



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Grade A
Sale 341-14-20

District: Forest Grove

Date: February 04, 2014

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,463,412.66	\$0.00	\$1,463,412.66
		Project Work:	\$(23,820.00)
		Advertised Value:	\$1,439,592.66



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timber description

Location: Portions of Section 4, T2N, R6W, W.M.,
Washington County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	18	0	98
Western Hemlock / Fir	16	0	98
Noble Fir	20	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	2,155	1,029	127	3,311
Western Hemlock / Fir	128	68	10	206
Noble Fir	67	28	2	97
Total	2,350	1,125	139	3,614



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comments: Pond Values Used: 4th Quarter Calendar Year 2013.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$807.70/\text{MBF} = \$1,050/\text{MBF} - \$242.30/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus
Logging Cost:
 $\$362.70/\text{MBF} = \$605/\text{MBF} - \$242.30/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

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

Other Costs (with Profit & Risk to be added):
Brand and Paint: $3,614 \text{ MBF} \times \$1/\text{MBF} = \$3,614$
TOTAL Other Costs (with Profit & Risk to be added) = \$3,614

Other Costs (No Profit & Risk added):
Block/Waterbar Roads, & Skid Trails: $15 \text{ hrs} \times \$150/\text{hour} = \$2,250$
Pile Landing Slash and Sort Firewood: $20 \text{ hrs} \times \$150/\text{hour} = \$3,000$
Equipment Cleaning: $4 \times \$1,000/\text{Piece} = \$4,000$
TOTAL Other Costs (No Profit & Risk added) = \$9,250

ROAD MAINTENANCE
Move-in: \$2,000
General Road Maintenance: $10.3 \text{ miles} \times \$1,000/\text{mile} = \$10,300$
TOTAL Road Maintenance: $\$12,300 / 3,614 \text{ MBF} = \$3.40/\text{MBF}$



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logging conditions

combination#: 1

	Douglas - Fir	77.80%
	Western Hemlock / Fir	70.49%
	Noble Fir	66.70%
yarding distance:	Medium (800 ft)	downhill yarding: No
logging system:	Cable: Medium Tower >40 - <70	Process: Stroke Delimber
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF	
loads / day:	5.0	bd. ft / load: 4,700
cost / mbf:	\$142.30	
machines:	Log Loader (A) Stroke Delimber (A) Tower Yarder (Medium)	

combination#: 2

	Douglas - Fir	22.20%
	Western Hemlock / Fir	29.51%
	Noble Fir	33.30%
yarding distance:	Short (400 ft)	downhill yarding: No
logging system:	Shovel	Process: Stroke Delimber
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF	
loads / day:	6.0	bd. ft / load: 4,700
cost / mbf:	\$51.00	
machines:	Stroke Delimber (B)	



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logging costs

Operating Seasons:	2.00	Profit Risk:	15.00%
Project Costs:	\$23,820.00	Other Costs (P/R):	\$3,614.00
Slash Disposal:	\$0.00	Other Costs:	\$9,250.00

Miles of Road

Road Maintenance: \$3.40

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.6
Western Hemlock / Fir	\$0.00	2.0	3.8
Noble Fir	\$0.00	2.0	3.9



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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$122.03	\$3.47	\$2.43	\$75.19	\$1.00	\$30.62	\$0.00	\$5.00	\$2.56	\$242.30
Western Hemlock / Fir									
\$115.35	\$3.47	\$2.43	\$91.02	\$1.00	\$31.99	\$0.00	\$5.00	\$2.56	\$252.82
Noble Fir									
\$111.90	\$3.47	\$2.43	\$88.70	\$1.00	\$31.12	\$0.00	\$5.00	\$2.56	\$246.18

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$660.46	\$418.16	\$0.00
Western Hemlock / Fir	\$0.00	\$510.73	\$257.91	\$0.00
Noble Fir	\$0.00	\$511.70	\$265.52	\$0.00



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District: Forest Grove

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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
Noble Fir	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,311	\$418.16	\$1,384,527.76
Western Hemlock / Fir	206	\$257.91	\$53,129.46
Noble Fir	97	\$265.52	\$25,755.44

