



Timber Sale Appraisal
Saddle Up
Sale AT-341-2017-01-

District: Astoria

Date: October 07, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$748,861.86	\$37,325.78	\$786,187.64
		Project Work:	\$0.00
		Advertised Value:	\$786,187.64



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District: Astoria

Date: October 07, 2016

Timber Description

Location: Portions of Sections 24 and 25, T6N, R8W,
and portions of Sections 30 and 31, T6N, R7W, W.M.,

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	25	0	97
Western Hemlock / Fir	17	0	97
Sitka Spruce	40	0	97
Alder (Red)	13	0	95

Volume by Grade	2S	3S	4S	CR 22"+	Camprun	Total
Douglas - Fir	506	94	22	0	0	622
Western Hemlock / Fir	1,334	744	135	0	0	2,213
Sitka Spruce	57	4	0	163	0	224
Alder (Red)	0	0	0	0	106	106
Total	1,897	842	157	163	106	3,165

Comments: Pond Values Used: 3rd Quarter Calendar Year 2016.

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

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$916.24/\text{MBF} = \$1,150/\text{MBF} - \$233.76/\text{MBF}$

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 and 2 (includes Move-In and Pile Materials): (see attached appraisal) = \$15,403

Endhaul Slash Area 2 only = \$1,882(see attached appraisal)

Additional Logging Cost for Salvage Area (Area 2): $\$75/\text{MBF} \times 30.7 \text{ MBF/Acre} \times 2 \text{ Acres} = \$4,605$

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

TOTAL Other Costs (with Profit & Risk to be added) = \$22,008

Other Costs (No Profit & Risk added):

None.



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Logging Conditions

Combination#: 1

Douglas - Fir	58.00%
Western Hemlock / Fir	58.00%
Sitka Spruce	58.00%
Alder (Red)	58.00%

Logging System: Track Skidder **Process:** Stroke Delimber

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

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

loads / day: 15 **bd. ft / load:** 4000

cost / mbf: \$52.87

machines: Stroke Delimber (B)

Combination#: 2

Douglas - Fir	42.00%
Western Hemlock / Fir	42.00%
Sitka Spruce	42.00%
Alder (Red)	42.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimbing

yarding distance: Short (400 ft) **downhill yarding:** No

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

loads / day: 10 **bd. ft / load:** 4000

cost / mbf: \$165.00

machines: Log Loader (A)
Tower Yarder (Medium)



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Logging Costs

Operating Seasons: 1.00	Profit Risk: 12%
Project Costs: \$0.00	Other Costs (P/R): \$22,008.00
Slash Disposal: \$0.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$4.75

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	2.0	4.0
Sitka Spruce	\$0.00	2.0	4.0
Alder (Red)	\$0.00	2.0	3.3



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$99.96	\$4.89	\$1.39	\$89.27	\$6.95	\$24.30	\$0.00	\$7.00	\$0.00	\$233.76
Western Hemlock / Fir									
\$99.96	\$4.89	\$1.39	\$100.42	\$6.95	\$25.63	\$0.00	\$7.00	\$0.00	\$246.24
Sitka Spruce									
\$99.96	\$4.89	\$1.39	\$100.42	\$6.95	\$25.63	\$0.00	\$7.00	\$0.00	\$246.24
Alder (Red)									
\$99.96	\$4.99	\$1.39	\$124.09	\$6.95	\$28.49	\$0.00	\$7.00	\$0.00	\$272.87

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$615.55	\$381.79	\$0.00
Western Hemlock / Fir	\$0.00	\$468.96	\$222.72	\$0.00
Sitka Spruce	\$0.00	\$328.87	\$82.63	\$0.00
Alder (Red)	\$0.00	\$625.00	\$352.13	\$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
Sitka Spruce	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	622	\$381.79	\$237,473.38
Western Hemlock / Fir	2,213	\$222.72	\$492,879.36
Sitka Spruce	224	\$82.63	\$18,509.12
Alder (Red)	106	\$352.13	\$37,325.78

Gross Timber Sale Value

Recovery: \$786,187.64

Prepared By: Dave Rygell

Phone: 503-325-5451

Saddle Up (341-17-01)

