



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Bob Hembre
Sale TL-341-2024-W00966-01

District: Tillamook

Date: April 24, 2023

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$395,371.50	\$63,985.14	\$459,356.64
		Project Work:	(\$131,810.00)
		Advertised Value:	\$327,546.64



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District: Tillamook

Date: April 24, 2023

Timber Description

Location: Section(s) 21, 22, 27, 28 of T1S R7W W.M.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	95
Alder (Red)	14	0	100

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	696	754	0	1,450
Alder (Red)	0	0	622	622
Total	696	754	622	2,072

Comments:

Additional Costs – Bob Hembre
Pond Values Used: September 2022
Region: Astoria, Forest Grove, and Tillamook
Western red cedar and other cedars stumpage price = \$1,315/MBF - \$547.77/MBF =767.23/MBF
Hemlock and other conifer stumpage price = \$691/MBF - \$535.41/MBF =155.59 /MBF
Pulp (Conifer and Hardwood) Price = \$2.50/Ton
FUEL COST ALLOWANCE = \$5.00/Gallon
HAULING COST ALLOWANCE (\$120.00/hr x 10 hr.= \$ 1,200.00) = \$1,200/DAY

Other costs with profit and risk added:

BRAND AND PAINT ALLOWANCE = \$2.00/ MBF
2,072 MBF x \$2.00/MBF = \$4,144
Heliport Construction: \$500/unit x 1 unit = \$500
Move-in Machine Cleaning: \$1,000/machine x 4 machines x 1 season = \$4,000

TOTAL Other Costs with profit and risk to be added = \$8,644

Other Costs without Profit and Risk Added:

Slash piling and sorting (Cable Settings): \$5/ac x 88 ac. = \$440

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 without Profit and Risk added = \$11,240

ODF Road Maintenance

Spot Rocking: 20cy/MMBF/mile x 2.072MMBF x \$11/cy x 8.5 miles /2,072 MBF = \$1.87/MBF
Interim Grading: \$1,150/mile x 8.5 miles x 1 times/ 2,072 MBF = \$4.72/MBF
Final Maintenance Grading: \$1,500/mile x 8.5 miles/ 2,072 MBF = \$6.15/MBF
Final Maintenance Compaction: \$1,000/mile x 5 miles/2,072 MBF = \$2.41/MBF
Total Road Maintenance: = \$15.15/MBF



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Logging Conditions

Combination#: 1 Douglas - Fir 40.00%
 Alder (Red) 40.00%

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

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

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 9 **bd. ft / load:** 3800

cost / mbf: \$213.46

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

Combination#: 2 Douglas - Fir 50.00%
 Alder (Red) 50.00%

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

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

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 6 **bd. ft / load:** 3800

cost / mbf: \$320.19

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

Combination#: 3 Douglas - Fir 10.00%
 Alder (Red) 10.00%

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

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

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

loads / day: 18 **bd. ft / load:** 4100

cost / mbf: \$101.63

machines: Forwarder
 Harvester



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Logging Costs

Operating Seasons: 2.00	Profit Risk: 5%
Project Costs: \$131,810.00	Other Costs (P/R): \$8,644.00
Slash Disposal: \$0.00	Other Costs: \$11,240.00

Miles of Road

Road Maintenance: \$15.15

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	4.0
Alder (Red)	\$0.00	3.0	4.0



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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									
\$255.64	\$15.91	\$16.78	\$164.06	\$4.17	\$22.83	\$0.00	\$2.00	\$5.42	\$486.81
Alder (Red)									
\$255.64	\$15.15	\$16.78	\$104.17	\$4.17	\$19.80	\$0.00	\$2.00	\$5.42	\$423.13

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$759.48	\$272.67	\$0.00
Alder (Red)	\$0.00	\$526.00	\$102.87	\$0.00



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Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,450	\$272.67	\$395,371.50
Alder (Red)	622	\$102.87	\$63,985.14

Gross Timber Sale Value

Recovery: \$459,356.64

Prepared By: Nathan Atchison

Phone: 503-815-7031



PROJECT SUMMARY SHEET

Sale: Bob Hembre

CONSTRUCTION

Point	A to B	2+80	stations =	\$1,130.20
Point	C to D	2+20	stations =	\$5,330.86
Point	G to H	1+70	stations =	\$5,237.66
Point	K to L	16+60	stations =	\$30,933.48
Point	M to N	8+30	stations =	\$17,070.01
SUBTOTAL CONSTRUCTION				\$59,702.21

IMPROVEMENT

Point	A to B	480+45	stations =	\$29,616.14
Point	E to F	3+85	stations =	\$1,681.43
Point	I to J	2+15	stations =	\$6,347.57
Point	O to P	53+75	stations =	\$2,386.50
Point	Point Q	0+50	stations =	\$2,799.33
SUBTOTAL IMPROVEMENT				\$42,830.97

SPECIAL PROJECTS

Project 2 - 1,500 CY Stockpile	\$22,725.00
SUBTOTAL SPECIAL PROJECTS	\$22,725.00

MOVE IN **\$6,551.82**

GRAND TOTAL **\$131,810.00**

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre** Road: **A to B**

<u>Construction -</u>	2+80	stations	<u>Improvement -</u>	480+45	stations	<u>Reconstruction -</u>	0+00	stations
	0.05	miles		9.10	miles		0.00	miles

