



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Lion's Lair
Sale 341-11-05

District: Astoria

Date: April 12, 2011

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,421,436.98	\$137,834.85	\$2,559,271.83
		Project Work:	\$(100,338.00)
		Advertised Value:	\$2,458,933.83



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timber description

Location: Portions of Sections 12, 13, and 14,
T6N, R7W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	97
Western Hemlock / Fir	19	0	97
Sitka Spruce	20	0	97
Alder (Red)	15	0	95
Maple	22	0	95

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	5,113	874	49	0	6,036
Western Hemlock / Fir	283	158	13	0	454
Sitka Spruce	13	3	0	0	16
Alder (Red)	0	0	0	420	420
Maple	0	0	0	15	15
Total	5,409	1,035	62	435	6,941



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comments: Pond Values Used: 1st Quarter Calendar Year 2011.

Expected Log Markets: Mist, OR; Clatskanie, OR; Tillamook, OR;
Forest Grove, OR.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$757.78/\text{MBF} = \$950.00/\text{MBF} - \$192.22/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$700 daily truck cost.

Other Costs (with Profit & Risk to be added):

100% Branding and Painting: $\$1/\text{MBF} \times 6,941 \text{ MBF} = \$6,941$

Log Loader Slash & Landing Piling (includes Move-In and Pile
Materials): = \$12,200 (see attached appraisal)

Machine washing for noxious weed compliance = \$4,000

TOTAL Other Costs (with Profit & Risk to be added) = \$23,141

Other Costs (No Profit & Risk added): None



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logging conditions

combination#: 1

Douglas - Fir	47.00%
Western Hemlock / Fir	47.00%
Sitka Spruce	47.00%
Alder (Red)	47.00%
Maple	47.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Large Tower >=70 **Process:** Manual Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,300
cost / mbf: \$107.37

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

combination#: 2

Douglas - Fir	53.00%
Western Hemlock / Fir	53.00%
Sitka Spruce	53.00%
Alder (Red)	53.00%
Maple	53.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 11.0 **bd. ft / load:** 4,300
cost / mbf: \$52.95

machines: Shovel Logger



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logging costs

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$100,338.00	Other Costs (P/R):	\$23,141.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

Miles of Road

Road Maintenance: \$3.48

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.3
Western Hemlock / Fir	\$0.00	2.0	4.0
Sitka Spruce	\$0.00	2.0	4.5
Alder (Red)	\$0.00	2.0	3.0
Maple	\$0.00	2.0	3.0



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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$78.53	\$3.58	\$1.26	\$49.90	\$3.33	\$16.39	\$0.00	\$5.00	\$0.00	\$157.99
Western Hemlock / Fir									
\$78.53	\$3.58	\$1.26	\$80.46	\$3.33	\$20.06	\$0.00	\$5.00	\$0.00	\$192.22
Sitka Spruce									
\$78.53	\$3.58	\$1.26	\$71.52	\$3.33	\$18.99	\$0.00	\$5.00	\$0.00	\$182.21
Alder (Red)									
\$78.53	\$3.65	\$1.26	\$109.38	\$3.33	\$23.54	\$0.00	\$5.00	\$0.00	\$224.69
Maple									
\$78.53	\$3.65	\$1.26	\$109.38	\$3.33	\$23.54	\$0.00	\$5.00	\$0.00	\$224.69

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$539.44	\$381.45	\$0.00
Western Hemlock / Fir	\$0.00	\$445.15	\$252.93	\$0.00
Sitka Spruce	\$0.00	\$443.12	\$260.91	\$0.00
Alder (Red)	\$0.00	\$545.00	\$320.31	\$0.00
Maple	\$0.00	\$445.00	\$220.31	\$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
Maple	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	6,036	\$381.45	\$2,302,432.20
Western Hemlock / Fir	454	\$252.93	\$114,830.22
Sitka Spruce	16	\$260.91	\$4,174.56
Alder (Red)	420	\$320.31	\$134,530.20
Maple	15	\$220.31	\$3,304.65

Gross Timber Sale Value

Recovery: \$2,559,271.83

Prepared by: Derek Bangs

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-11-05
Sale Name: Lions Lair
Date: 11/22/2010

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.5
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	3.0

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	A	39	39	\$110.00	\$4,290.00
2	MC	A	27	27	\$110.00	\$2,970.00
3	MC	A	3	3	\$110.00	\$330.00

Sub Total = \$7,590.00

Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area
1	1	\$263.00	\$263.00	117	\$5.00	\$585.00
2	7	\$263.00	\$1,841.00	81	\$5.00	\$405.00
3	2	\$263.00	\$526.00	9	\$5.00	\$45.00

*Cost includes separating firewood

Sub Total = \$3,665.00

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

Sub Total = \$945.00

Grand Total = \$12,200.00

Road Maintenance Cost Summary

Sale: Lion's lair
Date: 24-Feb-11
By: Derek Bangs *DL*

MBF: 6,941
\$/MBF: \$3.48

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Miles/day	Distance(miles)	Days	
Progressive Operations 1st Entry	Grader 14G	\$675	1	15	\$90	\$2,025	Grader	2.5	3.8	1.5
	Dump Truck 10CY x 2	\$282	2	8	\$73	\$1,450				
	FE Loader C966	\$575	1	8	\$74	\$1,267				
Final Road Maintenance	Grader 14G	\$675	1	68	\$90	\$6,795	Grader	1.5	6.8	4.5
	Dump Truck 10CY x 3	\$423	3	8	\$73	\$2,175				
	FE Loader C966	\$675	1	8	\$74	\$1,267				
	Vibratory Roller	\$675	1	68	\$72	\$5,571	Vibratory Roller*	1.5	6.8	4.5
	Water Truck 2,500 gallon Labor	\$165	1	40	\$78	\$3,285				
Total										\$24,131

*Final Road Maintenance Only

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Lion's Lair

NEW CONSTRUCTION:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Rocked Roads	1A-1B, 2A-2B, 2C-2D, 2F-2G, 2J-2K, 3A-3B, & 3C-3D	61.60	\$67,582
TOTALS	1.17 miles	61.60	\$67,582

ROAD IMPROVEMENT:

Project No. 1

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	11-12, 12-13, 14-15, & 16-17	202.20	\$21,134
TOTALS	3.83 miles	202.20	\$21,134

SPECIAL PROJECTS:

Project No. 2 Wild Goose Quarry Test Drilling	\$5,341
Project Work Road Maintenance	\$186

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
Dozer (D8)	\$1,220
Dump Trucks (12 cy x 4)	\$564
F E Loader (C966)	\$675
Grader (14G)	\$675
Rubber Tire Skidder (C518)	\$622
Vibratory Roller	\$675
Water Truck (2,500 gallon)	\$165
Backhoe (C 580)	\$279
Excavator (C330)	\$1,220
*Mobilization costs for test drilling included in Project 2 costs	
TOTAL	\$6,095

GRAND TOTAL **\$100,338**

Compiled By: D.Bangs FL

Date: 02/23/2011

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Lion's Lair NEW CONSTRUCTION: STATIONS 0.00 MILES
 ROAD: 11-12, 12-13, 14-15 and 16-17 IMPROVEMENT: 202.20 STATIONS 3.83 MILES
 POINTS:

