



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Frog Holler
Sale FG-341-2018-017-

District: Forest Grove

Date: March 21, 2018

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,609,058.76	\$29,066.85	\$2,638,125.61
		Project Work:	(\$68,480.00)
		Advertised Value:	\$2,569,645.61



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Timber Description

Location: Portions of Sections 27, 28, 33 & 34, T2N, R6W, W.M. Tillamook County Oregon

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	98
Western Hemlock / Fir	15	0	98
Alder (Red)	15	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,880	1,301	0	4,181
Western Hemlock / Fir	144	109	0	253
Alder (Red)	0	0	81	81
Total	3,024	1,410	81	4,515

Comments: Pond Values Used: Local Pond Values, January 2018.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$1,200/\text{MBF} = \$1,450/\text{MBF} - \$250/\text{MBF}$

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

BRANDING AND PAINTING COST ALLOWANCE = $\$2.00/\text{MBF}$

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):

None

Other Costs (No Profit & Risk added):

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

15 hours x $\$150/\text{hour} = \$2,250$

Machine Time to Pile Landing Slash and Sort Firewood:

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

Equipment Cleaning: 4 pieces x $\$1,000/\text{Piece} = \$4,000$

Slash Treatment: 35 acres x $\$200/\text{acre} = \$7,000$

Snag creation: 90 trees @ $\$50/\text{tree} = \$4,500$

TOTAL Other Costs (No Profit & Risk added) = $\$20,750$

ROAD MAINTENANCE

Move-in: $\$4,000$

General Road Maintenance: 1.7 miles x $\$1,200/\text{mile} = \$2,040$

TOTAL Road Maintenance: $\$6,040/4,515 \text{ MBF} = \$1.34/\text{MBF}$



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Logging Conditions

Combination#: 1 Douglas - Fir 34.00%
 Western Hemlock / Fir 34.00%
 Alder (Red) 34.00%

Logging System: Cable: Small Tower <=40 **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:** 4600

cost / mbf: \$152.17

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

Combination#: 2 Douglas - Fir 66.00%
 Western Hemlock / Fir 66.00%
 Alder (Red) 66.00%

Logging System: Shovel **Process:** Harvester Head Delimbing

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

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

loads / day: 12 **bd. ft / load:** 4600

cost / mbf: \$96.81

machines: Forwarder
Harvester



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District: Forest Grove

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Logging Costs

Operating Seasons: 1.00	Profit Risk: 12%
Project Costs: \$68,480.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$20,750.00

Miles of Road

Road Maintenance: \$1.34

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	4.6
Western Hemlock / Fir	\$0.00	2.0	3.8
Alder (Red)	\$0.00	1.0	3.8



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Frog Holler Sale FG-341-2018-017-

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Date: March 21, 2018

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$115.63	\$1.37	\$0.97	\$86.48	\$0.00	\$24.53	\$0.00	\$7.00	\$4.60	\$240.58
Western Hemlock / Fir									
\$115.63	\$1.37	\$0.97	\$104.68	\$0.00	\$26.72	\$0.00	\$7.00	\$4.60	\$260.97
Alder (Red)									
\$115.63	\$1.41	\$0.97	\$215.52	\$0.00	\$40.02	\$0.00	\$7.00	\$4.60	\$385.15

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$836.89	\$596.31	\$0.00
Western Hemlock / Fir	\$0.00	\$719.02	\$458.05	\$0.00
Alder (Red)	\$0.00	\$744.00	\$358.85	\$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
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,181	\$596.31	\$2,493,172.11
Western Hemlock / Fir	253	\$458.05	\$115,886.65
Alder (Red)	81	\$358.85	\$29,066.85

Gross Timber Sale Value

Recovery: \$2,638,125.61

Prepared By: Kenton Burns

Phone: 503-359-7477

PROJECT COST SUMMARY SHEET

Timber Sale: Frog Holler
Sale Number: 341-18-17

PROJECT NO. 1: ROAD CONSTRUCTION

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to B	9+60	\$6,606.86
C to D	18+00	\$4,770.72
E to F	11+20	\$7,062.04
G to H	9+40	\$6,673.83
	48+20 stations	
	0.91 miles	

