



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Low Arch Sale 341-04-22

District: Tillamook

Date: 8/6/03

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$290,931.20	\$0.00	\$290,931.20
		Project Work	(\$106,588.00)
		Advertised Value	\$184,343.20



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Timber Description Low Arch Sale 341-04-22

District: Tillamook

Location: Portions of Sections 20, 29 and 30, T1N, R7W, W.M., Tillamook County, Oregon

Date: 8/6/03

Stand Stocking: 20%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	16	0	95

Volume by Grade	Douglas - Fir	Total
2S	308	308
3S	861	861
4S	168	168
Total	1,337	1,337

Comments: Pond Values Used: 2nd Quarter 2003

Red Alder pond value (\$510, 2nd quarter, 2003) less the logging cost of Douglas-fir was used to determine the stumpage value of hardwoods.



Timber Sale Appraisal Logging Conditions Low Arch Sale 341-04-22

"STEWARDSHIP IN FORESTRY"

Combination#: 1 Douglas - Fir 100.00%

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: 6 **Bd. Ft./Load:** 3,500

Cost/MBF: \$156.32

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



Timber Sale Appraisal

Logging Costs

Low Arch

Sale 341-04-22

"STEWARDSHIP IN FORESTRY"

Date: 8/6/03

Operating Seasons: 1.6

Profit & Risk: 15%

Project Costs: \$106,588

Other Costs (P/R): \$2,674

Slash Disposal: \$0

Other Costs: \$950

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$2.48

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.5



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Low Arch Sale 341-04-22

Costs	Douglas - Fir
Logging	156.32
Road Maintenance	2.61
Fire Protection	3.24
Hauling	69.16
Other (P/R appl.)	2.00
Profit & Risk	35.00
Slash Disposal	0.00
Scaling	2.00
Other	-0.71
Total	271.04

Amortization	0.00
Pond Value	488.64
Stumpage	217.60
Amortized	0.00



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Timber Sale Appraisal Summary Low Arch Sale 341-04-22

Amortized

	Douglas - Fir
MBF	0.00
Value	0.00
Total	0.00

Unamortized

	Douglas - Fir
MBF	1,337.00
Value	217.60
Total	290,931.20

Gross Timber Sale Value

Recovery \$290,931.20

Prepared by: Kirk Ausland

Date: 8/6/03

District: Tillamook

Phone: (503) 842-2545



**Timber Sale Appraisal
Additional Cost Worksheet
Low Arch
Sale # 341-04-022**

5/6/03

"STEWARDSHIP IN FORESTRY"

Cable Yarding Vol. (MBF):	1337
Ground Yarding Vol. (MBF):	0
Total Sale Volume:	1337

ADDITIONAL COSTS - PROFIT & RISK TO BE ADDED					
Yarding & Loading:	Cost / MBF		Volume (MBF)		
Brand & Paint:	\$ 2	x	1337	=	\$2,674
Truck Assist/Tractor Swing	\$ -	x	0	=	\$0
OTHER COSTS TOTAL					\$2,674

ADDITIONAL COSTS - PROFIT & RISK INCLUDED						
Non-Proj. Rd. (improv.)	10	Stations	x	\$ 65	= \$650	\$ 650
		Stations	x	cys	x \$/cy	
Approach Rock: Pit-Run	1			50	x \$6.00	\$900
OTHER COSTS TOTAL					\$950	

ROAD MAINTENANCE						
		\$/Cu.Yd	MMBF	Miles	cu.yds/mile	\$/MBF
Surfacing ¹ :	Pit-Run	\$6.00	1.3	0.2	25	\$0.03
	Crushed	\$6.00	1.3	4.4	25	\$0.64
		\$/Mile	MMBF	Miles		
Grading ² :		\$ 500	1.3	4.7		\$1.81
TOTAL ROAD MAINTENANCE COST / MBF:						\$2.48

¹ Assumes 25 cys rock per MMBF per mile

² One Grading (assumes grading portions of road)

PROJECT SUMMARY SHEET

Sale: Low Arch Date: Jul. 09 2003

Construction -

Point		stations =	\$0.00
Point		stations =	\$0.00
		SUB TOTAL	\$0.00

Improvement -

Point	A - B	258+40	stations =	\$86,960.66
Point	C - D	91+10	stations =	\$15,018.00
Point			stations =	\$0.00
			SUB TOTAL	\$101,978.66

