

TIMBER SALE SUMMARY
Sunday Punch
Contract No. 341-17-39

1. **Location:** Portions of Sections 1, 2, and 12, T1S, R6W, W.M., Washington County, Oregon.
2. **Type of Sale:** This timber sale is a 222 acre Partial Cut, and 7 acres of right-of-way. 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 March, 2016. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of medium to well stocked 50 year old Douglas-fir stands. The average "take" Douglas-fir DBH is 13 inches. The estimated average net per acre Douglas-fir take volume is 13.5 MBF.
7. **Volume Summary**

AREA 1: PC-M (222 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	282	2,344	388	3,014
	Hidden D&B (2%)	(6)	(47)	(8)	(60)
	NET TOTAL	276	2,297	380	2,954
	% of Total	9	78	13	

AREA 2: R/W (7 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	22	190	32	243
	Hidden D&B (2%)	()	(4)	(1)	(5)
	NET TOTAL	22	186	31	238
	% of Total	9	78	13	

SALE TOTAL

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir		298	2,483	411	3,192

8. **Topography and Logging Method:** Slopes within the sale area range from 5% to 70% and are variable in aspect. The sale area is 32% ground-based yarding, and 68% cable-based yarding. Area 2 is 100% ground-based yarding within right-of-way boundaries. The average horizontal cable corridor distance in Area 1 is approximately 600 feet and the maximum is approximately 1200 feet. The average

horizontal tractor skidding trail distance is approximately 200 feet and the maximum is approximately 400 feet.

9. **Access:** From Forest Grove, proceed south on Highway 47 for 15 miles. Turn right onto Pike Road and continue for 4.5 miles. Pike Road then becomes Turner Creek Road. Continue on Turner Creek Road for 4 miles and there is a Weyerhaeuser gate that requires a key. Continue through this gate on Turner Creek Road for 4.5 miles. Turn right onto North Fork Trask River Road and continue for 1.5 miles and there is a Weyerhaeuser gate that requires a key. Continue through this gate on North Fork Trask River Road for 4.3 miles. Turn right onto Sunday Creek Road and continue 8 miles to the sale area. Keys and lock combination are available at the Forest Grove District office.

10. Projects:

Project No. 1: Install Gate at Point A	\$600.00
Project No. 2: Road Construction and Improvement	\$58,427.30
Project No. 3: Rock Crushing and Road Surfacing	\$188,338.45
Project No. 4: Grass seed, Fertilize, and Mulch	\$1,908.25
Project No. 5: Vacate Point V1 to V2	\$5,885.72
Project No. 6: Brush Point B1 to B2	\$6,409.00
Move in and equipment cleaning:	\$10,241.28

Total Credit for all Projects (rounded)	\$271,810.00
---	--------------



Timber Sale Appraisal
Sunday Punch
Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,008,416.64	\$0.00	\$1,008,416.64
		Project Work:	(\$271,810.00)
		Advertised Value:	\$736,606.64



Timber Sale Appraisal
Sunday Punch
Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Timber Description

Location: Portions of Sections 1, 2, and 12, T1S, R6W, W.M., Washington County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	298	2,483	411	3,192
Total	298	2,483	411	3,192

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

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$171.69/\text{MBF} = \$435/\text{MBF} - \$263.31/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$911.69/\text{MBF} = \$1,175/\text{MBF} - \$263.31/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
 $\$346.69/\text{MBF} = \$610/\text{MBF} - \$263.31/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

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

Other Costs (with Profit & Risk to be added):
Intermediate Supports/Tail Rigging: 10 @ \$200 each = \$2,000
TOTAL Other Costs (with Profit & Risk to be added) = \$2,000

Other Costs (No Profit & Risk added):
Block/Waterbar Roads/Skid Trails: 15 hrs x \$150/hour = \$2,250
Pile Landing Slash/Sort Firewood: 20 hrs x \$150/hour = \$3,000
Equipment Cleaning: 3 x \$1,000/Piece = \$3,000
Stimson Rock Haul and Log Haul Road use fee = \$25,575
TOTAL Other Costs (No Profit & Risk added) = \$33,825

ROAD MAINTENANCE

Move-in: \$4,000
General Road Maintenance: 7 miles x \$1,200/mile = \$8,400
TOTAL Road Maintenance: \$12,400/3,192 MBF = \$3.88/MBF



Timber Sale Appraisal
Sunday Punch
Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Logging Conditions

Combination#: 1 Douglas - Fir 68.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

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

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

loads / day: 10 **bd. ft / load:** 3700

cost / mbf: \$162.16

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

Combination#: 2 Douglas - Fir 32.00%

Logging System: Shovel **Process:** Stroke Delimber

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

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

loads / day: 8 **bd. ft / load:** 3700

cost / mbf: \$107.16

machines: Stroke Delimber (B)



Timber Sale Appraisal
 Sunday Punch
 Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Logging Costs

Operating Seasons: 1.00	Profit Risk: 15%
Project Costs: \$271,810.00	Other Costs (P/R): \$2,000.00
Slash Disposal: \$0.00	Other Costs: \$33,825.00

Miles of Road

Road Maintenance: \$3.88

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	4.2



Timber Sale Appraisal
Sunday Punch
Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$144.56	\$3.96	\$1.37	\$63.14	\$0.63	\$32.05	\$0.00	\$7.00	\$10.60	\$263.31

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$579.23	\$315.92	\$0.00



Timber Sale Appraisal
Sunday Punch
Sale FG-341-2017-39-

District: Forest Grove

Date: August 01, 2016

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,192	\$315.92	\$1,008,416.64

Gross Timber Sale Value

Recovery: \$1,008,416.64

Prepared By: Kenton Burns

Phone: 503-359-7477

PROJECT COST SUMMARY SHEET

Timber Sale: Sunday Punch
 Sale Number: 341-17-39

PROJECT NO. 1 INSTALL GATE @ POINT A**TOTAL PROJECT NO. 1 COST = \$600.00****PROJECT NO. 2: ROAD CONSTRUCTION AND IMPROVEMENT****CONSTRUCTION**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
B to C	25+95	\$10,615.28
C to D	7+85	\$2,724.50
E to F	2+40	\$994.84
G to H	6+40	\$1,816.00
I to J	7+00	\$1,946.72
K to L	2+20	\$890.18
M to N	7+00	\$1,946.72
O to P	3+00	\$1,060.88
S to T	1+80	\$716.94
U to V	2+85	\$1,434.90
	66+45 stations	
	1.26 miles	