CLEANING & GRUBBING		Method	Qty/amount	X	Rate	=	Cost
(12 - 13)	C330 (hrs)	(sta 33+30 - 34+96)	1	X	\$144.00	=	\$144.00
(16-17)	C330 (hrs)	(Remove 2 stumps)	1	X	\$144.00	=	\$144.00
(16-17)	Cutter (hrs)	Fell tree	3	X	\$38.00	=	\$114.00
							\$0.00
SUB TOTAL FOR CLEANING & GRUBBING							\$402

EXCAVATION		Material	Cy/hours/amount	X	Rate	=	Cost
(12 - 13)		Reslope fill & cut slope (sta 33+30 - 34+96)		X		=	\$0.00
(12 - 13)		(C330)	2	X	\$144.00	=	\$288.00
(16-17)		Load & Haul Fill Slope Material to WA	13	X	\$1.77	=	\$23.01
(16-17)		C330 (hrs) Build ramp, remove slide	1	X	\$144.00	=	\$144.00
(16-17)		C330 (hrs) Place buttress material	1	X	\$144.00	=	\$144.00
(16-17)		Load & Haul Buttress material	48	X	\$2.09	=	\$100.32
(16-17)		Load & Haul Excavated Waste	84	X	\$1.77	=	\$148.68
(12 - 13), (16-17)		Compact Waste Material (WA)	61	X	\$0.30	=	\$18.30
SUB TOTAL FOR EXCAVATION							\$866

CULVERT MATERIALS AND INSTALLATION			
Location	Dia/type	Lineal ft.	Rate Cost
11 to 12	19+50 18"CPP	40	\$17.64 \$705.60
12 to 13	9+80 18"CPP	40	\$17.64 \$705.60
12 to 13	16+60 18"CPP	50	\$17.64 \$882.00
14 to 15	18+00 18"CPP	40	\$17.64 \$705.60
SPECIAL PROJECTS			
Description	Quantity	Rate	Cost
Replace Missing Culvert Markers	3	\$18.00	\$54.00
Add markers to new culverts	4	\$18.00	\$72.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION			\$3,125
Subtotal of Cleaning, Exc., Culv.			\$4,393

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Lion's Lair (Designed Roads)
 ROADS: 1A-1B (19+00), 2A-2B (34+20), 2F-2G (3+30)

NEW CONSTRUCTION: 56.50 STATIONS 1.07 MILES
 IMPROVEMENT: STATIONS 0.00 MILES

CLEANING & GRUBBING		Acres/amount	Rate	Cost
Method				
Scatter Outside of R/W	x	3.9	\$1,161.00	\$4,517.67
SUB TOTAL FOR CLEANING & GRUBBING				\$4,518

EXCAVATION		Cy/amount/station	Rate	Cost
Material				
Common drift excavation \$\$/cy	x	7,527	\$1.60	\$12,043.20
Embankment compaction \$\$/cy	x	8,951	\$0.60	\$5,370.60
Cut Slope Rounding \$\$/Sta	x	5.1	\$37.00	\$188.70
End Haul Excavation 1A-1B and 2A-2B	x	4,300	\$3.50	\$15,050.00
Landing Construction 1B, 2B, 2E, 2H, 2I	x	5	\$338.00	\$1,690.00
Compact Waste Area	x	1,800	\$0.30	\$540.00
SUB TOTAL FOR EXCAVATION				\$34,883

CULVERT MATERIALS AND INSTALLATION		Lineal ft.	Rate	Cost
Location	Dia/type			
1A to 1B	2+40 18"CPP	40	\$17.64	\$705.60
2A to 2B	2+00 18"CPP	30	\$17.64	\$529.20
2A to 2B	17+80 18"CPP	60	\$17.64	\$1,058.40
2A to 2B	24+30 18"CPP	50	\$17.64	\$882.00
Subtotal Culverts & Installation:				\$3,175.20

Other/miscellaneous:		Description	Quantity	Rate	Cost
		Labor 6 hrs. @\$38.00 hr. for waste area	6	\$38.00	\$228.00
		Grass seed mix - 25lbs X \$1.40/lb	25	\$1.40	\$35.00
		Straw bales @\$10.00 ea. X 20 bales for waste area (Includes Road Improvement Waste)	20	\$10.00	\$200.00
		Culvert stakes & markers: Installed 6' Fiberglass Markers @\$18.00 each	5	\$18.00	\$90.00
SUB TOTAL FOR WASTE AREA TREATMENT, CULVERT MATERIALS & INSTALLATION					\$553
Grand Total:					\$43,128

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Lion's Lair (Non-Designed Roads) NEW CONSTRUCTION: 5.60 STATIONS 0.11 MILES
 ROADS: 2C-2D (0+50), 2J-2K (1+50), 3A-3B (1+90), 3C-3D (1+70) IMPROVEMENT: STATIONS 0.00 MILES

CLEARING & GRUBBING	Method	Acres/amount	Rate	=	Cost
Scatter Outside of R/W		0.4	\$1,161.00	=	\$447.77
SUB TOTAL FOR CLEARING & GRUBBING					\$448

EXCAVATION	Material	Sta/amount	Rate	=	Cost
Common (Drift Earth up to 200')	2J-2K & 3C-3D \$\$\$/sta.	1.70	\$165.00	=	\$280.50
Landing Construction \$\$\$/landing (2D, 2J, 3B, 3D)		4	\$338.00	=	\$1,352.00
Balanced construction	2C-2D, 2J-2K, & 3A-3B \$\$\$/Sta	3.9	\$106.00	=	\$413.40
SUB TOTAL FOR EXCAVATION					\$2,046

CULVERT MATERIALS AND INSTALLATION							
Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
3A to 3B	0+00	18"CPP	\$17.64	\$529.20			
3C to 3D	0+00	18"CPP	\$17.64	\$529.20			
SUB TOTAL FOR CULVERTS & INSTALLATION					\$1,058.40		

Other/miscellaneous:	Description	Quantity	Rate	Cost	
Culvert stakes & markers:	Installed 6' Fiberglass Markers @\$18.00 each	2	\$18.00	\$36.00	
SUB TOTAL FOR OTHER					\$36

Grand Total: \$3,588

Project No. 1 New Road Construction

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Lion's Lair
 ROAD: 2525(11-250), 2A-2B (83-70), 2C-2D (0-50), 2E-2S (8-30),
 2525(11-250), 2A-2B (11-80), 2C-2D (11-70)

