



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Flintstone  
Sale 19-W00-630 -01-

District: Astoria

Date: January 23, 2019

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**Cost Summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,067,725.07	\$396,939.43	\$2,464,664.50
		Project Work:	\$0.00
		Advertised Value:	\$2,464,664.50



# Timber Sale Appraisal Flintstone Sale 19-W00-630 -01-

**District: Astoria**

**Date: January 23, 2019**

## Timber Description

**Location:** Areas 1 and 2, are located in portions of Sections 8, 9, 16, and 17, T6N, R6W, W.M., Clatsop County, OR.

**Stand Stocking: 80%**

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	97
Western Hemlock / Fir	18	0	97
Alder (Red)	15	0	97
Maple	21	0	97

Volume by Grade	2S	3S & 4S 6"-11"	8" - 9"	10" - 11"	12"+	6" - 7"	3S	4S	Total
Douglas - Fir	4,431	550	0	0	0	0	0	0	4,981
Western Hemlock / Fir	0	84	0	0	0	0	0	0	84
Alder (Red)	0	0	167	406	103	196	0	0	872
Maple	35	0	0	0	0	0	49	5	89
<b>Total</b>	4,466	634	167	406	103	196	49	5	6,026

**Comments:**

1. SOURE OF POND VALUES

Pond Values Used: Local Pond Values, December 2018

2. PRICING

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

\$600/MBF = \$900MBF - \$300/MBF

3. PULP PRICE

Pulp (Conifer and Hardwood) Price = \$3/Ton

4. PROFIT & RISK COSTS

Machine Washing for Invasive Weed Compliance = \$2,000

5. SLASH DISPOSAL

Slash and Landing Piling (See attached appraisal) = \$15,454

6. ROAD MAINTENANCE COST

\$3.20/MBF (See attached appraisal)



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**Logging Conditions**

**Combination#: 1**

Douglas - Fir	43.19%
Western Hemlock / Fir	22.29%
Alder (Red)	61.72%
Maple	37.69%

**Logging System:** Cable: Large Tower >=70      **Process:** Manual Falling/Delimbing

**yarding distance:** Long (1,500 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:** \$123.19

**machines:** Log Loader (A)  
Tower Yarder (Large)

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**Combination#: 2**

Douglas - Fir	56.81%
Western Hemlock / Fir	77.71%
Alder (Red)	38.28%
Maple	62.31%

**Logging System:** Shovel      **Process:** Manual Falling/Delimbing

**yarding distance:** Medium (800 ft)      **downhill yarding:** No

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

**loads / day:** 14      **bd. ft / load:** 4600

**cost / mbf:** \$61.14

**machines:** Shovel Logger

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### Logging Costs

Operating Seasons: 2.00	Profit Risk: 12%
Project Costs: \$0.00	Other Costs (P/R): \$2,000.00
Slash Disposal: \$15,454.00	Other Costs: \$0.00

#### Miles of Road

Road Maintenance: \$3.20

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
Western Hemlock / Fir	\$0.00	3.0	4.5
Alder (Red)	\$0.00	2.0	3.0
Maple	\$0.00	2.0	3.0



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**Logging Costs Breakdown**

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
<b>Douglas - Fir</b>									
\$87.94	\$3.30	\$1.46	\$72.48	\$0.33	\$19.86	\$2.56	\$2.00	\$0.00	\$189.93
<b>Western Hemlock / Fir</b>									
\$74.97	\$3.30	\$1.46	\$72.48	\$0.33	\$18.30	\$2.56	\$2.00	\$0.00	\$175.40
<b>Alder (Red)</b>									
\$99.44	\$3.30	\$1.46	\$163.08	\$0.33	\$32.11	\$2.56	\$2.00	\$0.00	\$304.28
<b>Maple</b>									
\$84.52	\$3.30	\$1.46	\$163.08	\$0.33	\$30.32	\$2.56	\$2.00	\$0.00	\$287.57

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$600.00	\$410.07	\$0.00
Western Hemlock / Fir	\$0.00	\$475.00	\$299.60	\$0.00
Alder (Red)	\$0.00	\$740.56	\$436.28	\$0.00
Maple	\$0.00	\$473.00	\$185.43	\$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
Maple	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	4,981	\$410.07	\$2,042,558.67
Western Hemlock / Fir	84	\$299.60	\$25,166.40
Alder (Red)	872	\$436.28	\$380,436.16
Maple	89	\$185.43	\$16,503.27

**Gross Timber Sale Value**

**Recovery:** \$2,464,664.50

**Prepared By:** Avery Petersen

**Phone:** 503-338-1363

# Road Maintenance Cost Summary

**Sale:** Flintstone  
**Date:** 23-Jan-19  
**By:** A. Petersen

**MBF:** 6,029  
**\$/MBF:** \$2.71

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$875	1	8	\$113	\$1,779
	Vibratory Roller	\$875	1	4	\$87	\$1,223
Final Haul Maintenance Haul Route						
	Grader 14G	\$875	1	26	\$113	\$3,813
	Dump Truck 12CY	\$184	2	8	\$89	\$1,792
	Vibratory Roller	\$875	1	26	\$87	\$3,137
	FE Loader C966	\$875	1	8	\$94	\$1,627
	Rubber Tire Backhoe	\$361	1	8	\$87	\$1,057
	Laborer	\$0	1	8	\$45	\$360
Total	Water Truck 2,500 gallon	\$214	1	13	\$101	\$1,527
						\$16,315

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	1.5	1.0
Vibratory Roller	1.5	0.5	0.3

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	4.8	3.2
Vibratory Roller	1.5	4.8	3.2





## Site Prep Appraisal

**Sale Number:** Flintstone  
**Sale Name:**  
**Date:** 01/22/2019

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	0.5
Hemlock/Fir	B	1.5	0.8
Hemlock/Spruce	C	2.0	1.0
Hemlock	D	2.0	1.0
Conifer/Hardwood	E	1.0	0.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	E	22	22	\$145.00	\$3,190.00
2	MC	A	48	48	\$145.00	\$6,960.00
					\$145.00	\$0.00

