Timber Sale Appraisal
Cruiser Creek

Sale TL-341-2021-W00515-01

"STEWARDSHIP IN FORESTRY"

District: Tillamook **Date: November 10, 2020**

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$2,640,670.15	$44,054.25	$2,684,724.40
		Project Work:	($267,700.00)
		Advertised Value:	$2,417,024.40

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"STEWARDSHIP IN FORESTRY"

District: Tillamook

Date: November 10, 2020

Timber Description

Location:

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	100
Western Hemlock / Fir	20	0	100
Alder (Red)	19	0	100

Volume by Grade	2S	3S & 4S 6"- 11"	8" - 9"	10" - 11"	12"+	6" - 7"	Total
Douglas - Fir	2,961	2,981	0	0	0	0	5,942
Western Hemlock / Fir	175	182	0	0	0	0	357
Red Cedar	0	0	0	0	0	0	0
Alder (Red)	0	0	42	51	200	96	389
Total	3,136	3,163	42	51	200	96	6,688

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

Western Red Cedar and Other Cedars Stumpage Price = $1,152.00/MBF - $319.91/MBF = $832.09/ 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:
Non-Project Rd. 1: 4+00 sta. $150/sta. = $600
Non-Project Rd. 2: 3+80 sta. $200/sta. = $760
Closing Non-Project: 2 Roads x $50 = $100

TOTAL Other Costs with profit and Risk to be added = $1460

Other Costs with No Profit and Risk Added:
Move-in Machine Cleaning: $1,000/machine x 3 machines x 2 seasons = $6,000
Slash piling and sorting (Cable Settings): $5/ac x 216ac. = $1,080
Heliport Construction: $1,000 ($500/unit x 2 unit)

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

TOTAL Other Costs no Profit and Risk added = $20,880

ROAD MAINTENANCE:
Spot Rocking: 20cy/MMBF/mile x 6.688 MMBF x $12/cy x 18 miles / 6,688 MBF= $4.32/MBF
Interim Grading: $1,150/ mile x 18 miles x 2 times/ 6,688 MBF = $6.19/MBF
Final Maintenance Grading: $1,500 x 18 miles/ 6,688 MBF = $4.04/MBF
Final Maintenance Compaction: $950/mile x 4 miles/ 6,688 MBF = $.57/MBF

Total Road Maintenance: $15.12/MBF

Logging Conditions

Combination#: 1

Douglas - Fir	7.64%
Western Hemlock / Fir	7.00%
Alder (Red)	7.17%

Logging System: Cable: Medium Tower >40 - <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: 11 **bd. ft / load:** 4100
cost / mbf: $172.51
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 2

Douglas - Fir	56.92%
Western Hemlock / Fir	55.00%
Alder (Red)	55.52%

Logging System: Cable: Medium Tower >40 - <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: 10 **bd. ft / load:** 4100
cost / mbf: $189.77
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 3

Douglas - Fir	8.31%
Western Hemlock / Fir	23.00%
Alder (Red)	18.98%

Logging System: Cable: Medium Tower >40 - <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: 8 **bd. ft / load:** 4200
cost / mbf: $231.56
machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Medium)

Combination#: 4

Douglas - Fir	27.14%
Western Hemlock / Fir	15.00%
Alder (Red)	18.32%

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:	19	**bd. ft / load:**	4100
cost / mbf:	$68.60		
machines:	Forwarder Harvester		

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Logging Costs

Operating Seasons:	2.00	**Profit Risk:**	10%
Project Costs:	$267,700.00	**Other Costs (P/R):**	$1,460.00
Slash Disposal:	$0.00	**Other Costs:**	$20,880.00

Miles of Road

Road Maintenance: $15.12

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	4.3
Western Hemlock / Fir	$0.00	2.0	4.5
Alder (Red)	$0.00	1.0	4.5

Timber Sale Appraisal
Cruiser Creek

Sale TL-341-2021-W00515-01

District: Tillamook **Date: November 10, 2020**

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
$159.04	$15.12	$1.31	$110.47	$0.22	$28.62	$0.00	$2.00	$3.12	$319.90
Western Hemlock / Fir									
$180.00	$15.12	$1.31	$105.56	$0.22	$30.22	$0.00	$2.00	$3.12	$337.55
Alder (Red)									
$174.26	$15.12	$1.31	$211.11	$0.22	$40.20	$0.00	$2.00	$3.12	$447.34

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$750.45	$430.55	$0.00
Western Hemlock / Fir	$0.00	$568.20	$230.65	$0.00
Alder (Red)	$0.00	$560.59	$113.25	$0.00

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Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00
Western Hemlock / Fir	0	$0.00	$0.00
Alder (Red)	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	5,942	$430.55	$2,558,328.10
Western Hemlock / Fir	357	$230.65	$82,342.05
Alder (Red)	389	$113.25	$44,054.25

Gross Timber Sale Value

Recovery: $2,684,724.40

Prepared By: Nathan Atchison **Phone:** 503-815-7031

PROJECT SUMMARY SHEET

Sale: Cruiser Creek

CONSTRUCTION

Point	G to H	6+70	stations =	$10,635.45
Point	I to J	3+20	stations =	$7,993.70
Point	M to N	5+60	stations =	$9,797.60
Point	Q to R	2+90	stations =	$3,342.56
Point	W to X	5+00	stations =	$7,296.60
Point	Y to Z	18+00	stations =	$25,799.75
Point	AA to BB	2+20	stations =	$4,749.40
			SUBTOTAL CONSTRUCTION	**$69,615.06**

IMPROVEMENT

Point	A to B	59+00	stations =	$5,541.40
Point	C to D	172+60	stations =	$33,896.83
Point	E to F	103+80	stations =	$24,158.44
Point	O to P	26+00	stations =	$21,532.90
Point	CC to DD	15+30	stations =	$1,109.53
			SUBTOTAL IMPROVEMENT	**$86,239.10**

RECONSTRUCTION

Point	C to D	6+40	stations =	$1,918.46
Point	K to L	17+50	stations =	$21,077.79
Point	Q to R	5+40	stations =	$5,908.49
Point	S to T	11+60	stations =	$11,424.00
Point	U to V	23+70	stations =	$27,186.65
			SUBTOTAL RECONSTRUCTION	**$67,515.39**

SPECIAL PROJECTS

Brush	24.6	miles of road		$25,830.00
Project No. 2 Out of Area Rocking				
	EE to FF	17+60	stations =	$5,184.00
	GG to HH	2+30	stations =	$576.00
	II to JJ	13+80	stations =	$4,032.00
			SUBTOTAL SPECIAL PROJECTS	**$35,622.00**

MOVE IN **$8,708.45**

GRAND TOTAL **$267,700.00**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **A to B**

Construction -	0+00	stations	Improvement -	59+00	stations	Reconstruction -	0+00	stations
	0.00	miles		1.12	miles		0.00	miles

ROCK

50+00	to	53+50	70	cy. of	Traction SP	@	$17.17	per c.y.=	$1,201.90	
55+80	to	58+00	50	cy. of	Traction SP	@	$17.26	per c.y.=	$863.00	
Spot Rock		19+20-59+00	100	cy. of	Pit-Run	@	$11.46	per c.y.=	$1,146.00	
									TOTAL ROCK	**$3,210.90**

SPECIAL PROJECTS

Grade and shape road -	59.00	stations @	$22.00	per station	$1,298.00	
Roll subgrade w/ vibratory roller prior to rocking -	59.00	stations @	$17.50	per station	$1,032.50	
					TOTAL SPECIAL PROJECTS	**$2,330.50**

GRAND TOTAL **$5,541.40**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **C to D**

Construction -	0+00	stations	Improvement -	172+60	stations	Reconstruction -	6+40	stations
	0.00	miles		3.27	miles		0.12	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Scattering	0.300	acres @	$1,275.00	per acre =	$382.50	
				TOTAL CLEARING AND GRUBBING		**$382.50**

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.530	acres @	$1,275.00	per acre =	$675.75	
				TOTAL CLEARING AND GRUBBING		**$675.75**

CULVERTS - MATERIALS & INSTALLATION

Culverts						
130	LF of 18"	$2,600.00	140	LF of 24"	$4,340.00	
90	LF of 30"	$3,690.00				
Culvert Stakes & Markers						
10	markers	$80.00				
				TOTAL CULVERTS		**$10,710.00**

ROCK

149+00	to	165+40	300	cy. of	Pollard SP	@	$13.27 per c.y.=	$3,981.00	
172+60	to	179+00	510	cy. of	Pit-Run	@	$9.72 per c.y.=	$4,957.20	
Landing Rock		Point D	80	cy. of	Pit-Run	@	$9.78 per c.y.=	$782.40	
Spot Rock		102+00-149+00	100	cy. of	Pollard SP	@	$12.67 per c.y.=	$1,267.00	
Spot Rock		165+40-172+60	30	cy. of	Pollard SP	@	$13.49 per c.y.=	$404.70	
Energy Dissipator		10 Locations	50	cy. of	Riprap	@	$9.96 per c.y.=	$498.00	
Culvert Bedding/Backfill		10 Locations	100	cy. of	Traction SP	@	$15.29 per c.y.=	$1,529.00	
								TOTAL ROCK	**$13,419.30**

SPECIAL PROJECTS

Reconstruct landing at Point D -	1.00	@	$200.00		$200.00	
Pull ditch & endhaul from 149+20 to 165+40 -	16.20	stations @	$130.00	per station	$2,106.00	
Grade and shape road -	179.00	stations @	$22.00	per station	$3,938.00	
Roll subgrade w/ vibratory roller prior to rocking -	179.00	stations @	$17.50	per station	$3,132.50	
Remove culverts from state lands -	8.00	@	$1,023.00	total	$1,023.00	
Grass seed and fertilize -	0.57	acres @	$280.00	per acre	$159.60	
Mulching -	0.088	acres @	$780.00	per acre	$68.64	
				TOTAL SPECIAL PROJECTS		**$10,627.74**