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. To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	=		
480+45		483+25	49%		Outslope	\$342		\$957.60	
								TOTAL	\$957.60

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$757.50	60	LF of 24"	\$2,295.00		
<u>Culvert Stakes & Markers</u>	3	markers	\$27.00					
							TOTAL CULVERTS	\$3,079.50

ROCK

389+35 to	391+85	60	cy. of	Jaw-Run	@	\$18.34 per c.y.=	\$1,100.40	
480+45 to	483+25	140	cy. of	Jaw-Run	@	\$15.13 per c.y.=	\$2,118.20	
Culvert Backfill	171+20, 389+90	40	cy. of	Crushed	@	\$7.92 per c.y.=	\$316.80	
Landing Rock	Point B	100	cy. of	Jaw-Run	@	\$18.75 per c.y.=	\$1,875.00	
Rock Ditch Filter	386+75, 389+45	10	cy. of	Drain Rock	@	\$35.72 per c.y.=	\$357.20	
Spot Rock	0+00 to 366+10	200	cy. of	Crushed	@	\$8.87 per c.y.=	\$1,774.00	
Spot Rock	349+85 to 480+45	150	cy. of	Jaw-Run	@	\$18.85 per c.y.=	\$2,827.50	
Embankment Fill	389+90	50	cy. of	Riprap	@	\$17.65 per c.y.=	\$882.50	
Dissipator Rock	391+30	10	cy. of	Riprap	@	\$14.13 per c.y.=	\$141.30	
							TOTAL ROCK	\$11,392.90

SPECIAL PROJECTS

Construct Landing at Point B -	1.00	@	\$410.00	each	\$410.00	
Grade and shape road -	484.25	stations @	\$24.40	per station	\$11,815.70	
Roll subgrade w/ vibratory roller prior to rocking -	130.60	stations @	\$19.40	per station	\$2,533.64	
Repair half-round flume at 391+30 -	2.00	hours @	\$45.00		\$90.00	
Remove culverts from state lands	2.00	@	\$451.50	total	\$451.50	
Grass seed and fertilize -	0.05	acres @	\$310.00	per acre	\$15.50	
					TOTAL SPECIAL PROJECTS	\$15,316.34

GRAND TOTAL **\$30,746.34**

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **C to D**

Construction -	2+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.04	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	=		
0+00		2+20	49%		Outslope	\$342	=	\$752.40	
								TOTAL	\$752.40

ROCK									
0+00	to	2+20	110	cy. of	Jaw-Run	@	\$19.67	per c.y.=	\$2,163.70
Landing Rock		Point D	80	cy. of	Jaw-Run	@	\$18.20	per c.y.=	\$1,456.00
								TOTAL ROCK	\$3,619.70

SPECIAL PROJECTS									
Construct Landing at Point D -					1.00	@	\$410.00	each	\$410.00
Grade and shape road -					2.20	stations @	\$24.40	per station	\$53.68
Roll subgrade w/ vibratory roller prior to rocking -					2.20	stations @	\$19.40	per station	\$42.68
Remove large stumps -					1.00	lump sum @	\$440.00		\$440.00
Grass seed and fertilize -					0.04	acres @	\$310.00	per acre	\$12.40
								TOTAL SPECIAL PROJECTS	\$958.76

GRAND TOTAL	\$5,330.86
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SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **E to F**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>3+85</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		0.07	miles		0.00	miles

ROCK

Landing Rock	Point F	60	cy. of	Jaw-Run	@	\$18.38 per c.y.=	\$1,102.80	TOTAL ROCK	\$1,102.80
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SPECIAL PROJECTS

Construct Landing at Point F -	1.00	@	\$410.00	each	\$410.00	
Grade and shape road -	3.85	stations @	\$24.40	per station	\$93.94	
Roll subgrade w/ vibratory roller prior to rocking -	3.85	stations @	\$19.40	per station	\$74.69	
				TOTAL SPECIAL PROJECTS	\$578.63	

GRAND TOTAL **\$1,681.43**

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **G to H**

Construction -	1+70	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.03	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	=		
0+00		1+70	49%			\$342	=	\$581.40	
								TOTAL	\$581.40

ROCK									
0+00	to	1+70	90	cy. of	Jaw-Run	@	\$19.95	per c.y.=	\$1,795.50
Landing Rock		Point H	100	cy. of	Jaw-Run	@	\$18.47	per c.y.=	\$1,847.00
								TOTAL ROCK	\$3,642.50

SPECIAL PROJECTS									
Construct Landing at Point H -					1.00	@	\$710.00	each	\$710.00
Grade and shape road -					1.70	stations @	\$24.40	per station	\$41.48
Roll subgrade w/ vibratory roller prior to rocking -					1.70	stations @	\$19.40	per station	\$32.98
Remove large stumps -					1.00	lump sum @	\$220.00		\$220.00
Grass seed and fertilize -					0.03	acres @	\$310.00	per acre	\$9.30
								TOTAL SPECIAL PROJECTS	\$1,013.76

GRAND TOTAL	\$5,237.66
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SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **I to J**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>2+15</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		0.04	miles		0.00	miles

IMPROVEMENT: EXCAVATION -

Road Earthwork	2.15	sta. @	\$200.00	per sta. =	\$430.00	
	TOTAL EXCAVATION					\$430.00

