



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Bob Quarry
Sale 341-13-89

District: Tillamook

Date: April 09, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$740,200.00	\$200,063.34	\$940,263.34
		Project Work:	\$(52,780.00)
		Advertised Value:	\$887,483.34



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timber description

Location: Portions of Sections 20, 21, 27, 28, 29, 33, and 34, T1S, R7W, and Section 4, T2S, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 40%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	14	0	95
Alder (Red)	14	0	90
Maple	13	0	90

Volume by Grade	10" - 11"	12"+	2S	3S	4S	8" - 9"	Total
Douglas - Fir	0	0	446	1,434	620	0	2,500
Alder (Red)	152	179	0	0	0	656	987
Maple	5	20	0	0	0	23	48
Total	157	199	446	1,434	620	679	3,535



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comments: Pond Values Used: 1st Quarter Calendar Year 2013.

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

\$700/MBF = \$1,000/MBF - \$300/MBF

Pulp (Conifer and Hardwood) Price = \$25/MBF

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Brand and Paint: \$2/MBF x 3,535 MBF = \$7,070

TOTAL Other Costs (with Profit & Risk to be added) = \$7,070

Other Costs (No Profit & Risk added):

Non-Project Roads:

Area 1:

Road 1 = 170' x \$150/100' + 100 CY pit-run @ \$13.45/CY = \$1,600

Road 2 = 200' x \$150/100' + 100 CY pit-run @ \$13.45/CY = \$1,645

Road 3 = 230' x \$150/100' + 100 CY pit-run @ \$13.45/CY = \$1,690

Area 2:

Road 4 = 200' x \$150/100' + 100 CY pit-run @ \$13.45/CY = \$1,645

Road 5 = 330' x \$150/100' = \$495

Area 3:

Road 6 = 1,900' x \$200/100' = \$3,800

Road 7 = 520' x \$150/100' + 100 CY pit-run @ \$12.80/CY = \$2,060

Road 8 = 1,220' x \$150/100' + 100 CY pit-run @ \$12.80/CY = \$3,110

Road 9 = 1,200' x \$100/100' + 100 CY pit-run @ \$12.80/CY = \$2,480

Road 10 = 660' x \$200/100' = \$1,320

Non-Project Road Blocking: \$50/block x 7 roads = \$350

Non-Project Road Re-Shape and Mulch Non-Project Roads 1-4 = 1,400' x \$100/100' = \$1,400

Road A to B: Remove culverts and fill, block, and seed and mulch areas of disturbed soil(includes move-in): \$1,000

Road C to D: Remove culverts and fill, block, and seed and mulch areas of disturbed soil(includes move-in): \$250

Project Road Blocking: \$50/block x 5 roads = \$250

Equipment Move in/out for Second Season of Logging: \$300 x 4 = \$1,200

Equipment Cleaning: 2 machines x \$1,000 per machine x 2 seasons = \$4,000

OHV Motorcycle Filters: 3 filters x \$75/filter = \$225

Slash Piling and Sorting: \$5/acre x 210 (cable) acres = \$1,050

Cover Material for Piles: 20 piles x \$5/pile = \$100

TOTAL Other Costs (No Profit & Risk added) = \$29,670

ROAD MAINTENANCE



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Road Maintenance: In unit roads and haul routes out the N Fork
Trask Road:
Spot Rocking: $200 \text{ cy} \times \$12/\text{cy} / 3,535 \text{ MBF} = \$0.68/\text{MBF}$
Interim Grading: $\$250/\text{mile} \times 7.9 \text{ miles} \times 2 \text{ times} / 3,535 \text{ MBF} =$
 $\$1.12/\text{MBF}$
Final Maintenance Grading: $\$500/\text{mile} \times 7.9 \text{ miles} / 3,535 \text{ MBF} =$
 $\$1.12/\text{MBF}$
Vibratory Roller: Bark Shanty from Bridge over Bark Shanty to
Township Road: $1.8 \text{ miles} \times 52.8 \text{ stations/mile} \times \$17.75/\text{station} =$
 $1,686.96 / 3,535 \text{ MBF} = \$0.48/\text{MBF}$
TOTAL Road Maintenance: $\$3.40/\text{MBF}$



"STEWARDSHIP IN FORESTRY"

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logging conditions

combination#: 1 Douglas - Fir 66.53%

yarding distance: Long (1,500 ft) downhill yarding: No
logging system: Cable: Medium Tower >40 - <70 Process: Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 4.5 bd. ft / load: 3,500
cost / mbf: \$212.32
machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 2 Douglas - Fir 2.50%

yarding distance: Medium (800 ft) downhill yarding: No
logging system: Cable: Medium Tower >40 - <70 Process: Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 3.5 bd. ft / load: 3,500
cost / mbf: \$272.99
machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 3

Alder (Red) 72.39%
Maple 75.73%
yarding distance: Long (1,500 ft) downhill yarding: No
logging system: Cable: Medium Tower >40 - <70 Process: Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 3.2 bd. ft / load: 3,500
cost / mbf: \$298.58
machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 4 Douglas - Fir 30.97%
Alder (Red) 27.61%
Maple 24.27%



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Bob Quarry
Sale 341-13-89

District: Tillamook

Date: April 09, 2013

yarding distance:	Short (400 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Stroke Delimber
tree size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
loads / day:	6.4	bd. ft / load:	3,500
cost / mbf:	\$64.36		
machines:	Stroke Delimber (B)		



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Bob Quarry Sale 341-13-89

District: Tillamook

Date: April 09, 2013

logging costs

Operating Seasons:	2.00	Profit Risk:	18.00%
Project Costs:	\$52,780.00	Other Costs (P/R):	\$7,070.00
Slash Disposal:	\$0.00	Other Costs:	\$29,670.00

Miles of Road

Road Maintenance: \$3.40

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	3.6
Alder (Red)	\$0.00	3.0	3.4
Maple	\$0.00	2.0	3.5

Local Pond Values

Date	Specie	Grade	Value
4/9/13	Maple	8" - 9"	\$560.00
4/9/13	Maple	10" - 11"	\$560.00
4/9/13	Maple	12"+	\$560.00
4/9/13	Maple	6" - 7"	\$560.00



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Date: April 09, 2013

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$168.02	\$3.57	\$2.48	\$64.27	\$2.00	\$43.26	\$0.00	\$5.00	\$8.39	\$296.99
Alder (Red)									
\$233.90	\$3.74	\$2.48	\$71.29	\$2.00	\$56.41	\$0.00	\$5.00	\$8.39	\$383.21
Maple									
\$241.73	\$3.74	\$2.48	\$103.87	\$2.00	\$63.69	\$0.00	\$5.00	\$8.39	\$430.90

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$593.07	\$296.08	\$0.00
Alder (Red)	\$0.00	\$579.63	\$196.42	\$0.00
Maple	\$0.00	\$560.00	\$129.10	\$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
Maple	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,500	\$296.08	\$740,200.00
Alder (Red)	987	\$196.42	\$193,866.54
Maple	48	\$129.10	\$6,196.80

Gross Timber Sale Value

Recovery: \$940,263.34

Prepared by: David Wells

Phone: 503-842-2545



PROJECT SUMMARY SHEET

Sale: Bob Quarry

CONSTRUCTION

Point	A to B	26+85	stations =	\$26,226.35
Point	C to D	8+70	stations =	\$4,866.59
Point	E to F	9+20	stations =	\$3,705.04
Point	I to J	14+00	stations =	\$7,175.00
SUBTOTAL CONSTRUCTION				<u>\$41,972.98</u>

