



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Hanns Down
Sale FG-341-2019-W00796-01

District: Forest Grove

Date: February 20, 2019

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,241,819.68	\$0.00	\$2,241,819.68
		Project Work:	(\$75,915.00)
		Advertised Value:	\$2,165,904.68



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Hanns Down
Sale FG-341-2019-W00796-01

District: Forest Grove

Date: February 20, 2019

Timber Description

Location: PORTIONS OF SECTIONS 24 & 25, T3N, R6W, W.M., TILLAMOOK COUNTY, OREGON

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	28	0	96
Western Hemlock / Fir	22	0	96

Volume by Grade	2S	3S & 4S 6"-11"	Total
Douglas - Fir	4,130	470	4,600
Western Hemlock / Fir	80	34	114
Total	4,210	504	4,714

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

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$712.56/\text{MBF} = \$968/\text{MBF} - \$255.44/\text{MBF}$

Red Alder and other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$328.75/\text{MBF} = \$608/\text{MBF} - \$279.25/\text{MBF}$

Noble fir and other conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$303.12/\text{MBF} = \$583/\text{MBF} - \$279.88/\text{MBF}$

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:
 $20 \text{ hours} \times \$150/\text{hour} = \$3,000$
Machine Time to Pile Landing Slash:
 $20 \text{ hours} \times \$150/\text{hour} = \$3,000$
Equipment Cleaning: 3 pieces $\times \$1,000/\text{Piece} = \$3,000$
Slash Treatment: 30 acres $\times \$200/\text{acre} = \$6,000$
Non-Project Road Construction: 7 Stations $\times \$150/\text{Station} = \$1,050$
TOTAL Other Costs (No Profit & Risk added) = \$16,050

ROAD MAINTENANCE
Move-in: \$4,000
General Road Maintenance: 8.2 miles $\times \$1,200/\text{mile} = \$9,840$
TOTAL Road Maintenance: $\$13,840 / 4,714 \text{ MBF} = \$2.94/\text{MBF}$



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Logging Conditions

Combination#:	1	Douglas - Fir	51.15%
		Western Hemlock / Fir	51.00%
Logging System:	Shovel		Process: Stroke Delimber
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: 4800
cost / mbf:	\$66.08		
machines:	Stroke Delimber (B)		

Combination#:	2	Douglas - Fir	48.85%
		Western Hemlock / Fir	49.00%
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
yarding distance:	Short (400 ft)		downhill yarding: No
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	8		bd. ft / load: 4800
cost / mbf:	\$156.25		
machines:	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Hanns Down Sale FG-341-2019-W00796-01

District: Forest Grove

Date: February 20, 2019

Logging Costs

Operating Seasons: 2.00	Profit Risk: 15%
Project Costs: \$75,915.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$16,050.00

Miles of Road

Road Maintenance: \$2.94

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.8
Western Hemlock / Fir	\$0.00	2.0	4.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Hanns Down Sale FG-341-2019-W00796-01

District: Forest Grove

Date: February 20, 2019

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$110.13	\$3.06	\$1.86	\$102.92	\$0.00	\$32.70	\$0.00	\$2.00	\$3.40	\$256.07
Western Hemlock / Fir									
\$110.26	\$3.06	\$1.86	\$123.50	\$0.00	\$35.80	\$0.00	\$2.00	\$3.40	\$279.88

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$735.91	\$479.84	\$0.00
Western Hemlock / Fir	\$0.00	\$583.00	\$303.12	\$0.00



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Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,600	\$479.84	\$2,207,264.00
Western Hemlock / Fir	114	\$303.12	\$34,555.68

Gross Timber Sale Value

Recovery: \$2,241,819.68

Prepared By: Mark Savage

Phone: 503-359-7437

PROJECT COST SUMMARY SHEET

Timber Sale: Hanns Down
Sale Number: FG-341-2019-W00796-01

PROJECT NO. 1: ROCKED ROAD CONSTRUCTION & RECONSTRUCTION

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	<u>A to B</u>	<u>4+25</u>	<u>\$4,113.44</u>
		4+25 stations	
		0.08 miles	
Total Rock =	156 cy	1½" - 0	
	226 cy	Pit-run	
		Move-in =	<u>\$374.15</u>

TOTAL PROJECT NO. 1 COST = \$4,487.59

PROJECT NO. 2: ROAD IMPROVEMENT

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	B to C	86+80	\$42,054.03
	D to E	5+50	\$3,231.24
	F to G	9+77	\$4,455.40
	H to I	61+40	\$13,143.56
	<u>I to J</u>	<u>28+60</u>	<u>\$1,869.19</u>
		192+07 stations	
		3.64 miles	
Total Rock =	2979 cy	1½" - 0	
	2674 cy	Pit-run	
		Move-in =	\$5,889.86