ROCK

0+00 to	2+15	110	cy. of	Jaw-Run	@	\$20.05	per c.y.=	\$2,205.50
Landing Rock	Point J	150	cy. of	Jaw-Run	@	\$18.57	per c.y.=	\$2,785.50
	TOTAL ROCK							\$4,991.00

SPECIAL PROJECTS

Construct Landing at Point J -	1.00	@	\$820.00	each	\$820.00	
Grade and shape road -	2.15	stations @	\$24.40	per station	\$52.46	
Roll subgrade w/ vibratory roller prior to rocking -	2.15	stations @	\$19.40	per station	\$41.71	
Grass seed and fertilize -	0.04	acres @	\$310.00	per acre	\$12.40	
	TOTAL SPECIAL PROJECTS					\$926.57

GRAND TOTAL **\$6,347.57**

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **K to L**

Construction -	16+60	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.31	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	<u>Avg. Dist.</u> To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		3+10	49%			\$342	=	\$1,060.20
3+10		5+40	55%			\$862	=	\$1,982.60
5+40		7+00	49%			\$342	=	\$547.20
7+00		8+90	55%			\$862	=	\$1,637.80
8+90		16+60	49%			\$342	=	\$2,633.40
TOTAL								\$7,861.20

ROCK								
0+00	to	16+60	850	cy. of	Jaw-Run	@	\$20.34 per c.y.=	\$17,289.00
Landing		Rock	12+70, Point L	160	cy. of	Jaw-Run	@	\$3,043.20
TOTAL ROCK								\$20,332.20

SPECIAL PROJECTS								
Construct Landing at 12+70 and Point L -		2.00	@	\$410.00	each	\$820.00		
Grade and shape road -		16.60	stations @	\$24.40	per station	\$405.04		
Roll subgrade w/ vibratory roller prior to rocking -		16.60	stations @	\$19.40	per station	\$322.04		
Remove large stumps -		1.00	lump sum @	\$1,100.00		\$1,100.00		
Grass seed and fertilize -		0.30	acres @	\$310.00	per acre	\$93.00		
TOTAL SPECIAL PROJECTS								\$2,740.08

GRAND TOTAL **\$30,933.48**

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **M to N**

<u>Construction -</u>	<u>8+30</u> stations <u>0.16</u> miles	<u>Improvement -</u>	<u>0+00</u> stations <u>0.00</u> miles	<u>Reconstruction -</u>	<u>0+00</u> stations <u>0.00</u> 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>	=		
0+00		8+30	49%		Outslope	\$342	=	\$2,838.60	
								TOTAL	\$2,838.60

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	60	LF of 24"	\$2,295.00	
<u>Culvert Stakes & Markers</u>	2 markers		\$18.00	
			TOTAL CULVERTS	\$2,313.00

ROCK

0+00 to	8+30	440	cy. of	Jaw-Run	@	\$20.50 per c.y.=	\$9,020.00	
Landing Rock	Point N	80	cy. of	Jaw-Run	@	\$19.09 per c.y.=	\$1,527.20	
							TOTAL ROCK	\$10,547.20

SPECIAL PROJECTS

Construct Landing at Point N -	1.00	@	\$510.00	each	\$510.00	
Grade and shape road -	8.30	stations @	\$24.40	per station	\$202.52	
Roll subgrade w/ vibratory roller prior to rocking -	8.30	stations @	\$19.40	per station	\$161.02	
Remove large stumps -	1.00	lump sum @	\$440.00		\$440.00	
Grass seed and fertilize -	0.08	acres @	\$310.00	per acre	\$24.80	
Mulching -	0.038	acres @	\$865.00	per acre	\$32.87	
					TOTAL SPECIAL PROJECTS	\$1,371.21

GRAND TOTAL **\$17,070.01**

SUMMARY OF CONSTRUCTION COST

Sale:

Bob Hembre

Road:

O to P

<u>Construction -</u>	0+00	stations	<u>Improvement -</u>	53+75	stations	<u>Reconstruction -</u>	0+00	stations
	0.00	miles		1.02	miles		0.00	miles

IMPROVEMENT: EXCAVATION -
Road Earthwork

	53.75	sta. @	\$20.00	per sta. =	\$1,075.00	
				TOTAL EXCAVATION		\$1,075.00

SPECIAL PROJECTS

Grade and shape road -

	53.75	stations @	\$24.40	per station	\$1,311.50	
				TOTAL SPECIAL PROJECTS		\$1,311.50

GRAND TOTAL		\$2,386.50
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SUMMARY OF CONSTRUCTION COST

Sale: **Bob Hembre**

Road: **Point Q**

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>0+50</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		0.01	miles		0.00	miles

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	40	LF of 30"	\$2,000.00
<u>Culvert Stakes & Markers</u>	1	markers	\$9.00

TOTAL CULVERTS \$2,009.00

ROCK

Culvert Backfill	0+00	20	cy. of	Crushed	@	\$7.92 per c.y.=	\$158.40
Energy Dissipator	0+00	10	cy. of	Riprap	@	\$19.84 per c.y.=	\$198.40
TOTAL ROCK							\$356.80

SPECIAL PROJECTS

Grade and shape road -	0.50	stations @	\$24.40	per station	\$12.20
Roll subgrade w/ vibratory roller prior to rocking -	0.50	stations @	\$19.40	per station	\$9.70
Remove culverts from state lands	1.00	@	\$380.70	total	\$380.70
Grass seed and fertilize -	0.03	acres @	\$310.00	per acre	\$9.30
Mulching -	0.025	acres @	\$865.00	per acre	\$21.63
TOTAL SPECIAL PROJECTS					\$433.53