NEW CONSTRUCTION: 61.60 STATIONS
 IMPROVEMENT: 0.00 STATIONS

1.17 MILES
 0.00 MILES

SURFACING		Description	Stations amount	Rate/ Sta./ amt.	Cost
Subgrade prep:					
Grade, Shape and Ditch			61.60	X	\$1,327.48
Subgrade Compaction			61.60	X	\$1,079.23
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 19+00	19.00 stations	\$3.02	\$7,869
Turnouts	4"-0" Crushed Rock	8+30, 9+00, 11+50, 13+45	4 TO 48	\$3.02	\$2,888
Turnarounds	4"-0" Crushed Rock	TA	2 1A's	\$3.02	\$145
Traction Rock	3/4"-0" Crushed Rock	18+00 to 19+00	2 stations	\$3.02	\$157
Landing	6"-0" Pile-up	18	1 landing	\$5.47	\$274
Total Rock for Road Segment: 1,188					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	1+50 to 33+70	10 stations	\$3.02	\$4,862
Base Rock	1 1/2"-0" Crushed	2+30 to 8+50, 28+00	6 stations	\$3.02	\$2,277
Traction Rock	3/4"-0" Crushed Rock	19+20 to 19+90	13 stations	\$3.02	\$514
Turnouts	4"-0" Crushed Rock	28+80	2 TO 22	\$3.02	\$66
Curve Widening	4"-0" Crushed Rock	1+33 to 2+32	1 Curve	\$3.02	\$133
Landing	6"-0" Pile-up	2B, 2E, 2H, 2I	4 landings	\$5.47	\$1,094
Total Rock for Road Segment: 2,121					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 0+50	8 stations	\$3.02	\$76
Landing	6"-0" Pile-up	2D	1 landing	\$5.47	\$274
Total Rock for Road Segment: 76					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 1+50	3 stations	\$3.02	\$489
Landing	6"-0" Pile-up	2F	1 landing	\$5.47	\$274
Total Rock for Road Segment: 215					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 1+50	1.5 stations	\$3.02	\$227
Landing	6"-0" Pile-up	2K	1 landing	\$5.47	\$274
Total Rock for Road Segment: 157					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 1+50	22 stations	\$3.02	\$666
Junction	1 1/2"-0" Crushed	P, A, A	1 junction	\$5.47	\$274
Landing	6"-0" Pile-up	3B	1 landing	\$5.47	\$274
Total Rock for Road Segment: 657					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Base Rock	4"-0" Crushed Rock	0+00 to 1+70	8 stations	\$3.02	\$257
Junction	1 1/2"-0" Crushed	P, A, C	1 junction	\$5.47	\$274
Landing	6"-0" Pile-up	3D	1 landing	\$5.47	\$274
Total Rock for Road Segment: 157					
ROAD SEGMENT 0A TO 0B					
Application	Rock Size and Type	Location	Volume (CY)	Rate/ Sta./ amt.	Cost
Water, Process & Compact Crushed Rock			17.1	\$49.02	\$839
Water, Process & Compact Traction Rock			17.1	\$49.02	\$839
Total Rock for Road Segment: 33.2					
SUB TOTAL FOR SURFACING					
					\$18,715
SPECIAL PROJECTS					
Develop Pile-up Rock					\$1,150
SUB TOTAL FOR SPECIAL PROJECTS					\$1,150
GRAND TOTAL					\$20,865

Project No. 1 Road Improvement

SUMMARY OF CONSTRUCTION COSTS

SALE NAME:
ROAD:

Lion's Lair
11-12 (30+60), 12-13 (151+50), 14-15 (19+10), 16 (1+00)

NEW CONSTRUCTION:
IMPROVEMENT:

0.00 STATIONS
202.20 STATIONS

0.00 MILES
3.83 MILES

SURFACING		Description		Stations/ amount	Rate/ sta/amt	Cost
Subgrade prep:		Grade, Shape and Ditch		202.20	x	\$21.55
		Subgrade Compaction 12-13 (33+30 - 34+96), 16 (0+00-1+00)		2.66	x	\$17.52
		Scatter ditch waste materials		40.30	x	\$10.78
		Enchaut ditch waste materials		17.60	x	\$19.69
						\$350.06
ROAD SEGMENT 11 to 12						
Application	Rock Size and Type	Location	POINT TO POINT 11 to 12 Volume (CY) per	Sta. to Sta. 0+00 to 30+60 Number of	Rate/ Sta./ amt	Cost
Subgrade Leveling	1 1/2"-0" Crushed	11 to 12	N/A	N/A	\$3.02	\$453
Dissipator	24"-6" Rip Rap	19+50	Dissipator	1	\$2.47	\$25
Culvert Bedding/Backfill	3/4"-0" Crushed Rock	19+50	Culvert	1	\$3.02	\$66
Total Rock for Road Segment:				182		\$544
ROAD SEGMENT 12 to 13						
Application	Rock Size and Type	Location	POINT TO POINT 12 to 13 Volume (CY) per	Sta. to Sta. 0+00 to 151+50 Number of	Rate/ Sta./ amt	Cost
Surfacing Rock	3/4"-0" Crushed Rock	33+30 to 34+96	station	1.00	\$3.02	\$66
Dissipator	24"-6" Rip Rap	16+60	Dissipator	1	\$2.47	\$25
Subgrade Leveling	1 1/2"-0" Crushed	16+60	N/A	N/A	\$3.02	\$453
Culvert Bedding/Backfill	3/4"-0" Crushed Rock	9+80 and 16+60	Culvert	2	\$3.02	\$133
Total Rock for Road Segment:				226		\$677
ROAD SEGMENT 14 to 15						
Application	Rock Size and Type	Location	POINT TO POINT 14 to 15 Volume (CY) per	Sta. to Sta. 0+00 to 19+10 Number of	Rate/ Sta./ amt	Cost
Subgrade Leveling	1 1/2"-0" Crushed	14 to 15	N/A	N/A	\$3.02	\$151
Culvert Bedding/Backfill	3/4"-0" Crushed Rock	18+00	Culvert	1	\$3.02	\$66
Total Rock for Road Segment:				72		\$217
ROAD SEGMENT 16 to 17						
Application	Rock Size and Type	Location	POINT TO POINT 16 to 17 Volume (CY) per	Sta. to Sta. 0+00 to 1+00 Number of	Rate/ Sta./ amt	Cost
Surfacing Rock	3/4"-0" Crushed Rock	16	station	1.00	\$3.02	\$66
Buttress	34"-6" Rip Rap	16	N/A	N/A	\$2.47	\$136
Total Rock for Road Segment:				77		\$202
Processing: Description		Water, Process & Compact Crushed Rock		No. sta 202.20	Rate/sta \$49.02	Cost \$9,912
SUB TOTAL FOR SURFACING						\$16,741.25

CRUSHED ROCK COST

SALE NAME: Lion's Lair
 PROJECT: Projects Nos.1 & 2
 QUARRY: Trailover Stockpiles

MATERIAL: 3/4"-0", 4"-0" &
 1 1/2"-0" Crushed

DATE: 02/24/2011
 BY: D. Bangs

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
1A to 1B	19.00	1,138					0.03	0.10	0.03	0.16
2A to 2B	33.70	1,921			0.50	0.50	0.30	0.30	0.09	1.69
2C to 2D	0.50	25			0.50	0.50	0.30	0.34	0.05	1.69
2F to 2G	3.30	165			0.50	0.50	0.40	0.41	0.05	1.86
2J to 2K	1.50	75			0.50	0.50	0.68	0.41	0.05	2.14
3A to 3B	1.90	117			0.50	1.50	0.25	0.17		2.42
3C to 3D	1.70	107			0.50	1.50	0.25	0.35		2.60
11 to 12	30.60	172					0.50	0.60	0.10	1.20
12 to 13	151.50	216			0.50	0.70	0.40	0.20	0.06	1.86
14 to 15	19.10	72						0.15	0.04	0.19
16 to 17	1.00	22							0.01	0.01
TOTAL	263.80	4,030								
CUBIC YARD WEIGHTED HAUL					0.33	0.39	0.24	0.25	0.06	
										AVERAGE HAUL
										1.27
										2.54

Average Round Trip Distance (miles) 2.54

ROCK HAUL:

Truck type: D20 No. trucks:
 Delay min.: 8 Efficiency: 85%

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Ave haul: \$1.84 /cy
 Load: \$0.45 /cy
 Spread: \$0.73 /cy

Production: cy/day = 1,267

CRUSHED ROCK HAUL COSTS 4,030 cy @ \$3.02 /cy

RIP RAP ROCK COST

SALE NAME: Lion's Lair
 PROJECT: Projects Nos.1 & 2
 QUARRY: Trailover Stockpiles

