

Timber Sale Appraisal Mahrvelous

Sale WO-341-2023-W00996-01

District: West Oregon Date: October 17, 2022

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,282,152.80	\$129,712.00	\$2,411,864.80
		Project Work:	(\$129,258.00)
		Advertised Value:	\$2,282,606.80

10/26/22



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District: West Oregon Date: October 17, 2022

Timber Description

Location: T10S, R7W, Section(s) 16 & 21, W.M., Benton County, Oregon.

Stand Stocking: 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	25	0	97
Alder (Red)	12	0	95

Volume by Grade	2\$	3S & 4S 6"- 11"	Camprun	Total
Douglas - Fir	3,046	624	0	3,670
Alder (Red)	0	0	400	400
Total	3,046	624	400	4,070

Comments: Pond Values Used: Local Pond Values, August, 2022

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:

240.84/MBF = 544/MBF - 303.16/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:

\$798.84/MBF = \$1,252/MBF - \$303.16/MBF - \$150.00/MBF(extra haul distance)

Bigleaf maple and Other Hardwoods Stumpage Price = Hardwood Pulp price using a conversion factor of 10

Ton/MBF: =\$60.00/MBF

PULP (Conifer and Hardwood Price) = \$6.00/TON

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

Intermediate Support/Tail Trees: 10 supports @ \$100/support = \$1,000 Flaggers on County Road: 2 Flaggers x 4 days x \$350/day = \$2,800

Directional Felling: 8 acres @ \$200/acres = \$1,600

Loader & Operator Stand-by for clean-up of County Road: 4 Days x 6 hour/day x \$150/hour = \$3,600

TOTAL Other Costs (with Profit & Risk to be added) = \$9,000

Other Costs (No Profit & Risk added):

Equipment Cleaning (Invasive Species): \$2,000

Landing slash piling/firewood sorting: 6 Landings @ \$180/Landing = \$1,080

TOTAL Other Costs (No Profit & Risk added) = \$3,080

ROAD MAINTENANCE

Move-in: (Grader) \$875 Move-in: (Roller) \$875

Final Road Maintenance: \$17,874.23 Fuel Cost Adjustment (10%): \$1,787.42

TOTAL Road Maintenance: \$19,661.65/4,070 MBF = \$4.83/MBF

SLASH DISPOSAL

Project Work: 48 hrs @ \$170/hr = \$8,160

Weed Wash: \$300 Move-in: \$1,325

TOTAL Slash Disposal = \$9,785

10/26/22



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District: West Oregon Date: October 17, 2022

Logging Conditions

Combination#: 1 Douglas - Fir 58.00%

Alder (Red) 58.00%

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

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

loads / day: 7 bd. ft / load: 4600

cost / mbf: \$215.63

machines: Log Loader (A)

Tower Yarder (Large)

Combination#: 2 Douglas - Fir 42.00%

Alder (Red) 42.00%

Logging System: Shovel Process: Manual Falling/Delimbing

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

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

loads / day: 10 bd. ft / load: 4600

cost / mbf: \$88.86

machines: Shovel Logger



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Logging Costs

Operating Seasons: 3.00

Profit Risk: 10%

Project Costs: \$129,258.00

Slash Disposal: \$9,785.00

Other Costs (P/R): \$9,000.00

Other Costs: \$3,080.00

Miles of Road

Road Maintenance:

\$4.83

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

Hauling Costs

Species	\$/MBF	Trips/Day	MBF / Load	
Douglas - Fir	\$0.00	3.0	4.2	
Alder (Red)	\$0.00	2.0	3.8	



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District: West Oregon Date: October 17, 2022

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas -	Fir								
\$162.39	\$4.97	\$3.24	\$98.10	\$2.21	\$27.09	\$2.40	\$2.00	\$0.76	\$303.16
Alder (Red	l)								
\$162.39	\$5.07	\$3.24	\$165.78	\$2.21	\$33.87	\$2.40	\$2.00	\$0.76	\$377.72

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$925.00	\$621.84	\$0.00
Alder (Red)	\$0.00	\$702.00	\$324.28	\$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	3,670	\$621.84	\$2,282,152.80	
Alder (Red)	400	\$324.28	\$129,712.00	

Gross Timber Sale Value

Recovery: \$2,411,864.80

Prepared By: Aaron McEwen Phone: 541-929-9168

SUMMARY OF ALL PROJECT COSTS

Project #1 - Construction Road Segment	Sale Name:	Mahrvelous	Mahrvelous		October 2022 10:57	
Cost	Project #1 - Const	truction				
A to B			Length	Cost		
C to D 1.3 sta \$4,073 E to F 2.5 sta \$5,902 G to H 1.3 sta \$3,780 Fuel Cost Increase TOTALS 10.0 sta \$29,126 Project #2 - Improvements Road Segment Length Cost 1 to 2 183.2 sta \$4,271 2 to 3 156.7 sta \$25,120 6 to 7 14.9 sta \$5,164 10 to 11 20.5 sta \$25 20 to 21 91.4 sta \$13,672 Fuel Cost Increase \$4,825 TOTALS \$6.7 sta \$53,077 Project #3 - Brushing Brushing 10.57 miles \$11,018 Sod and Brush Removal 7.1 miles \$5,773 Fuel Cost Increase \$1,679 TOTAL \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 Project #5 - Move in Cost Excavator, C325 or equiv. Vibratory roller <td< td=""><td></td><td></td><td>_</td><td></td><td></td><td></td></td<>			_			
E to F						
Total						
TOTALS 10.0 sta \$2,648						
TOTALS			1.0 014			
Cost 1 to 2	1 401 0001 11010400		10.0 sta	Ψ2,010		\$29,126
Cost 1 to 2	Project #2 - Impro	vements				
1 to 2			Length	Cost		
2 to 3			_			
14.9 sta						
10 to 11				· ·		
State						
State						
TOTALS \$53,077 Project #3 - Brushing Brushing \$11,018 Sod and Brush Removal 7.1 miles \$5,773 Fuel Cost Increase \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS \$23,214 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371			51.4 Sta			
Project #3 - Brushing Brushing 10.57 miles \$11,018 Sod and Brush Removal 7.1 miles \$5,773 Fuel Cost Increase \$1,679 TOTAL Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS Project #5 - Move in \$23,214 Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL	1 del cost mercase		466.7 sta	ψ+,020		\$53.077
Sod and Brush Removal 7.1 miles \$5,773 Fuel Cost Increase \$1,679 TOTAL \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS \$23,214 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371 TOTAL \$			10011 014			ψοσ,σ
Sod and Brush Removal 7.1 miles \$5,773 Fuel Cost Increase \$1,679 TOTAL \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS \$23,214 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371 TOTAL \$	Project #3 - Brush	ning				
Total	<u> </u>	<u></u>	10.57 miles	\$11.018		
Fuel Cost Increase \$1,679 TOTAL \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371		moval				
TOTAL \$18,470 Project #4 - Stockpile Restock \$21,104 Fuel Cost Increase \$2,110 TOTALS Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371	•			· ·		
Fuel Cost Increase \$2,110 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371				, ,		\$18,470
Fuel Cost Increase \$2,110 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371						
Fuel Cost Increase \$2,110 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371	Project #4 - Stock	pile Restock		\$21,104		
TOTALS \$23,214 Project #5 - Move in Cost Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371						
Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371				• •		\$23,214
Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371						
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Excavator, C325 or equiv. \$1,450 Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371		_		_		
Dozer, D-7 or equiv. \$905 Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL						
Grader, Cat 14-G or equiv. \$875 Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL		=				
Vibratory roller \$875 Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371						
Road Brusher \$778 Fuel Cost Increase \$488 TOTAL \$5,371	Grader, Cat 14-G o	or equiv.		\$875		
Fuel Cost Increase \$488 TOTAL \$5,371	-					
TOTAL \$5,371	Road Brusher			\$778		
	Fuel Cost Increase			\$488		
GRAND TOTAL \$129,258		TOTAL				\$5,371
				GRAND TOTA	AL	\$129,258