Area 2- Nine Acres of Modified Clearcut Additional Slash Disposal Costs

Equipment	Hourly Rate
Dump Truck (12cy)	\$ 85.00
Log Loader (315)	\$ 140.00

Slash Estimate
21 loads
4.5 days of logging (~2 ac/day)
4-5 loads of slash/day

Slash Hauling Estimate
0.25 hours/round trip
0.25 hours/load time
1 hour/round trip for shovel to
walk to waste area to
consolidate slash pile

	Estimate	Total
Work	4.5 loads/day x 4.5 days	21 loads
Haul	0.25 hrs x \$85/hr x 21 loads	\$ 447
Load	0.25 hrs x \$140/hr x 21 loads	\$ 735
Pile/Burn	1 hr/trip x \$140/hr x 5 trips	\$ 700
Grand Total		\$ 1,882

Site Prep Appraisal

Sale Number: 341-17-01
Sale Name: Saddle Up
Date: 04/22/2016

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	0.5	2.0
Hemlock/Fir	B	1.5	4.5
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	4.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	B	25	37.5	\$110.00	\$4,125.00
2	MC	B	35	52.5	\$110.00	\$5,775.00
Sub Total =						\$9,900.00

Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Landing Piling Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Materials Cost/Area
1	7	\$220.00	\$1,540.00	112.5	\$5.00	\$562.50
2	4	\$221.00	\$884.00	157.5	\$6.00	\$945.00
Sub Total =						\$4,212.50

*Cost includes separating firewood and materials

Move-In Allowance	Number of Move-In's	Total Move-In Allowance
\$1,290.00	1	\$1,290.00
Sub Total =		\$1,290.00

Grand Total = \$15,402.50

Road Maintenance Cost Summary

Sale:	Saddle Up	MBF:	3,165
Date:	22-Apr-16	\$/MBF:	\$4.75
By:	D. Rygell		

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$778	1	8	\$100	\$1,578
	Dump Truck 12CY x 2	\$326	1	8	\$79	\$958
	FE Loader C966	\$778	1	8	\$83	\$1,442
	Vibratory Roller	\$778	1	8	\$77	\$1,394
Final Haul Maintenance Haul Route	Grader 14G	\$778	1	16	\$100	\$2,378
	Dump Truck 12CY x 2	\$326	1	8	\$79	\$958
	Vibratory Roller	\$778	1	16	\$77	\$2,010
	Water Truck 2,500 gallon	\$190	1	16	\$89	\$1,614
	FE Loader C966	\$778	1	8	\$83	\$1,442
	Rubber Tire Backhoe	\$321	1	8	\$77	\$937
Total						\$15,031

Progressive Ops. 1st Entry	Production Rates	Miles/day	Distance(miles)	Days
	Grader	2.5	1.5	0.6

Final Road Maintenance	Production Rates	Miles/day	Distance(miles)	Days
	Grader	1.5	3.0	2.0
	Vibratory Roller	1.5	3.0	2.0

Cruise Report Saddle Up FY 2017

1. Sale Area Location: Areas 1 and 2 are located in portions of Sections 24 and 25, T6N, R8W and Sections 30 and 31, T6N, R7W, W.M., Clatsop County, OR.

2. Fund Distribution: BOF 100%
Tax Code 8-01 (79%), 1-02 (21%)

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Existing ROW	Stream Buffer	Advanced Regeneration	GTRA	Net Acres	Survey Method
1	Modified Clearcut	32.5	2	5	0.5	0	25	GIS
2	Modified Clearcut	98	5.5	9	4.5	1	78	GIS
TOTALS		130	7.5	14	5	1	103	

4. Cruisers and Cruise Dates:

Area 1 was cruised by Dave Rygell, Kevin Berry and Avery Petersen on 2-11-16. Area 2 was cruised by Dave Rygell, Kevin Berry, Ty Williams and Avery Petersen on 2-16-16 and 2-17-16.

5. Cruise Method and Computation:

Areas 1 and 2 are modified clearcut units and were 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 63 plots were sampled, with 23 measured and graded plots, and 40 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.

* Statistic report "cruise" and "count" plot totals for 00MC vary due to one count plot with a measured and graded Cedar Leave tree.