MATERIAL: Rip Rap

DATE: 02/24/2011
 BY: D. Bangs

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
I1 to I2	30.60	10					0.50	0.30	0.10	0.90
I2 to I3	151.50	10						0.25	0.25	0.50
I6 to I7 (Stockpile)	1.00	33					0.41	0.05	0.05	0.51
I6 to I7 (Quarry)	1.00	22							0.01	0.01
TOTAL	184.10	75								
STA./NO.		CU. YD.								
							0.25	0.10	0.07	AVERAGE HAUL
CUBIC YARD WEIGHTED HAUL										0.41
										Average Round Trip Distance (miles)
										0.83

ROCK HAUL:

Truck type: D12 No. trucks: 1
 Delay min.: 6 Efficiency: 85%

Ave haul: \$1.19 /cy
 Load: \$1.29 /cy

Truck type: D10 No. trucks: _____
 Delay min.: 5 Efficiency: 85%

Develop: _____ /cy

Production: cy/day = 492

RIP RAP ROCK HAUL COSTS

75 cy @ **\$2.47 /cy**

State Timber Sale Contract
 No. 341-11-05
 Lion's Lair

WILD GOOSE QUARRY TEST DRILLING

TEST DRILL SITE	Activity	# of Holes	Footage	Drill Hours	Rate	Feet of Trail	Equip Hours	Rate	Dollars
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Wild Goose Quarry

C315 Excavator	Impr Acc trail					600	2	\$94	\$188.00
C315 Excavator	Build trail					500	4	\$94	\$376.00
Hydraulic Drill	Drilling	20	800	10	\$267				\$2,670.00
C315 Excavator	Water barring						2	\$94	\$188.00
Mobilization									
Excavator									\$699.00
Hydraulic Drill									\$1,220.00
Sub-Total				10			8		\$5,341.00

Total Drilling Cost

\$5,341.00

By: d.mellison

Date: 11/23/10

Road Maintenance after completion of Projects

Sale: Lions Lair
Date: 29-Nov-10
By: D.Bangs

Type	Equipment/Rationale	Hours	Rate	Cost
Final Project	Grader 14G *Majority of haul route is using improvement roads	2	\$93	\$186
Total				\$186

**Lion's Lair
TIMBER CRUISE REPORT
FY 2011**

1. **Sale Area Location:** Areas 1, 2, 3, and 4 are located in portions of Sections 12, 13, and 14, T6N, R7W, W.M., Clatsop County, Oregon.
2. **Fund Distribution:** BOF 100%
Tax Code 8-01 (100%)
3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	GTRA	Existing R/W	New R/W	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	49.0	3.0	4.5	2.0	0.5	39.0	GIS
2	Modified Clearcut	65.0	0.0	1.0	2.0	0.0	62.0	GIS
3	Modified Clearcut	42.0	0.0	2.5	0.0	2.5	37.0	GIS
4	Right-of-Way	4.0	0.0	0.0	0.0	0.0	4.0	GIS
TOTALS		160.0	3.0	8.0	4.0	3.0	142.0	

4. Cruisers and Cruise Dates: All areas were cruised by Ed Holloran, Kevin Berry, Derek Bangs, Jasen McCoy, and Ty Williams, February 10, 2011.

5. Cruise Method and Computation: Areas 1, 2, and 3 are modified clearcut units and were variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 9 chain grid, with every third plot measured and graded. A total of 55 plots were sampled, with 20 measured and graded plots, and 35 count plots. No cedar was cruised in Areas 1, 2, and 3, but will be a reserved species in these three areas.

Area 4 R/W Right-of-way volume was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Areas 1, 2, and 3. In-sale right-of-way totals 4 acres

All cruisers used Corvallis MicroTechnology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2 and 3	T6NR7W12	AREA123	TAKE	138
4	T6NR7W12	AREA123	R/W	4

6. Timber Description: Areas 1, 2, and 3 are modified clearcut units, approximately 70 to 85 year-old, consisting of Douglas-fir, western hemlock, Sitka Spruce, red alder, and cedar. The average Douglas-fir tree size to be harvested is approximately 23 inches DBH, with an average height of 83 feet to a merchantable top (6 inch d.i.b./40% fp). The average hemlock tree size is approximately 19 inches DBH and 78 feet to a merchantable top (6 inch d.i.b./40%fp). The average alder tree size is approximately 15 inches DBH and 48 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 48.8 MBF.

Area 4 R/W is similar to the timber description mentioned above for Areas 1, 2, and 3. The average volume (net) is 49.7 MBF/acre.

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

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, & 3 (MC)	55%	10%	39.5%	5.3%

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

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	CampRun	% D & B	% Sale
Douglas-fir	23"	6,036	5,113	874	49		2%	87%
Hemlock/True-fir	19"	454	283	158	13		3%	7%
Alder	15"	420				420	1%	6%
Sitka Spruce	20"	16	13	3			6%	<1%
Maple/other hardwoods	22"	15				15	<1%	<1%
TOTALS		6,941	5,409	1,035	62	435		

9. Approvals:

Prepared by: Derek Bangs Date: February 14, 2011

Unit Forester Approval:  Date: 2/14/11

- 10. Attachments:**
- Cruise Designs and Maps - 3 pages
 - Volume Report - 3 pages
 - Statistics Report - 2 pages
 - Log Stock Tables - 2 pages
 - Stand Table Summary -- 2 pages

X:\Jewell_Unit\Timber Sales\2011\Lions_Lair\Sale Prep\CruiseReport.docx

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Lions Lair **Area(s)** 1, 2, and 3

Harvest Type: (MC) "Modified Clearcut"

Approx. Cruise Acres: 142 **Estimated CV%** 55% Net BF **SE% Objective** 10 Net BF

Planned Sale Volume : 5,680 MBF **Estimated Sale Area Value/Acre:** \$13,500/Ac
(All Sale Areas) (45 MBF/Ac)

A. Cruise Goals: (a) Grade minimum 80 conifer and 20 Alder:
(b) Sample 55 cruise plots (18 grade/37 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

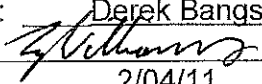
- 1. Plot Cruises:** BAF 40 (Full point; Half point) (circle one)
Cruise Line Direction(s) AZ= 90° (West/East)
Cruise Line Spacing 9 (chains)
Cruise Plot Spacing 3 (chains)
Grade/Count Ratio 1/2

If a cruise line ends up paralleling in a buffer offset by 1 chain and continue. Cedar and marked wildlife trees are leave trees and are recorded as such. Record snags as SN and estimate heights and diameters. Grade alder as camprun-sawlogs (30 net BF minimum).