**Sub Total = \$10,150.00**

Sale Area	Number of cable Landings	Number of acres to landing	\$ per 20 acres yarded	Cost/Area	Number of In-Piles	Material Cost/Pile	Material Cost/Area	Total Cost/Area
1	4	78	\$1,160.00	\$4,524.00	11	\$20.00	\$300.00	\$4,824.00
2	0	0	\$1,160.00	\$0.00	24	\$20.00	\$480.00	\$480.00
			\$1,160.00	\$0.00		\$20.00	\$0.00	\$0.00

\*Cost includes separating firewood

**Sub Total = \$5,304.00**

**Grand Total = \$15,454.00**



# Flintstone TIMBER CRUISE REPORT FY 2019

1. Sale Area Location: Areas 1 and 2, are located in portions of Sections 8, 9, 16, and 17, T6N, R6W, W.M., Clatsop County, OR.

2. Fund Distribution: BOF 100%  
Tax Code 8-01 (100%)

## 3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Stream Buffer	GTRA	Existing Surface Roads	Net Acres	Survey Method
1	Modified Clearcut	124	18	0	6	100	GIS
2	Modified Clearcut	54	0	2	4	48	GIS
<b>TOTALS</b>		<b>178</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>148</b>	

## 4. Cruisers and Cruise Dates:

All areas were cruised by Avery Petersen, Bryce Rogers, John Choate, Ella Salkeld, and Justin Bush during January of 2019.

## 5. Cruise Method and Computation:

Area 1 is a modified clearcut unit and was variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 6 chain grid, with every third plot measured and graded. A total of 47 plots were sampled, with 16 measured and graded plots and 31 count plots. Two of the count plots had at least one tree graded on each.

Area 2 is a modified clearcut unit and was variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 5 chain grid, with every third plot measured and graded. A total of 27 plots were sampled, with 8 measured and graded plots and 19 count plots.

Data was collected on Allegro 2 data collectors, and downloaded to the Atterbury Super A.C.E. program for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1	FSTONE	A1	00MC	100
2	FSTONE	A2	00MC	48

## 6. Timber Description:

Area 1 is a modified clearcut unit, approximately 60 to 70 years-old, consisting of Douglas-fir and red alder, with minor amounts of western hemlock. The average Douglas-fir tree size is 22.6 inches DBH, with an average height of 80 feet to a merchantable top (7 inch d.o.b.) The average western hemlock is 14.0 inches DBH and 38 feet to a merchantable top (7 inch d.o.b.). The average red alder tree size 14.4 inches DBH and 44 feet to a merchantable top (7 inch d.o.b.). The average bigleaf maple tree size is 20.9 inches DBH, with an average height of 54 feet to a merchantable top (7 inch d.o.b.). The net volume per acre to be harvested is 35.1 MBF/acre.

Area 2 is a modified clearcut unit, approximately 70 to 80 years-old, consisting of Douglas-fir and red alder, with minor amounts of western hemlock. The average Douglas-fir tree size is 25.6 inches DBH, with an average height of 92 feet to a merchantable top (7 inch d.o.b.) The average western hemlock is 18.9 inches DBH and 58 feet to a merchantable top (7 inch d.o.b.). The average red alder tree size 16.5 inches DBH and 41 feet to a merchantable top (7 inch d.o.b.). The average bigleaf maple tree size is 21.3 inches DBH, with an average height of 59 feet to a merchantable top (7 inch d.o.b.). The net volume per acre to be harvested is 52.3 MBF/acre.

## 7. Statistical Analysis and Stand Summary

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1	45.0%	8.0%	57.3%	8.3%
2	35.0%	8.0%	41.9%	8.2%

## 8. Volumes by Species and Log Grade:

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

### Conifer

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	23.9"	4,981	4,431	457	93	2.4%	83%
Hemlock	17.5"	84	0	76	8	1.2%	1%

### Hardwoods

Species	DBH	Net Vol. MBF	12"+	10-12"	8-10"	6-8"	% D & B	% Sale
Red Alder/other Hardwoods	15.4"	961	103	441	215	202	7.4%	16%

Species	Net Vol. MBF
Douglas-fir	4,981
Hemlock	84
Red Alder/other Hardwoods	961
<b>Total</b>	<b>6,026</b>

## 9. Approvals:

Prepared by: Avery Petersen Date: 1-16-2019

Unit Forester Approval:  Date: 3-6-19

10. Attachments:
- Cruise Designs and Maps – 6 pages
  - Volume Reports - 3 pages
  - Statistics Reports - 5 pages
  - Stand Table Summary – 2 pages
  - Log Stock Tables – 3 pages



Revised August, 2002

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Flintstone **Area(s)** 1

**Harvest Type:** Modified Clearcut

**Approx. Cruise Acres:** 100 **Estimated CV%** 45 Net BF or  
BA/Acre **SE% Objective** 8

**Planned Sale Volume:** 3,450 MBF **Estimated Sale Area Value/Acre:** \$14,835.00

**A. Cruise Goals:** (a) Grade minimum 80 trees:

Determine log grades for sale value; Determine snag and leave tree species and sizes;  
Determine "diameter limit" harvest parameters;

**B. Cruise Design:**

- 1. Plot Cruises:** BAF 40 Full point  
Cruise Line Direction(s) (Area 1) N, S  
Cruise Line Spacing 6 chains (396 Feet)  
Cruise Plot Spacing 3 chains (198 Feet)  
Grade/Count Ratio 1:2

Record all cedar as leave. Record all snags as SN and record diameter & total height. If plot lands in buffer then offset at least 1/2 chain outside the buffer.