IMPROVEMENT

Point	G to H	12+80	stations =	\$7,737.16
SUBTOTAL IMPROVEMENT				<u>\$7,737.16</u>

MOVE IN \$3,069.86

GRAND TOTAL \$52,780.00

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Bob Quarry</u>				Road:	<u>A to B</u>		
<u>Construction -</u>	26+85	stations	<u>Improvement -</u>	0+00	stations	<u>Reconstruction -</u>	0+00	stations
	0.51	miles		0.00	miles		0.00	miles

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

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u> <u>or Activity</u>	<u>Avg. Dist.</u> <u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	=	
0+00		2+20	15%		Outslope	\$107	=	\$235.40
2+20		4+35	30%		Outslope	\$191	=	\$410.65
4+35		6+00	65%	0.1	Outslope	\$1,931	=	\$3,186.15
6+00		7+20	10%		Outslope	\$90	=	\$108.00
7+20		8+40	60%	0.2	Outslope	\$1,576	=	\$1,891.20
8+40		10+10	35%		Outslope	\$191	=	\$324.70
10+10		12+55	70%	0.22	Outslope	\$2,433	=	\$5,960.85
12+55		14+05	Fill Const.		Outslope	\$500	=	\$750.00
14+05		15+60	25%		Outslope	\$165	=	\$255.75
15+60		17+05	40%		Outslope	\$243	=	\$352.35
17+05		18+95	20%		Outslope	\$139	=	\$264.10
18+95		20+15	Fill Const.		Outslope	\$500	=	\$600.00
20+15		22+15	20%		Outslope	\$139	=	\$278.00
22+15		26+15	40%		Outslope	\$243	=	\$972.00
26+15		26+85	Land. Const.		Outslope	\$600	=	\$420.00
								TOTAL
								\$16,009.15

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>							
90	LF of 30"	<u>\$3,240.00</u>		40	LF of 24"	<u>\$1,080.00</u>	
		<u>\$3,240.00</u>				\$1,080.00	
<u>Culvert Stakes & Markers</u>							
3	markers	<u>\$24.00</u>					
		<u>\$24.00</u>					
						TOTAL CULVERTS	\$4,344.00

ROCK

0+00	to	1+00	80	cy. of	Pit-run	@	\$12.07 per c.y.=	\$965.60
5+15	to	6+15	80	cy. of	Pit-run	@	\$12.16 per c.y.=	\$972.80
12+65	to	13+65	80	cy. of	Pit-run	@	\$12.22 per c.y.=	\$977.60
Road Rock		19+05 to 20+05	80	cy. of	Pit-run	@	\$12.31 per c.y.=	\$984.80
Junction Rock		0+00	20	cy. of	Pit-run	@	\$12.06 per c.y.=	\$241.20
								TOTAL ROCK
								\$4,142.00

SPECIAL PROJECTS

Construct waste areas -	3.00	hours @	\$130.00	per hour	\$390.00
Grade and shape road -	26.85	stations @	\$15.50	per station	\$416.18
Roll subgrade w/ vibratory roller prior to rocking -	26.85	stations @	\$13.20	per station	\$354.42
Grass seed and fertilize -	1.23	acres @	\$220.00	per acre	\$270.60
Mulching -	0.500	acres @	\$600.00	per acre	\$300.00
					TOTAL SPECIAL PROJECTS
					\$1,731.20

GRAND TOTAL **\$26,226.35**

SUMMARY OF CONSTRUCTION COST

Sale:	Bob Quarry			Road:	C to D		
Construction -	8+70	stations	Improvement -	0+00	stations	Reconstruction -	0+00
	0.16	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+00	20%		Outslope	\$139
	1+00		4+50	45%		Outslope	\$269
	4+50		8+70	20%		Outslope	\$139
							=
							\$139.00
							\$941.50
							\$583.80
							TOTAL
							\$1,664.30

CULVERTS - MATERIALS & INSTALLATION							
	Culverts						
			50	LF of 18"		\$875.00	
						\$875.00	
	Culvert Stakes & Markers						
			2	markers		\$16.00	
						\$16.00	
							TOTAL CULVERTS
							\$891.00

ROCK							
0+00	to	1+00	80	cy. of	Pit-run	@	\$11.59 per c.y.=
4+85	to	5+85	70	cy. of	Pit-run	@	\$11.64 per c.y.=
Junction Rock		0+00	20	cy. of	Pit-run	@	\$11.58 per c.y.=
							\$231.60
							TOTAL ROCK
							\$1,973.60

SPECIAL PROJECTS							
Grade and shape road -			8.70	stations @	\$15.50	per station	\$134.85
Roll subgrade w/ vibratory roller prior to rocking -			8.70	stations @	\$13.20	per station	\$114.84
Grass seed and fertilize -			0.40	acres @	\$220.00	per acre	\$88.00
							TOTAL SPECIAL PROJECTS
							\$337.69
							GRAND TOTAL
							\$4,866.59

SUMMARY OF CONSTRUCTION COST

Sale:

Bob Quarry

Road:

E to F

Construction -	9+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.17	miles		0.00	miles		0.00	miles

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

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u> <u>or Activity</u>	<u>Avg. Dist.</u> <u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>			
0+00		1+80	20%		Outslope	\$139	=	\$250.20	
1+80		4+30	35%		Outslope	\$191	=	\$477.50	
4+30		5+70	30%		Outslope	\$191	=	\$267.40	
5+70		7+50	Land. Const.		Outslope	\$500	=	\$900.00	
7+50		9+20	35%		Outslope	\$191	=	\$324.70	
								TOTAL	\$2,219.80

ROCK

0+00 to	1+00	80	cy. of	Pit-run	@	\$11.29 per c.y.=	\$903.20	
Junction Rock	0+00	20	cy. of	Pit-run	@	\$11.28 per c.y.=	\$225.60	
							TOTAL ROCK	\$1,128.80

SPECIAL PROJECTS

Grade and shape road -	9.20	stations @	\$15.50	per station	\$142.60
Roll subgrade w/ vibratory roller prior to rocking -	9.20	stations @	\$13.20	per station	\$121.44
Grass seed and fertilize -	0.42	acres @	\$220.00	per acre	\$92.40
				TOTAL SPECIAL PROJECTS	\$356.44

GRAND TOTAL

\$3,705.04

SUMMARY OF CONSTRUCTION COST

Sale: **Bob Quarry**

Road: **G to H**

Construction -	0+00	stations	Improvement -	12+80	stations	Reconstruction -	0+00	stations
	0.00	miles		0.24	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Scattering	0.240	acres	@	\$980.00	per acre =	\$235.20	
						TOTAL CLEARING AND GRUBBING	\$235.20

IMPROVEMENT: EXCAVATION -

Road Earthwork	12.80	sta.	@	\$150.00	per sta. =	\$1,920.00	
						TOTAL EXCAVATION	\$1,920.00

ROCK

0+00 to	5+55	420	cy. of	Pit-run	@	\$11.05	per c.y. =	\$4,641.00	
Junction Rock	0+00	20	cy. of	Pit-run	@	\$11.04	per c.y. =	\$220.80	
								TOTAL ROCK	\$4,861.80