TOTAL PROJECT NO. 1 COST = \$25,113.45

PROJECT NO. 2: SURFACING

<u>Road Segment</u>	<u>Rock Amount</u>	<u>Rock Type</u>	<u>Cost</u>
A to B	884 cy	Pit-run	\$7,788.04
A to B	40 cy	1 1/2" - 0	\$166.00
C to D	1,600 cy	Pit-run	\$13,744.00
E to F	988 cy	Pit-run	\$8,170.76
E to F	20 cy	1 1/2" - 0	\$81.80
G to H	871 cy	Pit-run	\$7,203.17
G to H	40 cy	1 1/2" - 0	\$163.60
Total	100 cy	1 1/2" - 0	
	4,343 cy	Pit-run	

TOTAL PROJECT NO. 2 COST = \$37,317.37

PROJECT NO. 3 GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = \$969.63

MOVE-IN, WITHIN AREA MOVE & EQUIPMENT CLEANING

Grader	\$660.47
Roller (smooth/grid) & Compactor	\$425.19
Excavator (Large) - Equipment Cleaning	\$1,784.83
Dozer (Large) - Equipment Cleaning	\$1,779.67
Dump Trucks	\$429.39

TOTAL MOVE-IN & EQUIPMENT CLEANING COST = \$5,079.55

TOTAL CREDITS \$68,480.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Frog Holler Sale Number: 341-18-17
Road Segment: A to B Construction: 9+60 stations
0.18 miles

PROJECT NO. 1

EXCAVATION

Clearing & grubbing (scatter)	0.67	ac @	\$1,078.00	per acre =	\$722.26
Balanced road construction	8.40	sta @	\$110.00	per sta =	\$924.00
Drift	1.20	sta @	\$180.00	per sta =	\$216.00
End-haul					
Excavate	250	cy @	\$1.64	per cy =	\$410.00
Load & Haul	50	cy @	\$1.43	per cy =	\$71.50
Compact waste area	50	cy @	\$0.30	per cy =	\$15.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	9.60	sta @	\$36.00	per sta =	\$345.60

TOTAL EXCAVATION COSTS = \$3,166.86

CULVERTS - MATERIALS & INSTALLATION

Culverts

40 LF of 18" \$800.00
90 LF of 24" \$2,610.00

Culvert Markers

3 markers \$30.00

TOTAL CULVERT COSTS = \$3,440.00

PROJECT NO. 1 TOTAL COST = \$6,606.86

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta				
A to B	624	cy of	Pit-run	@	\$8.81	per cy =	\$5,497.44
Turnout	30	cy of	Pit-run	@	\$8.81	per cy =	\$264.30
Turnaround	20	cy of	Pit-run	@	\$8.81	per cy =	\$176.20
Junction	30	cy of	Pit-run	@	\$8.81	per cy =	\$264.30
Landing	180	cy of	Pit-run	@	\$8.81	per cy =	\$1,585.80
Culvert bedding	40	cy of	1 1/2" - 0	@	\$4.15	per cy =	\$166.00
Rock Total =	924						
	40	cy of	1 1/2" - 0		\$4.15	per cy =	\$166.00
	884	cy of	Pit-run		\$8.81	per cy =	\$7,788.04

PROJECT NO. 2 TOTAL COST = \$7,954.04

PROJECT NO. 3:

Grass seed & fertilizer	0.34	acres	@	\$425.00	per acre =	\$142.38
Mulch	8	bales	@	\$8.00	per bale =	\$64.00

PROJECT NO. 3 TOTAL COST = \$206.38

TOTAL COST = \$14,767.28

SUMMARY OF CONSTRUCTION COST

Timber Sale: Frog Holler
Road Segment: C to D

Sale Number: 341-18-17
Construction: 18+00 stations
0.34 miles

PROJECT NO. 1

EXCAVATION

Clearing & grubbing (scatter)	1.24	ac @	\$1,078.00	per acre =	\$1,336.72
Balanced road construction	14.00	sta @	\$110.00	per sta =	\$1,540.00
Drift	4.00	sta @	\$180.00	per sta =	\$720.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Approach to landing	1.00	sta @	\$110.00	per sta =	\$110.00
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	19.00	sta @	\$36.00	per sta =	\$684.00

TOTAL EXCAVATION COSTS = \$4,770.72

PROJECT NO. 1 TOTAL COST = \$4,770.72

PROJECT NO. 2:

SURFACING

	12	" deep =	65 cy/sta				
C to D	1,170	cy of	Pit-run	@	\$8.59	per cy =	\$10,050.30
Turnout	30	cy of	Pit-run	@	\$8.59	per cy =	\$257.70
Junction	60	cy of	Pit-run	@	\$8.59	per cy =	\$515.40
Landing	180	cy of	Pit-run	@	\$8.59	per cy =	\$1,546.20
Roadside Landing	95	cy of	Pit-run	@	\$8.59	per cy =	\$816.05
Approach to landing	65	cy of	Pit-run	@	\$8.59	per cy =	\$558.35
Rock Total =	1,600						
	1,600	cy of	Pit-run		\$8.59	per cy =	\$13,744.00

PROJECT NO. 2 TOTAL COST = \$13,744.00

PROJECT NO. 3:

Grass seed & fertilizer	0.62	acres	@	\$425.00	per acre =	\$263.50
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PROJECT NO. 3 TOTAL COST = \$263.50

TOTAL COST = \$18,778.22

SUMMARY OF CONSTRUCTION COST

Timber Sale: Frog Holler Sale Number: 341-18-17
Road Segment: E to F Construction: 11+20 stations
0.21 miles

PROJECT NO. 1

EXCAVATION

Clearing & grubbing (scatter)	1.03	ac @	\$1,078.00	per acre =	\$1,110.34
Balanced road construction	7.00	sta @	\$110.00	per sta =	\$770.00
Drift	4.20	sta @	\$180.00	per sta =	\$756.00
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	11.20	sta @	\$36.00	per sta =	\$403.20

TOTAL EXCAVATION COSTS = \$3,502.04

CULVERTS - MATERIALS & INSTALLATION

Culverts

60 LF of 18" \$1,200.00
60 LF of 30" \$2,340.00

Culvert Markers

2 markers \$20.00

TOTAL CULVERT COSTS = \$3,560.00

PROJECT NO. 1 TOTAL COST = \$7,062.04

PROJECT NO. 2:

SURFACING

	12	" deep =	65 cy/sta			
E to F	728	cy of	Pit-run	@	\$8.27	per cy = \$6,020.56
Turnout	30	cy of	Pit-run	@	\$8.27	per cy = \$248.10
Turnaround	20	cy of	Pit-run	@	\$8.27	per cy = \$165.40
Junction	30	cy of	Pit-run	@	\$8.27	per cy = \$248.10
Landing	180	cy of	Pit-run	@	\$8.27	per cy = \$1,488.60
Culvert bedding	20	cy of	1 1/2" - 0	@	\$4.09	per cy = \$81.80
Rock Total =	1,008					
	20	cy of	1 1/2" - 0		\$4.09	per cy = \$81.80
	988	cy of	Pit-run		\$8.27	per cy = \$8,170.76

PROJECT NO. 2 TOTAL COST = \$8,252.56

PROJECT NO. 3:

Grass seed & fertilizer	0.52	acres	@	\$425.00	per acre =	\$218.88
Mulch	4	bales	@	\$8.00	per bale =	\$32.00

PROJECT NO. 3 TOTAL COST = \$250.88

TOTAL COST = #####

SUMMARY OF CONSTRUCTION COST

Timber Sale: Frog Holler Sale Number: 341-18-17
Road Segment: G to H Construction: 9+40 stations
0.18 miles

PROJECT NO. 1

EXCAVATION

Clearing & grubbing (scatter)	0.87	ac @	\$1,078.00	per acre =	\$937.86
Balanced road construction	9.40	sta @	\$110.00	per sta =	\$1,034.00
End-haul					
Excavate	278	cy @	\$1.64	per cy =	\$455.92
Load & Haul	55	cy @	\$1.43	per cy =	\$78.65
Compact waste area	55	cy @	\$0.30	per cy =	\$16.50
Turnouts	1	ea @	\$66.00	per ea =	\$66.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	9.40	sta @	\$36.00	per sta =	\$338.40

TOTAL EXCAVATION COSTS = \$3,323.83

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18"	\$600.00
40 LF of 24"	\$1,160.00
40 LF of 30"	\$1,560.00

Culvert Markers

3 markers	\$30.00
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TOTAL CULVERT COSTS = \$3,350.00