TOTAL PROJECT NO. 2 COST = \$70,643.28

PROJECT NO. 3: VACATE ROCKED ROAD

	<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
	<u>V to B</u>	<u>3+85</u>	<u>\$718.75</u>
		3+85 stations	
		0.07 miles	
		Move-in =	<u>\$65.38</u>

TOTAL PROJECT NO. 3 COST = \$784.13

TOTAL CREDITS \$75,915.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down
 Road Segment: A to B

Sale Number: FG-341-2019-W00796-01
 Construction: 4+25 stations
0.08 miles

PROJECT NO. 1

CONSTRUCTION

Clearing & grubbing (scatter)	0.30	ac @	\$1,078.00	per ac =	\$323.40
Balanced road construction	4.25	sta @	\$110.00	per sta =	\$467.50
Grade, ditch, & roll	4.25	sta @	\$36.00	per sta =	\$153.00

TOTAL CONSTRUCTION COSTS = \$943.90

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Base rock	Pit-run	\$3.52	\$2.95	\$1.10	226	\$1,710.82
Surfacing rock	1½" - 0	\$1.21	\$6.44	\$1.22	132	\$1,170.84
Junction	1½" - 0	\$1.21	\$6.44	\$1.22	24	\$212.88
Subtotal =					382	\$3,094.54

Totals

All Rock =	382
1½" - 0 =	156
Pit-run =	226

TOTAL ROCK COSTS = \$3,094.54

EROSION CONTROL

Grass seed & fertilizer	0.15	ac @	\$500.00	per ac =	\$75.00
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TOTAL EROSION CONTROL COSTS = \$75.00

TOTAL PROJECT COST = \$4,113.44

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down
Road Segment: B to C

Sale Number: FG-341-2019-W00796-01
Improvement: 86+80 stations
1.64 miles

PROJECT NO. 2

IMPROVEMENT

Clearing & grubbing (scatter)	1.00	ac @	\$1,078.00	per acre =	\$1,078.00
Clean ditch & end-haul waste material	43.40	sta @	\$60.00	per sta =	\$2,604.00
Haul waste material	313.35	cy @	\$1.42	per cy =	\$444.96
Shape and compact waste material	313.35	cy @	\$0.30	per cy =	\$94.01
Clean culvert inlet & outlet	7	ea @	\$25.00	per ea =	\$175.00
Construct Settling Ponds	6	ea @	\$25.00	per ea =	\$150.00
Improve Turnouts	12	ea @	\$33.00	per ea =	\$396.00
Grade, ditch, & roll	86.80	sta @	\$36.00	per sta =	\$3,124.80

TOTAL IMPROVEMENT COSTS = \$8,066.77

CULVERTS

Culverts and Bands					
18" Diameter	60	LF @	\$20.00	per LF =	\$1,200.00
Markers & Stakes					
Culvert Markers	9	ea @	\$10.00	per ea =	\$90.00

TOTAL CULVERT COSTS = \$1,290.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$1.36	\$10.48	\$0.50	48	\$592.32
					Subtotal =	48 \$592.32
Surfacing rock						
Surfacing rock (Wildcat Mountain Stockpile)	1½" - 0	\$1.36	\$13.23	\$1.22	868	\$13,723.08
Surfacing rock	1½" - 0	\$1.21	\$6.29	\$1.22	1,823	\$15,896.56
Junction	1½" - 0	\$1.21	\$6.29	\$1.22	72	\$627.84
Turnout	1½" - 0	\$1.21	\$6.29	\$1.22	168	\$1,464.96
					Subtotal =	2,931 \$31,712.44

Totals	All Rock =	2,979
	1½" - 0 =	2,979

TOTAL ROCK COSTS = \$32,304.76

EROSION CONTROL

Grass seed & fertilizer	0.50	ac @	\$425.00	per ac =	\$212.50
Straw Mulch Acre	0.30	ac @	\$600.00	per ac =	\$180.00

TOTAL EROSION CONTROL COSTS = \$392.50

TOTAL PROJECT COST = \$42,054.03

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down Sale Number: FG-341-2019-W00796-01
Road Segment: D to E Improvement: 5+50 stations
0.10 miles

PROJECT NO. 2

IMPROVEMENT

Improve 70' Landing 1 ea @ \$157.00 per ea = \$157.00
Grade, ditch, & roll 5.50 sta @ \$36.00 per sta = \$198.00

TOTAL IMPROVEMENT COSTS = \$355.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	Pit-run	\$3.52	\$1.66	\$1.10	292	\$1,833.76
Turnaround	Pit-run	\$3.52	\$1.66	\$1.10	16	\$100.48
70' Landing	Pit-run	\$3.52	\$1.66	\$1.10	150	\$942.00
Subtotal =					458	\$2,876.24