SPECIAL PROJECTS

Construct ditchouts -	5.00	@	\$60.00	each	\$300.00	
Grade and shape road -	12.80	stations @	\$15.50	per station	\$198.40	
Roll subgrade w/ vibratory roller prior to rocking -	12.80	stations @	\$13.20	per station	\$168.96	
Grass seed and fertilize -	0.24	acres @	\$220.00	per acre	\$52.80	
					TOTAL SPECIAL PROJECTS	\$720.16

GRAND TOTAL	\$7,737.16
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SUMMARY OF CONSTRUCTION COST

Sale: **Bob Quarry**

Road: **I to J**

Construction -	14+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.27	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		4+00	10%		Outslope	\$90	=	\$360.00
4+00		4+40	35%		Outslope	\$191	=	\$76.40
4+40		4+70	45%		Outslope	\$269	=	\$80.70
4+70		5+70	50%		Outslope	\$459	=	\$459.00
5+70		6+40	70%	0.1	Outslope	\$2,352	=	\$1,646.40
6+40		7+00	60%	0.1	Outslope	\$1,521	=	\$912.60
7+00		7+40	45%		Outslope	\$269	=	\$107.60
7+40		9+90	30%		Outslope	\$191	=	\$477.50
9+90		10+40	35%		Outslope	\$191	=	\$95.50
10+40		10+60	50%		Outslope	\$459	=	\$91.80
10+60		11+10	35%		Outslope	\$191	=	\$95.50
11+10		14+00	10%		Outslope	\$90	=	\$261.00
								TOTAL
								\$4,664.00

ROCK

0+00 to	1+00	80	cy. of	Pit-run	@	\$9.59 per c.y.=	\$767.20	
Junction Rock	0+00	20	cy. of	Pit-run	@	\$9.58 per c.y.=	\$191.60	
								TOTAL ROCK
								\$958.80

SPECIAL PROJECTS

Construct waste areas -	1.00	hours @	\$130.00	per hour	\$130.00	
Construct landing at Point J -	1.00	@	\$250.00	each	\$250.00	
Cut/Drift to reduce grade from 1+00 to 2+00 -	2.00	hours @	\$130.00	per hour	\$260.00	
Cut/Drift to construct throughcut and reduce grade from 9+90 to 11+10 -	2.00	hours @	\$130.00	per hour	\$260.00	
Construct turnaround before landing -	1.00	@	\$75.00	each	\$75.00	
Grade and shape road -	14.00	stations @	\$14.00	per station	\$196.00	
Roll subgrade w/ vibratory roller prior to rocking -	14.00	stations @	\$13.20	per station	\$184.80	
Grass seed and fertilize -	0.62	acres @	\$220.00	per acre	\$136.40	
Mulching -	0.100	acres @	\$600.00	per acre	\$60.00	
						TOTAL SPECIAL PROJECTS
						\$1,552.20

GRAND TOTAL **\$7,175.00**

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Pit_run	Location:	NW 1/4, NE 1/4, Sec. 3 , T2S, R7W, W.M.
Sale:	Bob Quarry	Road:	1150 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	1150 c.y.
Drill Pct.:	0%	In Place Total:	821 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$1,026.06

Rip Rock:	\$1.90 /cu.yd.	x	821 cu.yds.	=	\$1,559.90
Load Dump Truck:	\$0.70 /cu.yd.	x	1150 cu.yds.	=	\$805.00

Subtotal \$3,390.96

Move in Roller and Compactor	1	@	\$442.75	=	\$442.75
Move in Grader	1	@	\$149.65	=	\$149.65
Move in Excavator	1	@	\$755.55	=	\$755.55
Move in Trucks	2	@	\$142.50	=	\$285.00
Move in Water Truck	1	@	\$167.50	=	\$167.50

Subtotal \$1,800.45

Base Cost=	\$4.51	Per Cu.Yd.	TOTAL PRODUCTION COSTS \$5,191.41
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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 0 100 (Pit-run)	6.46	1.10	4.51	12.07	80	\$965.60
A to B 515 615 (Pit-run)	6.55	1.10	4.51	12.16	80	\$972.80
A to B 1265 1365 (Pit-run)	6.61	1.10	4.51	12.22	80	\$977.60
A to B Road Rock (Pit-run)	6.70	1.10	4.51	12.31	80	\$984.80
A to B Junction Rock (Pit-run)	6.45	1.10	4.51	12.06	20	\$241.20
C to D 0 100 (Pit-run)	5.98	1.10	4.51	11.59	80	\$927.20
C to D 485 585 (Pit-run)	6.03	1.10	4.51	11.64	70	\$814.80
C to D Junction Rock (Pit-run)	5.97	1.10	4.51	11.58	20	\$231.60
E to F 0 100 (Pit-run)	5.68	1.10	4.51	11.29	80	\$903.20
E to F Junction Rock (Pit-run)	5.67	1.10	4.51	11.28	20	\$225.60
G to H 0 555 (Pit-run)	5.44	1.10	4.51	11.05	420	\$4,641.00
G to H Junction Rock (Pit-run)	5.43	1.10	4.51	11.04	20	\$220.80
I to J 0 100 (Pit-run)	3.98	1.10	4.51	9.59	80	\$767.20
I to J Junction Rock (Pit-run)	3.97	1.10	4.51	9.58	20	\$191.60
Total C.Y.					1150	Sub Total \$13,065.00

TOTAL ROCKING COSTS \$13,065.00

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

Sale: **Bob Quarry**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
30.0	Pavement	30
7.0	Main Lines	7
3.5	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	Excavators (Large)	\$778.55	1	\$44.80	0.00	6.00	6	\$268.80	\$1,047.35
1	Tractor (D8)	\$732.55	2	\$15.10	0.00	6.00	6	\$90.60	\$823.15
2	Dump Truck (10 cy +)	\$358.65		\$2.85	0.00	6.00	6	\$34.20	\$392.85
1	Dump Truck (Off Hiway)	\$618.41	1	\$4.75	0.00	6.00	6	\$28.50	\$646.91
1	Water Truck (1500 Gal)	\$142.50		\$2.85	0.00	6.00	6	\$17.10	\$159.60
				TOTAL MOVE-IN COSTS:				\$3,069.86	



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Bob Quarry

1. Type of Sale

Regeneration harvest, Recovery.

2. Legal Description

Sections 20, 21, 27, 28, 29, 33, and 34, T1S, R7W, and Section 4, T2S, R7W, W.M., Tillamook County, Oregon.

3. Sale Acreage

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

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Clearcut)	115	88
Area 2 (Clearcut)	118	100
Area 3 (Clearcut)	167	109
Area 4 (Right of Way)	3	3

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

Areas 1, 2, and 3 were variable plot cruised. Plot and line spacing was 350' and 700' respectively. All conifers 8" DBH and greater containing 20 board feet and all hardwoods 10" DBH and greater containing 30 board feet were recorded. Species, DBH (to the nearest inch), merchantable bole length (to the nearest foot), form factor, and defect were recorded for all trees. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods respectively. Area 4 (Right-of-Way) was not cruised but the volume from Area 2 were applied on a per acre basis because of the similar timber type.

B. Plot size

All plots were measured using a 27.8 BAF and point of tree observation was 4.5

feet.

C. Grading System

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

5. Computation Procedure

Plot data was entered into SuperAce for computation of basal area, stand tables, and volume for each species and type. In Areas 1 and 2, fifty five conifer and 15 hardwood trees were marked with yellow paint as leave trees to meet riparian management requirements. These trees represent about 0.16 percent of the trees to be harvested and no deduction from the cruised volume was made.