GRAND TOTAL **$35,815.29**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **E to F**

Construction -	0+00	stations	Improvement -	103+80	stations	Reconstruction -	0+00	stations
	0.00	miles		1.97	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Widening	0.097	acres @	$860.00	per acre =	$83.42		
					TOTAL CLEARING AND GRUBBING		$83.42

IMPROVEMENT: EXCAVATION -

Widening	450	cy. @	$2.00	per c.y.=	$900.00	
					TOTAL EXCAVATION	$900.00

IMPROVEMENT: ENDHAUL -

Widening	64+40	to	66+60	319	cy. @	$3.17	per c.y.=	$1,011.23	
Widening	68+40	to	69+00	26	cy. @	$3.29	per c.y.=	$85.54	
Widening	96+70	to	97+70	30	cy. @	$3.78	per c.y.=	$113.40	
Widening	100+00	to	101+30	75	cy. @	$3.89	per c.y.=	$291.75	
Spread & compact				450	cy. @	$0.50	per c.y.=	$225.00	
								TOTAL ENDHAUL	$1,726.92

CULVERTS - MATERIALS & INSTALLATION

Culverts

60	LF of 18"	$1,200.00	130	LF of 24"	$4,030.00	
170	LF of 30"	$6,970.00				

Culvert Stakes & Markers

10	markers	$80.00		
			TOTAL CULVERTS	$12,280.00

ROCK

Culvert Bedding/Backfill	10 Locations	100	cy. of	Traction SP	@	$15.45	per c.y.=	$1,545.00	
Spot Rock	0+00-103+80	150	cy. of	Pollard SP	@	$12.25	per c.y.=	$1,837.50	
Energy Dissipator	10 Locations	50	cy. of	Riprap	@	$10.04	per c.y.=	$502.00	
								TOTAL ROCK	$3,884.50

SPECIAL PROJECTS

Grade and shape road -	103.80	stations @	$22.00	per station	$2,283.60	
Roll subgrade w/ vibratory roller prior to rocking -	103.80	stations @	$17.50	per station	$1,816.50	
Remove culverts from state lands -	10.00	@	$1,155.50	total	$1,155.50	
Grass seed and fertilize -	0.10	acres @	$280.00	per acre	$28.00	
					TOTAL SPECIAL PROJECTS	$5,283.60

GRAND TOTAL **$24,158.44**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **G to H**

Construction -	6+70	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.13	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+50	20%		Outslope	$174	=	$261.00	
1+50		4+60	10%		Outslope	$113	=	$350.30	
4+60		6+70	20%		Outslope	$174	=	$365.40	
								TOTAL	**$976.70**

ROCK

0+00	to	6+70	570	cy. of	Pit-Run	@	$11.39	per c.y.=	$6,492.30	
Landing Rock		3+00, Point H	160	cy. of	Pit-Run	@	$11.45	per c.y.=	$1,832.00	
Junction Rock		0+00	20	cy. of	Pit-Run	@	$11.32	per c.y.=	$226.40	
									TOTAL ROCK	**$8,550.70**

SPECIAL PROJECTS

Improve landing at 3+00 -	1.00	@	$200.00		$200.00	
Construct landing at Point H -	1.00	@	$370.00		$370.00	
Construct turn arounds before landings -	2.00	@	$100.00	each	$200.00	
Grade and shape road -	6.70	stations @	$20.00	per station	$134.00	
Roll subgrade w/ vibratory roller prior to rocking -	6.70	stations @	$17.50	per station	$117.25	
Grass seed and fertilize -	0.31	acres @	$280.00	per acre	$86.80	
					TOTAL SPECIAL PROJECTS	**$1,108.05**

GRAND TOTAL **$10,635.45**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **I to J**

Construction -	3+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.06	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+50	25%		Crowned Fill	$704	=	$1,056.00	
1+50		2+00	30%		Ditch	$320	=	$160.00	
2+00		3+20	40%		Ditch	$413	=	$495.60	
								TOTAL	**$1,711.60**

ROCK

0+00	to	3+20	290	cy. of	Pit-Run	@	$11.36	per c.y.=	$3,294.40	
0+00	to	2+60	50	cy. of	Traction SP	@	$16.83	per c.y.=	$841.50	
Landing Rock		Point J	80	cy. of	Pit-Run	@	$11.39	per c.y.=	$911.20	
Junction Rock		0+00	20	cy. of	Pit-Run	@	$11.33	per c.y.=	$226.60	
									TOTAL ROCK	**$5,273.70**

SPECIAL PROJECTS

Construct landing at Point J -	1.00	@	$740.00		$740.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	3.20	stations @	$22.00	per station	$70.40	
Roll subgrade w/ vibratory roller prior to rocking -	3.20	stations @	$17.50	per station	$56.00	
Grass seed and fertilize -	0.15	acres @	$280.00	per acre	$42.00	
					TOTAL SPECIAL PROJECTS	**$1,008.40**

GRAND TOTAL **$7,993.70**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **K to L**

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction - 17+50	stations
	0.00	miles		0.00	miles	0.33	miles

RECONSTRUCTION: CLEARING AND GRUBBING -									
Side cast			0.032	acres @	$860.00	per acre =	$27.52		
Widening			0.037	acres @	$860.00	per acre =	$31.82		
Scattering			1.120	acres @	$1,275.00	per acre =	$1,428.00		
						TOTAL CLEARING AND GRUBBING		**$1,487.34**	
RECONSTRUCTION: EXCAVATION -									
Pullback			135	cy. @	$2.00	per c.y.=	$270.00		
Widening			155	cy. @	$2.00	per c.y.=	$310.00		
						TOTAL EXCAVATION		**$580.00**	
RECONSTRUCTION: ENDHAUL -									
Pullback	8+50	to	9+50	135	cy. @	$3.07	per c.y.=	$414.45	
Widening	8+50	to	9+50	155	cy. @	$3.07	per c.y.=	$475.85	
Spread & compact				290	cy. @	$0.50	per c.y.=	$145.00	
							TOTAL ENDHAUL		**$1,035.30**

ROCK									
0+00 to	17+50	1,330	cy. of	Pit-Run	@	$11.65	per c.y.=	$15,494.50	
Landing Rock	Point L	80	cy. of	Pit-Run	@	$11.82	per c.y.=	$945.60	
Junction Rock	0+00	20	cy. of	Pit-Run	@	$11.48	per c.y.=	$229.60	
							TOTAL ROCK		**$16,669.70**

SPECIAL PROJECTS						
Construct landing at Point L -	1.00	@	$370.00		$370.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	17.50	stations @	$20.00	per station	$350.00	
Roll subgrade w/ vibratory roller prior to rocking -	17.50	stations @	$17.50	per station	$306.25	
Grass seed and fertilize -	0.64	acres @	$280.00	per acre	$179.20	
				TOTAL SPECIAL PROJECTS		**$1,305.45**
				GRAND TOTAL		**$21,077.79**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **M to N**

Construction -	5+60	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.11	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		5+60	15%		Outslope	$134	=	$750.40	
								TOTAL	$750.40

ROCK

0+00 to	5+60	500	cy. of	Pit-Run	@	$11.55	per c.y.=	$5,775.00	
Landing Rock	2+70, Point N	160	cy. of	Pit-Run	@	$11.60	per c.y.=	$1,856.00	
Junction Rock	0+00	20	cy. of	Pit-Run	@	$11.49	per c.y.=	$229.80	
								TOTAL ROCK	$7,860.80

SPECIAL PROJECTS

Construct landings at 2+70 and Point N -	2.00	@	$370.00	each	$740.00	
Construct turnarounds before landings -	2.00	@	$100.00	each	$200.00	
Grade and shape road -	5.60	stations @	$20.00	per station	$112.00	
Roll subgrade w/ vibratory roller prior to rocking -	5.60	stations @	$17.50	per station	$98.00	
Grass seed and fertilize -	0.13	acres @	$280.00	per acre	$36.40	
					TOTAL SPECIAL PROJECTS	$1,186.40

GRAND TOTAL **$9,797.60**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **O to P**

Construction -	0+00	stations	Improvement -	26+00	stations	Reconstruction -	0+00	stations
	0.00	miles		0.49	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Scattering	0.120	acres @	$1,275.00	per acre =	$153.00	
				TOTAL CLEARING AND GRUBBING		**$153.00**

CULVERTS - MATERIALS & INSTALLATION

Culverts

30	LF of 18"	$600.00	
		$600.00	

Culvert Stakes & Markers

1 markers	$8.00		
		TOTAL CULVERTS	**$608.00**

ROCK

6+80 to	26+00	1,480	cy. of	Pit-Run	@	$9.84	per c.y.=	$14,563.20	
23+00 to	25+00	40	cy. of	Traction SP	@	$18.28	per c.y.=	$731.20	
Culvert Bedding/Backfill	2+00	10	cy. of	Traction SP	@	$16.66	per c.y.=	$166.60	
Landing Rock	21+70, Point P	160	cy. of	Pit-Run	@	$10.02	per c.y.=	$1,603.20	
Spot Rock	0+00-6+80	30	cy. of	Pollard SP	@	$13.49	per c.y.=	$404.70	
Energy Dissipator	2+00	5	cy. of	Riprap	@	$9.94	per c.y.=	$49.70	
								TOTAL ROCK	**$17,518.60**