Totals

All Rock =	458
Pit-run =	458

TOTAL ROCK COSTS = \$2,876.24

TOTAL PROJECT COST = \$3,231.24

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down
 Road Segment: F to G

Sale Number: FG-341-2019-W00796-01
 Improvement: 9+77 stations
0.19 miles

PROJECT NO. 2

IMPROVEMENT

Improve 70' Landing	1	ea @	\$157.00	per ea =	\$157.00
Grade, ditch, & roll	9.77	sta @	\$36.00	per sta =	\$351.72

TOTAL IMPROVEMENT COSTS = \$508.72

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	Pit-run	\$3.52	\$1.15	\$1.10	518	\$2,988.86
Turnaround	Pit-run	\$3.52	\$1.15	\$1.10	16	\$92.32
70' Landing	Pit-run	\$3.52	\$1.15	\$1.10	150	\$865.50
Subtotal =					684	\$3,946.68

Totals

All Rock =	684
Pit-run =	684

TOTAL ROCK COSTS = \$3,946.68

TOTAL PROJECT COST = \$4,455.40

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down
 Road Segment: H to I

Sale Number: FG-341-2019-W00796-01
 Improvement: 61+40 stations
1.16 miles

PROJECT NO. 2

IMPROVEMENT

Grade, ditch, & roll 61.40 sta @ \$36.00 per sta = \$2,210.40
TOTAL IMPROVEMENT COSTS = \$2,210.40

CULVERTS

Markers & Stakes
 Culvert Markers 1 ea @ \$10.00 per ea = \$10.00
TOTAL CULVERT COSTS = \$10.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	Pit-run	\$3.32	\$2.71	\$1.10	1,532	\$10,923.16
				Subtotal =	1,532	\$10,923.16

Totals	All Rock =	1,532
	Pit-run =	1,532

TOTAL ROCK COSTS = \$10,923.16

TOTAL PROJECT COST = \$13,143.56

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hanns Down Sale Number: FG-341-2019-W00796-01
Road Segment: I to J Improvement: 28+60 stations
0.54 miles

PROJECT NO. 2

IMPROVEMENT

Roadside brushing (heavy)	0.54	mi @	\$1,550.00 per mi =	\$839.59
Grade, ditch, & roll	28.60	sta @	\$36.00 per sta =	\$1,029.60

TOTAL PROJECT COST = \$1,869.19

Timber Sale:	<u>Timber Sale:</u>	Sale Number:	<u>FG-341-2019-W00796-01</u>
Road Segment:	<u>V to B</u>	Vacating:	<u>3+85</u> stations <u>0.07</u> miles

Construct tank traps	2	ea @	\$55.00	per ea =	\$110.00
Construct berm	1	ea @	\$262.50	per ea =	\$262.50
Rip rocked road surface	3.85	sta @	\$50.00	per sta =	\$192.50
Grass seed & fertilizer	0.15	ac @	\$425.00	per ac =	\$63.75
Mulch	0.15	ac @	\$600.00	per ac =	\$90.00

TOTAL PROJECT COST = \$718.75

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

Timber Sale: Hanns Down Sale Number: FG-341-2019-W00796-01

<u>Equipment</u>	<u>Total</u>
Brush Cutter	\$512.00
Grader	\$790.55
Roller (smooth/grid) & Compactor	\$535.60
Excavator (Large) - Equipment Cleaning	\$1,771.55
Dozer (Large) - Equipment Cleaning	\$1,816.13
Dump Trucks	\$770.00
Water Truck	\$133.56
TOTAL MOVE-IN COSTS = <u>\$6,329.39</u>	

QUARRY DEVELOPMENT & COST SUMMARY

Timber Sale: Hanns Down
Sale Number: FG-341-2019-W00796-01
Quarry Name: Derby

Pit-run: 1,368 cy (truck measure)
Total truck yardage: 1,368 cy
Total in place yardage: 1,053 cy
Swell: 130%
Compaction: 116%

Other Base Cost

Quarry development & overburden removal	\$1,000.00
Clean up quarry	\$500.00
Subtotal =	\$1,500.00
Per CY =	\$1.10

Pit-run Base Cost

Rip rock	<u>\$2.10</u>	/ cy x	<u>1,053</u>	cy =	\$2,211.30
Load dump truck	<u>\$0.80</u>	/ cy x	<u>1,368</u>	cy =	\$1,094.40
Subtotal =					\$3,305.70
Per CY =					\$2.42
Total =					\$4,805.70