SUBTOTAL CONSTRUCTION = \$24,146.96**IMPROVEMENTS**

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
Q to R	6+00	\$216.00
W to X	83+50	\$28,035.26
Y to C	27+50	\$6,029.08
	117+00 stations	
	2.22 miles	

SUBTOTAL IMPROVEMENTS = \$34,280.34**TOTAL PROJECT NO. 2 COST = \$58,427.30****PROJECT NO. 3: SURFACING**

<u>Road Segment</u>	<u>Rock Amount</u>	<u>Rock Type</u>	<u>Cost</u>
B to C	555 cy	1 1/2" - 0"	\$8,532.30
	960 cy	3" - 0"	\$14,880.00
	108 cy	36" - 12"	\$1,537.92
C to D	718 cy	3" - 0"	\$11,473.64
E to F	235 cy	3" - 0"	\$3,721.58
G to H	403 cy	3" - 0"	\$6,472.18
I to J	500 cy	3" - 0"	\$8,175.00
K to L	227 cy	3" - 0"	\$3,711.45
M to N	440 cy	3" - 0"	\$7,290.80
O to P	260 cy	3" - 0"	\$4,303.00
Q to R	240 cy	3" - 0"	\$4,008.00
S to T	196 cy	3" - 0"	\$3,284.96
U to V	423 cy	3" - 0"	\$7,110.63
W to X	240 cy	1 1/2" - 0"	\$3,436.80
	4,111 cy	3" - 0"	\$66,885.97
	336 cy	36" - 12"	\$4,734.24
Y to C	36 cy	1 1/2" - 0"	\$575.28
	1,765 cy	3" - 0"	\$28,204.70
Total	831 cy	1 1/2" - 0	
	10,478 cy	3" - 0	
	444 cy	36" - 12"	

TOTAL PROJECT NO. 3 COST = \$188,338.45

PROJECT NO. 4 GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 4 COST = \$1,908.25

PROJECT NO. 5 VACATE V1 to V2

TOTAL PROJECT NO. 5 COST = \$5,885.72

PROJECT NO. 6 BRUSH B1 to B2

TOTAL PROJECT NO. 6 COST = \$6,409.00

MOVE-IN & EQUIPMENT CLEANING

1 Brush Cutter (within area move included)	\$917.38
1 Grader	\$1,284.22
1 Roller (smooth/grid) & Compactor	\$912.70
1 Excavator (to Barney Pit)	\$1,245.57
1 Excavator - Equipment Cleaning	\$2,284.22
1 Dozer - Equipment Cleaning	\$2,328.80
5 Dump Trucks	\$1,081.29
1 Water Truck	\$187.10

TOTAL MOVE-IN & EQUIPMENT CLEANING COST = \$10,241.28

TOTAL CREDITS \$271,810.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
Road Segment: Point A

PROJECT NO. 1

Install Gate @ Point A	1	ea @	\$600.00	per ea =	\$600.00
------------------------	---	------	----------	----------	----------

PROJECT NO. 1 TOTAL COST = \$600.00

TOTAL COST = \$600.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
Road Segment: B to C Construction: 25+95 stations
0.49 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	2.35	ac @	\$1,078.00	per acre =	\$2,533.30
Clearing & grubbing (end-haul)	0.64	ac @	\$702.00	per acre =	\$449.28
Balanced road construction	16.95	sta @	\$110.00	per sta =	\$1,864.50
Drift	9.00	sta @	\$180.00	per sta =	\$1,620.00
Turnouts	4	ea @	\$66.00	per ea =	\$264.00
Grade, ditch, & roll	25.95	sta @	\$36.00	per sta =	\$934.20

TOTAL EXCAVATION COSTS = \$7,665.28

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18" \$600.00
80 LF of 24" \$2,320.00

Culvert Markers

3 markers \$30.00

PROJECT NO. 2 TOTAL COST = \$10,615.28

PROJECT NO. 3:

SURFACING

6 " deep = 31 cy/sta

4 " deep = 20 cy/sta

B to C (Base Rock)	804	cy of	3" - 0	@	\$15.50	per cy =	\$12,462.00
Turnouts	96	cy of	3" - 0	@	\$15.50	per cy =	\$1,488.00
Junction	60	cy of	3" - 0	@	\$15.50	per cy =	\$930.00
Culvert bedding	36	cy of	1 1/2" - 0	@	\$13.55	per cy =	\$487.80
Traction rock	519	cy of	1 1/2" - 0	@	\$15.50	per cy =	\$8,044.50
Energy Dissipator	108	cy of	36" - 12"	@	\$14.24	per cy =	\$1,537.92
Rock Total =	1,623						
	519	cy of	1 1/2" - 0		\$15.50	per cy =	\$8,044.50
	36	cy of	1 1/2" - 0		\$13.55	per cy =	\$487.80
	960	cy of	3" - 0		\$15.50	per cy =	\$14,880.00
	108	cy of	36" - 12"		\$14.24	per cy =	\$1,537.92

PROJECT NO. 3 TOTAL COST = \$24,950.22

PROJECT NO. 4:

Grass seed & fertilizer	1.18	acres	@	\$425.00	per acre =	\$501.50
Mulch	6	bales	@	\$8.00	per bale =	\$48.00

PROJECT NO. 4 TOTAL COST = \$549.50

TOTAL COST = \$36,115.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
 Road Segment: C to D Construction: 7+85 stations
0.15 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.55	ac @	\$1,078.00	per acre =	\$592.90
Balanced road construction	7.85	sta @	\$110.00	per sta =	\$863.50
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Approach to landing	1.00	sta @	\$110.00	per sta =	\$110.00
Roadside landing	1	ea @	\$165.00	per ea =	\$165.00
Landing	2	ea @	\$314.00	per ea =	\$628.00
Grade, ditch, & roll	7.85	sta @	\$36.00	per sta =	\$282.60
					<u>TOTAL EXCAVATION COSTS = \$2,724.50</u>

