA	R	38	7		7	7.7			7									
RA	R	40	32		32	37.0			9	5	18							
RA	Totals		88		88	2.6		7	39	5	31		6					
WH	2M	40	7		7	38.9					7							
WH	3M	40	8		8	44.5					8							
WH	4M	25	2		2	8.9			2									
WH	4M	29	1		1	7.8			1									
WH	Totals		19		19	.6			3		8	7						
BM	R	21	2		2	14.0			2									
BM	R	22	5		5	30.2				5								
BM	R	40	10		10	55.9				10								
BM	Totals		18		18	.5			2	15								
Total	All Species		3,341		3,317	100.0		67	336	337	400	501	540	794	217	84	42	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																
T01NR06WS10Ty00MC82.00				Project: DUDUKRAW										Page 1						
				Acres 82.00										Date 5/16/2019						
														Time 6:56:19AM						
Spp	S Sort	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%GrossNet			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					
DF		CU														11	11		0.00	3.8
DF		2M	67	.6	26,257	26,089	2,139			61	39	1	1		99	40	15	356	1.88	73.3
DF		3M	26	1.1	10,415	10,296	844		97	2	1	0	2	1	97	40	9	109	0.70	94.4
DF		4M	7		2,551	2,551	209	29	71			22	37	17	24	24	6	32	0.35	80.6
DF Totals			96	.7	39,224	38,937	3,193	2	30	41	26	2	3	1	93	34	10	155	1.01	252.0
RA		CU														21	6		0.00	2.7
RA		R	100		1,070	1,070	88	7	86	7		14	19	6	61	32	8	71	0.55	15.1
RA Totals			3		1,070	1,070	88	7	86	7		14	19	6	61	31	8	60	0.49	17.8
WH		CU														3	20		0.00	.4
WH		2M	38		90	90	7			100					100	40	12	200	1.48	.4
WH		3M	45		103	103	8		100						100	40	10	150	1.06	.7
WH		4M	17		39	39	3		100				100			27	6	34	0.42	1.1
WH Totals			1		231	231	19		61	39			17		83	28	10	85	0.89	2.7
BM		CU														29	5		0.00	1.6
BM		R	100		217	217	18		100				44		56	27	8	59	0.55	3.7
BM Totals			1		217	217	18		100				44		56	27	7	41	0.37	5.3
Totals				0.7	40,743	40,456	3,317	2	32	40	25	2	4	2	92	34	9	146	0.97	277.8

