



Timber Sale Appraisal
Cochran Bull
Sale FG-341-2018-16-

District: Forest Grove

Date: December 19, 2017

Cost Summary

| | Conifer | Hardwood | Total |
|-------------------------|----------------|-------------------|----------------|
| Gross Timber Sale Value | \$2,918,179.02 | \$2,713.81 | \$2,920,892.83 |
| | | Project Work: | (\$230,690.00) |
| | | Advertised Value: | \$2,690,202.83 |



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Timber Description

Location: Portions of Sections 27, 28, and 33 T3N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

| Specie Name | AvgDBH | Amortization (%) | Recovery (%) |
|---------------|--------|------------------|--------------|
| Douglas - Fir | 26 | 0 | 98 |
| Noble Fir | 12 | 0 | 95 |
| Alder (Red) | 9 | 0 | 90 |

| Volume by Grade | 2S | 3S | 4S | Camprun | Total |
|-----------------|-------|-----|----|---------|-------|
| Douglas - Fir | 4,686 | 612 | 73 | 0 | 5,371 |
| Noble Fir | 27 | 18 | 0 | 0 | 45 |
| Alder (Red) | 0 | 0 | 0 | 11 | 11 |
| Total | 4,713 | 630 | 73 | 11 | 5,427 |

Comments: Pond Values Used: Local Pond Values, October 2017.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$1,372/\text{MBF} = \$1,600/\text{MBF} - \$228/\text{MBF}$

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):

None

Other Costs (No Profit & Risk added):

Machine Time to Block/Waterbar Roads, and Skid Trails:

20 hours x \$150/hour = \$3,000

Machine Time to Pile Landing Slash and Sort Firewood:

20 hours x \$150/hour = \$3,000

Equipment Cleaning: 3 pieces x \$1,000/Piece = \$3,000

Slash Treatment: 20 acres x \$200/acre = \$4,000

TOTAL Other Costs (No Profit & Risk added) = \$13,000

ROAD MAINTENANCE

Move-in: \$4,000

General Road Maintenance: 5.8 miles x \$1,200/mile = \$6,960

TOTAL Road Maintenance: $\$10,960/5,427 \text{ MBF} = \$2.02/\text{MBF}$



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Logging Conditions

Combination#: 1 Douglas - Fir 53.00%
 Noble Fir 53.00%
 Alder (Red) 53.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8 **bd. ft / load:** 4600
cost / mbf: \$163.04
machines: Log Loader (A)
 Stroke Delimber (A)
 Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 47.00%
 Noble Fir 47.00%
 Alder (Red) 47.00%

Logging System: Shovel **Process:** Stroke Delimber
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 12 **bd. ft / load:** 4100
cost / mbf: \$64.47
machines: Stroke Delimber (B)



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Logging Costs

| | |
|-----------------------------|---------------------------|
| Operating Seasons: 1.00 | Profit Risk: 10% |
| Project Costs: \$230,690.00 | Other Costs (P/R): \$0.00 |
| Slash Disposal: \$0.00 | Other Costs: \$13,000.00 |

Miles of Road

Road Maintenance: \$2.02

| 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 | 5.0 |
| Noble Fir | \$0.00 | 2.0 | 3.7 |
| Alder (Red) | \$0.00 | 1.0 | 3.6 |



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Logging Costs Breakdown

| Logging | Road Maint | Fire Protect | Hauling | Other P/R appl | Profit & Risk | Slash Disposal | Scaling / Brand & Paint | Other | Total |
|----------------------|------------|--------------|----------|----------------|---------------|----------------|-------------------------|--------|----------|
| Douglas - Fir | | | | | | | | | |
| \$116.71 | \$2.06 | \$0.81 | \$79.56 | \$0.00 | \$19.91 | \$0.00 | \$7.00 | \$2.40 | \$228.45 |
| Noble Fir | | | | | | | | | |
| \$116.71 | \$2.12 | \$0.81 | \$110.68 | \$0.00 | \$23.03 | \$0.00 | \$7.00 | \$2.40 | \$262.75 |
| Alder (Red) | | | | | | | | | |
| \$116.71 | \$2.22 | \$0.81 | \$238.34 | \$0.00 | \$35.81 | \$0.00 | \$7.00 | \$2.40 | \$403.29 |

| Specie | Amortization | Pond Value | Stumpage | Amortized |
|---------------|--------------|------------|----------|-----------|
| Douglas - Fir | \$0.00 | \$768.57 | \$540.12 | \$0.00 |
| Noble Fir | \$0.00 | \$644.85 | \$382.10 | \$0.00 |
| Alder (Red) | \$0.00 | \$650.00 | \$246.71 | \$0.00 |



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Summary

Amortized

| Specie | MBF | Value | Total |
|---------------|-----|--------|--------|
| Douglas - Fir | 0 | \$0.00 | \$0.00 |
| Noble Fir | 0 | \$0.00 | \$0.00 |
| Alder (Red) | 0 | \$0.00 | \$0.00 |

Unamortized

| Specie | MBF | Value | Total |
|---------------|-------|----------|----------------|
| Douglas - Fir | 5,371 | \$540.12 | \$2,900,984.52 |
| Noble Fir | 45 | \$382.10 | \$17,194.50 |
| Alder (Red) | 11 | \$246.71 | \$2,713.81 |

Gross Timber Sale Value

Recovery: \$2,920,892.83

Prepared By: Eric Foucht

Phone: 503-359-7473

PROJECT COST SUMMARY SHEET

Timber Sale: Cochran Bull
Sale Number: 341-18-16

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

| <u>Road Segment</u> | <u>Length</u> | <u>Cost</u> |
|---------------------|---------------|-------------|
| E to F | 1+70 | \$587.36 |
| G to H | 7+15 | \$1,923.40 |
| | 8+85 stations | |
| | 0.17 miles | |

SUBTOTAL CONSTRUCTION = \$2,510.76

IMPROVEMENTS

| <u>Road Segment</u> | <u>Length</u> | <u>Cost</u> |
|---------------------|-----------------|-------------|
| A to B | 217+00 | \$22,057.00 |
| C to D | 76+30 | \$3,631.80 |
| | 293+30 stations | |
| | 5.55 miles | |

