



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Sterling Silver
Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,225,040.40	\$2,519.76	\$1,227,560.16
		Project Work:	\$0.00
		Advertised Value:	\$1,227,560.16



Timber Sale Appraisal
Sterling Silver
Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Timber Description

Location: Portions of Sections 22, 23, 24, and 25, T4N, R7W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	97
Western Hemlock / Fir	18	0	97
Alder (Red)	17	0	95

Volume by Grade	2S	3S	4S	CR 12"+	Total
Douglas - Fir	1,185	238	61	0	1,484
Western Hemlock / Fir	1,752	842	140	0	2,734
Alder (Red)	0	0	0	6	6
Total	2,937	1,080	201	6	4,224

Comments: Pond Values Used: 2nd Quarter Calendar Year 2016.

Expected Log Markets: Mist, OR; Clatskanie, OR; Tillamook, OR; Forest Grove, OR; Longview, WA; and Garibaldi, OR.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
\$940/MBF = \$1,175/MBF - \$235/MBF

SCALING COST ALLOWANCE = \$5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):
Log Loader Slash & Landing Piling Areas 1, 2, and 3 (includes Move-In and Pile Materials): (see attached appraisal) = \$16,635
Machine Washing for Noxious Weed Compliance, 2 move-ins @ \$2,000 = \$4,000
Additional Cost for Logging Area 3 Rehab, Skidder @ 2days = 16 hrs x \$92/hr = \$1,472
TOTAL Other Costs (with Profit & Risk to be added) = \$22,107

Other Costs (No Profit & Risk added):
None.



"SUSTAINABLE FORESTRY"

Timber Sale Appraisal Sterling Silver

Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Logging Conditions

Combination#: 1

Douglas - Fir	14.00%
Western Hemlock / Fir	14.00%
Alder (Red)	14.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimiting
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 9 **bd. ft / load:** 3800
cost / mbf: \$192.98
machines: Log Loader (A)
Tower Yarder (Medium)

Combination#: 2

Douglas - Fir	86.00%
Western Hemlock / Fir	86.00%
Alder (Red)	86.00%

Logging System: Shovel **Process:** Manual Falling/Delimiting
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 12 **bd. ft / load:** 3800
cost / mbf: \$86.35
machines: Shovel Logger



"PARTNERSHIP IN FORESTRY"

Timber Sale Appraisal
Sterling Silver

Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Logging Costs

Operating Seasons: 2.00	Profit Risk: 12%
Project Costs: \$0.00	Other Costs (P/R): \$22,107.00
Slash Disposal: \$0.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$6.32

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.5
Western Hemlock / Fir	\$0.00	3.0	4.0
Alder (Red)	\$0.00	2.0	3.3



Timber Sale Appraisal
Sterling Silver
Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$101.28	\$6.51	\$2.08	\$89.27	\$5.23	\$24.52	\$0.00	\$7.00	\$0.00	\$235.89
Western Hemlock / Fir									
\$101.28	\$6.51	\$2.08	\$66.95	\$5.23	\$21.85	\$0.00	\$7.00	\$0.00	\$210.90
Alder (Red)									
\$101.28	\$6.64	\$2.08	\$124.09	\$5.23	\$28.72	\$0.00	\$7.00	\$0.00	\$275.04

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$610.50	\$374.61	\$0.00
Western Hemlock / Fir	\$0.00	\$455.64	\$244.74	\$0.00
Alder (Red)	\$0.00	\$695.00	\$419.96	\$0.00



"PROGRESS THROUGH FORESTRY"

Timber Sale Appraisal Sterling Silver

Sale AT-341-2017-02-

District: Astoria

Date: September 06, 2016

Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,484	\$374.61	\$555,921.24
Western Hemlock / Fir	2,734	\$244.74	\$669,119.16
Alder (Red)	6	\$419.96	\$2,519.76

Gross Timber Sale Value

Recovery: \$1,227,560.16

Prepared By: Kevin Berry

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-17-XX
 Sale Name: Sterling Silver
 Date: 04/04/2016

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.0
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	3.0

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
1	MC	A	49	49	\$110.00	\$5,390.00	
2	MC	A	27	27	\$110.00	\$2,970.00	
3	MC	A	39	39	\$110.00	\$4,290.00	
Sub Total =							\$12,650.00

Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
1	2	\$263.00	\$526.00	147	\$5.00	\$735.00	
2	3	\$263.00	\$789.00	81	\$5.00	\$405.00	
3	2	\$263.00	\$526.00	117	\$5.00	\$585.00	
Sub Total =							\$3,040.00

*Cost includes separating firewood

Move-In Allowance	Number of Move-In's	Total Move-In Allowance	
\$945.00	1	\$945.00	
Sub Total =			\$945.00

Grand Total = \$16,635.00

Road Maintenance Cost Summary

Sale: Sterling Silver
Date: 23-Mar-16
By: K. Berry

MBF: 4,224
\$/MBF: \$6.32

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$778	1	30	\$100	\$3,778
	Dump Truck 12CY x 2	\$326	2	8	\$79	\$1,916
	FE Loader C966	\$778	1	8	\$83	\$1,442
Final Haul Maintenance Haul Route	Grader 14G	\$778	1	40	\$100	\$4,778
	Dump Truck 12CY x 2	\$326	2	16	\$79	\$3,180
	Vibratory Roller	\$778	1	40	\$77	\$3,858
	Water Truck 2,500 gallon	\$190	1	40	\$89	\$3,750
	FE Loader C966	\$778	1	16	\$83	\$2,106
	Rubber Tire Backhoe	\$321	1	16	\$77	\$1,553
	Laborer	\$0	1	8	\$40	\$320
Total						\$26,681

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	5.0	3.3
Vibratory Roller	1.5	3.0	2.0

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	7.3	4.9
Vibratory Roller	1.5	7.3	4.9

**STERLING SILVER
TIMBER CRUISE REPORT
FY 2017**

1. **Sale Area Location:** Areas 1, 2, and 3 are located in portions of Sections 22, 23, 24, and 25 of T4N, R7W, W.M., Clatsop County, Oregon.

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

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Existing R/W	New R/W*	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	53	2	0	2	49	GIS
2	Modified Clearcut	47	2	0	3	42	GIS
3	Modified Clearcut	47	2	0	2	43	GIS
TOTALS		147	6	0	7	134	

4. **Cruisers and Cruise Dates:** The Timber Sale was cruised during March 2016 by Kevin Berry, Dave Rygell, and Avery Peterson.

5. **Cruise Method and Computation:**

Areas 1, 2, and 3 are Modified Clearcut units and were variable plot cruised using a 40 BAF. The plots are located on a 3 chain by 5 chain grid, with every third plot measured and graded. A total of 84 plots were sampled, with 31 measured and graded plots, and 53 count plots.

