



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Hembre Falls
Sale TL-341-2021-W00502-01

District: Tillamook

Date: October 14, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,512,903.47	\$159,118.20	\$1,672,021.67
		Project Work:	(\$310,490.00)
		Advertised Value:	\$1,361,531.67



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Hembre Falls Sale TL-341-2021-W00502-01

District: Tillamook

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Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	90
Western Hemlock / Fir	20	0	100
Sitka Spruce	22	0	100
Alder (Red)	16	0	100

Volume by Grade	2S	3S & 4S 6"-11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	2,575	1,484	0	0	0	0	4,059
Western Hemlock / Fir	165	137	0	0	0	0	302
Sitka Spruce	29	84	0	0	0	0	113
Alder (Red)	0	0	261	398	504	459	1,622
Total	2,769	1,705	261	398	504	459	6,096

Comments: Pond Values Used: September 2020
Region: Astoria, Forest Grove, and Tillamook

Western Red Cedar and Other Cedars Stumpage Price = \$1,159.00/MBF - \$363.54/MBF = \$795.46/ MBF

Pulp (Conifer and Hardwood) Price = \$ 2.50/ Ton

BRAND AND PAINT ALLOWANCE = \$2.00/ MBF

FUEL COST ALLOWANCE = \$3.00/ Gallon

HAULING COST ALLOWANCE

Hauling cost equivalent to \$950 daily truck cost

(\$95.00/hr x 10 hr. = \$950)

Other Costs with Profit and Risk to be added:

Closing Dirt Roads: 4 Roads x \$50 = \$200

TOTAL Other Costs with profit and Risk to be added = \$200

Other Costs with No Profit and Risk Added:

Move-in Machine Cleaning: \$1,000/machine x 2 machines x 2 seasons = \$4,000

Slash piling and sorting (Cable Settings): \$5/ac x 207ac. = \$1,035

Heliport Construction: \$500/unit x 3 unit = \$1,500

Move-in Guyline Dozer (Area 3) : \$1,000 x 2 machines = \$2,000

Move-in Tailhold Dozer (Area 1) : \$1,000 x 1 machines = \$1,000

Lift Trees (Area 1 & Area 2) : 12 Trees x Cost \$300 = \$3,600

Ditch Cleaning and Bank Sluff Removal:

Mobilization: two times – dump truck w/ tilt bed & small excavator: \$900 x 2 = \$1,800

Small excavator (Cat 312 or equivalent): 40 hours @ \$135/ hour = \$5,400

Dump truck: 40 hours @ \$90/ hour = \$3,600

TOTAL Other Costs no Profit and Risk added = \$23,935

ROAD MAINTENANCE:

Spot Rocking: 20cy/MMBF/mile x 6.096 MMBF x \$12/cy x 16 miles / 6,096 MBF= \$3.84/MBF

Interim Grading: \$1,150/ mile x 16 miles x 2 times/ 6,096 MBF = \$6.06/MBF

Final Maintenance Grading: \$1,500 x 16 miles/ 6,096 MBF = \$3.95/MBF

Final Maintenance Compaction: \$950/mile x 9 miles/ 6,096 MBF = \$1.40/MBF

Total Road Maintenance: \$15.25/MBF



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Logging Conditions

Combination#: 1

Douglas - Fir	16.78%
Western Hemlock / Fir	17.91%
Sitka Spruce	32.75%
Alder (Red)	22.98%

Logging System: Cable: Large Tower >=70 **Process:** Harvester Head Delimbing
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 12 **bd. ft / load:** 4100
cost / mbf: \$162.20
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Large)

Combination#: 2

Douglas - Fir	28.25%
Western Hemlock / Fir	28.42%
Sitka Spruce	22.05%
Alder (Red)	24.94%

Logging System: Cable: Large Tower >=70 **Process:** Harvester Head Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 11 **bd. ft / load:** 4100
cost / mbf: \$176.95
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Large)

Combination#: 3

Douglas - Fir	49.89%
Western Hemlock / Fir	49.97%
Sitka Spruce	35.15%
Alder (Red)	42.50%

Logging System: Cable: Large Tower >=70 **Process:** Harvester Head Delimbing
yarding distance: Long (1,500 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 10 **bd. ft / load:** 4100
cost / mbf: \$194.64
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Large)

Combination#: 4

Douglas - Fir	5.08%
Western Hemlock / Fir	3.69%
Sitka Spruce	10.04%
Alder (Red)	9.58%

Logging System:	Shovel	Process:	Harvester Head Delimbing
yarding distance:	Short (400 ft)	downhill yarding:	No
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	13	bd. ft / load:	4100
cost / mbf:	\$100.26		
machines:	Forwarder		
	Harvester		



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Logging Costs

Operating Seasons: 2.00	Profit Risk: 10%
Project Costs: \$310,490.00	Other Costs (P/R): \$200.00
Slash Disposal: \$0.00	Other Costs: \$23,935.00

Miles of Road

Road Maintenance: \$15.25

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	4.1
Western Hemlock / Fir	\$0.00	2.0	4.3
Sitka Spruce	\$0.00	2.0	4.3
Alder (Red)	\$0.00	1.0	4.3



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$179.41	\$16.78	\$1.44	\$127.44	\$0.03	\$32.51	\$0.00	\$2.00	\$3.93	\$363.54
Western Hemlock / Fir									
\$180.32	\$15.25	\$1.44	\$110.47	\$0.03	\$30.75	\$0.00	\$2.00	\$3.93	\$344.19
Sitka Spruce									
\$170.63	\$15.25	\$1.44	\$110.47	\$0.03	\$29.78	\$0.00	\$2.00	\$3.93	\$333.53
Alder (Red)									
\$173.73	\$15.25	\$1.44	\$220.93	\$0.03	\$41.14	\$0.00	\$2.00	\$3.93	\$458.45

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$717.40	\$353.86	\$0.00
Western Hemlock / Fir	\$0.00	\$549.82	\$205.63	\$0.00
Sitka Spruce	\$0.00	\$461.72	\$128.19	\$0.00
Alder (Red)	\$0.00	\$556.55	\$98.10	\$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
Sitka Spruce	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,059	\$353.86	\$1,436,317.74
Western Hemlock / Fir	302	\$205.63	\$62,100.26
Sitka Spruce	113	\$128.19	\$14,485.47
Alder (Red)	1,622	\$98.10	\$159,118.20

Gross Timber Sale Value

Recovery: \$1,672,021.67

Prepared By: Nathan Atchison

Phone: 503-815-7031



PROJECT SUMMARY SHEET

Sale: Hembre Falls

CONSTRUCTION

Point	C to D	13+15	stations =	\$4,457.99
Point	E to F	3+90	stations =	\$1,607.85
Point	G to H	2+40	stations =	\$1,299.20
Point	I to J	1+40	stations =	\$3,732.08
Point	M to N	19+20	stations =	\$60,577.40
Point	Q to R	9+15	stations =	\$15,070.53
Point	S to T	1+45	stations =	\$3,124.68
Point	AA to BB	1+10	stations =	\$3,028.25
SUBTOTAL CONSTRUCTION				<u>\$92,897.98</u>

IMPROVEMENT

Point	A to B	383+95	stations =	\$25,959.03
Point	C to D	31+90	stations =	\$3,190.34
Point	I to J	39+35	stations =	\$15,567.95
Point	U to V	363+15	stations =	\$62,313.43
Point	W to X	23+40	stations =	\$14,790.20
Point	Y to Z	5+60	stations =	\$911.80
SUBTOTAL IMPROVEMENT				<u>\$122,732.75</u>

RECONSTRUCTION

Point	K to L	11+05	stations =	\$13,871.98
Point	M to N	1+25	stations =	\$1,799.08
Point	O to P	22+95	stations =	\$40,503.62
SUBTOTAL RECONSTRUCTION				<u>\$56,174.68</u>

SPECIAL PROJECTS

Clear Creek Pit Work	<u>\$34,305.00</u>
SUBTOTAL SPECIAL PROJECTS	<u>\$34,305.00</u>

MOVE IN

\$4,379.59

GRAND TOTAL

\$310,490.00

Sale:	Hembre Falls				Road:	A to B			
<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	383+95	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations	
	0.00	miles		7.27	miles		0.00	miles	
ROCK									
Spot Rock	As Directed	300	cy. of	Crushed	@	\$6.09 per c.y.=		\$1,827.00	
Landing Rock	50CU each	350	cy. of	Pit-Run	@	\$18.76 per c.y.=		\$6,566.00	
							TOTAL ROCK	\$8,393.00	
SPECIAL PROJECTS									
Waste Area Construction		3.00	hours @	\$200.00	per hour			\$600.00	
Waste Area #5 access		0.50	hours @	\$200.00	per hour			\$100.00	
Landing Construction		7.00	hours @	\$200.00	per hour			\$1,400.00	
Pull Ditches & Endhaul		2.00	stations @	\$80.00	per station			\$160.00	
Grade and shape road -		383.95	stations @	\$22.00	per station			\$8,446.90	
Roll subgrade w/ vibratory roller-45+40-171+60		383.95	stations @	\$17.50	per station			\$6,719.13	
Grass seed and fertilize -		0.50	acres @	\$280.00	per acre			\$140.00	
							TOTAL SPECIAL PROJECTS	\$17,566.03	
GRAND TOTAL							\$25,959.03		

SUMMARY OF CONSTRUCTION COST

Sale:			<u>Hembre Falls</u>			Road:			<u>C to D</u>			
<u>Construction -</u>			<u>13+15</u>	stations	<u>Improvement -</u>	<u>31+90</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations		
			0.25	miles		0.60	miles		0.00	miles		
<u>CONSTRUCTION:</u> CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -												
			<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist.</u>	<u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	<u>Drill & Shoot</u>	<u>Endhaul</u>
31+90					45+05	35%				\$239	=	
												\$3,142.85
										TOTAL		\$3,142.85
ROCK												
Spot Rock			As Needed		200	cy. of	Crushed	@	\$8.79 per c.y.=		\$1,758.00	
										TOTAL ROCK		\$1,758.00
SPECIAL PROJECTS												
Landing Construction						1.00	hours @	\$200.00	per hour	\$200.00		
Fill Construction						1.00	hours @	\$200.00	per hour	\$200.00		
Grade and shape road -						45.05	stations @	\$22.00	per station	\$991.10		
Roll subgrade w/ vibratory roller prior to rocking -						45.05	stations @	\$17.50	per station	\$788.38		
Remove large stumps -						2.00	lump sum @	\$200.00		\$400.00		
Grass seed and fertilize -						0.60	acres @	\$280.00	per acre	\$168.00		
										TOTAL SPECIAL PROJECTS		\$2,747.48
										GRAND TOTAL		\$7,648.33

SUMMARY OF CONSTRUCTION COST

Sale:			Hembre Falls			Road:			E to F								
<u>Construction -</u>			3+90 stations			<u>Improvement -</u>			0+00 stations			<u>Reconstruction -</u>			0+00 stations		
			0.07 miles						0.00 miles						0.00 miles		

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -									
				Avg. Dist.					
<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>		<u>Drill & Shoot</u>	<u>Endhaul</u>
0+00		3+90	25%			\$206	=		\$803.40
TOTAL									\$803.40

SPECIAL PROJECTS									
Landing Construction	1.00	hours @	\$200.00	per hour	\$200.00				
Grade and shape road -	3.90	stations @	\$22.00	per station	\$85.80				
Roll subgrade	3.90	stations @	\$17.50	per station	\$68.25				
Remove large stumps -	2.00	lump sum @	\$200.00		\$400.00				
Grass seed and fertilize -	0.18	acres @	\$280.00	per acre	\$50.40				
TOTAL SPECIAL PROJECTS									\$804.45
GRAND TOTAL									\$1,607.85

SUMMARY OF CONSTRUCTION COST

Sale:			Hembre Falls			Road:			G to H		
Construction -			2+40	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations	
			0.05	miles		0.00	miles		0.00	miles	

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -											
	Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station		Drill & Shoot	Endhaul	
	0+00		2+40	35%			\$239	=			\$573.60
										TOTAL	\$573.60

SPECIAL PROJECTS											
Landing Construction					1.00	hours @	\$200.00		per hour	\$200.00	
Grade and shape road -					2.40	stations @	\$22.00		per station	\$52.80	
Roll subgrade					2.40	stations @	\$17.50		per station	\$42.00	
Remove large stumps -					2.00	lump sum @	\$200.00			\$400.00	
Grass seed and fertilize -					0.11	acres @	\$280.00		per acre	\$30.80	
									TOTAL SPECIAL PROJECTS		\$725.60
									GRAND TOTAL		\$1,299.20