Cruise Statistics (Board Foot Volumes)			
Area	Number of Plots	SE (%)	CV (%)
1	13	15.2	52.9
2	15	13.8	51.6
3	19	13.9	59.0
Total	47	8.6	58.7

6. Hidden Defect and Breakage

A reduction for hidden defect and breakage of 5% was applied to conifers and 10% to hardwoods. This was in addition to the visual defect deducted during the cruise.

7. Timber Description

The entire sale was burned in the 1939 Saddle Mountain Fire. Area 1 was planted in the 1963-64 season and then 60 acres was replanted in 1970-71. Area 2 was planted in the 1963-64 season and then 55 acres was replanted in 1973-74. Forty three acres of Area 3 regenerated naturally and the remainder was planted in 1972-73 of which about 2 acres was replanted in 1974-75. Spraying to control alder growth was completed in the 1970's on 25 acres of Area 1 primarily on its eastern edge and 41 acres in the west and south portions of Area 2. There has been no additional timber management.

Sale Area	Species	DBH	Merchantable Bole Height (feet)	Merchantable top (inches inside bark)
1	Douglas-fir	13.7	56	5
	Alder	14.3	42	6
	Big leaf maple	17.5	21	6
2	Douglas-fir	14.9	52	5
	Alder	13.5	35	6

	Big leaf maple	11.8	32	6
3	Douglas-fir	13.7	53	5
	Alder	14.1	41	6

8. Cruiser Names/Dates

Cruised through Service Contract November 2011. Supplemental plots were completed by Tillamook District Personnel in December 2012 through January 2013

9. Revenue Distribution

- FDF 100%
- Tax Code: 9-2 (The right-of-way harvest includes a negligible amount (less than .01%) of volume from tax code 9-1)
- Deed Numbers: 161, 169, 230

10. Attachments

Volume Summary

Stand Table

Log Stock Tables

Logging Plan

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir take

RA – Red alder take

BM – Big leaf maple take



"STEWARDSHIP IN FORESTRY"

Bob Quarry

Volume Summary

Area 1-Modified Clearcut				
88 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	8.9	786	5%	747
Alder	6.5	572	10%	515
Big leaf maple	0.3	28	10%	25
TOTAL	15.8	1386		1287

Area 2-Modified Clearcut				
100 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	6.6	659	5%	626
Alder	2.7	273	10%	246
Big leaf maple	0.2	24	10%	22
TOTAL	9.6	956		894

Area 3-Modified Clearcut				
109 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	10.7	1167	5%	1108
Alder	2.2	243	10%	219
TOTAL	12.9	1410		1327

Area 4-Right-of-Way				
3 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	6.7	20	5%	19
Alder	2.7	8	10%	7
Big leaf maple	0.3	1	10%	1
TOTAL	9.7	29		27

TOTAL SALE VOLUME		300	acres
SPECIES	Cruised Net (MBF)	Net Sale (MBF)	
Douglas-fir	2632	2500	
Alder	1096	987	
Big leaf maple	53	48	
TOTAL	3781	3535	

TC TLOGSTVB				Log Stock Table - MBF																																			
				Project:				BOB_Q																															
T01S R07W S21 TSALE												T01S R07W S21 TSALE																											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		2																					
01S		07W		21		AREA_1		SALE		88.00		13		94		Date		1/24/2013																					
																Time		8:55:59AM																					
S So Gr Log				Gross		% Net		%		Net Volume by Scaling Diameter in Inches																													
Spp T				rt de		Len		MBF		Def		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				Totals				788		5.2		747		58.0		175		106		170		172		104		20													
BM		H		2		16		11		10.0		9		37.6										9															
BM		H		2		18		12		10.0		11		43.4								11																	
BM		H		3		22		9		43.7		5		19.0								5																	
BM				Totals				31		19.2		25		2.0								5		11		9													
Total All Species				1,431		10.0		1,288		100.0		175		106		487		266		171		62		20		2													

Stand Table Summary																	
Project BOB_Q																	
T01S R07W S21 TSALE												T01S R07W S21 TSALE					
Twp	Rge	Sec	Tract	Type				Acres	Plots	Sample Trees			Page:	1			
01S	07W	21	AREA_1	SALE				88.00	13	94			Date:	01/24/2015			
												Time:	9:21:12AM				
S Spc	T	Sample		FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	16'	Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft. Acre	Bd.Ft. Acre		Tons	Cunits	MBF
DF		8	2	83	42	12.244	4.27	12.24	4.1	20.0	1.44	51	245	127	45	22	
DF		9	1	82	68	4.837	2.14	4.84	9.5	40.0	1.32	46	193	116	41	17	
DF		10	1	87	64	4.341	2.14	4.34	10.4	40.0	1.29	45	174	113	40	15	
DF		11	1	83	78	3.238	2.14	3.24	17.1	60.0	1.58	55	194	139	49	17	
DF		12	4	85	84	10.883	8.55	19.05	11.7	45.7	6.35	223	871	559	196	77	
DF		13	5	83	84	11.592	10.68	18.55	14.8	51.3	7.80	274	951	686	241	84	
DF		14	2	82	86	4.149	4.27	8.30	15.8	55.0	3.73	131	456	328	115	40	
DF		15	3	84	98	5.224	6.41	10.45	20.7	78.3	6.18	217	818	543	191	72	
DF		16	4	83	94	6.222	8.55	12.44	22.7	78.7	8.03	282	979	707	248	86	
DF		17	5	84	98	7.029	10.68	14.06	25.9	93.0	10.39	365	1,308	915	321	115	
DF		18	2	82	97	2.489	4.27	4.98	29.0	99.9	4.11	144	497	361	127	44	
DF		19	4	84	98	4.341	8.55	8.68	34.5	115.0	8.54	300	998	751	264	88	
DF		20	3	84	98	2.938	6.41	5.88	38.8	126.7	6.48	228	744	570	200	66	
DF		21	1	82	91	.888	2.14	1.78	39.7	120.0	2.01	71	213	177	62	19	
DF		26	1	84	109	.603	2.14	1.21	65.5	245.0	2.25	79	295	198	69	26	
DF		Totals	39	84	80	81.018	83.34	130.02	19.3	68.7	71.50	2,510	8,937	6,292	2,208	786	
RA		10	1	84	62	3.918	2.14	3.92	6.7	20.0	.72	26	78	64	23	7	
RA		11	7	77	74	22.982	14.96	19.74	11.5	41.6	6.24	227	822	549	200	72	
RA		12	3	83	59	8.162	6.41	8.16	11.4	43.3	2.55	93	354	225	82	31	
RA		13	9	81	75	21.054	19.23	23.37	14.7	46.0	9.50	343	1,076	836	302	95	
RA		14	7	76	71	14.144	14.96	16.14	16.5	62.7	7.34	266	1,012	646	234	89	
RA		15	1	83	61	1.741	2.14	1.74	25.0	60.0	1.20	44	104	105	38	9	
RA		16	8	78	76	12.244	17.10	13.77	25.0	84.4	9.51	344	1,163	837	303	102	
RA		17	2	60	93	2.795	4.27	2.79	7.9	34.6	.61	22	97	54	20	8	
RA		18	6	71	81	7.326	12.82	8.53	26.7	91.1	6.29	228	777	553	201	68	
RA		19	2	84	75	2.171	4.27	2.17	54.0	205.0	3.21	117	445	283	103	39	
RA		20	1	54	85	.979	2.14	.98	14.6	50.0	.39	14	49	35	13	4	
RA		21	1	86	82	.932	2.14	.93	73.0	320.0	1.86	68	298	164	60	26	
RA		24	1	59	83	.680	2.14	.68	18.2	70.0	.34	12	48	30	11	4	
RA		27	1	77	77	.537	2.14	.54	116.0	290.0	1.72	62	156	151	55	14	
RA		74	1	46	50	.072	2.14	.07	377.0	80.0	.74	27	6	65	24	1	
RA		99	1	88	33	.040	2.14	.04	822.0	510.0	.90	33	20	80	29	2	
RA		Totals	52	78	73	99.777	111.12	103.60	18.6	62.8	53.12	1,927	6,505	4,675	1,696	572	
BM		16	1	87	36	1.530	2.14	1.53	18.1	90.0	.73	28	138	65	24	12	
BM		18	1	78	33	1.209	2.14	1.21	25.0	50.0	.82	30	60	72	27	5	
BM		19	1	84	36	1.085	2.14	1.09	24.3	110.0	.70	26	119	62	23	11	
BM		Totals	3	83	35	3.825	6.41	3.83	22.0	83.0	2.25	84	318	198	74	28	
Totals		94			80	76	184.620	200.87	237.44	19.0	66.4	126.87	4521	15,760	11,165	3,979	1,387