GRAND TOTAL \$2,799.33

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Hembre 6 Mile Pit	Location:	Sec. 16, T1S, R7W, W.M.
Sale:	Bob Hembre	Road:	4250 c.y.
Swell:	1.40		
Shrinkage:	1.16	Total Truck Loads:	4250 c.y.
Drill Pct.:	100%	In Place Total:	3036 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread				\$2,753.35
Drill & Shoot:	\$3.60	/cu.yd.	x 3036 cu.yds.	= \$10,929.60
Load Crusher:	\$1.20	/cu.yd.	x 4250 cu.yds.	= \$5,100.00
Crush Rock:	\$4.00	/cu.yd.	x 4250 cu.yds.	= \$17,000.00
Load Dump Truck:	\$1.20	/cu.yd.	x 4250 cu.yds.	= \$5,100.00
Oversize Reduction:	\$6.70	/cu.yd.	x 541 cu.yds.	= \$3,624.70

Subtotal \$44,507.65

Move In/Set-up Jaw	1	@	\$2,121.00		\$2,121.00
Move In and set up Drill and Compressor	1	@	\$861.14	=	\$861.14
Move in D-8	1	@	\$1,030.64	=	\$1,030.64
Move in Loader	1	@	\$859.64	=	\$859.64
Move in Excavator	1	@	\$974.64	=	\$974.64
Move in Trucks	4	@	\$265.10	=	\$1,060.40
Move in Water Truck	1	@	\$265.10	=	\$265.10
				Subtotal	\$7,172.56

TOTAL PRODUCTION COSTS \$51,680.21

Base Cost= \$12.16 Per Cu.Yd.

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 38935 39185 (Jaw-Run)	2.98	3.20	12.16	18.34	60	\$1,100.40	
A to B 48045 48325 (Jaw-Run)	1.27	1.70	12.16	15.13	140	\$2,118.20	
A to B Landing Rock (Jaw-Run)	4.89	1.70	12.16	18.75	100	\$1,875.00	
A to B Spot Rock (Jaw-Run)	3.49	3.20	12.16	18.85	150	\$2,827.50	
A to B Embankment Fill (Riprap)	3.49	2.00	12.16	17.65	50	\$882.50	
A to B Dissipator Rock (Riprap)	1.27	0.70	12.16	14.13	10	\$141.30	
C to D 0 220 (Jaw-Run)	4.31	3.20	12.16	19.67	110	\$2,163.70	
C to D Landing Rock (Jaw-Run)	4.34	1.70	12.16	18.20	80	\$1,456.00	
E to F Landing Rock (Jaw-Run)	4.52	1.70	12.16	18.38	60	\$1,102.80	
G to H 0 170 (Jaw-Run)	4.59	3.20	12.16	19.95	90	\$1,795.50	
G to H Landing Rock (Jaw-Run)	4.61	1.70	12.16	18.47	100	\$1,847.00	
I to J 0 215 (Jaw-Run)	4.69	3.20	12.16	20.05	110	\$2,205.50	
I to J Landing Rock (Jaw-Run)	4.71	1.70	12.16	18.57	150	\$2,785.50	
K to L 0 1660 (Jaw-Run)	4.98	3.20	12.16	20.34	850	\$17,289.00	
K to L Landing Rock (Jaw-Run)	5.16	1.70	12.16	19.02	160	\$3,043.20	
M to N 0 830 (Jaw-Run)	5.14	3.20	12.16	20.50	440	\$9,020.00	
M to N Landing Rock (Jaw-Run)	5.23	1.70	12.16	19.09	80	\$1,527.20	
Point Q Energy Dissipator (Riprap)	5.68	2.00	12.16	19.84	10	\$198.40	
1500 CY Stockpile (Jaw-Run)	1.29	1.70	12.16	15.15	1500	\$22,725.00	
				Total C.Y.	4250	Sub Total	\$76,103.70

TOTAL ROCKING COSTS \$76,103.70

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushed	Location:	Sec. 18, T1S, R7W, W.M.
Sale:	Bob Hembre	Road:	260 c.y.
Swell:	1.40		
Shrinkage	1.16	Total Truck Loads:	260 c.y.
Drill Pct.:	0%	In Place Total:	186 c.y.

Load Dump Truck: \$1.20 /cu.yd. x 260 cu.yds. = \$312.00
Subtotal \$312.00

Move in Loader Within Area 1 @ \$65.00 = \$65.00
Subtotal \$65.00

Base Cost= \$1.45 Per Cu.Yd. **TOTAL PRODUCTION COSTS \$377.00**

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 Culvert Backfill (Crushed)	4.97	1.50	1.45	7.92	40	\$316.80
A to B Spot Rock (Crushed)	4.97	2.45	1.45	8.87	200	\$1,774.00
Point Q Culvert Backfill (Crushed)	4.97	1.50	1.45	7.92	20	\$158.40
A to B Ditch Filter (Purchased Drain Rock)	12.72	2.00	21.00	35.72	10	\$357.20
				Total C.Y.	270	Sub Total \$2,606.40
				TOTAL ROCKING COSTS		\$2,606.40