SPECIAL PROJECTS

Construct landings at 21+70 and Point P -	2.00	@	$370.00	each	$740.00	
Construct turn arounds before landings -	2.00	@	$100.00	each	$200.00	
Fill tank trap at 8+20 -	1.00	@	$70.00		$70.00	
Pull ditch and endhaul from 2+00 to 6+60 -	4.60	stations @	$100.00	per station	$460.00	
Construct extended ditchout at culvert outlet at 2+00 -	1.00	@	$60.00		$60.00	
Grade and shape road -	26.00	stations @	$22.00	per station	$572.00	
Roll subgrade w/ vibratory roller prior to rocking -	26.00	stations @	$17.50	per station	$455.00	
Remove culverts from state lands -	1.00	@	$561.90		$561.90	
Grass seed and fertilize -	0.48	acres @	$280.00	per acre	$134.40	
				TOTAL SPECIAL PROJECTS		**$3,253.30**

GRAND TOTAL **$21,532.90**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **Q to R**

Construction -	2+90	stations	Improvement -	0+00	stations	Reconstruction -	5+40	stations
	0.05	miles		0.00	miles		0.10	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+90	15%		Outslope	$134	=	$388.60	
								TOTAL	**$388.60**

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.320	acres @	$1,275.00	per acre =	$408.00	
				TOTAL CLEARING AND GRUBBING		**$408.00**

ROCK

0+00	to	8+30	670	cy. of	Pit-Run	@	$9.80	per c.y.=	$6,566.00	
Landing Rock		Point R	80	cy. of	Pit-Run	@	$9.87	per c.y.=	$789.60	
Junction Rock		0+00	20	cy. of	Pit-Run	@	$9.72	per c.y.=	$194.40	
									TOTAL ROCK	**$7,550.00**

SPECIAL PROJECTS

Construct landing at Point R -	1.00	@	$370.00		$370.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Fill tank trap at 0+40 -	1.00	@	$70.00		$70.00	
Grade and shape road -	8.30	stations @	$20.00	per station	$166.00	
Roll subgrade w/ vibratory roller prior to rocking -	8.30	stations @	$17.50	per station	$145.25	
Grass seed and fertilize -	0.19	acres @	$280.00	per acre	$53.20	
				TOTAL SPECIAL PROJECTS		**$904.45**

GRAND TOTAL **$9,251.05**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **S to T**

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	11+60	stations
	0.00	miles		0.00	miles		0.22	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.640	acres @	$1,275.00	per acre =	$816.00		
					TOTAL CLEARING AND GRUBBING		$816.00

ROCK

0+00 to	11+60	900	cy. of	Pit-Run	@	$9.67	per c.y.=	$8,703.00	
Landing Rock	Point T	80	cy. of	Pit-Run	@	$9.77	per c.y.=	$781.60	
Junction Rock	0+00	20	cy. of	Pit-Run	@	$9.64	per c.y.=	$192.80	
								TOTAL ROCK	$9,677.40

SPECIAL PROJECTS

ReConstruct landing at Point T -	1.00	@	$250.00		$250.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Fill tank trap at 0+70 -	1.00	@	$70.00		$70.00	
Grade and shape road -	11.60	stations @	$20.00	per station	$232.00	
Roll subgrade w/ vibratory roller prior to rocking -	11.60	stations @	$17.50	per station	$203.00	
Grass seed and fertilize -	0.27	acres @	$280.00	per acre	$75.60	
					TOTAL SPECIAL PROJECTS	$930.60

GRAND TOTAL **$11,424.00**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **U to V**

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	23+70	stations
	0.00	miles		0.00	miles		0.45	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.017	acres @	$860.00	per acre =	$14.62	
Scattering	1.520	acres @	$1,275.00	per acre =	$1,938.00	
				TOTAL CLEARING AND GRUBBING		**$1,952.62**

RECONSTRUCTION: EXCAVATION -

Widening	104	cy. @	$2.00	per c.y.=	$208.00	
				TOTAL EXCAVATION		**$208.00**

RECONSTRUCTION: ENDHAUL -

Widening	19+00	to	20+80	104	cy. @	$3.07	per c.y.=	$319.28	
Spread & compact				104	cy. @	$0.50	per c.y.=	$52.00	
							TOTAL ENDHAUL		**$371.28**

CULVERTS - MATERIALS & INSTALLATION

Culverts

80 LF of 24" $2,480.00

Culvert Stakes & Markers

2 markers $16.00

TOTAL CULVERTS **$2,496.00**

ROCK

0+00 to	23+70	1,780	cy. of	Pit-Run	@	$9.75	per c.y.=	$17,355.00	
19+00 to	20+80	40	cy. of	Traction SP	@	$18.20	per c.y.=	$728.00	
Landing Rock	Point V	80	cy. of	Pit-Run	@	$9.98	per c.y.=	$798.40	
Junction Rock	0+00	20	cy. of	Pit-Run	@	$9.64	per c.y.=	$192.80	
Energy Dissipator	8+20, 12+70	10	cy. of	Riprap	@	$10.03	per c.y.=	$100.30	
							TOTAL ROCK		**$19,174.50**

SPECIAL PROJECTS

ReConstruct landing at Point V -	1.00	@	$250.00		$250.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	23.70	stations @	$20.00	per station	$474.00	
Subgrade protection area (fabric & installation) -	670.00	sq. yards @	$1.40	per sq. yard	$938.00	
Roll subgrade w/ vibratory roller prior to rocking -	23.70	stations @	$17.50	per station	$414.75	
Remove culverts from state lands -	2.00	@	$625.50	total	$625.50	
Grass seed and fertilize -	0.65	acres @	$280.00	per acre	$182.00	
				TOTAL SPECIAL PROJECTS		**$2,984.25**

GRAND TOTAL **$27,186.65**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **W to X**

Construction -	5+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.09	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+50	45%		Outslope	$336	=	$504.00	
1+50		2+00	35%		Outslope	$239	=	$119.50	
2+00		4+00	45%		Outslope	$336	=	$672.00	
4+00		5+00	25%		Outslope	$206	=	$206.00	
								TOTAL	**$1,501.50**

ROCK

0+00	to	5+00	420	cy. of	Pit-Run	@	$9.75	per c.y.=	$4,095.00	
Landing Rock		Point X	80	cy. of	Pit-Run	@	$9.80	per c.y.=	$784.00	
Junction Rock		0+00	20	cy. of	Pit-Run	@	$9.71	per c.y.=	$194.20	
									TOTAL ROCK	**$5,073.20**

SPECIAL PROJECTS

Construct landing at Point X -	1.00	@	$370.00		$370.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	5.00	stations @	$20.00	per station	$100.00	
Roll subgrade w/ vibratory roller prior to rocking -	5.00	stations @	$17.50	per station	$87.50	
Grass seed and fertilize -	0.23	acres @	$280.00	per acre	$64.40	
					TOTAL SPECIAL PROJECTS	**$721.90**

GRAND TOTAL **$7,296.60**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **Y to Z**

Construction -	18+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.34	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		0+70	30%		Ditch	$320	=	$224.00	
0+70		1+40	55%		Ditch	$1,245	=	$871.50	
1+40		2+20	45%		Ditch	$459	=	$367.20	
2+20		6+40	30%		Ditch	$320	=	$1,344.00	
6+40		8+00	40%		Ditch	$413	=	$660.80	
8+00		10+00	30%		Ditch	$320	=	$640.00	
10+00		13+30	40%		Ditch	$413	=	$1,362.90	
13+30		15+00	45%		Ditch	$459	=	$780.30	
15+00		15+50	30%		Outslope	$239	=	$119.50	
15+50		17+00	25%		Outslope	$206	=	$309.00	
17+00		18+00	30%		Outslope	$239	=	$239.00	
								TOTAL	**$6,918.20**

CULVERTS - MATERIALS & INSTALLATION

Culverts						
60	LF of 18"	$1,200.00	30	LF of 24"	$930.00	
Culvert Stakes & Markers						
3	markers	$24.00				
				TOTAL CULVERTS		**$2,154.00**

ROCK

0+00	to	18+00	1,360	cy. of	Pit-Run	@	$9.78 per c.y.=	$13,300.80	
Landing Rock		Point Z	80	cy. of	Pit-Run	@	$9.96 per c.y.=	$796.80	
Junction Rock		0+00	20	cy. of	Pit-Run	@	$9.64 per c.y.=	$192.80	
Energy Dissipator		6+80,7+30,11+40	15	cy. of	Riprap	@	$10.09 per c.y.=	$151.35	
								TOTAL ROCK	**$14,441.75**

SPECIAL PROJECTS

Construct landing at Point Z -	1.00	@	$370.00		$370.00	
Construct ditchout at 15+00 -	1.00	@	$60.00		$60.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	18.00	stations @	$22.00	per station	$396.00	
Roll subgrade w/ vibratory roller prior to rocking -	18.00	stations @	$17.50	per station	$315.00	
Remove large stumps -	1.00	lump sum @	$720.00		$720.00	
Grass seed and fertilize -	1.16	acres @	$280.00	per acre	$324.80	
					TOTAL SPECIAL PROJECTS	**$2,285.80**

GRAND TOTAL **$25,799.75**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **AA to BB**

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		0+60	40%		Ditch	$413	=	$247.80	
0+60		1+60	45%		Ditch	$459	=	$459.00	
1+60		2+20	30%		Ditch	$320	=	$192.00	
								TOTAL	$898.80