SUMMARY OF CONSTRUCTION COST

Sale:		Hembre Falls		Road:		I to J					
Construction -		1+40	stations	Improvement -		39+35	stations	Reconstruction -		0+00	stations
		0.03	miles			0.75	miles			0.00	miles
CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -											
Station		to	Station	Avg. Sideslope	Avg. Dist.	To W.A. (mi.)		Outslope/Ditch		Cost per Station	
39+35			40+75	10%				Outslope		\$113	=
											Drill & Shoot
											Endhaul
											\$3,020
											\$3,178.20
											TOTAL
											\$3,178.20
ROCK											
20+05		to	40+75	730	cy. of	Jawrun		@	\$16.58	per c.y.=	\$12,103.40
Spot Rock			As Needed	50	cy. of	Jawrun		@	\$16.32	per c.y.=	\$816.00
Landing Rock			40+75	100	cy. of	Pitrun		@	\$11.76	per c.y.=	\$1,176.00
											TOTAL ROCK
											\$14,095.40
SPECIAL PROJECTS											
Landing Construction				2.00	hours @	\$200.00			per hour		\$400.00
Grade and shape road -				40.75	stations @	\$22.00			per station		\$896.50
Roll subgrade				40.75	stations @	\$17.50			per station		\$713.13
Grass seed and fertilize -				0.06	acres @	\$280.00			per acre		\$16.80
											TOTAL SPECIAL PROJECTS
											\$2,026.43
											GRAND TOTAL
											\$19,300.03

SUMMARY OF CONSTRUCTION COST

Sale:

Hembre Falls

Road:

K to L

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	11+05	stations
	0.00	miles		0.00	miles		0.21	miles

ROCK

0+00	to	11+05	650	cy. of	Jawrun	@	\$16.74 per c.y.=	\$10,881.00	
Intersection Widening		0+00	30	cy. of	Jawrun	@	\$16.67 per c.y.=	\$500.10	
Landing Rock		11+05	60	cy. of	Pitrun	@	\$11.86 per c.y.=	\$711.60	
								TOTAL ROCK	\$12,092.70

SPECIAL PROJECTS

Vegetation removal	6.00	hours @	\$200.00	per hour	\$1,200.00
Grade and shape road -	11.05	stations @	\$22.00	per station	\$243.10
Roll subgrade w/ vibratory roller prior to rocking -	11.05	stations @	\$17.50	per station	\$193.38
Grass seed and fertilize -	0.51	acres @	\$280.00	per acre	\$142.80
TOTAL SPECIAL PROJECTS					\$1,779.28

GRAND TOTAL

\$13,871.98

SUMMARY OF CONSTRUCTION COST

Sale: **Hembre Falls**

Road: **M to N**

Construction -	19+20	stations	Improvement -		stations	Reconstruction -	1+25	stations
	0.36	miles		0.00	miles		0.02	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station		Drill & Shoot	Endhaul	
1+25		1+95	10%		Ditch	\$178	=			\$124.60
1+95		2+45	92%		Ditch	\$7,538	=		\$3,265	\$7,034.00
2+45		3+20	28%		Ditch	\$274	=			\$205.50
3+20		4+70	64%		Ditch	\$3,104	=		\$3,265	\$7,921.00
4+70		7+30	18%		Ditch	\$210	=			\$546.00
7+30		7+90	34%		Ditch	\$320	=			\$192.00
7+90		9+80	68%		Ditch	\$3,375	=		\$4,885	\$11,297.50
9+80		11+20	47%		Ditch	\$468	=			\$655.20
11+20		14+70	28%		Ditch	\$274	=			\$959.00
14+70		15+15	0%		Ditch	\$152	=			\$68.40
15+15		17+55	28%		Ditch	\$274	=		\$925	\$1,582.60
17+55		20+45	54%		Ditch	\$813	=			\$2,357.70
										TOTAL
										\$32,943.50

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	60	LF of 18"	\$1,200.00
			\$1,200.00
<u>Culvert Stakes & Markers</u>	2 markers		\$16.00

TOTAL CULVERTS **\$1,216.00**

ROCK

0+00 to	20+45	1,220	cy. of	Jawrun	@	\$16.83	per c.y.=	\$20,532.60
4+05 to	5+05	30	cy. of	Crushed	@	\$7.76	per c.y.=	\$232.80
8+20 to	9+80	30	cy. of	Crushed	@	\$7.84	per c.y.=	\$235.20
Intersection Widening	0+00	30	cy. of	Jawrun	@	\$16.70	per c.y.=	\$501.00
Curve Widening	7+20	30	cy. of	Jawrun	@	\$16.79	per c.y.=	\$503.70
Landing Rock	7+60	60	cy. of	Pitrun	@	\$11.84	per c.y.=	\$710.40
Landing Rock	15+45	60	cy. of	Pitrun	@	\$11.94	per c.y.=	\$716.40
Landing Rock	20+45	60	cy. of	Pitrun	@	\$12.01	per c.y.=	\$720.60
Energy Dissipator	5yds/Culvert	10	cy. of	Riprap	@	\$11.33	per c.y.=	\$113.30

TOTAL ROCK **\$24,266.00**

SPECIAL PROJECTS

Landing Construction	4.00	hours @	\$200.00	per hour	\$800.00
Waste Area Construction	3.00	hours @	\$200.00	per hour	\$600.00
Reconstruction vegetation removal	2.00	hours @	\$200.00	per hour	\$400.00
Grade and shape road -	20.45	stations @	\$22.00	per station	\$449.90
Roll subgrade w/ vibratory roller prior to rocking -	20.45	stations @	\$17.50	per station	\$357.88
Remove large stumps -	4.00	lump sum @	\$200.00		\$800.00
Grass seed and fertilize -	1.94	acres @	\$280.00	per acre	\$543.20

TOTAL SPECIAL PROJECTS **\$3,950.98**

GRAND TOTAL **\$62,376.48**

Sale:			Hembre Falls		Road:			O to P	
Construction -	0+00 0.00	stations miles	Improvement -	0+00 0.00	stations miles	Reconstruction -	22+95 0.43	stations miles	
RECONSTRUCTION: CLEARING AND GRUBBING -									
Side cast			0.045	acres	@	\$860.00	per acre =	\$38.70	
Widening			0.350	acres	@	\$860.00	per acre =	\$301.00	
TOTAL CLEARING AND GRUBBING								\$339.70	
RECONSTRUCTION: EXCAVATION -									
Pullback			285	cy.	@	\$2.00	per c.y.=	\$570.00	
Widening			2932	cy.	@	\$2.00	per c.y.=	\$5,864.00	
TOTAL EXCAVATION								\$6,434.00	
RECONSTRUCTION: ENDHAUL -									
Pullback	1+55	to	2+55	146	cy.	@	\$1.56	per c.y.= \$227.76	
Pullback	2+90	to	4+50	139	cy.	@	\$1.61	per c.y.= \$223.79	
Widening	1+55	to	2+55	650	cy.	@	\$1.56	per c.y.= \$1,014.00	
Widening	2+90	to	5+95	1983	cy.	@	\$1.62	per c.y.= \$3,212.46	
Widening	7+20	to	8+75	299	cy.	@	\$1.77	per c.y.= \$529.23	
Spread & compact				3217	cy.	@	\$0.50	per c.y.= \$1,608.50	
TOTAL ENDHAUL								\$6,815.74	
CULVERTS - MATERIALS & INSTALLATION									
			<u>Culverts</u>	30	LF of 18"	\$600.00			
			<u>Culvert Stakes & Markers</u>	1	markers	\$8.00			
TOTAL CULVERTS								\$608.00	
ROCK									
0+00 to	22+95	1,350	cy. of	Jawrun	@	\$15.06	per c.y.=	\$20,331.00	
Intersection Widening	0+00	60	cy. of	Jawrun	@	\$16.34	per c.y.=	\$980.40	
Landing Rock	21+80	60	cy. of	Pitrun	@	\$11.80	per c.y.=	\$708.00	
Landing Rock	22+95	60	cy. of	Pitrun	@	\$11.82	per c.y.=	\$709.20	
Energy Dissipator	17+85	5	cy. of	Riprap	@	\$11.13	per c.y.=	\$55.65	
Culvert Backfill	17+85	15	cy. of	Crushed	@	\$4.76	per c.y.=	\$71.40	
TOTAL ROCK								\$22,855.65	
SPECIAL PROJECTS									
Landing Construction		3.00	hours @	\$200.00	per hour	\$600.00			
Vegetation Removal-0+00 to 7+20		3.00	hours @	\$350.00	per hour	\$1,050.00			
Vegetation Removal 7+20 to 22+95		3.00	hours @	\$200.00	per hour	\$600.00			
Grade and shape road -		22.95	stations @	\$22.00	per station	\$504.90			
Roll subgrade w/ vibratory roller prior to rocking -		22.95	stations @	\$17.50	per station	\$401.63			
Grass seed and fertilize -		1.05	acres @	\$280.00	per acre	\$294.00			
TOTAL SPECIAL PROJECTS								\$3,450.53	
GRAND TOTAL								\$40,503.62	

SUMMARY OF CONSTRUCTION COST

Sale: **Hembre Falls**

Road: **Q to R**

<u>Construction -</u>	<u>9+15</u>	<u>stations</u>	<u>Improvement -</u>	<u>0+00</u>	<u>stations</u>	<u>Reconstruction -</u>	<u>0+00</u>	<u>stations</u>
	<u>0.17</u>	<u>miles</u>		<u>0.00</u>	<u>miles</u>		<u>0.00</u>	<u>miles</u>

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist.</u>	<u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>		<u>Drill & Shoot</u>	<u>Endhaul</u>	
0+00		9+15	15%				\$134	=			\$1,226.10
										TOTAL	\$1,226.10

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$600.00	
<u>Culvert Stakes & Markers</u>	1	markers	\$8.00	
			TOTAL CULVERTS	\$608.00

ROCK

0+00 to	9+15	540	cy. of	Jawrun	@	\$16.78	per c.y.=	\$9,061.20
Intersection Widening	0+00	30	cy. of	Jawrun	@	\$16.69	per c.y.=	\$500.70
Energy Dissipator	2+30	5	cy. of	Riprap	@	\$11.18	per c.y.=	\$55.90
Landing Rock	6+55	60	cy. of	Pitrun	@	\$11.86	per c.y.=	\$711.60
Landing Rock	8+15	60	cy. of	Pitrun	@	\$11.89	per c.y.=	\$713.40
Landing Rock	9+15	60	cy. of	Pitrun	@	\$11.91	per c.y.=	\$714.60
								TOTAL ROCK
								\$11,757.40

SPECIAL PROJECTS

Landing Construction	3.00	hours @	\$200.00	per hour	\$600.00
Grade and shape road -	9.15	stations @	\$22.00	per station	\$201.30
Roll subgrade w/ vibratory roller prior to rocking -	9.15	stations @	\$17.50	per station	\$160.13
Remove large stumps -	2.00	lump sum @	\$200.00		\$400.00
Grass seed and fertilize -	0.42	acres @	\$280.00	per acre	\$117.60
					TOTAL SPECIAL PROJECTS
					\$1,479.03

GRAND TOTAL **\$15,070.53**

SUMMARY OF CONSTRUCTION COST

Sale:

Hembre Falls

Road:

S to T

<u>Construction -</u>	<u>1+45</u>	<u>stations</u>	<u>Improvement -</u>	<u>0+00</u>	<u>stations</u>	<u>Reconstruction -</u>	<u>0+00</u>	<u>stations</u>
	<u>0.03</u>	<u>miles</u>		<u>0.00</u>	<u>miles</u>		<u>0.00</u>	<u>miles</u>

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist.</u> <u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>		<u>Drill & Shoot</u>	<u>Endhaul</u>	
0+00		1+45	25%			\$206	=			\$298.70
										TOTAL
										\$298.70

ROCK

0+00	to	1+45	80	cy. of	Jawrun	@	\$16.71	per c.y.=	\$1,336.80
Intersection Widening		0+00	30	cy. of	Jawrun	@	\$16.87	per c.y.=	\$506.10
Landing Rock		1+45	60	cy. of	Pitrun	@	\$11.77	per c.y.=	\$706.20
TOTAL ROCK									\$2,549.10

SPECIAL PROJECTS

Landing Construction	1.00	hours @	\$200.00	per hour	\$200.00
Grade and shape road -	1.45	stations @	\$22.00	per station	\$31.90
Roll subgrade w/ vibratory roller prior to rocking -	1.45	stations @	\$17.50	per station	\$25.38
Grass seed and fertilize -	0.07	acres @	\$280.00	per acre	\$19.60
					TOTAL SPECIAL PROJECTS
					\$276.88

GRAND TOTAL **\$3,124.68**

SUMMARY OF CONSTRUCTION COST

Sale:

Hembre Falls

Road:

U to V

<u>Construction -</u>	<u>0+00</u>	<u>stations</u>	<u>Improvement -</u>	<u>363+15</u>	<u>stations</u>	<u>Reconstruction -</u>	<u>0+00</u>	<u>stations</u>
	0.00	miles		6.88	miles		0.00	miles

ROCK

0+00 to	74+75	2,550	cy. of	Crushed	@	\$9.80	per c.y.=	\$24,990.00
Spot Patch	14+90	100	cy. of	Crushed	@	\$9.42	per c.y.=	\$942.00
Spot Patch	37+65	100	cy. of	Crushed	@	\$9.85	per c.y.=	\$985.00
Spot Patch	56+00	100	cy. of	Crushed	@	\$10.20	per c.y.=	\$1,020.00
Spot Patch	As Needed	200	cy. of	Jawrun	@	\$14.68	per c.y.=	\$2,936.00
Spot Patch	As Needed	400	cy. of	Crushed	@	\$8.64	per c.y.=	\$3,456.00
TOTAL ROCK								\$34,329.00

SPECIAL PROJECTS

Right-of-way clearing	6.90	acres @	\$1,200.00	per acre	\$8,280.00
Right-of-way debris end-hauling	12.00	hours @	\$350.00	per hour	\$4,200.00
Clean Ditch & Endhaul	2.00	stations @	\$80.00	per station	\$160.00
Grade and shape road -	363.15	stations @	\$22.00	per station	\$7,989.30
Old logigng debris scattering	5.00	hours @	\$200.00	per hour	\$1,000.00
Roll subgrade w/ vibratory roller prior to rocking -	363.15	stations @	\$17.50	per station	\$6,355.13
TOTAL SPECIAL PROJECTS					\$27,984.43

GRAND TOTAL **\$62,313.43**

SUMMARY OF CONSTRUCTION COST

Sale:		Hembre Falls				Road:		W to X	
<u>Construction -</u>		<u>0+00</u>	stations	<u>Improvement -</u>		<u>23+40</u>	stations	<u>Reconstruction -</u>	
		0.00	miles			0.44	miles	0+00	
								0.00	
								miles	
ROCK									
0+00 to		23+40	820	cy. of	Jawrun	@	\$14.78	per c.y.=	\$12,119.60
Initersection Widening		0+00	60	cy. of	Jawrun	@	\$14.56	per c.y.=	\$873.60
Landing Rock		16+90	60	cy. of	Pitrun	@	\$9.93	per c.y.=	\$595.80
Landing Rock		21+70	60	cy. of	Pitrun	@	\$10.02	per c.y.=	\$601.20
TOTAL ROCK									\$14,190.20
SPECIAL PROJECTS									
Landing Construction					3.00	hours @	\$200.00	per hour	\$600.00
TOTAL SPECIAL PROJECTS									\$600.00
GRAND TOTAL									\$14,790.20

SUMMARY OF CONSTRUCTION COST

Sale:		Hembre Falls				Road:		Y to Z	
<u>Construction -</u>		<u>0+00</u>		stations	<u>Improvement -</u>		<u>5+60</u>		stations
		0.00		miles			0.11		miles
<u>Reconstruction -</u>		<u>0+00</u>		stations			<u>0+00</u>		miles
		0.00		miles			0.00		miles
CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -									
Avg. Dist.									
<u>Station</u>		<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	<u>Drill & Shoot</u>	<u>Endhaul</u>
ROCK									
Spot Patch		As Needed		20	cy. of	Jawrun	@	\$14.53 per c.y.=	\$290.60
TOTAL ROCK									\$290.60
SPECIAL PROJECTS									
Old logging debris scattering					2.00	hours @	\$200.00	per hour	\$400.00
Grade and shape road -					5.60	stations @	\$22.00	per station	\$123.20
Roll subgrade w/ vibratory roller prior to rocking -					5.60	stations @	\$17.50	per station	\$98.00
TOTAL SPECIAL PROJECTS									\$621.20
GRAND TOTAL									\$911.80

SUMMARY OF CONSTRUCTION COST

Sale:

Hembre Falls

Road:

AA to BB

Construction -	1+10 0.02	stations miles	Improvement -	0+00 0.00	stations miles	Reconstruction -	0+00 0.00	stations miles
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CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist.</u> <u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	=	<u>Drill & Shoot</u>	<u>Endhaul</u>
0+00		1+10	5%			\$93			\$102.30
TOTAL									\$102.30

ROCK

0+00	to	1+10	70	cy. of	Jawrun	@	\$14.80	per c.y.=	\$1,036.00
Intersection Widening		0+00	30	cy. of	Jawrun	@	\$14.79	per c.y.=	\$443.70
Landing Rock		0+00	80	cy. of	Pitrun	@	\$9.86	per c.y.=	\$788.80
TOTAL ROCK									\$2,268.50

SPECIAL PROJECTS

Landing Construction	1.00	hours @	\$200.00	per hour	\$200.00
Grade and shape road -	1.10	stations @	\$22.00	per station	\$24.20
Roll subgrade w/ vibratory roller prior to rocking -	1.10	stations @	\$17.50	per station	\$19.25
Remove large stumps -	2.00	lump sum @	\$200.00		\$400.00
Grass seed and fertilize -	0.05	acres @	\$280.00	per acre	\$14.00

GRAND TOTAL

\$3,028.25

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Clear Creek Pit	Location:	Sec. 15 , T1S, R7W, W.M.
Sale:	Hembre Falls	Road:	7300 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	7300 c.y.
Drill Pct.:	0%	In Place Total:	5214 c.y.

Rip Rock:	\$3.00 /cu.yd.	x	5214 cu.yds.	=	\$15,642.00
Push Rock:	\$1.25 /cu.yd.	x	7300 cu.yds.	=	\$9,125.00
Handle Rock:	\$1.25 /cu.yd.	x	7300 cu.yds.	=	\$9,125.00
Load Crusher:	\$1.00 /cu.yd.	x	6030 cu.yds.	=	\$6,030.00
Crush Rock:	\$3.75 /cu.yd.	x	6030 cu.yds.	=	\$22,612.50
Load Dump Truck:	\$1.00 /cu.yd.	x	7300 cu.yds.	=	\$7,300.00

Subtotal \$69,834.50

Move In/Set-up Crusher	1	@	\$950.00	=	\$950.00
Move in Roller and Compactor	1	@	\$370.50	=	\$370.50
Move in Grader	1	@	\$512.50	=	\$512.50
Move in D-8	1	@	\$708.36	=	\$708.36
Move in Loader	1	@	\$545.36	=	\$545.36
Move in Excavator	2	@	\$660.36	=	\$1,320.72
Move in Trucks	4	@	\$128.71	=	\$514.84
			Subtotal		\$4,922.28

Base Cost= \$10.24 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$74,756.78

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base/load Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B Landing Rock (Pit-Run)	7.02	1.50	10.24	18.76	350	\$6,566.00
I to J 2005 4075 (Jawrun)	4.64	1.70	10.24	16.58	730	\$12,103.40
I to J Spot Rock (Jawrun)	4.38	1.70	10.24	16.32	50	\$816.00
I to J Landing Rock (Pitrun)	4.77	1.50	5.49	11.76	100	\$1,176.00
K to L 0 1105 (Jawrun)	4.80	1.70	10.24	16.74	650	\$10,881.00
K to L Intersection Widening (Jawrun)	4.73	1.70	10.24	16.67	30	\$500.10
K to L Landing Rock (Pitrun)	4.87	1.50	5.49	11.86	60	\$711.60
M to N 0 2045 (Jawrun)	4.89	1.70	10.24	16.83	1220	\$20,532.60
M to N Intersection Widening (Jawrun)	4.76	1.70	10.24	16.70	30	\$501.00
M to N Curve Widening (Jawrun)	4.85	1.70	10.24	16.79	30	\$503.70
M to N Landing Rock (Pitrun)	4.85	1.50	5.49	11.84	60	\$710.40
M to N Landing Rock (Pitrun)	4.95	1.50	5.49	11.94	60	\$716.40
M to N Landing Rock (Pitrun)	5.02	1.50	5.49	12.01	60	\$720.60
M to N Energy Dissipator (Riprap)	4.94	0.90	5.49	11.33	10	\$113.30
O to P 0 2295 (Jawrun)	3.12	1.70	10.24	15.06	1350	\$20,331.00
O to P Intersection Widening (Jawrun)	4.40	1.70	10.24	16.34	60	\$980.40
O to P Landing Rock (Pitrun)	4.81	1.50	5.49	11.80	60	\$708.00
O to P Landing Rock (Pitrun)	4.83	1.50	5.49	11.82	60	\$709.20
O to P Energy Dissipator (Riprap)	4.74	0.90	5.49	11.13	5	\$55.65
Q to R 0 915 (Jawrun)	4.84	1.70	10.24	16.78	540	\$9,061.20
Q to R Intersection Widening (Jawrun)	4.75	1.70	10.24	16.69	30	\$500.70
Q to R Energy Dissipator (Riprap)	4.79	0.90	5.49	11.18	5	\$55.90
Q to R Landing Rock (Pitrun)	4.87	1.50	5.49	11.86	60	\$711.60
Q to R Landing Rock (Pitrun)	4.90	1.50	5.49	11.89	60	\$713.40
Q to R Landing Rock (Pitrun)	4.92	1.50	5.49	11.91	60	\$714.60
S to T 0 145 (Jawrun)	4.77	1.70	10.24	16.71	80	\$1,336.80
S to T Intersection Widening (Jawrun)	4.93	1.70	10.24	16.87	30	\$506.10
S to T Landing Rock (Pitrun)	4.78	1.50	5.49	11.77	60	\$706.20
U to V Spot Patch (Jawrun)	2.74	1.70	10.24	14.68	200	\$2,936.00
W to X 0 2340 (Jawrun)	2.84	1.70	10.24	14.78	820	\$12,119.60
W to X Intersection Widening (Jawrun)	2.62	1.70	10.24	14.56	60	\$873.60
W to X Landing Rock (Pitrun)	2.94	1.50	5.49	9.93	60	\$595.80
W to X Landing Rock (Pitrun)	3.03	1.50	5.49	10.02	60	\$601.20
Y to Z Spot Patch (Jawrun)	2.59	1.70	10.24	14.53	20	\$290.60
AA to BB 0 110 (Jawrun)	2.86	1.70	10.24	14.80	70	\$1,036.00
AA to BB Intersection Widening (Jawrun)	2.85	1.70	10.24	14.79	30	\$443.70
AA to BB Landing Rock (Pitrun)	2.87	1.50	5.49	9.86	80	\$788.80
Total C.Y.					7300	Sub Total \$113,328.15

TOTAL ROCKING COSTS \$113,328.15

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Stockpiles	Location:	Varies
Sale:	Hembre Falls	Road:	3825 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	3825 c.y.
Drill Pct.:	0%	In Place Total:	2732 c.y.

Load Dump Truck: \$1.00 /cu.yd. x 3825 cu.yds. = \$3,825.00

Subtotal \$3,825.00

Move in Loader 4 @ \$545.36 = \$2,181.44
Subtotal \$2,181.44

Base Cost= \$1.57 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$6,006.44

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B Spot Rock (Crushed)	1.32	3.20	1.57	6.09	300	\$1,827.00
C to D Spot Rock (Crushed)	4.02	3.20	1.57	8.79	200	\$1,758.00
M to N 405 505 (Crushed)	2.99	3.20	1.57	7.76	30	\$232.80
M to N 820 980 (Crushed)	3.07	3.20	1.57	7.84	30	\$235.20
O to P Culvert Backfill (Crushed)	2.29	0.90	1.57	4.76	15	\$71.40
U to V 0 7475 (Crushed)	5.03	3.20	1.57	9.80	2550	\$24,990.00
U to V Spot Patch (Crushed)	4.65	3.20	1.57	9.42	100	\$942.00
U to V Spot Patch (Crushed)	5.08	3.20	1.57	9.85	100	\$985.00
U to V Spot Patch (Crushed)	5.43	3.20	1.57	10.20	100	\$1,020.00
U to V Spot Patch (Crushed)	3.87	3.20	1.57	8.64	400	\$3,456.00
				Total C.Y.	3825	Sub Total \$35,517.40

TOTAL ROCKING COSTS \$35,517.40

Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Hembre Falls**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
24.0	Pavement	30
2.0	Main Lines	7
3.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Graders	\$512.50		\$3.65	0.00	9.00	9	\$32.85	\$545.35
1	Rollers (smooth/grid) & Compactors	\$370.50		\$5.00	0.00	9.00	9	\$45.00	\$415.50
1	Excavators (Large)	\$660.36	1	\$44.80	0.00	9.00	9	\$403.20	\$1,063.56
1	Tractor (D8)	\$708.36	2	\$15.10	0.00	9.00	9	\$135.90	\$844.26
2	Dump Truck (Off Hiway)	\$1,271.06	1	\$4.75	0.00	9.00	9	\$85.50	\$1,356.56
1	Water Truck (1500 Gal)	\$128.71		\$2.85	0.00	9.00	9	\$25.65	\$154.36
				TOTAL MOVE-IN COSTS:					\$4,379.59



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Hembre Falls*

1. Type of Sale

Regeneration harvest, Recovery

2. Legal Description

Section(s) 11, 14 of T1S R8W, 4, 9, 15, 17 of T1S R7W W.M.