Date 10/26/2022

Compiled by Cody Valencia

SALE ROAD	Mahrvelous A to B		Project #	1	LENGTH	const		4.9 sta	
CLEARING	CLEARING AND GRUBBING								
0.34	acres @		\$1,337.00	/acre		=	\$455		
				TOTAL CLI	EARING AN	ID GRUBBII	NG =	\$455	
EXCAVAT	ION	With D7 dozer	or equivale	nt					
Construct	road	4.9 sta	.@	\$214.00	/sta	=	\$1,049		
	xcess material xpanded 20%)	100 cy	@	\$4.50	/cy	=	\$450		
Construct	landing	1 ldg	@	\$438.00	/ldg	=	\$438		
Shape sub (with road	_	4.9 sta	@	\$20.63	/sta	=	\$101		
Compact s (with vibra	•	4.9 sta	@	\$16.00	/sta	=	\$78		
					TOTAL EX	(CAVATION	l =	\$2,116	
SURFACII	NG			Size	Cost/yd				
Base rock	(8" lift)	220	cy of	Jaw-Run	\$29.36	=	\$6,459		
Curve wide	ening rock	30	cy of	Jaw-Run	\$29.36	=	\$881		
Landing ro			cy of	Jaw-Run	\$29.36	=	\$1,468		
Junction ro			cy of	3"-0"	\$30.37	=	\$607		
Shape surf (with road		4.9 sta	@	\$20.63	/sta	=	\$101		
Compact s (with vibra	surface	4.9 sta	@	\$16.00	/sta	=	\$78		
					TOTAL RO	OCK COST	=	\$9,594	
SDECIAL	PROJECTS								
Cross drain (18" x 30')	n culvert	30	ft	@	\$13.75	/ft =	\$413		
Install culv		1	hr	@	\$ 145.00	/hr =	\$145		
				TOTAL SP	ECIAL PRO	JECTS CO	ST =	\$558	
Compiled I	by:	Cody Valencia Oct 26, 2022			GRAND T	OTAL ====	=>	\$12,723	

SALE ROAD	Mahrvelou C to D	us	Project #	1	LENGTH	const		1.3 sta
CLEARI	ING AND GRU	JBBING						
(0.09 acres	@	\$1,337.00	/acre		=	\$120	
				TOTAL CLI	EARING AN	ND GRUB	BING =	\$120
EXCAV	ATION	With D7 dozer	or equivalen	t				
Constru	ct road	1.3 sta		\$138.00	/sta	=	\$179	
Constru	ct landing	1 ldg	@	\$438.00	/ldg	=	\$438	
Shape s	ubgrade	1.3 sta	@	\$20.63	/sta	=	\$27	
	ad grader)							
•	ct subgrade ratory roller)	1.3 sta	@	\$16.00	/sta	=	\$21	
					TOTAL EX	CAVATIO	ON =	\$665
SURFA	CING			Size	Cost/yd			
Base ro	ck (8")	60	cy of	Jaw-Run	\$29.36	=	\$1,762	
Landing	rock	40	cy of	Jaw-Run	\$29.36	=	\$1,174	
Junction			cy of	3"-0"	\$30.37	=	\$304	
Shape s	surface ad grader)	1.3 sta	@	\$20.63	/sta	=	\$27	
Compac	t surface	1.3 sta	@	\$16.00	/sta	=	\$21	
(WITH VID	ratory roller)				TOTAL RO	OCK COS	ST =	\$3,288
Compile Date:	ed by:	Cody Valencia Oct 26, 2022			GRAND T	OTAL ==	===>	\$4,073

SALE ROAD	Mahrvelou E to F	ıs	Project #	1	LENGTH	const		2.5 sta
CLEARIN	G AND GR	UBBING						
0.17	acres	@	\$1,337.00	/acre		=	\$227	
				TOTAL CLI	EARING AN	ND GRUB	BING -	\$227
				TOTAL OLI		ID CITOD	DII (0 -	Ψ221
EXCAVA	ΓΙΟΝ	With D7 dozer	or equivale	nt				
Construct		2.5 sta	@	\$138.00	/sta	=	\$345	
Construct		1 ldg	@	\$438.00		=	\$438	
Shape sul	•	2.5 sta	@	\$20.63	0	=	\$52	
(with road	•							
Compact	•	2.5 sta	@	\$16.00	/sta	=	\$40	
(with vibra	itory roller)							
					TOTAL EX	CAVATIO	ON =	\$875
								40.0
SURFACI	NG			Size	Cost/yd			
SURFACI Base rock	_	110	cy of	Size Jaw-Run	Cost/yd \$29.36	=	\$3,230	
Base rock Landing ro	(8" lift) ock	40	cy of	Jaw-Run Jaw-Run	\$29.36 \$29.36	= =	\$1,174	
Base rock Landing ro Junction re	(8" lift) ock ock	40 10	cy of cy of	Jaw-Run Jaw-Run 3"-0"	\$29.36 \$29.36 \$30.37		\$1,174 \$304	
Base rock Landing ro Junction ro Shape sur	(8" lift) ock ock rface	40	cy of	Jaw-Run Jaw-Run	\$29.36 \$29.36 \$30.37	=	\$1,174	
Base rock Landing ro Junction ro Shape sui (with road	(8" lift) ock ock fface grader)	40 10 2.5 sta	cy of cy of @	Jaw-Run Jaw-Run 3"-0" \$20.63	\$29.36 \$29.36 \$30.37 /sta	= = =	\$1,174 \$304 \$52	
Base rock Landing ro Junction ro Shape sur (with road Compact	(8" lift) ock ock rface grader) surface	40 10	cy of cy of	Jaw-Run Jaw-Run 3"-0"	\$29.36 \$29.36 \$30.37 /sta	=	\$1,174 \$304	
Base rock Landing ro Junction ro Shape sur (with road Compact	(8" lift) ock ock fface grader)	40 10 2.5 sta	cy of cy of @	Jaw-Run Jaw-Run 3"-0" \$20.63	\$29.36 \$29.36 \$30.37 /sta	= = =	\$1,174 \$304 \$52 \$40	\$4,800
Base rock Landing ro Junction ro Shape sur (with road Compact	(8" lift) ock ock rface grader) surface	40 10 2.5 sta	cy of cy of @	Jaw-Run Jaw-Run 3"-0" \$20.63	\$29.36 \$29.36 \$30.37 /sta	= = =	\$1,174 \$304 \$52 \$40	\$4,800
Base rock Landing ro Junction ro Shape sur (with road Compact so (with vibra	(8" lift) ock ock rface grader) surface atory roller)	40 10 2.5 sta 2.5 sta	cy of cy of cy of @	Jaw-Run Jaw-Run 3"-0" \$20.63	\$29.36 \$29.36 \$30.37 /sta	= = =	\$1,174 \$304 \$52 \$40	\$4,800
Base rock Landing ro Junction ro Shape sur (with road Compact	(8" lift) ock ock rface grader) surface atory roller)	40 10 2.5 sta	cy of cy of cy of @	Jaw-Run Jaw-Run 3"-0" \$20.63	\$29.36 \$29.36 \$30.37 /sta	= = = = OCK COS	\$1,174 \$304 \$52 \$40 ST =	\$4,800 \$5,902

SALE ROAD	Mahrveloo G to H	us	Project #	1	LENGTH	const		1.3 sta
CLEARIN	G AND GR	UBBING						
0.09	acres	@	\$1,337.00	/acre		=	\$120	
				TOTAL CLI	EARING AN	ND GRUE	BBING =	\$120
EXCAVA	ΓΙΟΝ	With D7 doze	or equivale	nt				
Construct	road	1.3 sta		\$138.00	/sta	=	\$179	
Construct	landing	1 ldg	@	\$438.00	/ldg	=	\$438	
Shape sul	bgrade	1.3 sta	@	\$20.63	/sta	=	\$27	
(with road	•							
Compact (with vibra	subgrade atory roller)	1.3 sta	@	\$16.00	/sta	=	\$21	
					TOTAL EX	XCAVATI	ON =	\$665
SURFACI	NG			Size	Cost/yd			
Base rock	(8' lift)	60	cy of	Jaw-Run	\$29.36	=	\$1,762	
Landing ro	ock	30) cy of	Jaw-Run	\$29.36	=	\$881	
Junction r			cy of	3"-0"	\$30.37	=	\$304	
Shape sur		1.3 sta	@	\$20.63	/sta	=	\$27	
(with road	•	4.0		# 40.00			004	
Compact	surface atory roller)	1.3 sta	@	\$16.00	/sta	=	\$21	
(WILLI VIDIA	itory roller)				TOTAL R	оск со	ST =	\$2,995
Compiled	hv.	Cody Valencia	.					

