Timber Sale Appraisal
Cold Boulder

Sale WO-341-2019-W00776-01

District: West Oregon

Date: March 27, 2019

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$643,367.50	$12,097.41	$655,464.91
		Project Work:	($50,610.00)
		Advertised Value:	$604,854.91

Timber Sale Appraisal
Cold Boulder
Sale WO-341-2019-W00776-01

District: West Oregon **Date: March 27, 2019**

Timber Description

Location: Portions of Section 19, T11S, R8W, and Section 24, T11S, R9W, W.M., Lincoln County Oregon

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	18	0	95
Alder (Red)	14	0	90

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	852	818	0	1,670
Alder (Red)	0	0	39	39
Total	852	818	39	1,709

Comments: Pond Values Used: Local Pond Values, February,2019

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
$253/MBF = $535/MBF - $282/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost, minus additional haul cost:
$624/MBF = $906/MBF - $282/MBF

Bigleaf Maple and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
$130/MBF = $459/MBF - $329/MBF

PULP (Conifer and Hardwood Price = $3/TON

Other Costs (with Profit & Risk to be added):
Intermediate Support/Tail Trees: 10 supports @ $100/support = $1,000.
Extra felling costs(slashing hardwood brush): 24 acres @$100/acre = $2,400
TOTAL Other Costs (with Profit & Risk to be added) = $3,400

Other Costs (No Profit & Risk added):
Equipment Cleaning (Invasive Species): $2,000
Landing Slash Piling: 12 Landings @ $180/Landing = $2,160
TOTAL Other Costs (No Profit & Risk added) = $4,160

SLASH DISPOSAL (concurrent with logging)
Project Work: = $3,000
TOTAL Slash Disposal = $3,000

ROAD MAINTENANCE
Move-in: (Grader and Roller) $1,556
Final Road Maintenance: $12,016
TOTAL Road Maintenance: $13,572/1,709 = $7.94/MBF

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District: West Oregon **Date: March 27, 2019**

Logging Conditions

Combination#: 1

Douglas - Fir	10.00%
Alder (Red)	10.00%

Logging System: Shovel **Process:** Harvester Head Delimbing
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 12 **bd. ft / load:** 4600
cost / mbf: $96.81
machines: Forwarder
Harvester

Combination#: 2

Douglas - Fir	90.00%
Alder (Red)	90.00%

Logging System: Cable: Large Tower >=70 **Process:** Stroke Delimber
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8 **bd. ft / load:** 4600
cost / mbf: $168.48
machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Large)

Timber Sale Appraisal
Cold Boulder
Sale WO-341-2019-W00776-01

District: West Oregon **Date: March 27, 2019**

Logging Costs

Operating Seasons:	2.00	**Profit Risk:**	10%
Project Costs:	$50,610.00	**Other Costs (P/R):**	$3,400.00
Slash Disposal:	$3,000.00	**Other Costs:**	$4,160.00

Miles of Road

Road Maintenance: $7.94

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	4.5
Alder (Red)	$0.00	3.0	3.0

Timber Sale Appraisal
Cold Boulder

Sale WO-341-2019-W00776-01

District: West Oregon **Date: March 27, 2019**

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
$161.31	$8.34	$5.14	$73.89	$1.99	$25.07	$1.76	$2.00	$2.43	$281.93
Alder (Red)									
$161.31	$8.73	$5.14	$116.12	$1.99	$29.33	$1.76	$2.00	$2.43	$328.81

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$667.18	$385.25	$0.00
Alder (Red)	$0.00	$639.00	$310.19	$0.00

Timber Sale Appraisal
Cold Boulder
Sale WO-341-2019-W00776-01

District: West Oregon **Date: March 27, 2019**

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,670	$385.25	$643,367.50
Alder (Red)	39	$310.19	$12,097.41

Gross Timber Sale Value

Recovery: $655,464.91

Prepared By: Jon Long **Phone:** 541-929-3266

SUMMARY OF ALL PROJECT COSTS

Sale Name: Cold Boulder Date: August 2018
Time: 10:20

Project #1a - Improvement

Road Segment	Length	Cost	
3 to 4	4.1 sta	$4,635	
5 to 6	13.5 sta	$16,837	
TOTAL	17.6 sta		$21,472