PROJECT NO. 1 TOTAL COST = \$6,673.83

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta			
G to H	611	cy of	Pit-run	@	\$8.27	per cy = \$5,052.97
Turnout	30	cy of	Pit-run	@	\$8.27	per cy = \$248.10
Turnaround	20	cy of	Pit-run	@	\$8.27	per cy = \$165.40
Junction	30	cy of	Pit-run	@	\$8.27	per cy = \$248.10
Landing	180	cy of	Pit-run	@	\$8.27	per cy = \$1,488.60
Culvert bedding	40	cy of	1 1/2" - 0	@	\$4.09	per cy = \$163.60
Rock Total =	911					
	40	cy of	1 1/2" - 0		\$4.09	per cy = \$163.60
	871	cy of	Pit-run		\$8.27	per cy = \$7,203.17

PROJECT NO. 2 TOTAL COST = \$7,366.77

PROJECT NO. 3:

Grass seed & fertilizer	0.44	acres	@	\$425.00	per acre = \$184.88
Mulch	8	bales	@	\$8.00	per bale = \$64.00

PROJECT NO. 3 TOTAL COST = \$248.88

TOTAL COST = \$14,289.48

TIMBER SALE SUMMARY

Frog Holler

Contract No. 341-18-17

1. **Location:** Portions of Sections 27, 28, 33, & 34, T2N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is 87 net acres of Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Tillamook County, (Tax Code 56.)
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 February of 2018. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of an over-stocked 68 year old Douglas-fir stand with minor amounts of western hemlock, western redcedar, true firs, and hardwoods. The stand has an average of 257 ft² of basal area all species, an average Douglas-fir DBH of 19 inches, and an estimated average net Douglas-fir volume of approximately 49 MBF per acre.
7. **Topography and Logging Method:** Slopes within the sale areas range from 5% to 80%, but are generally less than 35%, and generally Southwest in aspect. The timber sale is 66% ground-based yarding and 34% cable yarding. The average cable corridor length is 280 feet and the average horizontal skid trail length is approximately 300 feet and the maximum is approximately 550 feet.
8. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove travel northwest on Highway 8 to its junction with Highway 6. Turn left and continue west on Highway 6 for approximately 11.7 miles then turn right onto Drift Creek Road. Continue approximately 400 feet and take the first right staying on Drift Creek Road. Continue on Drift Creek road for 900 feet to the southern portion of the sale area.
9. **Projects:**

Project No. 1: Road Construction	\$25,113.45
Project No. 2: Road Surfacing	\$37,317.37
Project No. 3: Grass Seed, Fertilize, and Mulch	\$969.63
Move in and equipment cleaning:	\$5,079.55
Total Credit for all Projects (rounded)	\$68,480.00

CRUISE REPORT
Frog Holler
341-18-17

1. LOCATION:

Portions of Sections 27, 28, 33 & 34, T2N, R6W, W. M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 16 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. 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 cruised in February, 2018. Sale area was sampled with 30 variable radius grade plots using a 40 BAF prism. One plot was dropped do to its proximity to a RMA. Plots were laid out on a 7 chain x 4 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

193 trees were measured and graded producing a cumulative Sampling Error of 6.8% on the Basal Area and 6.7% 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** were 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:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by ODF cruisers Kenton Burns.

Prepared by:


ODF Forester

2/21/2018
Date

Reviewed by:


Eric Foucht

2/21/2018
Date

TC PSTATS			PROJECT STATISTICS					PAGE 1			
			PROJECT		FROGHOL		DATE 2/14/2018				
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
02N	06	27	00A1	00MC	87.00	30	193	S	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			30	193	6.4						
CRUISE			30	193	6.4	12,325	1.6				
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			177	123.6	18.7	117	54.6	236.0	49,375	49,031	10,472
WHEMLOCK			12	13.6	14.7	102	4.2	16.0	2,977	2,968	659
R ALDER			4	4.5	14.8	113	1.4	5.3	1,004	976	206
TOTAL			193	141.7	18.2	115	60.2	257.3	53,356	52,974	11,338
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			75.8	5.7	651	690	729				
WHEMLOCK			55.2	16.6	287	344	401				
R ALDER			18.5	10.6	199	223	246				
TOTAL			78.0	5.6	622	659	696	243	61	27	
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			67.8	5.1	135	142	149				
WHEMLOCK			55.9	16.8	65	78	91				
R ALDER			24.7	14.1	41	48	54				
TOTAL			69.8	5.0	129	136	143	194	49	22	
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			75.2	14.0	106	124	141				
WHEMLOCK			287.0	53.3	6	14	21				
R ALDER			453.0	84.1	1	4	8				
TOTAL			72.4	13.4	123	142	161	217	54	24	
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			37.6	7.0	220	236	252				
WHEMLOCK			223.6	41.5	9	16	23				
R ALDER			428.5	79.5	1	5	10				
TOTAL			36.9	6.8	240	257	275	56	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			35.3	6.5	45,820	49,031	52,242				
WHEMLOCK			230.6	42.8	1,697	2,968	4,239				
R ALDER			441.2	81.9	177	976	1,775				
TOTAL			36.0	6.7	49,436	52,974	56,513	54	13	6	
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			33.6	6.2	9,819	10,472	11,125				
WHEMLOCK			222.7	41.3	387	659	932				