SALE ROAD	Mahrvelou 1 to 2	_	Project # ningle Creek I		LENGTH	improve		183.2 sta
IMPROVI	EMENT							
Shape su (with road		30.0 sta	a @	\$20.63	/sta	=	\$619	
Compact	•	30.0 sta	a @	\$16.00	/sta	=	\$480	
					TOTAL IM	IPROVE	MENT =	\$1,099
SURFAC Spot rock	_	•	100 cy of	Size 1½"-0"	Cost/yd \$31.72	=	\$3,172	
					TOTAL R	OCK CO	ST =	\$3,172
Compiled Date:	l by:	Cody Valen Oct 26, 202			GRAND T	OTAL ==	===>	\$4,271

SALE ROAD	Mahrvelous 2 to 3	Bonner Ridge	Project # Road	2	LENGTH	improve		156.7 sta
EXCAVA	ATION							
	rea Creation	0.5 hour	@	\$128.00	/hr	=	\$64	
	er or equivalent) area Compaction	80 cy	@	\$0.45	lev	_	\$36	
wasie A	irea Compaction	80 су	<u>@</u>	φ0.43	/Cy	=	φου	
					TOTAL E	XCAVATION =	:	\$100
IMPROV		400.0		04400	, ,		# 4 7 00	
	establishment to waste area	109.0 sta	@ @	\$44.00		=	\$4,796 \$180	
	and Ditch Waste)	60 cy	w	\$3.00	/Cy	=	\$100	
Shape s		156.7 sta	@	\$20.63	/sta	=	\$3,233	
	ıd grader)							
•	t surface	156.7 sta	@	\$16.00	/sta	=	\$2,507	
(With Vib	ratory roller)							
					TOTAL IN	//PROVEMENT	T =	\$10,716
SURFAC	CING			Size	Cost/yd			
Spot roc		300) cy of	1½"-0"	\$31.72	=	\$9,516	
•	idening rock (Sta.		cy of	1½"-0"	\$31.72		\$634	
Turnout) cy of	3"-0"	\$30.37	=	\$1,215	
					TOTAL R	OCK COST =		\$11,365
								4 1 1,000
	L PROJECTS							
	drain (Sta. 39+55)) 35	5 ft	@	\$13.75	/ft =	\$481	
(18"x 35 Install x-) drain (Sta. 79+92)) 35	5 ft	@	\$13.75	/ft =	\$481	
(18"x 35		,	,	0	ψ10.70	/IC _	Ψισι	
Culvert i	nstall	5	5 hrs	@	\$145.00	/hr =	\$725	
	oedding rock		cy of	1½"-0"	\$31.72	=	\$952	
•	+55 & Sta. 79+92)				# =0.00		# =0	
	disposal (1)	1		@	\$50.00 \$25.00	/culvert =	\$50 \$150	
	ut culverts nd outlets)	•	culverts	@	φ23.00	ea =	\$150	
Repair c	•	4	l culverts	@	\$25.00	ea =	\$100	
•							_	
				TOTAL SPI	ECIAL PRO	DJECTS COST	Γ=	\$2,939
Compile	d bv:	Cody Valencia	ì					
Date:	,	Oct 26, 2022			GRAND 1	ΓΟΤΑL =====>	•	\$25,120

SALE ROAD	Mahrvelous 6 to 7		Project #	2		LENGTH	improve		14.9 sta
IMPROVEMENT									
Shape surface (with road grader	·)	14.9 sta	@	\$2	20.63	/sta	=	\$307	
Compact surface (with vibratory rol		14.9 sta	@	\$1	6.00	/sta	=	\$238	
						TOTAL IM	IPROVEME	NT =	\$545
SURFACING				Si	ze	Cost/yd			
Spot rock		60	cy of	1½'	"-0"	\$31.72	=	\$1,903	
Landing rock		30	cy of	3"-	0"	\$30.37	=	\$911	
						TOTAL R	OCK COST	=	\$2,814
SPECIAL PROJ	ECTS								
Install x-drain (Pt (18" x 40')	. 6)	40) ft	@	0	\$13.75	/ft =	\$550	
Culvert install		2	hrs	0	D)	\$145.00	/hr =	\$290	
Culvert bedding r	ock		cy of		"-0"	\$31.72	=	\$317	
Road stabilization			cy of	Jaw-	Run	\$29.36	=	\$294	
Road stabilization			cy of	3"-	0"	\$30.37	=	\$304	
Culvert disposal		1		0	D)	\$50.00	/culvert =	\$50	
				TOTA	L SPI	ECIAL PRO	DJECTS CC	OST =	\$1,805
Compiled by:	C	ody Valencia	l						
Date:	C	Oct 26, 2022				GRAND T	OTAL ====	==>	\$5,164

SALE Mahrvelous Project # 2 LENGTH improve 20.5 sta ROAD 10 to 11 **SPECIAL PROJECTS** Clean out culvert (Sta. 4+29) 1 culvert @ \$25.00 ea = \$25 (inlets and outlets) TOTAL SPECIAL PROJECTS COST = \$25

Compiled by: Cody Valencia

Date: Oct 26, 2022 GRAND TOTAL =====> \$25

SALE ROAD	Mahrvelous 20 to 21		Grani	Project # te Creek Ro		LENGTH	improve		91.4 sta
EXCAVATION Remove debris Slough removal (with	h Backhoe)	3.0 1.0		@ @	\$87.00 \$87.00		= =	\$261 \$87	
(Sta. 17+19) Endhaul to waste ar (Slough and Ditch W		20	су	@	\$3.00	/cy	=	\$60	
(Clough and Diton V	vasioj					TOTAL EX	XCAVATI	ON =	\$408
IMPROVEMENT									
Ditch re-establishme	ent	60.0	sta	@	\$44.00	/sta	=	\$2,640	
Shape surface		91.4	sta	@	\$20.63	/sta	=	\$1,886	
(with road grader)									
Compact surface (with vibratory roller))	91.4	sta	@	\$16.00	/sta	=	\$1,462	
						TOTAL IM	IPROVEN	MENT =	\$5,988
SURFACING					Size	Cost/yd			
Spot rock			150	cy of	1½"-0"	\$31.72	=	\$4,758	
Road Alignment Roa				cy of	3"-0"	\$30.37	=	\$1,215	
Road Alignment Roo	ck (Sta.47+11)		cy of	1½"-0"	\$31.72	=	\$317	
Turnout rock (3)			30	cy of	3"-0"	\$30.37	=	\$911	
						TOTAL R	OCK COS	ST =	\$7,201
SPECIAL PROJECT	TS								
Clean out culverts (inlets and outlets)			3	culverts	@	\$25.00	ea =	\$75	
					TOTAL SPI	ECIAL PRO	DJECTS (COST =	\$75
Compiled by:		Cody Va							
Date:	(Oct 26, 2	2022			GRAND T	OTAL ==	===>	\$13,672