PROJECT NO. 2 TOTAL COST = \$2,724.50

PROJECT NO. 3:

SURFACING

	8 " deep =		42 cy/sta				
C to D	330	cy of	3" - 0	@	\$15.98	per cy =	\$5,273.40
Turnaround	14	cy of	3" - 0	@	\$15.98	per cy =	\$223.72
Junction	12	cy of	3" - 0	@	\$15.98	per cy =	\$191.76
Landing	320	cy of	3" - 0	@	\$15.98	per cy =	\$5,113.60
Approach to landing	42	cy of	3" - 0	@	\$0.00	per cy =	\$0.00
Rock Total =	718						
	718	cy of	3" - 0		\$15.98	per cy =	\$11,473.64

PROJECT NO. 3 TOTAL COST = \$10,802.48

PROJECT NO. 4:

Grass seed & fertilizer	0.28	acres	@	\$425.00	per acre =	\$116.88
-------------------------	------	-------	---	----------	------------	----------

PROJECT NO. 4 TOTAL COST = \$116.88

TOTAL COST = \$13,643.86

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
 Road Segment: E to F Construction: 2+40 stations
0.05 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.23	ac @	\$1,078.00	per acre =	\$247.94
Balanced road construction	2.40	sta @	\$110.00	per sta =	\$264.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	2.40	sta @	\$36.00	per sta =	\$86.40

PROJECT NO. 2 TOTAL COST = \$994.84

PROJECT NO. 3:

SURFACING

		8 " deep =	42 cy/sta		
E to F	101	cy of	3" - 0	@	\$15.85 per cy = \$1,597.68
Turnaround	14	cy of	3" - 0	@	\$15.85 per cy = \$221.90
Landing	120	cy of	3" - 0	@	\$15.85 per cy = \$1,902.00
Rock Total =	235				
	235	cy of	3" - 0		\$15.85 per cy = \$3,721.58

PROJECT NO. 3 TOTAL COST = \$3,721.58

PROJECT NO. 4:

Grass seed & fertilizer	0.12	acres	@	\$425.00	per acre = \$48.88
-------------------------	------	-------	---	----------	--------------------

PROJECT NO. 4 TOTAL COST = \$48.88

TOTAL COST = \$4,765.30

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
 Road Segment: G to H Construction: 6+40 stations
0.12 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.45	ac @	\$1,078.00	per acre =	\$485.10
Balanced road construction	6.40	sta @	\$110.00	per sta =	\$704.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	6.40	sta @	\$36.00	per sta =	\$230.40

PROJECT NO. 2 TOTAL COST = \$1,816.00

PROJECT NO. 3:

SURFACING

		8 " deep =	42 cy/sta			
G to H	269	cy of	3" - 0	@	\$16.06	per cy = \$4,320.14
Turnaround	14	cy of	3" - 0	@	\$16.06	per cy = \$224.84
Landing	120	cy of	3" - 0	@	\$16.06	per cy = \$1,927.20
Rock Total =	403					
	403	cy of	3" - 0		\$16.06	per cy = \$6,472.18

PROJECT NO. 3 TOTAL COST = \$6,472.18

PROJECT NO. 4:

Grass seed & fertilizer	0.23	acres	@	\$425.00	per acre =	\$95.63
-------------------------	------	-------	---	----------	------------	---------

PROJECT NO. 4 TOTAL COST = \$95.63

TOTAL COST = \$8,383.81

SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Sunday Punch</u>	Sale Number:	<u>341-17-39</u>
Road Segment:	<u>I to J</u>	Construction:	<u>7+00</u> stations <u>0.13</u> miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatte	0.49	ac @	\$1,078.00	per acre =	\$528.22
Balanced road construction	7.00	sta @	\$110.00	per sta =	\$770.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	7.00	sta @	\$36.00	per sta =	\$252.00

PROJECT NO. 2 TOTAL COST = \$1,946.72

PROJECT NO. 3:

SURFACING

	8 " deep =	42 cy/sta			
I to J	294	cy of	3" - 0	@	\$16.35 per cy = \$4,806.90
Turnaround	14	cy of	3" - 0	@	\$16.35 per cy = \$228.90
Junction	12	cy of	3" - 0	@	\$16.35 per cy = \$196.20
Landing (12" deep)	180	cy of	3" - 0	@	\$16.35 per cy = \$2,943.00
Rock Total =	500				
	500	cy of	3" - 0		\$16.35 per cy = \$8,175.00

PROJECT NO. 3 TOTAL COST = \$8,175.00

PROJECT NO. 4:

Grass seed & fertilizer	0.25	acres	@	\$425.00	per acre = \$104.13
-------------------------	------	-------	---	----------	---------------------

PROJECT NO. 4 TOTAL COST = \$104.13

TOTAL COST = \$10,225.85

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
Road Segment: K to L

Sale Number: 341-17-39
Construction: 2+20 stations
0.04 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatte	0.16	ac @	\$1,078.00	per acre =	\$172.48
Balanced road construction	2.20	sta @	\$110.00	per sta =	\$242.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	2.20	sta @	\$36.00	per sta =	\$79.20

PROJECT NO. 2 TOTAL COST = \$890.18

PROJECT NO. 3:

SURFACING

	8 " deep =	42 cy/sta			
K to L	93	cy of	3" - 0	@	\$16.35 per cy = \$1,520.55
Turnaround	14	cy of	3" - 0	@	\$16.35 per cy = \$228.90
Landing	120	cy of	3" - 0	@	\$16.35 per cy = \$1,962.00
Rock Total =	227				
	227	cy of	3" - 0		\$16.35 per cy = \$3,711.45

PROJECT NO. 3 TOTAL COST = \$3,711.45

PROJECT NO. 4:

Grass seed & fertilizer	0.08	acres	@	\$425.00	per acre = \$34.00
-------------------------	------	-------	---	----------	--------------------

PROJECT NO. 4 TOTAL COST = \$34.00

TOTAL COST = \$4,635.63

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
 Road Segment: M to N Construction: 7+00 stations
0.13 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatte	0.49	ac @	\$1,078.00	per acre =	\$528.22
Balanced road construction	7.00	sta @	\$110.00	per sta =	\$770.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	7.00	sta @	\$36.00	per sta =	\$252.00

