Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$1,644,029.38	$54,515.16	$1,698,544.54
		Project Work:	$(160,900.00)
		Advertised Value:	$1,537,644.54

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

timber description

Location: Portions of Sections 21, 22, and 23,T3N, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	15	0	98
Western Hemlock / Fir	19	0	98
Alder (Red)	13	0	98

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	2,605	2,924	532	0	6,061
Western Hemlock / Fir	131	76	12	0	219
Alder (Red)	0	0	0	189	189
Total	2,736	3,000	544	189	6,469

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: Forest Grove **Date: October 05, 2012**

comments:

Pond Values Used: 3rd Quarter Calendar Year 2012.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
$733.76/MBF = $975/MBF - $241.24/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: 6,469 MBF @ $1/MBF = $6,469
Total Other Costs (with Profit & Risk to be added) = $6,469

Other Costs (No Profit & Risk added):
Piling and Covering Landing Slash Piles: 20hrs @ $110/hr = 2,200
Slash Treatment: 20 acres @ $150/acre = $3,000
Blocking/Waterbarring Skid Roads: 2 hrs @ $150/hr = $300
Snag Creation: 200 snags @ $40/snag = $8,000
Equipment Cleaning: 4 machines @ $1,000/machine = $4,000
TOTAL Other Costs (No Profit & Risk added) = $17,500

ROAD MAINTENANCE
Move-in: $2,000
General Road Maintenance: 13.2 miles x $1,000/mile = $13,200
TOTAL: $15,200 / 6,469 MBF = $2.35/MBF

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

logging conditions

combination#: **1**

	Douglas - Fir	21.90%
	Western Hemlock / Fir	15.00%
	Alder (Red)	20.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process**: Manual Falling/Delimbing
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,400
cost / mbf: $71.15

machines: Shovel Logger

combination#: **2**

	Douglas - Fir	78.10%
	Western Hemlock / Fir	85.00%
	Alder (Red)	80.00%

yarding distance: Long (1,500 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: 6.0 **bd. ft / load:** 4,400
cost / mbf: $126.67

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

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

logging costs

Operating Seasons:	2.00	**Profit Risk:**	20.00%
Project Costs:	$160,900.00	**Other Costs (P/R):**	$6,469.00
Slash Disposal:	$0.00	**Other Costs:**	$17,500.00

Miles of Road

Road Maintenance: $2.35

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	4.4
Western Hemlock / Fir	$0.00	2.0	4.4
Alder (Red)	$0.00	2.0	4.0

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$114.51	$2.40	$1.36	$75.34	$1.00	$38.92	$0.00	$5.00	$2.71	$241.24
Western Hemlock / Fir									
$118.34	$2.40	$1.36	$75.34	$1.00	$39.69	$0.00	$5.00	$2.71	$245.84
Alder (Red)									
$115.57	$2.40	$1.36	$82.88	$1.00	$40.64	$0.00	$5.00	$2.71	$251.56

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$505.88	$264.64	$0.00
Western Hemlock / Fir	$0.00	$428.70	$182.86	$0.00
Alder (Red)	$0.00	$540.00	$288.44	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Tunnel Vision
Sale 341-13-34

District: **Forest Grove** **Date:** **October 05, 2012**

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	6,061	$264.64	$1,603,983.04
Western Hemlock / Fir	219	$182.86	$40,046.34
Alder (Red)	189	$288.44	$54,515.16

Gross Timber Sale Value

Recovery: $1,698,544.54

Prepared by: Peter Stone **Phone:** 503-359-7477

TIMBER SALE SUMMARY
Tunnel Vision
Contract No. 341-13-34

1. **Type of Sale:** The timber sale is 148 acres of modified clearcut, and 4 acres of right-of-way. The timber will be sold on a recovery basis at a sealed bid auction.

2. **Revenue Distribution:** 100% BOF, Tillamook County (Tax Code 56-1)

3. **Sale Acreage:** Acres are net of stream buffers and existing road prisms. Acreage was determined using ESRI ArcMap GIS software.

4. **Cruise Data**: The Timber Sale was cruised by SLI Cruisers in 2004 and by ODF Cruisers in August of 2012. For more information see Cruise Report.

5. **Timber Description:** The Timber Sale Area is medium to well stocked, 45to 65 year old Douglas-fir stands with minor amounts of western hemlock and hardwoods. The average Douglas-fir DBH is approximately 15 inches. Estimated average net Douglas-fir volume per acre is 41.6 MBF.

6. **Topography and Logging Method:** Slopes within the sale areas vary in aspect and range from 5% to 90%. The sale area is 33% ground-based yarding and 67% cable-based yarding.

7. **Access:** From Highway 26, at milepost 29, turn south onto the 101 Road. Continue 7.2 miles and turn right on the 118 Road. Proceed 1.8 miles to the three-way junction and turn left on the 118A Road (Unmarked). Drive 2.0 miles to the northeast corner of Area 2. See Exhibit A "Vicinity Map" for detailed access and haul route information. A gate key will be required.

8. **Projects:**

Project No. 1 - Construct 2.14 miles of road	$147,976.04
Project No. 2 - Grass seed, fertilize, and Mulch	$1,749.89
Project No. 3 - Gate installation	$1,000.00
Project No. 4 - Waterbar construction	$600.00
Equipment Move-in and Cleaning	$9,532.99
Total (rounded) credit for project work	$160,900.00

9. **Other Costs:**

Other Costs (with Profit & Risk to be added):
Brand and Paint: 6,469 MBF @$1/MBF = $6,469
Total Other Costs (with Profit & Risk to be added) = $6,469

Other Costs (No Profit & Risk added):
Piling and Covering Landing Slash Piles: 20hrs @ $110/hr = $2,200
Slash Treatment: 20 acres @ $150/acre = $3,000
Blocking/Waterbarring Skid Roads: 2 hrs @ $150/hr = $300
Snag Creation: 200 snags @ $40/snag = $8,000
Equipment Cleaning: 4 machines @ $1,000/machine = $4,000
TOTAL Other Costs (No Profit & Risk added) = $17,500

ROAD MAINTENANCE
Move-in: $2,000
General Road Maintenance: 13.2 miles x $1,000/mile = $13,200
TOTAL: $15,200 / 6,469 MBF = $2.35/MBF