Project #1b - Maintenance

Road Segment	Length	Cost	
1 to 2	246.9 sta	$11,875	
7 to 8	18.6 sta	$313	
9 to 10	5.2 sta	$81	
11 to 12	55.1 sta	$2,891	
12 to 13	9.1 sta	$141	
14 to 15	46.2 sta	$554	
16 to 17	44.6 sta	$691	
18 to 19	6.0 sta	$93	
TOTAL	431.7 sta		$16,639

Project #2 - Brushing 398.8 sta. $8,448

Project #3 Move in	Cost	On-site move	
Excavator, C240 or equv.	$1,290		
Crawler tractor, D-6 or equiv.	$805		
Grader, Cat 14-G or equiv.	$778	$30	
Backhoe	$340	$15	
Vibratory roller	$778	$15	
TOTAL			$4,051

GRAND TOTAL **$50,610**

Compiled by Matt McBride Date 08/17/2018

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1b LENGTH improve sta 246.9
ROAD 1 to 2 Salmon Crk. Rd., Burnt Woods Ridge Rd., Strombolder Rd.

MAINTENANCE

Clean out culverts (inlets and outlets)	17	culverts	@	$25.00	ea	=	$425
Slough removal & cutslope rounding	4.0	hr	@	$140.00	/hr	=	$560
End-haul excavation (endhaul to W1)	60	cy	@	$3.00	/cy	=	$180
Re-open landings (4)	1	hr	@	$100.00	/hr	=	$100
Grade/process surface rock (Sta. 172+00 to pt. 2)	75.0	sta	@	$15.50	/sta	=	$1,163
Grade/process (with vibratory roller)	75.0	sta	@	$13.20	/sta	=	$990

TOTAL IMPROVEMENT = $3,418

SURFACING

			Size	Cost/yd		
Turnout rock (2)	20	cy of	3-0"	$23.36	=	$467
Landing rock Pt. 2	20	cy of	3-0"	$23.36	=	$467
Landing rock (3)	60	cy of	jaw-run	$22.01	=	$1,321
Spot rock (Sta. 139+30 to Pt. 2)	220	cy of	1½-0"	$23.70	=	$5,214

TOTAL ROCK COST = $7,469

Special Project With 240 excavator or equivalent
(Free draining fill) @ Sta. 204+20

Excavate and Construct Free Draining Fill	4	hr	@	$140.00	/hr	=	$560
End-Haul Excav. To W3	10	cy	@	$3.00	/cy	=	$30
Drain rock	7	cy of	6-8" open	$34.50		=	$242
Compact fill (rock) (with vibratory hand tamper)	2	hr	@	$40.00	/hr	=	$80
Base rock	1	cy of	jaw-run	$22.01		=	$22
Surface rock (4"lift)	1	cy of	1½-0"	$23.70		=	$24
Install Geotextile fabric	12	ft	@	$2.50	/ft	=	$30

TOTAL SPECIAL PROJECTS = $988

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $11,875

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1a LENGTH improve sta 4.1
ROAD 3 to 4

IMPROVEMENT (with D6 and 14G or equivalent)

Re-open road (with dozer)	4.1	sta	@	$36.67	/sta	=	$150
Re-open landing (with dozer)	0.5	hrs	@	$ 110.00	/hr	=	$55
Shape subgrade (with road grader)	4.1	sta	@	$ 15.40	/sta	=	$63
Compact subgrade (with vibratory roller)	4.1	sta	@	$ 13.20	/sta	=	$54
Shape surface (with road grader)	4.1	sta	@	$ 15.50	/sta	=	$64
Compact surface (with vibratory roller)	4.1	sta	@	$ 13.20	/sta	=	$54

TOTAL IMPROVEMENT = $440

SURFACING

			Size	Cost/yd		
Surface rock (6"lift)	140	cy of	jaw-run	$22.01	=	$3,081
Landing rock (2)	40	cy of	jaw-run	$22.01	=	$880
Junction rock	10	cy of	3-0"	$23.36	=	$234

TOTAL ROCK COST = $4,195

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $4,635

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1a LENGTH improve sta 13.5
ROAD 5 to 6

IMPROVEMENT	(with D6 and 14G or equivalent)							
Re-open road (with dozer)	13.5	sta	@	$36.67	/sta	=	$495	
Re-open landing (with dozer)	0.5	hrs	@	$ 110.00	/hr	=	$55	
Shape subgrade (with road grader)	13.5	sta	@	$ 15.40	/sta	=	$208	
Compact subgrade (with vibratory roller)	13.5	sta	@	$ 13.20	/sta	=	$178	
Shape surface (with road grader)	13.5	sta	@	$ 15.50	/sta	=	$209	
Compact surface (with vibratory roller)	13.5	sta	@	$ 13.20	/sta	=	$178	
					TOTAL IMPROVEMENT =			$1,323
EXCAVATION	With D6 dozer or equivalent							
Construct landing (Sta. 0+50 and 8+90)	2	hr	@	$150.00	/hr	=	$300	
					TOTAL EXCAVATION =			$300