Pit-run Base Cost = \$3.52

QUARRY DEVELOPMENT & COST SUMMARY

Timber Sale: Hanns Down
Sale Number: FG-341-2019-W00796-01
Quarry Name: Fire Road 1

Pit-run. 1,532 cy (truck measure)
Total truck yardage: 1,532 cy
Total in place yardage: 1,179 cy
Swell: 130%

Move-in & Other Base Cost

Quarry development & overburden removal	\$500.00
Within area move in excavator	\$373.33
Clean up quarry	\$500.00
Subtotal =	<u>\$1,373.33</u>
Per CY =	<u>\$0.90</u>

Pit-run Base Cost

Rip rock	<u>\$2.10</u>	/ cy x	<u>1,179</u>	cy =	\$2,475.90
Load dump truck	<u>\$0.80</u>	/ cy x	<u>1,532</u>	cy =	\$1,225.60
Subtotal =					<u>\$3,701.50</u>
Per CY =					<u>\$2.42</u>
Total =					<u>\$5,074.83</u>

Pit-run Base Cost = \$3.32

QUARRY DEVELOPMENT & COST SUMMARY

Timber Sale: Hanns Down

Sale Number: FG-341-2019-W00796-01

Quarry Name: Wildcat Mountain Stockpile

1 1/2-0 868 cy (truck measure)

Total truck yardage: 868 cy

Move-in & Other Base Cost

Move in loader

\$479.47

Subtotal = \$479.47

Per CY = \$0.56

1-1/2 Base Cost

Load dump truck

\$0.80

/ cy x

868

cy =

\$694.40

Subtotal = \$694.40

Per CY = \$0.80

Total = \$1,173.87

1-1/2 Base Cost = **\$1.36**

QUARRY DEVELOPMENT & COST SUMMARY

Timber Sale: Hanns Down
Sale Number: FG-341-2019-W00796-01
Quarry Name: Rock Creek Ridge Stockpile

1 1/2-0 2,267 cy (truck measure)
Total truck yardage: 2,267 cy

Move-in & Other Base Cost

Move-in loader

\$908.76

Subtotal = \$908.76

Per CY = \$0.41

1-1/2 Base Cost

Load dump truck

\$0.80

/ cy x

2,267

cy =

\$1,813.60

Subtotal = \$1,813.60

Per CY = \$0.80

Total = \$2,722.36

1-1/2 Base Cost = \$1.21

CRUISE REPORT
Hanns Down
Contract # FG-341-2019-W00796-01

1. LOCATION:

Portions of Sections 24 and 25, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 23 inches and the Coefficient of Variation is about 50%. 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. Statistical analysis indicated that 30 variable radius plots utilizing a 40 BAF prism would produce an adequate sample size for the timber sale as a whole.

3. SAMPLING METHOD:

The Timber Sale Area was cruised in November of 2018. Area 1 was sampled with 30 plots laid out on a 5 chain x 6 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. All plot trees were measured and graded.

4. CRUISE RESULTS:

143 trees were measured and graded producing a cumulative Sampling Error of 5.8% on the Basal Area and 7.5% on the 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 six inch top.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Form factors were measured for each grade tree using a form point of 16 feet.

6. DATA PROCESSING:

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics, were derived from Super Ace 2008 cruise software.
- b) **Deductions:** Four percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

7. CRUISERS:

The sale was cruised by ODF cruisers Adrian Torres and Mark Savage.

Prepared by:  2/20/19
Mark Savage Date

Reviewed by:  2-20-19
Erik Marcy Date

TC PSTATS			PROJECT STATISTICS						PAGE 1		
			PROJECT			HANNS1			DATE 2/11/2019		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
03N	06	25	00A1	00MC		101.00		30	143	S	W
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES			
TOTAL			30	143	4.8						
CRUISE			30	143	4.8	4,652		3.1			
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			136	42.0	28.1	155	34.2	181.3	48,259	47,292	9,616
WHEMLOCK			4	2.1	21.8	133	1.1	5.3	1,218	1,173	262
BL MAPLE			1	1.2	14.0	60	0.4	1.3	87	87	30
NOB FIR			1	.4	26.0	135	0.3	1.3	250	250	60
WR CEDAR			1	.4	26.0	137	0.3	1.3	221	221	60
TOTAL			143	46.1	27.5	151	36.3	190.7	50,035	49,022	10,028
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			44.3	3.8	1,252	1,302	1,351				
WHEMLOCK			40.6	23.2	488	635	782				
BL MAPLE											
NOB FIR											
WR CEDAR											
TOTAL			46.4	3.9	1,216	1,265	1,314	86	22	10	
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			38.0	3.3	253	262	270				
WHEMLOCK			38.1	21.8	110	140	171				
BL MAPLE											
NOB FIR											
WR CEDAR											
TOTAL			39.9	3.3	247	255	264	64	16	7	
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			47.0	8.7	38	42	46				
WHEMLOCK			272.1	50.5	1	2	3				
BL MAPLE			547.7	101.7		1	3				
NOB FIR			547.7	101.7		0	1				
WR CEDAR			547.7	101.7		0	1				
TOTAL			41.3	7.7	43	46	50	71	18	8	
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			35.6	6.6	169	181	193				
WHEMLOCK			259.3	48.1	3	5	8				
BL MAPLE			547.7	101.7		1	3				
NOB FIR			547.7	101.7		1	3				
WR CEDAR			547.7	101.7		1	3				
TOTAL			31.5	5.8	180	191	202	41	10	5	