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest $\frac{1}{2}$ " for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.
- 6. Species, Sort, and Grade Codes:**
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- 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 = Camprun; 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 inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Derek Bangs
 Approved by: 
 Date: 2/04/11



Cruise Map

OF TIMBER SALE CONTRACT NO. 341-11-05
LIONS LAIR
PORTIONS OF SECTIONS 12, 13, and 14,
T6N, R7W, W.M., CLATSOP COUNTY, OREGON

Legend

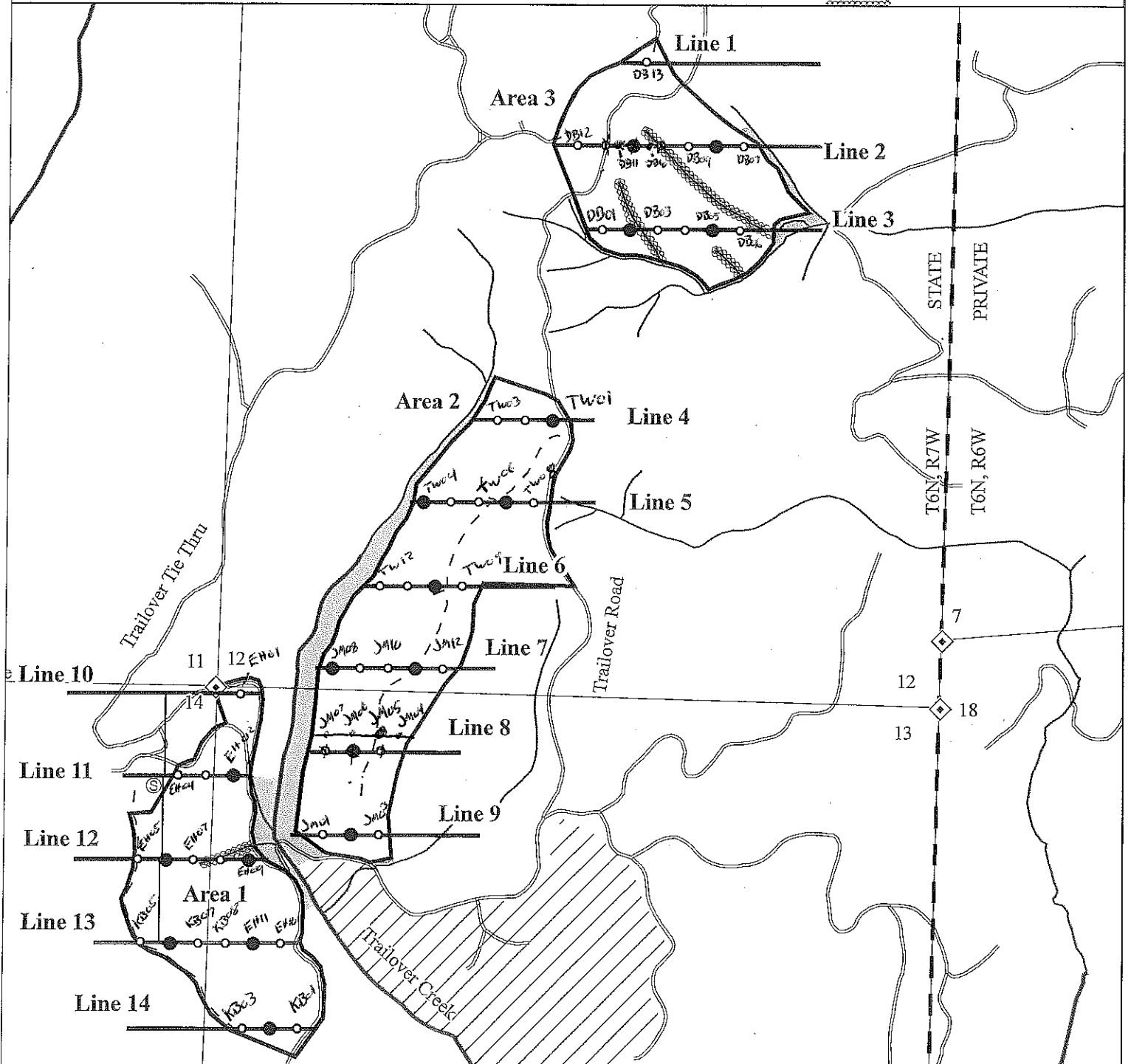
- Grade Plots
- Count Plots
- cruise_lines
- ◇ Survey_corner
- ~ Type N Stream
- ~ Type F Stream
- Ownership Boundary
- - - New Road Construction
- /// Reforestation Area
- Existing Surfaced Road
- ▭ Timber Sale Boundary
- ▨ Buffer Zone
- ▤ Posted Stream Buffer

Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (MC) -	0	39
Area 2 (MC) -	0	62
Area 3 (MC) -	0	37
Area 4 (R/W) -	0	4
Total by prescription	0	142
Total Sale Acreage		142

Approximate Scale = 1":1,000'

500 250 0 500 1,000 Feet



Species, Sort Grade - Board Foot Volumes (Project)

T06N R07W S12 TyR/W 4.00
 T06N R07W S12 TyTAKE 138.00

Project: LION
 Acres 142.00

Page 1
 Date 2/14/2011
 Time 11:35:41AM

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
D	DOCU														8		0.00	8.5	
D	DO2S	84	1.3	36,480	36,006	5,113	3	34	63	1	2	22	75	37	411	2.37	87.5		
D	DO3S	15	1.7	6,260	6,157	874	86	14		4	14	40	43	32	81	0.79	75.6		
D	DO4S	1		347	347	49	100			90	10			17	25	0.46	14.1		
D	Totals	87	1.3	43,087	42,509	6,036	16	31	53	2	4	24	70	32	229	1.62	185.7		
A	DOCU														6		0.00	4.7	
A	DOCR	100	1.1	2,992	2,960	420	75	25		15	17	40	28	28	73	0.78	40.7		
A	Totals	6	1.1	2,992	2,960	420	75	25		15	17	40	28	26	65	0.76	45.4		
H	DO2S	62	2.3	2,038	1,990	283	0	70	30			30	70	37	282	1.83	7.0		
H	DO3S	35	3.7	1,157	1,114	158	0	100				33	67	37	97	0.77	11.4		
H	DO4S	3		92	92	13	100			73	27			18	23	0.49	4.0		
H	Totals	7	2.8	3,288	3,197	454	0	38	43	19	2	1	30	67	34	142	1.11	22.5	
M	DOCU														12		0.00	1.0	
M	DOCR	100		105	105	15	100					100		40	180	1.50	.6		
M	Totals	0		105	105	15	100					100		22	65	0.99	1.6		
S	DO2S	79	6.9	97	90	13		100				100		40	270	1.77	.3		
S	DO3S	21		23	23	3	100					100		40	70	0.72	.3		
S	Totals	0	5.6	120	113	16	21	79				100		40	170	1.25	.7		
Totals			1.4	49,591	48,884	6,941	0	21	31	48	3	4	25	67	31	191	1.44	255.9	

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)							Page 1													
		Project: LION							Date 2/14/2011													
									Time 11:46:17AM													
T06N R07W S12 TTAKE							T06N R07W S12 TTAKE															
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
06N	07W	12	AREA123	TAKE	138.00	55	106	1	W													
S Spp	So T	Gr ad	% 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 Ft	Bd Ft	CF/Lf				
D	DO	CU																				
D	DO	2S	84	1.3	36,459	35,984	4,966		3	34	63		1	2	22	75	37	411	2.37			87.6
D	DO	3S	15	1.7	6,261	6,157	850		87	13			4	14	40	43	32	81	0.79			75.6
D	DO	4S	1		347	347	48		100				90	10			17	25	0.46			14.1
D	Totals		87	1.3	43,066	42,488	5,863		16	31	53		2	4	24	70	32	229	1.62			185.8
A	DO	CU															6		0.00			4.7
A	DO	CR	100	1.1	2,992	2,960	409		75	25			15	17	40	28	28	73	0.78			40.7
A	Totals		6	1.1	2,992	2,960	409		75	25			15	17	40	28	26	65	0.76			45.4
H	DO	2S	62	2.4	2,034	1,986	274			70	30				30	70	37	283	1.83			7.0
H	DO	3S	35	3.7	1,158	1,115	154		100						33	67	37	98	0.77			11.4
H	DO	4S	3		93	93	13		100				73	27			18	23	0.49			4.0
H	Totals		7	2.8	3,285	3,194	441		38	44	19		2	1	30	67	34	142	1.11			22.5
M	DO	CU															12		0.00			1.0
M	DO	CR	100		105	105	14		100							100	40	180	1.50			.6
M	Totals		0		105	105	14		100							100	22	65	0.99			1.6
S	DO	2S	79	6.9	97	90	12			100						100	40	270	1.77			.3
S	DO	3S	21		23	23	3		100							100	40	70	0.72			.3
S	Totals		0	5.6	120	113	16		21	79						100	40	170	1.25			.7
Type Totals				1.4	49,568	48,860	6,743		21	31	48		3	4	25	67	31	191	1.44			255.9