TC TLOGSTVB				Log Stock Table - MBF																																			
				Project: BOB_Q																																			
T01S R07W S21 TSALE										T01S R07W S21 TSALE																													
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		2																					
01S		07W		21		AREA_2		SALE		100.00		15		67		Date		1/24/2013																					
																Time		8:59:53AM																					
S		So Gr		Log		Gross		%		Net		%		Net Volume by Scaling Diameter in Inches																									
Spp		T		rt de		Len		MBF		Def		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+	
BM		H		4		24		9		32.5		6		29.3								6																	
BM		H		4		30		7		25.0		5		24.3								5																	
BM				Totals				28		21.5		22		2.4								22																	
Total All Species								966		7.6		893		100.0				116		69		350		172		31		97		36		22							

TC		TSTNDSUM		Stand Table Summary												
				Project		BOB_Q										
T01S R07W S21 TSALE												T01S R07W S21 TSALE				
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees			Page: 1		
01S	07W	21	AREA_2	SALE				100.00		15	67			Date: 01/24/2015		
														Time: 9:23:04AM		
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
DF		8	1	81	48	5.306	1.85	5.31	5.3	20.0	.81	28	106	81	28	11
DF		10	3	82	60	10.187	5.56	10.19	9.9	43.3	2.89	101	441	289	101	44
DF		11	1	85	81	2.806	1.85	2.81	14.8	60.0	1.19	42	168	119	42	17
DF		13	3	83	78	6.192	5.56	10.37	14.4	47.9	4.27	150	497	427	150	50
DF		14	4	85	56	6.930	7.41	8.66	17.0	42.0	4.31	147	364	431	147	36
DF		15	5	85	81	7.546	9.26	13.58	19.8	68.9	7.66	268	936	766	268	94
DF		16	3	83	74	3.979	5.56	7.96	18.6	66.7	4.22	148	531	422	148	53
DF		17	4	85	79	4.700	7.41	8.22	26.4	90.0	6.19	217	740	619	217	74
DF		18	1	84	88	1.048	1.85	2.10	30.0	105.0	1.79	63	220	179	63	22
DF		20	3	84	82	2.547	5.56	5.09	33.7	108.3	4.89	172	552	489	172	55
DF		21	2	79	84	1.540	3.70	3.08	37.3	102.5	3.27	115	316	327	115	32
DF		22	1	84	100	.702	1.85	1.40	49.7	175.0	1.99	70	246	199	70	25
DF		23	1	82	112	.642	1.85	1.93	36.9	136.7	2.02	71	263	202	71	26
DF		24	1	83	115	.590	1.85	1.77	41.1	166.7	2.07	73	295	207	73	29
DF		25	1	82	96	.543	1.85	1.09	60.0	200.0	1.86	65	217	186	65	22
DF		29	1	86	93	.404	1.85	.81	79.1	295.0	1.82	64	238	182	64	24
DF		31	1	79	85	.353	1.85	.71	86.2	250.0	1.74	61	177	174	61	18
DF		32	1	84	105	.332	1.85	.66	104.9	425.0	1.98	70	282	198	70	28
DF		Totals	37	83	72	56.344	68.52	85.73	22.4	76.8	54.97	1,924	6,588	5,497	1,924	659
RA		11	4	82	68	11.225	7.41	11.23	11.7	45.0	3.60	131	505	360	131	51
RA		12	6	80	52	14.148	11.11	14.15	13.2	45.0	5.16	187	637	516	187	64
RA		13	3	84	47	6.028	5.56	6.03	11.4	43.3	1.99	69	261	199	69	26
RA		14	2	80	22	3.465	3.70	3.46	12.0	35.0	1.15	42	121	115	42	12
RA		15	4	78	70	6.037	7.41	6.04	24.6	72.5	4.08	148	438	408	148	44
RA		16	1	78	38	1.326	1.85	1.33	15.4	60.0	.56	20	80	56	20	8
RA		17	2	70	75	2.350	3.70	3.52	21.7	53.3	2.12	77	188	212	77	19
RA		18	2	81	52	2.096	3.70	2.10	38.6	80.0	2.23	81	168	223	81	17
RA		20	2	83	55	1.698	3.70	1.70	45.7	195.0	2.14	78	331	214	78	33
RA		Totals	26	80	56	48.373	48.15	49.55	16.8	55.1	23.01	832	2,728	2,301	832	273
BM		10	1	80	54	3.396	1.85	3.40								
BM		11	1	82	67	2.806	1.85	2.81	11.1	40.0	.83	31	112	83	31	11
BM		12	1	78	60	2.358	1.85	2.36	14.0	30.0	.85	33	71	85	33	7
BM		17	1	75	45	1.175	1.85	1.17	31.7	50.0	.99	37	59	99	37	6
BM		Totals	4	79	58	9.735	7.41	9.73	10.4	24.8	2.66	101	242	266	101	24
Totals		67		82	64	114.452	124.08	145.01	19.7	65.9	80.64	2858	9,558	8,064	2,858	956