Gross Timber Sale Value

Recovery: \$1,463,412.66

Prepared by: Eric Foucht

Phone: 503-359-7473

TIMBER SALE SUMMARY
Grade A
Contract No. 341-14-20

1. **Location:** Portions of Section 4, T2N, R6W, W.M., Washington County, Oregon.
2. **Type of Sale:** This timber sale is a 86 acre Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Washington County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise** : The Timber Sale was cruised by ODF Cruisers in December of 2013. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of medium to well stocked 70 year old Douglas-fir stands with minor amounts of western hemlock, Noble fir, Western redcedar, and hardwoods. The average Douglas-fir DBH for the sale is 18 inches. This sale has an estimated average net per acre Douglas-fir volume of 38.5 mbf.
7. **Topography and Logging Method:** Slopes within the sale areas range from 5% to 75% and are variable in aspect. Area 1 is 68% cable-based yarding and 32% ground-based yarding. Area 2 and Area 3 are 100% cable-based logging. The average horizontal cable yarding distance in Area 1 is approximately 400 feet and the maximum is approximately 900 feet. The average horizontal tractor yarding distance in Area 1 is approximately 200 feet and the maximum is approximately 500 feet. The average horizontal cable yarding distance in Area 2 is approximately 600 feet and the maximum is approximately 1000 feet. The average horizontal cable yarding distance in Area 3 is approximately 200 feet and the maximum is approximately 500 feet.
8. **Access:** From Forest Grove, travel north on Highway 8 to its junction with Highway 6. Turn left and continue west approximately 3.5 miles to Timber Road. Turn right, proceed north approximately 6.5 miles and turn onto Cochran Road. Go west on Cochran road approximately 5.6 miles to Standard Grade Road. Continue south on Standard Grade Road 1.2 miles to its junction with Standard Grade Loop Road. Turn right onto Standard Grade Loop Road and continue for .3 miles to the junction with Wolf Creek Grade. Turn left onto Wolf Creek Grade and continue for 4.2 miles to Area 2 of the Timber Sale.

9. Projects:

Project No. 1: Road Construction and Improvement	\$3,322.66
Project No. 2: Road Surfacing	\$13,799.06
Project No. 3: Grass Seed, Fertilize, and Mulch	\$151.52
Move in and equipment cleaning:	\$6,543.37

Total Credit for all Projects (rounded)	\$23,820.00
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PROJECT COST SUMMARY SHEET

Timber Sale: Grade A

Sale Number: 341-14-20

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
A to B	4+40	\$1,295.63
C to D	7+60	\$2,027.03
	12+00 stations	
	0.23 miles	

TOTAL PROJECT NO. 1 COST = \$3,322.66

PROJECT NO. 2: SURFACING

Road Segment	Amount	Type	Cost
A to B	486 cy	6" - 0	\$5,686.20
C to D	694 cy	6" - 0	\$8,112.86
Total	1,180 cy	6" - 0	

TOTAL PROJECT NO. 2 COST = \$13,799.06

PROJECT NO. 3: GRASS SEED AND FERTILIZE

Grass seed and fertilize areas of disturbed soil.	\$151.52
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TOTAL PROJECT NO. 3 COST = \$151.52

MOVE IN & EQUIPMENT CLEANING \$6,543.37

TOTAL ALL PROJECTS \$23,816.61

TOTAL CREDITS \$23,820.00

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Grade A	Timber Sale No. :	341-14-20
Road Segment:	A to B	Construction :	4+40 stations 0.08 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.51	acres @	\$980.00	per acre =	\$494.95
Balanced Road Construction	4.40	sta @	\$90.00	per sta =	\$396.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Outsloped and Roll	4.40	sta @	\$27.20	per sta =	\$119.68
TOTAL EXCAVATION COSTS=					\$1,295.63

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta		
A to B	286	cy of	6" - 0	@	\$11.70 per cy = \$3,346.20
Landing (1)	200	cy of	6" - 0	@	\$11.70 per cy = \$2,340.00
Total =	486				