SUBTOTAL IMPROVEMENTS = \$25,688.80

TOTAL PROJECT NO. 1 COST = \$28,199.56

PROJECT NO. 2: SURFACING

| <u>Road Segment</u> | <u>Rock Amount</u> | <u>Rock Type</u> | <u>Cost</u> |
|---------------------|--------------------|------------------|--------------|
| A to B | 6,677 cy | 1 1/2" - 0 | \$124,281.25 |
| C to D | 1,998 cy | 1 1/2" - 0 | \$34,730.82 |
| C to D | 400 cy | Pit-run | \$2,620.00 |
| E to F | 218 cy | Pit-run | \$2,742.44 |
| G to H | 171 cy | 1 1/2" - 0 | \$2,169.99 |
| G to H | 301 cy | Pit-run | \$1,173.90 |
| Total | 8,846 cy | 1 1/2" - 0 | |
| | 919 cy | Pit-run | |

TOTAL PROJECT NO. 2 COST = \$167,718.40

PROJECT NO. 3 GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = \$190.63

PROJECT NO. ROAD BRUSHING

TOTAL PROJECT NO. 4 COST = \$29,641.25

MOVE-IN, WITH-IN AREA MOVE, & EQUIPMENT CLEANING

| | |
|---|------------|
| Grader | \$894.59 |
| Roller (smooth/grid) & Compactor | \$608.17 |
| Excavator - Equipment Cleaning | \$1,894.59 |
| Dozer - Equipment Cleaning - Within Area Move | \$243.94 |
| Dump Truck (10cy +) | \$1,013.10 |
| Water Truck (2,500 Gal) | \$177.77 |

TOTAL MOVE-IN & EQUIPMENT CLEANING COST = \$4,940.16

TOTAL CREDITS \$230,690.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Cochran Bull
 Road Segment: A to B

Sale Number: 341-18-16
 Improvement: 217+00 stations
4.11 miles

PROJECT NO. 1

EXCAVATION

| | | | | | |
|------------------------------|--------|-------|---------|-----------|---------------------------------|
| Clean culvert inlet & outlet | 50 | ea @ | \$25.00 | per ea = | \$1,250.00 |
| Grade, ditch, & roll | 217.00 | sta @ | \$36.00 | per sta = | \$7,812.00 |
| | | | | | TOTAL EXCAVATION COSTS = |
| | | | | | \$9,062.00 |

CULVERTS - MATERIALS & INSTALLATION

Culverts

| | |
|---------------|------------|
| 350 LF of 18" | \$7,000.00 |
| 105 LF of 24" | \$3,045.00 |
| 30 LF of 30" | \$1,170.00 |
| 30 LF of 36" | \$1,500.00 |

Culvert Markers

| | |
|------------|----------|
| 28 markers | \$280.00 |
|------------|----------|

TOTAL CULVERT COSTS = \$12,995.00

PROJECT NO. 1 TOTAL COST = \$22,057.00

PROJECT NO. 2:

| | | | | | | |
|--------------------------|-------|----------|------------|---|---------|-----------------------|
| SURFACING | 6 | " deep = | 31 cy/sta | | | |
| A to B (0+00 to 191+45) | 5,935 | cy of | 1 1/2" - 0 | @ | \$18.65 | per cy = \$110,687.75 |
| Turnout | 350 | cy of | 1 1/2" - 0 | @ | \$18.65 | per cy = \$6,527.50 |
| Junction | 30 | cy of | 1 1/2" - 0 | @ | \$18.65 | per cy = \$559.50 |
| Culvert bedding/Backfill | 340 | cy of | 1 1/2" - 0 | @ | \$17.93 | per cy = \$6,096.20 |
| Curve widening | 22 | cy of | 1 1/2" - 0 | @ | \$18.65 | per cy = \$410.30 |
| Rock Total = | 6,677 | | | | | |
| | 6,337 | cy of | 1 1/2" - 0 | | \$18.65 | per cy = \$118,185.05 |
| | 340 | cy of | 1 1/2" - 0 | | \$17.93 | per cy = \$6,096.20 |

PROJECT NO. 2 TOTAL COST = \$124,281.25

PROJECT NO. 3:

| | | | | | |
|-------|----|-------|---|--------|---------------------|
| Mulch | 14 | bales | @ | \$8.00 | per bale = \$112.00 |
|-------|----|-------|---|--------|---------------------|

PROJECT NO. 3 TOTAL COST = \$112.00

TOTAL COST = \$146,450.25

SUMMARY OF CONSTRUCTION COST

Timber Sale: Cochran Bull
Road Segment: C to D

Sale Number: 341-18-16
Improvement: 76+30 stations
1.45 miles

PROJECT NO. 1

EXCAVATION

| | | | | | |
|------------------------------|-------|-------|---------|-----------|------------|
| Clean culvert inlet & outlet | 9 | ea @ | \$25.00 | per ea = | \$225.00 |
| Grade, ditch, & roll | 76.30 | sta @ | \$36.00 | per sta = | \$2,746.80 |

TOTAL EXCAVATION COSTS = \$2,971.80

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18" \$600.00

Culvert Markers

6 markers \$60.00

TOTAL CULVERT COSTS = \$660.00

PROJECT NO. 1 TOTAL COST = \$3,631.80

PROJECT NO. 2:

SURFACING

| | | | | | | |
|----------------------------------|-------|----------|------------|---|---------|----------------------|
| | 6 | " deep = | 31 cy/sta | | | |
| C to D (0+00 to 53+80) | 1,668 | cy of | 1 1/2" - 0 | @ | \$17.39 | per cy = \$29,006.52 |
| C to D Spotrock (53+80 to 76+30) | 400 | cy of | Pit-run | @ | \$6.55 | per cy = \$2,620.00 |
| Turnout | 140 | cy of | 1 1/2" - 0 | @ | \$17.39 | per cy = \$2,434.60 |
| Landing | 90 | cy of | 1 1/2" - 0 | @ | \$17.39 | per cy = \$1,565.10 |
| Junctions | 80 | cy of | 1 1/2" - 0 | @ | \$17.39 | per cy = \$1,391.20 |
| Culvert bedding/Backfill | 20 | cy of | 1 1/2" - 0 | @ | \$16.67 | per cy = \$333.40 |
| Rock Total = | 2,398 | | | | | |
| | 1,978 | cy of | 1 1/2" - 0 | | \$17.39 | per cy = \$34,397.42 |
| | 20 | cy of | 1 1/2" - 0 | | \$16.67 | per cy = \$333.40 |
| | 400 | cy of | Pit-run | | \$6.55 | per cy = \$2,620.00 |