**C. Tree Measurements:**

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

- 6. Species, Sort, and Grade Codes:** A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple); DL(Douglas-fir over 30"dbh); HL(Western hemlock over 30" dbh); SL(Sitka spruce over 30" dbh); CL (Western red cedar over 30" dbh); NFL (Noble fir over 30" dbh); SFL (Silver fir over 30" dbh)  
B. Sort: Use code "1" (Domestic).  
C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 0 = Cull  
Hardwoods: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill; 0 = Cull.
- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
- 8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at intervisible points. On "measure/grade" plots paint the tree diameter on each tree starting with the first tree right of the cruise line direction and continuing clockwise.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Biltmore Stick, Compass, Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging.
- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, cruise lines and plot locations, BAF or plot size, measure/count plot ratio, north arrow, and scale bar.

Cruise Design by: Matt Dimick

Approved by: 

Date: 1-7-14



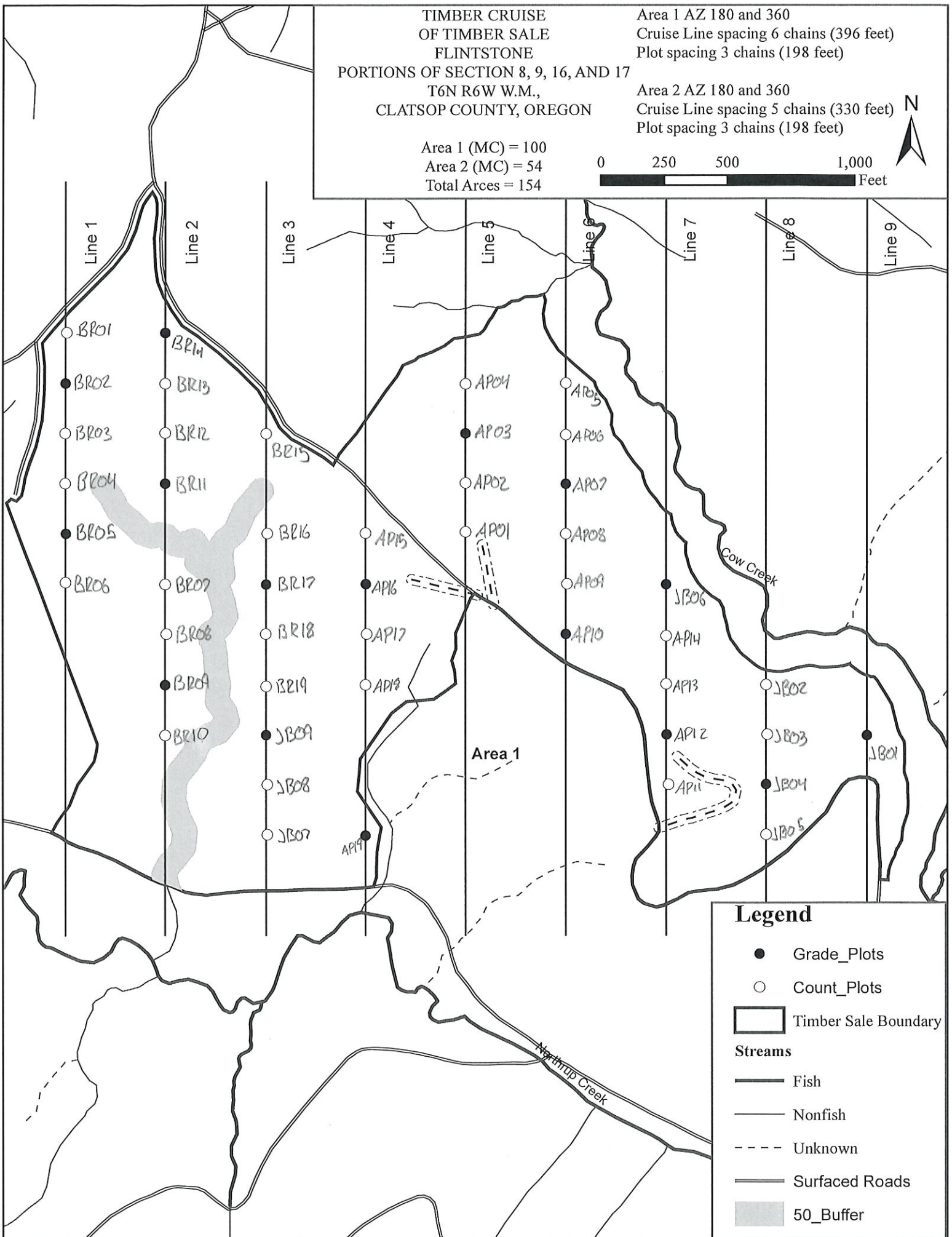
TIMBER CRUISE  
OF TIMBER SALE  
FLINTSTONE  
PORTIONS OF SECTION 8, 9, 16, AND 17  
T6N R6W W.M.,  
CLATSOP COUNTY, OREGON

Area 1 AZ 180 and 360  
Cruise Line spacing 6 chains (396 feet)  
Plot spacing 3 chains (198 feet)

Area 2 AZ 180 and 360  
Cruise Line spacing 5 chains (330 feet)  
Plot spacing 3 chains (198 feet)

Area 1 (MC) = 100  
Area 2 (MC) = 54  
Total Acres = 154

0 250 500 1,000 Feet



Revised August, 2002

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Flintstone **Area(s)** 2

**Harvest Type:** Modified Clearcut

**Approx. Cruise Acres:** 54 **Estimated CV%** 35 Net BF or  
BA/Acre **SE% Objective** 8

**Planned Sale Volume:** 1,764 MBF **Estimated Sale Area Value/Acre:** \$14,700.00

**A. Cruise Goals:** (a) Grade minimum 45 trees:

Determine log grades for sale value; Determine snag and leave tree species and sizes;  
Determine "diameter limit" harvest parameters;

**B. Cruise Design:**

**1. Plot Cruises:** BAF 40 Full point  
Cruise Line Direction(s) (Area 2) N, S  
Cruise Line Spacing 5 chains (330 Feet)  
Cruise Plot Spacing 3 chains (198 Feet)  
Grade/Count Ratio 1:2

Record all cedar as leave. Record all snags as SN and record diameter & total height. If plot lands in buffer then offset at least 1/2 chain outside the buffer.