All cruisers used Allegro² data collectors, and were 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 at the Astoria district office.

AREAS	CRUISE	TRACT	TYPE	ACRES
1, 2, and 3	Sterling	Areas123	00CC	134
1, 2, and 3	Sterling	Areas123	TAKE	134
1, 2, and 3	Sterling	Areas123	LEAV	134

6. **Timber Description:**

Areas 1, 2, and 3 are modified clearcut units. The average stand age is 70 years-old. This is a mixed conifer stand consisting of western hemlock, Douglas-fir and true-fir with minor amounts of red alder. The average western hemlock is 16.8 inches DBH, with a bole height of 70 feet to a merchantable top. The average Douglas-fir is 23.2 inches, with a bole height of 89 feet to a merchantable top. The average true-fir is 20.9 inches, with a bole height of 87 feet to a merchantable top. The average red alder is 17.0 inches, with a bole height of 50 feet to a merchantable top. The average board foot volume per acre is 32 MBF. White spec in Douglas-fir and frost crack in true-fir were significant defects noted in the stand. A significant portion of this stand has sustained wind damage.

**STERLING SILVER
TIMBER CRUISE REPORT
FY 2017**

7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)
Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, and 3	60%	8%	48%	5%

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade" - Project Report, attached).
Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol. MBF	2 Saw	3 Saw	4 Saw	Camp Run	% D & B	% Sale
Hemlock/True-fir	17.9"	2,734	1,752	842	140	0	3.5%	65%
Douglas-fir	23.2"	1,484	1,185	238	61	0	2.7%	35%
Alder	17.0"	6	0	0	0	6	0	>1%
TOTALS		4,224						100%

9. Prepared by: Kevin Berry **Date:** 3/21/2016

10. Approved by: _____ **Date:** _____

11. Attachments:
Cruise Designs and Maps - 6 pages
Volume Report - 1 page
Statistics Reports - 3 pages
Stand Table Summary - 3 pages
Log Stock Tables - 2 pages

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Sterling Silver **Area(s)** 1, 2, and 3

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 134 **Estimated CV%** 60 Net BF or BA/Acre **SE% Objective** 8

Planned Sale Volume: 4,748 **Estimated Sale Area Value/Acre:** \$ 11,702

A. Cruise Goals: (a) Grade minimum 100 conifer 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; Half point) (circle one)
Cruise Line Direction(s) 360' Az N-S
Cruise Line Spacing 5 chains
Cruise Plot Spacing 3 chains
Grade/Count Ratio 1:3

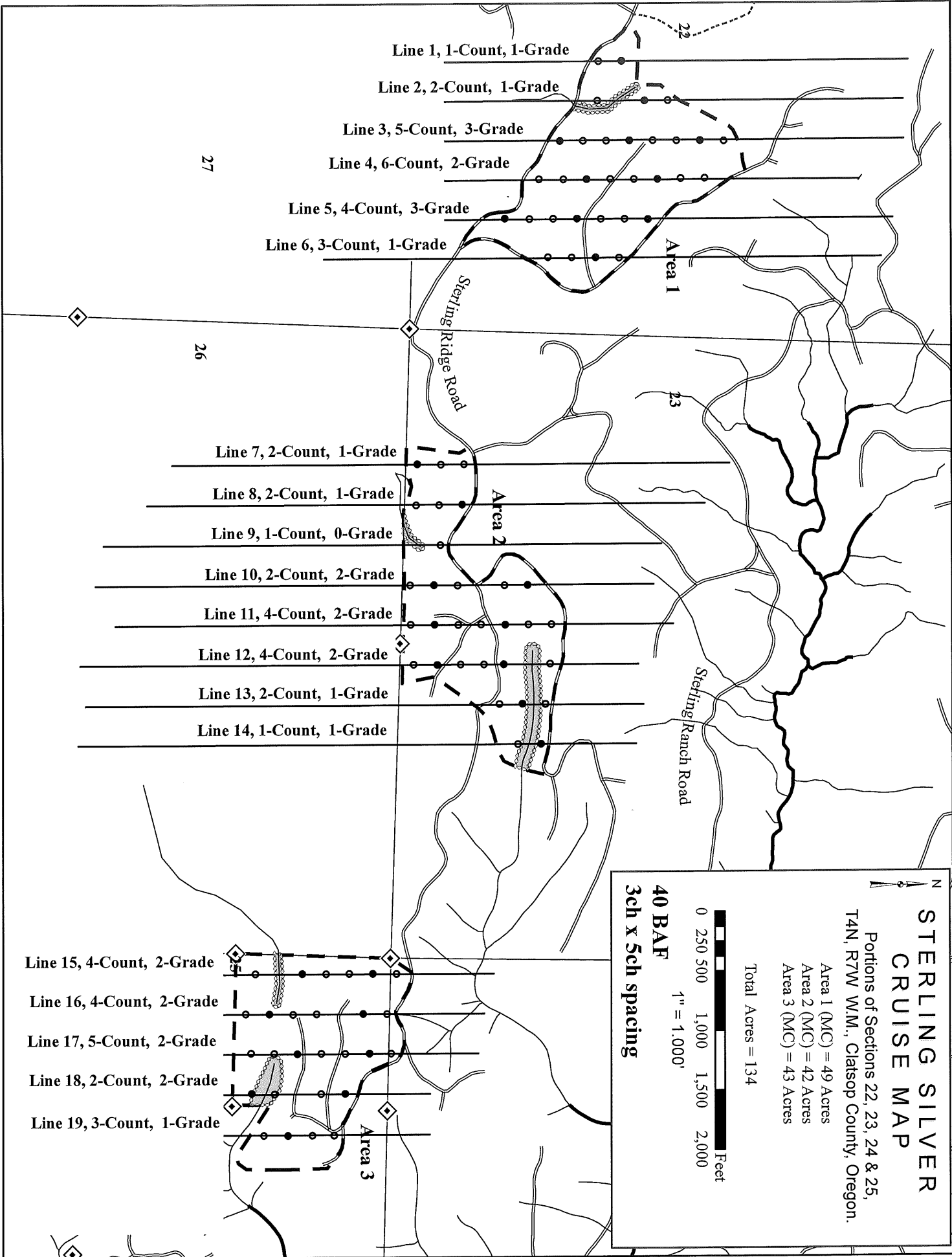
Record all hardwood as camp run. Record all cedar as leave. Record all snags as SN and record diameter & total height. If plot lands in buffer then offset at least 1/2 chain outside the buffer.