PROJECT STATISTICS							PAGE	2		
TC PSTATS			PROJECT		FROGHOL		DATE	2/14/2018		
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
02N	06	27	00A1	00MC	87.00	30	193	S	W	
CL	68.1		COEFF		NET CUFT FT/ACRE		# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER			432.4	80.3	41	206	372			
TOTAL			34.2	6.3	10,619	11,338	12,057	48	12	5

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
<div>T02N R06W S27 Ty00MC87.00</div>				Project: FROGHOL												Page 1					
				Acres 87.00												Date 2/14/2018					
																Time 10:29:32AM					
S Spp	So T	Gr rt	Ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
									Log Scale Dia.				Log Length				Ln/Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF		CU															12	13		0.00	4.6
DF		2M		68	.7	34,012	33,782	2,939			44	56	1	1	1	97	40	16	414	2.04	81.7
DF		3M		28	.8	13,534	13,420	1,168		100				0	5	95	39	8	99	0.64	135.0
DF		4M		4		1,829	1,829	159		100			39	59	1		20	6	24	0.32	76.8
DF	Totals			93	.7	49,375	49,031	4,266		31	30	39	2	3	2	93	34	10	164	1.04	298.1
WH		2M		57	.5	1,702	1,693	147			89	11		3		97	39	13	259	1.41	6.5
WH		3M		36		1,093	1,093	95		100					10	90	38	8	90	0.55	12.1
WH		4M		7		181	181	16		100			29	71			20	6	21	0.27	8.6
WH	Totals			6	.3	2,977	2,968	258		43	51	6	2	6	4	88	32	8	109	0.75	27.2
RA		R		100	2.9	1,004	976	85		63	37			26	22	52	33	9	109	0.70	9.0
RA	Totals			2	2.9	1,004	976	85		63	37			26	22	52	33	9	109	0.70	9.0
Totals					0.7	53,356	52,974	4,609		32	32	36	2	3	2	92	34	10	158	1.00	334.3

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R06W S27 Ty00MC				87.00		Project: Acres		FROGHOL 87.00								Page 1 Date 2/14/2018 Time 10:29:31AM			
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	14	8		8	.2									8			
DF		2M	20	12		12	.3									12			
DF		2M	24	21	6.8	19	.5							19					
DF		2M	26	6		6	.2				6								
DF		2M	32	32	1.5	32	.7									32			
DF		2M	40	2,879		2,861	67.1					414		576	1013	658	201		
DF		3M	28	1		1	.0			1									
DF		3M	30	1		1	.0			1									
DF		3M	32	24		24	.6			23	1								
DF		3M	34	29		29	.7			29									
DF		3M	36	31		31	.7			26	5								
DF		3M	38	61		61	1.4			41	16	4							
DF		3M	40	1,030		1,020	23.9			176	373	472							
DF		4M	12	18		18	.4			16	2								
DF		4M	14	4		4	.1			4									
DF		4M	16	8		8	.2			8									
DF		4M	18	10		10	.2			10	1								
DF		4M	20	23		23	.5			22	1								
DF		4M	22	15		15	.3			15									
DF		4M	24	20		20	.5			20									
DF		4M	26	30		30	.7			30									
DF		4M	28	11		11	.3			11									
DF		4M	30	19		19	.4			19									
DF		4M	34	2		2	.0			2									
DF		Totals		4,296		4,266	92.6			453	399	475	421	576	1032	710	201		
WH		2M	28	6	14.3	5	1.9					5							
WH		2M	40	142		142	55.2					62		49	32				
WH		3M	32	4		4	1.4			4									
WH		3M	34	5		5	2.1			5									
WH		3M	36	14		14	5.5			8	6								
WH		3M	38	15		15	5.8			15									
WH		3M	40	57		57	22.0			7	6	43							
WH		4M	12	3		3	1.1			3									
WH		4M	18	2		2	.7			2									
WH		4M	26	10		10	3.9			10									
WH		4M	28	1		1	.5			1									