T06N R07W S12 TR/W	T06N R07W S12 TR/W
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt	
06N 07W 12 AREA123 R/W 4.00 55 110 1 W	

Spp	S T	So rt	Gr ad	% 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 Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D		DO	CU														9		0.00	8.6	
D		DO	2S	85	1.2	37,208	36,745	147		3	33	65		1	2	22	75	37	421	2.41	87.2
D		DO	3S	14	1.6	6,251	6,150	25		86	14			4	13	39	44	32	83	0.80	74.5
D		DO	4S	1		338	338	1		100				90	10			17	25	0.46	13.7
D	Totals			87	1.3	43,798	43,233	173		15	30	55		2	4	24	70	32	235	1.65	184.0
A		DO	CU															6		0.00	4.7
A		DO	CR	100	1.1	2,992	2,960	12		75	25			15	17	40	28	28	73	0.78	40.7
A	Totals			6	1.1	2,992	2,960	12		75	25			15	17	40	28	26	65	0.76	45.4
H		DO	2S	64	2.1	2,154	2,110	8		12	62	26				26	74	38	265	1.70	8.0
H		DO	3S	33	3.6	1,139	1,098	4	5	95						32	68	37	91	0.73	12.1
H		DO	4S	3		87	87	0		100				73	27			18	23	0.49	3.7
H	Totals			7	2.5	3,380	3,294	13	2	42	39	17		2	1	27	70	34	138	1.07	23.8
M		DO	CU															12		0.00	1.0
M		DO	CR	100		105	105	0		100						100		40	180	1.50	.6
M	Totals			0		105	105	0		100						100		22	65	0.99	1.6
S		DO	2S	79	6.9	97	90	0			100					100		40	270	1.77	.3
S		DO	3S	21		23	23	0		100						100		40	70	0.72	.3
S	Totals			0	5.6	120	113	0		21	79					100		40	170	1.25	.7
Type Totals					1.4	50,394	49,706	199	0	21	30	49		3	4	25	68	31	195	1.46	255.5

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT LION				DATE	2/14/2011	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	07W	12	AREA123	TAKE	138.00	55	362	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		55	362	6.6						
CRUISE		20	106	5.3	15,382	.7				
DBH COUNT REFOREST COUNT		35	246	7.0						
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	85	74.5	22.7	83		210.2	43,066	42,488	9,654	9,654
R ALDER	8	25.7	14.9	48		31.3	2,992	2,960	895	895
WHEMLOCK	9	10.1	18.5	78		18.9	3,285	3,194	838	838
BL MAPLE	3	.9	21.6	46		2.2	105	105	35	35
S SPRUCE	1	.3	20.0	82		.7	120	113	33	33
TOTAL	106	111.5	20.8	74		263.3	49,568	48,860	11,456	11,456
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		64.5	7.0	821	883	944				
R ALDER		69.1	26.0	108	146	184				
WHEMLOCK		56.9	20.1	309	387	464				
BL MAPLE		86.6	59.9	48	120	192				
S SPRUCE										
TOTAL		75.8	7.4	703	758	814	229	57	25	
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		58.9	7.9	69	75	80				
R ALDER		166.9	22.5	20	26	31				
WHEMLOCK		191.3	25.8	7	10	13				
BL MAPLE		552.8	74.5	0	1	1				
S SPRUCE		741.6	99.9	0	0	1				
TOTAL		37.9	5.1	106	111	117	57	14	6	
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		50.8	6.8	196	210	225				
R ALDER		164.6	22.2	24	31	38				
WHEMLOCK		190.3	25.6	14	19	24				
BL MAPLE		548.7	73.9	1	2	4				
S SPRUCE		741.6	99.9	0	1	1				
TOTAL		32.8	4.4	252	263	275	43	11	5	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		51.1	6.9	39,565	42,488	45,411				
R ALDER		167.4	22.6	2,292	2,960	3,628				
WHEMLOCK		191.8	25.8	2,368	3,194	4,019				
BL MAPLE		741.6	99.9	0	105	209				
S SPRUCE		741.6	99.9	0	113	227				
TOTAL		39.5	5.3	46,263	48,860	51,457	62	16	7	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT LION				DATE	2/14/2011	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	07W	12	AREA123	R/W	4.00	55	366	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		55	366	6.7						
CRUISE		21	110	5.2	445	24.7				
DBH COUNT REFOREST COUNT		34	242	7.1						
BLANKS		100 %								
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	88	73.7	23.0	83		212.4	43,798	43,233	9,767	9,767
R ALDER	8	25.7	14.9	48		31.3	2,992	2,960	895	895
WHEMLOCK	10	10.8	18.2	78		19.6	3,380	3,294	874	874
BL MAPLE	3	.9	21.6	46		2.2	105	105	35	35
S SPRUCE	1	.3	20.0	82		.7	120	113	33	33
TOTAL	110	111.3	20.9	74		266.2	50,394	49,706	11,604	11,604
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		65.7	7.0	856	921	985				
R ALDER		69.1	26.0	108	146	184				
WHEMLOCK		57.9	19.3	299	370	441				
BL MAPLE		86.6	59.9	48	120	192				
S SPRUCE										
TOTAL		77.4	7.4	729	787	845	239	60	27	
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		59.0	8.0	68	74	80				
R ALDER		166.9	22.5	20	26	31				
WHEMLOCK		182.8	24.6	8	11	13				
BL MAPLE		552.8	74.5	0	1	1				
S SPRUCE		741.6	99.9	0	0	1				
TOTAL		36.5	4.9	106	111	117	53	13	6	
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		51.1	6.9	198	212	227				
R ALDER		164.6	22.2	24	31	38				
WHEMLOCK		183.3	24.7	15	20	24				
BL MAPLE		548.7	73.9	1	2	4				
S SPRUCE		741.6	99.9	0	1	1				
TOTAL		32.0	4.3	255	266	278	41	10	5	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		51.6	7.0	40,228	43,233	46,239				
R ALDER		167.4	22.6	2,292	2,960	3,628				
WHEMLOCK		185.2	24.9	2,472	3,294	4,116				
BL MAPLE		741.6	99.9	0	105	209				
S SPRUCE		741.6	99.9	0	113	227				
TOTAL		39.2	5.3	47,079	49,706	52,332	61	15	7	