**C. Tree Measurements:**

**1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods.

Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

**2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

**3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" or 40% of dob at 16' form point. Generally, use 7" outside bark for trees less than 18" dbh and 40% of dob @ FP for trees greater than 18" dbh.

**4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; Hardwood form factors are a Standard 87.

**5. Tree Segments:** Record log segments in "standard" 32" and 40' log lengths whenever possible. Do not record odd segments just to maximize grade. The maximum segment length is 40'. The minimum segment length is 12' for conifer and 8' for hardwoods. Minimum merchantable diameter for conifer is 8" dbh and 10" dbh for hardwoods. One foot of trim is assumed for each merchantable segment.



- 6. Species, Sort, and Grade Codes:** A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple); DL(Douglas-fir over 30"dbh); HL(Western hemlock over 30" dbh); SL(Sitka spruce over 30" dbh); CL (Western red cedar over 30" dbh); NFL (Noble fir over 30" dbh); SFL (Silver fir over 30" dbh)  
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- 8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at intervisible points. On "measure/grade" plots paint the tree diameter on each tree starting with the first tree right of the cruise line direction and continuing clockwise.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Biltmore Stick, Compass, Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging.
- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, cruise lines and plot locations, BAF or plot size, measure/count plot ratio, north arrow, and scale bar.

Cruise Design by: Matt Dimick

Approved by: 

Date: 11-7-19

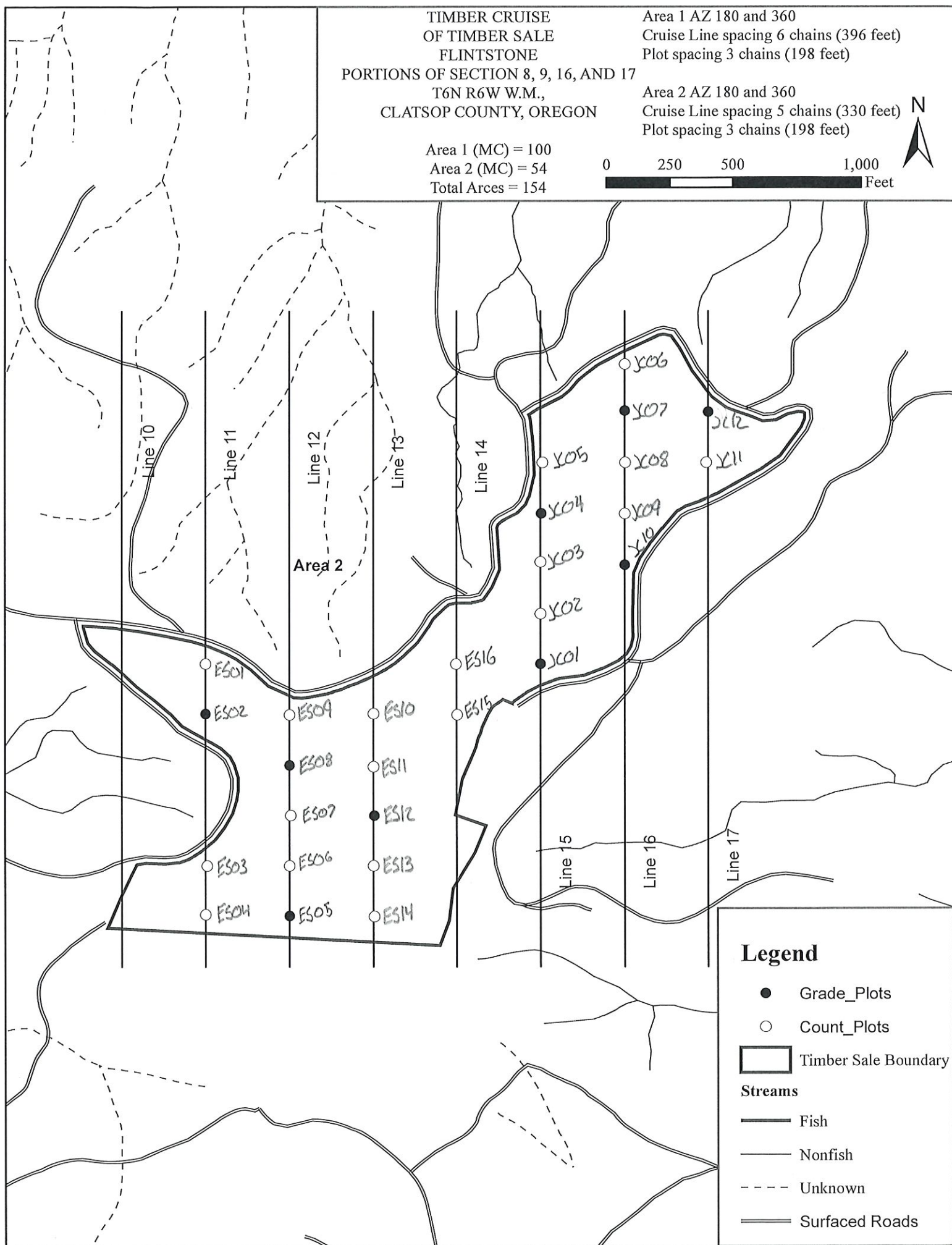
TIMBER CRUISE  
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PORTIONS OF SECTION 8, 9, 16, AND 17  
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Area 1 AZ 180 and 360  
Cruise Line spacing 6 chains (396 feet)  
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Cruise Line spacing 5 chains (330 feet)  
Plot spacing 3 chains (198 feet)