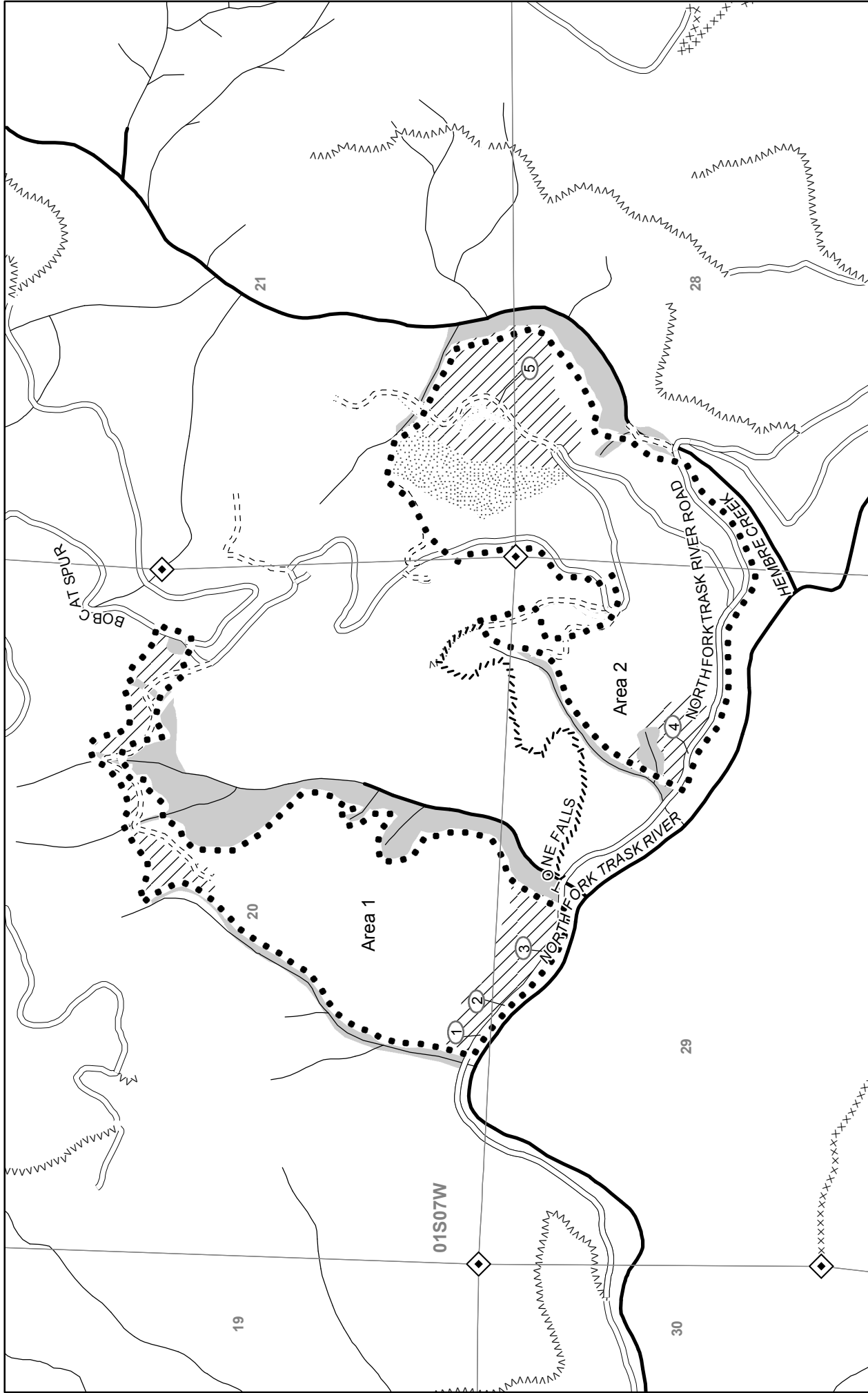
TC TLOGSTVB				Log Stock Table - MBF															
				Project: BOB_Q															
T01S R07W S21 TSALE												T01S R07W S21 TSALE							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
01S	07W	21	AREA_3	SALE	109.00	19	98	Date	1/24/2013										
									Time	9:05:52AM									
S Spp	So Gr	Log Len	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
DF	CO	2	40	161	5.2	152	13.8						24	106	23				
DF	CO	3	10																
DF	CO	3	18	11	5.0	10	.9						10						
DF	CO	3	20	18	5.0	17	1.5			7	10								
DF	CO	3	28	2	5.0	2	.2				2								
DF	CO	3	36	3	5.0	3	.2			3									
DF	CO	3	40	681	7.0	633	57.1			170	312	110	25		16				
DF	CO	4																	
DF	CO	4	9																
DF	CO	4	10																
DF	CO	4	11																
DF	CO	4	12	3	5.0	3	.2			3									
DF	CO	4	13	4	5.0	4	.3			4									
DF	CO	4	14	3	5.0	3	.3			3									
DF	CO	4	15	14	5.0	13	1.2			13									
DF	CO	4	16	14	5.0	13	1.2			13									
DF	CO	4	17	6	5.0	5	.5			4									
DF	CO	4	18	3	5.0	3	.3			3									
DF	CO	4	19	3	5.0	3	.3			3									
DF	CO	4	20	7	5.0	6	.6			6									
DF	CO	4	21	5	5.0	5	.5			5									
DF	CO	4	22	11	5.0	10	.9			4									
DF	CO	4	24	15	5.0	15	1.3			8									
DF	CO	4	25	40	5.0	38	3.5			38			6						
DF	CO	4	26	15	5.0	14	1.3			14									
DF	CO	4	27	11	5.0	10	.9			10									
DF	CO	4	28	8	5.0	8	.7			8									
DF	CO	4	31	7	5.0	7	.6			7									
DF	CO	4	32	17	5.0	16	1.4			16									
DF	CO	4	33	18	5.0	17	1.5			17									
DF	CO	4	34	6	5.0	6	.5			6									
DF	CO	4	35	9	5.0	9	.8			9									
DF	CO	4	37	12	5.0	11	1.0			11									
DF	CO	4	38	15	5.0	14	1.3			14									
DF	CO	4	40	61	5.0	58	5.2			42	15								
DF	Totals			1,181	6.2	1,108	83.5		263	186	328	128	25	34	122	23			
RA	4	3	29	15	10.0	13	6.0					13							
RA	H	2	40	20	10.0	18	8.3					18							
RA	H	3																	
RA	H	3	15	7	10.0	7	3.1					7							
RA	H	3	20	8	10.0	7	3.3					7							
RA	H	3	27	12	10.0	11	4.8						11						
RA	H	3	35	14	64.0	5	2.3							5					
RA	H	3	40	28	10.0	26	11.7					26							
RA	H	4																	
RA	H	4	7																
RA	H	4	8																
RA	H	4	10																
RA	H	4	12	7	10.0	7	3.1			7									
RA	H	4	14	2	10.0	1	.7			1									

TC TLOGSTVB				Log Stock Table - MBF																			
				Project: BOB_Q																			
T01S R07W S21 TSALE												T01S R07W S21 TSALE											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		2					
01S		07W		21		AREA_3		SALE		109.00		19		98		Date		1/24/2013					
																Time		9:05:52AM					
S So Gr Log				Gross		% Net		%		Net Volume by Scaling Diameter in Inches													
Spp T rt de Len				MBF		Def 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 15				5		10.0 4		2.0						4									
RA H 4 16				7		10.0 7		3.0						7									
RA H 4 17				5		10.0 5		2.2						5									
RA H 4 19				8		10.0 7		3.3						7									
RA H 4 22				6		49.6 3		1.3						3									
RA H 4 23				8		10.0 7		3.3						7									
RA H 4 26				4		10.0 4		1.7						4									
RA H 4 27				12		10.0 11		5.0						11									
RA H 4 29				2		10.0 2		1.0						2									
RA H 4 30				14		10.0 13		6.0						13									
RA H 4 36				16		10.0 15		6.7						15									
RA H 4 37				6		32.5 4		2.0						4									
RA H 4 38				8		10.0 7		3.3						7									
RA H 4 40				39		10.0 35		16.0						35									
RA Totals				256		14.4 219		16.5						128		44 42		5					
Total All Species				1,437		7.6 1,327		100.0		263		186 456		173 67		39 122		23					