TC		Stand Table Summary											Page		1	
													Date:		5/16/2019	
T01N R06W S10 Ty00MC					82.00		Project DUDUKRAW					Time:		6:56:20AM		
							Acres 82.00					Grown Year:				
S Spec T	DBH	Sample Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
DF	8	2	86	68	6.194	2.16	6.19	4.1	20.0	.73	26	124	60	21	10	
DF	9	2	86	70	4.894	2.16	4.89	7.9	35.0	1.10	39	171	90	32	14	
DF	10	1	89	99	1.982	1.08	1.98	12.8	60.0	.72	25	119	59	21	10	
DF	11	2	88	90	3.276	2.16	4.91	11.6	50.0	1.63	57	246	134	47	20	
DF	12	4	86	89	5.506	4.32	9.64	12.8	48.6	3.51	123	468	288	101	38	
DF	13	7	88	99	8.210	7.57	16.42	14.9	60.0	6.96	244	985	571	200	81	
DF	14	5	89	106	5.056	5.41	10.11	19.0	83.0	5.47	192	839	448	157	69	
DF	15	7	86	104	6.167	7.57	11.45	23.1	92.3	7.54	265	1,057	619	217	87	
DF	16	9	88	111	6.968	9.73	14.71	24.8	105.8	10.39	364	1,556	852	299	128	
DF	17	6	89	125	4.115	6.49	10.97	24.8	106.9	7.75	272	1,173	636	223	96	
DF	18	7	88	124	4.282	7.57	11.62	27.5	112.6	9.11	320	1,309	747	262	107	
DF	19	15	88	126	8.236	16.22	24.16	28.9	122.3	19.93	699	2,954	1,634	573	242	
DF	20	11	88	124	5.451	11.89	15.36	33.4	142.6	14.62	513	2,190	1,199	421	180	
DF	21	12	87	129	5.394	12.97	15.28	37.7	164.1	16.41	576	2,508	1,346	472	206	
DF	22	13	87	132	5.324	14.05	15.56	40.8	184.7	18.08	635	2,875	1,483	520	236	
DF	23	16	86	128	5.995	17.30	16.11	46.3	199.8	21.24	745	3,219	1,742	611	264	
DF	24	22	88	133	7.571	23.78	22.71	48.6	219.4	31.43	1,103	4,983	2,577	904	409	
DF	25	11	87	139	3.489	11.89	10.15	55.5	249.7	16.05	563	2,534	1,316	462	208	
DF	26	3	87	147	.880	3.24	2.64	61.2	281.1	4.60	161	742	377	132	61	
DF	27	5	85	134	1.359	5.41	4.08	61.0	267.3	7.09	249	1,090	581	204	89	
DF	28	9	86	142	2.275	9.73	6.83	69.1	324.1	13.45	472	2,212	1,103	387	181	
DF	29	5	86	150	1.178	5.41	3.54	79.2	393.3	7.98	280	1,391	654	230	114	
DF	30	4	87	133	.881	4.32	2.64	72.5	347.5	5.46	192	918	448	157	75	
DF	32	3	83	132	.581	3.24	1.74	83.1	363.3	4.12	145	633	338	119	52	
DF	34	2	86	155	.343	2.16	1.20	93.4	467.1	3.20	112	561	262	92	46	
DF	35	3	80	134	.485	3.24	1.29	92.6	431.2	3.42	120	558	280	98	46	
DF	36	1	88	131	.153	1.08	.46	109.6	560.0	1.43	50	257	118	41	21	
DF	41	1	87	179	.118	1.08	.47	136.1	810.0	1.83	64	382	150	53	31	
DF	44	1	86	164	.102	1.08	.41	145.6	797.5	1.70	60	327	139	49	27	
DF	45	1	86	159	.098	1.08	.29	114.9	660.0	.96	34	194	79	28	16	
DF	46	1	86	174	.094	1.08	.37	167.4	967.5	1.79	63	363	147	51	30	
DF	Totals	191	87	114	106.658	206.49	248.22	35.3	156.9	249.71	8,762	38,937	20,476	7,185	3,193	
RA	10	2	87	57	3.964	2.16	3.96	11.1	45.0	1.21	44	178	99	36	15	
RA	11	2	90	70	3.276	2.16	3.28	15.0	65.0	1.35	49	213	111	40	17	
RA	12	1	84	51	1.376	1.08	1.38	16.3	50.0	.62	22	69	51	18	6	
RA	13	1	87	58	1.173	1.08	1.17	20.0	70.0	.65	23	82	53	19	7	
RA	14	1	92	88	1.011	1.08	1.01	19.0	100.0	.53	19	101	43	16	8	
RA	16	1	92	76	.774	1.08	1.55	20.8	85.0	.88	32	132	73	26	11	
RA	17	3	89	66	2.058	3.24	2.74	27.7	107.5	2.09	76	295	171	62	24	
RA	Totals	11	88	64	13.633	11.89	15.09	17.6	70.9	7.32	266	1,070	601	218	88	
WH	17	1	82	87	.686	1.08	1.37	25.9	90.0	1.13	35	123	93	29	10	
WH	21	1	79	92	.449	1.08	.90	36.8	120.0	1.06	33	108	87	27	9	
WH	Totals	2	81	89	1.135	2.16	2.27	30.2	101.9	2.19	69	231	180	56	19	
BM	11	1	90	73	1.638	1.08	1.64	9.8	40.0	.43	16	66	35	13	5	
BM	14	1	86	97	1.011	1.08	2.02	18.8	75.0	1.01	38	152	83	31	12	
BM	Totals	2	88	82	2.649	2.16	3.66	14.8	59.3	1.44	54	217	118	44	18	
Totals		206	87	107	124.075	222.70	269.24	34.0	150.3	260.67	9,151	40,456	21,375	7,504	3,317	