PROJECT NO. 2 TOTAL COST = \$5,686.20

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.25	acres @	\$220.00	per acre =	\$55.56
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PROJECT NO. 3 TOTAL COST = \$55.56

TOTAL COST = \$7,037.39

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Grade A	Timber Sale No.:	341-14-20
Road Segment:	C to D	Construction:	7+60 stations 0.14 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.87	acres @	\$980.00	per acre =	\$854.91
Balanced Road Construction	6.60	sta @	\$90.00	per sta =	\$594.00
Turnaround	1.00	ea @	\$75.00	per sta =	\$75.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	7.60	sta @	\$28.70	per sta =	\$218.12
TOTAL EXCAVATION COSTS=					\$2,027.03

PROJECT NO. 1 TOTAL COST = \$2,027.03

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta		
C to D	494	cy of	6" - 0	@	\$11.69 per cy = \$5,774.86
Turnaround	20	cy of	6" - 0	@	\$11.69 per cy = \$233.80
Landing	180	cy of	6" - 0	@	\$11.69 per cy = \$2,104.20
Total =	694				

PROJECT NO. 2 TOTAL COST = \$8,112.86

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.44	acres @	\$220.00	per acre =	\$95.96
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PROJECT NO. 3 TOTAL COST = \$95.96

TOTAL COST = \$10,235.85

Move-In & Equipment Cleaning

Timber Sale: Grade A
Sale Number: 341-14-20

LOWBOY HAUL (One-way)		
DIST.	ROAD	AVE SPEED (mph)
8.5	Main Lines	7
0.0	Steep Grades	2

EQUIPMENT				Within Area			Within		
No.	DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Move (\$/mile)	Total Miles	Area Cost	Total Cost
0	Drill & Compressor		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Brush Cutter		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Graders		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Loader (Small)		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Loader (Med. & Large)		\$0.00	\$0.00	1	\$0.00	0.0	\$0.00	\$0.00
1	Rollers (smooth/grid) & Compactors		\$308.59	\$235.75		\$5.00	0.0	\$0.00	\$544.34
0	Excavators (Small)		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Excavators (Med.)	\$0	\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
1	Excavators (Large)	\$1,000	\$466.14	\$334.16	1	\$44.80	0.0	\$0.00	\$1,800.30
0	Backhoe		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Tractors (D6)	\$0	\$0.00	\$0.00	2	\$0.00	0.0	\$0.00	\$0.00
0	Tractors (D7)	\$0	\$0.00	\$0.00	2	\$0.00	0.0	\$0.00	\$0.00
2	Tractor (D8)	\$2,000	\$947.60	\$623.63	2	\$15.10	0.0	\$0.00	\$3,571.23
4	Dump Truck (10 cy +)		\$500.00	\$127.50		\$11.40	0.0	\$0.00	\$627.50
0	Dump Truck (Off Hiway)		\$0.00	\$0.00	1	\$0.00	0.0	\$0.00	\$0.00
0	Water Truck (1500 Gal)		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
0	Water Truck (2500 Gal)		\$0.00	\$0.00		\$0.00	0.0	\$0.00	\$0.00
TOTAL MOVE-IN COSTS: \$6,543.37									

ROCK DEVELOPMENT COST SUMMARY

Timber Sale:	Grade A
Sale Number:	541-14-20
Pit Name:	Bell Grade Pit

Swell:	<u>1.30</u>	Pit Run (trk measure)	<u>1,180 cy</u>
Shrinkage:	<u>1.16</u>	Total Truck Yardage:	<u>1,180 cy</u>
Drill Pct.:	<u>100%</u>	Total In Place Yardage:	<u>908 cy</u>

Rip Rock:	<u>\$1.90 /cy x</u>	<u>908 cy</u>	=	<u>\$1,724.62</u>
Load Dump Truck:	<u>\$0.70 /cy x</u>	<u>1,180 cy</u>	=	<u>\$826.00</u>
		Subtotal		<u>\$2,550.62</u>
Move in Excavator (in area)				\$313.60
Move in D-8 (in area)				\$105.70
Clean Up Pit				<u>\$150.00</u>
		Subtotal		<u>\$569.30</u>

ROCK DEVELOPMENT COST = \$2.64/cy

TOTAL PRODUCTION COST \$3,119.92

**CRUISE REPORT
GRADE A
341-14-20**

1. LOCATION:

Portions of Section 4, T2N, R6W, W.M., Washington County, Oregon.

2. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation (CV%) of 50%, an average stand diameter of 17 inches, a desired sampling error (SE%) of 8% and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 5 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:

The Sale Area was cruised in December, 2013 with 23 variable radius grade plots and 22 variable radius count plots using a 40 BAF prism. Plots were laid out on a 4 chain x 4 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

128 trees were measured and graded producing a cumulative Basal Area sampling error of 4.8% and 5% on the Board Foot Volume at a 68% Confidence Level.

5. TREE MEASUREMENT AND GRADING:

All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

a) **Height Standards:**

Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.

c) **Form Factors** were measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING

a) **Volumes and Statistics,** Cruise volume estimates, and sampling statistics, were derived from Super Ace 2008 cruise software.

b) **Deductions:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by ODF cruisers Mark Savage and Joe Koch.

Prepared by:	<u>Mark Savage</u>	
	ODF Forester	Date

Reviewed by:	<u>Eric Foucht</u>	
		Date

TC		TLOGSTVB		Log Stock Table - MBF															
				Project:		GRADEA													
T02N R06W S04 T00A1										T02N R06W S04 T00A1									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
02N	06W	04	0001	00A1	55.00	29	81	Date	1/23/2014										
									Time	1:02:56PM									
Spp	T	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
DF			CU	5															
DF			2M	16		7		7	.4						7				
DF			2M	20		15		15	.8									15	
DF			2M	22		7		7	.4						7				
DF			2M	40		1,198	.6	1,191	60.4						239	453	331	169	
DF			3M	30		16		16	.8				16						
DF			3M	32		56		56	2.8			23	17	15					
DF			3M	34		25		25	1.2			14	10						
DF			3M	36		10	9.1	9	.5			9							
DF			3M	38		8		8	.4			8							
DF			3M	40		557	.3	555	28.1			143	127	285					
DF			4M	12		3		3	.2			3							
DF			4M	14		4		4	.2			4							
DF			4M	16		26		26	1.3			18	7						
DF			4M	18		8		8	.4			8							
DF			4M	20		3		3	.2			3							
DF			4M	22		13		13	.7			13							
DF			4M	24		10		10	.5			10							
DF			4M	26		5		5	.3			5							
DF			4M	28		8		8	.4			8							
DF			4M	30		2		2	.1			2							
DF			Totals			1,982		1,972	88.8			273	178	301	239	468	331	169	15
WH			CU	4															
WH			2M	12		6		6	3.5							6			
WH			2M	40		125		125	77.2							56	21	48	
WH			3M	32		2		2	1.1			2							
WH			3M	36		2		2	1.3			2							
WH			3M	40		18		18	11.1				10	8					
WH			4M	12		1		1	.6			1							
WH			4M	24		9		9	5.3			9							
WH			Totals			162		162	7.3			13	10	8		56	27	48	
NF			2M	40		68		68	78.7							17	28	23	
NF			3M	40		16		16	18.5			2	7	7					
NF			4M	16		1		1	1.3			1							
NF			4M	24		1		1	1.4			1							
NF			Totals			86		86	3.9			4	7	7		17	28	23	
Total All Species						2,230		2,220	100.0			290	195	316	239	540	386	239	15

T	Species, Sort Grade - Board Foot Volumes (Type)														Page 1		
Project: GRADEA														Date 1/23/2014			
														Time 1:02:55PM			
T02N R06W S04 T00A1										T02N R06W S04 T00A1							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt								
02N	06W	04	0001	00A1	55.00	29	81	S	W								
S So Gr T rt ad Spp		% Net BdFt	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	
																</	