Stand Table Summary																	
Project										BOB_Q							
T01S R07W S21 TSALE													T01S R07W S21 TSALE				
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees			Page: 1			
01S	07W	21	AREA_3	SALE				109.00		19	98			Date: 01/24/2015			
													Time: 9:28:24AM				
S Spc	T	Sample		FF	Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	16'	Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
DF		7	1	77	52	5.471	1.46	5.47	3.0	20.0	.47	17	109	51	18	12	
DF		8	1	71	26	4.189	1.46	4.19	3.9	20.0	.46	16	84	51	18	9	
DF		9	2	76	52	6.619	2.92	6.62	7.2	30.0	1.36	48	199	149	52	22	
DF		10	4	80	80	10.723	5.85	13.40	10.7	32.0	4.09	143	429	446	156	47	
DF		11	8	83	74	17.724	11.70	26.59	10.4	38.3	7.87	276	1,019	858	301	111	
DF		12	3	82	83	5.585	4.39	11.17	10.5	36.7	3.35	117	410	365	128	45	
DF		13	6	82	86	9.517	8.77	17.45	14.9	50.9	7.41	260	888	808	283	97	
DF		14	9	82	85	12.309	13.16	23.25	16.2	55.3	10.72	376	1,286	1,169	410	140	
DF		15	12	82	90	14.297	17.55	28.59	18.3	63.8	14.91	523	1,823	1,625	570	199	
DF		16	6	83	79	6.283	8.77	12.57	20.2	64.2	7.24	254	806	789	277	88	
DF		17	5	82	87	4.638	7.31	9.28	22.6	75.0	6.62	210	696	721	229	76	
DF		18	3	84	83	2.482	4.39	4.96	27.4	93.3	3.88	136	463	423	148	51	
DF		20	1	80	80	.670	1.46	1.34	33.2	105.0	1.27	44	141	138	48	15	
DF		21	2	82	90	1.216	2.92	3.04	28.9	106.0	2.51	88	322	273	96	35	
DF		23	1	78	87	.507	1.46	1.01	48.8	135.0	1.41	49	137	154	54	15	
DF		24	1	83	103	.465	1.46	.93	58.6	215.0	1.56	55	200	170	59	22	
DF		26	1	81	97	.397	1.46	.79	56.0	195.0	1.51	44	155	164	48	17	
DF		27	1	83	109	.368	1.46	1.10	50.5	193.3	1.59	56	213	173	61	23	
DF		28	1	80	99	.342	1.46	.68	75.0	230.0	1.49	51	157	162	56	17	
DF		29	2	77	106	.638	2.92	1.28	84.3	282.5	3.06	108	360	334	117	39	
DF		31	1	81	111	.279	1.46	.56	100.7	375.0	1.60	56	209	174	61	23	
DF		32	1	76	99	.262	1.46	.52	100.6	315.0	1.50	53	165	164	57	18	
DF		34	1	86	121	.232	1.46	.70	89.5	423.3	1.77	62	295	193	68	32	
DF		37	1	72	88	.196	1.46	.39	124.5	350.0	1.39	49	137	152	53	15	
DF		Totals		74	81	77	105.407	108.20	175.89	17.6	60.8	89.05	3,093	10,703	9,706	3,371	1,167
RA		10	1	72	44	2.681	1.46	2.68									
RA		11	5	78	75	11.077	7.31	13.29	8.7	30.0	3.18	116	399	347	126	43	
RA		12	3	79	63	5.585	4.39	7.45	11.5	40.0	2.35	85	298	256	93	32	
RA		14	1	77	43	1.368	1.46	2.74	6.1	25.0	.46	17	68	50	18	7	
RA		15	3	81	77	3.574	4.39	5.96	20.1	64.0	3.31	120	381	361	130	42	
RA		17	2	80	90	1.855	2.92	2.78	34.0	120.0	2.60	95	334	284	103	36	
RA		18	3	80	69	2.482	4.39	3.31	26.4	100.0	2.50	87	331	272	95	36	
RA		19	4	80	63	2.970	5.85	4.46	27.4	76.7	3.36	122	342	366	133	37	
RA		23	1	79	76	.507	1.46	1.01	38.4	55.0	1.24	39	56	136	42	6	
RA		25	1	59	53	.429	1.46	.43	30.7	50.0	.36	13	21	39	14	2	
RA		Totals		24	78	68	32.528	35.09	44.10	15.7	50.6	19.36	693	2,230	2,110	756	243
Totals				98	80	75	137.936	143.29	219.99	17.2	58.8	108.41	3786	12,932	11,817	4,127	1,410

TC TLOGSTVB				Log Stock Table - MBF																																			
				Project: BOB_Q																																			
T01S R07W S21 TSALE														T01S R07W S21 TSALE																									
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees				Page		2																			
01S		07W		21		AREA_4 (ROW)		SALE		3.00		15		67				Date		2/19/2013																			
														Time		8:28:15AM																							
S		So Gr		Log		Gross		%		Net		%		Net Volume by Scaling Diameter in Inches																									
Spp		T		rt de		Len		MBF		Def		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+	
BM		H		4		24		0		32.5		0		29.3								0																	
BM		H		4		30		0		25.0		0		24.3								0																	
BM				Totals				1		21.5		1		2.4								1																	
Total All Species								29		7.6		27		100.0		3		2		10		5		1		3		1		1									

TC		TSTNDSUM		Stand Table Summary													
				Project		BOB_Q											
T01S R07W S21 TSALE												T01S R07W S21 TSALE					
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees			Page: 1			
01S	07W	21	AREA_4 (ROW)	SALE				3.00		15	67			Date: 02/19/2015			
												Time: 8:29:24AM					
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s				
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
DF		8	1	81	48	5.306	1.85	5.31	5.3	20.0	.81	28	106	2	1	0	
DF		10	3	82	60	10.187	5.56	10.19	9.9	43.3	2.89	101	441	9	3	1	
DF		11	1	85	81	2.806	1.85	2.81	14.8	60.0	1.19	42	168	4	1	1	
DF		13	3	83	78	6.192	5.56	10.37	14.4	47.9	4.27	150	497	13	4	1	
DF		14	4	85	56	6.930	7.41	8.66	17.0	42.0	4.31	147	364	13	4	1	
DF		15	5	85	81	7.546	9.26	13.58	19.8	68.9	7.66	268	936	23	8	3	
DF		16	3	83	74	3.979	5.56	7.96	18.6	66.7	4.22	148	531	13	4	2	
DF		17	4	85	79	4.700	7.41	8.22	26.4	90.0	6.19	217	740	19	7	2	
DF		18	1	84	88	1.048	1.85	2.10	30.0	105.0	1.79	63	220	5	2	1	
DF		20	3	84	82	2.547	5.56	5.09	33.7	108.3	4.89	172	552	15	5	2	
DF		21	2	79	84	1.540	3.70	3.08	37.3	102.5	3.27	115	316	10	3	1	
DF		22	1	84	100	.702	1.85	1.40	49.7	175.0	1.99	70	246	6	2	1	
DF		23	1	82	112	.642	1.85	1.93	36.9	136.7	2.02	71	263	6	2	1	
DF		24	1	83	115	.590	1.85	1.77	41.1	166.7	2.07	73	295	6	2	1	
DF		25	1	82	96	.543	1.85	1.09	60.0	200.0	1.86	65	217	6	2	1	
DF		29	1	86	93	.404	1.85	.81	79.1	295.0	1.82	64	238	5	2	1	
DF		31	1	79	85	.353	1.85	.71	86.2	250.0	1.74	61	177	5	2	1	
DF		32	1	84	105	.332	1.85	.66	104.9	425.0	1.98	70	282	6	2	1	
DF		Totals		37	83	72	56.344	68.52	85.73	22.4	76.8	54.97	1,924	6,588	165	58	20
RA		11	4	82	68	11.225	7.41	11.23	11.7	45.0	3.60	131	505	11	4	2	
RA		12	6	80	52	14.148	11.11	14.15	13.2	45.0	5.16	187	637	15	6	2	
RA		13	3	84	47	6.028	5.56	6.03	11.4	43.3	1.99	69	261	6	2	1	
RA		14	2	80	22	3.465	3.70	3.46	12.0	35.0	1.15	42	121	3	1	0	
RA		15	4	78	70	6.037	7.41	6.04	24.6	72.5	4.08	148	438	12	4	1	
RA		16	1	78	38	1.326	1.85	1.33	15.4	60.0	.56	20	80	2	1	0	
RA		17	2	70	75	2.350	3.70	3.52	21.7	53.3	2.12	77	188	6	2	1	
RA		18	2	81	52	2.096	3.70	2.10	38.6	80.0	2.23	81	168	7	2	1	
RA		20	2	83	55	1.698	3.70	1.70	45.7	195.0	2.14	78	331	6	2	1	
RA		Totals		26	80	56	48.373	48.15	49.55	16.8	55.1	23.01	832	2,728	69	25	8
BM		10	1	80	54	3.396	1.85	3.40									
BM		11	1	82	67	2.806	1.85	2.81	11.1	40.0	.83	31	112	2	1	0	
BM		12	1	78	60	2.358	1.85	2.36	14.0	30.0	.85	33	71	3	1	0	
BM		17	1	75	45	1.175	1.85	1.17	31.7	50.0	.99	37	59	3	1	0	
BM		Totals		4	79	58	9.735	7.41	9.73	10.4	24.8	2.66	101	242	8	3	1
Totals				67	82	64	114.452	124.08	145.01	19.7	65.9	80.64	2858	9,558	242	86	29