AREA	CRUISE	TRACT	TYPE	ACRES
1 and 2	SADDLEUP	A12	00MC	103
1 and 2	SADDLEUP	A12	TAKE	103

6. Timber Description:

Areas 1 and 2 are modified clearcut units, approximately 60 years-old, consisting of western hemlock and Douglas-fir, with minor amounts of sitka spruce, red alder, and pacific silver fir. The average western hemlock tree size is 17 inches DBH and 64 feet to a merchantable top (7 inch d.o.b). The average Douglas-fir tree size to be harvested is 25 inches DBH, with an average height of 85 feet to a merchantable top. The average red alder tree size 13 inches DBH and 44 feet to a merchantable top. The average sitka spruce tree size 40 inches DBH and 80 feet to a merchantable top. The average pacific silver fir tree size 28 inches DBH and 85 feet to a merchantable top. The net volume per acre to be harvested is 30.7 MBF/acre.

7. **Statistical Analysis and Stand Summary**

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 and 2	70%	11%	47%	6%

8. **Volumes by Species and Log Grade:**

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

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	CR	% D & B	% Sale
Western hemlock and other conifers	17"	2,213	1,334	744	135	0	7.3	70
Douglas-fir	25"	622	506	94	22	0	7.6	20
Red alder	13"	106	0	0	0	106	1.5	3
Sitka spruce	40"	224	220	4	0	0	20	7
TOTALS		3,165	2,060	842	157	106	8.1	100

9. **Approvals:**

Prepared by: Dave Ryggell Date: 2/18/2016

Unit Forester Approval:  Date: 3/1/16

10. **Attachments:**

Cruise Designs and Maps - 3 pages
Volume Reports - 1 page
Statistics Reports - 3 pages
Stand Table Summary - 2 pages
Log Stock Tables - 2 pages

X:\STATE_FORESTS\UNIT_JEWELL\Timber Sales\2017\Saddle_Up\Sale Prep\C_SU_CruiseReport.docx

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Saddle Up **Area(s)** 1 and 2

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 103 **Estimated CV%** 70 Net BF or
BA/Acre **SE% Objective** 11

Planned Sale Volume: 3.5 MMBF **Estimated Sale Area Value/Acre:** \$ 10,327

A. Cruise Goals: (a) Grade minimum 90 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) North-South (0 degrees)
Cruise Line Spacing 5 chains
Cruise Plot Spacing 3 chains
Grade/Count Ratio 1:2

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 ½ chain outside the buffer.

C. Tree Measurements:

- 1. 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest ½" 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; 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. 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.

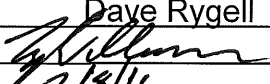
Cruise Design by: Dave Rygell
Approved by: 
Date: 2/8/16

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-17-??