Area 1 (MC) = 100  
Area 2 (MC) = 54  
Total Acres = 154

0 250 500 1,000  
Feet



TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																
<div>T06N R06W S09 TyTAKE100.00 T06N R06W S09 Ty00MC48.00</div>						Project: FSTONE						Page 1								
						Acres 148.00						Date 2/11/2019								
												Time 11:46:57AM								
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def%GrossNet			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
D	DOCU		100.0	359											24	12		0.00	3.4	
D	DO2S	88	1.2	30,319	29,941	4,431		4	23	73	0	1	2	97	39	16	456	2.49	65.6	
D	DO3S	10	.4	3,101	3,089	457		88	12		2	8	27	62	34	8	95	0.79	32.6	
D	DO4S	2	3.8	656	632	93		96	4		59	14	21	7	21	7	36	0.58	17.5	
D Totals		83	2.2	34,436	33,662	4,981		13	22	65	2	1	5	92	35	13	282	1.81	119.2	
H	DO3S	90	1.4	519	512	76		32	68				43	57	35	9	110	0.99	4.7	
H	DO4S	10		52	52	8		100			100				20	7	26	0.60	2.0	
H Totals		1	1.3	571	564	84		38	62		9		39	52	31	8	85	0.91	6.6	
A	DOCU		100.0	327											12	10		0.00	6.3	
A	DO1S	11	2.6	713	694	103			100		14	40		46	30	13	171	1.58	4.1	
A	DO2S	47	1.2	2,778	2,744	406		56	44		7	5	22	66	35	11	157	1.26	17.5	
A	DO3S	19	4.5	1,184	1,131	167		100			11	13	29	46	30	7	62	0.70	18.2	
A	DO4S	23	.5	1,329	1,323	196		100			25	41	11	23	26	6	35	0.52	38.0	
A Totals		14	6.9	6,330	5,892	872		68	32		13	19	18	50	28	8	70	0.80	84.0	
M	DOCU		100.0	71											5	13		0.00	1.7	
M	DO2S	39	1.2	239	236	35		13	87					100	37	11	166	1.52	1.4	
M	DO3S	54	1.6	332	327	48		26	74		14	37		49	27	11	118	1.22	2.8	
M	DO4S	7		38	38	6		100				100			26	6	35	0.67	1.1	
M Totals		1	11.7	680	600	89		25	75		8	26		66	24	11	86	1.16	7.0	
Totals			3.1	42,016	40,717	6,026		22	25	54	3	4	7	85	31	11	188	1.42	216.8	



TC PSCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																			
T06N R06W S09 TyTAKE 100.00						Project: FSTONE										Page 1					
						Acres 100.00										Date 2/11/2019					
																		Time 11:47:09AM			
S Spp	So T	Gr rt ad	%	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
			Net BdFt					Def%	Gross	Net	Log Scale Dia.				Log Length				Ln		Dia In
			4-5	6-11	12-16	17+		12-20	21-30	31-35	36-99	Ft	In	Ft	Lf						
D		DOCU		100.0	441											9	27		0.00	1.5	
D		DO2S	85	2.1	23,962	23,466	2,347		3	28	69		0	0	2	97	39	16	421	2.39	55.7
D		DO3S	12		3,467	3,467	347		86	14			2	8	28	62	34	8	95	0.79	36.5
D		DO4S	3	5.4	687	650	65		94	6			60	8	23	9	21	7	37	0.58	17.5
D Totals			78	3.4	28,556	27,583	2,758		16	26	59		2	2	6	91	34	12	248	1.68	111.1
A		DOCU		100.0	484												12	10		0.00	9.3
A		DO1S	14	2.6	1,055	1,028	103				100		14	40		46	30	13	171	1.58	6.0
A		DO2S	45	.5	3,113	3,098	310		73	27				7	16	77	36	10	144	1.14	21.5
A		DO3S	17	3.5	1,163	1,122	112		100				12	20	16	53	30	7	57	0.66	19.8
A		DO4S	24	.5	1,658	1,649	165		100				18	48	13	21	26	6	35	0.51	47.2
A Totals			20	7.7	7,473	6,897	690		73	27			8	24	13	55	28	8	66	0.76	103.9
H		DO3S	100		239	239	24		100							100	36	7	60	0.67	4.0
H Totals			1		239	239	24		100							100	36	7	60	0.67	4.0
M		DOCU		100.0	106												5	13		0.00	2.5
M		DO2S	71		303	303	30				100					100	36	12	180	1.39	1.7
M		DO3S	29	6.1	132	124	12		100				54			46	22	9	50	0.78	2.5
M Totals			1	21.0	541	427	43		29	71			16			84	19	11	64	0.99	6.7
Totals				4.5	36,809	35,147	3,515		28	26	46		3	6	7	84	31	10	156	1.26	225.7

TC		PSPCSTGR													Species, Sort Grade - Board Foot Volumes (Project)																									
T06N R06W S09 Ty00MC													48.00		Project: FSTONE													Page 1												
															Acres 48.00													Date 2/11/2019												
																												Time 11:47:21AM												
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre																					
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf																						
			4-5	6-11	12-16		17+	12-20	21-30	31-35	36-99																													
D	DOCU		100.0	189													30	5		0.00	7.4																			
D	DO2S	93	.3	43,563	43,431	2,085		4	18	78	1	1	2	96			39	17	503	2.63	86.4																			
D	DO3S	5	1.6	2,340	2,302	1170		94	6		4	10	25	62			35	9	94	0.79	24.6																			
D	DO4S	2		593	593	28		100			56	27	17				20	7	34	0.59	17.6																			
D Totals		89	.8	46,685	46,326	2,224.3		10	17	73	1	1	4	94			35	13	341	2.03	136.0																			
H	DO3S	87	2.0	1,103	1,081	52			100				63	37			35	12	179	1.45	6.1																			
H	DO4S	13		159	159	8		100			100						20	7	26	0.60	6.1																			
H Totals		2	1.8	1,262	1,240	60		13	87		13		55	32			27	9	102	1.14	12.1																			
M	DO2S	9	8.3	104	96	5		100					100				40	9	110	1.97	.9																			
M	DO3S	78		749	749	36			100			49		51			35	14	224	1.67	3.3																			
M	DO4S	13		116	116	6		100				100					26	6	35	0.67	3.3																			
M Totals		2	.9	969	961	46		22	78			50		50			32	10	127	1.35	7.5																			
A	DO2S	52	3.6	2,081	2,007	96			100		28		40	32			29	15	223	2.01	9.0																			
A	DO3S	31	6.3	1,226	1,148	55		100			11		55	34			32	8	78	0.81	14.8																			
A	DO4S	17		641	641	31		100			62			38			23	7	34	0.63	18.8																			
A Totals		7	3.9	3,949	3,797	182		47	53		29		38	34			27	9	89	1.01	42.7																			
Totals			1.0	52,865	52,323	2,512		13	23	64	4	2	7	87			33	12	264	1.78	198.3																			