PROJECT NO. 2 TOTAL COST = \$1,946.72

PROJECT NO. 3:

SURFACING	8 " deep =	42 cy/sta			
M to N	294	cy of	3" - 0	@	\$16.57 per cy = \$4,871.58
Turnaround	14	cy of	3" - 0	@	\$16.57 per cy = \$231.98
Junction	12	cy of	3" - 0	@	\$16.57 per cy = \$198.84
Landing	120	cy of	3" - 0	@	\$16.57 per cy = \$1,988.40
Rock Total =	440				
	440	cy of	3" - 0		\$16.57 per cy = \$7,290.80

PROJECT NO. 3 TOTAL COST = \$7,290.80

PROJECT NO. 4:

Grass seed & fertilizer	0.25	acres	@	\$425.00	per acre = \$104.13
-------------------------	------	-------	---	----------	---------------------

PROJECT NO. 4 TOTAL COST = \$104.13

TOTAL COST = \$9,341.65

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
 Road Segment: O to P

Sale Number: 341-17-39
 Construction: 3+00 stations
0.06 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.21	ac @	\$1,078.00	per acre =	\$226.38
Balanced road construction	3.00	sta @	\$110.00	per sta =	\$330.00
Turnarounds	1	ea @	\$82.50	per ea =	\$82.50
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	3.00	sta @	\$36.00	per sta =	\$108.00

PROJECT NO. 2 TOTAL COST = \$1,060.88

PROJECT NO. 3:

SURFACING

		8 " deep =	42 cy/sta				
O to P	126	cy of	3" - 0	@	\$16.55	per cy =	\$2,085.30
Turnaround	14	cy of	3" - 0	@	\$16.55	per cy =	\$231.70
Landing	120	cy of	3" - 0	@	\$16.55	per cy =	\$1,986.00
Rock Total =	260						
	260	cy of	3" - 0		\$16.55	per cy =	\$4,303.00

PROJECT NO. 3 TOTAL COST = \$4,303.00

PROJECT NO. 4:

Grass seed & fertilizer	0.11	acres	@	\$425.00	per acre =	\$44.63
-------------------------	------	-------	---	----------	------------	---------

PROJECT NO. 4 TOTAL COST = \$44.63

TOTAL COST = \$5,408.51

Timber Sale:	<u>Sunday Punch</u>	Sale Number:	<u>341-17-39</u>
Road Segment:	<u>Q to R</u>	Improvement:	<u>6+00</u> stations
			<u>0.11</u> miles

Grade, ditch, & roll	6.00	sta @	\$36.00	per sta =	\$216.00
----------------------	------	-------	---------	-----------	----------

SURFACING		4 " deep =	20 cy/sta				
Q to R	120	cy of	3" - 0	@	\$16.70	per cy =	\$2,004.00
Landing	120	cy of	3" - 0	@	\$16.70	per cy =	\$2,004.00
Rock Total =	240						
	240	cy of	3" - 0		\$16.70	per cy =	\$4,008.00

TOTAL COST = \$4,224.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
 Road Segment: S to T

Sale Number: 341-17-39
 Construction: 1+80 stations
0.03 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.13	ac @	\$1,078.00	per acre =	\$140.14
Balanced road construction	1.80	sta @	\$110.00	per sta =	\$198.00
Landing	1	ea @	\$314.00	per ea =	\$314.00
Grade, ditch, & roll	1.80	sta @	\$36.00	per sta =	\$64.80

PROJECT NO. 2 TOTAL COST = \$716.94

PROJECT NO. 3:

SURFACING

8 " deep = 42 cy/sta

S to T	76	cy of	3" - 0	@	\$16.76	per cy =	\$1,273.76
Landing	120	cy of	3" - 0	@	\$16.76	per cy =	\$2,011.20
Rock Total =	196						
	196	cy of	3" - 0		\$16.76	per cy =	\$3,284.96

PROJECT NO. 3 TOTAL COST = \$3,284.96

PROJECT NO. 4:

Grass seed & fertilizer	0.07	acres	@	\$425.00	per acre =	\$27.63
-------------------------	------	-------	---	----------	------------	---------

PROJECT NO. 4 TOTAL COST = \$27.63

TOTAL COST = \$4,029.53

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
 Road Segment: U to V

Sale Number: 341-17-39
 Construction: 2+85 stations
0.05 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.20	ac @	\$1,078.00	per acre =	\$215.60
Balanced road construction	2.85	sta @	\$110.00	per sta =	\$313.50
Approach to landing	1.20	sta @	\$110.00	per sta =	\$132.00
Landing	2	ea @	\$314.00	per ea =	\$628.00
Grade, ditch, & roll	4.05	sta @	\$36.00	per sta =	\$145.80

PROJECT NO. 2 TOTAL COST = \$1,434.90

PROJECT NO. 3:

SURFACING

8 " deep = 42 cy/sta

U to V	120	cy of	3" - 0	@	\$16.81	per cy =	\$2,017.20
Junction	12	cy of	3" - 0	@	\$16.81	per cy =	\$201.72
Landing	240	cy of	3" - 0	@	\$16.81	per cy =	\$4,034.40
Approach to landing	51	cy of	3" - 0	@	\$16.81	per cy =	\$857.31
Rock Total =	423						
	423	cy of	3" - 0		\$16.81	per cy =	\$7,110.63

PROJECT NO. 3 TOTAL COST = \$7,110.63

PROJECT NO. 4:

Grass seed & fertilizer	0.10	acres	@	\$425.00	per acre =	\$42.50
-------------------------	------	-------	---	----------	------------	---------