TC PLOGSTVB				Log Stock Table - MBF															
T02N R06W S27 Ty00MC 87.00				Project: FROGHOL Acres 87.00												Page 2 Date 2/14/2018 Time 10:29:31AM			
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+
WH	Totals			259		258	5.6			55	12	43	67	49	32				
RA	R	26		18		18	21.4		4		14								
RA	R	28		4		4	4.3		4										
RA	R	32		5		5	5.9		5										
RA	R	33		14		14	16.6				14								
RA	R	40		46	5.4	44	51.7			13		31							
RA	Totals			87	2.9	85	1.8		13	13	28	31							
Total	All Species			4,642		4,609	100.0		521	424	546	518	625	1064	710	201			

TC		PSTNDSUM		Stand Table Summary										Page Date:		1 2/14/2018		
<div>T02N R06W S27 Ty00MC87.00</div>					Project					FROGHOL					Time:		10:29:35AM	
					Acres					87.00					Grown Year:			
S Spec	T	Tot				Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net			Totals				
		DBH	Sample Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Net Bd.Ft. Acre	Tons	Cunits	MBF		
DF		8	1	86	73	3.820	1.33	3.82	4.6	20.0	.50	18	76	44	15	7		
DF		9	1	85	63	3.018	1.33	3.02	7.6	30.0	.66	23	91	57	20	8		
DF		10	3	88	95	7.334	4.00	9.78	10.0	47.5	2.79	98	464	242	85	40		
DF		11	3	88	99	6.061	4.00	12.12	9.8	41.7	3.40	119	505	296	104	44		
DF		12	8	87	103	13.581	10.67	27.16	12.8	54.4	9.94	349	1,477	865	304	128		
DF		13	7	88	97	10.126	9.33	18.80	15.5	63.1	8.30	291	1,186	722	253	103		
DF		14	7	88	102	8.731	9.33	17.46	18.0	77.9	8.98	315	1,360	781	274	118		
DF		15	4	89	112	4.346	5.33	8.69	22.3	96.2	5.52	194	837	480	169	73		
DF		16	5	88	110	4.775	6.67	9.55	26.9	116.0	7.32	257	1,108	637	224	96		
DF		17	10	88	118	8.459	13.33	21.15	25.4	106.0	15.33	538	2,242	1,334	468	195		
DF		18	6	88	122	4.527	8.00	12.07	26.2	108.1	9.02	317	1,305	785	275	114		
DF		19	10	88	129	6.772	13.33	18.96	31.0	133.9	16.78	589	2,539	1,460	512	221		
DF		20	6	89	143	3.667	8.00	11.00	35.6	165.6	11.16	391	1,821	971	341	158		
DF		21	5	88	127	2.772	6.67	8.32	35.3	160.0	8.36	293	1,330	727	255	116		
DF		22	12	89	133	6.061	16.00	18.18	41.3	193.1	21.38	750	3,510	1,860	653	305		
DF		23	11	89	136	5.083	14.67	14.79	45.9	211.6	19.35	679	3,129	1,684	591	272		
DF		24	7	89	138	2.971	9.33	9.34	48.1	223.6	12.80	449	2,088	1,114	391	182		