3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

	<u>ACRES</u>	
	<u>Gross</u>	<u>Net</u>
Unit 1 (Modified Clearcut)	131	97
Unit 2 (Modified Clearcut)	60	39
Unit 3 (Modified Clearcut)	116	85
Unit 4 (Pit Development)	3	2
Total Acres	310	225

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. Cruising Procedures

A. Cruise Method

All units were cruised using a 175' x 700' grid. All timber sale units were cruised with a variable plot sampling method. All conifers 8" DBH and greater and all hardwoods 10" DBH and greater were recorded on all plots. Each plot recorded species, diameter, height, form factor and grade. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods, respectively.

B. Plot size

Point of observation was 4.0'. Form factor was measured at 16.0'.

Unit	BAF
1	27.78
2	33.61
3	40.00
4	27.78

C. Grading System

All trees were graded according to Columbia River Log Scaling and Grading Rules. Log lengths favored 40' lengths.

5. Computation Procedure

Cruise data was entered into SuperAce for computation of basal area, advertised volume, volume summary, log stock table, and stand table for each species and type. Cruise volumes were cruised by the Marketing Unit in 2020. Plots landing in riparian management areas or areas excluded from the timber sale harvest areas were removed from computation procedures.

Net sale acreage was used for volume calculation.

Cruise Statistics (Board Foot Volumes)			
Unit	Number of Plots	SE (%)	CV (%)
1	33	7.3	41.9
2	24	8.1	38.8
3	32	8.3	47.2
4	7	18.2	44.8
Total	96	10.5 (avg.)	43.2 (avg.)

6. Hidden Defect and Breakage

A 1% reduction was applied to conifers and a 2% reduction to hardwood volumes for hidden defect and breakage.

7. Timber Description

Unit 1 is approximately a 66 year old stand of Douglas-fir with red alder and minor amounts of western hemlock, Sitka spruce. The unit was burned in the Tillamook Fire 1933 and Saddle Mountain Fire 1939. Approximately 10 acres received spray treatment for red alder in a 1970's spray project, the red alder observed appeared healthy and without split tops.

Unit 2 is approximately a 55 year stand of Douglas-fir with minor amounts of red alder. The unit was burned in the Tillamook Fire 1933, and Saddle Mountain Fire 1939. Approximately 8 acres of the northern unit was sprayed for red alder in 1970s the red alder observed appeared mostly healthy with some split tops.

Unit 3 is approximately a 58 year old stand of Douglas-fir with minor amounts of red alder and western hemlock. The parts of the unit burned in the Tillamook Fire 1933, all of the unit burned in the Saddle Mountain Fire 1939. The southern half of the unit was thinned during Fox Fall 2002.

Unit 4 is approximately 35 year stand of Douglas-fir with minor amounts of western hemlock and Noble fir. The unit was burned in the Saddle Mountain fire 1939 and no other management has been done since then.

The stand is comprised of multiple merchantable species, please see the table below:

Unit #	Species	DBH	Merchantable Bole Height (feet)	Merchantable top (inches inside bark)
1	Douglas-fir	19.3	78	5
1	Red alder	15.6	49	6
1	Sitka spruce	22	49	5
1	Western Hemlock	26.5	119	5
1	Douglas-fir	17.5	80	5
2	Douglas-fir	18.3	74	5
2	Red alder	16.5	47	6
2	Western Hemlock	13.0	34	5
2	Sitka Spruce	14	23	5
3	Douglas-fir	19.0	78	5
3	Red Alder	15.8	42	6
3	Western Hemlock	19.5	72	5

Above data derived from Statistics (type) report using SuperAce 2008, developed by Atterbury consultants, Inc.

8. Cruiser /Dates

The timber sale was cruised by the Tillamook District Marketing unit in April 2020.

9. Revenue Distribution

FDF 100%

Tax Code: 901-39%, 902-61%

Deed Numbers: 194, 169, 161

10. Attachments

Volume Summary

Stand Tables (4)

Log Stock Tables (4)

Species, Sort, Grade Tables (4)

Logging Plan (3)

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir take
RA – Red alder take
BM – Big leaf maple take
WH – Western hemlock take
OC – Other conifer
RL – Red Cedar Leave
SL – Sitka Spruce Leave

Prepared by: Nathan Atchison

Date: 11/19/2020

TC		TLOGSTVB		Log Stock Table - MBF																	
				Project: HFALLS																	
T01S R07W S15 T0100												T01S R07W S15 T0100									
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		1			
01S		07W		15		PIT		0100		2.00		7		27		Date		10/26/2020			
																Time		9:20:56AM			
Spp	T	S	So	Gr	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
DF		CO	2		26		1		1	4.5					1						
DF		CO	2		40		1		1	5.1					1						
DF		CO	3		26		3		3	12.5				1	2						
DF		CO	3		30		1		1	4.0				1							
DF		CO	3		32		1		1	5.2					1						
DF		CO	3		34		2		2	8.6			1		1						
DF		CO	3		40		1		1	6.8			1	1							
DF		CO	4		15		1		1	3.5		1									
DF		CO	4		16		0		0	1.7		0									
DF		CO	4		20		1		1	2.8		1									
DF		CO	4		24		1		1	3.4		1	0								
DF		CO	4		26		2		2	7.7		1	0								
DF		CO	4		28		1		1	4.1		1									
DF		CO	4		32		3		3	12.7		2			1						
DF		CO	4		34		2		2	11.3		2									
DF		CO	4		38		1		1	6.2		1									
	DF	Totals					20		20	94.9		9	2	2	5	2					
NF		CO	3		32		0		0	55.6			0								
NF		CO	4		38		0		0	44.4		0									
	NF	Totals					1		1	2.7		0	0								
WH		CO	3		40		1		1	100.0			1								
	WH	Totals					1		1	2.4			1								
Total All Species							22		22	100.0		10	3	2	5	2					

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	HFALLS			DATE	10/26/2020	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
01S	07W	15	PIT	0100	2.00	7	40	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT		HFALLS		DATE	10/26/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	07W	15	PIT	0100	2.00	7	40	S	W
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
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		45.9	18.7	2,420	2,976	3,532			
NOB FIR		171.2	69.7	42	140	237			
WHEMLOCK		264.6	107.7		96	200			
OTH CONF-2									
TOTAL		43.0	17.5	2,649	3,212	3,774	86	21	10

TC		Stand Table Summary														
		Project			HFALLS											
T01S R07W S15 T0100													T01S R07W S15 T0100			
Twp	Rge	Sec	Tract		Type			Acres		Plots	Sample Trees			Page: 1		
01S	07W	15	PIT		0100			2.00		7	27			Date: 10/26/2020		
													Time: 9:20:57AM			
S Spc	T	Sample		Av					Average Log		Net		Net	T o t a l s		
		DBH	Trees	FF 16'	Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
DF		8	1	70	42	17.795	6.21	17.80	3.6	20.0	1.85	65	356	4	1	1
DF		9	3	83	57	42.181	18.64	42.18	7.0	26.7	8.38	294	1,125	17	6	2
DF		10	3	82	60	34.167	18.64	34.17	9.3	33.3	9.07	318	1,139	18	6	2
DF		11	1	77	50	9.412	6.21	9.41	13.5	40.0	3.63	127	376	7	3	1
DF		12	2	88	59	15.818	12.42	15.82	14.3	40.0	6.46	227	633	13	5	1
DF		13	1	88	81	6.739	6.21	13.48	12.1	45.0	4.66	163	607	9	3	1
DF		14	3	85	67	17.432	18.64	23.24	17.5	55.0	11.59	407	1,278	23	8	3
DF		16	4	86	72	17.795	24.85	31.14	18.3	65.7	16.28	571	2,046	33	11	4
DF		18	3	84	82	10.545	18.64	21.09	22.9	81.7	13.79	484	1,722	28	10	3
DF		20	1	84	59	2.847	6.21	2.85	48.2	120.0	3.91	137	342	8	3	1
DF		23	1	86	84	2.153	6.21	4.31	42.3	135.0	5.19	182	581	10	4	1
DF		Totals	23	82	61	176.885	142.87	215.48	13.8	47.4	84.81	2,976	10,205	170	60	20
NF		15	2	87	53	6.468	7.94	6.47	21.6	45.0	3.35	140	291	7	3	1
NF		Totals	2	87	53	6.468	7.94	6.47	21.6	45.0	3.35	140	291	7	3	1
WH		13	1	83	70	4.305	3.97	4.31	22.4	60.0	3.08	96	258	6	2	1
WH		Totals	1	83	70	4.305	3.97	4.31	22.4	60.0	3.08	96	258	6	2	1
OC		17	1	85	64	2.518	3.97									
OC		Totals	1	85	64	2.518	3.97									
Totals		27	83	61		190.176	158.74	226.25	14.2	47.5	91.24	3212	10,755	182	64	22

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	HFALLS			DATE	10/26/2020	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
01S	08W	14	UNIT1	0100	97.00		33	253	S	W
				TREES	ESTIMATED TOTAL		PERCENT SAMPLE			
PLOTS		TREES		PER PLOT		TREES		TREES		
TOTAL		33	253	7.7						
CRUISE		18	123	6.8		12,778		1.0		
DBH COUNT										
REFOREST										
COUNT		15	122	8.1						
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
R ALDER		71	87.7	15.6	49	29.6	117.0	10,708	10,474	3,133
DOUG FIR		40	37.2	19.3	78	17.2	75.8	12,935	12,871	3,015
S SPRUCE		6	3.1	23.2	56	1.9	9.3	1,177	1,165	326
SS-LEAVE		3	2.3	20.1	39	1.1	5.1	383	379	119
WHEMLOCK		2	1.1	26.5	119	0.8	4.2	1,040	1,024	218
OTH CONF-1		1	.2	25.0	115	0.2	.8			
TOTAL		123	131.7	17.2	58	51.2	212.1	26,242	25,912	6,811
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
R ALDER		64.2	7.6	141	153	164				
DOUG FIR		77.1	12.2	556	633	710				
S SPRUCE		74.5	33.2	407	608	810				
SS-LEAVE		76.0	52.6	119	250	381				
WHEMLOCK		3.0	2.8	904	930	956				
OTH CONF-1										
TOTAL		112.2	10.1	310	345	380		502	126	56
CL:	68.1 %	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH		5	10	15
R ALDER		55.1	6.5	43	46	49				
DOUG FIR		67.4	10.7	125	140	155				
S SPRUCE		69.8	31.1	112	162	213				
SS-LEAVE		75.9	52.5	37	78	118				
WHEMLOCK		2.3	2.2	194	199	203				
OTH CONF-1										
TOTAL		92.7	8.4	78	85	93		343	86	38
CL:	68.1 %	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH		5	10	15
R ALDER		74.9	13.0	76	88	99				
DOUG FIR		97.9	17.0	31	37	44				
S SPRUCE		293.8	51.1	2	3	5				
SS-LEAVE		316.9	55.1	1	2	4				
WHEMLOCK		335.0	58.3	0	1	2				
OTH CONF-1		574.5	99.9	0	0	0				
TOTAL		38.6	6.7	123	132	141		59	15	7
CL:	68.1 %	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH		5	10	15
R ALDER		74.1	12.9	102	117	132				
DOUG FIR		97.1	16.9	63	76	89				
S SPRUCE		277.3	48.2	5	9	14				
SS-LEAVE		290.2	50.5	3	5	8				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT		HFALLS		DATE	10/26/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	08W	14	UNIT1	0100	97.00	33	253	S	W
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK		335.0	58.3	2	4	7			
OTH CONF-1		574.5	99.9	0	1	2			
TOTAL		32.2	5.6	200	212	224	41	10	5
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER		73.6	12.8	9,133	10,474	11,814			
DOUG FIR		103.2	17.9	10,562	12,871	15,180			
S SPRUCE		283.0	49.2	591	1,165	1,738			
SS-LEAVE		285.1	49.6	191	379	567			
WHEMLOCK		335.0	58.3	427	1,024	1,620			
OTH CONF-1									
TOTAL		41.9	7.3	24,025	25,912	27,800	70	18	8
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
R ALDER		76.6	13.3	2,716	3,133	3,551			
DOUG FIR		102.4	17.8	2,478	3,015	3,552			
S SPRUCE		280.1	48.7	167	326	484			
SS-LEAVE		285.0	49.6	60	120	179			
WHEMLOCK		335.0	58.3	91	218	345			
OTH CONF-1									
TOTAL		37.4	6.5	6,368	6,811	7,254	56	14	6