SUMMARY OF BRUSHING AND SOD & DEBRIS REMOVAL COST

SALE ROAD	Mahrvelous All	(Surfaced/unsurfaced)	Project #	3		LENGTH	maintain			10.57 I	Miles
LIGHT BF Pt. 1 to Pt Pt. 10 to F Pt. 12 to F Pt. 14 to F Pt. 22 to F	. 2 Pt. 11 Pt. 13 Pt. 15		3.47 mi 0.39 mi 0.34 mi 0.06 mi 0.21 mi		0 0 0	Rate \$800.00 \$800.00 \$800.00 \$800.00	/mi /mi /mi /mi /mi	= = = =	\$2,776 \$312 \$272 \$48 \$168		
		TOTAL LENGTH =	4.47 mi			-	TOTAL LIG	HT BRI	JSHING CO	OST =	\$3,576
Pt. 2 to Pt Pt. 6 to Pt Pt. 8 to Pt Pt. 16 to F Pt. 18 to F	. 7 . 9 Pt. 17 Pt. 19 RUSHING . 5	TOTAL LENGTH =	2.97 mi 0.28 mi 0.35 mi 0.03 mi 0.03 mi 3.66 mi		0 0 0 0	Rate \$1,100.00 \$1,100.00 \$1,100.00 \$1,100.00 TO Rate \$1,400.00 \$1,400.00	/mi /mi /mi /mi /TAL MEDIU	= = = = = JM BRU = =	\$3,267 \$308 \$385 \$33 \$33 JSHING CO \$994 \$2,422	OST =	\$4,026
		TOTAL LENGTH =	2.44 mi			Т	OTAL HEA	VY BRI	JSHING CO	OST =	\$3,416
						ВІ	RUSHING (GRAND	TOTAL ==	===>	\$11,018
All brushir	DEBRIS RE ng segments t. 1 to Pt. 2)	MOVAL	7.10 mi		@	Rate \$813.12		= :DIS DE	\$5,773		\$5,773
						TOTAL SUL	AND DEB	KIO KE	IVIOVAL ==	===>	ф Э,773

Compiled by: Cody Valencia
Date: Oct 26, 2022

SUMMARY OF STOCKPILE RESTOCK COST

SALE Mahrvelous Project # 4 ROAD Stockpiles (2) Bonner Ridge Road

RESTOCKING Size Rate Stockpile rock (S1) 500 CY 1½" - 0" @ \$26.02 /CY = \$13,010 (using 18 CY truck) Stockpile rock (S2) 300 CY 3"-0" @ \$24.67 /CY \$7,401 (using 18 CY truck) Front end loader 9 hrs @ \$77.00 /hr \$693

TOTAL RESTOCKING COST = \$21,104

Compiled by:Cody ValenciaDate:Sep 27, 2022

GRAND TOTAL =====> \$21,104

SUMMARY OF MAINTENANCE COST

SALE	Mahrvelous	Final log haul Maintenance Cost Estimate						
		(Costed	d in appraisal, not in project costs)					
Move-in	Grader	\$	875					
	Vibratory Roller	\$	875					

Road Segment	Length	Cost/Sta	Cost	Mileage
1 to 2	183.2	\$36.63	\$6,710.62	3.47
2 to 3	58.9	\$36.63	\$2,157.51	1.12
6 to 7	14.9	\$36.63	\$545.79	0.28
A to B	4.9	\$36.63	\$179.49	0.09
C to D	1.3	\$36.63	\$47.62	0.02
E to F	2.5	\$36.63	\$91.58	0.05
G to H	1.3	\$36.63	\$47.62	0.02
Total	267.0		\$9,780.23	5.06

Maintenance Rock:

	Volume	Cost/CY	Cost
1½"-0"	200	\$31.72	\$6,344.00
Fuel Cost Increase Grand Total			\$ 1,787.42 \$ 19,661.65
TS Volume	4,070	MBF	
Cost / MBF =			\$4.83

Rock Haul Cost Computation

SALE NAME: Mahrvelous DATE: Oct 26, 2022

ROAD NAME: CLASS: Medium
ROCK SOURCE: Rickard 10 CY truck

Route: Hwy 20 to Hwy 223 to Luckiamute Rd to Hoskins County Rd to Shingle Cree

TIME Computation:

Road spee	d time	factors:
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-							
	1.	55	MPH		MRT	0.0	minutes
	2.	50	MPH		MRT	0.0	minutes
	3.	45	MPH	17.05	MRT	22.7	minutes
	4.	40	MPH	3.50	MRT	5.3	minutes
	5.	35	MPH		MRT	0.0	minutes
	6.	30	MPH		MRT	0.0	minutes
	7.	25	MPH	20.00	MRT	48.0	minutes
	8.	20	MPH		MRT	0.0	minutes
	9.	15	MPH	1.87	MRT	7.5	minutes
	10.	10	MPH	2.60	MRT	15.6	minutes
	11.	05	MPH		MRT	0.0	minutes

Dump or spread time per RT	0.50	minutes
Total hauling cycle time for this setting		

(100% efficiency) 99.60 minutes

Operator efficiency correction Job efficiency correction	0.85		minutes minutes
Truck capacity (CY)	10.00	13.02	min/CY

Loading time, delay time per CY

TIME (minutes) per cubic yard

13.27 min/CY

COST per CY computation

Cost of truck	and operator per hour	\$90.00 /hr.
Cost of truck	and operator per minute	\$1.50 /min

Cost per CY \$19.91 /CY

Spread and compact Water truck, Grader & Roller \$1.50 /CY

		Cost Delivered	Cost Delivered
Size	Cost/Yd (Pit)	w/o processing	with processing
1½" - 0"	\$ 11.81	\$31.72	\$33.22
3 " - 0 "	\$ 10.46	\$30.37	\$31.87
Jaw-Run	\$ 9.45	\$29.36	\$30.86
Pit-Run	\$ 7.76	\$27.67	\$29.17

Rock Haul Cost Computation

SALE NAME: Mahrvelous DATE: Oct 26, 2022

ROAD NAME: CLASS: Medium
ROCK SOURCE: Rickard 18 CY truck

Route: Hwy 20 to Hwy 223 to Luckiamute Rd to Hoskins County Rd to Shingle $Cre\varepsilon$

TIME Computation:

Road	speed	time	factors:
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au spoou	021110 20						
	1.	55	MPH		MRT	0.0	minutes
	2.	50	MPH		MRT	0.0	minutes
	3.	45	MPH	17.05	MRT	22.7	minutes
	4.	40	MPH	3.50	MRT	5.3	minutes
	5.	35	MPH		MRT	0.0	minutes
	6.	30	MPH		MRT	0.0	minutes
	7.	25	MPH	20.00	MRT	48.0	minutes
	8.	20	MPH		MRT	0.0	minutes
	9.	15	MPH	1.87	MRT	7.5	minutes
	10.	10	MPH	2.60	MRT	15.6	minutes
	11.	05	MPH		MRT	0.0	minutes

Dump or spread to	ime per RT			0.50	minutes
Total hauling	cycle time	for this	setting		

(100% efficiency) 99.60 minutes

Operator efficiency correction	0.85	117.18	minutes
Job efficiency correction	0.90	130.20	minutes
Truck capacity (CY)	18.00	7.23	min/CY
Tooding time delay time now CV		0.25	min/CV

Loading time, delay time per CY

TIME (minutes) per cubic yard

7.48 min/CY

COST per CY computation

o- po-				- 0 - 1 -				
Cost	of	truck	and	operator	per	hour	\$114.00	/hr.
Cost	of	truck	and	operator	per	minute	\$1.90	/min

Cost per CY \$14.21 /CY

Spread and compact Water truck, Grader & Roller \$1.50 /CY

		Cost Delivered	Cost Delivered
Size	Cost/Yd (Pit)	w/o processing	with processing
1½" - 0"	\$ 11.81	\$26.02	\$27.52
3 " - 0 "	\$ 10.46	\$24.67	\$26.17
Jaw-Run	\$ 9.45	\$23.66	\$25.16
Pit-Run	\$ 7.76	\$21.97	\$23.47

TIMBER CRUISE REPORT

Mahrvelous (WO-341-2023-W00996-01) FY 2023

1. Sale Area Location: Portions of Section 16 & 21, T10S, R7W, W.M., Benton County, Oregon.

2. Fund Distribution:

a. Fund

BOF 75%, CSL 25%

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Stream Buffers	Slope Buffer	Existing Roads	Green Tree Reserve Area	Net Sale Acres	Acreage Comp. Method
1	Modified Clearcut	102	8	1	7	3	83	GIS

- 4. Cruisers and Cruise Dates: The sale was cruised by Aaron McEwen and Jessica Westcott in August 2022.
- 5. Cruise Method and Computation: The sale consists of one modified clearcut area that was cruised using variable radius plot sampling. The sale area was cruised on a 3x4 chain grid using a 40 BAF. A total of 55 plots were taken with 29 measure plots and 26 count plots.

Measure plots were measured for DBH, height, form factor, grade, and defect. Data was entered into the Atterbury SuperACE cruise program to determine stand statistics and net board foot volume. Additional volume was removed to account for hidden defect and breakage.