PROJECT NO. 4 TOTAL COST = \$42.50

TOTAL COST = \$8,588.03

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
Road Segment: W to X

Sale Number: 341-17-39
Improvement: 83+50 stations
1.58 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	1.92	ac @	\$1,078.00	per acre =	\$2,069.76
Road widening (drift)	6.20	sta @	\$110.00	per sta =	\$682.00
Clean ditch & end-haul waste material	83.50	sta @	\$60.00	per sta =	\$5,010.00
Widen Curve at Point W					
Excavate & Drift	500	cy @	\$2.44	per cy =	\$1,220.00
Compact	500	cy @	\$0.50	per cy =	\$250.00
Puncheon Excavation (16+20, 37+20, 63+65 & 70+40)					
Excavate & load	400	cy @	\$1.64	per cy =	\$656.00
End-haul	150	cy @	\$1.79	per cy =	\$268.50
Place fill	400	cy @	\$2.40	per cy =	\$960.00
Compact fill	400	cy @	\$0.50	per cy =	\$200.00
Pump culvert installation	4	day @	\$150.00	per day =	\$600.00
Construct Turnouts	6	ea @	\$82.50	per ea =	\$495.00
Grade, ditch, & roll	83.50	sta @	\$36.00	per sta =	\$3,006.00

TOTAL EXCAVATION COSTS = \$15,417.26

CULVERTS - MATERIALS & INSTALLATION

Culverts

150 LF of 18"	\$3,000.00
30 LF of 24"	\$870.00
90 LF of 30"	\$3,510.00
100 LF of 36"	\$5,000.00

Bands

1 ea of 30"	\$44.00
2 ea of 36"	\$104.00

Culvert Markers

9 markers	\$90.00
-----------	---------

TOTAL CULVERT COSTS = \$12,618.00

PROJECT NO. 2 TOTAL COST = \$28,035.26

PROJECT NO. 3:

SURFACING

10 " deep = 53 cy/sta

8 " deep = 42 cy/sta

0+00 to 17+75	941	cy of	3" - 0	@	\$16.27	per cy =	\$15,310.07
17+75 to 83+50	2,762	cy of	3" - 0	@	\$16.27	per cy =	\$44,937.74
Turnouts	114	cy of	3" - 0	@	\$16.27	per cy =	\$1,854.78
Turnaround	14	cy of	3" - 0	@	\$16.27	per cy =	\$227.78
Junction	160	cy of	3" - 0	@	\$16.27	per cy =	\$2,603.20
Landing	120	cy of	3" - 0	@	\$16.27	per cy =	\$1,952.40
Culvert bedding and Backfill	240	cy of	1 1/2" - 0	@	\$14.32	per cy =	\$3,436.80
Energy Dissipator	144	cy of	36" - 12"	@	\$14.09	per cy =	\$2,028.96
Fill armor	192	cy of	36" - 12"	@	\$14.09	per cy =	\$2,705.28
Rock Total =	4,687						
	240	cy of	1 1/2" - 0		\$14.32	per cy =	\$3,436.80
	4,111	cy of	3" - 0		\$16.27	per cy =	\$66,885.97
	336	cy of	36" - 12"		\$14.09	per cy =	\$4,734.24

PROJECT NO. 3 TOTAL COST = \$75,057.01

PROJECT NO. 4:

Grass seed & fertilizer	0.96	acres	@	\$425.00	per acre =	\$408.00
Mulch	16	bales	@	\$8.00	per bale =	\$128.00

PROJECT NO. 4 TOTAL COST = \$536.00

TOTAL COST = \$103,628.27

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch
Road Segment: Y to C

Sale Number: 341-17-39
Improvement: 27+50 stations
0.52 miles

PROJECT NO. 2

EXCAVATION

Clearing & grubbing (scatter)	0.51	ac @	\$1,078.00	per acre =	\$549.78
Road widening (drift)	11.80	sta @	\$110.00	per sta =	\$1,298.00
End-haul					
Excavate & Waste Locally	120	cy @	\$1.64	per cy =	\$196.80
Construct Turnouts	4	ea @	\$66.00	per ea =	\$264.00
Construct Turnaround	1	ea @	\$82.50	per ea =	\$82.50
Construct Landing	1	ea @	\$314.00	per ea =	\$314.00
Construct Junction	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	27.50	sta @	\$36.00	per sta =	\$990.00

TOTAL EXCAVATION COSTS = \$3,805.08

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18" \$600.00
40 LF of 30" \$1,560.00

Bands

1 ea of 30" \$44.00

Culvert Markers

2 markers \$20.00

TOTAL CULVERT COSTS = \$2,224.00

PROJECT NO. 2 TOTAL COST = \$6,029.08

PROJECT NO. 3:

SURFACING

	10 " deep =	53 cy/sta				
Y to C	1,458	cy of	3" - 0	@	\$15.98	per cy = \$23,298.84
Turnouts	96	cy of	3" - 0	@	\$15.98	per cy = \$1,534.08
Turnaround	14	cy of	3" - 0	@	\$15.98	per cy = \$223.72
Junction	77	cy of	3" - 0	@	\$15.98	per cy = \$1,230.46
Landing	120	cy of	3" - 0	@	\$15.98	per cy = \$1,917.60
Culvert bedding and Backfill	36	cy of	1 1/2" - 0	@	\$15.98	per cy = \$575.28
Rock Total =	1,801					
	36	cy of	1 1/2" - 0		\$15.98	per cy = \$575.28
	1,765	cy of	3" - 0		\$15.98	per cy = \$28,204.70

PROJECT NO. 3 TOTAL COST = \$28,779.98

PROJECT NO. 4:

Grass seed & fertilizer	0.26	acres	@	\$425.00	per acre =	\$108.38
Mulch	12	bales	@	\$8.00	per bale =	\$96.00

PROJECT NO. 4 TOTAL COST = \$204.38

TOTAL COST = \$35,013.44

SUMMARY OF CONSTRUCTION COST

Timber Sale: Sunday Punch Sale Number: 341-17-39
Road Segment: V1 to V2 Vacating: 21+80 stations
0.41 miles

PROJECT NO. 5

Construct tank traps	1	ea @	\$55.00	per ea =	\$55.00
Rip rocked road surface	21.80	sta @	\$50.00	per sta =	\$1,090.00
Sidecast pullback	500	cy @	\$1.64	per sta =	\$820.00
Remove existing culvert and fill and haul to waste area	250	cy @	\$3.43	per cy =	\$857.50
Grass seed & fertilizer	0.76	ac @	\$425.00	per ac =	\$323.00
Mulch	0.76	ac @	\$600.00	per ac =	\$456.00

PROJECT NO. 5 TOTAL COST = \$5,885.72

Timber Sale:	<u>Sunday Punch</u>	Sale Number:	<u>341-17-39</u>
Road Segment:	<u>B1 to B2</u>	Improvement:	<u>437+60</u> stations
			<u>8.29</u> miles

PROJECT NO. 6 TOTAL COST = \$6,409.00

TOTAL COST = \$6,409.00

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale:	<u>Sunday Punch</u>
Sale Number:	<u>341-17-39</u>
Pit Name:	<u>Seven Cedars Pit</u>

1 1/2" - 0:	<u>831 cy</u>	(truck measure)
3" - 0:	<u>10,478 cy</u>	(truck measure)
Total truck yardage:	<u>11,309 cy</u>	
Total in place yardage:	<u>8,699 cy</u>	

Swell:	<u>130%</u>
Shrinkage:	<u>116%</u>
Screening Loss:	<u>15%</u>

Pit development, including clearing & grubbing of waste area, place overburden in waste area, spread & compact.