PROJECT NO. 2 TOTAL COST = \$37,350.82

TOTAL COST = \$40,982.62

SUMMARY OF CONSTRUCTION COST

| | | | |
|---------------|--------------|---------------|-----------------------------|
| Timber Sale: | Cochran Bull | Sale Number: | 341-18-16 |
| Road Segment: | E to F | Construction: | 1+70 stations 0.03 miles |

PROJECT NO. 1

EXCAVATION

| | | | | | |
|-------------------------------|------|-------|------------|------------|----------|
| Clearing & grubbing (scatter) | 0.12 | ac @ | \$1,078.00 | per acre = | \$129.36 |
| Balanced road construction | 1.70 | sta @ | \$110.00 | per sta = | \$187.00 |
| Small landing | 1 | ea @ | \$220.00 | per ea = | \$220.00 |
| Grade, ditch, & roll | 1.70 | sta @ | \$30.00 | per sta = | \$51.00 |

PROJECT NO. 1 TOTAL COST = \$587.36

PROJECT NO. 2:

SURFACING

| | | | | | | |
|--------------|-----|----------|-----------|---|---------|---------------------|
| | 12 | " deep = | 65 cy/sta | | | |
| E to F | 111 | cy of | Pit-run | @ | \$12.58 | per cy = \$1,396.38 |
| Junction | 12 | cy of | Pit-run | @ | \$12.58 | per cy = \$150.96 |
| Landing | 95 | cy of | Pit-run | @ | \$12.58 | per cy = \$1,195.10 |
| Rock Total = | 218 | | | | | |
| | 218 | cy of | Pit-run | | \$12.58 | per cy = \$2,742.44 |

PROJECT NO. 2 TOTAL COST = \$2,742.44

PROJECT NO. 3:

| | | | | | |
|-------------------------|------|-------|---|----------|--------------------|
| Grass seed & fertilizer | 0.06 | acres | @ | \$425.00 | per acre = \$25.50 |
|-------------------------|------|-------|---|----------|--------------------|

PROJECT NO. 3 TOTAL COST = \$25.50

TOTAL COST = \$3,355.30

SUMMARY OF CONSTRUCTION COST

| | | | |
|---------------|---------------------|---------------|----------------------|
| Timber Sale: | <u>Cochran Bull</u> | Sale Number: | <u>341-18-16</u> |
| Road Segment: | <u>G to H</u> | Construction: | <u>7+15</u> stations |
| | | | <u>0.14</u> miles |

PROJECT NO. 1

EXCAVATION

| | | | | | |
|-------------------------------|------|-------|------------|------------|----------|
| Clearing & grubbing (scatter) | 0.25 | ac @ | \$1,078.00 | per acre = | \$269.50 |
| Balanced road construction | 7.15 | sta @ | \$110.00 | per sta = | \$786.50 |
| Grade, ditch, & roll | 7.15 | sta @ | \$36.00 | per sta = | \$257.40 |

TOTAL EXCAVATION COSTS = \$1,313.40

CULVERTS - MATERIALS & INSTALLATION

Culverts

30 LF of 18" \$600.00

Culvert Markers

1 markers \$10.00

TOTAL CULVERT COSTS = \$610.00

PROJECT NO. 1 TOTAL COST = \$1,923.40

PROJECT NO. 2:

| | | | | | | |
|----------------|-----|----------|------------|---|---------|---------------------|
| BASE ROCK | 8 | " deep = | 42 cy/sta | | | |
| SURFACING ROCK | 4 | " deep = | 20 cy/sta | | | |
| Base Rock | 301 | cy of | Pit-run | @ | \$3.90 | per cy = \$1,173.90 |
| Surfacing Rock | 143 | cy of | 1 1/2" - 0 | @ | \$12.69 | per cy = \$1,814.67 |
| Junctions | 28 | cy of | 1 1/2" - 0 | @ | \$12.69 | per cy = \$355.32 |
| Rock Total = | 472 | | | | | |
| | 171 | cy of | 1 1/2" - 0 | | \$12.69 | per cy = \$2,169.99 |
| | 301 | cy of | Pit-run | | \$3.90 | per cy = \$1,173.90 |

PROJECT NO. 2 TOTAL COST = \$3,343.89

PROJECT NO. 3:

| | | | | | |
|-------------------------|------|-------|---|----------|--------------------|
| Grass seed & fertilizer | 0.13 | acres | @ | \$425.00 | per acre = \$53.13 |
|-------------------------|------|-------|---|----------|--------------------|

PROJECT NO. 3 TOTAL COST = \$53.13

TOTAL COST = \$5,320.42

SUMMARY OF CONSTRUCTION COST

Timber Sale: Cochran Bull Sale Number: 341-18-16

PROJECT NO. 4:

Road Brushing

| <u>Brush Density</u> | <u>miles @</u> | <u>\$ per mile =</u> | |
|----------------------|----------------|----------------------|-------------|
| Light | 9.20 | \$700.00 | \$6,440.00 |
| Moderate | 20.40 | \$1,000.00 | \$20,400.00 |
| Heavy | 1.80 | \$1,300.00 | \$2,340.00 |
| Total Miles= | 31.40 | | |

Move In & Within Area Move

Brush Cutter \$461.25

TOTAL COST = \$29,641.25

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

| | |
|--------------|-----------------------------|
| Timber Sale: | <u>Cochran Bull</u> |
| Sale Number: | <u>341-18-16</u> |
| Pit Name: | <u>Rock Creek Ridge Pit</u> |

| | | |
|---------------------------------------|-----------------|-----------------|
| 1 1/2" - 0: | <u>8,846 cy</u> | (truck measure) |
| Resurface Pit Access Road 1 1/2" - 0: | <u>65 cy</u> | (truck measure) |
| Total truck yardage: | <u>8,911 cy</u> | |
| Total in place yardage: | <u>6,855 cy</u> | |

| | |
|------------|-------------|
| Swell: | <u>130%</u> |
| Shrinkage: | <u>116%</u> |