TC		TLOGSTVB																		Log Stock Table - MBF									
																				Project: GRADEA									
T02N R06W S04 T00A2																		T02N R06W S04 T00A2											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		1											
02N		06W		04		0001		00A2		26.00		13		39		Date		1/23/2014											
																Time		1:15:01PM											
Spp	T	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+								
DF				CU	4																								
DF				2M	26	3		3	.3					3															
DF				2M	32	4		4	.4						4														
DF				2M	40	863	.7	857	73.9					172	107	331	199	23	25										
DF				3M	32	33		33	2.9			10	7	16															
DF				3M	34	7		7	.6			4		3															
DF				3M	36	10		10	.9			10																	
DF				3M	40	219		219	18.9			45	52	122															
DF				4M	12	2		2	.1			2																	
DF				4M	16	8		8	.7			8																	
DF				4M	20	1		1	.0			1																	
DF				4M	22	2		2	.1			2																	
DF				4M	24	2		2	.1			2																	
DF				4M	26	4		4	.4			4																	
DF				4M	28	2		2	.2			2																	
DF				4M	30	2		2	.2			2																	
DF				4M	32	2		2	.1			2																	
DF				4M	40	2		2	.2			2																	
DF				Totals		1,166		1,159	96.1			94	59	142	176	111	331	199	23	25									
WH				3M	40	47		47	100.0			12		35															
WH				Totals		47		47	3.9			12		35															
Total All Species						1,213		1,206	100.0			106	59	177	176	111	331	199	23	25									

T		Species, Sort Grade - Board Foot Volumes (Type)										Page		1																										
TSPCSTGR		Project: GRADEA										Date		1/23/2014																										
												Time		1:15:02PM																										
T02N R06W S04 T00A2										T02N R06W S04 T00A2																														
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt																						
02N		06W		04		0001		00A2		26.00		13		39		S		W																						
S So Gr T rt ad Spp				% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre																			
									Log Scale Dia.				Log Length				Ln Dia Bd CF/ Ft In Ft Lf																							
DF				CU	74	.7	33,495	33,251	865	40 60				0 0 99				4 11				0.00	4.4																	
DF				2M														10,363	10,363	269	100				40 16				409	2.04	81.2									
DF				3M																					100							15 85				103	0.68	100.6		
DF				4M																												975 975							25	
DF		Totals		96	.5	44,834	44,589	1,159	25 30 44				1 1 4 94				35 11 197 1.21				226.2																			
WH				3M	100	1,805	1,805	47	100				100				40 9 120 0.65				15.0																			
WH		Totals		4	1,805	1,805	47	100				100				40 9 120 0.65				15.0																				
Type Totals					.5	46,639	46,395	1,206	28 29 43				1 1 4 94				35 10 192 1.17				241.3																			