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

Sale: **Bob Hembre**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
28.0	Pavement	30
10.0	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	\$898.07		\$3.65	0.00	2.60	2.6	\$9.49	\$907.56
1	Loader (Large)	\$945.89	1	\$9.00	0.00	2.60	2.6	\$23.40	\$969.29
1	Excavators (Med.)	\$889.89		\$35.50	0.00	2.60	2.6	\$92.30	\$982.19
1	Excavators (Large)	\$974.64	1	\$44.80	0.00	2.60	2.6	\$116.48	\$1,091.12
1	Tractors (D6)	\$963.27	2	\$7.10	0.00	2.60	2.6	\$18.46	\$981.73
1	Tractor (D8)	\$1,030.64	2	\$15.10	0.00	2.60	2.6	\$39.26	\$1,069.90
1	Dump Truck (10 cy +)	\$270.11		\$2.85	0.00	2.60	2.6	\$7.41	\$277.52
1	Water Truck (1500 Gal)	\$265.10		\$2.85	0.00	2.60	2.6	\$7.41	\$272.51
TOTAL MOVE-IN COSTS:									\$6,551.82



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Bob Hembre

1. Type of Sale

Regeneration harvest, Recovery

2. Legal Description

Portions of Sections 21, 22, 27 & 28 of T1S R7W Tillamook County, 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)	128	96
Total	128	96

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

Timber sale unit 1, was cruised using variable plot sampling. The unit was cruised by ODF Staff in August 2022. All conifers 8” DBH and greater containing 20 board feet and all hardwoods 10” DBH and greater containing 30 board feet were recorded on all plots. Species, DBH (to nearest inch), merchantable bole length (to nearest foot), form factor, and defect were recorded for all measure trees. Merchantable heights were recorded to 6” and 7” outside bark for conifers and hardwoods, respectively.

B. Plot size

Unit	BAF	Spacing
1	40.00	300x300

C. Grading System

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

5. Computation Procedure

Plot 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.

Net sale acreage was used for volume calculation.

	Cruise Statistics (Board Foot Volumes)			
Unit	Acres	Number of Plots	SE (%)	CV (%)
1	96	45	6.7	44.9
Project Total	96	45	6.7	44.9

6. Hidden Defect and Breakage

A 2% reduction for conifers and a 4% reduction for hardwood volumes were applied for hidden defect and breakage.

7. Timber Description

Units 1, is prescribed modified clearcut. The Unit is a Douglas-fir, and red alder dominated stand, with a mixed understory of western hemlock, and big leaf maple which are reserve species. The north east corner has approximately 12 acres thinned in 2000 with Ziggy Bob Thin sale.

All three stands were burned in 1933, 1939, and 1945 Tillamook Burn.

Sale Unit	Age	Species	DBH	Merchantable Bole Height (feet)	Merchantable top (inches inside bark)
1	57	Douglas-fir	16.1	65	5
1	57	Red alder	14.4	42	6

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

8. Cruiser /Dates

ODF Staff Cruised; July 2022.

9. Revenue Distribution

BOF – 100%

Tax Code: 901 (100%)

Deed Numbers: 161, 162

10. Attachments

Volume Summary Table

Stand Table (3)

Log Stock Tables (3)

Species, Sort, Grade Table (3)
Logging Plan (1)

11. Stand and Log Stock Tables Species Key

- DF – Douglas-fir take
- WH – western hemlock leave
- RA – red alder take
- BM- big leaf maple leave
- OC – Other Conifer

T01S R07W S28 T0100										T01S R07W S28 T0100				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
01S	07W	28	UNIT 1	0100	96.00	45	257	S	W					

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	CO	2	42	.6	6,662	6,622	636	3	77	19				100	40	14	293	1.79	22.6	
DF	CO	3	43	.2	6,629	6,616	635	96	4			0	100	40	9	112	0.81	59.0		
DF	CO	4	15		2,169	2,169	208	77	23		16	32	9	44	28	5	31	0.35	69.7	
DF	Totals		69	.3	15,459	15,407	1,479	11	46	35	8	2	5	1	92	35	8	102	0.81	151.2
RA	H	2	4		331	331	32		51	49		73		27	18	14	128	1.56	2.6	
RA	H	3	16		1,059	1,059	102	65	14	21		10	21	15	54	27	11	135	1.46	7.8
RA	H	4	80	.1	5,359	5,355	514	95	5			16	13	11	60	29	7	52	0.69	102.1
RA	Totals		30	.1	6,750	6,745	648	86	8	6		18	14	11	58	28	7	60	0.76	112.5
BM	H	4	100		104	104	10	52	48			91		9	13	7	30	0.81	3.5	
BM	Totals		0		104	104	10	52	48			91		9	13	7	30	0.81	3.5	
WH	CO	3	88		85	85	8	100						100	40	10	150	0.97	.6	
WH	CO	4	12		11	11	1	100				100			16	5	20	0.34	.6	
WH	Totals		0		96	96	9	12	88			12		88	28	8	85	0.79	1.1	
Type Totals				.3	22,409	22,352	2,146	8	58	27	7	7	7	4	81	32	8	83	0.79	268.3