PROJECT STATISTICS

PROJECT HANNSI

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
03N	06	25	00A1	00MC	101.00	30	143	S	W

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		41.8	7.8	43,618	47,292	50,965			
WHEMLOCK		260.9	48.4	605	1,173	1,741			
BL MAPLE		547.7	101.7		87	176			
NOB FIR		547.7	101.7		250	503			
WR CEDAR		547.7	101.7		221	445			
TOTAL		40.2	7.5	45,361	49,022	52,684	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		38.7	7.2	8,925	9,616	10,307			
WHEMLOCK		259.7	48.2	136	262	388			
BL MAPLE		547.7	101.7		30	60			
NOB FIR		547.7	101.7		60	121			
WR CEDAR		547.7	101.7		60	121			
TOTAL		36.3	6.7	9,353	10,028	10,703	54	14	6

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
<div>T03N R06W S25 Ty00MC101.00</div>				Project: HANNS1														Page 1			
				Acres 101.00														Date 2/11/2019			
																		Time 2:42:30PM			
Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
			Def%	Gross	Net		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																14	19		0.00	.8
DF	2M	89	2.2	43,432	42,471	4,290			29	71	0		0	99			40	17	512	2.49	83.0
DF	3M	9	.1	4,234	4,228	427		100			0	4	1	94			38	9	113	0.84	37.4
DF	4M	2		593	593	60		100			62	38					18	7	26	0.43	22.8
DF Totals		96	2.0	48,259	47,292	4,776		10	26	64	1	1	0	98			36	14	329	1.87	143.9
BM CR		100		87	87	9		100						100			40	7	70	0.59	1.2
BM Totals		0		87	87	9		100						100			40	7	70	0.59	1.2
WH	2M	70	5.2	871	825	83			53	47				100			40	15	345	1.82	2.4
WH	3M	26		305	305	31		100						100			40	10	148	0.88	2.1
WH	4M	4		43	43	4		100			65	35					19	6	21	0.38	2.1
WH Totals		2	3.7	1,218	1,173	118		30	37	33	2	1		96			33	11	180	1.20	6.5
NF 2M		95		239	239	24			30	70				100			40	15	330	1.91	.7
NF 4M		5		11	11	1		100				100					28	6	30	0.49	.4
NF Totals		1		250	250	25		4	29	67		4		96			36	12	230	1.54	1.1
RC	2M	65		145	145	15			100					100			40	16	400	2.84	.4
RC	3M	30		65	65	7		100						100			40	11	180	1.03	.4
RC	4M	5		11	11	1		100				100					28	6	30	0.43	.4
RC Totals		0		221	221	22		34	66			5		95			36	11	203	1.54	1.1
Totals			2.0	50,035	49,022	4,951		11	26	63	1	1	0	98			36	13	319	1.82	153.8