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 < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. The minimum merchantable segment length for conifer is 12'; and for hardwoods it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

- 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 (Big leaf 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; R = Camp Run; 0 = Cull
- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable.
- 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 write the tree diameter on the measured trees clockwise from the line direction with yellow paint.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Diameter Tape, Biltmore Stick, Compass, Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, and Yellow Paint
- 10. Attachments:** Cruise Maps, 7 pages, showing cruise unit boundaries, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Kevin Berry
 Approved by:  2/28/16
 Date: 02/26/2018



**STERLING SILVER
CRUISE MAP**

Portions of Sections 22, 23, 24 & 25,
T4N, R7W W.M., Clatsop County, Oregon.

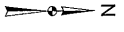
Area 1 (MC) = 49 Acres
Area 2 (MC) = 42 Acres
Area 3 (MC) = 43 Acres

Total Acres = 134



1" = 1,000'

40 BAF
3ch x 5ch spacing



STERLING SILVER CRUISE MAP

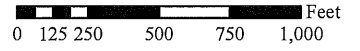
Portions of Sections 22, 23, 24 & 25,
T4N, R7W W.M., Clatsop County, Oregon.

Area 1 (MC) = 49 Acres

Area 2 (MC) = 42 Acres

Area 3 (MC) = 43 Acres

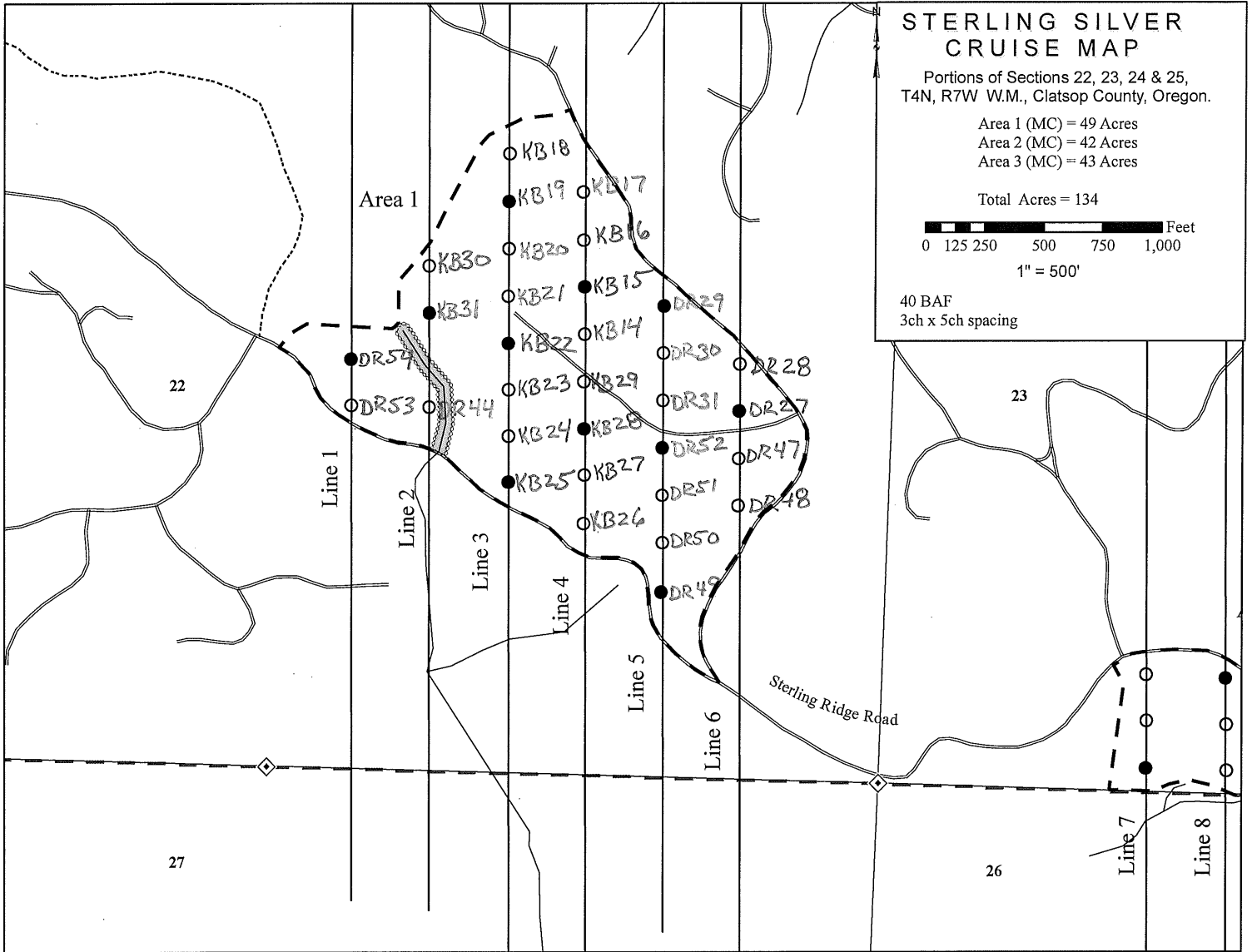
Total Acres = 134

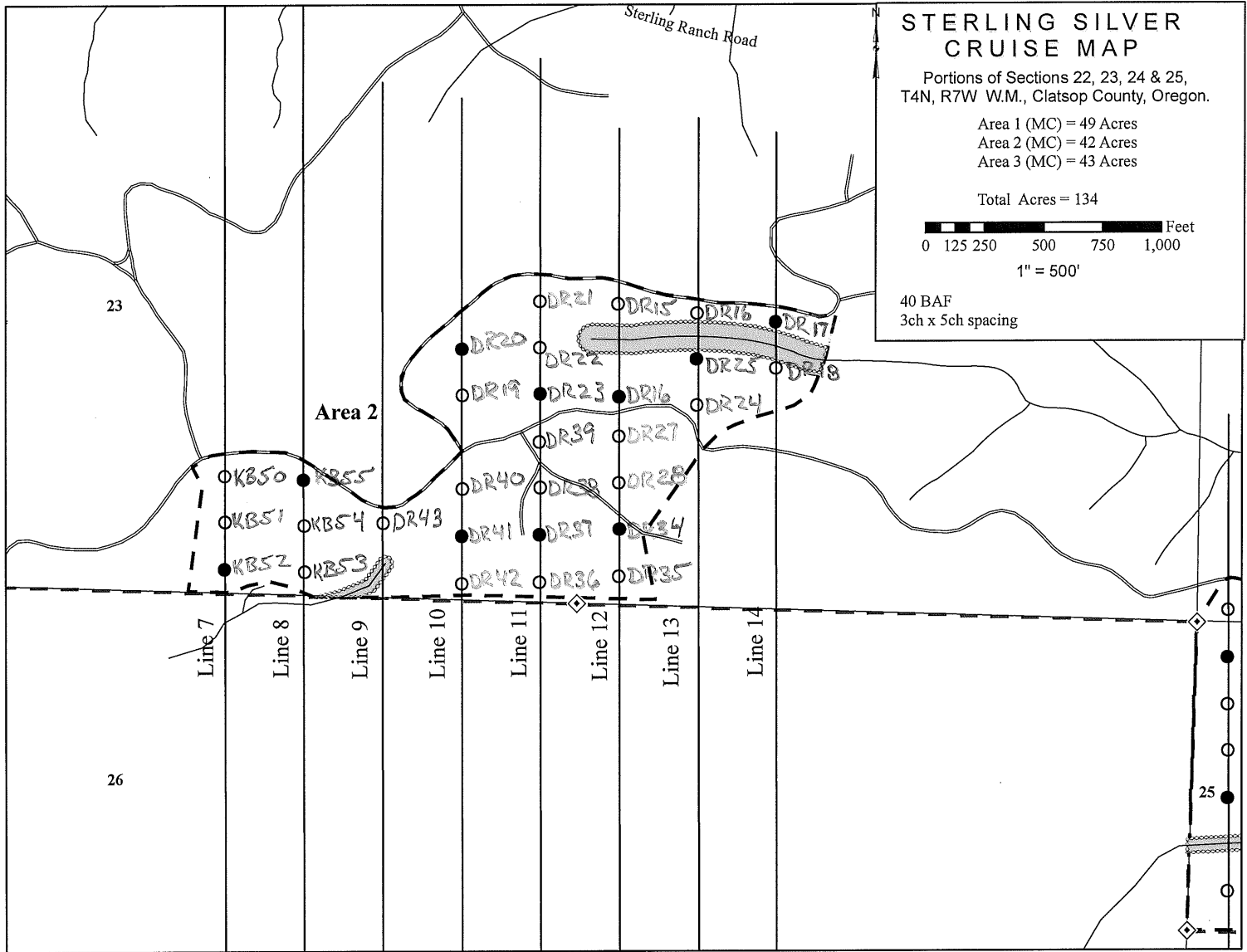


1" = 500'

40 BAF

3ch x 5ch spacing





STERLING SILVER CRUISE MAP

Portions of Sections 22, 23, 24 & 25,
T4N, R7W W.M., Clatsop County, Oregon.

Area 1 (MC) = 49 Acres

Area 2 (MC) = 42 Acres

Area 3 (MC) = 43 Acres

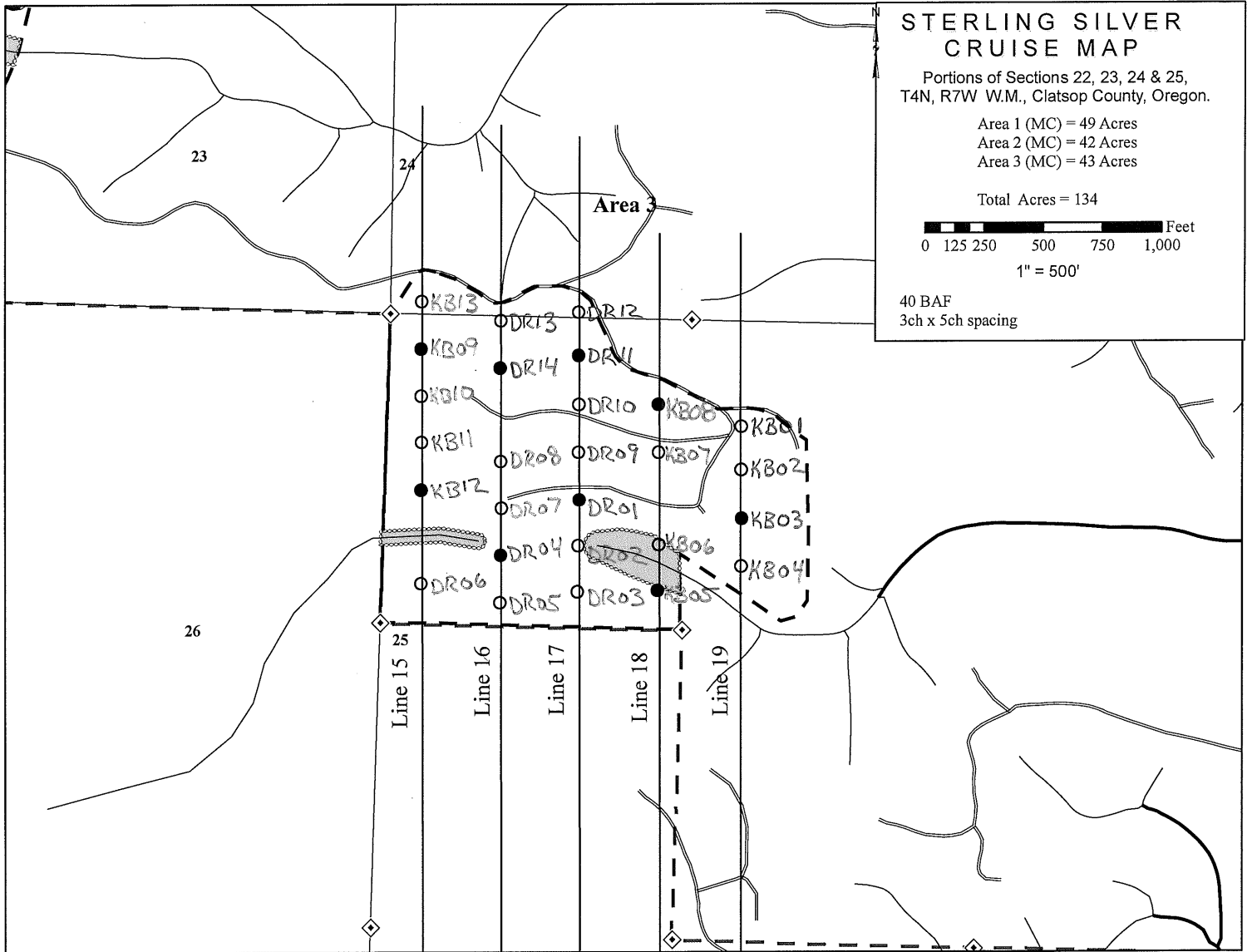
Total Acres = 134

0 125 250 500 750 1,000 Feet

1" = 500'