Digital ortho photos, Lidar data, and GPS data were used to map the boundaries for the sale, and ArcMap GIS was used to determine gross and net acreage.

- 6. Measurement Standards: Tree heights were measured to the nearest foot, to a top diameter of 6 inches inside bark or to 40% of form factor. Diameters at breast height (DBH) were measured to the nearest inch, and a form point of 16 feet was used to calculate form factor. Form factors were measured or estimated on every tree. Most trees were graded in 40 foot log segments unless breakage, defect, or length to top of grade cruise diameter warranted otherwise.
- 7. **Timber Description:** Timber in the sale area includes 83 acres of 50 to 77 year-old Douglas-fir and red alder with some scattered bigleaf maple. The average Douglas-fir to be removed is approximately 25 inches DBH, with an average height of 99 feet to a merchantable top. The average red alder is approximately 12 inches DBH, with an average height of 39 feet to a merchantable top. The average volume per acre to be harvested (net) is approximately 49 MBF.
- 8. Statistical Analysis and Stand Summary: (See attached "Statistics").

Area	Target CV	Target SE	Actual CV	Actual SE
1	60%	9%	45.8%	6.2%

Note: Statistics shown are for conifer and hardwood trees combined. Percentages are for net board foot volume.

9. Total Volume (MBF) by Species and Grade: (See attached volume report "Species, Sort Grade – Board Foot Volumes - Project").

Species	Gross Cruise Volume	Cruised D & B	Cruised D & B (MBF)	Hidden D & B	Hidden D & B (MBF)	Net Sale Volume
Douglas-fir	3,822	1.0%	38	3%	114	3,670
Red Alder	417	1.1%	5	3%	12	400
Total	4,239		43		126	4,070

Species	Ave. DBH	Net Vol.	2-Saw	3-Saw	4-Saw	Camp Run
D 1 6	0.7	Grade %	83%	14%	3%	-
Douglas-fir	25	3,670	3,046	514	110	-
		Grade %	-	-	-	100%
Red Alder	12	400	-	-	-	400
Total		4,070	3,046	514	110	400

Attachments:	Cruise	Design
Attacimicitis.	Cruisc	Design

Cruise Maps

Species, Sort Grade – Board Foot Volumes

Statistics

Stand Table Summary Log Stock Table – MBF

Prepared by:	Date: _	8/22/2022	-
Unit Forester: Cody Valencia	Date: _	0/25/2022	-

CRUISE DESIGN WEST OREGON DISTRICT

Sa	le Name:N	<u>Vlahrvelous</u>	Unit	1				
	rvest Type: 1 prox. Cruise		5Estim	ated CV%		let BF Acre SE %	% Objective	Net BF /Acre
Pla	anned Sale Vo	olume: <u>3</u>	.3 MMBF I	Estimated	Sale Area	a Value/	Acre: \$ 21,17	5
Α.	(b) Sample _	55 cruise p		: 24 count); (c) Othe	r goals _	_ hardwood tree X Determine	
	(Special cruis buffers.	sing directior	ns – leave tree	s etc.) <u>Tal</u>	ce plots as	shown o	on map. Do not	take plots ir
	DO NOT REC	CORD 12', 2	2' and 32' (for	Hardwood	<u>s).</u>			
	DO NOT REC	CORD 22' LI	ENGTHS.					
В.	Cruise Design 1. Plot Cruis	ses: BAF <u>4</u> Cruise Cruise Cruise	Full point Line Direction Line Spacing Plot Spacing Count Ratio	3/198	(ch	ains) (fee	,	

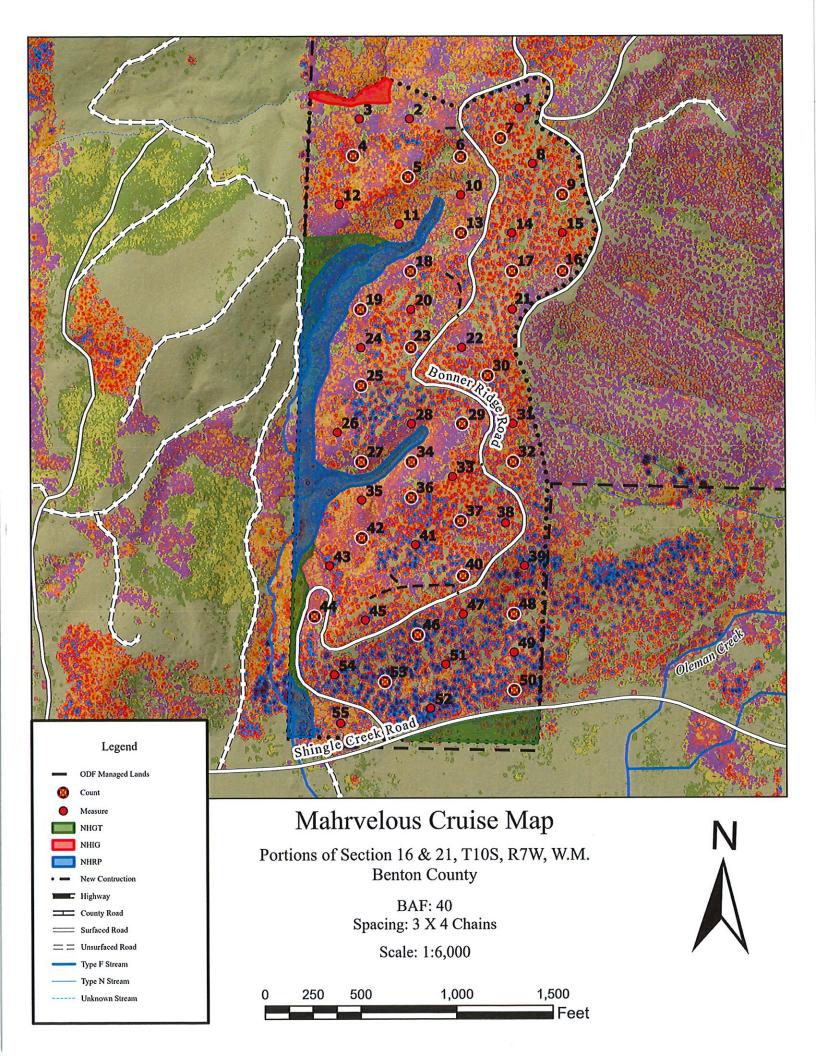
C. <u>Tree Measurements</u>:

- **1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length: Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD): Minimum top outside bark for conifer is <u>7"</u>, <u>7"</u> for <u>hardwoods</u> or <u>40</u> % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- **4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- **5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for

hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. log segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

- 6. Species, Sort, and Grade Codes: A. Species: Record as DF (Douglas-fir); WH (Western hemlock); SS (Sitka Spruce); RC (Western red cedar); NF (Noble fir); SF (Silver fir); RA (Red alder); BM (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DFL, HL, CL, etc.) B. Sort: Use code "1" (Domestic).
 - C. <u>Grade</u>: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; K = Camp Run; 0 = Cull; Hardwoods: K = Camprun; #1 Sawmill = 12"+ scaling diameter; #2 Sawmill = 10" and 11"; #3 Sawmill = 8" and 9"; #4 Sawmill = 6" and 7"
- 7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
- 8. Standard Field Procedures: Plot Type Cruises: Mark cruise line beginning points with red flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie red flagging above eye level near plot center and another red flagging around a sturdy wooden stake marking plot center. On red flagging, write the plot identification number. On "measure/grade" plots write the tree number and/or tree diameter on all measured trees (clockwise from the line direction) in yellow paint. Mark leave trees with an L for leave. ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.
- **9. Cruising Equipment:** Relaskop, Rangefinder or Lazer, Logger's Tape (with dbh on back), Biltmore Stick, Compass, Cruise Cards or Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
- **10. Attachments:** A. <u>Cruise Map</u> (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by:	Jessica vvestcott	
Approved by:		
Date:		