TC TSTNDSUM				Stand Table Summary												
Project										HFALLS						
T01S R08W S14 T0100										T01S R08W S14 T0100						
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees		Page:	2		
01S	08W	14	UNIT1	0100				97.00		33	124		Date:	10/26/2020		
														Time:	10:44:27AM	
S Spc	T	Sample		Av				Average Log		Net		Net	T o t a l s			
		DBH	Trees	FF Ht	Trees/	BA/	Logs	Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF	
			16'	Tot	Acre	Acre	Acre	Cu.Ft.	Bd.Ft.	Acre	Acre	Acre				
SL		15	1	88 86	1.372	1.68	1.37	22.0	60.0	.77	30	82	75	29	8	
SL		23	1	88 88	.584	1.68	1.17	35.7	125.0	1.08	42	146	105	40	14	
SL		30	1	83 100	.343	1.68	.69	69.7	220.0	1.24	48	151	120	46	15	
SL		Totals		3 87 89	2.298	5.05	3.22	37.1	117.6	3.10	120	379	301	116	37	
OC		25	1	88 115	.247	.84										
OC		Totals		1 88 115	.247	.84										
Totals				123 84 83	131.735	212.14	220.85	30.8	117.3	190.63	6811	25,912	18,491	6,607	2,514	

TC		TLOGSTVB		Log Stock Table - MBF																	
				Project: HFALLS																	
T01S R08W S14 T0100										T01S R08W S14 T0100											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	2												
01S	08W	14	UNIT1	0100	97.00	33	124	Date	10/26/2020												
										Time	10:44:26AM										
S Spp	So T	Gr rt	Log de 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	CO	4	25	2		2	.1			2											
DF	CO	4	26	2		2	.2					2									
DF	CO	4	28	2		2	.2		2												
DF	CO	4	30	10		10	.8		10												
DF	CO	4	31	2		2	.2			2											
DF	CO	4	32	15		15	1.2		15												
DF	CO	4	37	3		3	.3			3											
DF	CO	4	38	13		13	1.1		13												
DF	CO	4	40	18		18	1.4			18											
DF	Totals			1,255		1,249	49.7		55	82	139	114	117	169	299	185	89				
SS	CO	2	40	39		39	34.1							39							
SS	CO	3	32	6	7.1	6	5.1					6									
SS	CO	3	40	42		42	37.4				3					20	19				
SS	CO	4	18	1		1	.8			1											
SS	CO	4	29	8		8	6.6				8										
SS	CO	4	33	4		4	3.2					4									
SS	CO	4	40	15	5.0	14	12.8					11	4								
SS	Totals			114	1.1	113	4.5			1	11	20	4		39	20	19				
SL	CO	3	12	12		12	32.3									12					
SL	CO	3	36	14	2.4	14	37.1							14							
SL	CO	4	17	1		1	2.7				1										
SL	CO	4	26	8		8	21.7				8										
SL	CO	4	39	2		2	6.2		2												
SL	Totals			37		37	1.5		2		9				14	12					
WH	CO	2	40	64	2.4	62	62.9							62							
WH	CO	3	32	3		3	3.3			3											
WH	CO	3	35	3		3	2.6			3											
WH	CO	3	40	31		31	31.2							31							
WH	Totals			101	1.5	99	4.0			6				31	62						
Total All Species				2,545	1.3	2,514	100.0		58	390	308	365	335	265	467	216	108				

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT HFALLS				DATE	10/26/2020		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
01S	08W	17	UNIT2	0100	39.00	24	150	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		24	150	6.3							
CRUISE		16	82	5.1	5,172	1.6					
DBH COUNT											
REFOREST											
COUNT		8	54	6.8							
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
R ALDER		50	73.5	16.5	47	26.9	109.2	9,871	9,729	2,626	2,626
DOUG FIR		26	48.2	18.3	74	20.6	88.2	14,468	14,209	3,438	3,438
WHEMLOCK		1	6.1	13.0	34	1.6	5.6	243	243	106	106
OTH CONF-1		1	1.1	15.0	70	0.4	1.4				
OTH CONF-2		1	.4	26.0	85	0.3	1.4				
RC-LEAVE		1	.2	38.0	59	0.2	1.4	124	124	39	39
S SPRUCE		1	1.3	14.0	23	0.4	1.4	26	26	17	17
SS-LEAVE		1	1.8	12.0	38	0.4	1.4	71	71	30	30
TOTAL		82	132.6	17.0	56	50.9	210.1	24,803	24,403	6,257	6,257
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	
R ALDER		60.6	8.6	143	157	170					
DOUG FIR		61.1	12.2	404	460	516					
WHEMLOCK											
OTH CONF-1											
OTH CONF-2											
RC-LEAVE											
S SPRUCE											
SS-LEAVE											
TOTAL		93.5	10.3	225	251	277	349	87	39		
CL:	68.1 %	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
R ALDER		54.7	7.7	39	42	45					
DOUG FIR		55.4	11.1	96	108	120					
WHEMLOCK											
OTH CONF-1											
OTH CONF-2											
RC-LEAVE											
S SPRUCE											
SS-LEAVE											
TOTAL		84.1	9.3	57	63	69	282	71	31		
CL:	68.1 %	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
R ALDER		72.0	15.0	63	74	85					
DOUG FIR		99.5	20.7	38	48	58					
WHEMLOCK		288.9	60.2	2	6	10					
OTH CONF-1		489.9	102.1		1	2					
OTH CONF-2		489.9	102.1		0	1					
RC-LEAVE		489.9	102.1		0	0					
S SPRUCE		489.9	102.1		1	3					

TC TSTATS				STATISTICS				PAGE	2
				PROJECT		HFALLS		DATE	10/26/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	08W	17	UNIT2	0100	39.00	24	150	S	W
CL:	68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
SS-LEAVE		489.9	102.1		2	4			
TOTAL		23.5	4.9	126	133	139	23	6	3
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER		70.4	14.7	93	109	125			
DOUG FIR		96.5	20.1	70	88	106			
WHEMLOCK		288.9	60.2	2	6	9			
OTH CONF-1		489.9	102.1		1	3			
OTH CONF-2		489.9	102.1		1	3			
RC-LEAVE		489.9	102.1		1	3			
S SPRUCE		489.9	102.1		1	3			
SS-LEAVE		489.9	102.1		1	3			
TOTAL		22.3	4.6	200	210	220	21	5	2
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER		77.7	16.2	8,154	9,729	11,304			
DOUG FIR		96.4	20.1	11,354	14,209	17,064			
WHEMLOCK		288.9	60.2	97	243	389			
OTH CONF-1									
OTH CONF-2									
RC-LEAVE		489.9	102.1		124	252			
S SPRUCE		489.9	102.1		26	53			
SS-LEAVE		489.9	102.1		71	144			
TOTAL		38.8	8.1	22,430	24,403	26,377	63	16	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
R ALDER		76.2	15.9	2,209	2,626	3,044			
DOUG FIR		96.9	20.2	2,745	3,438	4,132			
WHEMLOCK		288.9	60.2	42	106	170			
OTH CONF-1									
OTH CONF-2									
RC-LEAVE		489.9	102.1		39	78			
S SPRUCE		489.9	102.1		17	35			
SS-LEAVE		489.9	102.1		30	61			
TOTAL		35.5	7.4	5,794	6,257	6,721	53	13	6

TC		TSTNDSUM													Stand Table Summary																													
															Project													HFALLS																
T01S R08W S17 T0100																														T01S R08W S17 T0100														
Twp		Rge		Sec		Tract									Type		Acres		Plots		Sample Trees		Page:		1																			
01S		08W		17		UNIT2									0100		39.00		24		82		Date:		10/26/2020																			
																														Time: 10:09:29AM														
S SpC		T		Sample DBH		FF 16'		Av Ht Tot		Trees/ Acre		BA/ Acre		Logs Acre		Average Log Net Cu.Ft.		Net Bd.Ft.		Tons/ Acre		Net Cu.Ft.		Net Bd.Ft.		T o t a l s																		
																										Tons	Cunits	MBF																
DF				10		1		87 47		6.222		3.39		6.22		8.7		30.0		1.54		54		187		60	21	7																
DF				12		2		82 78		8.641		6.79		12.96		10.8		36.7		3.95		140		475		154	54	19																
DF				13		1		81 69		3.681		3.39		3.68		22.4		60.0		2.35		82		221		92	32	9																
DF				14		1		78 81		3.174		3.39		3.17		25.0		50.0		2.29		79		159		89	31	6																
DF				16		1		82 117		2.430		3.39		7.29		18.4		73.3		3.81		134		535		149	52	21																
DF				18		2		86 115		3.840		6.79		9.60		27.2		102.0		7.44		261		979		290	102	38																
DF				19		1		87 126		1.723		3.39		5.17		29.2		126.7		4.31		151		655		168	59	26																
DF				20		1		85 124		1.555		3.39		4.67		30.5		116.7		4.06		142		544		158	56	21																
DF				21		1		89 121		1.411		3.39		4.23		35.6		166.7		4.29		151		705		167	59	28																
DF				22		1		88 129		1.285		3.39		3.86		36.2		160.0		3.97		139		617		155	54	24																
DF				23		5		85 121		5.880		16.97		16.47		43.8		178.6		20.56		721		2,940		802	281	115																
DF				24		2		87 127		2.160		6.79		6.48		46.0		200.0		8.50		298		1,296		332	116	51																
DF				25		2		88 129		1.991		6.79		5.97		49.7		233.3		8.47		297		1,394		330	116	54																
DF				26		1		88 148		.920		3.39		2.76		58.8		260.0		4.61		162		718		180	63	28																
DF				27		3		85 135		2.560		10.18		7.68		60.7		270.0		13.30		467		2,074		519	182	81																
DF				29		1		81 143		.740		3.39		2.22		71.5		320.0		4.52		159		710		176	62	28																
DF				Totals		26		84 99		48.216		88.23		102.44		33.6		138.7		97.97		3,438		14,209		3,821	1,341	554																
RA				12		2		85 47		5.563		4.37		8.34		10.3		40.0		2.37		86		334		93	34	13																
RA				13		5		88 60		11.851		10.92		16.59		12.1		45.7		5.50		200		758		214	78	30																
RA				14		3		82 87		6.131		6.55		10.22		15.9		54.0		4.47		163		552		174	63	22																
RA				15		7		85 82		12.462		15.29		21.36		18.8		70.0		11.02		401		1,495		430	156	58																
RA				16		3		80 76		4.694		6.55		7.82		19.5		74.0		4.19		152		579		163	59	23																
RA				17		7		87 81		9.702		15.29		16.63		24.5		90.8		11.19		407		1,511		436	159	59																
RA				18		6		82 65		7.418		13.11		11.13		24.6		88.9		7.53		274		989		294	107	39																
RA				19		3		83 84		3.329		6.55		5.55		26.0		94.0		3.97		144		521		155	56	20																
RA				20		6		87 73		6.008		13.11		8.01		36.7		125.0		8.08		294		1,001		315	115	39																
RA				21		3		87 87		2.725		6.55		4.54		41.1		154.0		5.14		187		699		200	73	27																
RA				22		2		87 78		1.655		4.37		3.31		39.5		157.5		3.60		131		521		140	51	20																
RA				23		1		88 86		.757		2.18		1.51		47.8		195.0		1.99		72		295		78	28	12																
RA				25		1		86 86		.641		2.18		1.28		53.4		225.0		1.88		68		288		73	27	11																
RA				26		1		83 83		.593		2.18		1.19		39.6		155.0		1.29		47		184		50	18	7																
RA				Totals		50		85 73		73.527		109.23		117.49		22.4		82.8		72.22		2,626		9,729		2,817	1,024	379																
WH				13		1		83 44		6.077		5.60		6.08		17.5		40.0		3.40		106		243		132	41	9																
WH				Totals		1		83 44		6.077		5.60		6.08		17.5		40.0		3.40		106		243		132	41	9																
RL				38		1		77 96		.178		1.40		.18		218.2		700.0		.91		39		124		36	15	5																
RL				Totals		1		77 96		.178		1.40		.18		218.2		700.0		0.91		39		124		36	15	5																
SL				12		1		83 54		1.783		1.40		1.78		17.1		40.0		.79		30		71		31	12	3																
SL				Totals		1		83 54		1.783		1.40		1.78		17.1		40.0		0.79		30		71		31	12	3																
SS				14		1		70 55		1.310		1.40		1.31		13.3		20.0		.45		17		26		18	7	1																
SS				Totals		1		70 55		1.310		1.40		1.31		13.3		20.0		0.45		17		26		18	7	1																
OC				15		1		87 70		1.141		1.40																																
OC				26		1		88 85		.380		1.40																																
OC				Totals		2		87 74		1.521		2.80																																
Totals				82		85 81				132.612		210.06		229.27		27.3		106.4		175.74		6257		24,403		6,854	2,440	952																