40 BAF

3ch x 5ch spacing



Species, Sort Grade - Board Foot Volumes (Type)										Page 1										
T TSPCSTGR										Date 3/21/2016										
Project: STERLING										Time 11:37:11AM										
T04N R07W S23 TTAKE										T04N R07W S23 TTAKE										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
04N	07W	23	AREA123	TAKE	134.00	84	138	1	W											
S Spp	So T	Gr rt	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
H	DO	CU		00.0	402											6	14		0.00	8.8
H	DO	2S	52	.7	5,792	5,754	771		81	19			13	87		38	14	288	1.83	20.0
H	DO	3S	41	2.0	4,690	4,598	616	100				1	41	58		36	8	91	0.73	50.6
H	DO	4S	7		671	671	90	6	94			24	37	21	18	24	6	32	0.49	20.7
H	Totals		35	4.6	11,555	11,023	1,477	0	47	42	10	2	2	25	71	31	9	110	0.95	100.2
D	DO	CU		00.0	56											6	24		0.00	.4
D	DO	2S	79	2.7	9,087	8,844	1,185		54	46			9	91		39	15	347	2.16	25.5
D	DO	3S	16	1.0	1,796	1,777	238	100				2	7	46	45	34	9	94	0.83	19.0
D	DO	4S	5		456	456	61	84	16			23	77			22	7	41	0.61	11.2
D	Totals		35	2.8	11,395	11,078	1,484	20	44	36		1	4	14	80	34	11	198	1.50	56.1
WF	DO	CU		00.0	41											6	18		0.00	.5
WF	DO	2S	78	2.2	7,490	7,323	981		46	54		0	11	89		38	15	367	2.15	20.0
WF	DO	3S	18		1,688	1,688	226	99	1			1	9	55	35	33	8	86	0.73	19.6
WF	DO	4S	4	1.1	375	371	50	5	95			24	39	37		26	6	34	0.40	10.8
WF	Totals		30	2.2	9,595	9,382	1,257	0	22	36	42	1	3	19	77	33	11	184	1.32	50.9
A	DO	CR	100		48	48	6	100				12	88			24	9	80	0.98	.6
A	Totals		0		48	48	6	100				12	88			24	9	80	0.98	.6
Type Totals				3.3	32,593	31,532	4,224	0	30	41	29	1	3	20	76	32	10	152	1.19	207.8

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT STERLING							DATE	3/21/2016		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
04N	07	23	AREA123	00CC		134.00	84	438	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			84	438	5.2							
CRUISE			31	159	5.1	13,159	1.2					
DBH COUNT												
REFOREST												
COUNT			53	271	5.1							
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK			58	49.3	16.8	70	18.5	75.7	11,555	11,023	3,052	2,971
DOUG FIR			40	21.9	23.2	89	13.4	64.3	11,395	11,078	2,835	2,825
WH FIR			39	20.2	20.9	87	10.5	48.1	9,595	9,382	2,246	2,239
SNAG			12	5.0	23.9	37	3.2	15.7				
HEMLEAV			5	.9	22.3	67	0.5	2.4	305	286	87	84
DOUGLEAV			3	.4	25.9	94	0.3	1.4	268	268	64	64
R ALDER			1	.3	17.0	50	0.1	.5	48	48	14	14
SFIRLEAV			1	.1	31.0	90	0.1	.5	109	109	22	22
TOTAL			<i>159</i>	<i>98.2</i>	<i>19.7</i>	<i>76</i>	<i>47.0</i>	<i>208.6</i>	<i>33,275</i>	<i>32,195</i>	<i>8,320</i>	<i>8,219</i>
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			
WHEMLOCK			75.8	9.9	279	310	341					
DOUG FIR			48.1	7.6	549	594	639					
WH FIR			66.2	10.6	631	705	780					
SNAG												
HEMLEAV			40.3	20.0	297	372	447					
DOUGLEAV			69.7	48.2	433	837	1,240					
R ALDER												
SFIRLEAV												
TOTAL			<i>81.6</i>	<i>6.5</i>	<i>441</i>	<i>472</i>	<i>502</i>	<i>266</i>	<i>66</i>	<i>30</i>		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
WHEMLOCK			108.2	11.8	44	49	55					
DOUG FIR			103.1	11.2	19	22	24					
WH FIR			152.3	16.6	17	20	24					
SNAG			208.2	22.7	4	5	6					
HEMLEAV			689.0	75.1	0	1	2					
DOUGLEAV			766.0	83.5	0	0	1					
R ALDER			916.5	99.9	0	0	1					
SFIRLEAV			916.5	99.9	0	0	0					
TOTAL			<i>54.4</i>	<i>5.9</i>	<i>92</i>	<i>98</i>	<i>104</i>	<i>118</i>	<i>30</i>	<i>13</i>		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
WHEMLOCK			100.4	11.0	67	76	84					
DOUG FIR			100.4	10.9	57	64	71					
WH FIR			138.9	15.1	41	48	55					
SNAG			197.6	21.5	12	16	19					
HEMLEAV			603.3	65.8	1	2	4					
DOUGLEAV			679.8	74.1	0	1	2					
R ALDER			916.5	99.9	0	0	1					

PROJECT STATISTICS
PROJECT STERLING

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	07	23	AREA123	00CC	134.00	84	438	1	W
CL	68.1		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10
SFIRLEAV			916.5	99.9	0	0	1		
TOTAL			<i>41.9</i>	<i>4.6</i>	<i>199</i>	<i>209</i>	<i>218</i>	<i>70</i>	<i>18</i>
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10
WHEMLOCK			104.8	11.4	9,764	11,023	12,283		
DOUG FIR			100.6	11.0	9,863	11,078	12,292		
WH FIR			141.4	15.4	7,936	9,382	10,829		
SNAG									
HEMLEAV			608.5	66.3	96	286	477		
DOUGLEAV			656.8	71.6	76	268	460		
R ALDER			916.5	99.9	0	48	97		
SFIRLEAV			916.5	99.9	0	109	218		
TOTAL			<i>47.8</i>	<i>5.2</i>	<i>30,516</i>	<i>32,195</i>	<i>33,875</i>	<i>91</i>	<i>23</i>