ROCK

0+00 to	2+20	230	cy. of	Pit-Run	@	$9.85	per c.y.=	$2,265.50	
Landing Rock	Point BB	80	cy. of	Pit-Run	@	$9.87	per c.y.=	$789.60	
Junction Rock	0+00	20	cy. of	Pit-Run	@	$9.83	per c.y.=	$196.60	
								TOTAL ROCK	**$3,251.70**

SPECIAL PROJECTS

Construct landing at Point BB -	1.00	@	$370.00		$370.00	
Construct turn around before landing -	1.00	@	$100.00		$100.00	
Grade and shape road -	2.20	stations @	$22.00	per station	$48.40	
Roll subgrade w/ vibratory roller prior to rocking -	2.20	stations @	$17.50	per station	$38.50	
Grass seed and fertilize -	0.15	acres @	$280.00	per acre	$42.00	
					TOTAL SPECIAL PROJECTS	**$598.90**

GRAND TOTAL **$4,749.40**

SUMMARY OF CONSTRUCTION COST

Sale: **Cruiser Creek** Road: **CC to DD**

Construction -	0+00	stations	Improvement -	16+80	stations	Reconstruction -	0+00	stations
	0.00	miles		0.32	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -								
Scattering			0.020	acres @	$1,275.00	per acre =	$25.50	
						TOTAL CLEARING AND GRUBBING		**$25.50**
IMPROVEMENT: EXCAVATION -								
Pullback			23	cy. @	$2.00	per c.y.=	$46.00	
						TOTAL EXCAVATION		**$46.00**
IMPROVEMENT: ENDHAUL -								
Pullback	3+40	to 3+80	23	cy. @	$3.31	per c.y.=	$76.13	
Spread & compact			23	cy. @	$0.50	per c.y.=	$11.50	
						TOTAL ENDHAUL		**$87.63**
SPECIAL PROJECTS								
Pull ditch and endhaul from 2+00 to 4+00 -			2.00	stations @	$130.00	per station	$260.00	
Grade and shape road -			16.80	stations @	$22.00	per station	$369.60	
Roll subgrade w/ vibratory roller prior to rocking -			16.80	stations @	$17.50	per station	$294.00	
Grass seed and fertilize -			0.04	acres @	$280.00	per acre	$11.20	
Mulching -			0.020	acres @	$780.00	per acre	$15.60	
						TOTAL SPECIAL PROJECTS		**$950.40**
						GRAND TOTAL		**$1,109.53**

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Pit_run	Location:	SW 1/4, SE 1/4, Sec 1, T2S, R7W, W.M.
Sale:	**Cruiser Creek**	Road:	11670 c.y.
Swell:	1.40	Stockpile:	c.y.
Shirinkage	1.16	Total Truck Loads:	11670 c.y.
Drill Pct.:	100%	In Place Total:	8336 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area adjacent to pit, place overburden in Waste Area, spread and compact.							$10,690.36
Drill & Shoot:	$3.25	/cu.yd.	x	8336	cu.yds.	=	$27,092.00
Load Dump Truck:	$1.00	/cu.yd.	x	11670	cu.yds.	=	$11,670.00
						Subtotal	$49,452.36

Move In and set up Drill and Compressor	1	@	$1,434.54	=	$1,434.54
Move in Roller and Compactor	1	@	$1,003.50	=	$1,003.50
Move in Grader	1	@	$1,422.32	=	$1,422.32
Move in D-8	1	@	$1,624.04	=	$1,624.04
Move in Excavator	1	@	$1,558.04	=	$1,558.04
Move in Trucks	3	@	$384.93	=	$1,154.79
				Subtotal	$8,197.23
				TOTAL PRODUCTION COSTS	$57,649.59

Base Cost= $4.94 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 Spot Rock (Pit-Run)	4.82	1.70	4.94	11.46	100		$1,146.00
C to D 17260 17900 (Pit-Run)	3.08	1.70	4.94	9.72	510		$4,957.20
C to D Landing Rock (Pit-Run)	3.14	1.70	4.94	9.78	80		$782.40
C to D Energy Dissipator (Riprap)	3.02	2.00	4.94	9.96	50		$498.00
E to F Energy Dissipator (Riprap)	3.10	2.00	4.94	10.04	50		$502.00
G to H 0 670 (Pit-Run)	4.75	1.70	4.94	11.39	570		$6,492.30
G to H Landing Rock (Pit-Run)	4.81	1.70	4.94	11.45	160		$1,832.00
G to H Junction Rock (Pit-Run)	4.68	1.70	4.94	11.32	20		$226.40
I to J 0 320 (Pit-Run)	4.72	1.70	4.94	11.36	290		$3,294.40
I to J Landing Rock (Pit-Run)	4.75	1.70	4.94	11.39	80		$911.20
I to J Junction Rock (Pit-Run)	4.69	1.70	4.94	11.33	20		$226.60
K to L 0 1750 (Pit-Run)	5.01	1.70	4.94	11.65	1330		$15,494.50
K to L Landing Rock (Pit-Run)	5.18	1.70	4.94	11.82	80		$945.60
K to L Junction Rock (Pit-Run)	4.84	1.70	4.94	11.48	20		$229.60
M to N 0 560 (Pit-Run)	4.91	1.70	4.94	11.55	500		$5,775.00
M to N Landing Rock (Pit-Run)	4.96	1.70	4.94	11.60	160		$1,856.00
M to N Junction Rock (Pit-Run)	4.85	1.70	4.94	11.49	20		$229.80
O to P 680 2600 (Pit-Run)	3.20	1.70	4.94	9.84	1480		$14,563.20
O to P Landing Rock (Pit-Run)	3.38	1.70	4.94	10.02	160		$1,603.20
O to P Energy Dissipator (Riprap)	3.00	2.00	4.94	9.94	5		$49.70
Q to R 0 830 (Pit-Run)	3.16	1.70	4.94	9.80	670		$6,566.00
Q to R Landing Rock (Pit-Run)	3.23	1.70	4.94	9.87	80		$789.60
Q to R Junction Rock (Pit-Run)	3.08	1.70	4.94	9.72	20		$194.40
S to T 0 1160 (Pit-Run)	3.03	1.70	4.94	9.67	900		$8,703.00
S to T Landing Rock (Pit-Run)	3.13	1.70	4.94	9.77	80		$781.60
S to T Junction Rock (Pit-Run)	3.00	1.70	4.94	9.64	20		$192.80
U to V 0 2370 (Pit-Run)	3.11	1.70	4.94	9.75	1780		$17,355.00
U to V Landing Rock (Pit-Run)	3.34	1.70	4.94	9.98	80		$798.40
U to V Junction Rock (Pit-Run)	3.00	1.70	4.94	9.64	20		$192.80
U to V Energy Dissipator (Riprap)	3.09	2.00	4.94	10.03	10		$100.30
W to X 0 500 (Pit-Run)	3.11	1.70	4.94	9.75	420		$4,095.00
W to X Landing Rock (Pit-Run)	3.16	1.70	4.94	9.80	80		$784.00
W to X Junction Rock (Pit-Run)	3.07	1.70	4.94	9.71	20		$194.20
Y to Z 0 1800 (Pit-Run)	3.14	1.70	4.94	9.78	1360		$13,300.80
Y to Z Landing Rock (Pit-Run)	3.32	1.70	4.94	9.96	80		$796.80
Y to Z Junction Rock (Pit-Run)	3.00	1.70	4.94	9.64	20		$192.80
Y to Z Energy Dissipator (Riprap)	3.15	2.00	4.94	10.09	15		$151.35
AA to BB 0 220 (Pit-Run)	3.21	1.70	4.94	9.85	230		$2,265.50
AA to BB Landing Rock (Pit-Run)	3.23	1.70	4.94	9.87	80		$789.60
AA to BB Junction Rock (Pit-Run)	3.19	1.70	4.94	9.83	20		$196.60
				Total C.Y.	11670	Sub Total	$120,055.65

TOTAL ROCKING COSTS $120,055.65

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Stockpile:	Pollard_SP	Location:	NW 1/4, SE 1/4, Sec 11, T2S, R7W, W.M.
Sale:	**Cruiser Creek**	Total to Spread:	610 c.y.

Load Dump Truck:	$1.00	/cu.yd.	x	610	cu.yds.	=	$610.00
						Subtotal	$610.00

Move in Roller and Compactor	0.5	@	$1,003.50	=	$501.75
Move in Grader	0.5	@	$1,422.32	=	$711.16
Move in Loader	0.5	@	$1,443.04	=	$721.52
Move in Trucks	2	@	$384.93	=	$769.86
				Subtotal	$2,704.29
				TOTAL PRODUCTION COSTS	$3,314.29

Base Cost= $5.43 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
C to D 14900 16540 (Pollard SP)	4.64	3.20	5.43	13.27	300		$3,981.00
C to D Spot Rock (Pollard SP)	4.04	3.20	5.43	12.67	100		$1,267.00
C to D Spot Rock (Pollard SP)	4.86	3.20	5.43	13.49	30		$404.70
E to F Spot Rock (Pollard SP)	3.62	3.20	5.43	12.25	150		$1,837.50
O to P Spot Rock (Pollard SP)	4.86	3.20	5.43	13.49	30		$404.70
				Total C.Y.	610	Sub Total	$7,894.90

TOTAL ROCKING COSTS	$7,894.90

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Stockpile:	Traction_SP	Location:	SE 1/4, NW 1/4, Sec 15, T2S, R7W, W.M.
Sale:	**Cruiser Creek**	Total to Spread:	460 c.y.