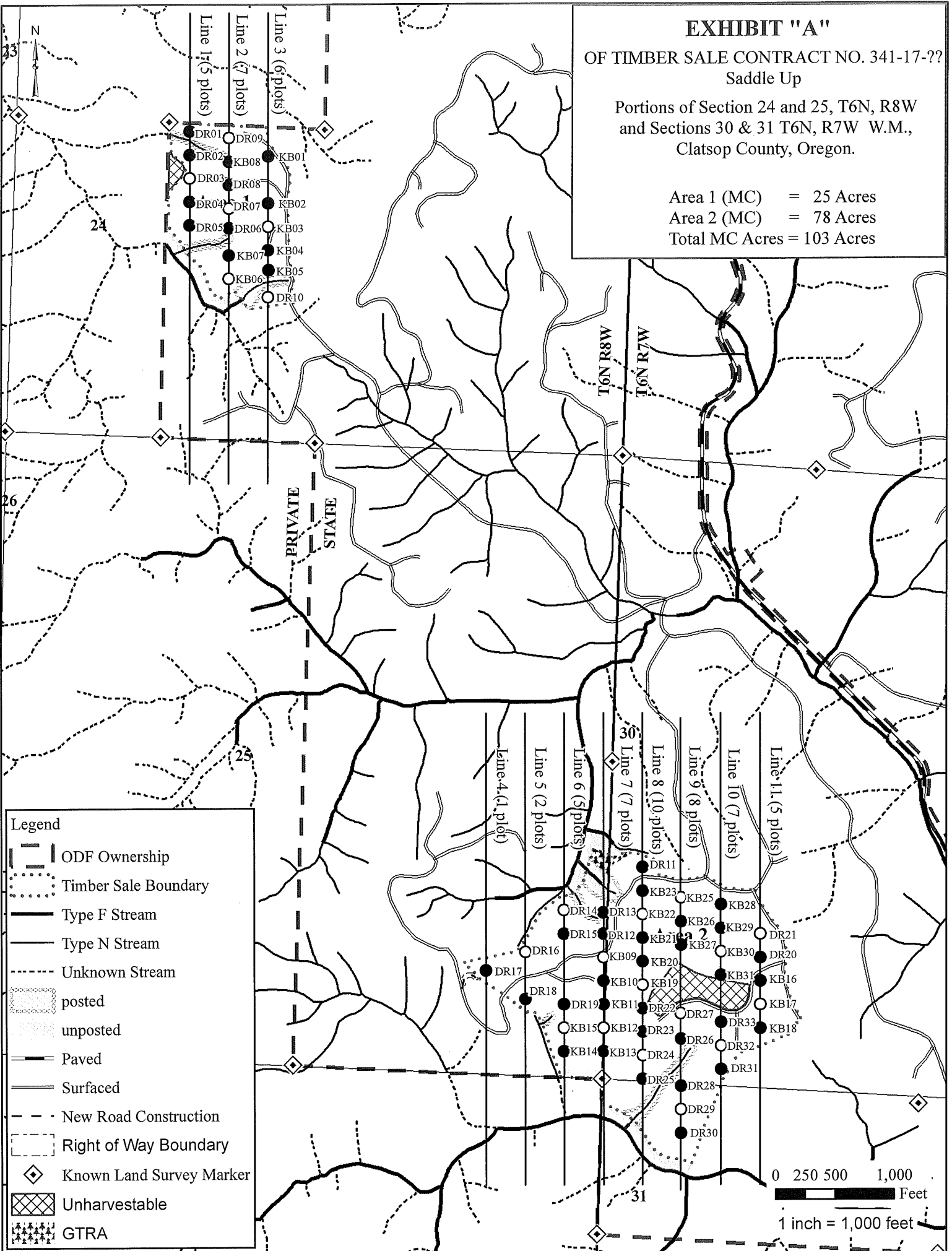
Saddle Up

Portions of Section 24 and 25, T6N, R8W
and Sections 30 & 31 T6N, R7W W.M.,
Clatsop County, Oregon.

Area 1 (MC) = 25 Acres

Area 2 (MC) = 78 Acres

Total MC Acres = 103 Acres



T	Species, Sort Grade - Board Foot Volumes (Type)															Page		1			
TSPCSTGR																	Date	2/29/2016			
Project: SADDLEUP																	Time	10:05:58AM			
T06N R08W S24 TTAKE																	T06N R08W S24 TTAKE				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
06N	08W	24	A12	TAKE	103.00	63	124	1	W												
Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log			Logs		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd		CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
H	DO	CU		00.0	1,140												11	12		0.00	18.2
H	DO	2S	60	3.4	13,333	12,878	1,326			12	49	39	0	1	10	89	39	14	305	1.90	42.2
H	DO	3S	33	1.0	7,272	7,196	741			94	4	1	1	3	25	71	37	8	94	0.76	76.7
H	DO	4S	7		1,305	1,305	135			100			23	57	10	10	22	6	30	0.44	43.0
H	Totals		70	7.3	23,050	21,379	2,202			45	31	24	2	5	15	79	31	10	119	1.01	180.1
D	DO	CU		00.0	323												12	24		0.00	.9
D	DO	2S	81	3.2	5,073	4,910	506			3	35	62			12	88	39	15	376	2.39	13.1
D	DO	3S	15	1.0	922	913	94			91	9			8	36	57	36	9	109	1.05	8.4
D	DO	4S	4		218	218	22			100			35	46	19		21	7	32	0.54	6.9
D	Totals		20	7.6	6,537	6,041	622			19	30	51	1	3	15	80	33	12	207	1.67	29.2
S	DO	CU		00.0	423												15	37		0.00	.5
S	DO	2S	98	4.8	2,241	2,133	220				11	89		3	34	64	37	22	792	4.87	2.7
S	DO	3S	2		43	43	4			100				100			23	10	80	1.35	.5
S	Totals		7	19.6	2,707	2,176	224			2	11	87		5	33	63	32	22	589	4.21	3.7
A	DO	CR	100	1.5	1,043	1,028	106			82	18		6	7	66	21	29	7	61	0.64	16.8
A	Totals		3	1.5	1,043	1,028	106			82	18		6	7	66	21	29	7	61	0.64	16.8
SF	DO	2S	77		79	79	8				100				100		40	18	530	3.33	.1
SF	DO	3S	23		22	22	3			100					100		40	10	150	1.25	.1
SF	Totals		0		101	101	11			22	78				100		40	14	340	2.29	.3
Type Totals				8.1	33,439	30,725	3,165			38	29	33	2	4	18	76	31	10	134	1.13	230.1