					\$3,499.33
Drill & shoot	<u>\$2.80</u>	/ cy x	<u>10,234</u>	cy =	\$28,655.78
Load crusher	<u>\$0.80</u>	/ cy x	<u>13,304</u>	cy =	\$10,643.58
Waste reject	<u>\$0.80</u>	/ cy x	<u>1,996</u>	cy =	\$1,596.54
Crush (1 1/2" - 0)	<u>\$3.30</u>	/ cy x	<u>831</u>	cy =	\$2,742.30
Crush (3" - 0)	<u>\$3.30</u>	/ cy x	<u>10,478</u>	cy =	\$34,576.74
Load dump truck	<u>\$0.80</u>	/ cy x	<u>11,309</u>	cy =	\$9,047.04
			Subtotal:		<u>\$90,761.31</u>

Move in & setup drill		\$674.81
Equipment cleaning & move in excavator		\$2,096.20
Equipment cleaning & move in dozer		\$2,058.30
Move in & setup screening plant		\$435.00
Move in loader		\$957.49
Move in crusher		\$3,286.00
Setup crusher		\$3,327.00
Gradation tests	\$71.50 /2,000cy x <u>6</u> tests	\$429.00
Change gradation		\$275.00
Clean up pit		\$500.00
Drill 5 test holes with reports		\$660.00
	Subtotal:	<u>\$14,038.80</u>

TOTAL PRODUCTION COST = \$104,800.11

ROCK DEVELOPMENT COST = \$9.27/cy

CRUISE REPORT
Sunday Punch
341-17-39

1. LOCATION: Portions of Sections 1, 2, and 12, T1S, R6W

2. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation of 45%, an average stand diameter of 16 inches, a desired sampling error of 11% and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 12 trees per plot could be realized with a 20 BAF prism.

3. SAMPLING METHOD:

The Sale Area was cruised in March 2016 with 29 variable radius grade plots and 30 variable radius count plots using a 20 BAF prism. Plots were laid out on a 5 chain x 8 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Cruisers 'thinned' plots from below to 140 ft² of basal area by assigning a 'Take' or 'Leave' status to each tree in every plot.

4. CRUISE RESULTS:

347 trees were measured and graded producing a cumulative sampling error of 7.4% on the Basal Area and 7.7% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

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 volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by cruisers Kenton Burns and Mark Savage in March of 2016.

Prepared by:

ODF Forester

Date

Reviewed by:

Eric Foucht

Date

TC PSTATS				PROJECT STATISTICS				PAGE	1		
				PROJECT	SUNPFIN			DATE	6/23/2016		
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
01S	06	01	00A1	00PC	222.00	59	705	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				TREES	TREES	TREES					
TOTAL			59	705	11.9						
CRUISE			29	347	12.0	35,440	1.0				
DBH COUNT											
REFOREST											
COUNT			30	357	11.9						
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE			TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES			/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-L			203	57.7	21.1	118	30.4	139.7	28,641	28,632	6,035
DOUG FIR-T			144	102.0	13.3	98	27.1	99.0	13,579	13,393	3,307
TOTAL			347	159.6	16.6	105	58.7	238.6	42,220	42,025	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-L		71.9	5.0	661	696	731					
DOUG FIR-T		58.4	4.9	159	167	175					
TOTAL		98.0	5.3	452	477	502	384	96	43		
CL	68.1	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5 10		15		
DOUG FIR-L		63.3	4.4	136	142	148					
DOUG FIR-T		56.2	4.7	40	41	43					
TOTAL		85.8	4.6	96	100	105	294	73	33		
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-L		22.1	2.9	56	58	59					
DOUG FIR-T		58.1	7.6	94	102	110					
TOTAL		38.0	4.9	152	160	168	58	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-L				140	140	140					
DOUG FIR-T		56.7	7.4	92	99	106					
TOTAL		23.5	3.1	231	239	246	22	6	2		
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-L		6.1	.8	28,404	28,632	28,860					
DOUG FIR-T		58.9	7.7	12,367	13,393	14,418					
TOTAL		20.9	2.7	40,885	42,025	43,165	17	4	2		
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-L		1.8	.2	6,021	6,035	6,049					
DOUG FIR-T		58.4	7.6	3,056	3,307	3,558					
TOTAL		21.9	2.8	9,076	9,342	9,607	19	5	2		