Load Dump Truck:	$1.00	/cu.yd.	x	460	cu.yds.	=	$460.00
						Subtotal	$460.00

Move in Roller and Compactor	0.5	@	$1,003.50	=	$501.75
Move in Grader	0.5	@	$1,422.32	=	$711.16
Move in Loader	0.5	@	$1,443.04	=	$721.52
Move in Trucks	2	@	$384.93	=	$769.86
				Subtotal	$2,704.29
				TOTAL PRODUCTION COSTS	$3,164.29

Base Cost= $6.88 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 5000 5350 (Traction SP)	7.09	3.20	6.88	17.17	70		$1,201.90
A to B 5580 5800 (Traction SP)	7.18	3.20	6.88	17.26	50		$863.00
C to D Culvert Bedding/Backfill (Traction SP)	6.41	2.00	6.88	15.29	100		$1,529.00
E to F Culvert Bedding/Backfill (Traction SP)	6.57	2.00	6.88	15.45	100		$1,545.00
I to J 0 260 (Traction SP)	6.75	3.20	6.88	16.83	50		$841.50
O to P 2300 2500 (Traction SP)	8.20	3.20	6.88	18.28	40		$731.20
O to P Culvert Bedding/Backfill (Traction SP)	7.78	2.00	6.88	16.66	10		$166.60
U to V 1900 2080 (Traction SP)	8.12	3.20	6.88	18.20	40		$728.00
				Total C.Y.	460	Sub Total	$7,606.20

TOTAL ROCKING COSTS	$7,606.20

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

Sale: **Cruiser Creek**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
33.0	Pavement	30
17.5	Main Lines	7
6.5	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	Brush Cutter	$1,194.75		$4.00	0.00	0.00	0	$0.00	$1,194.75
1	Excavators (Med.)	$1,463.29		$35.50	0.00	5.40	5.4	$191.70	$1,654.99
1	Excavators (Large)	$1,558.04	1	$44.80	0.00	5.40	5.4	$241.92	$1,799.96
1	Tractor (D8)	$1,624.04	2	$15.10	0.00	5.40	5.4	$81.54	$1,705.58
2	Dump Truck (10 cy +)	$767.45		$2.85	0.00	0.00	5.4	$30.78	$798.23
1	Dump Truck (Off Hiway)	$1,529.29	1	$4.75	0.00	5.40	5.4	$25.65	$1,554.94

TOTAL MOVE-IN COSTS:	$8,708.45

OREGON DEPARTMENT OF FORESTRY
CRUISE REPORT
Cruiser Creek

1. Type of Sale
Regeneration harvest, Recovery

2. Legal Description
Sections 34, 35, T1S R7W, 31, 32, T1S R6W, and 6,T2S R6W W.M. Tillamook County, Washington County, Oregon

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

	ACRES	
	Gross	Net
Unit 1 (Modified Clearcut)	124	98
Unit 2 (Modified Clearcut)	154	119
Unit 3 (Reforested Unit)	2	0
Total Acres	280	217

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	40.00
2	40.00

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 for Cruiser Creek... 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	6.6	38.2
2	38	4.9	30.2
Total	71	5.75 (avg.)	34.2 (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 48 year old stand of Douglas-fir with red alder and minor amounts of western hemlock. 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, Saddle Mountain Fire 1939 and the North Fork Fire 1951. Approximately 115 acres received PCT activity in 1969,”Douglas-fir from aerial seeding thinned 10x10”.

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	15.2	63	5
1	Red alder	16.0	47	6
1	Western Hemlock	20.1	90	5

2	Red alder	21	45	6
2	Douglas-fir	17.5	80	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: 901-42%, 902-42%, 511.07-16%

Deed Numbers: 115, 161, 169

10. Attachments

Volume Summary

Stand Tables (2)

Log Stock Tables (2)

Species, Sort, Grade Tables (2)

Logging Plan (2)

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

Prepared by: Nathan Atchison Date: 7/14/2020

TC TSTATS	STATISTICS	PAGE 1
	PROJECT CRUCREEK	DATE 7/14/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	07W	35	UNIT 1	0100	98.00	33	177	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	33	177	5.4		
CRUISE	18	85	4.7	15,745	.5
DBH COUNT					
REFOREST					
COUNT	15	87	5.8		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	65	120.5	15.2	63	38.9	151.5	22,614	22,121	5,189	5,188
R ALDER	16	31.1	16.0	47	10.9	43.6	3,671	3,671	948	948
WHEMLOCK	3	8.2	20.1	90	4.1	18.2	3,480	3,349	757	757
OTH CONF-2	1	.9	16.0	65	0.3	1.2				
TOTAL	*85*	*160.7*	*15.6*	*61*	*54.2*	*214.5*	*29,765*	*29,142*	*6,893*	*6,893*

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	117.0	14.5	350	410	469			
R ALDER	72.2	18.6	113	139	165			
WHEMLOCK	45.1	31.2	330	480	630			
OTH CONF-2								
TOTAL	*122.7*	*13.3*	*309*	*356*	*404*	*601*	*150*	*67*

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	102.9	12.7	78	90	101			
R ALDER	64.4	16.6	30	36	42			
WHEMLOCK	44.6	30.8	75	108	142			
OTH CONF-2								
TOTAL	*107.0*	*11.6*	*70*	*79*	*88*	*458*	*114*	*51*

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	86.4	15.0	102	120	139			
R ALDER	156.5	27.2	23	31	40			
WHEMLOCK	264.3	46.0	4	8	12			
OTH CONF-2	574.5	99.9	0	1	2			
TOTAL	*51.2*	*8.9*	*146*	*161*	*175*	*105*	*26*	*12*

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	63.6	11.1	135	152	168			
R ALDER	152.6	26.5	32	44	55			
WHEMLOCK	264.3	46.0	10	18	27			
OTH CONF-2	574.5	99.9	0	1	2			
TOTAL	*26.3*	*4.6*	*205*	*215*	*224*	*28*	*7*	*3*

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	64.8	11.3	19,626	22,121	24,616			
R ALDER	165.0	28.7	2,617	3,671	4,725			
WHEMLOCK	264.3	46.0	1,810	3,349	4,889			
OTH CONF-2								
TOTAL	*38.2*	*6.6*	*27,207*	*29,142*	*31,076*	*58*	*15*	*6*

STATISTICS

PROJECT CRUCREEK

DATE 7/14/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
01S	07W	35	UNIT 1	0100	98.00	33	177	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	63.3	11.0	4,617	5,188	5,760			
R ALDER	160.6	27.9	683	948	1,212			
WHEMLOCK	264.3	46.0	409	757	1,105			
OTH CONF-2								
TOTAL	*35.1*	*6.1*	*6,472*	*6,893*	*7,314*	*49*	*12*	*5*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: CRUCREEK

Page 1
Date 7/14/2020
Time 9:09:06AM

T01S R07W S35 T0100

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
01S	07W	35	UNIT 1	0100	98.00	33	86	S	W

T01S R07W S35 T0100

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CO	2	45	2.4	10,305	10,060	986			44	56	7	3		90	36	16	370	2.10	27.2
DF		CO	3	41	1.6	9,313	9,165	898		95	5		0	2	5	92	39	8	106	0.69	86.7
DF		CO	4	14	3.4	2,996	2,895	284	93	7			20	33	18	29	28	5	30	0.30	97.8
DF	**Totals**			76	2.2	22,614	22,121	2,168	12	40	22	25	6	7	5	83	33	8	104	0.74	211.8
RA		H	1	5		194	194	19				100		100			30	17	350	3.08	.6
RA		H	2	18		670	670	66			100		51			49	20	13	137	1.35	4.9
RA		H	3	34		1,256	1,256	123		48	52		52		21	27	24	12	114	0.95	11.1
RA		H	4	43		1,551	1,551	152		100			7	25	27	41	30	7	53	0.58	29.2
RA	**Totals**			13		3,671	3,671	360		59	36	5	30	16	19	35	28	9	80	0.75	45.7
WH		CO	2	49	7.3	1,783	1,652	162			48	52				100	40	17	426	2.22	3.9
WH		CO	3	48		1,620	1,620	159		100						100	39	9	129	0.80	12.6
WH		CO	4	3		78	78	8	54	46			100				16	5	20	0.38	3.9
WH	**Totals**			11	3.8	3,480	3,349	328	1	49	24	25	2			98	35	10	165	1.08	20.3
Type Totals					2.1	29,765	29,142	2,856	9	44	24	23	9	7	6	79	32	8	105	0.76	277.8