Pit development, including clearing & grubbing of waste area, place overburden in waste area, spread & compact. Reinstall existing culvert at Pit. Waterbar & block existing road as shown on Exhibit F Pit Development Plan. Resurface pit access road. \$4,660.05

| | | | | | |
|---------------------------|---------------|--------|--------------|-----------|--------------------|
| Drill & shoot | <u>\$2.80</u> | / cy x | <u>6,855</u> | cy = | \$19,192.92 |
| Load dump truck | <u>\$0.80</u> | / cy x | <u>8,911</u> | cy = | \$7,128.80 |
| Haul shot rock to crusher | <u>\$0.70</u> | / cy x | <u>8,911</u> | cy = | \$6,237.70 |
| Load crusher | <u>\$0.80</u> | / cy x | <u>8,911</u> | cy = | \$7,128.80 |
| Crush (1 1/2" - 0) | <u>\$3.30</u> | / cy x | <u>8,911</u> | cy = | \$29,406.30 |
| Load dump truck | <u>\$0.80</u> | / cy x | <u>8,911</u> | cy = | \$7,128.80 |
| | | | | Subtotal: | <u>\$80,883.37</u> |

| | | | | | |
|--|----------|------------|----------|-----------|--------------------|
| Move in & setup drill | | | | | \$414.92 |
| Equipment cleaning & move in - excavator | | | | | \$1,754.46 |
| Equipment cleaning & move in - dozer | | | | | \$1,752.99 |
| Move in loader | | | | | \$677.02 |
| Move in crusher | | | | | \$3,286.00 |
| Setup crusher | | | | | \$3,327.00 |
| Gradation tests | \$275.00 | /2,000cy x | <u>5</u> | tests | \$1,375.00 |
| Clean up pit | | | | | \$875.00 |
| | | | | Subtotal: | <u>\$13,462.39</u> |

TOTAL PRODUCTION COST = \$94,345.76

ROCK DEVELOPMENT COST = \$10.59/cy

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Cochran Bull
Sale Number: 341-18-16
Pit Name: Rock Creek Ridge Pit

Pit-run: 301 cy (truck measure)
Total truck yardage: 301 cy
Total in place yardage: 232 cy

Swell: 130%

| | | | | | |
|-----------------|---------------|--------|------------|-----------|-----------------|
| Rip rock | <u>\$2.10</u> | / cy x | <u>232</u> | cy = | <u>\$486.23</u> |
| Load dump truck | <u>\$0.80</u> | / cy x | <u>301</u> | cy = | <u>\$240.80</u> |
| | | | | Subtotal: | <u>\$727.03</u> |

TOTAL PRODUCTION COST = \$727.03

ROCK DEVELOPMENT COST = \$2.42/cy

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Cochran Bull
Sale Number: 341-18-16
Pit Name: Howdy Pit

Pit-run: 618 cy (truck measure)
Total truck yardage: 618 cy
Total in place yardage: 475 cy

Swell: 130%

| | | | | | |
|-----------------|---------------|--------|------------|-----------|-----------------|
| Rip rock | <u>\$2.10</u> | / cy x | <u>475</u> | cy = | \$998.31 |
| Load dump truck | <u>\$0.80</u> | / cy x | <u>618</u> | cy = | <u>\$494.40</u> |
| | | | | Subtotal: | \$1,492.71 |

| | | | | | |
|------------------------------|--|--|--|-----------|-----------------|
| Within area move - excavator | | | | | \$293.99 |
| Clean up pit | | | | | <u>\$350.00</u> |
| | | | | Subtotal: | \$643.99 |

TOTAL PRODUCTION COST = \$2,136.70

ROCK DEVELOPMENT COST = \$3.46/cy

CRUISE REPORT
Cochran Bull
341-18-16

1. LOCATION: Portions of Sections 27, 28, & 33, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 26 inches and the Coefficient of Variation is about 50%. For sales of this size and approximate value, ODF cruise standards require a Sampling Error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. Statistical analysis indicated that 30 variable radius plots utilizing a 40 BAF prism would produce an adequate sample size.

3. SAMPLING METHOD:

The Timber Sale Area was cruised in October of 2017 with 33 plots laid out on a 7 chain x 3 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. All plot trees were measured and graded.

4. CRUISE RESULTS

192 trees were measured and graded producing a cumulative Sampling Error of 6.3% on the Basal Area and 3.7% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 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 estimates and sampling statistics, were derived from Super Ace 2008 cruise software

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

6. Cruisers: The sale was cruised by ODF cruiser Kenton Burns.

Prepared by:

Kenton Burns

Date

Reviewed by:

Eric Foucht

Date

| TC PSTATS | | | PROJECT STATISTICS | | | | | | PAGE 1 | | | |
|--|------|-------|--------------------|-------------------|----------|----------|-----------|-------|-----------------|--------|-----------|--------|
| | | | PROJECT | | | COCHBULL | | | DATE 10/26/2017 | | | |
| TWP | RGE | SC | TRACT | TYPE | | ACRES | | PLOTS | TREES | CuFt | BdFt | |
| 03N | 06 | 27 | A1 | 00MC | | 97.00 | | 33 | 192 | S | W | |
| | | | | | TREES | | ESTIMATED | | PERCENT | | | |
| | | | PLOTS | | TREES | | TOTAL | | SAMPLE | | | |
| | | | | | PER PLOT | | TREES | | TREES | | | |
| TOTAL | | | 33 | 192 | 5.8 | | | | | | | |
| CRUISE | | | 33 | 192 | 5.8 | | 6,474 | | 3.0 | | | |
| DBH COUNT | | | | | | | | | | | | |
| REFOREST | | | | | | | | | | | | |
| COUNT | | | | | | | | | | | | |
| 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 | | | 189 | 61.0 | 26.2 | 140 | 44.7 | 229.1 | 57,283 | 56,500 | 11,461 | 11,461 |
| NOB FIR | | | 2 | 3.0 | 12.2 | 91 | 0.7 | 2.4 | 468 | 468 | 90 | 90 |
| R ALDER | | | 1 | 2.7 | 9.0 | 64 | 0.4 | 1.2 | 110 | 110 | 24 | 24 |
| TOTAL | | | 192 | 66.7 | 25.3 | 135 | 46.3 | 232.7 | 57,861 | 57,078 | 11,575 | 11,575 |
| 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 | | | 50.0 | 3.6 | 1,131 | 1,174 | 1,217 | | | | | |
| NOB FIR | | | 128.3 | 120.1 | | | 645 | 1,420 | | | | |
| R ALDER | | | | | | | | | | | | |
| TOTAL | | | 51.0 | 3.7 | 1,120 | 1,163 | 1,205 | 104 | 26 | 12 | | |
| 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 | | | 44.5 | 3.2 | 226 | 233 | 241 | | | | | |
| NOB FIR | | | 130.1 | 121.8 | | | 130 | 288 | | | | |
| R ALDER | | | | | | | | | | | | |
| TOTAL | | | 45.7 | 3.3 | 223 | 231 | 238 | 83 | 21 | 9 | | |
| 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 | | | 49.0 | 8.5 | 56 | 61 | 66 | | | | | |
| NOB FIR | | | 527.7 | 91.8 | 0 | 3 | 6 | | | | | |
| R ALDER | | | 574.5 | 99.9 | 0 | 3 | 5 | | | | | |
| TOTAL | | | 59.8 | 10.4 | 60 | 67 | 74 | 143 | 36 | 16 | | |
| 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 | | | 36.6 | 6.4 | 215 | 229 | 244 | | | | | |
| NOB FIR | | | 399.8 | 69.5 | 1 | 2 | 4 | | | | | |
| R ALDER | | | 574.5 | 99.9 | 0 | 1 | 2 | | | | | |
| TOTAL | | | 36.1 | 6.3 | 218 | 233 | 247 | 52 | 13 | 6 | | |
| 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 | | | 37.7 | 6.6 | 52,791 | 56,500 | 60,209 | | | | | |
| NOB FIR | | | 418.2 | 72.7 | 128 | 468 | 809 | | | | | |
| R ALDER | | | 574.5 | 99.9 | 0 | 110 | 219 | | | | | |
| TOTAL | | | 37.0 | 6.4 | 53,402 | 57,078 | 60,754 | 55 | 14 | 6 | | |
| 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 | | | 37.1 | 6.5 | 10,721 | 11,461 | 12,201 | | | | | |
| NOB FIR | | | 427.6 | 74.4 | 23 | 90 | 157 | | | | | |