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT STERLING				DATE	3/21/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	07W	23	AREA123	TAKE	134.00	84	396	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		84	396	4.7						
CRUISE		30	138	4.6	12,301	1.1				
DBH COUNT										
REFOREST										
COUNT		52	258	5.0						
BLANKS		2								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	58	49.3	16.8	70	18.5	75.7	11,555	11,023	3,052	2,971
DOUG FIR	40	21.9	23.2	89	13.4	64.3	11,395	11,078	2,835	2,825
WH FIR	39	20.2	20.9	87	10.5	48.1	9,595	9,382	2,246	2,239
R ALDER	1	.3	17.0	50	0.1	.5	48	48	14	14
TOTAL	138	91.8	19.4	78	42.8	188.6	32,593	31,532	8,147	8,050
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		
WHEMLOCK	75.8	9.9	279	310	341					
DOUG FIR	48.1	7.6	549	594	639					
WH FIR	66.2	10.6	631	705	780					
R ALDER										
TOTAL	73.7	6.3	472	503	535	217	54	24		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	108.2	11.8	44	49	55					
DOUG FIR	103.1	11.2	19	22	24					
WH FIR	152.3	16.6	17	20	24					
R ALDER	916.5	99.9	0	0	1					
TOTAL	58.4	6.4	86	92	98	136	34	15		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	100.4	11.0	67	76	84					
DOUG FIR	100.4	10.9	57	64	71					
WH FIR	138.9	15.1	41	48	55					
R ALDER	916.5	99.9	0	0	1					
TOTAL	47.1	5.1	179	189	198	89	22	10		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	104.8	11.4	9,764	11,023	12,283					
DOUG FIR	100.6	11.0	9,863	11,078	12,292					
WH FIR	141.4	15.4	7,936	9,382	10,829					
R ALDER	916.5	99.9	0	48	97					
TOTAL	49.4	5.4	29,832	31,532	33,231	98	24	11		

TC		Stand Table Summary													
Project											STERLING				
T04N R07W S23 TTAKE											T04N R07W S23 TTAK				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		Page:	1					
04N	07W	23	AREA123	TAKE	134.00	84	138		Date:	03/21/20					
									Time:	11:47:39AM					
S Spec	T	Sample		Av	Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Tons/ Acres	Net	Net	Totals		
		DBH	Trees	FF				Ht	Net		Net	Cu.Ft.	Bd.Ft.	Tons	Cunits
D		16	2	86	85	2.302	3.21	4.60	23.2	87.5	107	403		143	54
D		17	1	88	99	1.020	1.61	2.04	30.5	120.0	62	245		83	33
D		18	1	82	128	.909	1.61	2.73	29.0	96.7	79	264		106	35
D		20	2	84	113	1.473	3.21	3.68	38.2	136.0	141	501		189	67
D		21	7	85	116	4.677	11.25	12.70	39.4	143.7	500	1,824		671	244
D		22	2	87	113	1.218	3.21	3.04	46.4	184.0	141	560		189	75
D		23	3	84	111	1.671	4.82	3.90	51.6	192.9	201	752		269	101
D		24	4	87	107	2.046	6.43	4.60	57.4	218.9	264	1,008		354	135
D		26	1	86	126	.436	1.61	1.31	61.0	253.3	80	331		107	44
D		27	6	86	118	2.425	9.64	6.47	67.2	268.7	435	1,738		583	233
D		28	4	83	128	1.503	6.43	4.51	64.1	267.5	289	1,206		387	162
D		29	2	88	124	.701	3.21	1.75	86.8	402.0	152	704		204	94
D		30	3	83	126	.982	4.82	2.62	87.3	358.7	229	940		306	126
D		31	1	86	120	.307	1.61	.92	79.3	333.3	73	307		98	41
D		33	1	81	120	.271	1.61	.81	88.0	363.3	71	295		96	40
D		Totals	40	85	113	21.941	64.29	55.69	50.7	198.9	2,825	11,078		3,786	1,484
H		10	2	85	60	4.787	2.61	2.39	10.0	30.0	24	72		32	10
H		11	1	85	121	1.978	1.31	3.96	14.5	50.0	57	198		77	27
H		12	1	85	116	1.662	1.31	3.32	18.5	75.0	61	249		82	33
H		13	6	86	98	8.497	7.83	15.58	20.5	75.5	320	1,175		429	158
H		14	3	86	81	3.663	3.92	6.11	22.8	76.0	139	464		187	62
H		15	1	88	79	1.064	1.31	2.13	22.0	85.0	47	181		63	24
H		16	7	86	90	6.545	9.14	12.15	28.4	98.5	345	1,197		462	160
H		17	4	86	101	3.313	5.22	4.97	29.3	108.3	146	538		195	72
H		18	7	87	109	5.171	9.14	12.56	35.0	125.9	440	1,581		589	212
H		19	3	88	106	1.989	3.92	5.30	33.1	127.5	176	676		235	91
H		20	3	87	89	1.795	3.92	3.59	40.8	133.3	147	479		196	64
H		21	6	86	99	3.256	7.83	7.06	46.7	176.2	329	1,243		441	167
H		22	4	85	100	1.978	5.22	2.97	51.3	195.0	152	579		204	78
H		23	4	85	102	1.810	5.22	4.07	54.9	211.1	224	860		300	115
H		24	1	89	129	.416	1.31	1.25	59.0	256.7	74	320		99	43
H		26	1	82	129	.354	1.31	1.06	65.7	270.0	70	287		93	38
H		28	1	86	91	.305	1.31	.61	83.0	315.0	51	192		68	26
H		30	2	84	113	.532	2.61	1.60	69.7	310.0	111	495		149	66
H		32	1	80	110	.234	1.31	.70	85.0	340.0	60	238		80	32
H		Totals	58	86	95	49.349	75.71	91.37	32.5	120.6	2,971	11,023		3,982	1,477
WF		10	2	87	105	4.522	2.47	6.78	12.7	56.7	86	384		115	52
WF		16	1	86	99	.883	1.23	1.77	26.5	100.0	47	177		63	24
WF		17	1	88	136	.782	1.23	2.35	28.7	116.7	67	274		90	37
WF		18	2	85	128	1.396	2.47	4.19	28.3	103.3	119	433		159	58
WF		19	2	85	107	1.253	2.47	3.13	32.8	116.0	103	363		138	49
WF		20	5	85	115	2.826	6.17	7.91	35.2	132.1	279	1,046		373	140
WF		21	3	86	105	1.538	3.70	3.59	41.3	150.0	148	538		199	72
WF		22	1	83	116	.467	1.23	1.40	38.7	140.0	54	196		73	26
WF		23	1	85	129	.427	1.23	1.28	48.3	193.3	62	248		83	33
WF		24	3	88	114	1.178	3.70	3.53	48.6	206.7	172	730		230	98
WF		25	2	88	129	.724	2.47	2.17	57.3	248.3	124	539		167	72
WF		26	5	87	121	1.672	6.17	4.68	63.7	275.7	298	1,291		400	173
WF		27	1	89	141	.310	1.23	.93	73.0	326.7	68	304		91	41
WF		28	2	88	138	.577	2.47	1.73	75.3	348.3	130	603		175	81
WF		29	2	90	129	.538	2.47	1.61	79.7	393.3	129	634		172	85