Rock source

- Rock source
- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site

Landing

- Buffer
- Non-required thinning
- Cable yarding
- Ground yarding
- Helicopter yarding
- Downhill yarding
- Green tree retention area

Restricted area

- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream
- Perennial Type-N stream
- Unsurfaced road
- Surfaced road
- Paved road
- Abandoned road

Swing road

- Swing road
- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad

LOGGING PLAN

Timber Sale Contract No. 341-13-89

BOB QUARRY

Portions of Sections 20, 21, 27, 28, 29, 33, 34, T1S, R7W, and Section 4, T2S, R7W, W.M., Tillamook County, Oregon

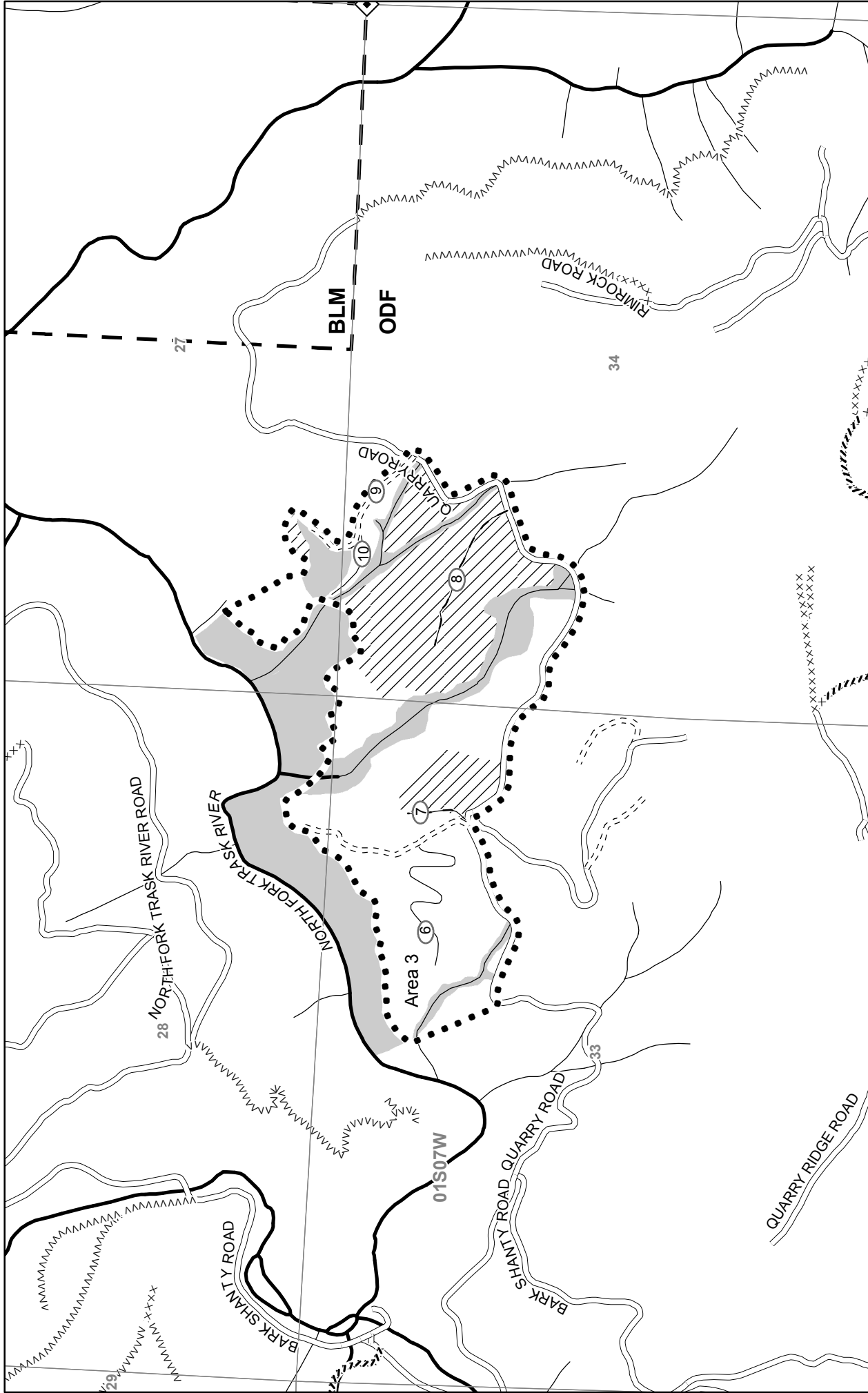
1,000 Feet

Area

Area	Type of Operation	Gross Net Acres
1	Modified clearcut	115
2	Modified clearcut	118
3	Modified clearcut	167
4	Right of Way	3
Total		403

Tillamook District GIS
02/06/2013

This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.



Rock source

- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site

Landing

- Buffer
- Non-required thinning
- Cable yarding
- Ground yarding
- Helicopter yarding
- Downhill yarding
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Restricted area

- Area boundary
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- Abandoned road

Swing road

- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad

Logging Plan

Timber Sale Contract No. 341-13-89
BOB QUARRY
Portions of Sections 20, 21, 27, 28, 29, 33, 34, T1S, R7W, and Section 4, T2S, R7W, W.M., Tillamook County, Oregon

Acres

Type of Operation	Gross	Net
1 Modified clearcut	115	88
2 Modified clearcut	118	100
3 Modified clearcut	167	109
4 Right of Way	3	3
Total	403	300

Tillamook District GIS
02/06/2013

This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.