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	FSTONE			DATE	2/11/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	09	A1	TAKE	100.00	47	267	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		47	267	5.7						
CRUISE		17	86	5.1		12,543	.7			
DBH COUNT										
REFOREST										
COUNT		30	175	5.8						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR		48	49.8	22.6	80	29.2	138.7	28,556	27,583	6,478
R ALDER		33	68.9	14.4	44	20.4	77.4	7,473	6,897	2,288
BL MAPLE		2	2.5	20.9	54	1.3	6.0	541	427	165
WHEMLOCK		2	4.0	14.0	38	1.1	4.3	239	239	96
SNAG		1	.2	27.0	21	0.2	.9			
TOTAL		86	125.4	18.2	58	53.2	227.2	36,809	35,147	9,027
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		68.3	9.8	816	905	995				
R ALDER		81.4	14.2	121	141	161				
BL MAPLE		73.1	68.5	46	145	244				
WHEMLOCK										
SNAG										
TOTAL		106.0	11.5	505	571	637	448	112	50	
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		83.0	12.1	44	50	56				
R ALDER		101.8	14.8	59	69	79				
BL MAPLE		283.6	41.3	1	2	4				
WHEMLOCK		403.3	58.8	2	4	6				
SNAG		685.6	99.9	0	0	0				
TOTAL		47.3	6.9	117	125	134	89	22	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		80.9	11.8	122	139	155				
R ALDER		97.2	14.2	66	77	88				
BL MAPLE		279.3	40.7	4	6	8				
WHEMLOCK		403.3	58.8	2	4	7				
SNAG		685.6	99.9	0	1	2				
TOTAL		43.8	6.4	213	227	242	76	19	8	
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		80.8	11.8	24,334	27,583	30,832				
R ALDER		104.1	15.2	5,851	6,897	7,943				
BL MAPLE		297.6	43.4	242	427	613				
WHEMLOCK		403.3	58.8	98	239	379				
SNAG										
TOTAL		57.3	8.4	32,210	35,147	38,083	131	33	15	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	FSTONE			DATE	2/11/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	06W	09	A2	00MC	48.00	27	176	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
PLOTS		TREES		TREES		TREES					
TOTAL		27		176		6.5					
CRUISE		8		55		6.9		4,534		1.2	
DBH COUNT											
REFOREST											
COUNT		19		121		6.4					
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR		41	53.5	25.6	92	37.8	191.3	46,685	46,326	9,777	
R ALDER		6	29.1	16.5	41	10.6	43.0	3,949	3,797	1,174	
WHEMLOCK		3	6.1	18.9	58	2.7	11.9	1,262	1,240	376	
BL MAPLE		3	4.2	21.3	59	2.2	10.4	969	961	321	
SNAG		2	1.6	26.4	98	1.2	5.9				
TOTAL		55	94.5	22.6	73	55.2	262.4	52,865	52,323	11,648	
										11,564	
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		55.7	8.7	1,201	1,315	1,429					
R ALDER		72.5	32.3	124	183	243					
WHEMLOCK		15.6	10.8	184	207	229					
BL MAPLE		42.3	29.3	149	210	271					
SNAG											
TOTAL		79.1	10.7	914	1,023	1,132		250	62	28	
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		59.0	11.6	47	54	60					
R ALDER		152.5	29.9	20	29	38					
WHEMLOCK		157.4	30.8	4	6	8					
BL MAPLE		242.0	47.4	2	4	6					
SNAG		251.5	49.3	1	2	2					
TOTAL		44.4	8.7	86	94	103		82	20	9	
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		52.7	10.3	171	191	211					
R ALDER		156.9	30.8	30	43	56					
WHEMLOCK		157.0	30.8	8	12	16					
BL MAPLE		229.3	44.9	6	10	15					
SNAG		244.4	47.9	3	6	9					
TOTAL		36.0	7.1	244	262	281		54	13	6	
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		51.6	10.1	41,642	46,326	51,010					
R ALDER		163.0	32.0	2,583	3,797	5,010					
WHEMLOCK		157.3	30.8	857	1,240	1,622					
BL MAPLE		257.3	50.4	476	961	1,445					
SNAG											
TOTAL		41.9	8.2	48,028	52,323	56,619		73	18	8	