TC TLOGSTVB				Log Stock Table - MBF																
				Project: HFALLS																
T01S R08W S17 T0100										T01S R08W S17 T0100										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1											
01S	08W	17	UNIT2	0100	39.00	24	82	Date	10/26/2020											
										Time	10:09:28AM									
Spp	S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches											
									MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19
RA	H	3	40		2		2	.6			2									
RA	H	2	12		4		4	1.0						4						
RA	H	2	18		5		5	1.4					5							
RA	H	2	20		12	4.4	12	3.1					5	7						
RA	H	2	26		13		13	3.5					5		8					
RA	H	2	28		15		15	4.1					8	8						
RA	H	2	32		38		38	10.0					23	15						
RA	H	2	34		18		18	4.8					8		10					
RA	H	2	40		9		9	2.3					9							
RA	H	3	14		3		3	.9					3							
RA	H	3	16		2		2	.6					2							
RA	H	3	20		6		6	1.5					6							
RA	H	3	22		6		6	1.5						6						
RA	H	3	23		15	6.3	14	3.7					14							
RA	H	3	24		9		9	2.4								9				
RA	H	3	26		8		8	2.0					8							
RA	H	3	28		6		6	1.5					6							
RA	H	3	30		22	3.7	21	5.5					21							
RA	H	3	32		17	4.1	16	4.3					8	9						
RA	H	3	36		8		8	2.0					8							
RA	H	3	40		47	1.4	46	12.1					27		19					
RA	H	4	14		3		3	.9			3									
RA	H	4	15		3		3	.7			3									
RA	H	4	16		10		10	2.6			4	6								
RA	H	4	17		5		5	1.2			2	2								
RA	H	4	18		4		4	1.0			4									
RA	H	4	19		1		1	.2			1									
RA	H	4	20		1		1	.4			1									
RA	H	4	21		2		2	.5			2									
RA	H	4	22		4	12.6	3	.9			3									
RA	H	4	23		3		3	.7			3									
RA	H	4	26		4		4	1.0			4									
RA	H	4	27		3		3	.7			3									
RA	H	4	28		9		9	2.4			4	5								
RA	H	4	30		8		8	2.1			5	3								
RA	H	4	32		18	2.0	18	4.7			3	8	7							
RA	H	4	34		3		3	.7			3									
RA	H	4	35		4		4	1.1			4									
RA	H	4	36		3		3	.9			3									
RA	H	4	40		34	3.2	33	8.8				33								
RA	Totals				385	1.4	379	39.9			55	59	109	77	52	27				
DF	CO	2	14		9		9	1.7									9			
DF	CO	2	38		17		17	3.1						17						
DF	CO	2	40		315	1.5	310	55.9						70	77	163				
DF	CO	3	28		2		2	.3			2									
DF	CO	3	32		23		23	4.1			16	2	5							
DF	CO	3	33		2		2	.3			2									
DF	CO	3	34		2		2	.4			2									
DF	CO	3	36		17		17	3.0			5	6		6						
DF	CO	3	40		136	2.9	132	23.7			11	36	42	16	8	18				

TC		TLOGSTVB		Log Stock Table - MBF																					
				Project: HFALLS																					
T01S R08W S17 T0100												T01S R08W S17 T0100													
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	2																
01S	08W	17	UNIT2	0100	39.00	24	82	Date	10/26/2020																
										Time	10:09:28AM														
S Spp	So Gr	Log T	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	CO	4	16	3		3	.6		3																
DF	CO	4	17	3		3	.5		3																
DF	CO	4	18	3		3	.5		2	1															
DF	CO	4	20	1		1	.2		1																
DF	CO	4	21	1		1	.2		1																
DF	CO	4	22	3		3	.6		3																
DF	CO	4	23	1		1	.2		1																
DF	CO	4	30	7		7	1.3		7																
DF	CO	4	32	5		5	.9		5																
DF	CO	4	35	2		2	.4			2															
DF	CO	4	36	2		2	.3		2																
DF	CO	4	40	10	11.9	9	1.7		3	6															
DF	Totals			564	1.8	554	58.2		32	47	44	47	92	102	181	9									
WH	CO	4	33	9		9	100.0		9																
WH	Totals			9		9	1.0		9																
SS	CO	4	22	1		1	100.0		1																
SS	Totals			1		1	.1		1																
RL	CO	2	40	5		5	100.0										5								
RL	Totals			5		5	.5										5								
SL	CO	4	37	3		3	100.0		3																
SL	Totals			3		3	.3		3																
Total All Species				967	1.6	952	100.0		45	101	103	156	169	154	208	14									

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	HFALLS			DATE	10/26/2020		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
01S	07W	09	UNIT3	0100	85.00	32	205	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
PLOTS		TREES		TREES		TREES					
TOTAL		32		205		6.4					
CRUISE		18		116		6.4		12,068		1.0	
DBH COUNT											
REFOREST											
COUNT		14		84		6.0					
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR		83	92.2	19.0	78	41.8	182.5	26,870	26,784	6,479	6,479
R ALDER		21	38.4	15.8	42	13.2	52.5	3,073	3,058	949	949
WHEMLOCK		9	8.4	19.5	72	4.0	17.5	2,315	2,303	576	576
OTH CONF-1		1	.8	17.0	68	0.3	1.3				
OTH CONF-2		1	.6	20.0	89	0.3	1.3				
SS-LEAVE		1	1.6	12.0	8	0.4	1.3				
TOTAL		116	142.0	18.2	67	60.1	256.3	32,258	32,146	8,004	8,004
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		66.0	7.2	370	399	428					
R ALDER		67.4	15.1	77	90	104					
WHEMLOCK		71.6	25.3	296	396	496					
OTH CONF-1											
OTH CONF-2											
SS-LEAVE											
TOTAL		81.1	7.5	308	333	358	263	66	29		
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		56.8	6.2	88	94	100					
R ALDER		60.8	13.6	25	29	33					
WHEMLOCK		62.1	21.9	76	97	118					
OTH CONF-1											
OTH CONF-2											
SS-LEAVE											
TOTAL		70.2	6.5	75	80	85	197	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		74.0	13.1	80	92	104					
R ALDER		127.9	22.6	30	38	47					
WHEMLOCK		248.3	43.9	5	8	12					
OTH CONF-1		565.7	99.9	0	1	2					
OTH CONF-2		565.7	99.9	0	1	1					
SS-LEAVE		565.7	99.9	0	2	3					
TOTAL		39.7	7.0	132	142	152	63	16	7		
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		59.9	10.6	163	183	202					
R ALDER		130.4	23.0	40	53	65					
WHEMLOCK		224.4	39.6	11	18	24					
OTH CONF-1		565.7	99.9	0	1	2					

TC TSTATS				STATISTICS				PAGE	2
				PROJECT		HFALLS		DATE	10/26/2020
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	07W	09	UNIT3	0100	85.00	32	205	S	W
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
OTH CONF-2		565.7	99.9	0	1	2			
SS-LEAVE		565.7	99.9	0	1	2			
TOTAL		31.9	5.6	242	256	271	41	10	5
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		63.7	11.3	23,769	26,784	29,800			
R ALDER		134.9	23.8	2,330	3,058	3,787			
WHEMLOCK		224.3	39.6	1,390	2,303	3,215			
OTH CONF-1									
OTH CONF-2									
SS-LEAVE									
TOTAL		47.2	8.3	29,465	32,146	34,827	89	22	10
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		63.0	11.1	5,758	6,479	7,200			
R ALDER		135.3	23.9	722	949	1,176			
WHEMLOCK		224.3	39.6	348	576	804			
OTH CONF-1									
OTH CONF-2									
SS-LEAVE									
TOTAL		43.2	7.6	7,394	8,004	8,615	74	19	8

TC		Stand Table Summary													
Project													HFALLS		
T01S R07W S09 T0100													T01S R07W S09 T0100		
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:		1					
01S	07W	09	UNIT3	0100	85.00	32	116	Date:		10/26/2020					
								Time:		10:42:52AM					
S Spc	T	Av						Average Log		Net		Net	T o t a l s		
		Sample	FF	Ht	Trees/	BA/	Logs	Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF
DBH	Trees	16'	Tot	Acre	Acre	Acre	Cu.Ft.	Bd.Ft.	Acre	Acre	Acre				
DF	10	2	85	54	8.063	4.40	8.06	9.5	35.0	2.19	77	282	186	65	24
DF	12	2	87	77	5.599	4.40	8.40	11.4	40.0	2.72	96	336	231	81	29
DF	13	2	84	96	4.771	4.40	9.54	16.2	60.0	4.40	154	573	374	131	49
DF	14	3	86	80	6.171	6.60	8.23	17.9	77.5	4.20	147	638	357	125	54
DF	15	1	87	113	1.792	2.20	3.58	23.0	95.0	2.35	82	340	199	70	29
DF	16	3	87	102	4.724	6.60	11.02	21.8	94.3	6.85	240	1,039	583	204	88
DF	17	6	85	90	8.370	13.19	13.95	26.3	98.0	10.46	367	1,367	889	312	116
DF	18	5	86	109	6.221	10.99	16.18	26.4	106.2	12.17	427	1,717	1,034	363	146
DF	19	9	86	109	10.051	19.79	23.45	31.8	118.1	21.24	745	2,770	1,805	633	235
DF	20	4	84	115	4.031	8.80	11.09	32.4	123.6	10.22	359	1,371	869	305	117
DF	21	7	85	112	6.399	15.39	17.37	34.5	133.7	17.09	600	2,322	1,453	510	197
DF	22	10	85	109	8.329	21.99	19.99	40.2	161.3	22.90	804	3,223	1,947	683	274
DF	23	8	87	117	6.097	17.59	16.77	38.3	171.4	18.31	642	2,873	1,556	546	244
DF	24	4	86	116	2.800	8.80	7.70	46.7	200.9	10.25	360	1,547	872	306	131
DF	25	3	88	123	1.935	6.60	5.16	50.0	226.2	7.36	258	1,167	626	219	99
DF	26	3	87	118	1.789	6.60	3.58	72.0	313.3	7.34	258	1,121	624	219	95
DF	27	2	89	122	1.106	4.40	3.32	55.2	255.0	5.22	183	846	444	156	72
DF	28	1	87	109	.514	2.20	1.03	56.3	255.0	1.65	58	262	140	49	22
DF	29	4	87	118	1.917	8.80	5.75	50.7	244.2	8.31	292	1,405	706	248	119
DF	30	1	87	120	.448	2.20	.90	60.3	265.0	1.54	54	237	131	46	20
DF	31	1	88	120	.420	2.20	1.26	73.4	363.3	2.63	92	457	224	79	39
DF	34	1	88	128	.349	2.20	1.05	95.0	476.7	2.83	99	499	241	84	42
DF	36	1	89	116	.311	2.20	.93	91.4	420.0	2.43	85	392	207	72	33
DF	Totals	83	86	100	92.206	182.50	198.30	32.7	135.1	184.65	6,479	26,784	15,696	5,507	2,277
RA	10	1	85	63	4.584	2.50	4.58	11.5	40.0	1.45	53	183	123	45	16
RA	11	1	85	66	3.788	2.50	3.79	14.8	60.0	1.55	56	227	131	48	19
RA	14	1	88	74	2.339	2.50	4.68	16.1	60.0	2.08	76	281	177	64	24
RA	15	4	84	56	8.149	10.00	4.07	14.5	40.0	1.62	59	163	138	50	14
RA	16	1	91	72	1.790	2.50	1.79	29.9	70.0	1.47	54	125	125	45	11
RA	17	4	84	67	6.344	10.00	9.52	20.7	70.0	5.42	197	666	461	168	57
RA	18	3	84	75	4.244	7.50	8.49	23.9	83.3	5.58	203	707	474	173	60
RA	19	4	72	76	5.079	10.00	5.08	29.6	77.5	4.14	150	394	351	128	33
RA	21	2	78	73	2.079	5.00	3.12	32.5	100.0	2.79	101	312	237	86	27
RA	Totals	21	83	67	38.396	52.50	45.12	21.0	67.8	26.10	949	3,058	2,218	807	260
WH	12	1	90	84	2.476	1.94	4.95	7.8	35.0	1.24	39	173	105	33	15
WH	17	1	90	104	1.234	1.94	2.47	24.8	105.0	1.96	61	259	167	52	22
WH	20	2	86	94	1.783	3.89	3.57	30.0	107.5	3.42	107	383	291	91	33
WH	21	1	86	96	.808	1.94	1.62	41.5	135.0	2.15	67	218	182	57	19
WH	23	1	83	116	.674	1.94	2.02	37.0	156.7	2.40	75	317	204	64	27
WH	24	1	86	103	.619	1.94	1.24	60.1	220.0	2.38	74	272	202	63	23
WH	28	1	86	115	.455	1.94	.91	86.6	360.0	2.52	79	327	214	67	28
WH	31	1	89	112	.371	1.94	1.11	66.7	316.7	2.37	74	352	202	63	30
WH	Totals	9	88	97	8.419	17.50	17.88	32.2	128.8	18.44	576	2,303	1,567	490	196
OC	17	1	87	85	.793	1.25									
OC	20	1	88	107	.573	1.25									
OC	Totals	2	87	94	1.366	2.50									
SL	12	1	76	47	1.592	1.25									
SL	Totals	1	76	47	1.592	1.25									