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	SADDLEUP			DATE	2/29/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	08W	24	A12	00MC	103.00	63	338	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES		PER PLOT		TREES		TREES		
TOTAL		63		5.4						
CRUISE		23		5.5		12,264		1.0		
DBH COUNT										
REFOREST										
COUNT		40		5.1						
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
WHEMLOCK		89	91.9	17.1	64	35.3	145.8	23,050	21,379	5,668
DOUG FIR		18	11.7	24.9	85	7.9	39.4	6,537	6,041	1,594
S SPRUCE		5	1.5	40.1	80	2.1	13.3	2,707	2,176	496
R ALDER		10	11.5	12.8	44	2.8	10.2	1,043	1,028	314
SNAG		3	2.0	21.3	43	1.1	5.1			
PS FIR		1	.1	28.0	85	0.1	.6	101	101	27
CEDLEAV		1	.4	18.0	80	0.1	.6	86	86	26
TOTAL		127	119.1	18.2	64	50.4	215.0	33,526	30,811	8,125
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		76.1	8.1	356	387	418				
DOUG FIR		53.1	12.9	548	629	710				
S SPRUCE		57.0	28.3	1,233	1,720	2,207				
R ALDER		59.2	19.7	91	113	135				
SNAG										
PS FIR										
CEDLEAV										
TOTAL		98.8	8.8	405	444	483	390	97	43	
CL:	68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
WHEMLOCK		97.9	12.3	81	92	103				
DOUG FIR		138.8	17.5	10	12	14				
S SPRUCE		194.1	24.4	1	2	2				
R ALDER		316.2	39.8	7	11	16				
SNAG		290.5	36.6	1	2	3				
PS FIR		793.7	99.9	0	0	0				
CEDLEAV		793.7	99.9	0	0	1				
TOTAL		76.6	9.6	108	119	131	234	59	26	
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		66.7	8.4	134	146	158				
DOUG FIR		136.0	17.1	33	39	46				
S SPRUCE		201.6	25.4	10	13	17				
R ALDER		299.8	37.7	6	10	14				
SNAG		264.3	33.3	3	5	7				
PS FIR		793.7	99.9	0	1	1				
CEDLEAV		793.7	99.9	0	1	1				
TOTAL		46.2	5.8	203	215	228	85	21	9	
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	SADDLEUP				
								DATE	2/29/2016
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	08W	24	A12	00MC	103.00	63	338	1	W
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		66.4	8.4	19,591	21,379	23,166			
DOUG FIR		135.6	17.1	5,010	6,041	7,072			
S SPRUCE		205.8	25.9	1,612	2,176	2,740			
R ALDER		313.2	39.4	623	1,028	1,433			
SNAG									
PS FIR		793.7	99.9	0	101	202			
CEDLEAV		793.7	99.9	0	86	172			
TOTAL		47.0	5.9	28,987	30,811	32,635	88	22	10