PROJECT COST SUMMARY SHEET

Timber Sale: Tunnel Vision

Sale Number: 341-13-34

PROJECT NO. 1: ROAD CONSTRUCTION

Road Segment	Length	Cost
A to B	28+80	$9,536.20
C to D	6+50	$2,532.49
E to F	4+25	$1,404.94
G to H	62+20	$131,151.82
I to J	4+75	$1,351.28
K to L	6+25	$1,999.32
	112+75	stations
	2.14	miles

TOTAL PROJECT NO. 1 COST = $147,976.04

PROJECT NO. 2: GRASS SEED, FERTILIZE, & MULCH

Grass seed and fertilize areas of disturbed soil.	$1,749.89	

TOTAL PROJECT NO. 2 COST = $1,749.89

PROJECT NO. 3: GATE INSTALLATION

Install a gate at Point M	$1,000.00	

TOTAL PROJECT NO. 3 COST = $1,000.00

PROJECT NO. 4: WATERBAR CONSTRUCTION

Construct Drivable Waterbars	$600.00	

TOTAL PROJECT NO. 4 COST = $600.00

MOVE IN & EQUIPMENT CLEANING $9,532.99

TOTAL ALL PROJECTS $160,858.92

TOTAL CREDITS $160,900.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Tunnel Vision Timber Sale No. : 341-13-34

Road Segment: A to B Construction: 28+80 stations

0.55 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	2.64	acres @	$980.00	per acre =	$2,591.74	
Balanced Road Construction	28.80	sta @	$90.00	per sta =	$2,592.00	
Construct Junction @ Point A	1	ea @	$180.00	per ea =	$180.00	
Fill Excavation (24+90)						
Excavate and load existing culvert and fill	80	cy @	$1.88	per cy =	$150.40	
Endhaul unsuitable fill material	80	cy @	$2.45	per cy =	$196.00	
Excavate fill material from cutbank	80	cy @	$1.18	per cy =	$94.40	
Place fill and rock	80	cy @	$2.12	per cy =	$169.60	
Compact fill	80	cy @	$0.45	per cy =	$36.00	
Construct Turnouts (4)	4	ea @	$60.00	per ea =	$240.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	21.80	sta @	$28.70	per sta =	$625.66	
Grade and Roll (Outslope)	7.00	sta @	$27.20	per sta =	$190.40	
				TOTAL EXCAVATION COSTS=		$7,426.20

CULVERTS - MATERIALS & INSTALLATION

Culverts

104 LF of 18" $2,080.00

$2,080.00

Culvert Markers

3 markers $30.00

TOTAL CULVERT COSTS = $2,110.00

PROJECT NO. 1 TOTAL COST = $9,536.20

PROJECT NO. 2:

Grass seed and fertilize areas of disturbed soil.	1.32	acres @	$220.00	per acre =	$290.91	

PROJECT NO. 2 TOTAL COST = $290.91

TOTAL COST = $9,827.10

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Tunnel Vision** Timber Sale No. : 341-13-34

Road Segment: **C to D** Construction: 6+50 stations

0.12 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.60	acres @	$980.00	per acre =	$584.94	
Balanced Road Construction	5.40	sta @	$90.00	per sta =	$486.00	
Drift	1.10	sta @	$150.00	per sta =	$165.00	
Construct Turnouts (1)	1	ea @	$60.00	per ea =	$60.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	6.50	sta @	$28.70	per sta =	$186.55	
				TOTAL EXCAVATION COSTS=		**$1,842.49**

CULVERTS - MATERIALS & INSTALLATION

Culverts

34 LF of 18" $680.00

Culvert Markers

1 markers $10.00

TOTAL CULVERT COSTS = **$690.00**

PROJECT NO. 1 TOTAL COST = $2,532.49

PROJECT NO. 2:

Grass seed and fertilize areas of disturbed soil.	0.30	acres @	$220.00	per acre =	$65.66

PROJECT NO. 2 TOTAL COST = $65.66

PROJECT NO. 4:

Construct Drivable Waterbars	3.00	each @	$25.00	per each =	$75.00

PROJECT NO. 4 TOTAL COST = $75.00

TOTAL COST = $2,673.15

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Tunnel Vision** Timber Sale No. : 341-13-34

Road Segment: **E to F** Construction: 4+25 stations

0.08 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.39	acres @	$980.00	per acre =	$382.46	
Clearing and Grubbing of Loaded Truck Turnaround (Scatter)	0.10	acres @	$980.00	per acre =	$98.00	
Balanced Road Construction	3.25	sta @	$90.00	per sta =	$292.50	
Drift	1.00	sta @	$150.00	per sta =	$150.00	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	4.25	sta @	$28.70	per sta =	$121.98	
				TOTAL EXCAVATION COSTS=		$1,404.94

PROJECT NO. 1 TOTAL COST = $1,404.94

PROJECT NO. 2:

Grass seed and fertilize areas of disturbed soil.	0.25	acres @	$220.00	per acre =	$53.93	
Mulch	0.50	acres @	$600.00	per acre =	$300.00	

PROJECT NO. 2 TOTAL COST = $353.93

PROJECT NO. 4:

Construct Drivable Waterbars	2.00	each @	$25.00	per each =	$50.00	

PROJECT NO. 4 TOTAL COST = $50.00

TOTAL COST = $1,808.87

SUMMARY OF CONSTRUCTION COST

Timber Sale: Tunnel Vision
Road Segment: G to H

Timber Sale No. : 341-13-34
Construction: 62+20 stations
1.18 miles

PROJECT NO. 1:

EXCAVATION: CLEARING & GRUBBING - Endhaul, EXCAVATION, GRADE, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist.To W.A. (mi.)	Outslope / Ditch	Cost per Station		
0+00		3+00	45%	0.00	Outslope	$269	=	$805.86
3+00		6+00	65%	0.39	Outslope	$2,071	=	$6,212.19
6+00		10+00	75%	0.46	Outslope	$3,044	=	$12,177.60
10+00		15+00	35%	0.00	Outslope	$191	=	$954.20
15+00		17+50	65%	0.62	Outslope	$2,274	=	$5,685.20
17+50		19+00	40%	0.00	Outslope	$243	=	$364.04
19+00		20+80	85%	0.69	Outslope	$4,695	=	$8,451.27
20+80		26+40	20%	0.00	Outslope	$139	=	$778.29
26+40		27+90	75%	0.11	Outslope	$2,772	=	$4,158.27
27+90		29+50	90%	0.14	Outslope	$4,649	=	$7,437.97
29+50		30+50	35%	0.00	Outslope	$191	=	$190.84
30+50		33+00	5%	0.00	Ditch	$132	=	$329.63
33+00		35+00	85%	0.24	Outslope	$4,160	=	$8,319.76
35+00		37+70	65%	0.30	Outslope	$2,071	=	$5,590.97
37+70		38+30	25%	0.00	Outslope	$165	=	$98.95
38+30		41+00	80%	0.34	Outslope	$3,628	=	$9,794.76
41+00		50+00	85%	0.50	Outslope	$4,558	=	$41,026.41
50+00		53+00	50%	0.0	Outslope	$459	=	$1,375.62
53+00		62+20	0%	0.0	Outslope	$55	=	$506.00

Construct junction at Point G	8	ea @	$375.00	per ea =	$3,000.00	
Excavation & Endhaul at Station 35+00					$900.00	
Construct Turnouts (8)	8	ea @	$60.00	per ea =	$480.00	
Construct Turnaround (1)	1	sta @	$75.00	per sta =	$75.00	
Construct Roadside Landing	1	ea @	$150.00	per ea =	$150.00	
Construct Landing	1	ea @	$285.00	per ea =	$285.00	
Drill and Shoot @ 41+00					$3,000.00	
Subgrade Reinforcement Rock	240	cy. of	6"-0 @	$4.30 per c.y.=	$1,032.00	
Energy Dissipator Rock @ 19+90	20	cy. of	36"-12" @	$4.10 per c.y.=	$82.00	
Construct & Install rubber water diverter -	10.00	@	$360.00	each	$3,600.00	
				TOTAL EXCAVATION COSTS=		**$126,861.82**

CULVERTS - MATERIALS & INSTALLATION

Culverts			
80	LF of 24"	$2,320.00	
50	LF of 30"	$1,950.00	
Culvert Stakes & Markers			
2	stakes	$20.00	
		TOTAL CULVERT COSTS =	**$4,290.00**
		PROJECT NO. 1 TOTAL COST =	**$131,151.82**

PROJECT NO. 2:

Grass seed and fertilize -	2.86	acres @	$220.00	per acre	$628.28	
				PROJECT NO. 2 TOTAL COST =		**$628.28**

TOTAL COST = $131,780.10

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Tunnel Vision** Timber Sale No. : 341-13-34

Road Segment: **I to J** Construction: 4+75 stations

0.09 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.44	acres @	$980.00	per acre =	$427.46	
Balanced Road Construction	4.75	sta @	$90.00	per sta =	$427.50	
Construct Turnaround (1)	1	ea @	$75.00	per ea =	$75.00	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	4.75	sta @	$28.70	per sta =	$136.33	
				TOTAL EXCAVATION COSTS=		$1,351.28

PROJECT NO. 1 TOTAL COST = $1,351.28

PROJECT NO. 2:

Grass seed and fertilize areas of disturbed soil.	0.22	acres @	$220.00	per acre =	$47.98	

PROJECT NO. 2 TOTAL COST = $47.98

PROJECT NO. 4:

Construct Drivable Waterbars	2.00	each @	$25.00	per each =	$50.00	

PROJECT NO. 4 TOTAL COST = $50.00

TOTAL COST = $1,449.26

SUMMARY OF CONSTRUCTION COST

Timber Sale: **Tunnel Vision** Timber Sale No. : 341-13-34

Road Segment: **K to L** Construction: 6+25 stations

0.12 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.57	acres @	$980.00	per acre =	$562.44	
Balanced Road Construction	6.25	sta @	$90.00	per sta =	$562.50	
Construct "Y" Junction @ Pt. K	1.00	ea @	$150.00	per ea =	$150.00	
Construct Loaded Truck Turnaround at Waste Area 2 (station 1+50)	1	ea @	$260.00	per ea =	$260.00	
Landing	1	ea @	$285.00	per ea =	$285.00	
Grade, Ditch, and Roll	6.25	sta @	$28.70	per sta =	$179.38	
				PROJECT NO. 1 TOTAL COST =		**$1,999.32**

PROJECT NO. 2:

Grass seed and fertilize areas of disturbed soil.	0.29	acres @	$220.00	per acre =	$63.13	
Mulch	0.50	acres @	$600.00	per acre =	$300.00	
				PROJECT NO. 2 TOTAL COST =		**$363.13**

PROJECT NO. 4:

Construct Drivable Waterbars	1.00	each @	$25.00	per each =	$25.00	
				PROJECT NO. 4 TOTAL COST =		**$25.00**

TOTAL COST = $2,387.45

SUMMARY OF CONSTRUCTION COST

Timber Sale: Tunnel Vision Timber Sale No. : 341-13-34

Road Segment: M to E Construction: 49+80 stations

0.94 miles

PROJECT NO. 3

Install a gate according to specifications in Exhibit I				$1,000.00

PROJECT NO. 3 TOTAL COST = $1,000.00

PROJECT NO. 4:

Construct Drivable Waterbars	16.00 each @	$25.00 per each =	$400.00	

PROJECT NO. 4 TOTAL COST = $400.00

TOTAL COST = $1,400.00

Move-In & Equipment Cleaning

Timber Sale: Tunnel Vision
Sale Number: 341-13-34

LOWBOY HAUL (One-way)		
DIST. (mi)	ROAD	AVE SPEED (mph)
7.0	Main Lines	**7**
4.0	Steep Grades	**2**