DF		25	10	89	143	3.911	13.33	12.52	52.5	248.4	18.73	657	3,110	1,629	572	271		
DF		26	13	89	142	4.701	17.33	14.10	60.4	286.9	24.26	851	4,047	2,111	741	352		
DF		27	5	89	147	1.677	6.67	5.37	57.0	290.6	8.72	306	1,559	759	266	136		
DF		28	8	89	148	2.495	10.67	7.80	70.7	360.8	15.72	551	2,813	1,367	480	245		
DF		29	10	86	148	2.907	13.33	9.30	72.0	344.4	19.09	670	3,203	1,661	583	279		
DF		30	5	89	145	1.358	6.67	4.62	72.0	365.9	9.47	332	1,690	824	289	147		
DF		31	5	88	154	1.272	6.67	4.32	82.5	425.9	10.17	357	1,842	885	310	160		
DF		32	5	89	157	1.194	6.67	4.30	85.1	445.0	10.43	366	1,912	907	318	166		
DF		33	3	88	142	.673	4.00	2.24	88.8	445.0	5.68	199	999	494	173	87		
DF		34	2	88	154	.423	2.67	1.48	96.5	511.4	4.07	143	757	354	124	66		
DF		36	2	88	158	.377	2.67	1.32	110.4	608.6	4.16	146	804	361	127	70		
DF		37	1	89	170	.179	1.33	.71	110.2	635.0	2.24	79	454	195	69	39		
DF		38	1	88	162	.169	1.33	.68	113.1	642.5	2.18	77	435	190	67	38		
DF		39	1	82	155	.161	1.33	.48	140.8	703.3	1.94	68	339	168	59	30		
DF		Totals	177	88	117	123.599	236.00	293.45	35.7	167.1	298.45	10,472	49,031	25,965	9,111	4,266		
WH		8	1	91	76	3.820	1.33	3.82	6.0	30.0	.74	23	115	64	20	10		
WH		10	1	92	93	2.445	1.33	4.89	8.1	40.0	1.27	40	196	111	35	17		
WH		14	1	93	103	1.247	1.33	2.49	21.0	100.0	1.67	52	249	146	46	22		
WH		17	4	92	117	3.384	5.33	8.46	28.3	125.0	7.66	239	1,057	667	208	92		
WH		18	1	93	148	.755	1.33	2.26	32.8	166.7	2.38	74	377	207	65	33		
WH		20	1	89	124	.611	1.33	1.83	32.2	143.3	1.89	59	263	165	51	23		
WH		23	2	86	112	.924	2.67	2.31	48.5	196.0	3.58	112	453	312	97	39		
WH		25	1	86	120	.391	1.33	1.17	50.7	220.0	1.90	60	258	166	52	22		
WH		Totals	12	91	102	13.576	16.00	27.24	24.2	108.9	21.10	659	2,968	1,836	574	258		
RA		13	1	96	154	1.447	1.33	2.89	20.4	105.0	1.62	59	304	141	51	26		
RA		14	1	93	90	1.247	1.33	2.49	17.4	85.0	1.19	43	212	104	38	18		
RA		16	1	93	101	.955	1.33	1.91	28.5	130.0	1.50	55	248	130	47	22		
RA		17	1	92	93	.846	1.33	1.69	29.2	125.0	1.36	49	211	118	43	18		
RA		Totals	4	94	113	4.495	5.33	8.99	23.0	108.5	5.67	206	976	494	179	85		
Totals			193	88	115	141.670	257.33	329.69	34.4	160.7	325.23	11,338	52,974	28,295	9,864	4,609		