Special Projects -

<u>Develop Waste Area On Jordan Creek</u>	\$300.00
<u>Grass Seed & Fertilize Jordan Crk Waste Area</u>	\$50.00
<u>310 Cubic Yard Stockpile</u>	\$2,373.11
SUB TOTAL	\$2,723.11

Move - In -

<u>Project Move-In: Grader, Excavator, D-7, 2 Dump Trucks</u>	\$1,886.51
	\$0.00
SUB TOTAL	\$1,886.51

GRAND TOTAL \$106,588.28

SUMMARY OF CONSTRUCTION COST

Sale: Low Arch Road: Points A to B Jordan Crk/Archers Roads

Construction - 0.00 stations miles Improvement - 258+40 stations miles
0.00 miles 4.89 miles

EXCAVATION -

Excavator	2 hr.s @	\$130.00 per hr. =	\$260.00	
Dump Truck	2 hr.s @	\$58.00 per hr. =	\$116.00	
	0.00 sta. @	\$65.00 per sta. =	\$0.00	
	0 cys. @	\$0.00 per c.y. =	\$0.00	
			TOTAL EXCAVATION	\$376.00

CULVERT MATERIALS -

Culverts	212 LF of 18"	<u>\$3,127.00</u>	0 LF of 24"	<u>\$0.00</u>	
		\$3,127.00		\$0.00	
Half Rounds	50 LF of 21"	<u>\$570.00</u>	0 LF of 30"	<u>\$0.00</u>	
		\$570.00		\$0.00	
Culvert Stakes	10 1/2 round stakes @	\$8.00 per stake=	\$80.00		
	7 marker stakes @	\$6.00 per stake=	\$42.00		
			TOTAL CULVERT MATERIALS		\$3,819.00

SURFACING-

4" Depth	5,034 cy. of	2"-0"Crshd @	\$13.91 per c.y.=	\$70,022.94
CrvWiden	157 cy. of	2"-0"Crshd @	\$13.91 per c.y.=	\$2,183.87
31Trmouts	217 cy. of	2"-0"Crshd @	\$13.91 per c.y.=	<u>\$3,018.47</u>
			TOTAL SURFACING	\$75,225.28

MISCELLANEOUS-

Stations:					
112+00	20 cy. of	Riprap @	\$8.37 per c.y.=	\$167.40	
131+60	20 cy. of	Riprap @	\$8.74 per c.y.=	\$174.80	
169+40-189+30	100 cy. of	Riprap @	\$10.10 per c.y.=	\$1,010.00	
200+50-258+40	160 cy. of	Riprap @	\$12.12 per c.y.=	\$1,939.20	
Rock OHV Trail Approach:					
114+30	20 cy. of	Pit Run @	\$6.00 per c.y.=	\$120.00	
			\$0.00 per c.y.=	<u>\$0.00</u>	
			TOTAL MISCELLANEOUS	\$3,411.40	

SPECIAL PROJECTS

Repair Culvert Inlets: Sta.s 57+70 and 110+70	\$50.00
Grade Road: 228,80 Sta.s @ \$14.20/sta.	<u>\$3,248.98</u>
Seed & Fertilize Wast Areas & Areas of Disturbed Soil	\$180.00
Cut Old Growth Stumps Along Road, Sta.s 213+60 & 223+50	\$50.00
Construct Tank Traps Across OHV Trails	\$600.00
	<u>\$0.00</u>
TOTAL SPECIAL PROJECTS	\$4,128.98

GRAND TOTAL **\$86,960.66**

SUMMARY OF CONSTRUCTION COST

Sale: Low Arch Road: Points C - D Fox Creek Ridge Rd.

Construction - 0.00 stations miles Improvement - 91+10 stations miles
0.00 miles 1.73 miles

CLEARING AND GRUBBING -

Side cast	0.00 acres @	\$540.00 per acre =	\$0.00
Scattering	0.00 acres @	\$815.00 per acre =	\$0.00
Piling	0.00 acres @	\$905.00 per acre =	\$0.00
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00
TOTAL CLEARING AND GRUBBING			\$0.00

EXCAVATION -

1076 cys. @	\$8.32 per c.y. =	\$8,952.32
0 cys. @	\$0.00 per c.y. =	\$0.00
0 cys. @	\$0.00 per c.y. =	\$0.00
TOTAL EXCAVATION		\$8,952.32