No.	EQUIPMENT DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Within Area Move	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Drill & Compressor		$276.00	$378.52		$46.00	0.0	0.0	0.0	$0.00	$654.52
0	Brush Cutter		$0.00	$0.00		$4.00	0.0	0.0	0.0	$0.00	$0.00
1	Graders		$300.00	$411.43		$3.65	0.0	0.0	0.0	$0.00	$711.43
0	Loader (Small)		$0.00	$0.00	1	$3.55	0.0	0.0	0.0	$0.00	$0.00
0	Loader (Med. & Large)		$0.00	$0.00	1	$9.00	0.0	0.0	0.0	$0.00	$0.00
1	Rollers (smooth/grid) & Compactors		$308.59	$293.25		$5.00	0.0	0.0	0.0	$0.00	$601.84
0	Excavators (Small)		$0.00	$0.00		$22.00	0.0	0.0	0.0	$0.00	$0.00
0	Excavators (Med.)		$0.00	$0.00		$35.50	0.0	0.0	0.0	$0.00	$0.00
1	Excavators (Large)	$1,000	$466.14	$585.52	1	$44.80	0.0	0.0	0.0	$0.00	$2,051.66
0	Tired Backhoes/Skidders		$0.00	$0.00		$3.00	0.0	0.0	0.0	$0.00	$0.00
1	Tractors (D6)	$1,000	$414.77	$440.62	2	$7.10	0.0	0.0	0.0	$0.00	$1,855.39
0	Tractors (D7)		$0.00	$0.00	2	$11.30	0.0	0.0	0.0	$0.00	$0.00
1	Tractor (D8)	$1,000	$473.80	$530.32	2	$15.10	0.0	0.0	0.0	$0.00	$2,004.12
0	Dump Truck (10 cy +)		$0.00	$0.00		$2.85	0.0	0.0	0.0	$0.00	$0.00
2	Dump Truck (Off Hiway)		$710.70	$943.33	1	$4.75	0.0	0.0	0.0	$0.00	$1,654.03
0	Water Truck (1500 Gal)		$0.00	$0.00		$2.85	0.0	0.0	0.0	$0.00	$0.00
0	Water Truck (2500 Gal)		$0.00	$0.00		$2.85	0.0	0.0	0.0	$0.00	$0.00
						TOTAL MOVE-IN COSTS:					$9,532.99

Tunnel Vision
341-13-34
Volume Summary (Shown in MBF)
August 2012

Area 1: Modified Clearcut (51 Acres)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	1,067	826	172	0	2,065
	In-Growth					
2%	Hidden D&B	(21)	(17)	(3)	( )	(41)
	Total	**1,046**	**809**	**169**	**0**	**2,024**
	% Total	*52*	*40*	*8*	***0***	

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Red alder	Cruise Volume	0	0	0	193	193
	In-Growth					
2%	Hidden D&B	( )	( )	( )	(4)	(4)
	Total	**0**	**0**	**0**	**189**	**189**
	% Total	*0*	*0*	*0*	***100***	

Area 2: Modified Clearcut (46 Acres)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	1,026	850	151	0	2,027
	In-Growth					
2%	Hidden D&B	(21)	(17)	(3)	(0)	(41)
	Total	**1,005**	**833**	**148**	**0**	**1,986**
	% Total	*51*	*42*	*7*	***0***	

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Western hemlock	Cruise Volume	134	78	12	0	224
	In-Growth					
2%	Hidden D&B	(3)	(2)	(0)	(5)	(5)
	Total	**131**	**76**	**12**	**0**	**220**
	% Total	*60*	*35*	*5*	***100***	

Areas 3 & 4: Modified Clearcut (51 Acres)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	524	1,210	203	0	1,937
	In-Growth					
2%	Hidden D&B	(10)	(24)	(4)	(0)	(41)
	Total	**514**	**1,189**	**199**	**0**	**1,902**
	% Total	*27*	*63*	*10*	***0***	

***Area 5: Right-of-Way (4 Acres)**

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	41	95	16	0	162
	In-Growth					
	Hidden D&B	(1)	(2)	(0)	(0)	(14)
	Total	**40**	**93**	**16**	**0**	**149**
	% Total	*27*	*62*	*11*	*0*	

*** Area 5 R/W volumes were extrapolated using the Areas 3 & 4 Cruise.**

SALE TOTALS

SPECIES	2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL (MBF)
Douglas-fir	2,605	2,924	532	0	6,061
Western hemlock	131	76	12	0	219
Red alder	0	0	0	189	189
Total	**2,736**	**3,000**	**544**	**189**	**6,469**

CRUISE REPORT
Tunnel Vision
341-13-34

1. LOCATION: Portions of Sections 21, 22, 23, T3N, R7W, W.M., Tillamook County, Oregon

2. CRUISE DESIGN:
ODF cruise standards for this sale require a minimum of 100 graded trees and an overall sampling error of 11%. Portions of the Timber Sale were inventoried in 2004, but because the inventory plots did not adequately sample the Timber Sale Areas, additional ODF cruise plots were needed. For ODF cruise plots, the assumed a Coefficient of Variation (CV) for Area 2 was 52%. For Areas 3 and 4 the cruise design assumed a CV of 57%.

3. SAMPLE INTENSITY: In 2004, Areas 1 was cruised with 9 Stand Level Inventory variable radius plots, Area 2 with 4, and Area 3 with 6. The inventory plot data was grown forward to May 2012. Area 2 was supplemented with an additional 9 measured variable radius grade plots in August 2012. In August 2012, Areas 3 and 4 were cruised with 16 variable radius grade plots.

3. CRUISE RESULTS:
Area 1 Cruise: Measured and graded 65 trees and produced a sampling error of 13.1% on the Douglas-fir board foot volume (Douglas-fir).
Area 2 Cruise: Measured and graded 80 trees and produced a sampling error of 15.4% the Douglas-fir board foot volume (Douglas-fir).
Areas 3 & 4 Cruise: Measured and graded 160 trees with a sampling error of 9.6% the Douglas-fir board foot volume (Douglas-fir).

The three cruises were combined to produce an acceptable sampling error of 9.0% (Douglas-fir).

4. 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.

All grade plot 'Take' 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 and grown forward 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 sawlog volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by SLI inventory cruisers and ODF cruisers (Koch, Hunter, Stone).