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		2/11/2019	
T03N R06W S25 Ty00MC 101.00					Project HANNNS1										Time:		2:42:31PM								
					Acres 101.00										Grown Year:										
S Spec T				Tot						Average Log						T o t a l s									
	DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Tons	Cunits	MBF										
DF	16	1	88	86	.955	1.33	1.91	21.8	90.0	1.19	42	172	120	42	17										
DF	18	1	87	88	.755	1.33	1.51	27.9	105.0	1.20	42	158	121	43	16										
DF	20	2	88	113	1.222	2.67	3.06	34.2	146.0	2.98	104	446	300	105	45										
DF	21	1	88	95	.554	1.33	1.11	41.1	150.0	1.30	46	166	131	46	17										
DF	22	5	89	149	2.525	6.67	7.58	43.1	197.3	9.31	327	1,495	941	330	151										
DF	23	6	87	156	2.773	8.00	9.24	44.9	205.0	11.82	415	1,895	1,193	419	191										
DF	24	7	88	153	2.971	9.33	9.34	52.0	243.2	13.85	486	2,271	1,399	491	229										
DF	25	4	87	158	1.565	5.33	5.48	52.1	252.9	8.12	285	1,385	821	288	140										
DF	26	9	88	155	3.255	12.00	11.57	55.0	271.9	18.13	636	3,146	1,831	642	318										
DF	27	9	86	160	3.018	12.00	10.06	63.2	308.0	18.13	636	3,099	1,831	642	313										
DF	28	18	87	162	5.613	24.00	20.58	61.9	307.1	36.29	1,273	6,320	3,666	1,286	638										
DF	29	12	86	160	3.488	16.00	12.50	68.4	336.5	24.35	854	4,206	2,460	863	425										
DF	30	11	85	167	2.988	14.67	11.14	73.2	366.8	23.22	815	4,085	2,345	823	413										
DF	31	8	84	168	2.035	10.67	7.38	79.7	386.2	16.75	588	2,849	1,692	594	288										
DF	32	6	86	171	1.432	8.00	5.49	82.8	425.2	12.95	454	2,335	1,308	459	236										
DF	33	6	86	169	1.347	8.00	4.94	91.1	469.1	12.82	450	2,317	1,295	454	234										
DF	34	3	82	157	.634	4.00	2.33	89.2	431.8	5.92	208	1,004	597	210	101										
DF	35	8	82	164	1.596	10.67	5.79	98.2	489.0	16.20	569	2,830	1,636	574	286										
DF	36	10	81	159	1.886	13.33	6.60	105.0	505.1	19.76	694	3,335	1,996	700	337										
DF	37	1	89	180	.179	1.33	.71	113.1	657.5	2.30	81	470	232	82	47										
DF	38	1	80	172	.169	1.33	.68	104.7	532.5	2.02	71	361	204	72	36										
DF	39	2	85	188	.321	2.67	1.29	129.1	732.5	4.73	166	942	478	168	95										
DF	40	4	84	175	.611	5.33	2.29	131.8	703.3	8.61	302	1,612	870	305	163										
DF	42	1	81	178	.139	1.33	.55	133.0	710.0	2.10	74	394	212	74	40										
DF	Totals	136	86	155	42.032	181.33	143.11	67.2	330.5	274.06	9,616	47,292	27,680	9,712	4,776										
WH	18	1	93	125	.755	1.33	2.26	27.4	106.7	1.99	62	241	201	63	24										
WH	22	1	90	134	.505	1.33	1.52	43.0	203.3	2.09	65	308	211	66	31										
WH	23	1	91	122	.462	1.33	1.39	45.9	220.0	2.03	64	305	206	64	31										
WH	27	1	80	163	.335	1.33	1.34	52.9	237.5	2.27	71	319	229	72	32										
WH	Totals	4	90	133	2.057	5.33	6.51	40.3	180.3	8.38	262	1,173	847	265	118										
NF	26	1	84	135	.362	1.33	1.08	55.4	230.0	1.44	60	250	146	61	25										
NF	Totals	1	84	135	.362	1.33	1.08	55.4	230.0	1.44	60	250	146	61	25										
RC	26	1	76	137	.362	1.33	1.08	55.5	203.3	1.42	60	221	143	61	22										
RC	Totals	1	76	137	.362	1.33	1.08	55.5	203.3	1.42	60	221	143	61	22										
BM	14	1	87	60	1.247	1.33	1.25	23.8	70.0	.79	30	87	79	30	9										
BM	Totals	1	87	60	1.247	1.33	1.25	23.8	70.0	.79	30	87	79	30	9										
Totals		143	86	151	46.059	190.67	153.03	65.5	320.3	286.09	10,028	49,022	28,895	10,128	4,951										

Log Stock Table - MBF

T03N R06W S25 Ty00MC 101.00

Project: HANNIS1
Acres 101.00Page 1
Date 2/11/2019
Time 2:42:30PM

Spp	S T	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+
DF		2M	20		13		13	.3									13			
DF		2M	32		19	34.4	13	.3									13			
DF		2M	40		4,354	2.1	4,264	89.3						299	432	1489	1467	550	27	
DF		3M	16		1		1	.0					1							
DF		3M	22		7		7	.2				5	2							
DF		3M	24		3		3	.1				3								
DF		3M	26		6		6	.1				6								
DF		3M	28		2		2	.0			1	1								
DF		3M	32		4		4	.1			4									
DF		3M	34		2		2	.0			2									
DF		3M	36		10		10	.2			3	7								
DF		3M	38		12		12	.3			11	2								
DF		3M	40		380		379	7.9			39	110	230							
DF		4M	12		6		6	.1			5	0								
DF		4M	14		6		6	.1			4	2								
DF		4M	16		13		13	.3			11	2								
DF		4M	18		8		8	.2			4	4								
DF		4M	20		5		5	.1			3	2								
DF		4M	22		11		11	.2			8	3								
DF		4M	24		7		7	.1			5	2								
DF		4M	26		5		5	.1			5									
DF		Totals			4,874	2.0	4,776	96.5			105	149	233	299	432	1489	1493	550	27	
BM		CR	40		9		9	100.0			9									
BM		Totals			9		9	.2			9									
WH		2M	40		88	5.2	83	70.4					14	10	60					
WH		3M	40		31		31	26.0				13	18							
WH		4M	12		0		0	.3			0									
WH		4M	16		2		2	1.3			2									
WH		4M	20		1		1	.8			1									
WH		4M	28		2		2	1.3			2									
WH		Totals			123	3.7	118	2.4			4	13	18	14	10	60				
NF		2M	40		24		24	95.7					7		17					
NF		4M	28		1		1	4.3			1									
NF		Totals			25		25	.5			1		7		17					