Stand Table Summary

Project **STERLING**

T04N R07W S23 TTAKE

T04N R07W S23 TTAK

Twp Rge Sec Tract
04N 07W 23 AREA123

Type Acres Plots Sample Trees
TAKE 134.00 84 138

Page: 2
Date: 03/21/20
Time: 11:47:39AM

S Spc T	Sample DBH	Trees	Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
WF	31	1	86	122	.235	1.23	.71	82.3	353.3	58	249		78	33	
WF	33	1	88	116	.208	1.23	.62	93.0	400.0	58	249		78	33	
WF	34	2	87	135	.391	2.47	1.17	109.7	536.7	129	630		172	84	
WF	40	1	86	122	.141	1.23	.42	134.3	660.0	57	280		76	37	
WF	41	1	85	110	.135	1.23	.40	128.3	530.0	52	214		69	29	
WF	Totals	39	86	116	20.203	48.10	50.39	44.4	186.2	2,239	9,382		3,000	1,257	
A	17	1	87	62	.302	.48	.60	23.5	80.0	14	48		19	6	
A	Totals	1	87	62	.302	.48	.60	23.5	80.0	14	48		19	6	
Totals		138	86	104	91.795	188.57	198.05	40.6	159.2	8050	31,532		10,787	4,225	

TC TSTNDSUM

Stand Table Summary

Project **STERLING**

T04N R07W S23 TLEAV

T04N R07W S23 TLEA

Twp Rge Sec Tract
04N 07W 23 AREA123

Type Acres Plots Sample Trees
LEAV 134.00 84 21

Page: 1
Date: 03/21/20
Time: 11:48:23AM

S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
HL		18	1	86	74	.269	.48	.54	29.5	95.0		16	51		21		7
HL		20	1	85	78	.218	.48	.44	38.5	115.0		17	50		23		7
HL		24	1	86	97	.152	.48	.30	66.0	240.0		20	73		27		10
HL		25	1	85	84	.140	.48	.28	64.0	225.0		18	63		24		8
HL		30	1	80	84	.097	.48	.19	68.0	255.0		13	49		18		7
HL		Totals		5	85	.876	2.38	1.75	47.8	163.5		84	286		112		38
DL		22	1	86	120	.180	.48	.54	40.3	170.0		22	92		29		12
DL		25	1	85	107	.140	.48	.28	67.0	245.0		19	68		25		9
DL		35	1	83	140	.071	.48	.21	109.7	503.3		23	108		31		14
DL		Totals		3	85	.391	1.43	1.03	61.9	259.2		64	268		86		36
SFL		31	1	88	110	.091	.48	.27	79.7	400.0		22	109		29		15
SFL		Totals		1	88	.091	.48	.27	79.7	400.0		22	109		29		15
SN		16	1	89	70	.938	1.31										
SN		18	1	89	30	.741	1.31										
SN		19	1	89	30	.665	1.31										
SN		20	1	89	20	.600	1.31										
SN		24	1	88	50	.417	1.31										
SN		28	2	88	30	.612	2.62										
SN		29	1	89	20	.285	1.31										
SN		30	1	85	40	.267	1.31										
SN		32	1	87	17	.234	1.31										
SN		38	1	89	35	.166	1.31										
SN		45	1	88	30	.119	1.31										
SN		Totals		12	88	5.045	15.71										
Totals			21	88	49	6.403	20.00	3.06	55.4	216.9		169	664		227		89

Log Stock Table - MBF
Project: **STERLING**

T04N R07W S23 TTAKE

T04N R07W S23 TTAK

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
 04N 07W 23 AREA123 TAKE 134.00 84 138 Date 3/21/2016
 Time 11:38:36AM

Spp	T	S	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
H		DO	CU		3		4	100.0													
H		DO	CU		4		9	100.0													
H		DO	CU		6		39	100.0													
H		DO	CU		16		2	100.0													
H		DO	2S		32		106	3.0	102	6.9				72	31						
H		DO	2S		40		671	.3	669	45.3				241	231	146	50				
H		DO	3S		15		3		3	.2				3							
H		DO	3S		32		204	5.1	194	13.1			9	105	79						
H		DO	3S		33		55		55	3.7			51	4							
H		DO	3S		35		4		4	.3			4								
H		DO	3S		36		25	7.7	23	1.5			23								
H		DO	3S		38		19		19	1.3			19								
H		DO	3S		40		289		289	19.6			37	94	157						
H		DO	3S		41		29		29	2.0			29								
H		DO	4S		13		3		3	.2			3								
H		DO	4S		14		2		2	.2			1	1							
H		DO	4S		15		4		4	.3			4								
H		DO	4S		17		6		6	.4			6								
H		DO	4S		18		2		2	.1			2								
H		DO	4S		20		4		4	.3			4								
H		DO	4S		22		7		7	.5			3	4							
H		DO	4S		23		10		10	.7			10								
H		DO	4S		26		10		10	.7			10								
H		DO	4S		27		2		2	.2			2								
H		DO	4S		28		4		4	.3			4								
H		DO	4S		31		19		19	1.3			19								
H		DO	4S		40		16		16	1.1		5	11								
H		Totals						1,548	4.6	1,477	35.0		5	253	209	240	312	262	146	50	
D		DO	CU		6		8	100.0													
D		DO	2S		32		107	1.5	105	7.1				71	34						
D		DO	2S		40		1,111	2.8	1,080	72.8				159	317	451	152				
D		DO	3S		20		5		5	.4				5							
D		DO	3S		25		6		6	.4				6							
D		DO	3S		27		7		7	.5				3	5						
D		DO	3S		30		4		4	.3			4								
D		DO	3S		32		98	1.8	97	6.5				26	71						
D		DO	3S		33		13	5.1	13	.9			13								
D		DO	3S		36		9		9	.6			9								
D		DO	3S		38		11		11	.8			11								
D		DO	3S		40		75		75	5.0			5	29	40						
D		DO	3S		41		11		11	.7			11								
D		DO	4S		15		3		3	.2			2	1							
D		DO	4S		16		3		3	.2				3							
D		DO	4S		17		6		6	.4			2	4							
D		DO	4S		20		2		2	.2			2								
D		DO	4S		21		7		7	.4			5	2							
D		DO	4S		22		3		3	.2				3							
D		DO	4S		25		5		5	.4			5								
D		DO	4S		26		12		12	.8						10					