SURFACING			Size	Cost/yd			
Surface rock (8"lift)	590	cy of	jaw-run	$22.01	=	$12,986	
Landing rock (3)	80	cy of	jaw-run	$22.01	=	$1,761	
Junction rock	20	cy of	3-0"	$23.36	=	$467	
				TOTAL ROCK COST =			$15,214

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $16,837

SUMMARY OF CONSTRUCTION COST

SALE	Cold Boulder	Project #	1b	LENGTH	improve		sta	18.6
ROAD	7 to 8							

MAINTENANCE

Remove sod and brushing debris (with road grader)	18.6	sta	@	$ 15.50	/sta =	$288
Clean out culverts (inlets and outlets)	1	culverts	@	$25.00	/ea	$25

TOTAL SPECIAL PROJECTS COST = $313

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $313

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1b LENGTH improve sta 5.2
ROAD 9 to 10 Burnt Woods Ridge Rd., Cline Crk. Rd.

MAINTENANCE

Remove sod and brushing debris (with road grader)	5.2	sta	@	$ 15.50	/sta	$81

TOTAL SPECIAL PROJECTS COST = $81

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $81

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1b LENGTH improve sta 55.1
ROAD 11 to 12 Miller Crk. Rd.

MAINTENANCE

Clean out culverts (inlets and outlets)	5	culverts	@	$25.00	ea	=	$125	
Shape surface (with road grader)	55.1	sta	@	$ 15.50	/sta	=	$854	
Compact subgrade (with vibratory roller)	55.1	sta	@	$ 13.20	/sta	=	$727	
					TOTAL IMPROVEMENT =			$1,706

SURFACING

			Size	Cost/yd			
Spot rock	50	cy of	1½-0"	$23.70	=	$1,185	
				TOTAL ROCK COST =			$1,185

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $2,891

SUMMARY OF CONSTRUCTION COST

SALE	Cold Boulder	Project #	1b	LENGTH	improve	9.1 sta
ROAD	12 to 13				Surfaced, outsloped	

MAINTENANCE

Remove sod and brushing debris (with road grader)	9.1	sta	@	$	15.50	/sta	=	$141

TOTAL IMPROVEMENT COST = $141

Compiled by: M.McBride
Date: Aug 17, 2018

SUMMARY OF CONSTRUCTION COST

SALE Cold Boulder Project # 1b LENGTH improve sta 46.2
ROAD 14 to 15 Miller Bench Rd.

MAINTENANCE (with backhoe)

Clean out culverts (inlets and outlets)	2 culverts	@	$25.00	ea =		$50
Slough removal & cutslope rounding	2.0 hr	@	$80.00	/hr =		$160
End-haul excavation (endhaul to W2)	30 cy	@	$3.00	/cy =		$90
Remove sod and brushing debris (with road grader)	46.2 sta	@	$ 5.50	/sta =		$254
				TOTAL IMPROVEMENT =		$554

Compiled by: Matt McBride
Date: Aug 17, 2018

GRAND TOTAL =====> $554

SUMMARY OF CONSTRUCTION COST

SALE	Cold Boulder	Project #	1b	LENGTH	improve	44.6 sta
ROAD	16 to 17				Surfaced, outsloped	

MAINTENANCE

Remove sod and brushing debris (with road grader)	44.6	sta	@	$	15.50	/sta	=	$691

TOTAL IMPROVEMENT COST = $691

Compiled by: M.McBride
Date: Aug 17, 2018

SUMMARY OF CONSTRUCTION COST

SALE	Cold Boulder	Project #	1b	LENGTH improve	6.0 sta
ROAD	18 to 19			Surfaced, outsloped	