TC	TSTNDSUM	Stand Table Summary
		Project CRUCREEK

T01S R07W S35 T0100 — **T01S R07W S35 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
01S	07W	35	UNIT 1	0100	98.00	33	86	Page: 1 Date: 07/14/202(Time: 9:09:06AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF		8	1	82	59	6.678	2.33	6.68	5.8	20.0	1.11	39	134	109	38	13
DF		9	2	80	64	10.553	4.66	10.55	5.9	25.0	1.77	62	264	174	61	26
DF		10	4	85	82	17.095	9.32	17.10	12.7	50.0	6.18	217	855	605	212	84
DF		11	5	86	78	17.660	11.66	28.26	10.0	42.5	8.09	284	1,201	792	278	118
DF		12	2	86	99	5.936	4.66	11.87	14.0	62.5	4.75	167	742	465	163	73
DF		13	3	87	91	7.587	6.99	15.17	15.4	65.0	6.65	233	986	651	229	97
DF		14	2	86	84	4.361	4.66	4.36	15.1	50.0	1.88	66	218	184	65	21
DF		15	5	86	96	9.497	11.66	18.99	19.6	75.0	10.64	373	1,425	1,042	366	140
DF		16	5	88	92	8.347	11.66	18.36	20.8	83.6	10.89	382	1,536	1,067	375	151
DF		17	6	87	104	8.873	13.99	19.22	26.9	105.4	14.72	516	2,026	1,442	506	199
DF		18	3	87	98	3.957	6.99	7.91	31.1	113.3	7.02	246	897	688	241	88
DF		19	4	86	102	4.736	9.32	11.84	26.5	112.0	8.97	314	1,326	879	308	130
DF		20	3	88	109	3.205	6.99	7.48	34.3	135.7	7.30	256	1,015	716	251	99
DF		21	3	87	107	2.907	6.99	6.78	38.9	150.0	7.51	264	1,018	736	258	100
DF		22	1	88	113	.883	2.33	2.65	34.8	156.7	2.62	92	415	257	90	41
DF		23	1	90	106	.808	2.33	2.42	39.2	176.7	2.70	95	428	265	93	42
DF		24	2	87	134	1.484	4.66	4.45	49.3	218.3	6.26	220	972	613	215	95
DF		25	2	88	124	1.368	4.66	4.10	47.8	203.3	5.58	196	834	547	192	82
DF		26	1	88	123	.632	2.33	1.90	53.1	236.7	2.87	101	449	281	99	44
DF		30	2	87	141	.950	4.66	2.85	65.8	335.0	5.34	187	954	523	184	94
DF		31	1	89	146	.445	2.33	1.33	87.4	433.3	3.32	117	578	326	114	57
DF		32	1	88	134	.417	2.33	1.25	88.3	436.7	3.15	111	547	309	108	54
DF		33	1	88	128	.392	2.33	1.18	89.2	420.0	2.99	105	494	293	103	48
DF		34	2	87	148	.739	4.66	2.22	105.7	536.7	6.68	235	1,190	655	230	117
DF		35	1	89	128	.349	2.33	1.05	99.4	476.7	2.96	104	499	291	102	49
DF		37	1	88	145	.312	2.33	.94	124.5	656.7	3.32	117	615	326	114	60
DF		38	1	85	146	.296	2.33	.89	102.4	566.7	2.59	91	503	254	89	49
DF		Totals	65	86	90	120.468	151.52	211.81	24.5	104.4	147.88	5,188	22,121	14,492	5,085	2,168
RA		12	1	89	73	3.472	2.73	3.47	15.1	60.0	1.45	53	208	142	52	20
RA		13	1	89	73	2.959	2.73	2.96	19.6	60.0	1.60	58	178	157	57	17
RA		14	1	87	77	2.551	2.73	2.55	25.7	100.0	1.80	66	255	177	64	25
RA		15	4	88	84	8.890	10.91	15.56	17.6	72.9	7.52	273	1,133	737	268	111
RA		16	2	86	68	3.907	5.45	5.86	13.9	56.7	2.24	82	332	220	80	33
RA		17	2	88	81	3.460	5.45	5.19	24.6	76.7	3.51	128	398	344	125	39
RA		18	1	90	77	1.543	2.73	4.63	15.8	80.0	2.01	73	370	197	72	36
RA		19	1	90	69	1.385	2.73	1.39	25.0	120.0	.95	35	166	93	34	16
RA		20	1	88	72	1.250	2.73	1.25	26.6	40.0	.91	33	50	90	33	5
RA		21	1	92	97	1.134	2.73	2.27	42.6	170.0	2.66	97	386	261	95	38
RA		30	1	92	107	.556	2.73	.56	92.4	350.0	1.41	51	194	138	50	19
RA		Totals	16	88	78	31.107	43.64	45.68	20.7	80.4	26.06	948	3,671	2,554	929	360
WH		16	1	90	106	4.341	6.06	8.68	27.4	120.0	7.62	238	1,042	747	233	102
WH		23	1	89	116	2.101	6.06	6.30	40.4	180.0	8.14	254	1,134	798	249	111
WH		25	1	90	118	1.778	6.06	5.33	49.6	220.0	8.46	264	1,173	829	259	115
WH		Totals	3	90	111	8.219	18.18	20.32	37.3	164.9	24.22	757	3,349	2,374	742	328
OC		16	1	86	65	.868	1.21									
OC		Totals	1	86	65	.868	1.21									
Totals			85	86	88	160.662	214.55	277.81	24.8	104.9	198.16	6893	29,142	19,420	6,755	2,856

TC TLOGSTVB

Log Stock Table - MBF

Project: CRUCREEK

T01S R07W S35 T0100 | **T01S R07W S35 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
01S	07W	35	UNIT 1	0100	98.00	33	86	Page 1 Date 7/14/2020 Time 9:09:05AM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	% Def	Net 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+
									Net Volume by Scaling Diameter in Inches											
DF		CO	2	16	49		49	2.3						16	32					
DF		CO	2	20	22		22	1.0									22			
DF		CO	2	30	29		29	1.4									29			
DF		CO	2	40	910	2.6	886	40.9						210	94	300	106	176		
DF		CO	3	19	4		4	.2				2	2							
DF		CO	3	24	2		2	.1				2								
DF		CO	3	26	3		3	.1					3							
DF		CO	3	30	18	19.5	14	.7				3	12							
DF		CO	3	32	45	1.8	44	2.0			24	11	9							
DF		CO	3	35	3		3	.2				3								
DF		CO	3	36	26		26	1.2				22	4							
DF		CO	3	39	4		4	.2				4								
DF		CO	3	40	806	1.3	796	36.7			131	315	305	29	17					
DF		CO	4	16	11		11	.5		11										
DF		CO	4	17	8		8	.4		6	3									
DF		CO	4	18	9		9	.4		7	1									
DF		CO	4	20	28		28	1.3		15		14								
DF		CO	4	22	3		3	.2		3										
DF		CO	4	23	12		12	.6		10	2									
DF		CO	4	24	50	16.0	42	1.9		42										
DF		CO	4	26	5		5	.2		5										
DF		CO	4	27	4		4	.2		4										
DF		CO	4	28	6		6	.3		6										
DF		CO	4	29	9		9	.4		9										
DF		CO	4	30	12		12	.6		12										
DF		CO	4	31	7		7	.3		7										
DF		CO	4	32	6		6	.3		6										
DF		CO	4	33	7		7	.3		7										
DF		CO	4	34	21	8.7	20	.9		20										
DF		CO	4	35	12		12	.5		12										
DF		CO	4	36	14		14	.6		14										
DF		CO	4	40	69		69	3.2		69										
DF		Totals			2,216	2.2	2,168	75.9		264	161	377	334	255	143	300	157	176		
RA		H	1	30	19		19	5.3								19				
RA		H	2	14	33		33	9.3						15	18					
RA		H	2	40	32		32	9.0							32					
RA		H	3	12	17		17	4.8							17					
RA		H	3	16	31		31	8.5						12	19					
RA		H	3	20	16		16	4.5						16						
RA		H	3	32	26		26	7.3					26							
RA		H	3	40	33		33	9.1					33							
RA		H	4	14	4		4	1.1			4									
RA		H	4	16	7		7	1.8			7									
RA		H	4	22	6		6	1.7			6									
RA		H	4	24	7		7	1.8			7									
RA		H	4	30	25		25	7.0			5	20								
RA		H	4	32	16		16	4.6			16									
RA		H	4	34	25		25	6.9				25								
RA		H	4	36	22		22	6.0			22									
RA		H	4	38	23		23	6.5			23									

TC TLOGSTVB

Log Stock Table - MBF

Project: **CRUCREEK**

T01S R07W S35 T0100 **T01S R07W S35 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		
01S	07W	35	UNIT 1	0100	98.00	33	86	Page	2
								Date	7/14/2020
								Time	9:09:05AM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	% Def	Net 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+
RA		H	4	40	17		17	4.8			17									
RA		Totals			360		360	12.6			107	45	59	44	86	19				
WH		CO	2	40	175	7.3	162	49.3								162				
WH		CO	3	36	57		57	17.3					57							
WH		CO	3	40	102		102	31.1			26		77							
WH		CO	4	16	8		8	2.3		4	3									
WH		Totals			341	3.8	328	11.5		4	29		133			162				
Total All Species					2,917	2.1	2,856	100.0		268	297	422	527	299	229	481	157	176		

Net Volume by Scaling Diameter in Inches applies to columns 2-3 through 40+.

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: CRUCREEK

Date 7/2/2020
Time 2:34:48PM

T02S R06W S06 T0100 **T02S R06W S06 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
02S	06W	06	UNIT 2	0100	119.00	38	139	S	W

Spp	S T	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CO	2	51	1.2	16,792	16,596	1,975			82	18	1	1	4	94	39	14	292	1.63	56.8
DF		CO	3	40	1.4	13,031	12,845	1,529		97	3		2	2	8	89	38	9	105	0.72	122.1
DF		CO	4	9		2,779	2,779	331	84	16			41	21	7	31	24	5	27	0.31	101.6
DF	**Totals**			98	1.2	32,602	32,219	3,834	7	40	43	9	5	3	6	87	33	8	115	0.83	280.5
RA		H	2	100		588	588	70			100					100	40	12	200	1.48	2.9
RA	**Totals**			2		588	588	70			100					100	40	12	200	1.48	2.9
Type Totals					1.2	33,190	32,808	3,904	7	39	44	9	4	3	6	87	33	9	116	0.84	283.4

TC TSTATS	STATISTICS	PAGE 1
	PROJECT CRUCREEK	DATE 7/2/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
02S	06W	06	UNIT 2	0100	119.00	38	242	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	38	242	6.4		
CRUISE	21	139	6.6	15,111	.9
DBH COUNT					
REFOREST					
COUNT	17	103	6.1		
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
DOUG FIR	136	122.9	17.5	80	49.1	205.2	32,602	32,219	7,669	7,670
R ALDER	1	2.9	21.0	45	1.5	7.1	588	588	175	175
OTH CONF-1	1	.3	23.0	125	0.2	.9				
OTH CONF-3	1	.8	14.0	45	0.2	.9				
TOTAL	*139*	*127.0*	*17.6*	*79*	*51.0*	*214.0*	*33,190*	*32,808*	*7,844*	*7,845*