| TC PSTATS | | | | PROJECT STATISTICS | | | | PAGE | 2 | |
|-----------|------|----|-------|--------------------|------------------|--------|-----------------|------|------------|----|
| | | | | PROJECT COCHBULL | | | | DATE | 10/26/2017 | |
| TWP | RGE | SC | TRACT | TYPE | ACRES | PLOTS | TREES | CuFt | BdFt | |
| 03N | 06 | 27 | A1 | 00MC | 97.00 | 33 | 192 | S | W | |
| CL | 68.1 | | COEFF | | NET CUFT FT/ACRE | | # OF PLOTS REQ. | | INF. POP. | |
| SD: | 1.00 | | VAR. | S.E.% | LOW | AVG | HIGH | 5 | 10 | 15 |
| R ALDER | | | 574.5 | 99.9 | 0 | 24 | 48 | | | |
| TOTAL | | | 36.4 | 6.3 | 10,842 | 11,575 | 12,307 | 53 | 13 | 6 |

| TC | | PSTNDSUM | | | | | | | | | | Stand Table Summary | | | | | | | | | | Page | | 1 | | | | |
|----------------------------|---|----------|-----------------|-----------|----------|----------------|-------------|--------------|---------------|---------------|---------------|---------------------|----------------|--------|----------|--------|--|--|--|--|--|-------|--|------------|-------------|--|------------|--|
| | | | | | | | | | | | | | | | | | | | | | | Date: | | 10/26/2017 | | | | |
| T03N R06W S27 Ty00MC 97.00 | | | | | Project | | | | | | | | | | COCHBULL | | | | | | | | | | Time: | | 11:11:37AM | |
| | | | | | Acres | | | | | | | | | | 97.00 | | | | | | | | | | Grown Year: | | | |
| S Spec | T | Tot | | | | | | Average Log | | Net | | | Net | | | Totals | | | | | | | | | | | | |
| | | DBH | Sample Trees | FF 16' | Av Ht | Trees/ Acre | BA/ Acre | Logs Acre | Net Cu.Ft. | Net Bd.Ft. | Tons/ Acre | Cu.Ft. Acre | Bd.Ft. Acre | Tons | Cunits | MBF | | | | | | | | | | | | |
| DF | | 13 | 2 | 87 | 91 | 2.630 | 2.42 | 5.26 | 13.6 | 55.0 | 2.04 | 72 | 289 | 198 | 70 | 28 | | | | | | | | | | | | |
| DF | | 15 | 1 | 87 | 120 | .988 | 1.21 | 1.98 | 23.6 | 105.0 | 1.33 | 47 | 207 | 129 | 45 | 20 | | | | | | | | | | | | |
| DF | | 16 | 1 | 88 | 126 | .868 | 1.21 | 2.60 | 19.4 | 86.7 | 1.44 | 50 | 226 | 140 | 49 | 22 | | | | | | | | | | | | |
| DF | | 17 | 5 | 87 | 119 | 3.845 | 6.06 | 10.00 | 24.7 | 103.8 | 7.04 | 247 | 1,038 | 683 | 239 | 101 | | | | | | | | | | | | |
| DF | | 18 | 2 | 88 | 118 | 1.372 | 2.42 | 4.12 | 23.8 | 96.7 | 2.80 | 98 | 398 | 271 | 95 | 39 | | | | | | | | | | | | |
| DF | | 19 | 3 | 88 | 127 | 1.847 | 3.64 | 5.54 | 28.1 | 117.8 | 4.43 | 156 | 653 | 430 | 151 | 63 | | | | | | | | | | | | |
| DF | | 20 | 3 | 88 | 117 | 1.667 | 3.64 | 5.00 | 29.3 | 121.1 | 4.18 | 147 | 606 | 405 | 142 | 59 | | | | | | | | | | | | |
| DF | | 21 | 5 | 88 | 131 | 2.520 | 6.06 | 7.56 | 35.8 | 160.7 | 7.72 | 271 | 1,214 | 748 | 263 | 118 | | | | | | | | | | | | |
| DF | | 22 | 7 | 88 | 137 | 3.214 | 8.48 | 9.64 | 41.2 | 190.5 | 11.31 | 397 | 1,837 | 1,098 | 385 | 178 | | | | | | | | | | | | |
| DF | | 23 | 6 | 88 | 139 | 2.521 | 7.27 | 7.98 | 43.0 | 197.4 | 9.78 | 343 | 1,575 | 949 | 333 | 153 | | | | | | | | | | | | |
| DF | | 24 | 7 | 88 | 146 | 2.701 | 8.48 | 9.26 | 45.8 | 212.5 | 12.07 | 424 | 1,968 | 1,171 | 411 | 191 | | | | | | | | | | | | |
| DF | | 25 | 12 | 88 | 144 | 4.267 | 14.55 | 13.87 | 51.6 | 239.7 | 20.39 | 715 | 3,325 | 1,978 | 694 | 322 | | | | | | | | | | | | |