TC		PSTNDSUM		Stand Table Summary										Page		1					
														Date:		6/23/2016					
T01S R06W S01 Ty00PC				222.00		Project										SUNPFIN		Time:		6:18:23AM	
						Acres										222.00		Grown Year:			
S Spec T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals								
	DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF						
DF	8	2	84	75	3.938	1.37	3.94	4.2	20.0	.47	16	79	104	37	17						
DF	9	5	82	74	7.780	3.44	7.78	7.7	36.0	1.70	60	280	378	133	62						
DF	10	7	84	85	8.822	4.81	12.60	9.4	40.0	3.38	118	504	750	263	112						
DF	11	12	87	91	12.499	8.25	21.87	10.6	43.3	6.62	232	948	1,469	516	210						
DF	12	20	85	95	17.506	13.75	34.14	12.3	46.7	11.96	419	1,593	2,654	931	354						
DF	13	14	85	100	10.440	9.62	20.88	15.0	57.1	8.91	313	1,193	1,978	694	265						
DF	14	22	86	102	14.147	15.12	28.29	18.0	76.1	14.55	510	2,154	3,230	1,133	478						
DF	15	28	87	107	15.688	19.25	32.50	21.4	90.5	19.83	696	2,941	4,402	1,545	653						
DF	16	21	88	110	10.342	14.44	25.12	21.5	92.5	15.37	539	2,325	3,413	1,198	516						
DF	17	27	88	114	11.780	18.57	32.72	21.6	90.3	20.13	706	2,954	4,470	1,568	656						
DF	18	26	87	113	10.120	17.88	28.80	24.3	104.6	19.98	701	3,013	4,435	1,556	669						
DF	19	18	87	119	6.287	12.38	17.81	28.5	122.6	14.47	508	2,183	3,211	1,127	485						
DF	20	22	89	119	6.937	15.13	20.18	31.7	146.1	18.21	639	2,948	4,044	1,419	655						
DF	21	12	90	126	3.432	8.25	10.30	35.0	163.9	10.28	361	1,687	2,283	801	375						
DF	22	20	89	123	5.212	13.76	15.64	38.7	179.3	17.23	605	2,804	3,825	1,342	622						
DF	23	5	87	124	1.192	3.44	3.58	41.9	186.7	4.27	150	668	947	332	148						
DF	24	17	89	130	3.723	11.70	11.17	48.2	223.7	15.34	538	2,499	3,406	1,195	555						
DF	25	10	89	124	2.018	6.88	6.05	51.0	241.3	8.80	309	1,461	1,953	685	324						
DF	26	3	90	133	.560	2.06	1.68	58.9	277.8	2.82	99	466	626	220	104						
DF	28	13	89	131	2.092	8.94	6.76	61.4	305.2	11.82	415	2,063	2,625	921	458						
DF	30	11	89	127	1.542	7.57	4.91	71.9	364.0	10.05	353	1,786	2,231	783	396						
DF	31	1	90	150	.131	.69	.53	68.2	377.5	1.02	36	198	227	80	44						
DF	32	15	89	130	1.848	10.32	5.67	85.8	427.0	13.86	486	2,419	3,077	1,080	537						
DF	33	1	89	150	.116	.69	.46	79.1	452.5	1.04	37	210	232	81	47						
DF	34	9	90	132	.982	6.19	3.16	94.3	492.8	8.50	298	1,559	1,887	662	346						
DF	35	1	90	120	.103	.69	.31	97.0	506.7	.85	30	157	190	67	35						
DF	36	2	89	130	.195	1.38	.58	112.9	580.0	1.88	66	339	417	146	75						
DF	40	1	90	135	.079	.69	.32	104.5	617.5	.94	33	195	208	73	43						
DF	42	1	90	140	.072	.69	.29	118.7	695.0	.97	34	199	215	75	44						
DF	46	1	90	140	.060	.69	.24	144.0	842.5	.98	34	201	217	76	45						
DF	Totals	347	87	105	159.641	238.64	358.27	26.1	117.3	266.24	9,342	42,025	59,105	20,738	9,330						
Totals		347	87	105	159.641	238.64	358.27	26.1	117.3	266.24	9,342	42,025	59,105	20,738	9,330						

TC		TLOGSTVB		Log Stock Table - MBF															
				Project: SUNPFIN															
T01S R06W S01 T00PC										T01S R06W S01 T00PC									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
01S	06W	01	00A1	00PC	222.00	59	348	Date	6/23/2016										
									Time	6:21:22AM									
Spp	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches										
									MBF	MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19
DF				CU 6															
DF				CU 10															
DF				CU 12															
DF				2M 16	6		6	.1					6						
DF				2M 26	13	13.0	12	.1						12					
DF				2M 34	15		15	.2					15						
DF				2M 40	274	1.5	270	2.9					144	79	23	24			
DF				3M 24	8		8	.1				8							
DF				3M 25	6		6	.1		6									
DF				3M 26	44		44	.5						44					
DF				3M 27	100		100	1.1				15	41	28		16			
DF				3M 28	474		474	5.1		41		106	34	238	35			19	
DF				3M 29	44		44	.5				10	35						
DF				3M 30	698		698	7.5		50		14	57	178	66	98	133	59	43
DF				3M 31	100		100	1.1		17			17	16	6		21		22
DF				3M 32	1,111		1,111	11.9		47	70	57	185	140	304	156	73	79	
DF				3M 33	145	1.3	143	1.5		25		5	48		26	40			
DF				3M 34	970	.2	968	10.4		69	104	35	72	143	258	197	66	24	
DF				3M 35	148		148	1.6		3			10	9	19	84		23	
DF				3M 36	1,367	.3	1,363	14.6		59	98	57	116	241	138	467	138	50	
DF				3M 37	175		175	1.9		16			12	10		21	116		
DF				3M 38	969		969	10.4		88	75	12	91	68	91	197	243	104	
DF				3M 39	199		199	2.1		14			17		20	22	126		
DF				3M 40	2,121	1.2	2,096	22.5		24	425	653	666	165		113		49	
DF				4M 12	44		44	.5			44								
DF				4M 14	17		17	.2			17								
DF				4M 16	20		20	.2			20								
DF				4M 18	33		33	.3			24		9						
DF				4M 20	29		29	.3			29								
DF				4M 22	73	1.9	72	.8			62		10						
DF				4M 24	49		49	.5			49								
DF				4M 26	17	11.1	16	.2			8	8							
DF				4M 28	16		16	.2			16								
DF				4M 30	48	2.3	47	.5			47								
DF				4M 32	20		20	.2			20								
DF				4M 36	6		6	.1			6								
DF				4M 38	14		14	.1			14								
DF				Totals	9,373		9,330	100.0		458	1128	980	1420	1445	1053	1432	940	407	66
Total All Species					9,373		9,330	100.0		458	1128	980	1420	1445	1053	1432	940	407	66