Prepared by Peter Stone Date August, 2012

Reviewed by_____ Date _____

TC PSTATS

PROJECT STATISTICS

PROJECT TNLVSN2

DATE 8/22/2012

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
03N	07	21	001	A1	148.00	44	297	S	W
T3N	R7W	23	001	A2					
T3N	R7W	23	001	A3					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	44	297	6.8		
CRUISE	44	297	6.8	33,605	.9
DBH COUNT					
REFOREST					
COUNT					
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-T	282	209.1	15.4	92	69.0	271.1	40,764	40,748	9,337	9,337
WHEMLOCK-T	8	5.3	18.9	100	2.4	10.3	1,516	1,516	353	353
R ALDER-T	7	12.6	12.5	82	3.0	10.7	1,302	1,302	313	313
TOTAL	*297*	*227.1*	*15.4*	*92*	*74.5*	*292.1*	*43,582*	*43,565*	*10,003*	*10,003*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0 — **SAMPLE TREES - BF**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	89.6	5.3	291	307	323			
WHEMLOCK-T	47.7	18.0	313	381	450			
R ALDER-T	53.5	21.8	102	130	158			
TOTAL	*89.0*	*5.2*	*289*	*305*	*321*	*316*	*79*	*35*

CL 68.1 SD: 1.0 — **TREES/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	69.0	10.4	187	209	231			
WHEMLOCK-T	435.4	65.6	2	5	9			
R ALDER-T	389.1	58.6	5	13	20			
TOTAL	*78.5*	*11.8*	*200*	*227*	*254*	*246*	*61*	*27*

CL 68.1 SD: 1.0 — **BASAL AREA/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	48.8	7.3	251	271	291			
WHEMLOCK-T	448.1	67.5	3	10	17			
R ALDER-T	382.1	57.5	5	11	17			
TOTAL	*51.9*	*7.8*	*269*	*292*	*315*	*108*	*27*	*12*

CL 68.1 SD: 1.0 — **NET BF/ACRE**

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	61.4	9.3	36,978	40,748	44,517			
WHEMLOCK-T	413.4	62.3	572	1,516	2,460			
R ALDER-T	384.2	57.9	548	1,302	2,055			
TOTAL	*59.8*	*9.0*	*39,639*	*43,565*	*47,491*	*143*	*36*	*16*

TC TLOGSTVB

Log Stock Table - MBF

Project: TNLVSN2

T03N R07W S21 TA1

T03N R07W S21 TA1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
03N	07W	21	001	A1	51.00	9	65

Date 8/22/2012

Time 2:25:52PM

Spp	S T	So Grade	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+
DF		2M	40	1,067		1,067	51.7						230	343	457	38			
DF		3M	32	35		35	1.7			30	6								
DF		3M	34	228		228	11.0			132	40	55							
DF		3M	40	563		563	27.3			48	373	121			21				
DF		4M	16	56		56	2.7			56									
DF		4M	20	27		27	1.3			27									
DF		4M	28	53		53	2.6			53									
DF		4M	30	14		14	.7			14									
DF		4M	32	21		21	1.0			21									
DF		Totals		2,065		2,065	91.5			381	419	176	230	343	478	38			
RA		R	20	30		30	15.8			30									
RA		R	30	162		162	84.2			18	51	71	22						
RA		Totals		193		193	8.5			49	51	71	22						
Total All Species				2,258		2,258	100.0			430	470	248	251	343	478	38			

TC TLOGSTVB

Log Stock Table - MBF

Project: TNLVSN2

TT3N RR7W S23 TA2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
T3N	R7W	23	001	A2	46.00	13	78

TT3N RR7W S23 TA2

Page 1
Date 8/22/2012
Time 2:29:44PM

Spp	S T	So Grade	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+
DF		CU	2																
DF		CU	3																
DF		CU	8																
DF		CU	12																
DF		CU	18																
DF		CU	20																
DF		CU	24																
DF		CU	28																
DF		CU	40																
DF		2M	16	42		42	2.1								27	16			
DF		2M	20	18		18	.9								18				
DF		2M	24	6		6	.3							6					
DF		2M	34	37		37	1.8						16	21					
DF		2M	40	925	.1	924	45.6						152	228	333	212			
DF		3M	20	14		14	.7					14							
DF		3M	32	55		55	2.7			34		21							
DF		3M	34	140	.5	140	6.9			34	18	81	7						
DF		3M	40	643	.1	642	31.6			132	117	346	19			27			
DF		4M	16	75		75	3.7			68	7								
DF		4M	20	20		20	1.0			20									
DF		4M	24	9		9	.5			9									
DF		4M	28	16		16	.8			16									
DF		4M	30	28		28	1.4			28									
DF		4M	40	3		3	.2			3									
DF		Totals		2,031		2,028	90.0			344	143	462	194	254	377	254			
WH		CU	6																
WH		CU	12																
WH		CU	16																
WH		2M	30	25		25	11.2								25				
WH		2M	40	109		109	48.7						16	42	52				
WH		3M	32	12		12	5.3			3		9							
WH		3M	34	7		7	3.0			7									
WH		3M	40	59		59	26.5			11	22	27							
WH		4M	16	1		1	.5			1									
WH		4M	20	1		1	.6			1									
WH		4M	24	7		7	3.3			7									
WH		4M	30	2		2	.9			2									
WH		Totals		224		224	10.0			33	22	35	16	42	77				
Total All Species				2,255		2,253	100.0			376	164	497	210	296	454	254			

TC TLOGSTVB

Log Stock Table - MBF

Project: TNLVSN2

TT3N RR7W S23 TA3

TT3N RR7W S23 TA3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
T3N	R7W	23	001	A3	51.00	22	154

Date 8/22/2012

Time 2:32:14PM

Spp	S T	So Grade	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+
DF		CU	2																
DF		CU	4																
DF		CU	5																
DF		CU	6																
DF		CU	8																
DF		CU	14																
DF		CU	15																
DF		CU	16																
DF		2M	20	5		5	.3								5				
DF		2M	24	8		8	.4						8						
DF		2M	40	510		510	26.3						140	138	138	94			
DF		3M	16	10		10	.5						10						
DF		3M	20	7		7	.4									7			
DF		3M	28	8		8	.4				5	3							
DF		3M	30	15		15	.8					15							
DF		3M	32	95		95	4.9			64	11	13	6						
DF		3M	34	128		128	6.6			72	27	29							
DF		3M	40	947		947	48.9			156	340	451							
DF		4M	12	4		4	.2			4									
DF		4M	16	40		40	2.0			40									
DF		4M	20	22		22	1.1			22									
DF		4M	24	55		55	2.8			55									
DF		4M	28	21		21	1.1			21									
DF		4M	30	53		53	2.7			53									
DF		4M	32	5		5	.2			5									
DF		4M	34	4		4	.2			4									
DF		Totals		1,937		1,937	100.0			495	384	511	164	138	143	101			
Total All Species				1,937		1,937	100.0			495	384	511	164	138	143	101			