VOLUME SUMMARY

(Shown in MBF)

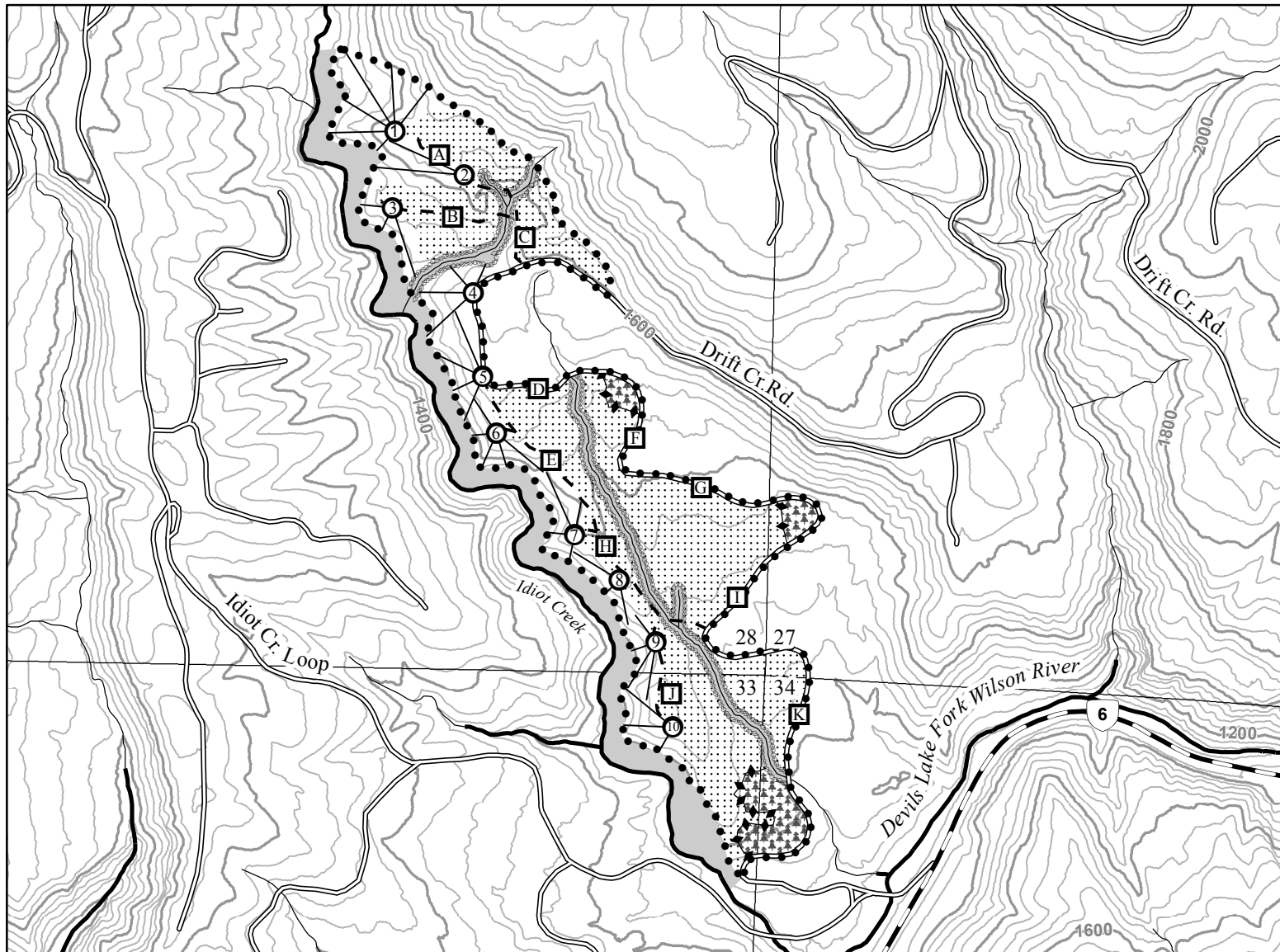
Frog Holler**341-18-17****February 2018****AREA 1: MC (87 ACRES)**

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	2,939	1,168	159	0	4,266
	Hidden D&B (2%)	(59)	(23)	(3)	()	(85)
	NET TOTAL	2,880	1,145	156	0	4,181
	% of Total	69	27	4	0	
Western Hemlock	Cruise Volume	147	95	16	0	258
	Hidden D&B (2%)	(3)	(2)	()	()	(5)
	NET TOTAL	144	93	16	0	253
	% of Total	57	37	6	0	
Red Alder	Cruise Volume	0	0	0	85	85
	Hidden D&B (5%)	()	()	()	(4)	(4)
	NET TOTAL	0	0	0	81	81
	% of Total	0	0	0	100	

SALE TOTAL						
SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL	
Douglas-fir	2,880	1,145	156	0	4,181	
Western Hemlock	144	93	16	0	253	
Red Alder	0	0	0	81	81	
Total	3,024	1,238	172	81	4,515	

Enter Sale name/number, date, harvest type, acres and cruise volume

Print Page 1 only



Legend

- Timber Sale Boundary
- Highways
- Surfaced Roads
- - - New Road Construction
- Type F Stream
- Type N Stream
- ~~~~~ Stream Buffer Boundary
- Stream Buffers
- ◆◆◆ Posted Reserve Tree Area Boundary
- Reserve Tree Area
- < Cable Yarding Area
- Tractor Yarding Area
- Cable Landing
- Tractor Landing
- Section Line
- 40 ft contours
- 200 ft contours

LOGGING PLAN

FOR TIMBER SALE CONTRACT 341-18-17
FROG HOLLER
PORTIONS OF SECTIONS 27, 28, 33, & 34
T2N, R6W, W.M.,
TILLAMOOK COUNTY, OREGON

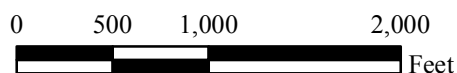
Forest Grove District GIS
February, 2018

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



1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES
TRACTOR CABLE

57

30