TC		TSTNDSUM													Stand Table Summary														
Project															GRADEA														
T02N R06W S04 T00A2															T02N R06W S04 T00A2														
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees			Page:	1														
02N	06W	04	0001	00A2				26.00		13	39			Date:	01/23/2014														
															Time:	1:15:00PM													
S Spc	T	Sample		FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s															
		DBH	Trees	16'	Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF													
DF		14	1	88	114	5.075	5.43	10.15	19.4	90.0	5.61	197	913	146	51	24													
DF		15	2	89	116	8.842	10.85	17.68	23.3	105.0	11.76	413	1,857	306	107	48													
DF		16	3	89	119	11.656	16.28	27.20	24.0	107.1	18.60	653	2,914	484	170	76													
DF		17	1	89	125	3.442	5.43	10.33	22.5	93.3	6.62	232	964	172	60	25													
DF		18	4	89	127	12.280	21.70	36.84	26.0	112.5	27.33	959	4,144	711	249	108													
DF		21	1	86	123	2.255	5.43	6.77	33.4	143.3	6.45	226	970	168	59	25													
DF		22	3	90	131	6.165	16.28	18.50	40.2	185.6	21.18	743	3,432	551	193	89													
DF		23	1	88	133	1.880	5.43	5.64	44.6	203.3	7.17	252	1,147	186	65	30													
DF		24	4	89	133	6.907	21.70	20.72	49.5	229.2	29.21	1,025	4,749	759	266	123													
DF		25	2	90	138	3.183	10.85	9.55	53.9	250.0	14.66	514	2,387	381	134	62													
DF		26	4	88	140	5.886	21.70	17.66	60.7	281.7	30.53	1,071	4,973	794	279	129													
DF		27	1	89	136	1.364	5.43	4.09	62.9	296.7	7.34	258	1,214	191	67	32													
DF		28	3	89	123	3.806	16.28	10.15	71.9	336.2	20.79	729	3,413	540	190	89													
DF		29	2	88	144	2.365	10.85	7.10	77.8	376.7	15.73	552	2,673	409	144	69													
DF		30	2	90	143	2.210	10.85	6.63	84.8	428.3	16.03	562	2,840	417	146	74													
DF		31	1	90	142	1.035	5.43	3.11	87.8	433.3	7.77	273	1,346	202	71	35													
DF		32	1	90	148	.971	5.43	3.89	73.1	387.5	8.09	284	1,506	210	74	39													
DF		34	1	88	152	.860	5.43	3.44	82.0	417.5	8.04	282	1,437	209	73	37													
DF		41	1	89	158	.592	5.43	2.37	128.6	722.5	8.67	304	1,710	226	79	44													
DF		Totals		38	89	128	80.777	206.15	221.80	43.0	201.0	271.59	9,529	44,589	7,061	2,478	1,159												
WH		15	1	89	115	7.522	9.23	15.04	25.9	120.0	12.45	389	1,805	324	101	47													
WH		Totals		1	89	115	7.522	9.23	15.04	25.9	120.0	12.45	389	1,805	324	101	47												
Totals				39	89	127	88.299	215.38	236.84	41.9	195.9	284.03	9918	46,395	7,385	2,579	1,206												

TC TLOGSTVB				Log Stock Table - MBF															
				Project:				GRADEA											
T02N R06W S04 T00A3										T02N R06W S04 T00A3									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
02N	06W	04	0001	00A3	5.00	3	8	Date	1/23/2014										
									Time	1:17:48PM									
Spp	S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches										
									MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15
DF				2M	40	112		112	45.8						83	29			
DF				3M	36	10		10	4.1				10						
DF				3M	40	102	1.2	101	41.2			8	10	83					
DF				4M	12	1		1	.5			1							
DF				4M	18	2		2	.7			2							
DF				4M	22	20	28.7	14	5.8			14							
DF				4M	24	3		3	1.1			3							
DF				4M	28	2		2	.8			2							
DF				Totals		252	2.8	245	95.2			29	20	83		83	29		
NF				3M	34	4		4	29.4			4							
NF				3M	40	9		9	70.6				9						
NF				Totals		12		12	4.8			4	9						
Total All Species						265	2.6	258	100.0			33	29	83		83	29		

T	Species, Sort Grade - Board Foot Volumes (Type)									Page		1							
	Project: GRADEA									Date		1/23/2014							
										Time		1:17:47PM							
T02N R06W S04 T00A3										T02N R06W S04 T00A3									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
02N	06W	04	0001	00A3	5.00	3	8	S	W										
S So Gr T rt ad Spp		%	Bd. Ft. per Acre		Total Net MBF	Percent Net Board Foot Volume								Average Log		Logs Per /Acre			
		Net BdFt	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		
DF		2M	45	22,478	22,478	112	74	26		100				40	15	340	1.70	66.0	
DF		3M	46	1.1	22,476	22,222	100			100				39	9	133	0.80	167.5	
DF		4M	9	20.8	5,506	4,360	100			13	87			21	6	21	0.28	206.0	
DF	Totals		95	2.8	50,460	49,061	245	54	34	12	1	8	91	31	9	112	0.81	439.6	
NF		3M	100	2,459	2,459	12	100			29	71			37	8	85	0.48	28.9	
NF	Totals		5	2,459	2,459	12	100			29	71			37	8	85	0.48	28.9	
Type Totals				2.6	52,919	51,520	258	56	32	11	1	7	1	90	31	9	110	0.79	468.5