| DF | | 26 | 10 | 87 | 145 | 3.288 | 12.12 | 10.19 | 58.2 | 272.3 | 16.89 | 593 | 2,775 | 1,638 | 575 | 269 | | | | | | | | | | | | |
| DF | | 27 | 18 | 87 | 151 | 5.487 | 21.82 | 19.82 | 56.2 | 274.6 | 31.72 | 1,113 | 5,442 | 3,077 | 1,079 | 528 | | | | | | | | | | | | |
| DF | | 28 | 18 | 88 | 145 | 5.102 | 21.82 | 15.87 | 68.4 | 339.3 | 30.94 | 1,085 | 5,386 | 3,001 | 1,053 | 522 | | | | | | | | | | | | |
| DF | | 29 | 10 | 88 | 153 | 2.643 | 12.12 | 9.51 | 66.7 | 340.6 | 18.09 | 635 | 3,240 | 1,755 | 616 | 314 | | | | | | | | | | | | |
| DF | | 30 | 11 | 87 | 148 | 2.716 | 13.33 | 9.14 | 73.6 | 367.8 | 19.15 | 672 | 3,361 | 1,858 | 652 | 326 | | | | | | | | | | | | |
| DF | | 31 | 12 | 87 | 149 | 2.775 | 14.55 | 9.71 | 76.5 | 384.0 | 21.17 | 743 | 3,730 | 2,054 | 721 | 362 | | | | | | | | | | | | |
| DF | | 32 | 17 | 88 | 157 | 3.690 | 20.61 | 13.46 | 82.4 | 424.8 | 31.58 | 1,108 | 5,717 | 3,063 | 1,075 | 555 | | | | | | | | | | | | |
| DF | | 33 | 8 | 88 | 157 | 1.633 | 9.70 | 5.92 | 88.7 | 462.4 | 14.96 | 525 | 2,737 | 1,451 | 509 | 265 | | | | | | | | | | | | |
| DF | | 34 | 11 | 88 | 157 | 2.115 | 13.33 | 7.88 | 90.8 | 476.8 | 20.40 | 716 | 3,758 | 1,979 | 694 | 365 | | | | | | | | | | | | |
| DF | | 35 | 4 | 87 | 154 | .726 | 4.85 | 2.90 | 88.5 | 466.3 | 7.32 | 257 | 1,353 | 710 | 249 | 131 | | | | | | | | | | | | |
| DF | | 36 | 4 | 88 | 159 | .686 | 4.85 | 2.57 | 101.5 | 548.7 | 7.44 | 261 | 1,411 | 722 | 253 | 137 | | | | | | | | | | | | |
| DF | | 37 | 1 | 88 | 162 | .162 | 1.21 | .65 | 104.9 | 565.0 | 1.94 | 68 | 367 | 188 | 66 | 36 | | | | | | | | | | | | |
| DF | | 38 | 5 | 88 | 160 | .770 | 6.06 | 2.92 | 109.8 | 606.8 | 9.15 | 321 | 1,775 | 888 | 311 | 172 | | | | | | | | | | | | |
| DF | | 39 | 1 | 88 | 157 | .146 | 1.21 | .58 | 111.2 | 597.5 | 1.85 | 65 | 349 | 180 | 63 | 34 | | | | | | | | | | | | |
| DF | | 40 | 1 | 88 | 156 | .139 | 1.21 | .56 | 118.7 | 642.5 | 1.88 | 66 | 357 | 182 | 64 | 35 | | | | | | | | | | | | |
| DF | | 41 | 2 | 88 | 159 | .264 | 2.42 | .93 | 143.0 | 770.0 | 3.77 | 132 | 713 | 366 | 128 | 69 | | | | | | | | | | | | |
| DF | | 42 | 1 | 88 | 169 | .126 | 1.21 | .50 | 139.8 | 790.0 | 2.01 | 70 | 398 | 195 | 68 | 39 | | | | | | | | | | | | |
| DF | | 47 | 1 | 87 | 149 | .101 | 1.21 | .30 | 211.7 | 983.3 | 1.82 | 64 | 297 | 177 | 62 | 29 | | | | | | | | | | | | |
| DF | | Totals | 189 | 88 | 140 | 61.006 | 229.09 | 196.22 | 58.4 | 287.9 | 326.63 | 11,461 | 56,500 | 31,683 | 11,117 | 5,480 | | | | | | | | | | | | |
| NF | | 9 | 1 | 91 | 86 | 2.744 | 1.21 | 2.74 | 10.4 | 60.0 | .68 | 28 | 165 | 66 | 28 | 16 | | | | | | | | | | | | |
| NF | | 30 | 1 | 87 | 148 | .247 | 1.21 | .74 | 83.0 | 410.0 | 1.48 | 62 | 304 | 143 | 60 | 29 | | | | | | | | | | | | |
| NF | | Totals | 2 | 91 | 91 | 2.991 | 2.42 | 3.48 | 25.8 | 134.4 | 2.16 | 90 | 468 | 209 | 87 | 45 | | | | | | | | | | | | |
| RA | | 9 | 1 | 93 | 64 | 2.744 | 1.21 | 2.74 | 8.7 | 40.0 | .66 | 24 | 110 | 64 | 23 | 11 | | | | | | | | | | | | |
| RA | | Totals | 1 | 93 | 64 | 2.744 | 1.21 | 2.74 | 8.7 | 40.0 | .66 | 24 | 110 | 64 | 23 | 11 | | | | | | | | | | | | |
| Totals | | | 192 | 88 | 135 | 66.740 | 232.73 | 202.45 | 57.2 | 281.9 | 329.45 | 11,575 | 57,078 | 31,956 | 11,227 | 5,537 | | | | | | | | | | | | |