CULVERT MATERIALS -

Culverts

136 LF of 18"	\$2,006.00	0 LF of 24"	\$0.00
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00
<u>\$2,006.00</u>		<u>\$0.00</u>	

Half Rounds

40 LF of 21"	\$456.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
0 LF of 48"	\$0.00	0 LF of 54"	\$0.00
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00
<u>\$456.00</u>		<u>\$0.00</u>	

Culvert Stakes

8 1/2 round stakes @	\$8.00 per stake =	\$64.00
4 marker stakes @	\$6.00 per stake =	\$24.00

TOTAL CULVERT MATERIALS \$2,550.00

SURFACING-

6" Depth	151 cy. of	Crshd Rock @	\$13.06 per c.y. =	<u>\$1,972.06</u>
TOTAL SURFACING				\$1,972.06

SPECIAL PROJECTS

Remove Old Culvert From State Land	\$150.00	
Grade & Shape Road: 91+10 Stations @\$14.20/sta.	\$1,293.62	
Grass Seed & Fertilize Areas of Disturbed Soil & Catch Basins	\$50.00	
Roll Subgrade: Stations 45+10 to 47+25	\$50.00	
TOTAL SPECIAL PROJECTS		\$1,543.62

GRAND TOTAL \$15,018.00

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

SALE: LOW ARCH

Pit:	<u>Highway Pit</u>	Location:	<u>SW 1/4 S24 T1N R8W</u>
Rock:	<u>2"-0" Crushed</u>	Road:	<u>5559 c.y.</u>
Swell:	<u>1.40</u>	Stockpile Size:	<u>307 c.y.</u>
Shrinkage:	<u>1.16</u>	Total Truck Loads:	<u>5866 c.y.</u>
Drill Pct.:	<u>100%</u>	In Place Total:	<u>4190 c.y.</u>

Pit Development:						\$5,540.00
Drill & Shoot:	<u>\$2.10</u>	/cu.yd.	x	<u>4190</u>	cu.yds.	= \$8,799.00
Strip Rock:	<u>\$1.50</u>	/cu.yd.	x	<u>0</u>	cu.yds.	= \$0.00
Push Rock:	<u>\$0.60</u>	/cu.yd.	x	<u>5866</u>	cu.yds.	= \$3,519.60
Load Crusher:	<u>\$0.60</u>	/cu.yd.	x	<u>5866</u>	cu.yds.	= \$3,519.60
Crushing:	<u>\$2.30</u>	/cu.yd.	x	<u>5866</u>	cu.yds.	= \$13,491.80
Load Dump Truck:	<u>\$0.60</u>	/cu.yd.	x	<u>5866</u>	cu.yds.	= \$3,519.60
Oversize Reduction:	<u>\$4.00</u>	/cu.yd.	x	<u>0</u>	cu.yds.	= \$0.00
				Sub Total		\$38,389.60

Move-In:		
Drill & Compressor		\$139.78
Loader		\$224.46
Roller		\$298.84
Cat		\$309.14
3 Dump Trucks		\$250.56
Crusher Move-In		\$926.26
Crusher Set-Up		<u>\$1,598.00</u>
TOTAL		\$3,747.04

Base Cost= \$7.18 Per Cu.Yd.

Haul Cost	Proc Cost	Base Cst.	Cost	Number	ROCK
/cu.yd.	/cu.yd.	/cu.yd.	/cu.yd.	Cu. Yds	COST
\$5.43	\$1.30	\$7.18	\$13.91	5408	\$75,225.28
\$4.98	\$0.90	\$7.18	\$13.06	151	\$1,972.06
\$0.00	\$0.90	\$7.18	\$8.08	0	\$0.00
\$0.00	\$0.90	\$7.18	\$8.08	0	\$0.00
\$0.00	\$0.90	\$7.18	\$8.08	0	\$0.00
\$0.00	\$0.90	\$7.18	\$8.08	0	\$0.00
Total C.Y. 5559 Sub Total					\$77,197.34

Haul Cost	Proc Cost	Base Cst.	Cost	Number	ROCK
/cu.yd.	/cu.yd.	/cu.yd.	/cu.yd.	Cu.Yds.	COST
\$0.00	\$0.55	\$7.18	\$7.73	307	\$2,373.11
Total C.Y. 307 Sub Total					\$2,373.11

TOTAL ROCKING COSTS = \$79,570.45

OREGON DEPARTMENT OF FORESTRY
CRUISE REPORT

LOW ARCH

1. **Type of Sale:** Clearcut-Recovery
2. **Legal Description:** Portions of Sections 20, 29 and 30, T1N, R7W, W.M., Tillamook County, Oregon.
3. **Sale Acreage:** The sale boundaries were plotted on an orthophoto and then digitized into ArcView. The sale acreage was then calculated using this program.