TC		PSTNDSUM		Stand Table Summary										Page Date:		1 2/11/2019	
<div>T06N R06W S09 TyTAKE 100.00 T06N R06W S09 Ty00MC 48.00</div>				Project FSTONE						Time: 11:49:10AM		Grown Year:					
				Acres 148.00													
S Spec	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net		Net		Totals		
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
D		9	1	85	64	4.420	1.95	4.42	11.0	50.0		49	221		72	33	
D		12	1	85	50	2.486	1.95	2.49	16.0	40.0		40	99		59	15	
D		13	2	87	66	3.828	3.53	3.25	16.5	55.0		54	179		79	26	
D		14	2	84	97	3.653	3.91	7.31	18.3	60.0		133	438		197	65	
D		15	1	89	112	1.222	1.50	2.44	26.0	100.0		64	244		94	36	
D		16	1	88	97	1.399	1.95	2.80	26.0	95.0		73	266		108	39	
D		17	1	86	111	1.239	1.95	2.48	32.5	120.0		81	297		119	44	
D		18	1	88	102	1.105	1.95	2.21	36.0	130.0		80	287		118	43	
D		20	1	86	103	.895	1.95	1.79	43.5	150.0		78	269		115	40	
D		21	5	88	111	3.683	8.86	9.42	41.0	156.4		386	1,474		572	218	
D		22	1	89	129	.740	1.95	2.22	44.0	186.7		98	414		145	61	
D		23	2	87	102	1.197	3.45	2.39	57.3	205.0		137	491		203	73	
D		24	4	89	140	2.198	6.91	6.59	56.8	247.8		375	1,634		555	242	
D		25	7	87	128	3.612	12.31	9.69	60.6	252.0		587	2,441		869	361	
D		26	5	87	125	2.157	7.95	6.06	62.7	262.5		380	1,592		563	236	
D		27	6	89	140	2.605	10.36	7.82	70.9	332.3		554	2,597		821	384	
D		28	5	84	119	2.177	9.31	5.62	74.3	300.9		418	1,691		618	250	
D		29	4	87	133	1.604	7.36	4.81	76.9	338.3		370	1,628		548	241	
D		30	5	87	148	1.897	9.31	5.69	91.5	442.1		520	2,516		770	372	
D		31	6	87	139	1.976	10.36	5.56	94.7	449.4		526	2,497		779	370	
D		32	4	85	131	1.236	6.91	3.36	95.1	449.4		320	1,510		473	223	
D		33	6	85	148	1.820	10.81	5.46	106.0	502.8		579	2,746		857	406	
D		34	2	89	154	.476	3.00	1.43	122.5	630.0		175	899		259	133	
D		35	4	87	150	1.034	6.91	3.10	113.3	583.9		351	1,810		520	268	
D		36	1	89	157	.212	1.50	.64	136.3	716.7		87	456		128	68	
D		37	3	86	144	.603	4.50	1.81	133.3	676.7		241	1,223		357	181	
D		38	1	88	92	.190	1.50	.57	92.3	516.7		53	295		78	44	
D		39	3	87	149	.597	4.95	1.79	152.3	792.8		273	1,420		404	210	
D		40	3	85	154	.619	5.41	2.08	145.8	751.1		304	1,564		449	231	
D		41	1	88	157	.164	1.50	.49	177.7	940.0		87	461		129	68	
D		Totals	89	87	111	51.045	155.76	115.79	64.5	290.7		7,471	33,662		11,056	4,982	
A		10	3	86	51	8.722	4.76	8.72	10.3	33.3		90	291		133	43	
A		11	5	86	43	12.014	7.93	12.01	12.4	38.0		149	457		220	68	
A		12	1	87	61	2.019	1.59	2.02	22.0	60.0		44	121		66	18	
A		13	2	86	34	5.039	4.64	5.04	15.0	40.0		76	202		112	30	
A		14	2	87	69	2.967	3.17	4.45	22.0	63.3		98	282		145	42	
A		15	5	87	64	6.461	7.93	10.34	22.3	70.0		230	724		340	107	
A		16	1	86	85	1.136	1.59	2.27	26.5	95.0		60	216		89	32	
A		17	5	87	75	5.497	8.67	10.99	26.8	89.1		295	980		436	145	
A		18	8	86	73	7.596	13.42	13.40	29.9	92.0		401	1,232		593	182	
A		19	1	86	75	.805	1.59	1.61	35.5	110.0		57	177		85	26	
A		22	1	87	49	.601	1.59	.60	36.0	50.0		22	30		32	4	
A		23	3	86	75	2.159	6.23	4.32	50.5	176.5		218	762		323	113	
A		24	1	87	97	.505	1.59	1.01	65.5	240.0		66	242		98	36	
A		25	1	86	73	.465	1.59	.93	58.0	190.0		54	177		80	26	
A		Totals	39	86	58	55.986	66.26	77.71	23.9	75.8		1,859	5,892		2,752	872	
M		18	1	86	79	1.139	2.01	2.28	30.5	110.0		69	251		103	37	
M		19	1	88	72	.569	1.12	1.14	34.5	120.0		39	137		58	20	
M		20	1	88	80	.514	1.12	1.03	41.5	140.0		43	144		63	21	
M		26	1	56	70	.546	2.01	.55	31.0	70.0		17	38		25	6	
M		27	1	86	48	.282	1.12	.28	79.0	110.0		22	31		33	5	



TC		PSTNDSUM		Stand Table Summary										Page 2	
														Date: 2/11/2019	
<div>T06N R06W S09 TyTAKE 100.00</div> <div>T06N R06W S09 Ty00MC 48.00</div>				Project FSTONE										Time: 11:49:10AM	
				Acres 148.00										Grown Year:	
S Spec T	Tot Sample DBH Trees FF 16' Av Ht				Trees/ BA/ Logs Acre Acre Acre			Average Log Net Net Cu.Ft. Bd.Ft.		Net Net Tons/ Cu.Ft. Bd.Ft. Acre Acre Acre			Totals Tons Cunits MBF		
M	Totals	5	81	73	3.050	7.39	5.27	36.2	113.9	191 600			282 89		
H	14	2	86	50	2.690	2.88	2.69	24.0	60.0	65 161			96 24		
H	18	1	89	64	.725	1.28	1.45	26.5	85.0	38 123			57 18		
H	19	1	89	77	.651	1.28	1.30	34.0	115.0	44 150			65 22		
H	20	1	85	65	.587	1.28	1.17	33.5	110.0	39 129			58 19		
H	Totals	5	87	58	4.653	6.72	6.62	28.2	85.2	187 564			276 83		
SN	23	1	88	105	.333	.96									
SN	27	1	89	21	.145	.58									
SN	32	1	88	85	.172	.96									
SN	Totals	3	88	81	.650	2.50									
Totals		141	86	82	115.383	238.63	205.40	47.3	198.2	9,707 40,717			14,366 6,026		