| TC | | PSPCSTGR | | Species, Sort Grade - Board Foot Volumes (Project) | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--------|----------|----------|--|----------------------------------|--------|--------|------------------|----------------------------------|------|-------|-----|------------|-------|-------|-------|-------------|-----------------|----------|-----------|----------------------|-------|
| <div>T03N R06W S27 Ty00MC97.00</div> | | | | Project: COCHBULL | | | | | | | | | | | | | | Page 1 | | | | |
| | | | | Acres 97.00 | | | | | | | | | | | | | | Date 10/26/2017 | | | | |
| | | | | | | | | | | | | | | | | | | Time 11:11:34AM | | | | |
| Spp | S T | So rt | Gr ad | % Net BdFt | Bd. Ft. per Acre Def%GrossNet | | | 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 | | |
| | | | | | | | | | 4-5 | 6-11 | 12-16 | 17+ | 12-20 | 21-30 | 31-35 | 36-99 | | | | | | |
| DF | | | CU | | | | | | | | | | | | | | 7 | 23 | | 0.00 | .8 | |
| DF | | | 2M | 87 | 1.5 | 50,056 | 49,297 | 4,782 | | | 27 | 73 | 0 | | 1 | 99 | 40 | 17 | 506 | 2.43 | 97.3 | |
| DF | | | 3M | 11 | .4 | 6,461 | 6,437 | 624 | | 95 | 4 | 1 | 0 | 2 | 15 | 83 | 37 | 8 | 105 | 0.79 | 61.6 | |
| DF | | | 4M | 2 | | 766 | 766 | 74 | | 100 | | | 66 | 34 | | | 16 | 7 | 21 | 0.39 | 37.3 | |
| DF | Totals | | | 99 | 1.4 | 57,283 | 56,500 | 5,480 | | 12 | 24 | 64 | 1 | 1 | 2 | 96 | 34 | 13 | 287 | 1.69 | 197.0 | |
| NF | | | 2M | 61 | | 286 | 286 | 28 | | | 34 | 66 | | | 100 | | 40 | 19 | 580 | 2.70 | .5 | |
| NF | | | 3M | 39 | | 182 | 182 | 18 | | 100 | | | | | 100 | | 38 | 6 | 61 | 0.32 | 3.0 | |
| NF | Totals | | | 1 | | 468 | 468 | 45 | | 39 | 21 | 40 | | | 100 | | 38 | 8 | 134 | 0.67 | 3.5 | |
| RA | | | R | 100 | | 110 | 110 | 11 | 100 | | | | | | 100 | | 36 | 5 | 40 | 0.24 | 2.7 | |
| RA | Totals | | | 0 | | 110 | 110 | 11 | 100 | | | | | | 100 | | 36 | 5 | 40 | 0.24 | 2.7 | |
| Totals | | | | | 1.4 | 57,861 | 57,078 | 5,537 | | 0 | 12 | 24 | 64 | 1 | 1 | 2 | 96 | 35 | 12 | 281 | 1.65 | 203.3 |

| TC PLOGSTVB | | Log Stock Table - MBF | | | | | | | | | | | | | | | | | |
|----------------------------|--------|-----------------------|----------|----------------------------------|--------------|----------|------------|----------|--|-----|-----|-----|-------|-------|-------|--|-------|-------|-------|
| T03N R06W S27 Ty00MC 97.00 | | | | Project: COCHBULL Acres 97.00 | | | | | | | | | | | | Page 1 Date 10/26/2017 Time 11:11:33AM | | | |
| Spp | S T | So rt | Gr 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 |
| DF | | 2M | 14 | | 3 | 7.1 | 2 | .0 | | | | | | | 2 | | | | |
| DF | | 2M | 32 | | 25 | 4.7 | 24 | .4 | | | | | 9 | | | 15 | | | |
| DF | | 2M | 34 | | 6 | | 6 | .1 | | | | | 3 | 3 | | | | | |
| DF | | 2M | 36 | | 9 | | 9 | .2 | | | | | 9 | | | | | | |
| DF | | 2M | 40 | | 4,812 | 1.5 | 4,740 | 86.5 | | | | | 387 | 598 | 1578 | 1407 | 713 | 58 | |
| DF | | 3M | 18 | | 1 | | 1 | .0 | | | | | 1 | | | | | | |
| DF | | 3M | 24 | | 1 | | 1 | .0 | | | | | 1 | | | | | | |
| DF | | 3M | 26 | | 1 | | 1 | .0 | | | | 1 | | | | | | | |
| DF | | 3M | 28 | | 2 | | 2 | .0 | | | 1 | 1 | | | | | | | |
| DF | | 3M | 30 | | 6 | | 6 | .1 | | | 1 | 2 | 2 | | | | | | |
| DF | | 3M | 32 | | 47 | 1.3 | 46 | .8 | | | 10 | 19 | 18 | | | | | | |
| DF | | 3M | 34 | | 50 | | 50 | .9 | | | 14 | 22 | 14 | | | | | | |
| DF | | 3M | 36 | | 92 | | 92 | 1.7 | | | 24 | 46 | 22 | | | | | | |
| DF | | 3M | 38 | | 31 | | 31 | .6 | | | 16 | 11 | 4 | | | | | | |
| DF | | 3M | 40 | | 396 | | 395 | 7.2 | | | 51 | 94 | 216 | 26 | 8 | | | | |
| DF | | 4M | 12 | | 29 | | 29 | .5 | | | 20 | 8 | 1 | | | | | | |
| DF | | 4M | 14 | | 5 | | 5 | .1 | | | 4 | 2 | | | | | | | |
| DF | | 4M | 16 | | 6 | | 6 | .1 | | | 5 | 1 | | | | | | | |
| DF | | 4M | 18 | | 4 | | 4 | .1 | | | 4 | 0 | | | | | | | |
| DF | | 4M | 20 | | 5 | | 5 | .1 | | | 5 | 1 | | | | | | | |
| DF | | 4M | 22 | | 1 | | 1 | .0 | | | 1 | | | | | | | | |
| DF | | 4M | 24 | | 7 | | 7 | .1 | | | 6 | 1 | | | | | | | |
| DF | | 4M | 26 | | 3 | | 3 | .1 | | | 3 | | | | | | | | |
| DF | | 4M | 28 | | 6 | | 6 | .1 | | | 6 | | | | | | | | |
| DF | | 4M | 30 | | 8 | | 8 | .1 | | | 8 | | | | | | | | |
| DF | | Totals | | | 5,556 | 1.4 | 5,480 | 99.0 | | | 177 | 209 | 279 | 434 | 601 | 1588 | 1422 | 713 | 58 |
| NF | | 2M | 40 | | 28 | | 28 | 61.2 | | | | | | 10 | | 18 | | | |
| NF | | 3M | 38 | | 16 | | 16 | 35.1 | | | 16 | | | | | | | | |
| NF | | 3M | 40 | | 2 | | 2 | 3.7 | | | 2 | | | | | | | | |
| NF | | Totals | | | 45 | | 45 | .8 | | | 18 | | | 10 | | 18 | | | |
| RA | | R | 36 | | 11 | | 11 | 100.0 | | 11 | | | | | | | | | |
| RA | | Totals | | | 11 | | 11 | .2 | | 11 | | | | | | | | | |
| Total | | All Species | | | 5,613 | 1.4 | 5,537 | 100.0 | | 11 | 195 | 209 | 279 | 434 | 601 | 1597 | 1440 | 713 | 58 |