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT SADDLEUP				DATE	2/29/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	08W	24	A12	TAKE	103.00	63	329	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		63	329	5.2							
CRUISE		22	123	5.6		12,016	1.0				
DBH COUNT											
REFOREST											
COUNT		41	202	4.9							
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		89	91.9	17.1	64	35.3	145.8	23,050	21,379	5,898	5,668
DOUG FIR		18	11.7	24.9	85	7.9	39.4	6,537	6,041	1,648	1,594
S SPRUCE		5	1.5	40.1	80	2.1	13.3	2,707	2,176	570	496
R ALDER		10	11.5	12.8	44	2.8	10.2	1,043	1,028	314	314
PS FIR		1	.1	28.0	85	0.1	.6	101	101	27	27
TOTAL		123	116.7	18.1	64	49.1	209.3	33,439	30,725	8,458	8,100
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		76.1	8.1	356	387	418					
DOUG FIR		53.1	12.9	548	629	710					
S SPRUCE		57.0	28.3	1,233	1,720	2,207					
R ALDER		59.2	19.7	91	113	135					
PS FIR											
TOTAL		96.3	8.7	417	457	496		370	93	41	
CL: 68.1 %		COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%		LOW	AVG	HIGH		5	10	15	
WHEMLOCK		97.9	12.3	81	92	103					
DOUG FIR		138.8	17.5	10	12	14					
S SPRUCE		194.1	24.4	1	2	2					
R ALDER		316.2	39.8	7	11	16					
PS FIR		793.7	99.9	0	0	0					
TOTAL		78.7	9.9	105	117	128		247	62	27	
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		66.7	8.4	134	146	158					
DOUG FIR		136.0	17.1	33	39	46					
S SPRUCE		201.6	25.4	10	13	17					
R ALDER		299.8	37.7	6	10	14					
PS FIR		793.7	99.9	0	1	1					
TOTAL		48.4	6.1	197	209	222		94	23	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		66.4	8.4	19,591	21,379	23,166					
DOUG FIR		135.6	17.1	5,010	6,041	7,072					
S SPRUCE		205.8	25.9	1,612	2,176	2,740					
R ALDER		313.2	39.4	623	1,028	1,433					
PS FIR		793.7	99.9	0	101	202					
TOTAL		47.7	6.0	28,880	30,725	32,570		91	23	10	

TC		Stand Table Summary												
		Project SADDLEUP												
T06N R08W S24 TTAKE										T06N R08W S24 TTAK				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		Page:	1				
06N	08W	24	A12	TAKE	103.00	63	124		Date:	02/29/20				
										Time:	10:04:49AM			
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		
H		8	2	84	26	9.360	3.27	4.68	5.0	20.0	23	94	24	10
H		10	1	89	130	2.995	1.63	5.99	10.5	45.0	63	270	65	28
H		11	4	88	69	9.902	6.53	7.43	19.7	70.0	146	520	150	54
H		12	4	88	89	8.320	6.53	14.56	16.0	57.1	233	832	240	86
H		13	3	88	89	5.317	4.90	8.86	21.4	74.0	190	656	195	68
H		14	6	89	91	9.169	9.80	16.81	22.2	86.4	373	1,452	384	150