MAINTENANCE

Remove sod and brushing debris (with road grader)	6.0 sta	@	$	15.50	/sta	=	$93

TOTAL IMPROVEMENT COST = $93

Compiled by: M.McBride
Date: Aug 17, 2018

Cold Boulder Timber Sale
No. 341-19-41

Project No. 2

Mechanical Brushing Costs

Date: Aug 17, 2018

Road Segment/ Point	Road Name	Length (Feet)	Miles	Brush Density	Cost / Mile	Segment Cost
1 to Sta. 139+30	Salmon Creek Rd.	13,930	2.64	Light	$850.00	$2,244
Sta. 172+00 to 2	Strombolder Rd.	7,470	1.41	Medium	$1,100.00	$1,551
7 to 8		1,860	0.35	Light	$850.00	$298
9 to 10		520	0.10	Medium	$1,100.00	$110
11 to 12	Miller Creek Rd.	5,510	1.04	Medium	$1,100.00	$1,144
12 to 13		910	0.17	Heavy	$1,550.00	$264
14 to 15	Miller Bench Rd.	4,620	0.88	Heavy	$1,550.00	$1,364
16 to 17		4,460	0.84	Heavy	$1,550.00	$1,302
18 to 19		600	0.11	Heavy	$1,550.00	$171
Totals		**39,880**	**7.54**			**$8,448**

SUMMARY OF MAINTENANCE COST

SALE Cold Boulder - Final Maintenance Cost Estimate

(Costed in appraisal, not in project costs)

Grading/Compaction

Move-in		
Grader	$	778
Roller	$	778
Total	$	1,556

Road Segment	Length	Cost/Sta	Cost	Mileage
1 to 2	246.9	$24.28	$5,994.73	4.68
3 to 4	4.1	$ 24.28	$99.55	0.08
5 to 6	13.5	$ 24.28	$327.78	0.26
11 to 12	55.1	$ 15.50	$854.05	1.04
Total	319.6		$7,276.11	6.05

Maintenance Rock:

	Volume	Cost/CY	Cost
1½-0"	200	$23.70	$4,740.00
3-0"			$0.00
Grand Total			$ 13,572.11
TS Volume	1,709	MBF	
Cost / MBF =			$7.94

NOTES:

Rock Haul Cost Computation

SALE NAME: Cold Boulder — DATE: Aug 17, 2018
ROAD NAME: Strombolder Rd. — CLASS: Medium
ROCK SOURCE Wild Rose — 10CY truck
Route: Hwy. 223 to Hwy. 20 to Salmon Crk. Rd.

TIME Computation:
Road speed time factors:

1.	55 MPH	22.0	MRT	24.0	minutes
2.	50 MPH		MRT	0.0	minutes
3.	45 MPH	10.0	MRT	13.3	minutes
4.	40 MPH		MRT	0.0	minutes
5.	35 MPH	5.0	MRT	8.6	minutes
6.	30 MPH		MRT	0.0	minutes
7.	25 MPH		MRT	0.0	minutes
8.	20 MPH	6.0	MRT	18.0	minutes
9.	15 MPH		MRT	0.0	minutes
10.	10 MPH	1.5	MRT	9.0	minutes
11.	05 MPH	0.5	MRT	6.0	minutes

Dump or spread time per RT		0.50	minutes
Total hauling cycle time for this setting (100% efficiency)		79.40	minutes
Operator efficiency correction	0.85	93.41	minutes
Job efficiency correction	0.90	103.79	minutes
Truck capacity (CY)	10.00	10.38	min/CY
Loading time, delay time per CY		0.25	min/CY
TIME (minutes) per cubic yard		10.63	min/CY

COST per CY computation

Cost of truck and operator per hour	$68.88	/hr.
Cost of truck and operator per minute	$1.15	/min
Cost per CY	$12.22	/CY
Spread and compact — Water truck, Grader & Roller	$1.50	/CY

Size	Cost/Yd (Pit)	Cost Delivered w/o processing	Cost Delivered with processing
1½ - 0"	$ 11.48	$23.70	$25.20
3 - 0"	$ 11.14	$23.36	$24.86
Jaw Run	$ 9.79	$22.01	$23.51
Pit-Run	8.78	$21.00	$22.50
6-8 open	22.28	$34.50	$36.00

Cold Boulder (WO-341-2019-W00776-01)
FY 2019

TIMBER CRUISE REPORT

1. **Sale Area Location**: Portions of Section 19, T11S, R8W, & Section 24, T11S, R9W W.M., Lincoln County, Oregon.

2. **Fund Distribution:**
   a. **Fund** BOF 89%
      CSL 11%
   b. **Tax Code**

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Stream Buffers	Existing Roads	Green Tree Areas	Net Sale Acres	Acreage Comp. Method
1	**Modified Clearcut**	98	4	3	2	89	Ortho photo, GIS, GPS

4. **Cruisers and Cruise Dates:** This sale was cruised by Matt McBride, Aaron McEwen, Jon Long, Eric Breksted, Ian Hayes and Mike Hogan in May/June 2018.