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	57.0	4.9	334	351	368			
R ALDER								
OTH CONF-1								
OTH CONF-3								
TOTAL	*58.8*	*5.0*	*328*	*345*	*362*	*138*	*34*	*15*

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	51.7	4.4	79	82	86			
R ALDER								
OTH CONF-1								
OTH CONF-3								
TOTAL	*53.4*	*4.5*	*77*	*81*	*85*	*114*	*28*	*13*

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	49.3	8.0	113	123	133			
R ALDER	542.8	88.0	0	3	6			
OTH CONF-1	616.4	99.9	0	0	1			
OTH CONF-3	616.4	99.9	0	1	2			
TOTAL	*48.2*	*7.8*	*117*	*127*	*137*	*93*	*23*	*10*

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	32.0	5.2	195	205	216			
R ALDER	542.8	88.0	1	7	13			
OTH CONF-1	616.4	99.9	0	1	2			
OTH CONF-3	616.4	99.9	0	1	2			
TOTAL	*28.1*	*4.6*	*204*	*214*	*224*	*32*	*8*	*4*

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	34.0	5.5	30,445	32,219	33,994			
R ALDER	542.8	88.0	71	588	1,106			
OTH CONF-1								
OTH CONF-3								
TOTAL	*30.2*	*4.9*	*31,200*	*32,808*	*34,416*	*37*	*9*	*4*

TC TSTATS

STATISTICS

PROJECT CRUCREEK

PAGE 2

DATE 7/2/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
02S	06W	06	UNIT 2	0100	119.00	38	242	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	33.5	5.4	7,253	7,670	8,087			
R ALDER	542.8	88.0	21	175	328			
OTH CONF-1								
OTH CONF-3								
TOTAL	*29.3*	*4.7*	*7,472*	*7,845*	*8,217*	*34*	*9*	*4*

TC TSTNDSUM

Stand Table Summary

Project **CRUCREEK**

T02S R06W S06 T0100 **T02S R06W S06 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page: 1
02S	06W	06	UNIT 2	0100	119.00	38	139	Date: 07/02/202(
								Time: 2:34:49PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF		8	1	82	78	4.322	1.51	4.32	8.7	40.0	1.08	38	173	128	45	21
DF		9	1	82	83	3.415	1.51	3.42	11.6	40.0	1.13	39	137	134	47	16
DF		10	1	85	70	2.766	1.51	2.77	10.4	40.0	.82	29	111	98	34	13
DF		11	4	86	88	9.145	6.04	16.00	10.6	44.3	4.83	169	709	575	202	84
DF		12	4	83	93	7.684	6.04	13.45	12.1	47.1	4.63	162	634	551	193	75
DF		13	1	86	95	1.637	1.51	3.27	14.3	55.0	1.33	47	180	158	56	21
DF		14	6	86	95	8.468	9.05	16.94	16.2	63.3	7.80	274	1,073	928	326	128
DF		15	4	86	99	4.918	6.04	11.07	18.4	73.3	5.81	204	811	692	243	97
DF		16	10	88	111	10.806	15.09	28.10	21.0	92.3	16.82	590	2,593	2,002	702	309
DF		17	14	87	103	13.401	21.12	30.63	24.5	98.4	21.37	750	3,015	2,543	893	359
DF		18	12	87	113	10.246	18.11	27.32	25.8	106.2	20.11	705	2,903	2,393	839	345
DF		19	16	87	111	12.261	24.14	31.42	28.7	115.9	25.67	901	3,640	3,054	1,072	433
DF		20	13	88	117	8.991	19.61	22.82	34.8	143.6	22.63	794	3,278	2,693	945	390
DF		21	10	88	116	6.273	15.09	17.56	35.2	151.1	17.62	618	2,653	2,096	736	316
DF		22	11	87	114	6.287	16.60	18.29	35.9	155.6	18.69	656	2,846	2,224	781	339
DF		23	10	88	120	5.229	15.09	13.60	44.9	191.2	17.38	610	2,599	2,068	726	309
DF		24	5	88	124	2.401	7.54	6.72	47.8	208.6	9.16	322	1,402	1,091	383	167
DF		25	1	88	122	.443	1.51	1.33	54.6	276.7	2.06	72	367	246	86	44
DF		26	6	87	118	2.455	9.05	6.96	50.1	225.3	9.93	349	1,567	1,182	415	187
DF		29	3	86	123	.987	4.53	2.63	71.8	315.0	5.39	189	829	641	225	99
DF		30	1	86	123	.307	1.51	.92	67.1	316.7	1.76	62	292	210	74	35
DF		32	1	85	117	.270	1.51	.54	97.6	425.0	1.50	53	230	179	63	27
DF		38	1	83	123	.192	1.51	.38	96.7	460.0	1.06	37	176	126	44	21
DF		Totals	136	86	104	122.905	205.20	280.46	27.3	114.9	218.58	7,670	32,219	26,011	9,127	3,834
RA		21	1	94	100	2.942	7.08	2.94	59.3	200.0	4.80	175	588	571	208	70
RA		Totals	1	94	100	2.942	7.08	2.94	59.3	200.0	4.80	175	588	571	208	70
OC		14	1	79	45	.827	.88									
OC		23	1	90	125	.307	.88									
OC		Totals	2	82	67	1.134	1.77									
Totals			139	87	104	126.981	214.04	283.40	27.7	115.8	223.38	7845	32,808	26,582	9,335	3,904

TC TLOGSTVB

Log Stock Table - MBF

Project: **CRUCREEK**

T02S R06W S06 T0100 **T02S R06W S06 T0100**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	
02S	06W	06	UNIT 2	0100	119.00	38	139	Page 1 Date 7/2/2020 Time 2:34:48PM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	% Def	Net 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+
DF		CO	2	16	12		12	.3								12				
DF		CO	2	30	16		16	.4						16						
DF		CO	2	32	41	6.6	38	1.0						19		19				
DF		CO	2	34	44	4.3	42	1.1								21	22			
DF		CO	2	36	47		47	1.2						47						
DF		CO	2	40	1,838	1.0	1,819	47.4						655	702	392	70			
DF		CO	3	16	21		21	.5					13		7					
DF		CO	3	20	7		7	.2					7							
DF		CO	3	26	14		14	.4					14							
DF		CO	3	28	14		14	.4								14				
DF		CO	3	32	113		113	2.9			8	76	29							
DF		CO	3	35	4		4	.1					4							
DF		CO	3	36	197		197	5.1			55	126	16							
DF		CO	3	40	1,181	1.9	1,159	30.2			224	298	614	23						
DF		CO	4	13	2		2	.0		2										
DF		CO	4	14	2		2	.0		1	1									
DF		CO	4	15	1		1	.0			1									
DF		CO	4	16	96		96	2.5		67	13	1	15							
DF		CO	4	17	5		5	.1		5										
DF		CO	4	18	5		5	.1		3	1									
DF		CO	4	19	8		8	.2		6	2									
DF		CO	4	20	16		16	.4		16										
DF		CO	4	21	8		8	.2		7	1									
DF		CO	4	22	10		10	.3		10										
DF		CO	4	24	20		20	.5		20										
DF		CO	4	25	6		6	.2		6										
DF		CO	4	26	6		6	.1		2	3									
DF		CO	4	28	20		20	.5		17	3									
DF		CO	4	31	4		4	.1		4										
DF		CO	4	32	12		12	.3		12										
DF		CO	4	34	7		7	.2		7										
DF		CO	4	36	38		38	1.0		38										
DF		CO	4	39	3		3	.1		3										
DF		CO	4	40	63		63	1.7		53	10									
DF		Totals			3,880	1.2	3,834	98.2		279	323	502	711	760	709	458	92			
RA		H	2	40	70		70	100.0						70						
RA		Totals			70		70	1.8						70						
Total All Species					3,950	1.2	3,904	100.0		279	323	502	711	830	709	458	92			

"STEWARDSHIP IN FORESTRY"

Cruiser Creek

Volume Summary

Unit 1-Modified Clearcut				
	98 acres			
	Cruised Net	Cruised Net	Hidden	Net Sale
SPECIES	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	22	2168	1%	2146
Hemlock	4	361	1%	357
Spruce		0	1%	0
Noble Fir		0	1%	0
Alder	3	327	2%	321
TOTAL	29.1	2855.8		2824.0

Unit 2-Modified Clearcut				
	119 acres			
	Cruised Net	Cruised Net	Hidden	Net Sale
SPECIES	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	32	3834	1%	3796
Hemlock		0	1%	0
Spruce		0	1%	0
Noble Fir		0	1%	0
Alder	1	70	2%	69
TOTAL	32.8	3904		3864

"STEWARDSHIP IN FORESTRY"