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: TNLVSN2

Date 8/22/2012

Time 2:25:49PM

T03N R07W S21 TA1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
03N	07W	21	001	A1	51.00	9	65	S	W

T03N R07W S21 TA1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF			2M	51		20,923	20,923	1,067			67	33				100	40	15	338	1.74	61.9
DF			3M	40		16,203	16,203	826		97	3				32	68	37	8	92	0.61	176.1
DF			4M	9		3,368	3,368	172		100			48	39	12		22	6	26	0.32	131.5
DF	**Totals**			91		40,495	40,495	2,065		47	36	17	4	3	14	79	32	8	110	0.78	369.5
RA			R	100		3,778	3,778	193		89	11		16	84			26	8	67	0.61	56.6
RA	**Totals**			9		3,778	3,778	193		89	11		16	84			26	8	67	0.61	56.6
Type Totals						44,273	44,273	2,258		51	34	15	5	10	13	72	31	8	104	0.76	426.1

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: TNLVSN2

Date 8/22/2012

Time 2:29:45PM

TT3N RR7W S23 TA2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
T3N	R7W	23	001	A2	46.00	13	78	S	W

TT3N RR7W S23 TA2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF			CU														11	14		0.00	34.5
DF			2M	50	.1	22,334	22,315	1,026			52	48	6	1	4	90	37	16	366	1.97	61.0
DF			3M	42	.2	18,518	18,483	850		94	3	3	2		23	75	38	9	109	0.74	169.1
DF			4M	8		3,293	3,293	151		100			63	35		2	20	6	25	0.35	129.3
DF	**Totals**			90	.1	44,145	44,091	2,028		47	27	26	8	3	11	77	29	9	112	0.87	394.0
WH			CU														11	20		0.00	3.8
WH			2M	59		2,923	2,923	134			43	57		19		81	38	16	375	2.06	7.8
WH			3M	35		1,695	1,695	78		100					24	76	38	8	93	0.62	18.3
WH			4M	6		259	259	12		100			21	79			23	6	28	0.40	9.2
WH	**Totals**			10		4,877	4,877	224		40	26	34	1	15	8	75	32	10	125	0.91	39.1
Type Totals					.1	49,023	48,968	2,253		46	27	27	8	4	11	77	30	9	113	0.87	433.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: TNLVSN2

Date 8/22/2012

Time 2:32:15PM

TT3N RR7W S23 TA3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
T3N	R7W	23	001	A3	51.00	22	154	S	W

TT3N RR7W S23 TA3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF			CU														6	11		0.00	12.6
DF			2M	27		10,271	10,271	524			70	30	1	2		97	39	14	326	1.77	31.5
DF			3M	62		23,735	23,735	1,210		98	1	1	1	2	18	78	38	8	96	0.61	246.7
DF			4M	11		3,979	3,979	203		100			32	63	4		23	6	28	0.31	142.7
DF	**Totals**			100		37,984	37,984	1,937		72	20	8	5	8	12	75	32	8	88	0.64	433.5
Type Totals						37,984	37,984	1,937		72	20	8	5	8	12	75	32	8	88	0.64	433.5

TC TSTNDSUM

Stand Table Summary

Project **TNLVSN2**

T03N R07W S21 TA1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
03N	07W	21	001	A1	51.00	9	65

Date: 08/22/201
Time: 2:25:51PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF		8	1	88	60	12.732	4.44	12.73	4.6	20.0	1.68	59	255	86	30	13
DF		9	3	88	64	30.181	13.33	30.18	7.6	30.0	6.57	230	905	335	118	46
DF		10	5	88	70	40.744	22.22	40.74	10.8	50.0	12.60	442	2,037	642	225	104
DF		12	3	87	83	16.977	13.33	28.29	12.3	50.0	9.93	348	1,415	506	178	72
DF		13	2	88	86	9.643	8.89	19.29	13.5	55.0	7.44	261	1,061	379	133	54
DF		14	5	87	109	20.788	22.22	41.58	18.6	83.0	22.05	774	3,451	1,125	395	176
DF		15	4	88	79	14.487	17.78	28.97	17.7	70.0	14.58	512	2,028	744	261	103
DF		16	2	88	78	6.366	8.89	12.73	19.2	70.0	6.98	245	891	356	125	45
DF		17	2	88	107	5.639	8.89	11.28	28.4	117.5	9.13	320	1,325	466	163	68
DF		18	3	88	95	7.545	13.33	15.09	29.2	115.0	12.56	441	1,735	641	225	89
DF		19	2	87	89	4.515	8.89	9.03	32.4	115.0	8.34	293	1,038	425	149	53
DF		20	1	87	126	2.037	4.44	6.11	32.0	143.3	5.58	196	876	284	100	45
DF		21	4	87	119	7.391	17.78	22.17	33.3	146.7	21.04	738	3,252	1,073	376	166
DF		22	6	87	122	10.102	26.67	30.31	37.0	166.7	32.00	1,123	5,051	1,632	573	258
DF		23	4	87	147	6.162	17.78	18.48	47.3	217.5	24.90	874	4,020	1,270	446	205
DF		24	3	87	136	4.244	13.33	12.73	50.4	233.3	18.29	642	2,971	933	327	152
DF		25	4	88	142	5.215	17.78	15.65	57.0	273.3	25.41	892	4,276	1,296	455	218
DF		26	1	88	156	1.205	4.44	4.82	49.4	250.0	6.79	238	1,205	346	121	61
DF		27	1	88	138	1.118	4.44	3.35	63.3	296.7	6.05	212	995	309	108	51
DF		28	1	88	71	1.039	4.44	2.08	61.7	210.0	3.65	128	437	186	65	22
DF		29	1	88	159	.969	4.44	3.88	62.5	327.5	6.91	242	1,269	352	124	65
DF		Totals	58	88	89	209.099	257.78	369.50	24.9	109.6	262.47	9,210	40,495	13,386	4,697	2,065
RA		9	1	87	66	10.060	4.44	10.06	7.1	30.0	1.96	71	302	100	36	15
RA		11	1	87	77	6.734	4.44	6.73	15.1	60.0	2.80	102	404	143	52	21
RA		12	1	88	92	5.659	4.44	11.32	12.7	50.0	3.97	144	566	202	74	29
RA		14	1	88	87	4.158	4.44	8.32	16.2	70.0	3.70	134	582	189	69	30
RA		15	2	88	94	7.243	8.89	14.49	21.1	90.0	8.41	306	1,304	429	156	66
RA		17	1	88	98	2.820	4.44	5.64	26.9	110.0	4.17	152	620	213	77	32
RA		Totals	7	88	82	36.674	31.11	56.55	16.1	66.8	25.01	910	3,778	1,276	464	193
Totals			65	88	88	245.773	288.89	426.05	23.8	103.9	287.49	10119	44,273	14,662	5,161	2,258