TC		TSTNDSUM		Stand Table Summary												
Project														BBHE		
T01S R07W S28 T0100										T01S R07W S28 T0100						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1		Date:	09/14/2021				
01S	07W	28	UNIT 1	0100	96.00	45	257	Time:	4:01:01PM							
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
DF		8	1	75	61	2.546	.89	2.55	3.4	20.0	.25	9	51	24	8	5
DF		9	6	81	59	12.072	5.33	12.07	8.8	30.0	3.03	106	362	291	102	35
DF		10	2	77	58	3.259	1.78	3.26	12.6	40.0	1.17	41	130	112	39	13
DF		11	5	82	74	6.734	4.44	6.73	15.5	48.0	2.97	104	323	285	100	31
DF		12	4	87	78	4.527	3.56	4.53	18.5	70.0	2.39	84	317	230	81	30
DF		13	5	81	81	4.822	4.44	6.75	16.9	48.6	3.25	114	328	312	109	31
DF		14	9	83	90	7.484	8.00	14.97	16.8	58.3	7.17	252	873	688	241	84
DF		15	12	83	89	8.692	10.67	17.38	19.6	69.6	9.70	340	1,210	932	327	116
DF		16	9	83	97	5.730	8.00	11.46	24.0	86.7	7.84	275	993	752	264	95
DF		17	10	80	93	5.639	8.89	10.15	27.9	97.8	8.07	283	993	774	272	95
DF		18	11	82	106	5.533	9.78	12.07	30.2	109.2	10.39	364	1,318	997	350	127
DF		19	7	81	101	3.160	6.22	6.32	34.2	111.4	6.17	216	704	592	208	68
DF		20	8	84	113	3.259	7.11	8.15	35.1	128.0	8.14	286	1,043	782	274	100
DF		21	8	84	110	2.956	7.11	6.65	41.3	148.9	7.84	275	990	752	264	95
DF		22	7	88	116	2.357	6.22	7.07	36.9	166.7	7.43	261	1,179	714	250	113
DF		23	8	85	99	2.465	7.11	5.55	43.4	156.7	6.86	241	869	658	231	83
DF		24	6	83	110	1.698	5.33	3.96	51.5	195.7	5.82	204	775	559	196	74
DF		25	6	82	118	1.565	5.33	4.17	51.3	206.3	6.10	214	861	585	205	83
DF		26	2	89	108	.482	1.78	1.21	59.8	262.0	2.05	72	316	197	69	30
DF		27	5	84	101	1.118	4.44	2.46	62.4	248.2	4.37	153	610	420	147	59
DF		28	4	72	109	.832	3.56	1.66	77.1	225.0	3.66	128	374	351	123	36
DF		29	1	82	130	.194	.89	.58	67.2	293.3	1.11	39	171	107	38	16
DF		31	1	88	113	.170	.89	.51	73.0	326.7	1.06	37	166	102	36	16
DF		32	2	82	103	.318	1.78	.64	103.9	410.0	1.89	66	261	181	64	25
DF		35	1	83	122	.133	.89	.40	100.4	476.7	1.14	40	190	110	38	18
DF	Totals	140	82	87		87.745	124.44	151.25	27.8	101.9	119.85	4,205	15,407	11,506	4,037	1,479
RA		9	2	78	68	4.024	1.78	4.02	10.2	45.0	1.13	41	181	108	39	17
RA		10	6	74	53	9.778	5.33	9.78	8.9	35.0	2.40	87	342	230	84	33
RA		11	12	79	58	16.163	10.67	18.86	9.9	37.1	5.15	187	700	495	180	67
RA		12	10	72	75	10.808	8.49	13.07	16.7	44.7	6.01	219	585	577	210	56
RA		13	7	75	61	6.750	6.22	6.75	22.6	60.0	4.19	152	405	402	146	39
RA		14	6	75	67	4.989	5.33	5.82	21.9	64.3	3.50	127	374	336	122	36
RA		15	9	74	67	6.519	8.00	10.14	18.2	52.9	5.07	184	536	486	177	51
RA		16	11	72	70	7.003	9.78	12.73	19.5	56.0	6.82	248	713	654	238	68
RA		17	13	76	65	7.331	11.56	9.59	30.2	74.7	7.96	290	716	764	278	69
RA		18	7	75	87	3.521	6.22	7.04	27.2	81.4	5.26	191	573	505	184	55
RA		19	6	74	71	2.709	5.33	4.06	36.2	81.1	4.04	147	330	388	141	32
RA		20	5	76	70	2.037	4.44	2.44	44.6	95.0	3.00	109	232	288	105	22
RA		21	2	76	93	.739	1.78	1.48	39.4	107.5	1.60	58	159	154	56	15
RA		22	3	85	60	1.010	2.67	2.02	28.0	110.0	1.55	57	222	149	54	21
RA		23	5	65	74	1.540	4.44	1.54	82.6	120.0	3.50	127	185	336	122	18
RA		24	2	71	89	.566	1.78	1.13	48.9	95.0	1.52	55	108	146	53	10
RA		26	2	92	79	.482	1.78	.96	57.3	265.0	1.52	55	256	146	53	25
RA		27	2	66	74	.447	1.78	.89	64.7	115.0	1.59	58	103	153	56	10
RA		34	1	68	96	.141	.89	.14	179.1	180.0	.69	25	25	67	24	2
RA	Totals	111	75	66		86.559	98.27	112.48	21.5	60.0	66.52	2,419	6,745	6,385	2,322	648
BM		12	1	75	38	1.132	.89	2.26	5.3	15.0	.32	12	34	30	11	3
BM		18	1	80	57	.503	.89	1.01	15.8	60.0	.42	16	60	40	15	6
BM		29	1	67	88	.194	.89	.19	45.4	50.0	.23	9	10	22	8	1
BM	Totals	3	76	49		1.829	2.67	3.46	10.6	30.0	0.97	37	104	93	35	10