Cruiser Creek

Volume Summary

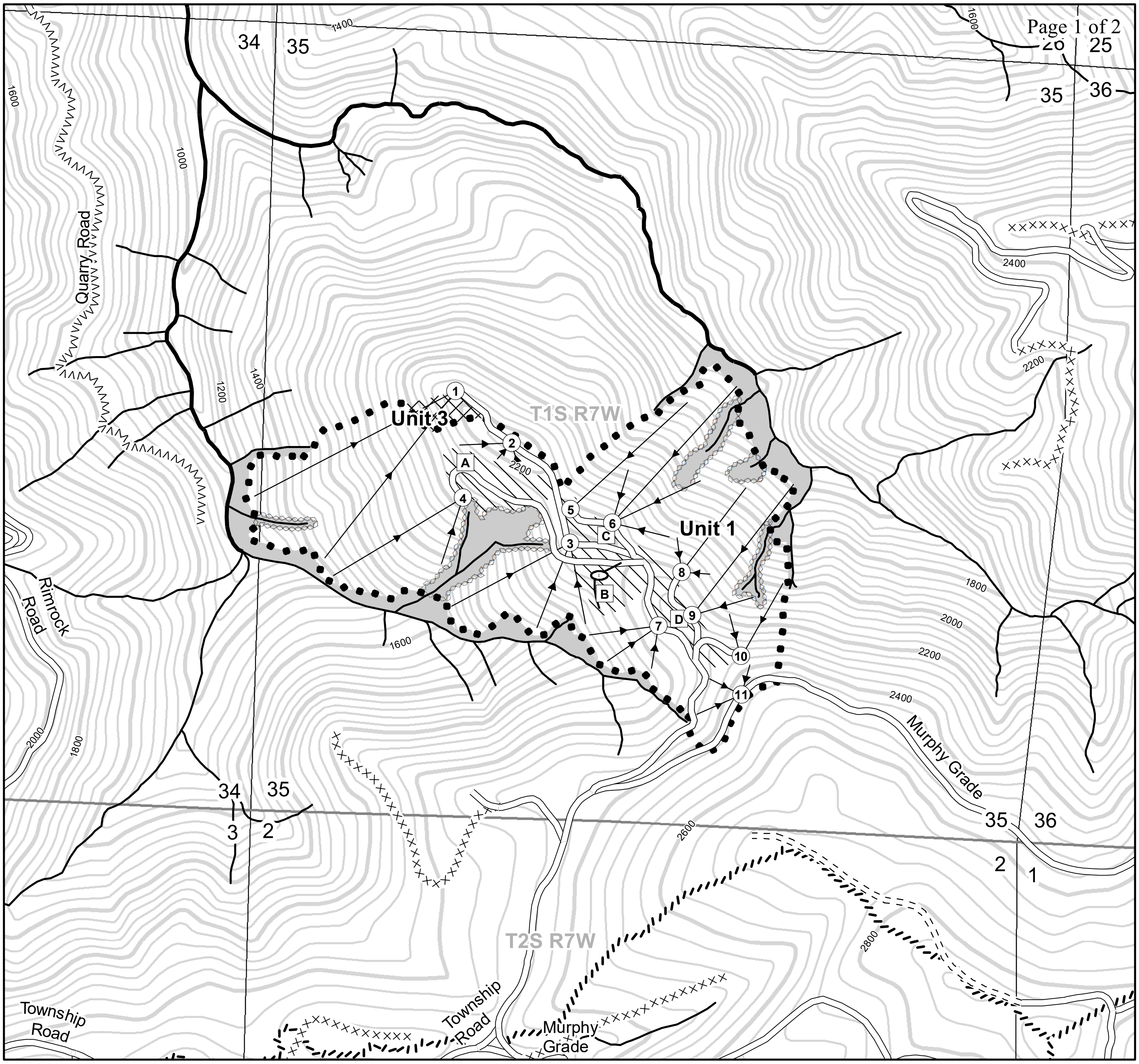
Unit 3 No volume, yarding through young stand only

"STEWARDSHIP IN FORESTRY"

Cruiser Creek

Volume Summary

TOTAL SALE VOLUME	217 acres	
SPECIES	Cruised Net (MBF)	Net Sale (MBF)
Douglas-fir	6002	5942
Hemlock	361	357
Spruce	0	0
Noble Fir	0	0
Red Alder	397	389
TOTAL	6760	6688



LOGGING PLAN

FOR TIMBER SALE CONTRACT TL-341-2021-W00515-01
CRUISER CREEK
PORTIONS OF SECTIONS 6
T2S R6W, 34, 35 T1S R7W,
& 31, 32 T1S R6W W.M.
TILLAMOOK AND WASHINGTON COUNTY, OREGON

Tillamook District GIS
September, 2020
This product is for informational use and may not be suitable for legal, engineering, or surveying purposes.

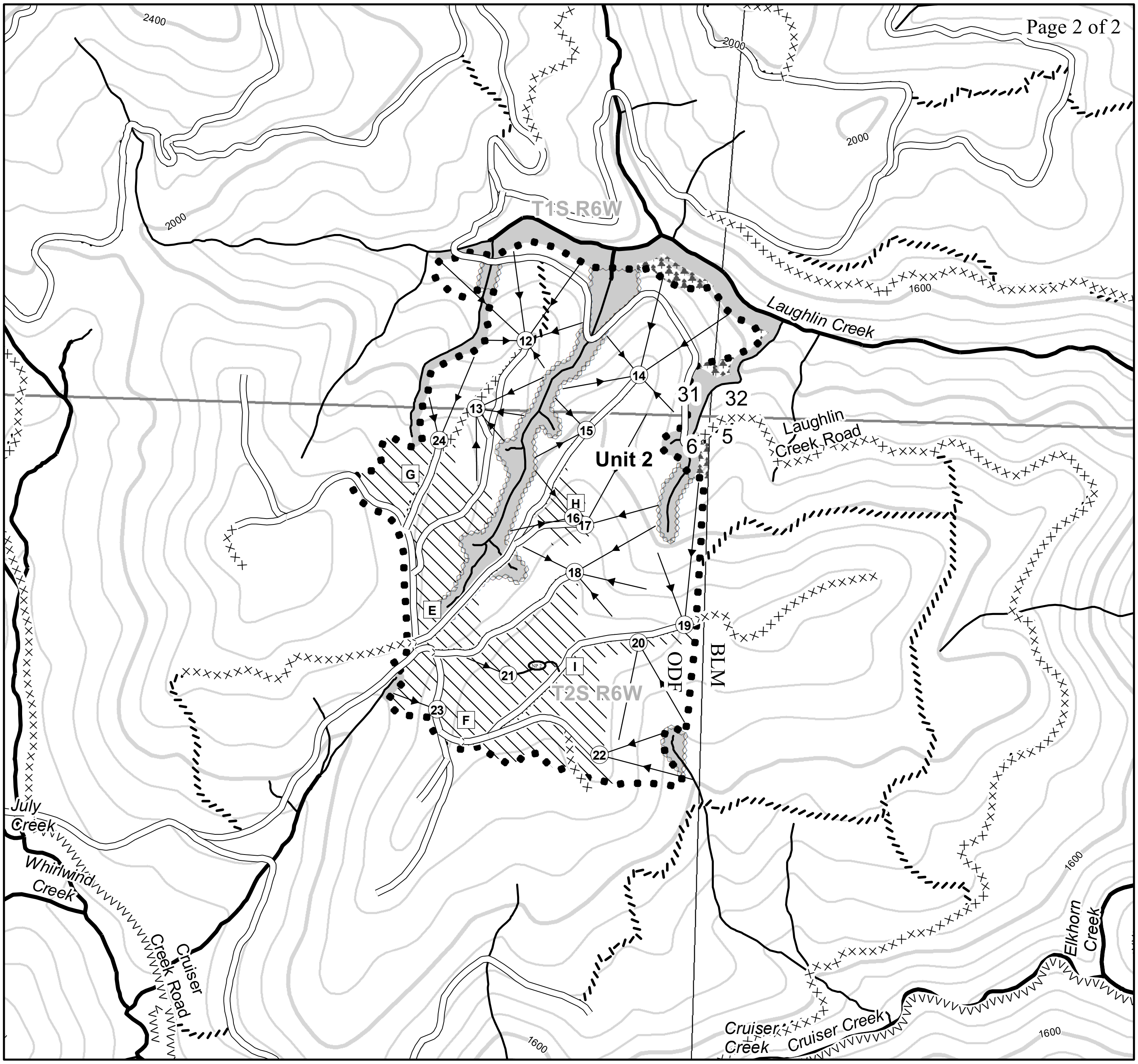
- Timber Sale Boundary
- Surfaced Road
- Unsurfaced Road
- Abandoned road
- Blocked road
- Type-F Stream
- Type-N Stream
- Cable Corridor
- Non-project road
- Stream Buffer
- Sections
- 200 Foot Contour Band
- 40 Foot Contour Band
- Tractor Landing
- Cable Landing
- Ground Yarding
- OHV Trail
- Unit 3

1:12,000
1 inch = 1,000 feet
0 250500 1,000 1,500 2,000
Feet

N

NET ACRES

	TRACTOR	CABLE
UNIT 1	14	83
UNIT 2	40	79
UNIT 3	0	0
TOTAL	54	162



LOGGING PLAN

FOR TIMBER SALE CONTRACT TL-341-2021-W00515-01
CRUISER CREEK
PORTIONS OF SECTIONS 6
T2S R6W, 34, 35 T1S R7W,
& 31, 32 T1S R6W W.M.
TILLAMOOK AND WASHINGTON COUNTY, OREGON

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- Timber Sale Boundary
- Surfaced Road
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- Non-project road
- Stream Buffer
- Sections
- 200 Foot Contour Band
- 40 Foot Contour Band
- Tractor Landing
- Cable Landing
- Ground Yarding
- OHV Trail
- Green Tree Area

1:12,000
1 inch = 1,000 feet
0 250 500 1,000 1,500 2,000 Feet

N

NET ACRES

	TRACTOR	CABLE
UNIT 1	14	83
UNIT 2	40	79
UNIT 3	0	0
TOTAL	54	162