IC PSI	FATS					<u>OJECT (</u> OJECT	<u>STATIS'</u> MAH	TICS RVEL			PAGE DATE	1 10/24/2022
ГWР	RGE	SC	TRACT	Т	YPE		ACF	RES	PLOTS	TREES	CuFt	BdFt
10S	07	22	MCI		0CC			83.00	55	312		W
4000000								ESTIMATED	P	ERCENT		
						TREES		TOTAL	S	SAMPLE		
		I	PLOTS	TREES		PER PLOT		TREES		TREES		
TOTA	AL		55	312		5.7						
CRU	ISE		31	173		5.6		9,813		1.8		
DBH	COUNT											
REFO	OREST											
COU	NT		24	124		5.2						
BLA												
100 %	%											
					STA	ND SUMM	ARY					
			MPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
		•	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DF			134	51.4	25.0	99	35.1	175.3	46,054	45,571	9,480	
	LDER		32	59.2	11.7	39	13.0	44.4	5,028	4,975	1,411	1,411
SNA			6	7.0	11.5	42	1.5	5.1		••		
	MAPLE		1	.6	15.0	23	0.2	.7	30	30	10	
тот	TAL		173	118.2	18.7	65	52.1	225.5	51,111	50,575	10,901	10,901
CL	68.1	8.1	COEFF	OF 100 THE	VOLUME		E TREES -			OF TREES R	REQ.	INF. POP.
SD:			VAR.%	S.E.%	L	ow	AVG	HIGH		5	10	
DF			64.8	5.6		1,276	1,351	1,427				
	LDER		78.5	13.9		100	116	132				
SNA	G											
BL N	MAPLE FAL		87.3	6.6		998	1,068	1,139		305	76	
тот	ΓAL		President de la company de la	6.6		(20) (40) (10) (10) (10) (10) (10)			#	305 OF TREES F		INF. POP.
CL	68.1		COEFF	6.6 S.E.%	L	(20) (40) (10) (10) (10) (10) (10)	1,068 E TREES -		#			INF. POP.
тот	ΓAL		President de la company de la	20000000	L	SAMPL	E TREES -	CF	#	OF TREES F	REQ.	INF. POP.
CL SD:	68.1		COEFF VAR.%	S.E.%	L	SAMPLI OW	E TREES -	CF HIGH	#	OF TREES F	REQ.	INF. POP.
CL SD:	68.1 1.0 LDER		COEFF VAR.%	S.E.% 4.8	L	SAMPLI OW 256	E TREES - AVG 269	CF HIGH 282	#	OF TREES F	REQ.	INF. POP.
CL SD: DF R AI SNA	68.1 1.0 LDER		COEFF VAR.%	S.E.% 4.8 12.3	L	SAMPLI OW 256 29	E TREES - AVG 269 33	CF HIGH 282 37	#	FOF TREES F	REQ. 10	INF. POP.
CL SD: DF R AI SNA	68.1 1.0 LDER AG MAPLE		COEFF VAR.%	S.E.% 4.8	L	SAMPLI OW 256	E TREES - AVG 269	CF HIGH 282	ŧ.	OF TREES F	REQ.	INF. POP.
CL SD: DF R AI SNA BL M	68.1 1.0 LDER AG MAPLE		COEFF VAR.% 56.0 69.4	S.E.% 4.8 12.3	L	SAMPLI OW 256 29	E TREES - AVG 269 33	CF HIGH 282 37		FOF TREES F	REQ. 10	INF. POP.
CL SD: DF R AI SNA BL N	68.1 1.0 LDER AG MAPLE FAL 68.1		COEFF VAR.% 56.0 69.4 77.9	S.E.% 4.8 12.3		SAMPLI OW 256 29	E TREES - AVG 269 33	CF HIGH 282 37		FOF TREES FOR STATES F	REQ. 10	INF. POP.
CL SD: CL SD: CL SD: CL SD: CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7		SAMPLI OW 256 29 202 TREES/ OW	E TREES - AVG 269 33 214 ACRE AVG 51	CF HIGH 282 37 227 HIGH 56		# OF TREES F 5 242 # OF PLOTS F	61 REQ.	INF. POP.
CL SD: TOTO CL SD: DF R AIR SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9		256 29 202 TREES/OW	E TREES - AVG 269 33 214 ACRE AVG 51 59	CF HIGH 282 37 227 HIGH 56 74		# OF TREES F 5 242 # OF PLOTS F	61 REQ.	INF. POP.
CL SD: SNA BL M TOTE CL SD: DF R AIL SD: SD: SNA	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3		256 29 202 TREES/ OW 46 44 3	E TREES - AVG 269 33 214 ACRE AVG 51 59 7	CF HIGH 282 37 227 HIGH 56 74 11		# OF TREES F 5 242 # OF PLOTS F	61 REQ.	INF. POP.
CL SD: DF R AI SNA BL N TOT CL SD: DF R AI SNA BL N TOT CL SD: DF R AI SNA BL N BL N	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9		SAMPLI OW 256 29 202 TREES/ OW 46 44 3 0	269 33 214 ACRE AVG 51 59 7	CF HIGH 282 37 227 HIGH 56 74 11		# OF TREES F 5 242 # OF PLOTS F 5	61 REQ. 10	INF. POP.
CL SD: DF R AII SNA BL M TOTI CL SD: DF R AII SD: TOTI CL SD: TOTI TOTI TOTI	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3		SAMPLI OW 256 29 202 TREES/ OW 46 44 3 0 103	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118	282 37 227 HIGH 56 74 11 1 133	‡	# OF TREES F 5 242 # OF PLOTS F 5	61 REQ. 10	INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SD: CL SD: CL SD: CCL SD: CCL SD: CCL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 68.1		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5	L	256 29 202 TREES/ OW 46 44 3 0 103 BASAL	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI	CF HIGH 282 37 227 HIGH 56 74 11 1 133	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F	61 REQ. 10 86 REQ.	INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA SNA BL M TOTO CL SD: CL SD: CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE FAL 1.0 68.1 1.0		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.%	L	256 29 202 TREES/ OW 46 44 3 0 103 BASAL	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH	‡	# OF TREES F 5 242 # OF PLOTS F 5	61 REQ. 10	INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA BL M TOTO CL SD: CL SD: DF R AII SNA BL M TOTO CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE FAL 1.0 68.1 1.0		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4	L	256 29 202 TREES/ OW 46 44 3 0 103 BASAL	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI	CF HIGH 282 37 227 HIGH 56 74 11 1 133	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F	61 REQ. 10 86 REQ.	INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA BL M TOTO CL SD: CL SD: DF R AII SNA BL M TOTO CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.%	L	256 29 202 TREES/ OW 46 44 3 0 103 BASAL	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F	61 REQ. 10 86 REQ.	INF. POP.
CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7	L	202 TREES/ OW 46 44 3 0 103 BASAL OW 162 34	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175 44	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH 188 55	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F	61 REQ. 10 86 REQ.	INF. POP.
CL SD: CR ANA BLN TOT CL SD: SNA BLN TOT TOT CL SD: TOT TOT TOT TOT TOT TOT TOT T	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE FAL LDER AG LDER AG LDER AG AG LDER AG		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1	L	202 TREES/ .OW 46 44 3 0 103 BASAL .OW 162 34 2	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175 44 5	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH 188 55 8	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F	61 REQ. 10 86 REQ.	INF. POP.
CL SD: CR ANA BLN TOT CL SD: SNA BLN TOT CL SD:	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG MAPLE TAL CREATER AG MAPLE TAL		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6 741.6	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1 99.9	L	202 TREES/.OW 46 44 3 0 103 BASAL .OW 162 34 2 0	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/AC AVG 175 44 5 1 225	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH 188 55 8 1	‡	# OF TREES F 5 242 # OF PLOTS F 5 345 # OF PLOTS F 5	86 REQ. 10	INF. POP.
CL SD: DF R AII SNA BL M TOTI CL SD: DF R AII SNA BL M TOTI CL SD: DF R AII SNA BL M TOTI CL SD: TOTI CL SD: TOTI	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG MAPLE TAL 68.1 68.1		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6 741.6 35.7	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1 99.9	I.	SAMPLI OW 256 29 202 TREES/ OW 46 44 3 0 103 BASAL OW 162 34 2 0 215	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/AC AVG 175 44 5 1 225	CF HIGH 282 37 227 HIGH 56 74 11 1 133 RE HIGH 188 55 8 1	‡	# OF TREES F 5 242 # OF PLOTS F 5 40F PLOTS F 5	86 REQ. 10	INF. POP.
CL SD: DF R AII SNA BL M TOTI CL SD: DF R AII SNA BL M TOTI CL SD: DF R AII SNA BL M TOTI CL SD: CL SD: CCL SD	68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6 741.6 35.7	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1 99.9 4.8	I.	SAMPLIOW 256 29 202 TREES/OW 46 44 3 0 103 BASAL OW 162 34 2 0 215 NET BF	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175 44 5 1 225	CF HIGH 282 37 227 HIGH 56 74 11 1 133 REE HIGH 188 55 8 1 236	‡	# OF TREES F 5 242 # OF PLOTS F 5 445 # OF PLOTS F 5	86 REQ. 10 13 REQ.	INF. POP. INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA BL M TOTO CL SD: CL SD: CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA BL M TOTO CL SD: CL SD: CL SD: CL SD:	68.1 1.0 LDER GMAPLE FAL 68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG MAPLE TAL LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6 741.6 35.7 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1 99.9 4.8 S.E.%	I.	202 TREES/.OW 46 44 3 0 103 BASAL .OW 162 34 2 0 215 NET BF	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175 44 5 1 225	CF HIGH 282 37 227 HIGH 56 74 11 1 133 REE HIGH 188 55 8 1 236 HIGH	‡	# OF TREES F 5 242 # OF PLOTS F 5 445 # OF PLOTS F 5	86 REQ. 10 13 REQ.	INF. POP. INF. POP.
CL SD: DF R AII SNA BL M TOTO CL SD: DF R AII SNA BL M TOTO CL SD: CL SD:	68.1 1.0 LDER GMAPLE FAL 68.1 1.0 LDER AG MAPLE FAL 68.1 1.0 LDER AG MAPLE TAL 68.1 1.0 LDER AG MAPLE TAL LDER		COEFF VAR.% 56.0 69.4 77.9 COEFF VAR.% 71.8 185.1 447.3 741.6 92.9 COEFF VAR.% 54.9 175.8 401.6 741.6 35.7 COEFF VAR.%	S.E.% 4.8 12.3 5.9 S.E.% 9.7 24.9 60.3 99.9 12.5 S.E.% 7.4 23.7 54.1 99.9 4.8 S.E.% 7.9	I.	202 TREES/. OW 46 44 3 0 103 BASAL . OW 162 34 2 0 215 NET BF	E TREES - AVG 269 33 214 ACRE AVG 51 59 7 1 118 AREA/ACI AVG 175 44 5 1 225 VACRE AVG 45,571	CF HIGH 282 37 227 HIGH 56 74 11 1 133 REE HIGH 188 55 8 1 236 HIGH 49,166	‡	# OF TREES F 5 242 # OF PLOTS F 5 445 # OF PLOTS F 5	86 REQ. 10 13 REQ.	INF. POP.