Log Stock Table - MBF

T06N R07W S12 TyR/W 4.00
 T06N R07W S12 TyTAKE 138.00

Project: LION
 Acres 142.00

Page 1
 Date 2/14/2011
 Time 11:40:39AM

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches										
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39
D		DO 2S	12	18		18	.3									18		
D		DO 2S	16	35	4.8	33	.5					7					26	
D		DO 2S	24	39		39	.6					0					39	
D		DO 2S	30	58	5.4	55	.9					9					45	
D		DO 2S	32	1,125		1,114	18.5				40	129	418	344	138	45		
D		DO 2S	36	35		35	.6					35						
D		DO 2S	38	21		21	.4						21					
D		DO 2S	40	3,849	1.3	3,798	62.9				107	336	249	1350	1337	417	2	
D		DO 3S	16	19		19	.3				19							
D		DO 3S	18	11		11	.2			11								
D		DO 3S	20	2		2	.0			2								
D		DO 3S	21	5		5	.1				5							
D		DO 3S	22	15		15	.2			5	4	6						
D		DO 3S	23	5		5	.1					5						
D		DO 3S	24	15	8.2	14	.2			4	4	6						
D		DO 3S	25	19		19	.3			10	9							
D		DO 3S	26	5		5	.1				5							
D		DO 3S	27	7		7	.1					7						
D		DO 3S	28	20		20	.3			13		7						
D		DO 3S	29	23		23	.4			17	6							
D		DO 3S	30	6		6	.1			6								
D		DO 3S	31	15		15	.2					15						
D		DO 3S	32	276	3.6	266	4.4			48	142	8	69					
D		DO 3S	33	34	3.5	33	.5			8	7				18			
D		DO 3S	34	17		17	.3			8		9						
D		DO 3S	35	17		17	.3					17						
D		DO 3S	36	12		12	.2					0		12				
D		DO 3S	37	8		8	.1						8					
D		DO 3S	40	359		357	5.9			107	33	205	11	0				
D		DO 4S	15	2		2	.0				2							
D		DO 4S	16	29		29	.5			29								
D		DO 4S	18	6		6	.1				6							
D		DO 4S	20	8		8	.1				8							
D		DO 4S	22	5		5	.1				5							
D		Totals		6,118	1.3	6,036	87.0			267	229	455	605	700	1712	1493	572	2
A		DO CR	16	28	16.3	23	5.5			23								
A		DO CR	20	40		40	9.5					40						

Log Stock Table - MBF

T06N R07W S12 TyR/W 4.00
 T06N R07W S12 TyTAKE 138.00

Project: LION
 Acres 142.00

Page 2
 Date 2/14/2011
 Time 11:40:39AM

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
A		DO CR	26	25		25	6.0			25										
A		DO CR	28	45		45	10.8					45								
A		DO CR	32	168		168	40.0			54	49		65							
A		DO CR	40	119		119	28.3			24		95								
A		Totals		425	1.1	420	6.1			126	49	140	40	65						
H		DO 2S	32	84		84	18.4					32	52							
H		DO 2S	40	206	3.3	199	43.8					1	69	45	84					
H		DO 3S	32	38	9.9	34	7.4			6	17	11								
H		DO 3S	34	19		19	4.1			8		11								
H		DO 3S	40	108	2.2	106	23.3		0	17	47	42								
H		DO 4S	15	3		3	.7			3										
H		DO 4S	17	4		4	.8			4										
H		DO 4S	18	2		2	.5			2										
H		DO 4S	23	3		3	.8				3									
H		Totals		467	2.8	454	6.5		0	40	67	65	101	96	84					
M		DO CR	40	15		15	100.0					15								
M		Totals		15		15	.2					15								
S		DO 2S	40	14	6.9	13	79.4						13							
S		DO 3S	40	3		3	20.6			3										
S		Totals		17	5.6	16	.2			3			13							
Total		All Species		7,042	1.4	6,941	100.0		0	436	346	675	745	874	1797	1493	572			2

TC		PSINDSUM		Stand Table Summary							Page		1		
										Date:		2/14/2011			
T06N R07W S12 TyR/W 4.00 T06N R07W S12 TyTAKE 138.00				Project			LION			Time:		11:45:14AM			
				Acres			142.00			Grown Year:					
S Spc T	DBH	Sample Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D	9	2	91	19	5.593	2.47	5.59	5.0	20.0		28	112		40	16
D	11	2	94	22	3.744	2.47	3.74	8.0	20.0		30	75		43	11
D	14	4	88	114	4.623	4.94	9.25	21.2	80.0		196	740		279	105
D	15	2	86	119	2.014	2.47	4.03	26.5	105.0		107	423		152	60
D	16	4	85	83	3.540	4.94	7.08	22.5	72.5		159	513		226	73
D	17	8	88	99	6.271	9.88	12.54	29.9	107.5		375	1,348		532	191
D	18	6	89	113	4.195	7.41	11.19	29.5	110.0		330	1,231		469	175
D	19	4	87	93	2.510	4.94	5.02	37.5	122.5		188	615		267	87
D	20	6	88	107	3.398	7.41	7.93	39.6	152.9		314	1,212		446	172
D	21	2	89	80	1.027	2.47	2.05	39.5	140.0		81	288		115	41
D	22	14	87	128	6.553	17.30	17.79	46.1	194.7		819	3,463		1,163	492
D	23	12	88	121	5.139	14.83	14.56	48.2	198.2		701	2,886		996	410
D	24	2	89	125	.787	2.47	2.36	52.0	243.3		123	574		174	82
D	26	14	87	131	4.691	17.30	14.07	61.6	269.0		867	3,787		1,231	538
D	27	6	87	125	1.864	7.41	4.97	68.6	286.2		341	1,423		484	202
D	28	6	85	133	1.734	7.41	5.20	70.4	302.2		366	1,572		520	223
D	29	6	87	140	1.616	7.41	4.85	73.4	356.7		356	1,729		506	246
D	30	20	86	137	5.034	24.71	15.10	78.9	371.7		1,192	5,613		1,692	797
D	31	14	87	139	3.300	17.30	9.90	86.9	411.9		860	4,078		1,222	579
D	32	8	86	126	1.770	9.88	4.87	94.8	429.1		461	2,088		655	297
D	33	4	88	109	.832	4.94	1.66	121.5	560.0		202	932		287	132
D	34	11	86	153	1.970	12.42	5.91	108.2	520.9		639	3,079		908	437
D	35	2	88	158	.370	2.47	1.11	134.0	706.7		149	784		211	111
D	36	2	88	167	.350	2.47	1.40	107.5	590.0		150	825		213	117
D	37	2	83	133	.331	2.47	.99	106.0	513.3		105	510		149	72
D	38	6	88	137	.941	7.41	2.82	133.4	673.3		377	1,901		535	270
D	39	2	82	157	.298	2.47	1.19	111.3	567.5		133	676		188	96
D	40	1	86	153	.008	.07	.02	154.5	755.0		2	12		3	2
D	42	1	90	137	.007	.07	.02	170.0	930.0		4	20		5	3
D	Totals	173	88	107	74.509	210.24	177.22	34.5	239.9		9,657	42,509		13,713	6,036
H	14	2	88	116	1.962	2.10	3.92	26.5	105.0		104	412		148	58
H	15	2	85	70	1.709	2.10	1.71	37.0	110.0		63	188		90	27
H	16	1	86	99	.040	.06	.08	32.0	110.0		3	9		4	1
H	17	2	91	117	1.330	2.10	3.99	26.3	96.7		105	386		149	55
H	18	2	89	113	1.187	2.10	3.56	28.3	110.0		101	392		143	56
H	19	2	86	94	1.065	2.10	2.13	42.0	140.0		89	298		127	42
H	21	2	87	111	.872	2.10	2.62	39.7	156.7		104	410		147	58
H	22	2	87	77	.794	2.10	1.59	45.5	165.0		72	262		103	37
H	25	2	89	120	.615	2.10	1.85	59.7	266.7		110	492		156	70
H	27	2	86	102	.527	2.10	1.05	83.5	330.0		88	348		125	49
H	Totals	19	88	102	10.102	18.93	22.50	37.3	142.1		839	3,197		1,192	454
A	11	2	87	39	5.923	3.91	5.92	11.0	30.0		65	178		93	25
A	12	2	87	79	4.977	3.91	9.95	13.0	45.0		129	448		184	64
A	15	4	87	54	6.371	7.82	9.56	19.3	56.7		185	542		262	77
A	16	2	86	80	2.800	3.91	5.60	23.5	80.0		132	448		187	64
A	17	2	86	95	2.480	3.91	4.96	32.5	115.0		161	570		229	81
A	21	2	87	79	1.625	3.91	3.25	44.5	170.0		145	553		205	78
A	22	2	87	68	1.481	3.91	1.48	53.0	150.0		78	222		111	32
A	Totals	16	87	65	25.657	31.27	40.72	22.0	72.7		895	2,960		1,271	420
S	20	2	88	99	.333	.73	.67	50.0	170.0		33	113		47	16