TC TSTNDSUM

Stand Table Summary

Project **TNLVSN2**

TT3N RR7W S23 TA2

TT3N RR7W S23 TA2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
T3N	R7W	23	001	A2	46.00	13	78

Page: 1
Date: 08/22/201
Time: 2:29:47PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF		8	1	87	63	11.900	4.15	11.90	4.6	20.0	1.57	55	238	72	25	11
DF		9	1	88	68	9.402	4.15	9.40	8.2	40.0	2.19	77	376	101	35	17
DF		11	3	88	87	18.882	12.46	25.18	11.8	50.0	8.47	297	1,259	389	137	58
DF		12	3	88	94	15.867	12.46	31.73	11.1	45.0	10.06	353	1,428	463	162	66
DF		13	1	88	92	4.506	4.15	9.01	13.5	55.0	3.47	122	496	160	56	23
DF		14	5	88	89	19.428	20.77	38.86	14.3	56.0	15.82	555	2,176	728	255	100
DF		15	3	85	91	10.155	12.46	16.92	18.8	76.0	9.07	318	1,286	417	146	59
DF		16	3	88	92	8.925	12.46	17.85	22.5	95.0	11.47	402	1,696	528	185	78
DF		17	3	88	107	7.906	12.46	15.81	28.4	118.3	12.78	448	1,871	588	206	86
DF		18	8	88	98	18.805	33.23	39.96	28.2	111.8	32.06	1,125	4,466	1,475	518	205
DF		19	6	88	103	12.658	24.92	29.54	28.2	117.1	23.73	833	3,460	1,092	383	159
DF		20	3	89	108	5.712	12.46	15.23	30.6	136.2	13.28	466	2,075	611	214	95
DF		21	2	89	107	3.454	8.31	8.63	36.0	154.0	8.87	311	1,330	408	143	61
DF		22	6	89	115	9.441	24.92	23.60	39.6	183.3	26.64	935	4,327	1,225	430	199
DF		23	2	88	107	2.879	8.31	7.20	42.6	184.0	8.74	307	1,325	402	141	61
DF		24	1	89	108	1.322	4.15	2.64	36.7	135.0	2.77	97	357	127	45	16
DF		25	2	88	109	2.437	8.31	7.31	45.7	206.7	9.51	334	1,511	438	154	70
DF		26	2	89	121	2.253	8.31	6.76	52.0	248.3	10.01	351	1,679	460	162	77
DF		27	5	89	127	5.224	20.77	15.67	59.9	286.7	26.76	939	4,492	1,231	432	207
DF		28	5	89	123	4.857	20.77	13.60	63.9	300.0	24.75	869	4,080	1,139	400	188
DF		29	1	91	152	.906	4.15	3.62	62.5	345.0	6.45	226	1,250	297	104	57
DF		30	3	89	105	2.539	12.46	6.77	70.7	325.0	13.64	479	2,200	628	220	101
DF		32	1	88	96	.744	4.15	2.23	68.4	320.0	4.35	153	714	200	70	33
DF		Totals	70	88	95	180.202	290.77	359.44	28.0	122.7	286.48	10,052	44,091	13,178	4,624	2,028
WH		12	1	92	98	5.289	4.15	10.58	13.4	60.0	4.52	141	635	208	65	29
WH		14	1	93	116	3.886	4.15	7.77	22.1	105.0	5.49	172	816	253	79	38
WH		21	1	89	94	1.727	4.15	3.45	43.3	170.0	4.78	149	587	220	69	27
WH		23	1	89	81	1.440	4.15	2.88	38.9	130.0	3.58	112	374	165	51	17
WH		24	1	92	105	1.322	4.15	3.97	44.0	206.7	5.58	174	820	257	80	38
WH		25	1	92	90	1.219	4.15	2.44	53.1	255.0	4.14	129	621	190	60	29
WH		26	1	89	103	1.127	4.15	2.25	47.0	200.0	3.39	106	451	156	49	21
WH		28	1	86	89	.971	4.15	1.94	77.7	295.0	4.83	151	573	222	69	26
WH		Totals	8	91	100	16.980	33.23	35.28	32.2	138.2	36.32	1,135	4,877	1,671	522	224
Totals			78	88	96	197.182	324.00	394.72	28.3	124.1	322.80	11187	48,968	14,849	5,146	2,253