H		15	4	87	111	5.418	6.53	12.17	23.9	94.6	291	1,151	300	119
H		16	5	88	104	5.850	8.17	12.87	29.2	102.7	376	1,322	387	136
H		17	4	86	99	4.146	6.53	9.33	28.2	101.1	263	943	271	97
H		18	5	87	107	4.676	8.17	11.25	33.6	112.4	378	1,265	389	130
H		19	4	88	101	3.319	6.53	6.64	43.8	152.5	290	1,012	299	104
H		20	4	88	89	2.995	6.53	5.99	41.1	146.2	246	876	254	90
H		21	4	85	100	2.717	6.53	6.79	40.7	154.0	276	1,046	285	108
H		22	7	87	107	4.332	11.44	9.90	49.6	198.1	491	1,962	505	202
H		23	5	86	98	2.980	8.60	6.67	47.0	189.3	314	1,263	323	130
H		24	2	85	101	1.040	3.27	2.08	67.0	242.5	139	504	144	52
H		25	4	86	92	1.917	6.53	3.83	69.4	252.5	266	968	274	100
H		26	6	84	98	2.659	9.80	5.76	69.8	247.7	402	1,427	414	147
H		27	3	87	91	1.233	4.90	2.47	77.7	298.3	191	735	197	76
H		28	1	88	71	.382	1.63	.38	106.0	490.0	40	187	42	19
H		29	2	82	103	.712	3.27	1.78	80.4	292.0	143	520	147	54
H		30	4	87	91	1.331	6.53	3.00	85.8	363.3	257	1,088	265	112
H		32	1	88	80	.293	1.63	.59	101.0	430.0	59	252	61	26
H		34	1	85	97	.259	1.63	.52	108.0	490.0	56	254	58	26
H		36	1	88	110	.231	1.63	.69	114.0	583.3	79	404	81	42
H		38	1	82	116	.207	1.63	.62	93.3	483.3	58	301	60	31
H		53	1	82	84	.107	1.63	.21	105.5	350.0	22	75	23	8
H		Totals	89	87	88	91.867	145.83	161.88	35.0	132.1	5,668	21,379	5,838	2,202
D		16	1	83	83	1.566	2.19	3.13	22.5	75.0	70	235	73	24
D		18	1	86	126	1.238	2.19	3.71	28.7	100.0	106	371	110	38
D		22	1	86	126	.828	2.19	2.49	43.3	180.0	108	447	111	46
D		23	3	83	100	2.274	6.56	5.31	48.3	160.0	256	849	264	87
D		24	1	83	93	.696	2.19	1.39	56.5	175.0	79	244	81	25
D		26	4	85	125	2.373	8.75	6.52	59.9	243.6	391	1,590	403	164
D		28	1	86	89	.511	2.19	1.02	75.0	250.0	77	256	79	26
D		31	2	84	103	.834	4.37	1.67	102.0	385.0	170	643	175	66
D		34	2	84	127	.694	4.37	1.73	119.2	532.0	207	923	213	95
D		35	2	85	100	.655	4.37	1.31	99.3	370.0	130	484	134	50
D		Totals	18	84	108	11.669	39.37	28.29	56.3	213.6	1,594	6,041	1,642	622
S		30	1	86	78	.543	2.67	1.09	90.5	325.0	98	353	101	36
S		39	1	83	97	.321	2.67	.64	176.0	625.0	113	402	117	41
S		43	1	85	110	.264	2.67	.53	157.0	805.0	83	426	86	44
S		50	2	83	113	.391	5.33	.98	206.2	1018.0	202	995	208	103
S		Totals	5	84	97	1.520	13.33	3.24	153.3	672.4	496	2,176	511	224
A		10	1	87	61	1.863	1.02	1.86	14.0	50.0	26	93	27	10
A		11	3	87	68	4.618	3.05	6.16	14.7	50.0	91	308	94	32
A		12	1	87	61	1.293	1.02	1.29	22.0	60.0	28	78	29	8
A		13	2	87	81	2.204	2.03	4.41	16.5	57.5	73	253	75	26
A		18	1	87	74	.575	1.02	1.15	29.5	95.0	34	109	35	11
A		19	1	86	79	.516	1.02	1.55	24.0	83.3	37	129	38	13