TC TSTNDSUM				Stand Table Summary												
				Project		HFALLS										
T01S R07W S09 T0100										T01S R07W S09 T0100						
Twp	Rge	Sec	Tract	Type			Acres		Plots	Sample Trees			Page:	2		
01S	07W	09	UNIT3	0100			85.00		32	116			Date:	10/26/2020		
													Time:	10:42:52AM		
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	FF Ht 16' Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF	
Totals		116		85	90	141.978	256.25	261.29	30.6	123.0	229.19	8004	32,146	19,481	6,804	2,732

TC TLOGSTVB				Log Stock Table - MBF															
				Project: HFALLS															
T01S R07W S09 T0100												T01S R07W S09 T0100							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
01S	07W	09	UNIT3	0100	85.00	32	116	Date	10/26/2020										
									Time	10:42:51AM									
S 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+
DF	CO	2	12	10		10	.4									10			
DF	CO	2	16	29	7.6	27	1.2								14	13			
DF	CO	2	19	16		16	.7								16				
DF	CO	2	22	18		18	.8									18			
DF	CO	2	25	21		21	.9									21			
DF	CO	2	30	19		19	.8							19					
DF	CO	2	32	24		24	1.0						8	16					
DF	CO	2	40	1,271	.4	1,266	55.6						419	329	405	56	57		
DF	CO	3	21	17		17	.7							17					
DF	CO	3	22	2		2	.1				2								
DF	CO	3	24	4		4	.2				4								
DF	CO	3	29	3		3	.1			3									
DF	CO	3	32	35		35	1.6				20	8	8						
DF	CO	3	34	14		14	.6				6	8							
DF	CO	3	36	6		6	.2				6								
DF	CO	3	38	8		8	.4					8							
DF	CO	3	40	610		610	26.8			77	245	279	8						
DF	CO	4	12	1		1	.0			1									
DF	CO	4	13	1		1	.1			1									
DF	CO	4	15	8		8	.3			6	2								
DF	CO	4	16	6		6	.2			3	2								
DF	CO	4	17	15		15	.7			11	2	1							
DF	CO	4	18	3		3	.2			2			2						
DF	CO	4	19	9		9	.4			7		2							
DF	CO	4	20	5		5	.2			5									
DF	CO	4	21	2		2	.1			2									
DF	CO	4	22	4		4	.2			4									
DF	CO	4	23	2		2	.1				2								
DF	CO	4	24	7		7	.3			7									
DF	CO	4	25	12		12	.5			10	2								
DF	CO	4	26	10		10	.4			10									
DF	CO	4	27	6		6	.3			6									
DF	CO	4	29	9		9	.4			9									
DF	CO	4	30	6		6	.3			6									
DF	CO	4	31	13		13	.6			10		3							
DF	CO	4	32	2		2	.1			2									
DF	CO	4	34	15		15	.6			15									
DF	CO	4	35	17		17	.7			17									
DF	CO	4	38	12		12	.5			12									
DF	CO	4	40	9		9	.4			9									
DF	H	3	40	5		5	.2			5									
DF	Totals			2,284		2,277	83.3		154	95	288	305	443	381	435	119	57		
RA	H	2	16	17		17	6.5							17					
RA	H	3	21	12		12	4.7					12							
RA	H	3	26	13	9.1	12	4.6					12							
RA	H	3	32	17		17	6.5						17						
RA	H	3	34	18		18	6.7					18							
RA	H	3	40	22		22	8.3					22							
RA	H	4	13	3		3	1.3			3									
RA	H	4	15	3		3	1.0			3									

TC		TLOGSTVB		Log Stock Table - MBF																	
				Project: HFALLS																	
T01S R07W S09 T0100										T01S R07W S09 T0100											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	2												
01S	07W	09	UNIT3	0100	85.00	32	116	Date	10/26/2020												
										Time	10:42:51AM										
S Spp	So T	Gr rt	Log de 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+		
RA	H	4	16	4		4	1.5			4											
RA	H	4	17	2		2	.7			2											
RA	H	4	18	2		2	.9			2											
RA	H	4	20	2		2	.9			2											
RA	H	4	21	4		4	1.6			4											
RA	H	4	23	4		4	1.6			4											
RA	H	4	31	20		20	7.8			20											
RA	H	4	32	19		19	7.4			19											
RA	H	4	36	20		20	7.6				20										
RA	H	4	37	17		17	6.5			17											
RA	H	4	40	62		62	23.8			25	37										
RA Totals				261		260	9.5			106	57	63	17	17							
WH	CO	2	40	105	1.0	104	53.3					16		21	43	24					
WH	CO	3	24	5		5	2.7							5							
WH	CO	3	32	13		13	6.5			13											
WH	CO	3	36	6		6	2.9				6										
WH	CO	3	40	52		52	26.7				5	33	15								
WH	CO	4	13	3		3	1.4		3												
WH	CO	4	19	1		1	.3			1											
WH	CO	4	23	2		2	.8		2												
WH	CO	4	24	2		2	1.2		2												
WH	CO	4	30	3		3	1.6		3												
WH	CO	4	31	2		2	1.1		2												
WH	CO	4	37	3		3	1.6			3											
WH Totals				197		196	7.2		12	16	10	33	32	26	43	24					
Total All Species				2,742		2,732	100.0		166	218	355	401	491	424	478	142	57				



"STEWARDSHIP IN FORESTRY"

Hembre Falls

Volume Summary

Unit 1-Modified Clearcut				
97 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	12.87	1248	0	1236
Hemlock	1.02	99	0	98
Spruce	1.17	113	0	112
Noble Fir		0	0	0
Alder	10.47	1016	0	996
TOTAL	25.5	2476.8		2441.9

Unit 2-Modified Clearcut				
39 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	14.21	554	0	549
Hemlock	0.24	9	0	9
Spruce	0.03	1	0	1
Noble Fir		0	0	0
Alder	9.73	379	0	372
TOTAL	24.2	944		931

Unit 3-Harvest Type				
85 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	26.8	2277	0	2254
Hemlock	2.3	196	0	194
Spruce		0	0	0
Noble Fir		0	0	0
Alder	3.1	260	0	255
TOTAL	32.1	2732		2702



"STEWARDSHIP IN FORESTRY"

Hembre Falls

Volume Summary

Areas 4-Harvest Type				
2 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	10.2	20	0	20
Hemlock	0.3	1	0	1
Spruce		0	0	0
Noble Fir	0.3	1	0	1
Alder		0	0	0
TOTAL	10.8	22		21

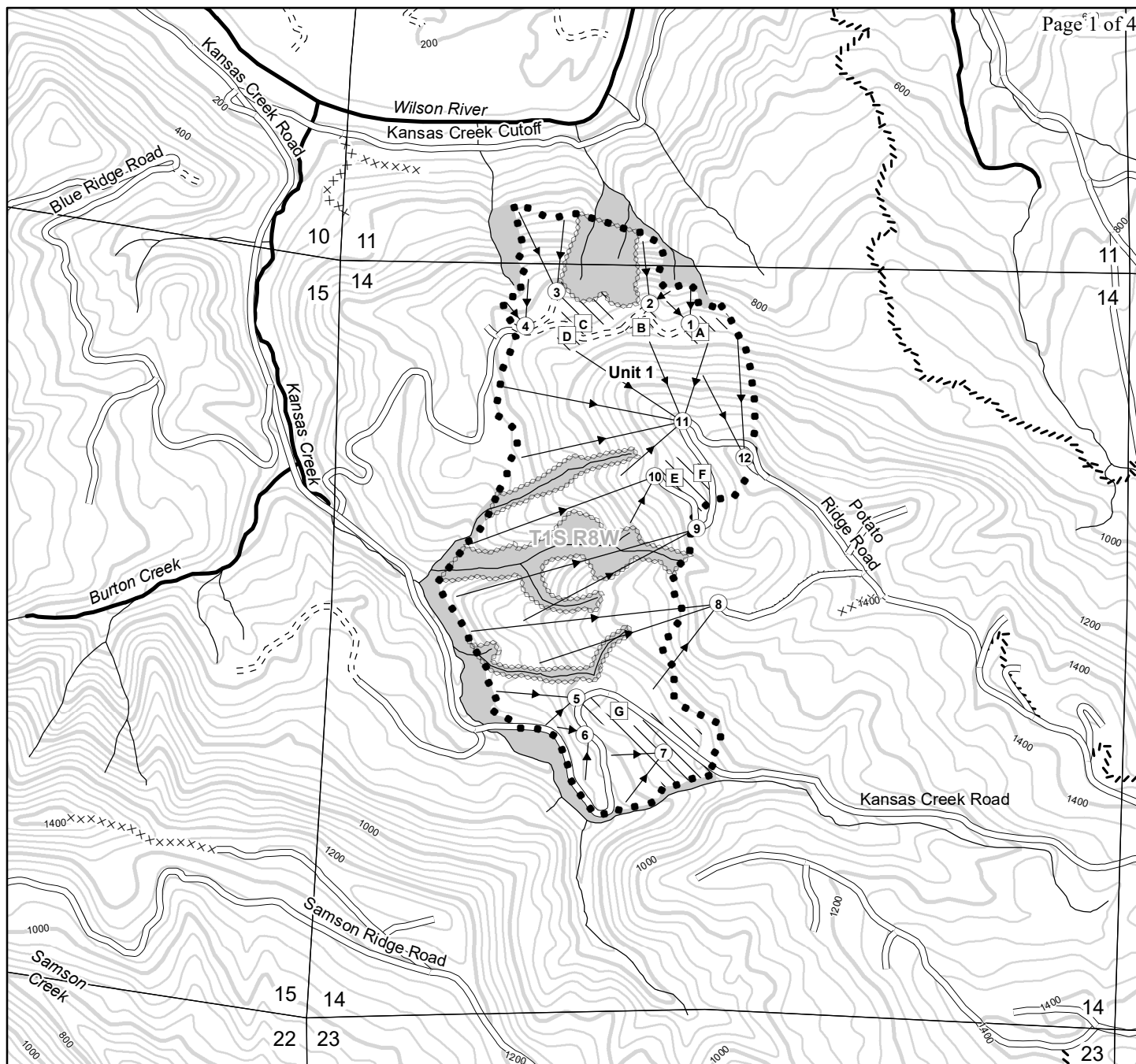


"STEWARDSHIP IN FORESTRY"

Hembre Falls

Volume Summary

TOTAL SALE VOLUME		223	acres
SPECIES	Cruised Net (MBF)	Net Sale (MBF)	
Douglas-fir	4100	4059	
Hemlock	305	302	
Spruce	114	113	
Noble Fir	1	1	
Red Alder	1655	1622	
TOTAL	6175	6096	



- Townships
- Sections
- Cable
- Ground
- Corridors
- Timber Sale Boundary
- Blocked
- Surfaced
- Unsurfaced
- Fish
- Nonfish
- Ground Yarding
- Stream Buffer
- Riparian
- Motorized Trail

LOGGING PLAN

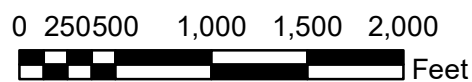
FOR TIMBER SALE CONTRACT TL-341-2021-W00502-01
 HEMBRE FALLS
 PORTIONS OF SECTIONS 11, 14 T1S R8W,
 4, 9, 15, 17 T1S R7W W.M.
 TILLAMOOK COUNTY, OREGON