	Total acres	Sale acres	Net acres
Area 1	57	59	52
Area 2	57	59	50
TOTAL	114	118	102

Sale acres: Area within the Timber Sale Boundary signs.

Total acres

For accomplishment reporting

Clearcut harvest - Sale acres; less roads and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

Net acres

Used for calculating the advertised volume.

Clearcut - Sale acres, unstocked acres, roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. **Cruise Procedures:**
 - A) **Cruising Method:** A total of 20 and 22 variable radius plots were measured in Area 1 and Area 2 respectively. Cruise lines were established on transects to sample harvestable types within the sale areas. Plots were spaced 150 feet apart. Every fifth plot was a measure plot where each conifer with a diameter of at least 8 inches was cruised. On count plots the species and tree count was recorded.
 - B) **Form Point:** 16 feet for conifers.
 - C) **Form Factor:** A form factor was recorded for all trees on measure and grade plots. The average for Douglas-fir was 84.

- D) Plot Size: Full point plots with a basal area factor of 20 was used. The point of conifer tree observation was at 4.5 feet.
- E) Height Standards: To the nearest foot to a merchantable top of 6 inches for conifer.
- F) Diameter Standards: Diameters were measured at 4.5 feet (DBH) to the nearest inch.
- G) Grading System: Columbia River Official Log Scaling and Grading Bureau Rules were used.
- H) Utilization Standards: A minimum log length of 20 feet was used.

5. Computation Procedures: The volumes and statistics for these trees were computed using Atterbury Consultants, Inc. SUPER A.C.E. 98 program. The coefficient of variation and standard error for Areas 1 and 2 were 53.2 and 11.9 and 41.6 and 8.9 respectively for net board feet/acre.

6. Hidden Defect and Breakage: A 5% deduction was applied to the volume to account for both the hidden and visible defect as well as breakage.

7. Timber Description: The areas were burned in the 1933, 1939, and 1945 Tillamook fires and seeded in 1950-51 and planted in 1957-58. A 1999 harvest within portions of this area thinned the Douglas-fir and removed most of the alder. The current stand is a UDS structure and is comprised of an average of an average of 16 inch DBH, 46 year old Douglas-fir with 86 trees per acre and 129 square feet of basal area.

The Douglas-fir trees have severe symptoms of Swiss needle cast with less than 2 full years of needle retention. There are some hard snags created from wind, snow, and bear damage. Down wood consists of scattered large old logs (36"+) from the salvage in Class 3 and 4 stages of decay and some windthrow in decay class 1 and 2.

8. Cruiser Name/Dates: Ausland, January 2003

9. <u>Revenue Distribution:</u>	FDF:	100%
	Tax Code:9-2	100%
	Deed #'s:	157,159
	Rehab obligated	100%