Log Stock Table - MBF

Project: **STERLING**

T04N R07W S23 TTAKE

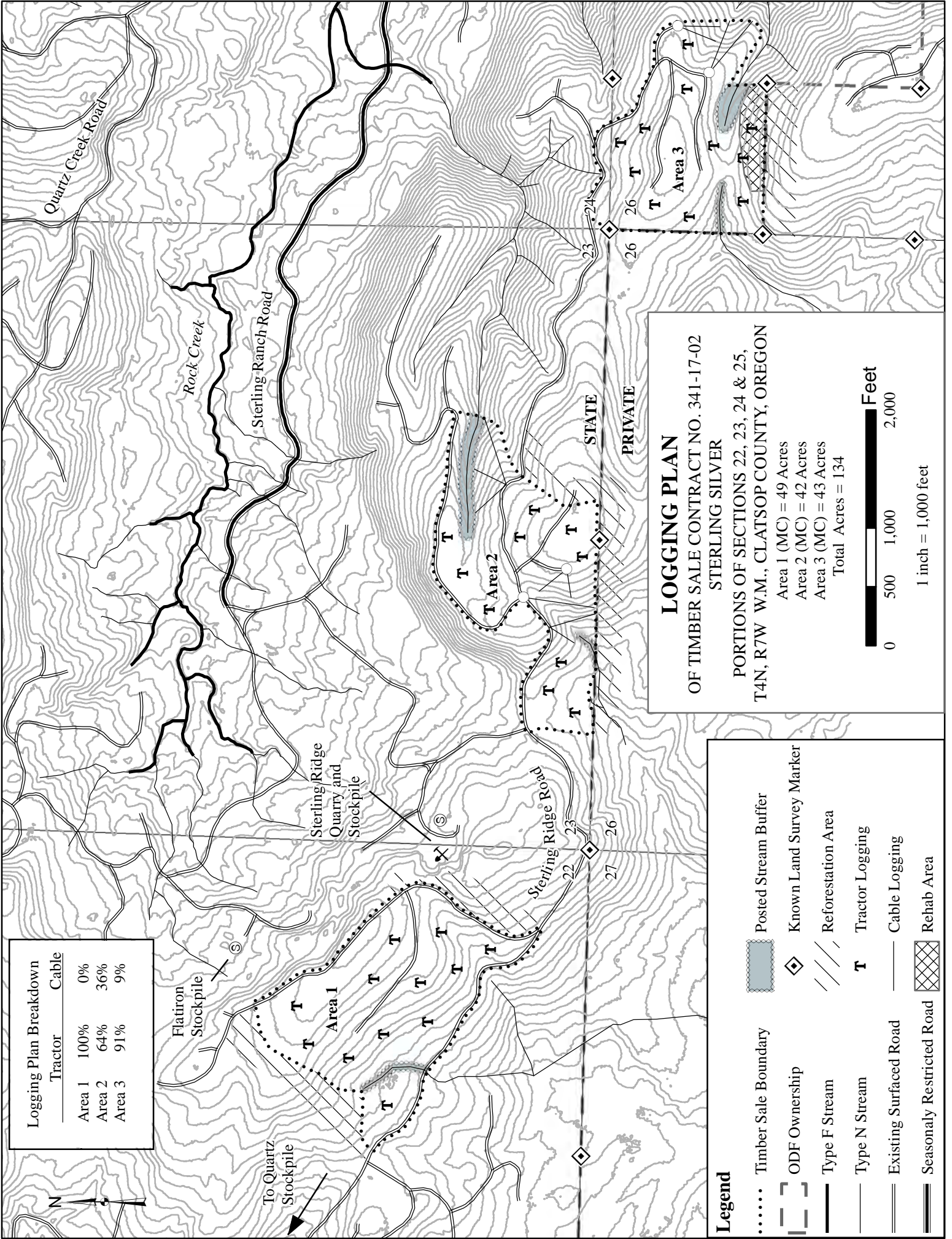
T04N R07W S23 TTAK

Twp Rge Sec Tract
04N 07W 23 AREA123

Type Acres Plots Sample Trees
TAKE 134.00 84 138

Page 2
 Date 3/21/2016
 Time 11:38:36AM

Spp	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches											
									MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
D	DO	4S	27		3		3	.2			3									
D	DO	4S	28		13		13	.9			3		11							
D	DO	4S	29		4		4	.2			4									
D Totals					1,527	2.8	1,484	35.1			81	77	132	230	361	451	152			
WF	DO	CU	6		5	100.0														
WF	DO	2S	17		2		2	.1					2							
WF	DO	2S	32		117	6.5	110	8.7					48	25	10	9	18			
WF	DO	2S	40		885	1.7	870	69.2					157	155	353	126	79			
WF	DO	3S	20		2		2	.1				2								
WF	DO	3S	23		2		2	.2						2						
WF	DO	3S	25		4		4	.3				4								
WF	DO	3S	27		14		14	1.1				9	6							
WF	DO	3S	32		112		112	8.9			38	33	41							
WF	DO	3S	33		10		10	.8			10									
WF	DO	3S	35		3		3	.3			3									
WF	DO	3S	40		79		79	6.3			5	37	37							
WF	DO	4S	12		1		1	.1					1							
WF	DO	4S	15		2		2	.2			1	1								
WF	DO	4S	16		1		1	.1				1								
WF	DO	4S	19		1		1	.1												
WF	DO	4S	20		6		6	.5				6								
WF	DO	4S	22		8	7.4	7	.6				7								
WF	DO	4S	25		10		10	.8				10								
WF	DO	4S	27		3		3	.2			3									
WF	DO	4S	41		18		18	1.4				18								
WF Totals					1,286	2.2	1,257	29.8		3	99	88	85	209	179	363	135	97		
A	DO	CR	16		1		1	12.5			1									
A	DO	CR	32		6		6	87.5					6							
A Totals					6		6	.2			1		6							
Total All Species					4,367	3.3	4,225	100.0		8	434	373	462	752	802	961	338	97		



Logging Plan Breakdown

	Tractor	Cable
Area 1	100%	0%
Area 2	64%	36%
Area 3	91%	9%

LOGGING PLAN
 STERLING SILVER
 OF TIMBER SALE CONTRACT NO. 341-17-02
 PORTIONS OF SECTIONS 22, 23, 24 & 25,
 T4N, R7W W.M., CLATSOP COUNTY, OREGON

Area 1 (MC) = 49 Acres
 Area 2 (MC) = 42 Acres
 Area 3 (MC) = 43 Acres
 Total Acres = 134

Feet
 0 500 1,000 2,000
 1 inch = 1,000 feet

- Legend**
- Timber Sale Boundary
 - ODF Ownership
 - Type F Stream
 - Type N Stream
 - Existing Surfaced Road
 - Seasonally Restricted Road
 - ▨ Posted Stream Buffer
 - ◇ Known Land Survey Marker
 - /// Reforestation Area
 - T Tractor Logging
 - Cable Logging
 - ▩ Rehab Area