Tillamook District GIS
 November 2020

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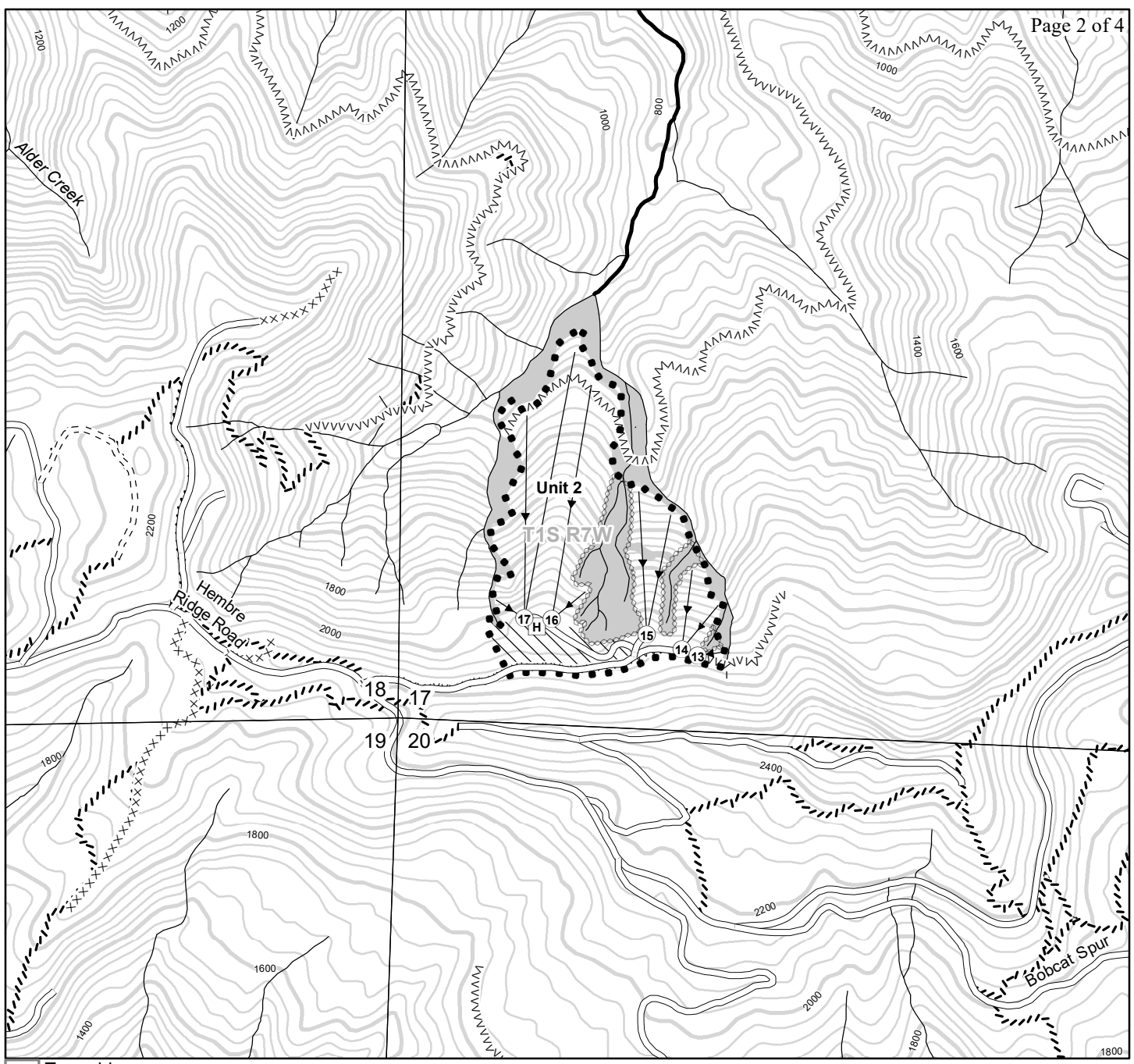
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1 inch = 1,000 feet



NET ACRES

	TRACTOR	CABLE
UNIT 1	10	87
UNIT 2	6	33
UNIT 3	0	85
UNIT 4	0	2
TOTAL	16	207



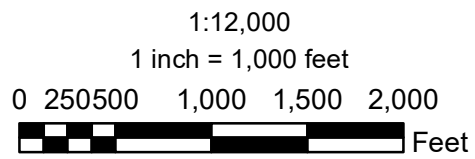
- Townships
- Sections
- Cable
- Ground
- Corridors
- Timber Sale Boundary
- Abandoned or vacated
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LOGGING PLAN

FOR TIMBER SALE CONTRACT TL-341-2021-W00502-01
HEMBRE FALLS
PORTIONS OF SECTIONS 11, 14 T1S R8W,
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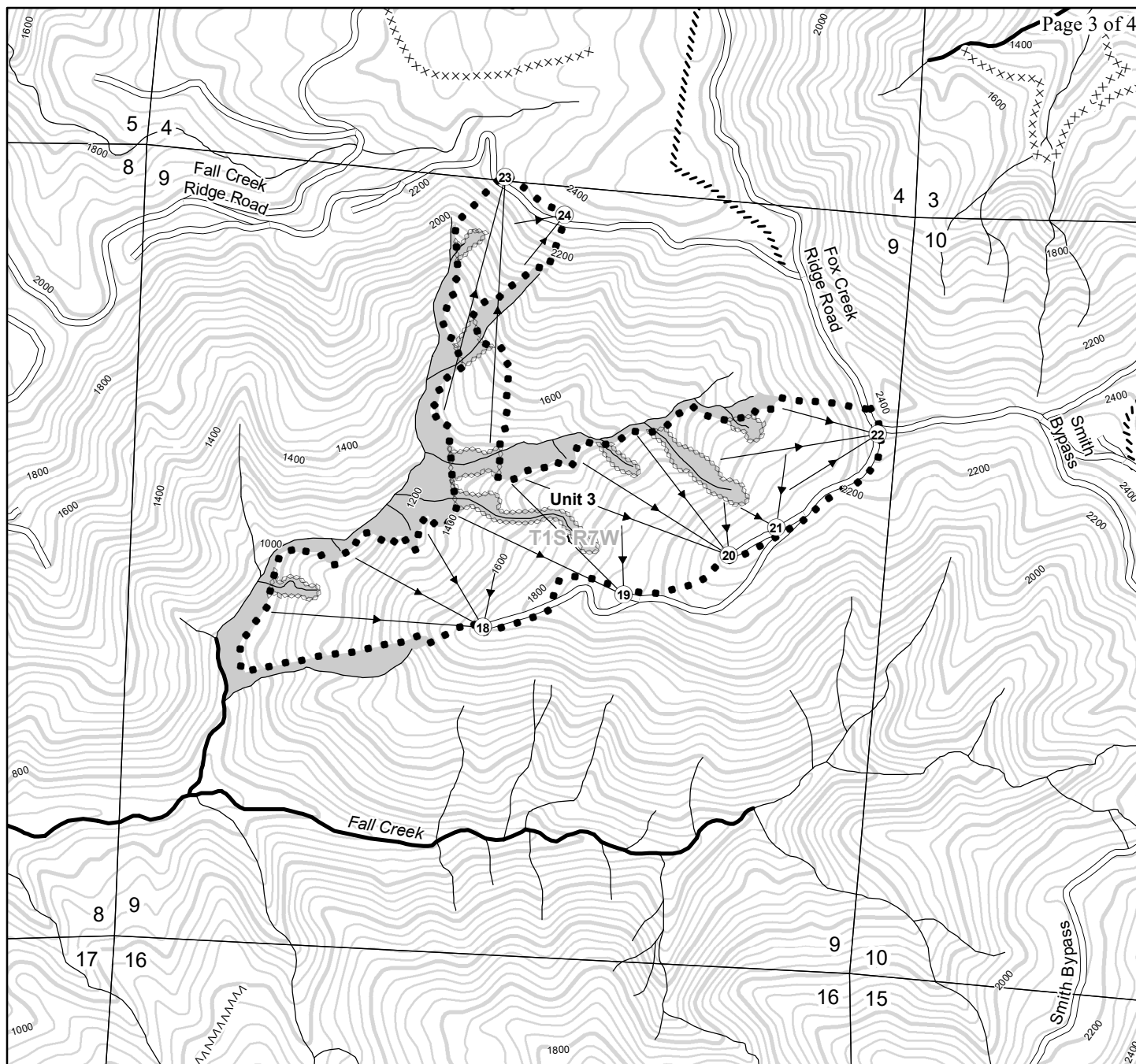
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- Townships
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- Motorized Trail

LOGGING PLAN

FOR TIMBER SALE CONTRACT TL-341-2021-W00502-01
HEMBRE FALLS
PORTIONS OF SECTIONS 11, 14 T1S R8W,
4, 9, 15, 17 T1S R7W W.M.
TILLAMOOK COUNTY, OREGON

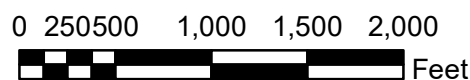
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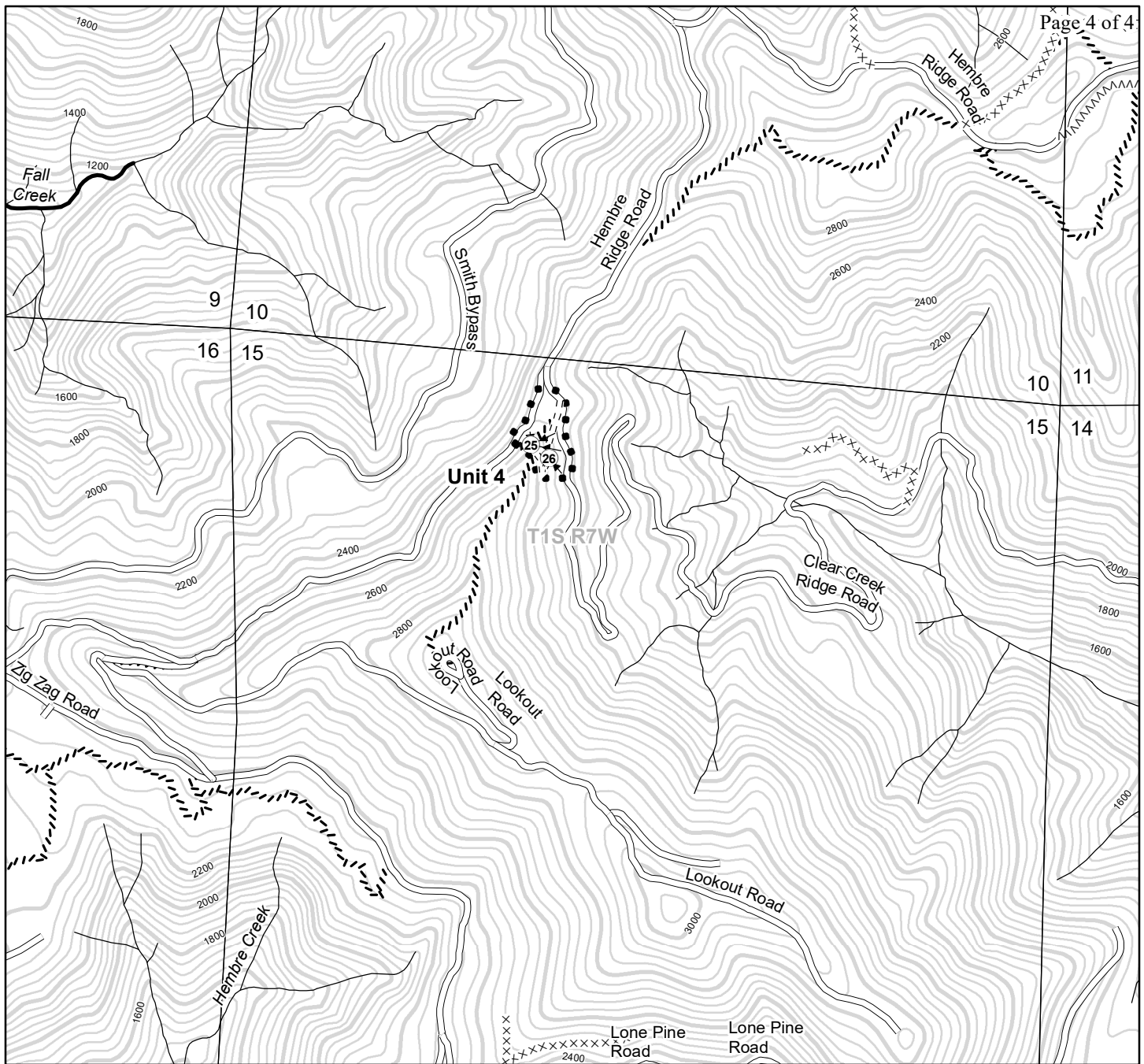
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LOGGING PLAN

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 HEMBRE FALLS
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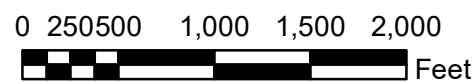
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- Townships
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1:12,000

1 inch = 1,000 feet



NET ACRES

	TRACTOR	CABLE
UNIT 1	10	87
UNIT 2	6	33
UNIT 3	0	85
UNIT 4	0	2
TOTAL	16	207