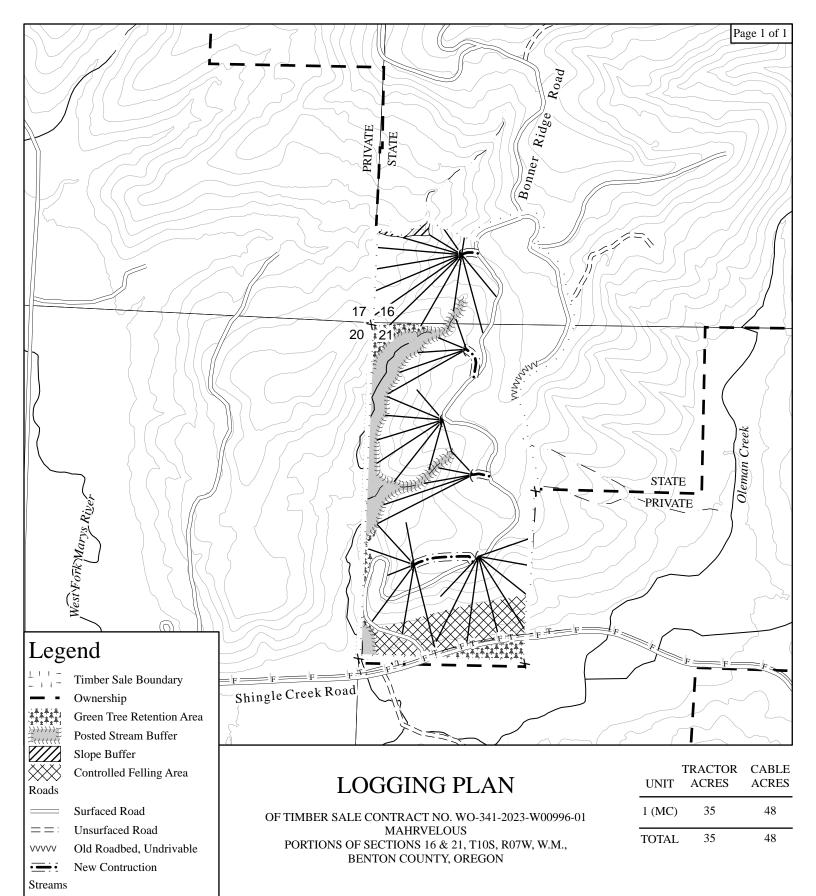
TC PST	ATS				PROJECT PROJECT		STICS HRVEL			PAGE DATE	2 10/24/2022
TWP	RGE	SC	TRACT	TYP	E	AC	CRES	PLOTS	TREES	CuFt	BdFt
10S	07	22	MC1	00CC			83.00	55	312	1	W
CL	68.1		COEFF		NET B	F/ACRE			# OF PLOT	S REQ.	INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH		5	10	15
тота	AL		45.8	6.2	47,458	50,575	53,693		84	21	9
CL	68.1		COEFF		NET C	CUFT FT/ACRE			# OF PLOTS R	EQ.	INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15
DF			56.5	7.6	8,758	9,480	10,202				
R AL	DER		179.3	24.2	1,070	1,411	1,752				
SNAC	3										
BL M	IAPLE		741.6	99.9	0	10	20				
TOT	AL		41.3	5.6	10,295	10,901	11,507		68	17	8

TC	PSPCSTGR		S_{I}	pecies, So	ort Gra	de - Board Fo	oot Vol	ume	s (Pr	oject))								
Т10	9S R07W S22 T	y00CC		83.00		Project: Acres	МАН	1RVI 83.0								Page Date Time		1 /24/20 :44:10)22
		%				38	Percen	t of No	et Boar	d Foot	Volume					Avera	ge Log	3	Logs
	S So Gr	Net		. per Acre		Total	Lo	g Scal	e Dia.			Log I	ength		Ln	Dia		CF/	Per
Spp	T rt ad	BdFt	Def%	Gross	Net	Net MBF	4-5 6-	-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	/Acre
RA	DO CR	100	1.1	5,028	4,975	413		82	16	2	12	10	24	54	29	7	64	0.62	78.1
RA	Totals	10	1.1	5,028	4,975	413		82	16	2	12	10	24	54	29	7	64	0.62	78.1
DF DF	DO 2M DO 3M	83 14	1.1 .5	38,528 6,467	38,095 6,436	3,162 534		65	20 29	80	0	8	29	100 63	10000	18 10	584 131	2.81 1.01	65.2 49.1
DF	DO 3M DO 4M	3	1.7	1,058	1,040	86		96	4		54	27	19	03	18	7	30	90 0000	34.5
DF	Totals	90	1.0	46,054	45,571	3,782		11	21	68	1	2	4	93	34	13	306	1.89	148.8
вм	DO CR	100		30	30	2		100			100				20	9	50	0.85	.6
вм	Totals	0		30	30	2		100			100				20	9	50	0.85	.6
Tota	ls		1.0	51,111	50,575	4,198		18	20	62	2	3	6	89	32	11	222	1.49	227.5