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 using a 20 BAF taking half plots with plots spaced 2 chains apart on plot lines spaced 9 chains apart. A total of 50 plots were taken with 25 measure plots and 25 count plots. On two of the count plots, minor species were cruised. These two plots show as measure plots on the Project Statistics report. One measure plot recorded zero trees. 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 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 49 year-old Douglas-fir with scattered red alder, 2 acres of 29 year-old Douglas-fir with scattered red alder, and 6 acres of 39 year-old Douglas-fir and mature red alder. The average Douglas-fir is approximately 18 inches DBH, with an average height of 77 feet to a merchantable top. The average red alder is approximately 14 inches DBH, with an average height of 45 feet to a merchantable top. The average volume per acre to be harvested (net) is approximately 19 MBF. Conifer trees other than Douglas-fir are reserved from cutting but were not observed during cruising or other field work.

8. **Statistical Analysis and Stand Summary:** (See attached "Statistics").

Area	Target CV	Target SE	Actual CV	Actual SE
1	40%	11%	43.4%	6.1%

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	1,720	1.4%	24	1.5%	26	1,670
Red alder	40	0%	0	3%	1	39
Total	1,760	1.4%	24	2%	27	1,709

Species	Ave. DBH	Net Vol.	2-Saw	3-Saw	4-Saw	Camp Run	% by Species
Douglas-fir	18	Grade %	51%	44%	5%	--	98%
		1,670	852	735	83	--	
Red alder	14	Grade %	--	--	--	100%	2%
		39	--	--	--	39	
Total		1,709	852	735	83	39	100%

Attachments: Cruise Design
Cruise Maps
Species, Sort Grade – Board Foot Volumes
Statistics
Stand Table Summary
Log Stock Table – MBF

Prepared by: Matt McBride Date: 6/6/2018

Unit Forester: _____ Date: _____
Evelyn Hukari

TC PSTATS

PROJECT STATISTICS

PROJECT COLDBOLD

DATE 6/14/2018

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
11S	08	19	ALL	CC01	89.00	50	174	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	50	174	3.5		
CRUISE	26	90	3.5	7,146	1.3
DBH COUNT					
REFOREST					
COUNT	23	78	3.4		
BLANKS	1				
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
DF	78	70.3	18.3	77	29.9	128.0	19,329	19,054	5,222	5,211
SNAG	5	4.4	15.3	36	1.4	5.6				
R ALDER	7	5.6	13.6	45	1.5	5.6	449	449	154	154
TOTAL	*90*	*80.3*	*17.8*	*73*	*33.0*	*139.2*	*19,778*	*19,503*	*5,376*	*5,366*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0 — **SAMPLE TREES - BF**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DF	58.3	6.6	310	332	354			
SNAG								
R ALDER	47.9	19.5	68	84	101			
TOTAL	*69.7*	*7.3*	*272*	*294*	*316*	*194*	*49*	*22*

CL 68.1 SD: 1.0 — **TREES/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DF	51.1	7.2	65	70	75			
SNAG	390.6	55.2	2	4	7			
R ALDER	422.9	59.7	2	6	9			
TOTAL	*46.3*	*6.5*	*75*	*80*	*86*	*85*	*21*	*9*

CL 68.1 SD: 1.0 — **BASAL AREA/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DF	46.0	6.5	120	128	136			
SNAG	323.0	45.6	3	6	8			
R ALDER	433.2	61.2	2	6	9			
TOTAL	*36.8*	*5.2*	*132*	*139*	*146*	*54*	*14*	*6*

CL 68.1 SD: 1.0 — **NET BF/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DF	47.7	6.7	17,770	19,054	20,339			
SNAG								
R ALDER	504.5	71.3	129	449	769			
TOTAL	*43.4*	*6.1*	*18,308*	*19,503*	*20,699*	*75*	*19*	*8*