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																			
<div>T01S R06W S01 Ty00PC222.00</div>						Project: SUNPFIN												Page 1					
						Acres 222.00												Date 6/23/2016					
																		Time 6:26:03AM					
Spp	S	So Gr	T	rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
										Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
						Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	L	2M				7.4	116	107	24					100				100	40	23	870	4.06	.1
DF	L	3M			100		28,525	28,525	6,333	7	15	41	36		22	35	43		33	10	171	1.09	167.1
DF Totals					68	.0	28,641	28,632	6,356	7	15	41	37		22	35	43		33	10	171	1.09	167.2
DF	T	CU																10	10		0.00	2.0	
DF	T	2M			9	1.4	1,270	1,252	278				100	2	4	5	88	38	13	228	1.47	5.5	
DF	T	3M			78	1.4	10,565	10,417	2,313			94	6		0	10	90	38	8	91	0.59	114.1	
DF	T	4M			13	1.2	1,744	1,724	383			100		37	52	5	5	20	6	24	0.30	71.5	
DF Totals					32	1.4	13,579	13,393	2,973			86	14		5	7	9	79	31	7	69	0.55	193.1
Totals						0.5	42,220	42,025	9,330	5	38	32	25		2	17	27	55	32	9	117	0.81	360.3

RESIDUAL STAND SPECIFICATIONS

Sunday Punch
341-17-39

AREA 1

Residual QMD assumption (from leave tree cruise information) =

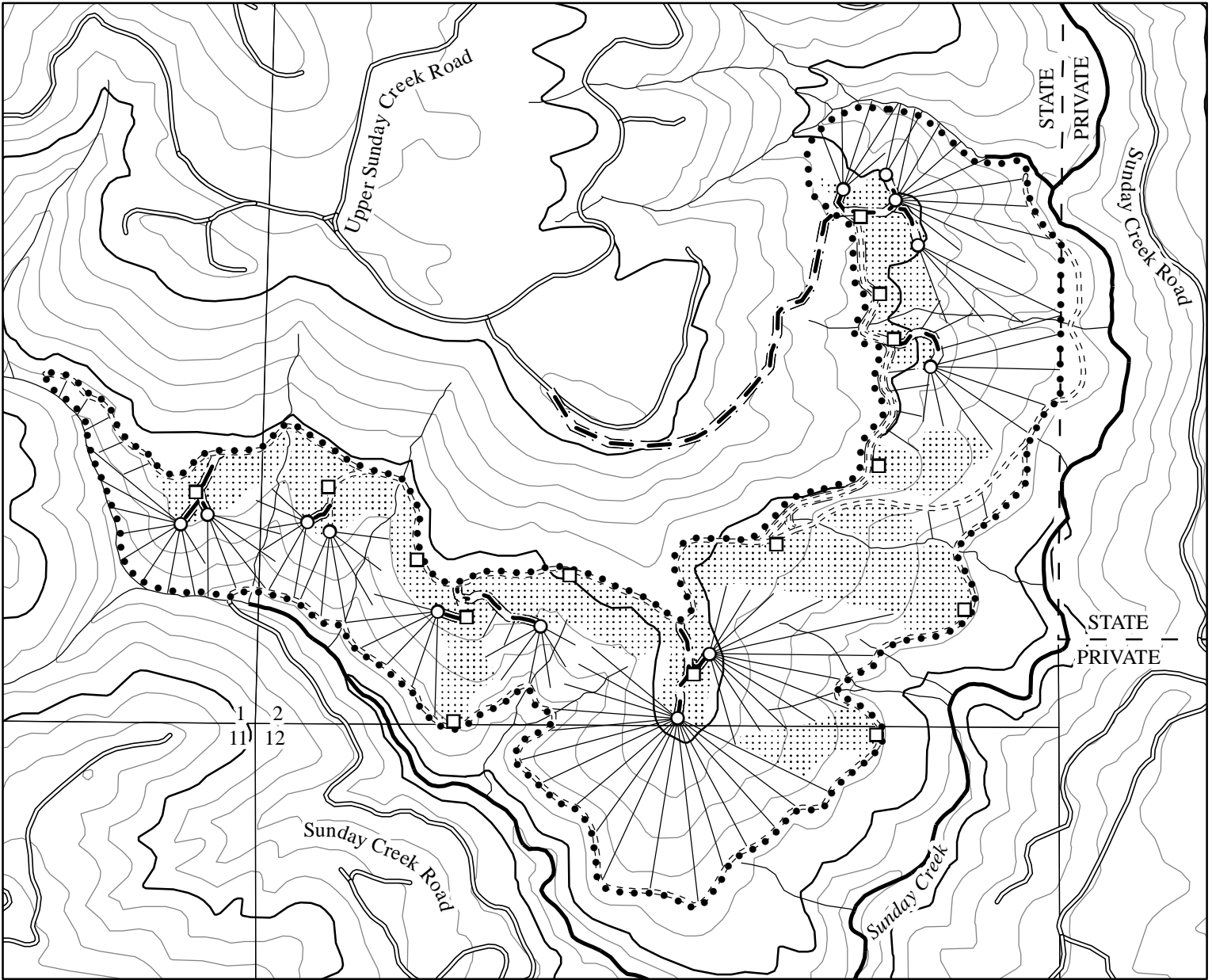
21

Target Relative Density =

34

	Minimum	Target	Maximum
Relative Density	28	31	33
Basal Area	130	140	150
Trees per Acre	54	58	62

$RD = BA / \sqrt{DBH}$
 $BA = \sqrt{DBH} (RD)$
 $TPA = (BA/acre) / (BA/tree)$
 $BA / tree = (\pi r^2) / (144)$



Legend

- Timber Sale Boundary
- Surfaced Roads
- New Road Construction
- Unsurfaced Road
- Posted RW Boundary
- Type F Stream
- Type N Stream
- Tractor Yarding Area
- Cable Yarding Area
- Tractor Landing
- Cable Landing
- ODF Property Boundary
- Section Line
- 400 Foot Contour Band
- 80 Foot Contur Band
- Area 2

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-17-39
SUNDAY PUNCH
PORTIONS OF SECTIONS 1, 2, & 1 2, T1S, R6W
WASHINGTON COUNTY, OREGON

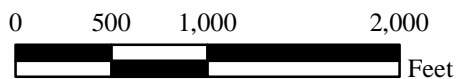
Forest Grove District GIS
Month, 2016

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.



1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
Area 1	72	150
Area 2	7	0