Log Stock Table - MBF

T03N R06W S25 Ty00MC 101.00

Project: HANNSI
Acres 101.00Page 2
Date 2/11/2019
Time 2:42:30PM

Spp	S T	So rt	Gr 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+
RC		2M	40		15		15	65.6						15						
RC		3M	40		7		7	29.5				7								
RC		4M	28		1		1	4.9			1									
RC		Totals			22		22	.4			1		7		15					
Total		All Species			5,053	2.0	4,951	100.0			120	162	258	320	442	1580	1493	550	27	

TIMBER SALE SUMMARY
Hanns Down
Contract # FG-341-2019-W00796-01

1. **Location:** Portions of Sections 24 and 25, T3N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is comprised of two areas. Area 1 is a 101 acre Modified Clearcut of a 90 year old stand of Douglas fir. Area 2 is less than one acre of Right-of-Way Timber. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF; Tillamook County, Tax Code 56-1.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The timber sale was cruised by ODF Cruisers in November of 2018. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a well-stocked 90 year old Douglas-fir stand with minor amounts of western hemlock, noble fir, and red alder. For Area 1, the stand has an average of 191 ft² of basal area for all species, an average Douglas-fir DBH of 28 inches, and an estimated average net Douglas-fir volume of approximately 45.4 MBF per acre. For Area 2, the Right-of-Way Timber is similar to the timber in Area 1.
7. **Topography and Logging Method:** Slopes within the sale areas range from 5% to 80% and are generally southern in aspect. Elevations range from 1,340 to 1,900 feet. The following table summarizes the estimated maximum and average horizontal cable corridor length, the estimated maximum and average tractor skid trail length, and the percent harvest method for each Sale Area.

Sale Area	Tractor			Cable		
	Average	Maximum	%	Average	Maximum	%
Area 1	200	500	51	450	750	49
Area 2	100	200	100	N/A	N/A	N/A

8. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove, travel north on Highway 8 to its junction with Highway 6. Turn left and travel west approximately 3.5 miles to Timber Road. Turn right, proceed north on Timber Road approximately 6.5 miles and turn onto Cochran Road. Continue west on Cochran Road for 4.4 miles to Derby Creek Road. Turn right onto Derby Creek Road and proceed 0.8 miles to enter the eastern portion of Area 1.

9. Projects:

Project No. 1: Rocked road construction	\$4,487.59
Project No. 2: Road improvement	\$70,643.28
Project No. 3: Vacate rocked road	\$784.13

Total Credit for all Projects (rounded)	\$75,915.00
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VOLUME SUMMARY

Volumes in MBF
Hanns Down
FG-341-2019-W00796-01

February 2019

AREA 1: MC (101 ACRES)