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T11S R08W S19 TyCC01 89.00

Project: **COLDBOLD**

Acres **89.00**

Page **1**

Date **6/14/2018**

Time **4:06:34PM**

Spp	ST	So Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of 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		DO CU		100.0	40											9	12		0.00	3.0
DF		DO 2M	51	1.3	10,030	9,897	881			86	14	2		7	90	38	14	269	1.77	36.8
DF		DO 3M	44	.8	8,426	8,356	744		99	1		2	2	28	69	36	8	97	0.78	86.2
DF		DO 4M	5	3.8	833	801	71		100			57	28	16		20	6	24	0.42	33.0
DF	**Totals**		98	1.4	19,329	19,054	1,696		48	45	7	4	2	17	77	33	9	120	1.00	159.1
SN		DO CU														55	182		0.00	.6
SN	**Totals**															55	182		0.00	.6
RA		DO CR	100		449	449	40		100			3	44	15	37	31	7	58	0.64	7.8
RA	**Totals**		2		449	449	40		100			3	44	15	37	31	7	58	0.64	7.8
Totals				1.4	19,778	19,503	1,736		49	44	7	4	3	17	76	33	10	116	0.97	167.5

TC PSTNDSUM

Stand Table Summary

Page 1
Date: 6/14/2018

T11S R08W S19 TyCC01 89.00

Project COLDBOLD
Acres 89.00

Time: 4:06:35PM
Grown Year:

Spc	S T	DBH	Sample Trees	FF 16'	Tot Av Ht	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		12	2	83	54	4.179	3.28	6.27	11.3	36.7		71	230		63	20
DF		13	1	80	54	1.780	1.64	1.78	21.0	50.0		37	89		33	8
DF		14	1	87	111	1.535	1.64	3.07	21.5	85.0		66	261		59	23
DF		15	10	85	100	13.372	16.41	26.74	22.4	78.5		598	2,099		532	187
DF		16	7	85	105	8.227	11.49	17.63	25.3	92.7		445	1,634		396	145
DF		17	9	85	107	9.370	14.77	20.82	28.6	101.5		597	2,113		531	188
DF		18	3	83	88	2.786	4.92	5.57	31.2	100.0		174	557		155	50
DF		19	6	86	108	5.001	9.85	10.83	37.6	130.8		408	1,417		363	126
DF		20	11	85	111	8.274	18.05	19.56	38.8	137.7		759	2,693		675	240
DF		21	7	87	123	4.776	11.49	13.65	39.1	152.0		534	2,074		475	185
DF		22	6	83	109	3.730	9.85	9.32	43.7	148.7		408	1,386		363	123
DF		23	3	87	114	1.706	4.92	4.55	47.5	183.8		216	836		192	74
DF		24	4	85	132	2.089	6.56	6.27	51.2	203.3		321	1,275		285	113
DF		25	2	83	127	.963	3.28	2.89	48.3	210.0		140	607		124	54
DF		26	5	85	127	2.225	8.21	6.23	62.1	248.6		387	1,549		344	138
DF		31	1	83	103	.313	1.64	.94	55.0	250.0		52	235		46	21
DF		Totals	78	85	104	70.327	128.00	156.13	33.4	122.0		5,211	19,054		4,638	1,696
RA		12	1	87	62	1.019	.80	1.02	21.0	60.0		21	61		19	5
RA		13	2	85	71	1.736	1.60	2.60	18.0	53.3		47	139		42	12
RA		14	3	86	57	2.245	2.40	2.99	20.0	52.5		60	157		53	14
RA		16	1	85	80	.573	.80	1.15	23.0	80.0		26	92		23	8
RA		Totals	7	86	65	5.572	5.60	7.76	19.9	57.8		154	449		137	40
SN		10	1	99	23	2.053	1.12									
SN		16	1	99	65	.802	1.12									
SN		18	1	86	71	.634	1.12									
SN		20	1	99	45	.513	1.12									
SN		23	1	98	45	.388	1.12									
SN		Totals	5	97	42	4.391	5.60									
Totals			90	86	98	80.290	139.20	163.89	32.7	119.0		5,366	19,503		4,775	1,736