TC PSTNDSUM Stand Table Summary Page 1 Date: 10/24/2022 T10S R07W S22 Ty00CC 83.00 Project MAHRVELO Time: 12:44:10PM Grown Year: Acres 83.00 Tot Average Log Net Net Totals Net Net Cu.Ft. Trees/ BA Bd.Ft. Sample FF Av Logs Tons/ DBH Cu.Ft. Bd.Ft. Tons Cunits MBF Spc T Trees 16' Ht Acre Acre Acre Acre Acre Acre 48 12 4 10 85 54 2.398 1.31 2.40 6.0 20.0 14 DF 59 1.42 60.0 31 85 26 7 92 1.419 22.0 DF 13 1 1.31 87.5 106 428 88 36 14 2 90 104 2.447 4.89 21.7 2.62 DF 107 88 35 2 91 101 97.5 416 15 2.132 2.62 4.26 25.0 DF 2 90 108.0 126 506 104 42 16 121 1.874 2.62 4.68 26.8 DF 102.0 229 190 70 17 4 90 108 3.319 5.23 8.30 27.6 846 DF 191 71 90 116.0 230 859 18 4 108 2.961 5.23 7.40 31.1 DF 77 89 127.3 247 930 205 19 4 122 2.657 5.23 7.31 33.8 DF 87 125.0 121 450 101 37 20 2 120 1.199 2.62 3.60 33.7 DF 5.98 167.3 244 1,001 202 83 21 4 88 120 2.175 5.23 40.7 DF 22 2 90 125 2.62 2.97 44.3 190.0 132 565 109 47 .991 DF 23 4 89 134 1.813 5.23 5.44 51.2 218.3 278 1,188 231 99 DF 49.8 373 131 DF 24 6 89 135 2.498 7.85 7.49 210.0 1,574 310. 284 125 90 1.919 59.5 262.0 342 1,508 DF 25 5 133 6.54 5.76 3.55 62.0 91 287.0 220 1,018 183 85 26 3 145 1.064 3.92 DF 411 7 302.6 495 2,290 190 27 90 140 2.303 9.16 7.57 65.5 DF 327.1 440 2,101 365 174 28 6 89 146 1.835 7.85 6.42 68.5 DF 423 29 7 89 146 1.996 9.16 6.56 77.7 370.9 510 2,432 202 DF 9 631 524 258 DF 30 89 151 2.398 11.77 8.53 74.0 364.4 3,107 412.3 723 600 299 31 10 89 155 2.496 13.08 8.73 82.8 3,601 DF 487.7 1,036 860 446 32 13 91 157 3.045 17.00 11.01 94.1 5,368 DF 91 102.0 494 410 218 33 6 164 1.321 7.85 4.84 541.4 2,623 DF 34 7 89 160 1.452 9.16 5.39 102.9 535.8 555 2,890 461 240 DF 416 345 189 35 5 90 165 .979 6.54 3.92 106.2 583.0 2,283 DF 37 5 90 161 .876 6.54 3.50 115.5 629.5 404 2,205 336 183 DF DF 38 1 89 128 .166 1.31 .50 128.0 666.7 64 332 53 28 204 39 3 91 162 .473 3.92 1.89 129.8 714.2 246 1,351 112 DF 21 40 1 87 128 .150 1.31 .45 113.3 550.0 51 247 42 DF 41 2 90 151 .285 2.62 1.14 131.3 717.5 150 819 124 68 DF 42 2 87 163 .272 2.62 1.09 145.2 792.5 158 862 131 72 DF 43 2 89 150 .259 2.62 .91 163.1 847.1 148 769 123 64 DF 45 1 89 144 .118 1.31 .47 152.8 822.5 72 390 60 32 DF 71 40 46 1 89 178 .113 1.31 .45 189.5 1057.5 86 479 DF Totals 134 128 51.405 175.27 148.83 63.7 306.2 9,480 45,571 7,868 3,782 DF 89 8 2 87 26 7.943 2.77 7.94 4.5 20.0 36 159 30 13 RA 9.3 73 26 9 3 86 57 9.414 4.16 9.41 33.3 88 314 RA 44 10 3 86 71 7.626 4.16 7.63 19.0 70.0 145 534 120 RA 12.604 55.0 254 924 211 77 RA 11 6 87 73 8.32 16.81 15.1 12 4 86 88 7.061 5.55 10.59 17.5 58.3 185 618 154 51 RA 21 2 80 RA 13 87 69 3.008 2.77 4.51 17.7 56.7 256 66 2 72.5 102 376 85 31 14 87 82 2.594 2.77 5.19 19.8 RA 2 80.0 90 271 75 23 15 87 72 2.259 2.77 3.39 26.7 RA 2 94 34 16 87 95 1.986 2.77 3.97 28.5 102.5 113 407 RA 17 3 87 106 2.639 4.16 5.28 35.5 126.7 187 668 155 55 RA 82 228 68 19 18 2 86 71 1.569 2.77 2.35 34.7 96.7 RA 18 40 22 1 87 104 .525 1.39 1.05 46.0 210.0 48 221 RA Totals 1,411 1,171 413 RA 32 87 68 59.228 44.36 78.12 18.1 63.7 4,975 .73 .59 17.0 50.0 10 30 8 2 BM 15 1 86 27 .593 2 Totals 86 .59 17.0 50.0 10 30 8 27 .593 .73 BM1 9 1 99 48 1.921 .85 SN 48 10 1 98 1.556 .85 SN

TC	PSTNDSU	M				S	Stand T	Table Su	ımmary				Page	2	
													Date:	10/24/2	022
T10S	R07W S22	2 Ty00CC		83.	00		Project	t N	IAHRVE	LO			Time:	12:44:1	0PM
							Acres		83.0	0			Grown Year	:	
S Spc T	рвн	Sample Trees		Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Net Cu.Ft.	e Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Tons	Totals Cunits	MBF
SN	12	1	98	32	1.080	.85								i.	
SN	13	2	98	58	1.841	1.70									
SN	16	1	99	60	.608	.85									
SN	Totals	6	98	49	7.005	5.09									
Totals		173	89	93	118.230	225.45	227.55	47.9	222.3		10,901	50,575		9,048	4,198

TC PLOGSTVB Log Stock Table - MBF Page T10S R07W S22 Ty00CC 83.00 Project: **MAHRVELO** Date 10/24/2022 Acres 83.00 Time 11:50:34AM % So Gr Log Def Gross Net Volume by Scaling Diameter in Inches Net Len rt de MBF % **MBF** Spc 2-3 4-5 6-7 8-9 10-11 12-13 14-15 16-19 20-23 24-29 30-39 40+ Spp RA DO CR 14 7 1.6 7 RA DO CR 16 29 29 6.9 29 RA DO CR 20 15 15 3.7 5 10 41 9.9 RA 24 41 41 DO CR 1.6 RA DO CR 32 101 3.0 98 23.7 42 35 13 4 4 RA DO CR 36 .9 RA DO CR 40 221 220 53.3 86 37 41 56 Totals 413 9.8 212 72 64 10 RA 417 1.1 54 DF DO 2M 40 3,198 1.1 3,162 83.6 254 222 796 981 735 173 DF DO 3M 20 1 .0 DF DO 3M 24 5 .1 DF DO 3M 28 11 11 .3 3 1 2 3 .7 DF DO 3M 30 27 27 8 6 4 152 4.0 32 DF 16 42 10 16 DO 3M 32 154 30 6 DF DO 3M 36 4 4 DF 8.8 54 24 47 29 DO 3M 40 336 334 34 146 8 7 20 20 .5 DF DO 4M 12 DF 19 1.2 .5 5 DO 4M 18 11 3 16 DF DO 4M 18 5 .1 1 DF DO 4M 20 3 .1 2 1 .5 DF DO 4M 24 18 13 3 .0 DF DO 4M 26 1 1 DF 28 .0 DO 4M 1 DF DO 4M 30 3 .1 3 18 7.2 .4 4 3 8 DF DO 4M 32 16 3,782 Totals 117 286 987 735 173 DF 3,822 1.0 90.1 104 207 326 848 100.0 BMDO CR 2 2 Totals BM2 2 .1 Total All Species 4,242 1.0 4,198 100.0 316 192 261 390 286 858 987 735 173



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Type F Stream

Type N Stream

Cable Corridor

Landing

Overhead Transmission Line

Buried Fiber Optic Line

Land Survey Monument

1:9,000 500 1,000 1,500 2,000

10/24/2022