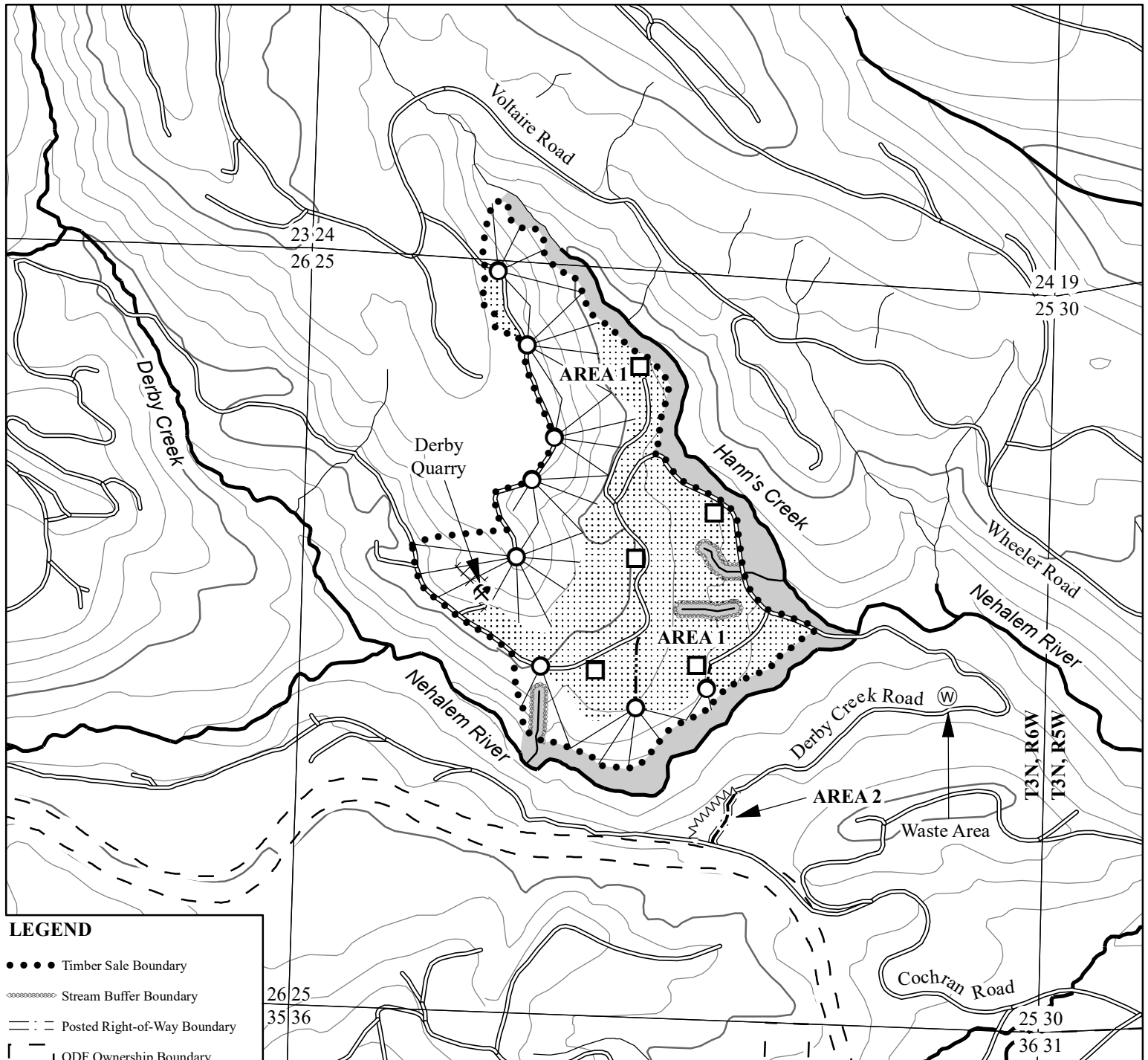
SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	4,290	427	60	4,777
	Hidden D&B (4%)	(172)	(17)	(2)	(191)
	NET TOTAL	4,118	410	58	4,586
	% of Total	90	9	1	
Western Hemlock	Cruise Volume	83	31	4	118
	Hidden D&B (4%)	(3)	(1)	(0)	(4)
	NET TOTAL	80	30	4	114
	% of Total	70	26	4	

AREA 2: R/W (<1 ACRE)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	13	2	0	15
	Hidden D&B (4%)	(1)	(0)	(0)	(1)
	NET TOTAL	12	2	0	14
	% of Total	86	14	0	

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	4,130	412	58	4,600
Western Hemlock	80	30	4	114
TOTAL	4,210	442	62	4,714



- LEGEND**
- Timber Sale Boundary
 - Stream Buffer Boundary
 - Posted Right-of-Way Boundary
 - ODF Ownership Boundary
 - Surfaced Roads
 - - - New Road Construction
 - - - - Non-Project Road
 - VVVVV Vacated Road
 - Cable Landing
 - Tractor Landing
 - ∠ Cable Yarding Area
 - Tractor Yarding Area
 - XXXX Non-Harvestable Area
 - Type-F Stream
 - Type-N Stream
 - Stream Buffer
 - Section Line
 - 200 Foot Contour Band
 - 40 Foot Contour Band

LOGGING PLAN

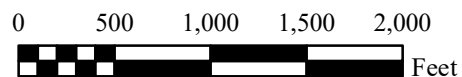
FOR TIMBER SALE CONTRACT FG-341-2019-W00796-01
 HANNS DOWN
 PORTIONS OF SECTIONS 24 & 25, T3N, R6W, W.M.,
 TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
 February, 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
AREA 1	53	48
AREA 2	<1	0
TOTAL	54	48

	TRACTOR	CABLE
AREA 1	53	48
AREA 2	<1	0
TOTAL	54	48