TC PLOGSTVB

Log Stock Table - MBF

T11S R08W S19 TyCC01 89.00

Project: COLDBOLD
Acres 89.00

Page 1
Date 6/14/2018
Time 4:06:34PM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3 4-5	6-7 8-9	10-11 12-13	14-15 16-19	20-23 24-29	30-39 40+
DF		DO	CU	14	4	100.0								
DF		DO	2M	16	9		9	.5				9		
DF		DO	2M	20	12		12	.7					12	
DF		DO	2M	32	44		44	2.6			44			
DF		DO	2M	34	20		20	1.2			20			
DF		DO	2M	36	101	1.0	100	5.9			33	49 17		
DF		DO	2M	38	14		14	.8			14			
DF		DO	2M	40	693	1.6	682	40.2			269	202 210		
DF		DO	3M	16	2		2	.1			2			
DF		DO	3M	20	12		12	.7			12			
DF		DO	3M	21	1		1	.1		1				
DF		DO	3M	27	2		2	.1		2				
DF		DO	3M	28	6		6	.4		6				
DF		DO	3M	30	2		2	.1		2				
DF		DO	3M	31	2		2	.1		2				
DF		DO	3M	32	96		96	5.6		7 25	57	8		
DF		DO	3M	33	6		6	.4		6				
DF		DO	3M	34	105	2.7	102	6.0		39 14	49			
DF		DO	3M	36	60		60	3.6		14 5	41			
DF		DO	3M	38	36		36	2.1		36				
DF		DO	3M	40	420		417	24.6		66 143	209			
DF		DO	4M	12	1		1	.1		1				
DF		DO	4M	13	2		2	.1		2				
DF		DO	4M	14	7		7	.4		7				
DF		DO	4M	15	6		6	.4		2 4				
DF		DO	4M	16	7		7	.4		7				
DF		DO	4M	17	4		4	.3		4				
DF		DO	4M	18	9		9	.5		7 2				
DF		DO	4M	19	2		2	.1		2				
DF		DO	4M	20	1		1	.1		1				
DF		DO	4M	22	6		6	.4		6				
DF		DO	4M	25	3		3	.2		3				
DF		DO	4M	28	11		11	.6		11				
DF		DO	4M	32	8	20.0	7	.4		7				
DF		DO	4M	33	6	20.0	5	.3		5				
DF		Totals			1,720	1.4	1,696	97.7		240 199	368 381	259 236	12	

TC PLOGSTVB

Log Stock Table - MBF

T11S R08W S19 TyCC01 89.00

Project: COLDBOLD
Acres 89.00

Page 2
Date 6/14/2018
Time 4:06:34PM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
RA		DO	CR	20	1		1	3.3			1									
RA		DO	CR	24	7		7	17.4			2	5								
RA		DO	CR	28	6		6	15.3					6							
RA		DO	CR	29	2		2	5.1			2									
RA		DO	CR	30	3		3	6.7			3									
RA		DO	CR	32	6		6	15.0				6								
RA		DO	CR	39	5		5	13.6			5									
RA		DO	CR	40	9		9	23.5			9									
RA		Totals			40		40	2.3			23	11	6							
Total		All Species			1,760	1.4	1,736	100.0			263	210	375	381	259	236	12			

Oregon Department of Forestry

OPERATIONAL PERIODS and SEASONAL RESTRICTIONS

West Oregon, NWOA
24533 ALSEA HWY, PHILOMATH, OR 97370
(541) 929-3266

Sale Number	Sale Name	Expiration Date
WO-341-2019-W00776-01	Cold Boulder	December 31, 2020