TC		TSTNDSUM		Stand Table Summary												
Project										BBHE						
T01S R07W S28 T0100										T01S R07W S28 T0100						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	2							
01S	07W	28	UNIT 1	0100	96.00	45	257	Date:	09/14/2021							
								Time:	4:01:01PM							
Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
WH		17	1	87	78	.564	.89	1.13	22.1	85.0	.80	25	96	77	24	9
WH		Totals	1	87	78	.564	.89	1.13	22.1	85.0	0.80	25	96	77	24	9
OC		15	1	74	36	.724	.89									
OC		Totals	1	74	36	.724	.89									
Totals			256	79	76	177.421	227.16	268.32	24.9	83.3	188.14	6686	22,352	18,061	6,418	2,146

TC		TLOGSTVB		Log Stock Table - MBF														
Project:										BBHE								
T01S R07W S28 T0100										T01S R07W S28 T0100		Page 1						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Date	Time									
01S	07W	28	UNIT 1	0100	96.00	45	257	9/14/2022	4:01:00PM									
Spp	T	So	Gr	Log	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
DF		CO	2	40	640	.6	636	43.0			22	172	284	112	46			
DF		CO	3	25	1		1	.1				1						
DF		CO	3	36	8		8	.5			8							
DF		CO	3	40	628	.2	626	42.3		91	241	269	26					
DF		CO	4	12	2		2	.2		1								
DF		CO	4	13	1		1	.1			1							
DF		CO	4	14	2		2	.1		2	1							
DF		CO	4	16	13		13	.8		11	2							
DF		CO	4	17	5		5	.3		5								
DF		CO	4	19	5		5	.4		5								
DF		CO	4	20	4		4	.3			4	1						
DF		CO	4	21	1		1	.0		1								
DF		CO	4	22	5		5	.3		5								
DF		CO	4	23	4		4	.3		4								
DF		CO	4	24	19		19	1.3		16	3							
DF		CO	4	26	3		3	.2		3								
DF		CO	4	28	17		17	1.2			17							
DF		CO	4	30	17		17	1.2		17								
DF		CO	4	31	7		7	.5		7								
DF		CO	4	32	5		5	.3		3	2							
DF		CO	4	35	6		6	.4		6								
DF		CO	4	36	9		9	.6		9								
DF		CO	4	37	16		16	1.1		16								
DF		CO	4	40	66		66	4.5		51	15							
DF		Totals			1,484		1,479	68.9		161	137	271	270	172	310	112	46	
RA		H	2	12	16		16	2.4						16				
RA		H	2	14	8		8	1.2				8						
RA		H	2	40	9		9	1.3				9						
RA		H	3	12	6		6	.9				6						
RA		H	3	16	5		5	.8				5						
RA		H	3	22	6		6	1.0				6						
RA		H	3	24	14		14	2.2					14					
RA		H	3	32	15		15	2.3				15						
RA		H	3	40	55		55	8.5				34			21			
RA		H	4	12	20		20	3.1		1	3	13	3					
RA		H	4	13	5		5	.8		5								
RA		H	4	14	11		11	1.8		3	4	4						
RA		H	4	15	15		15	2.2		9	5							
RA		H	4	16	20		20	3.2		16	5							
RA		H	4	17	4		4	.6		4								
RA		H	4	20	5		5	.7					5					
RA		H	4	21	1		1	.2		1								
RA		H	4	22	8		8	1.2		8								
RA		H	4	24	18		18	2.9		18								
RA		H	4	25	14		14	2.2		3		11						
RA		H	4	26	10		10	1.5		10								
RA		H	4	28	6		6	.9		6								
RA		H	4	29	10		10	1.6				10						
RA		H	4	31	8		8	1.2		8								
RA		H	4	32	28		28	4.3		28								

Log Stock Table - MBF

Project: BBHE

T01S R07W S28 T0100

T01S R07W S28 T0100

Twp Rge Sec Tract Type Acres Plots Sample Trees
01S 07W 28 UNIT 1 0100 96.00 45 257

Page 2
Date 9/14/2022
Time 4:01:00PM

Spp	T	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches									
										MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19
RA	H	4	34		9	4.8	9	1.3				9							
RA	H	4	35		13		13	2.0				13							
RA	H	4	36		21		21	3.3				12	10						
RA	H	4	37		14		14	2.1				14							
RA	H	4	38		5		5	.8				5							
RA	H	4	40		269		269	41.5				147	100	6	16				
RA	Totals				648		648	30.2				319	127	110	54		37		
BM	H	4																	
BM	H	4	13		1		1	9.7				1							
BM	H	4	20		8		8	81.0				3		5					
BM	H	4	32		1		1	9.3				1							
BM	Totals				10		10	.5				5		5					
WH	CO	3	40		8		8	88.2					8						
WH	CO	4	16		1		1	11.8			1								
WH	Totals				9		9	.4			1		8						
Total All Species					2,151		2,146	100.0			162	461	398	388	231	310	149	46	