TC PSTATS			PROJECT STATISTICS							PAGE	1	
			PROJECT			GRADEA				DATE	1/23/2014	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
02N	06	04	0001	00A1		86.00		45	248	S	W	
02N	06W	04	0001	00A2								
02N	06W	04	0001	00A3								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			45	248	5.5							
CRUISE			23	128	5.6	10,384		1.2				
DBH COUNT												
REFOREST												
COUNT			22	120	5.5							
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
DOUG FIR			117	110.3	18.3	115	47.1	201.2	39,538	39,268	8,599	8,599
WHEMLOCK			7	8.2	16.2	96	2.9	11.6	2,428	2,428	504	504
NOB FIR			4	2.3	20.5	126	1.1	5.2	1,142	1,142	239	239
TOTAL			128	120.7	18.2	114	51.1	218.0	43,108	42,838	9,342	9,342
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			74.4	6.9	536	575	615					
WHEMLOCK			68.2	27.8	419	580	741					
NOB FIR			79.7	45.5	365	670	975					
TOTAL			73.7	6.5	541	579	616	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		
DOUG FIR			51.8	7.7	102	110	119					
WHEMLOCK			210.6	31.4	6	8	11					
NOB FIR			335.5	50.0	1	2	3					
TOTAL			49.7	7.4	112	121	130	99	25	11		
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			32.9	4.9	191	201	211					
WHEMLOCK			174.7	26.0	9	12	15					
NOB FIR			305.4	45.5	3	5	8					
TOTAL			30.2	4.5	208	218	228	36	9	4		
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			35.6	5.3	37,188	39,268	41,348					
WHEMLOCK			178.5	26.6	1,783	2,428	3,073					
NOB FIR			302.2	45.0	628	1,142	1,656					
TOTAL			33.5	5.0	40,700	42,838	44,977	45	11	5		
CL	68.1	COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5		10	15		
DOUG FIR			34.3	5.1	8,159	8,599	9,038					
WHEMLOCK			179.1	26.7	370	504	639					
NOB FIR			305.0	45.4	130	239	348					
TOTAL			32.0	4.8	8,896	9,342	9,788	41	10	5		

VOLUME SUMMARY
(Shown in MBF)
GRADE A
Sale No 341-14-20
December 2013

AREA 1: MC (55 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	1,221	669	83	1,973
	Hidden D&B (2%)	(24)	(13)	(2)	(39)
	NET TOTAL	1,197	656	81	1,934
	% of Total	62	34	4	
Western hemlock/fir	Cruise Volume	131	22	10	163
	Hidden D&B (2%)	(3)	()	()	(3)
	NET TOTAL	128	22	10	160
	% of Total	80	14	6	
Noble fir	Cruise Volume	68	16	2	86
	Hidden D&B (2%)	(1)	()	()	(1)
	NET TOTAL	67	16	2	85
	% of Total	79	19	2	

AREA 2: MC (26 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	865	269	25	1,159
	Hidden D&B (2%)	(17)	(5)	(1)	(23)
	NET TOTAL	848	264	24	1,136
	% of Total	75	23	2	
Western hemlock/fir	Cruise Volume	0	47	0	47
	Hidden D&B (2%)	()	(1)	()	(1)
	NET TOTAL	0	46	0	46
	% of Total	0	100	0	

AREA 3: MC (5 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	112	111	22	245
	Hidden D&B (2%)	(2)	(2)	()	(4)
	NET TOTAL	110	109	22	241
	% of Total	46	45	9	
Noble fir	Cruise Volume	0	12	0	12
	Hidden D&B (2%)	()	()	()	()
	NET TOTAL	0	12	0	12
	% of Total	0	100	0	

SALE TOTAL				
SPECIES	2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	2,155	1,029	127	3,311
Western hemlock	128	68	10	206
Noble fir	67	28	2	97
TOTAL	2,350	1,125	139	3,614

AREA 1	21	34
AREA 2	0	26
AREA 3	0	5
TOTAL	21	65