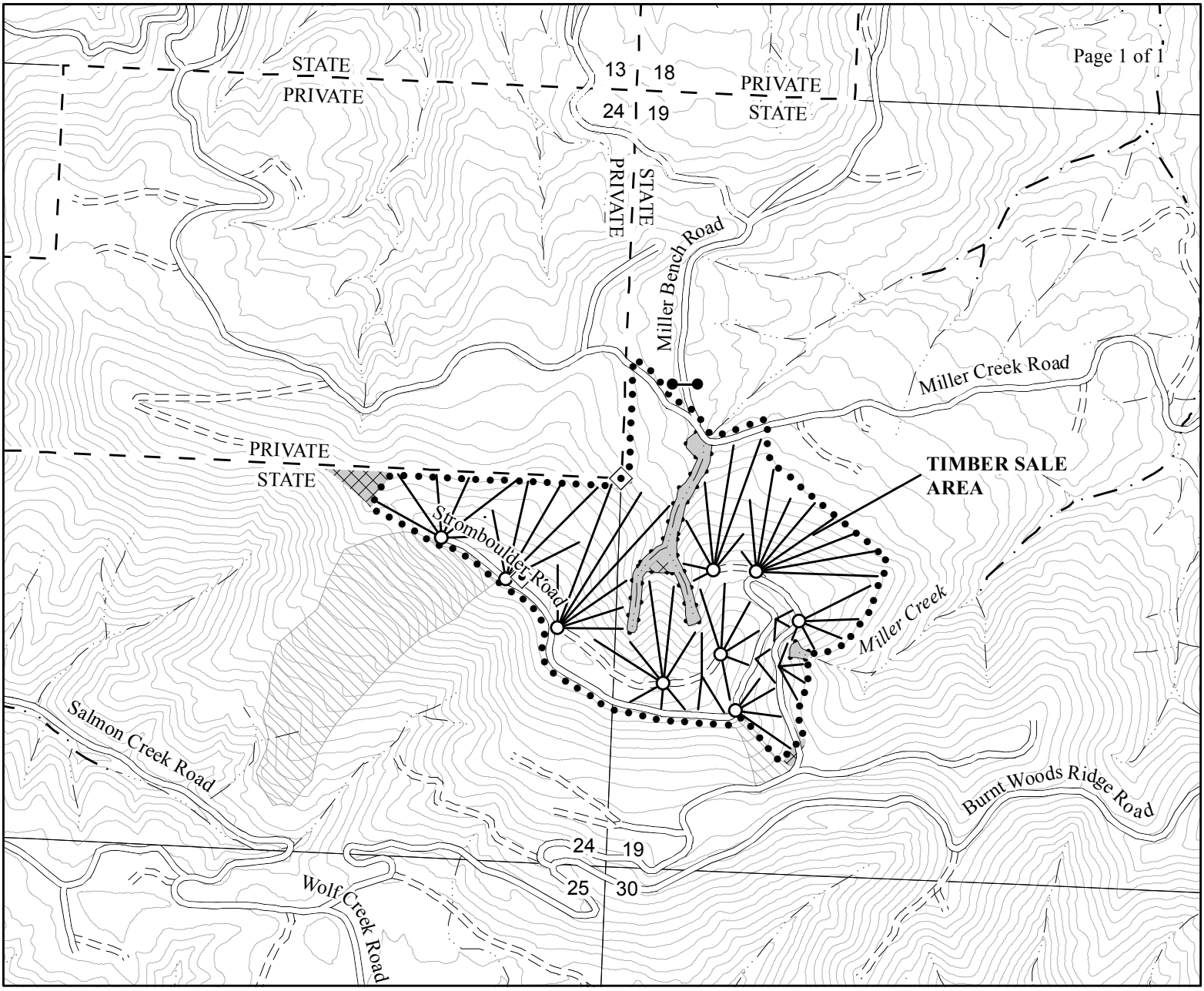
Harvesting	Comments	Units	Project	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Date
				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	
Ground yarding				■	■	■	■	■	■	■	■	■	■									■	■	■	■	■	■	
Slash Treatment	Machine Slash Piling			■	■	■	■	■	■	■	■	■	■									■	■	■	■	■	■	

Hauling	Comments	Units	Project	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Date
				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	
Hauling as shown on Exhibit A	Hauling on Salmon Creek Road			■	■	■	■																			■	■	
Log Hauling on Unsurfaced Roads				■	■	■	■	■	■	■	■	■	■									■	■	■	■	■	■	

Project Work	Comments	Units	Project	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Date
				1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	
Activity in Live Streams				■	■	■	■	■	■	■	■	■	■	■	■						■	■	■	■	■	■	■	
Non-project roads and landings				■	■	■	■	■	■	■	■	■	■									■	■	■	■	■	■	
Landing and Road Construction or Improvement Operations			1a, 1b	■	■	■	■	■	■	■	■	■	■											■	■	■	■	

Operation Allowed Operation Restricted Activity Restricted 2 hours before sunset and 2 hours after sunrise

This report is for information purposes only. Refer to Section 2455 Seasonal Restrictions of the contract.



LOGGING PLAN

OF TIMBER SALE CONTRACT NO. WO-341-2019-W00776-01
COLD BOULDER
PORTIONS OF SECTION 19, T11S, R8W,
& SECTION 24, T11S, R09W, W.M.,
LINCOLN COUNTY, OREGON

NET ACRES Cable = 77
NET ACRES Tractor = 12

Legend

Boundaries
- Timber Sale Boundary
- State Forest Property Boundary

Roads
- Surfaced Road
- Unsurfaced Road

Streams
- Type F Stream
- Type N Stream
- Posted Stream Buffer
- Stream Buffer
- Reforestation Area
- Cable Corridors
- Land Survey Monument
- Gates
- Green Tree Retention Area

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

Scale
1:12,000

1,000 0 1,000 2,000
Feet

N

Created By: Blake McKinley
blake.mckinley@oregon.gov
Date: 07/24/2018