TC TSTNDSUM

Stand Table Summary

Project **TNLVSN2**

TT3N RR7W S23 TA3

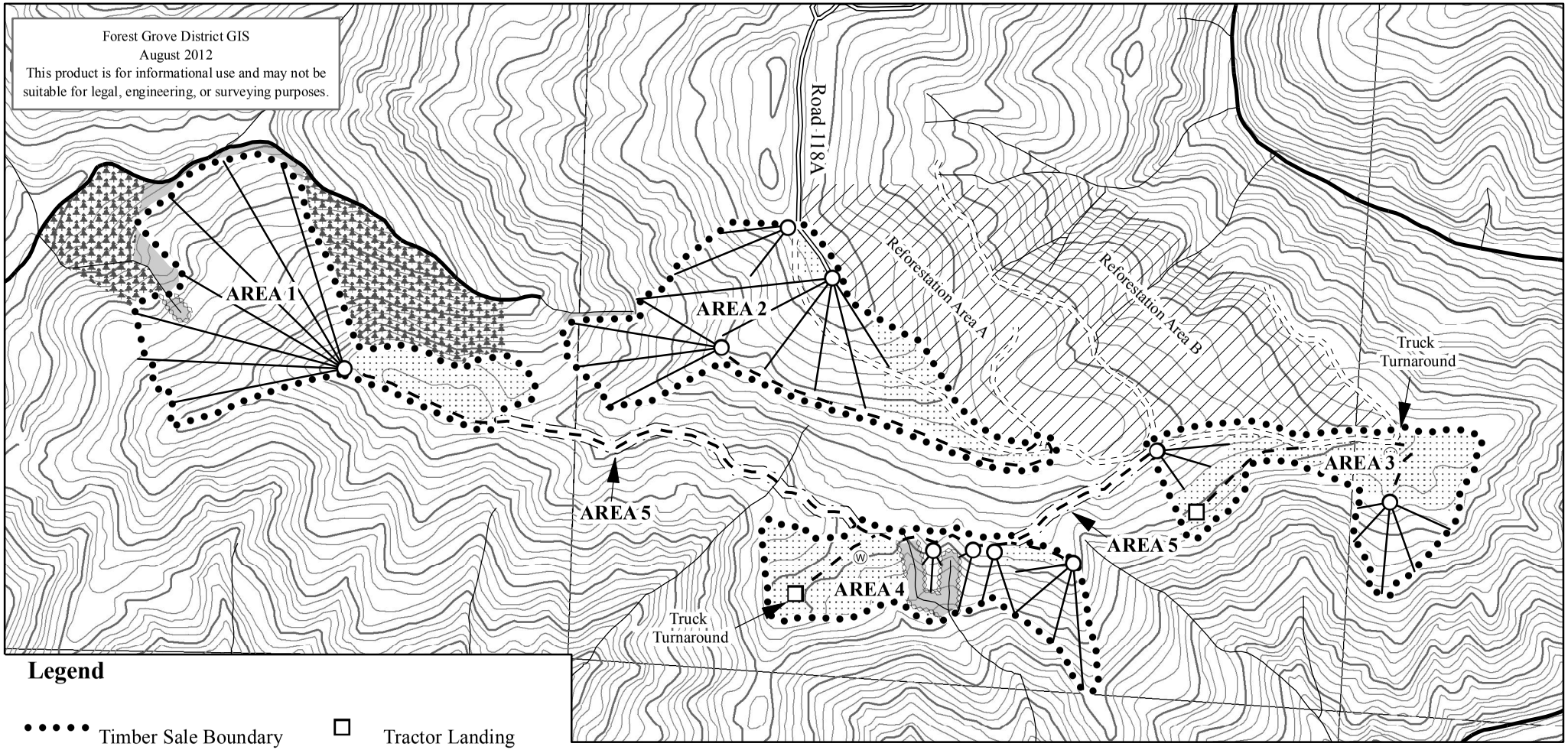
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
T3N	R7W	23	001	A3	51.00	22	154

TT3N RR7W S23 TA3

Date: 08/22/201

Time: 2:32:17PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF		8	1	87	63	6.580	2.30	6.58	4.6	20.0	.87	31	132	44	16	7
DF		9	8	87	68	31.461	13.96	31.46	7.4	34.9	6.59	231	1,099	336	118	56
DF		10	5	87	83	14.538	7.93	14.54	12.8	60.0	5.29	186	872	270	95	44
DF		11	7	87	81	18.845	12.44	23.91	12.2	51.5	8.30	291	1,232	423	149	63
DF		12	6	88	92	13.327	10.52	24.71	11.5	48.8	8.12	285	1,206	414	145	61
DF		13	22	88	98	40.288	37.18	80.58	14.3	58.2	32.85	1,153	4,693	1,675	588	239
DF		14	13	88	103	19.665	21.02	39.33	18.0	77.4	20.20	709	3,044	1,030	362	155
DF		15	23	88	105	30.832	37.75	61.66	21.9	97.0	38.52	1,352	5,981	1,965	689	305
DF		16	15	88	101	18.236	25.53	38.66	22.8	98.9	25.11	881	3,825	1,281	449	195
DF		17	7	88	100	7.965	12.63	17.08	25.2	105.3	12.26	430	1,799	625	219	92
DF		18	9	88	103	8.439	14.91	17.91	29.7	117.0	15.15	532	2,095	773	271	107
DF		19	6	88	86	5.254	10.33	9.58	33.8	119.8	9.23	324	1,148	471	165	59
DF		20	4	88	109	2.992	6.40	7.52	33.5	136.8	7.17	252	1,028	366	128	52
DF		21	4	88	98	2.788	6.69	6.33	37.4	143.8	6.74	237	911	344	121	46
DF		22	6	89	112	4.023	10.62	10.80	37.4	165.4	11.51	404	1,787	587	206	91
DF		23	2	89	121	1.260	3.64	3.78	41.8	190.0	4.51	158	718	230	81	37
DF		24	7	88	110	4.344	13.58	12.55	43.4	191.2	15.53	545	2,399	792	278	122
DF		25	1	88	109	.674	2.30	2.02	45.7	206.7	2.63	92	418	134	47	21
DF		26	1	87	110	.623	2.30	1.87	48.2	210.0	2.57	90	392	131	46	20
DF		28	4	87	142	1.969	8.42	6.44	60.7	313.9	11.14	391	2,023	568	199	103
DF		29	1	87	128	.501	2.30	1.50	69.0	323.3	2.95	104	486	151	53	25
DF		30	1	88	105	.311	1.53	.93	46.4	226.7	1.23	43	212	63	22	11
DF		33	1	88	119	.387	2.30	1.16	87.3	420.0	2.89	101	487	147	52	25
DF		Totals	154	88	93	235.300	266.56	420.91	21.0	90.2	251.37	8,820	37,984	12,820	4,498	1,937
Totals			154	88	93	235.300	266.56	420.91	21.0	90.2	251.37	8820	37,984	12,820	4,498	1,937



Legend

- Timber Sale Boundary
- Surfaced Road
- Unsurfaced Road
- New Construction Road
- Right-of-Way Boundary
- Type F Stream
- Type N Stream
- Stream Buffer Boundary
- Stream Buffer
- Tractor Landing
- Cable Landing
- Tractor Yarding Area
- Cable Yarding Area
- Green Tree Retention
- Reforestation Area
- 40 Foot Contour
- Waste Areas

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-34
TUNNEL VISION
PORTIONS OF SECTIONS 21, 22, 23, T3N,
R7W, W.M, TILLAMOOK COUNTY, OREGON

1:12,000

1 inch = 1,000 feet

0 500 1,000 Feet

N

	APPROXIMATE NET ACRES TRACTOR	CABLE
AREA 1	10	41
AREA 2	7	39
AREA 3	16	9
AREA 4	13	13
AREA 5	4	0
TOTAL	50	102