Stand Table Summary

T06N R07W S12 Tyr/W	4.00
T06N R07W S12 TyTAKE	138.00

Project LION
Acres 142.00

Time: 11:45:14AM
Grown Year:

S Spec T	Sample DBH	Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
S	Totals	2	88	99	.333	.73	.67	50.0	170.0		33	113		47	16
M	18	2	87	74	.412	.73	.41	53.0	180.0		22	74		31	11
M	22	2	75	49	.276	.73									
M	28	2	69	65	.170	.73	.17	77.0	180.0		13	31		19	4
M	Totals	6	80	64	.857	2.18	.58	60.0	180.0		35	105		50	15
Totals		216	87	97	111.458	263.35	241.69	47.4	202.3		11,460	48,884		16,273	6,941

Logging Plan Map

OF TIMBER SALE CONTRACT NO. 341-11-05
 LION'S LAIR
 PORTIONS OF SECTIONS 12, 13, and 14,
 T6N, R7W, W.M., CLATSOP COUNTY, OREGON

Approximate Net Acreage:

Area 1 (MC) - 40

Area 2 (MC) - 61

Area 3 (MC) - 37

Area 4 (R/W) - 4

Total Sale Acreage 142

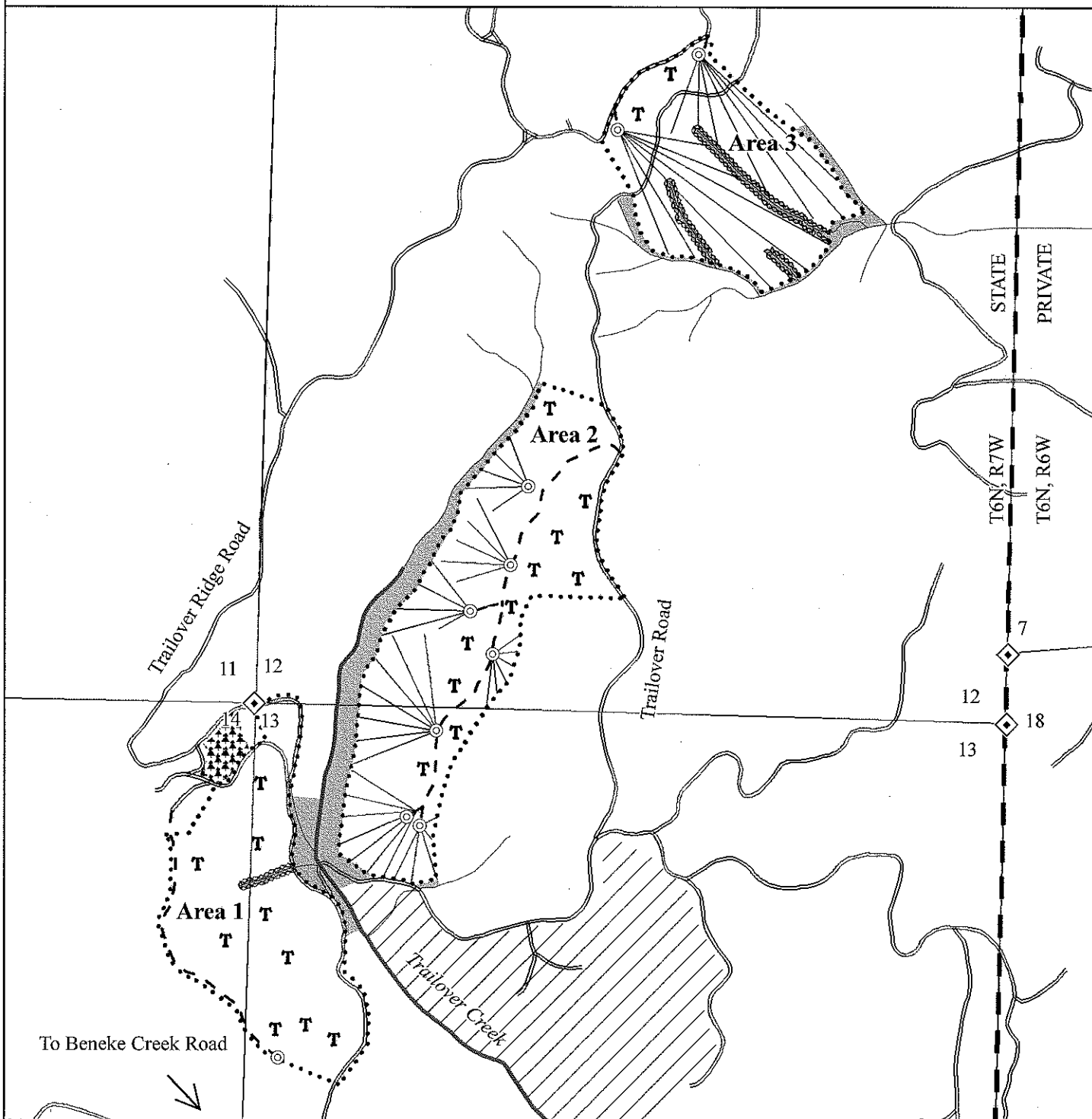
Approximate Scale = 1":1,000'

500 250 0 500 1,000 Feet



Legend

- Type F Stream
- Type N Stream
- New Construction Landing
- Green Tree Retention Area
- Ownership Boundary
- Existing Surfaced Road
- New Road Construction
- Reforestation Area
- Timber Sale Boundary
- Buffer Zone
- Posted Stream Buffer
- Survey Corner
- Yarding Area - Ground
- Yarding Area - Cable





Logging Plan Map

OF TIMBER SALE CONTRACT NO. 341-11-05
LION'S LAIR
PORTIONS OF SECTIONS 12, 13, and 14,
T6N, R7W, W.M., CLATSOP COUNTY, OREGON

Approximate Net Acreage:

Area 1 (MC) - 40

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Total Sale Acreage 142

Approximate Scale = 1":1,000'

500 250 0 500 1,000 Feet



Legend

Type F Stream

Type N Stream

New Construction Landing

Green Tree Retention Area

Ownership Boundary

Existing Surfaced Road

New Road Construction

Reforestation Area

Timber Sale Boundary

Buffer Zone

Posted Stream Buffer

Survey Corner

Yarding Area - Ground

Yarding Area - Cable