VOLUME SUMMARY

**Duchess And The Duke
FG-341-2020-W00544-01**

June 2019

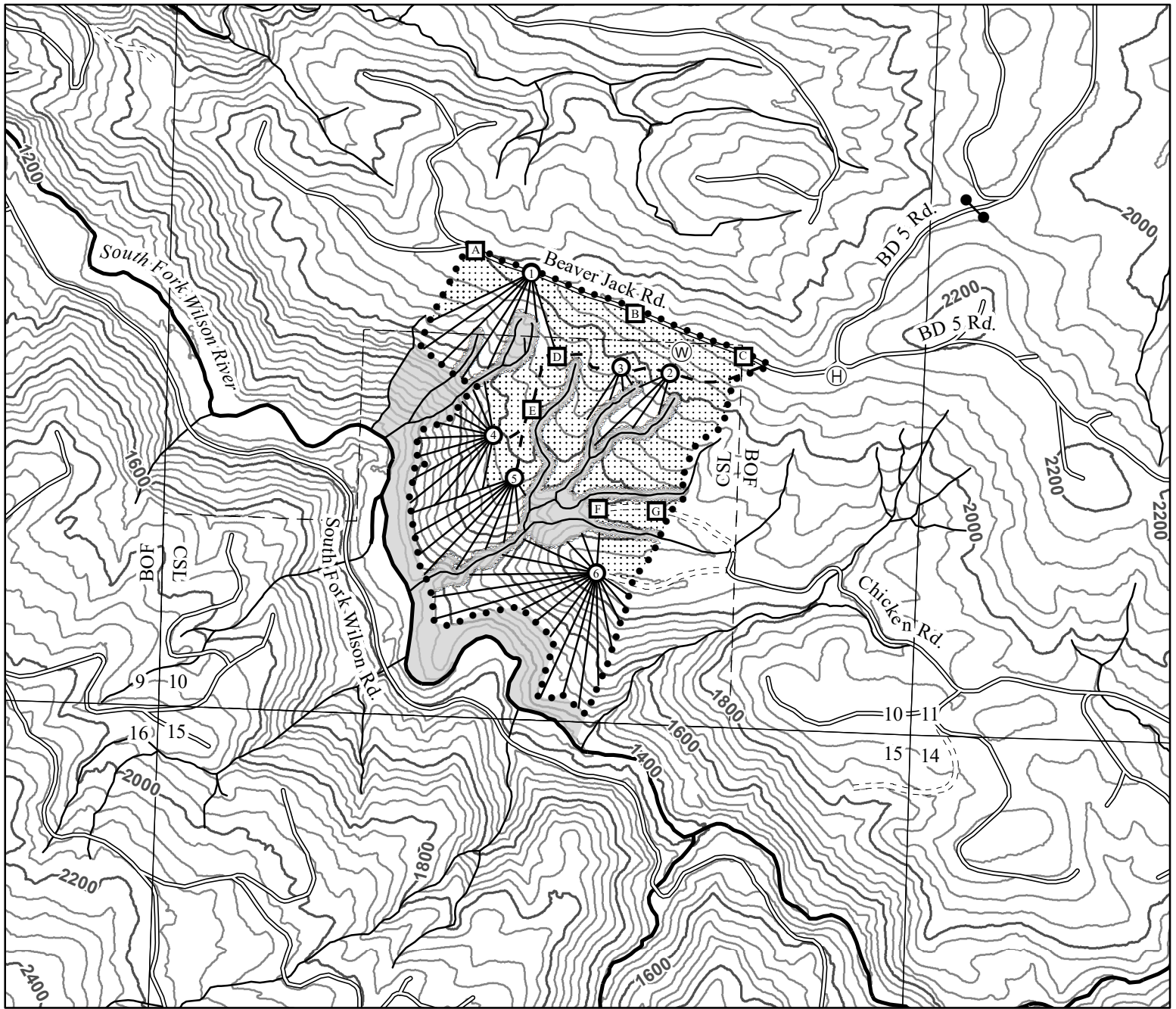
(Volumes in MBF)

AREA 1: MC (82 Acres)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	2,139	844	209	0	3,192
	Hidden D&B (2%)	(43)	(17)	(4)	(0)	(64)
	NET TOTAL	2,096	827	205	0	3,128
	% of Total	67	26	7	0	
Western hemlock	Cruise Volume	7	8	3	0	18
	Hidden D&B (2%)	(0)	(0)	(0)	(0)	(0)
	NET TOTAL	7	8	3	0	18
	% of Total	39	44	17	0	
Red alder	Cruise Volume	0	0	0	88	88
	Hidden D&B (5%)	(0)	(0)	(0)	(4)	(4)
	NET TOTAL	0	0	0	84	84
	% of Total	0	0	0	100	
Bigleaf maple	Cruise Volume	0	0	0	18	18
	Hidden D&B (10%)	(0)	(0)	(0)	(2)	(2)
	NET TOTAL	0	0	0	16	16
	% of Total	0	0	0	100	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	2,096	827	205	0	3,128
Western hemlock	7	8	3	0	18
Red alder	0	0	0	84	84
Bigleaf maple	0	0	0	16	16
TOTAL	2,103	835	208	100	3,246



Legend

- • • Timber Sale Boundary
- ▬ Stream Buffer Boundary
- ▬ ODF Ownership Boundary
- ▬ Surfaced Roads
- ▬▬▬ Unsurfaced Roads
- ▬▬▬ New Road Construction
- ▬ Type-F Stream
- ▬ Type-N Stream
- ▬ Stream Buffer
- ▬ Cable Yarding Area
- ▬ Tractor Yarding Area
- Cable Landing
- ▣ Tractor Landing
- Ⓜ Helispot
- Ⓢ Waste Area
- ▬ Section Lines
- ▬ 40 Foot Contour Band
- ▬ 200 Foot Contour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2020-W00544-01
 DUCHESS AND THE DUKE
 PORTIONS OF SECTION 10, T1N, R6W, W.M.,
 TILLAMOOK COUNTY, OREGON

Forest Grove District GIS

June, 2019

This product is for informational use and may not be
 suitable for legal, engineering, or surveying purposes.

1:12,000
 1 inch = 1000 feet



APPROXIMATE NET ACRES		
	TRACTOR	CABLE
TOTAL	40	42