TC TSTNDSUM

Stand Table Summary

Project SADDLEUP

T06N R08W S24 TTAKE

T06N R08W S24 TTAKE

Twp Rge Sec Tract
06N 08W 24 A12Type Acres Plots Sample Trees
TAKE 103.00 63 124Page: 2
Date: 02/29/20
Time: 10:04:49AM

S SpC	T	Sample			Av FF Ht 16' Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees						Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
A		22	1	86	52	.385	1.02	.38	65.0	150.0		25	58		26	6
A		Totals	10	87	69	11.454	10.16	16.80	18.7	61.2		314	1,028		324	106
SF		28	1	83	103	.148	.63	.30	91.5	340.0		27	101		28	10
SF		Totals	1	83	103	.148	.63	.30	91.5	340.0		27	101		28	10
Totals			123	87	88	116.659	209.32	210.50	38.5	146.0		8100	30,725		8,343	3,165

TC TLOGSTVB				Log Stock Table - MBF																
				Project: SADDLEUP																
T06N R08W S24 TTAKE										T06N R08W S24 TTAK										
Twsp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1											
06N	08W	24	A12	TAKE	103.00	63	124	Date	2/29/2016											
										Time	10:05:23AM									
S Spp	So T	Gr rt	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+	
H	DO	CU	2	1	100.0															
H	DO	CU	4	9	100.0															
H	DO	CU	6	31	100.0															
H	DO	CU	8	23	100.0															
H	DO	CU	12	11	100.0															
H	DO	CU	15	10	100.0															
H	DO	CU	23	10	100.0															
H	DO	CU	25	19	100.0															
H	DO	CU	26	4	100.0															
H	DO	2S	15	2		2	.1					2								
H	DO	2S	22	9		9	.4					2		7						
H	DO	2S	32	117	2.3	115	5.2				19	20	26	31	19					
H	DO	2S	34	14		14	.6				14									
H	DO	2S	40	1,231	3.6	1,186	53.9				127	194	338	337	139	51				
H	DO	3S	20	9		9	.4				2		7							
H	DO	3S	22	3		3	.1				3									
H	DO	3S	23	3		3	.1				3									
H	DO	3S	25	8		8	.4				2	6								
H	DO	3S	28	6		6	.3				2	3								
H	DO	3S	32	133		133	6.1			19	60	46		10						
H	DO	3S	33	50	.9	50	2.3			36	14									
H	DO	3S	38	44		44	2.0			24	20									
H	DO	3S	39	11		11	.5			11										
H	DO	3S	40	482	1.5	474	21.5			89	194	167		16		8				
H	DO	4S																		
H	DO	4S	12	4		4	.2			4										
H	DO	4S	14	3		3	.1			2	1									
H	DO	4S	15	2		2	.1			2										
H	DO	4S	16	5		5	.2			5										
H	DO	4S	17	4		4	.2			4										
H	DO	4S	18	10		10	.4			10										
H	DO	4S	19	2		2	.1			2										
H	DO	4S	20	2		2	.1			2										
H	DO	4S	21	6		6	.3			6										
H	DO	4S	23	15		15	.7			13	2									
H	DO	4S	25	9		9	.4			9										
H	DO	4S	26	23		23	1.0			16	7									
H	DO	4S	28	23		23	1.0			20	3									
H	DO	4S	33	9		9	.4			9										
H	DO	4S	35	4		4	.2				4									
H	DO	4S	38	4		4	.2				4									
H	DO	4S	41	10		10	.4			10										
H	Totals			2,374	7.3	2,202	69.6			291	318	385	225	390	375	166	51			
D	DO	CU	8	10	100.0															
D	DO	CU	20	23	100.0															
D	DO	2S	32	62	6.0	58	9.4					21		22		15				
D	DO	2S	40	460	2.8	447	71.9					13	38	97	180	84	36			
D	DO	3S	27	4		4	.6					4								
D	DO	3S	30	4	14.3	3	.5				3									
D	DO	3S	31	4		4	.7					4								

TC TLOGSTVB

Log Stock Table - MBF

Project: SADDLEUP

T06N R08W S24 TTAKE

T06N R08W S24 TTAK

Twp Rge Sec Tract Type Acres Plots Sample Trees
 06N 08W 24 A12 TAKE 103.00 63 124

Page 2
 Date 2/29/2016
 Time 10:05:23AM

Spp	S	So	Gr	Log	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	3S	32		19		19	3.1					19							
D	DO	3S	33		10		10	1.6			5		5							
D	DO	3S	36		5		5	.8			5									
D	DO	3S	38		5		5	.8				5								
D	DO	3S	40		44	1.0	44	7.1				28	7	9						
D	DO	4S	12		3		3	.5			3									
D	DO	4S	17		3		3	.4			3									
D	DO	4S	20		2		2	.4				2								
D	DO	4S	23		2		2	.4				2								
D	DO	4S	26		5		5	.8			5									
D	DO	4S	27		3		3	.5				3								
D	DO	4S	33		4		4	.7			4									
D	Totals				673	7.6	622	19.7			24	44	53	68	119	180	99	36		
S	DO	CU	14		21	100.0														
S	DO	CU	16		23	100.0														
S	DO	2S	28		6		6	2.5								6				
S	DO	2S	32		67		67	29.9								6		23	37	
S	DO	2S	34		7		7	2.9							7					
S	DO	2S	38		6		6	2.8					6							
S	DO	2S	40		145	7.7	134	59.8								32		72	30	
S	DO	3S	23		4		4	2.0					4							
S	Totals				279	19.6	224	7.1					4	6	7	44		96	67	
A	DO	CR	8		1		1	.5			1									
A	DO	CR	16		5		5	5.1			5									
A	DO	CR	22		3		3	2.5				3								
A	DO	CR	26		5		5	4.9			5									
A	DO	CR	32		70		70	66.3			19	32		20						
A	DO	CR	36		10	16.7	8	7.5			8									
A	DO	CR	40		14		14	13.2			8		6							
A	Totals				107	1.5	106	3.3			46	34	6	20						
SF	DO	2S	40		8		8	77.9								8				
SF	DO	3S	40		2		2	22.1					2							
SF	Totals				10		10	.3					2			8				
Total All Species					3,444	8.1	3,165	100.0			361	397	451	319	515	607	265	183	67	



PRIVATE
STATE

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-17-01
SADDLE UP

Portions of Section 24 and 25, T6N, R8W
and Sections 30 & 31 T6N, R7W W.M.,
Clatsop County, Oregon.

Area 1 (MC) = 25 Acres
Area 2 (MC) = 78 Acres
Total MC Acres = 103 Acres