10. Appendices:

- Volume Summary
- Logging Plan



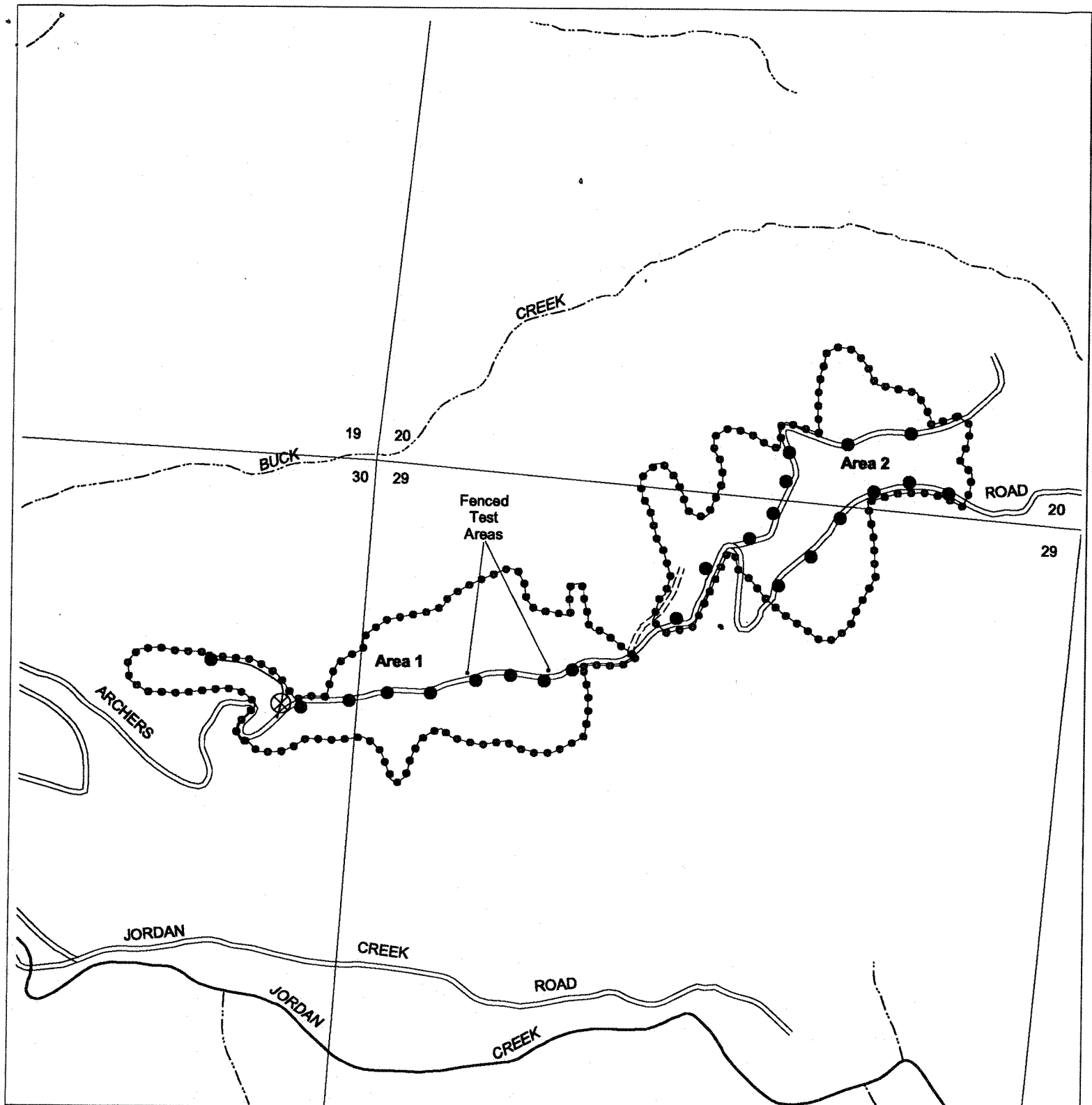
**Timber Sale Appraisal
Volume Summary
Low Arch
Sale # 341-04-022**

"STEWARDSHIP IN FORESTRY"

Area 1					
52 acres					
SPECIES	Trees Per Ac	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	103	16.2	842	5%	800
TOTAL	103	16.2	842		800

Area 2					
50 acres					
SPECIES	Trees Per Ac	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	67	11.3	565	5%	537
TOTAL	67	11.3	565		537

TOTAL SALE VOLUME			
102 acres			
SPECIES	MBF		MBF NET
Douglas-fir	1407		1337
TOTAL	1407		1337



- Tractor landing
- Cable landing
- ▲ Domestic water supply
- ⊗ Blocked
- Cable yarding
- ▤ Ground yarding
- ▥ Helicopter yarding
- ▧ Buffer
- ▨ Non-required thinning
- ⊂ Green tree retention area
- Setting boundary
- Area boundary
- Sale boundary
- Ownership boundary
- Type-F stream
- Type-N stream
- ==== Surfaced road
- ==== Unsurfaced road
- ==== State highway
- ==== County road
- ② Non-project road
- Swing road
- Abandoned road
- OHV trail
- Non-motorized trail

LOGGING PLAN
 Timber Sale Contract No. 341-04-22
 Low Arch
 Portions of sections 20, 29, and 30,
 T1N, R7W, W. M.
 Tillamook County, Oregon

Area	Type of Operation	Acres	
		Sale	Net
1	Clear Cut	59	52
2	Clear Cut	59	50
Total		118	102