TC PLOGSTVB				Log Stock Table - MBF																
<div>T06N R06W S09 TyTAKE 100.00 T06N R06W S09 Ty00MC 48.00</div>				Project: FSTONE Acres 148.00				Page 1 Date 2/11/2019 Time 11:48:31AM												
S T	So rt	Gr de	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+	
D	DO	CU	6	25	100.0															
D	DO	CU	16	22	100.0															
D	DO	CU	32	7	100.0															
D	DO	2S	16	3		3	.1					3								
D	DO	2S	20	11		11	.2									11				
D	DO	2S	24	3		3	.1			3										
D	DO	2S	26	4		4	.1					4								
D	DO	2S	28	4		4	.1					4								
D	DO	2S	30	12		12	.2							12						
D	DO	2S	32	100		100	2.0					41	16		12		31			
D	DO	2S	36	80	5.3	75	1.5			8	19	6	6		37					
D	DO	2S	38	17		17	.3				6	5	6							
D	DO	2S	40	4,254	1.2	4,202	84.3			7	13	53	289	439	1319	1302	740	40		
D	DO	3S	12	5		5	.1					3	2							
D	DO	3S	16	5		5	.1					5								
D	DO	3S	24	14		14	.3					14								
D	DO	3S	26	7		7	.1				7									
D	DO	3S	28	4		4	.1				4									
D	DO	3S	30	12		12	.2			8	3									
D	DO	3S	32	125		125	2.5			33	34	22	36							
D	DO	3S	36	60		60	1.2			21	7	14	19							
D	DO	3S	40	227		225	4.5			33	82	110								
D	DO	4S	12	8		8	.2			1		3	4							
D	DO	4S	16	31		31	.6			14	14	3								
D	DO	4S	20	16		16	.3			13	3									
D	DO	4S	24	8		8	.2				8									
D	DO	4S	28	5		5	.1			5										
D	DO	4S	32	23	15.9	19	.4			15		5								
D	DO	4S	40	6		6	.1				6									
D	Totals			5,096	2.2	4,982	82.7			158	209	292	380	451	1368	1313	771	40		
H	DO	3S	32	34	3.2	33	39.1					33								
H	DO	3S	36	24		24	28.6			24										
H	DO	3S	40	19		19	23.1					19								
H	DO	4S	20	8		8	9.2			8										
H	Totals			84	1.3	83	1.4			32		52								

TC PLOGSTVB				Log Stock Table - MBF															
<div>T06N R06W S09 TyTAKE 100.00 T06N R06W S09 Ty00MC 48.00</div>				Project: FSTONE Acres 148.00										Page 2 Date 2/11/2019 Time 11:48:31AM					
Spp	S T	So rt	Gr de	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
A		DO	CU	4	4	100.0													
A		DO	CU	6	3	100.0													
A		DO	CU	9	12	100.0													
A		DO	CU	13	9	100.0													
A		DO	CU	22	21	100.0													
A		DO	1S	16	15		15	1.7						15					
A		DO	1S	30	42	3.1	41	4.7					41						
A		DO	1S	40	49	2.8	47	5.4					24	23					
A		DO	2S	20	27		27	3.1						27					
A		DO	2S	30	21		21	2.4					21						
A		DO	2S	32	88		88	10.1					50		38				
A		DO	2S	36	84		84	9.6			36		24	24					
A		DO	2S	40	191	2.7	186	21.3					95		60	30			
A		DO	3S	16	13		13	1.5				13							
A		DO	3S	20	6		6	.7				6							
A		DO	3S	26	11		11	1.2			11								
A		DO	3S	30	12		12	1.3			7	5							
A		DO	3S	32	48		48	5.6			18		31						
A		DO	3S	36	28	13.2	25	2.8			19	6							
A		DO	3S	40	57	7.2	53	6.1			8	45							
A		DO	4S	10	2		2	.2			2								
A		DO	4S	16	17		17	1.9			17								
A		DO	4S	20	30		30	3.4			27	3							
A		DO	4S	24	28		28	3.2			28								
A		DO	4S	26	6		6	.7			6								
A		DO	4S	30	46		46	5.2			46								
A		DO	4S	32	23	3.8	22	2.5			22								
A		DO	4S	40	46		46	5.2			46								
A		Totals			937	6.9	872	14.5			291	78	221	89	126	68			
M		DO	CU	2	2	100.0													
M		DO	CU	12	9	100.0													
M		DO	2S	36	30		30	34.1					30						
M		DO	2S	40	5	8.3	5	5.2			5								
M		DO	3S	16	7		7	7.6			7								

TC		PLOGSTVB		Log Stock Table - MBF																	
<div>T06N R06W S09 TyTAKE100.00</div> <div>T06N R06W S09 Ty00MC48.00</div>		Project: FSTONE		Acres148.00												Page3					
																Date2/11/2019					
																Time11:48:31AM					
S T Spp	So rt	Gr de	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+		
M	DO	3S	30	18		18	19.9						18								
M	DO	3S	36	6	12.5	6	6.4			6											
M	DO	3S	40	18		18	20.5					18									
M	DO	4S	24	3		3	3.4			3											
M	DO	4S	28	3		3	2.8			3											
M	Totals			101	11.7	89	1.5			6	17		49	18							
Total	All Species			6,218	3.1	6,026	100.0			486	304		513	569		594	1436	1313	771		40



# Legend

- Timber Sale Boundary
- Posted Stream Buffer
- Buffer Zone
- Operationally Restricted Area
- Type F Stream
- Type N Stream
- Surfaced Road
- Seasonally Restricted Road
- Green Tree Retention Area
- Ownership Boundary
- Survey Monument
- Gate
- Yarding Area - Ground
- Yarding Area - Cable

## Logging Plan

OF TIMBER SALE CONTRACT NO. 341-19-W00630-01  
FLINTSTONE  
PORTIONS OF SECTIONS 8, 9, 16 AND 17  
T6N, R6W, W.M.,  
CLATSOP COUNTY, OREGON

Area 1 (MC) = 100 Acres

Area 2 (MC) = 48 Acres

Total Acres = 148 Acres

1 Inch = 1,000 Feet

0 500 1,000 2,000 Feet

Logging Breakdown	Tractor	Cable
Area 1	22%	78%
Area 2	100%	0%
Total	47%	53%