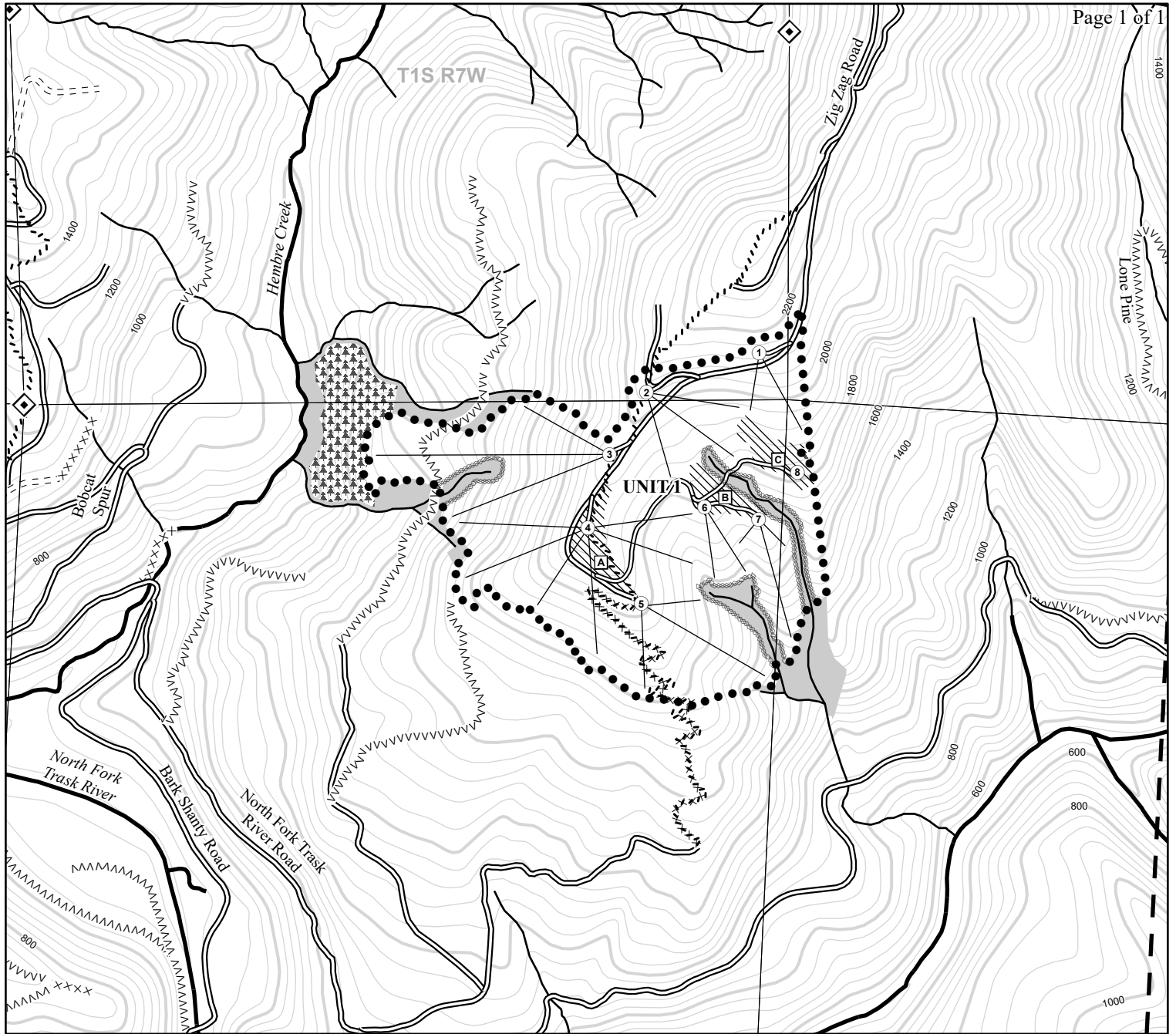
"STEWARDSHIP IN FORESTRY"

Bob Hembre

Volume Summary

Unit 1-Modified Clearcut				
96 acres				
SPECIES	Cruised Net MBF/ Acre	Cruised Net MBF	Hidden D&B	Net Sale MBF
Douglas-fir	15.4	1479	2%	1450
red alder	6.8	648	4%	622
TOTAL	22.2	2127		2072

TOTAL SALE VOLUME 96 acres		
SPECIES	Cruised Net (MBF)	Net Sale (MBF)
Douglas-fir	1479	1450
Western hemlock	0	0
Sitka Spruce	0	0
Bigleaf Maple		
Red Alder	648	622
TOTAL	2127	2072



- Legend**
- ◆ Corners
 - Cable Landing
 - Tractor Landing
 - Cable Logging
 - /// Ground Based
 - ▨ Riparian Boundary
 - Timber Sale Boundary
 - //// Recreation Trail
 - == Surfaced Road
 - - - Unsurfaced Road
 - xxx Blocked Road
 - v v v Abandoned Road
 - Type-F Stream
 - Type-N Stream
 - 🌲 Green Tree Retention
 - Sections
 - 200' Contour
 - 40' Contour
 - ┌─┐ Property Line

LOGGING PLAN

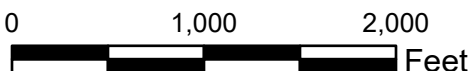
FOR TIMBER SALE CONTRACT TL-341-2024-W00966-01
 BOB HEMBRE
 PORTIONS OF SECTIONS 21, 22, 27, & 28, T1S, R7W, W. M.
 TILLAMOOK COUNTY, OREGON

Tillamook District GIS
 September, 2022

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



NET ACRES

	GROUND	CABLE	TOTAL
UNIT 1	8	88	96
TOTAL	8	88	96