VOLUME SUMMARY

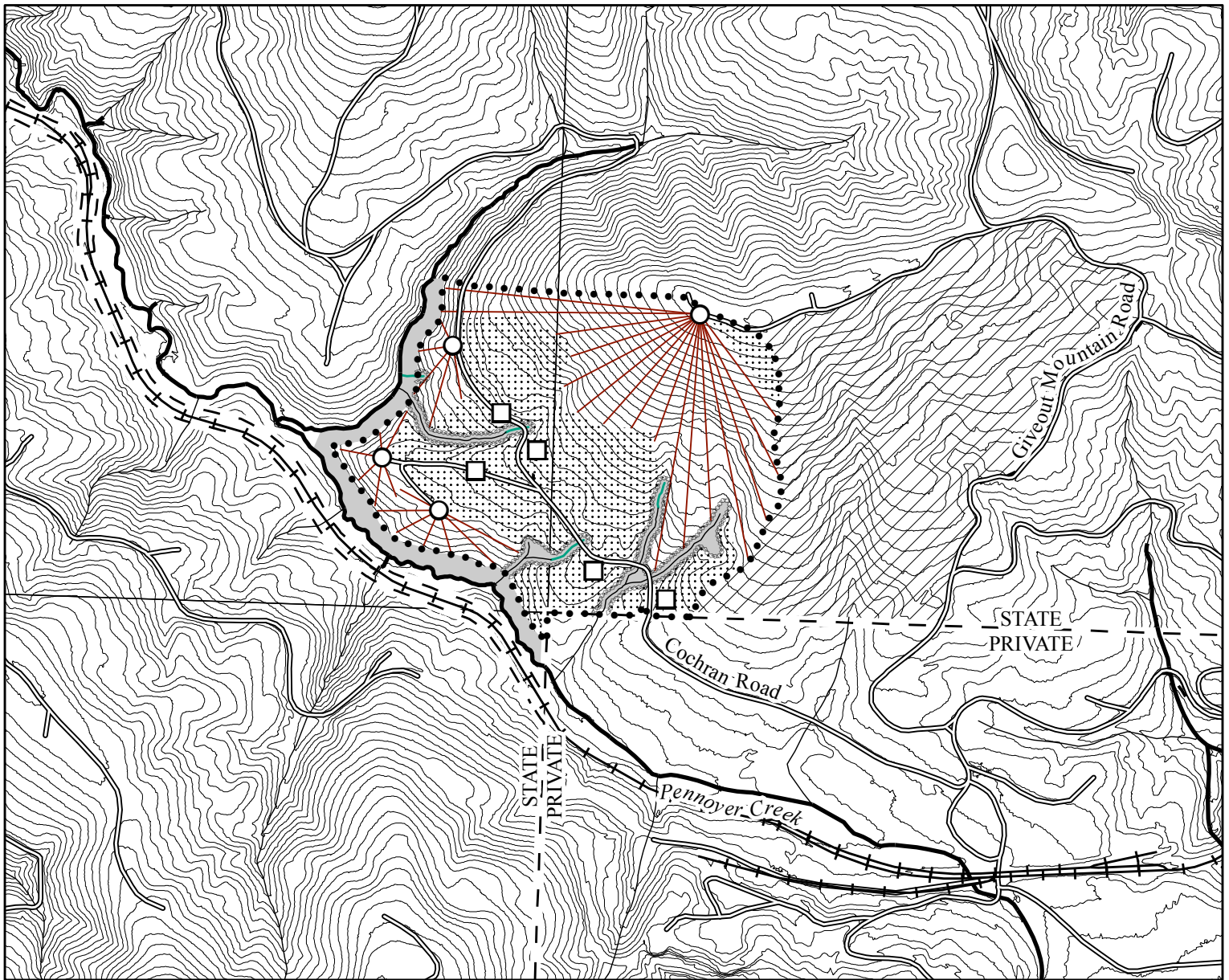
(Shown in MBF)

Cochran Bull**341-18-16****November, 2017****Modified Clearcut (97 ACRES)**

| SPECIES | | 2 SAW | 3 SAW | 4 SAW | Camprun | TOTAL |
|----------------|------------------|--------------|--------------|--------------|----------------|--------------|
| Douglas-fir | Cruise Volume | 4,782 | 624 | 74 | 0 | 5,480 |
| | Hidden D&B (2%) | (96) | (12) | (1) | 0 | (109) |
| | NET TOTAL | 4,686 | 612 | 73 | 0 | 5,371 |
| | % of Total | 87 | 11 | 1 | 0 | |
| Noble fir | Cruise Volume | 28 | 18 | 0 | 0 | 46 |
| | Hidden D&B (2%) | (1) | () | () | 0 | (1) |
| | NET TOTAL | 27 | 18 | 0 | 0 | 45 |
| | % of Total | 60 | 40 | 0 | 0 | |
| Red Alder | Cruise Volume | 0 | 0 | 0 | 11 | 11 |
| | Hidden D&B (2%) | () | () | () | 0 | () |
| | NET TOTAL | 0 | 0 | 0 | 11 | 11 |
| | % of Total | 0 | 0 | 0 | 100 | |

SALE TOTAL

| SPECIES | 2 SAW | 3 SAW | 4 SAW | Camprun | TOTAL |
|----------------|--------------|--------------|--------------|----------------|--------------|
| Douglas-fir | 4,686 | 612 | 73 | 0 | 5,371 |
| Noble fir | 27 | 18 | 0 | 0 | 45 |
| Red Alder | 0 | 0 | 0 | 11 | 11 |
| TOTAL | 4,713 | 630 | 73 | 11 | 5,427 |



Legend

- Timber Sale Boundary
- Surfaced Roads
- - New Road Construction
- + + Railroad Track
- Type F Stream
- Type N Stream
- Stream Buffer
- ▨ Posted Stream Buffer Boundary
- /// Reforested Area
- ◀ Cable Yarding Area
- ▨ Tractor Yarding Area
- Cable Landing
- Tractor Landing
- | - | ODF Ownership Boundary
- Section Line
- 20 Foot Contour Line

LOGGING PLAN

FOR TIMBER SALE CONTRACT 341-18-16
 COCHRAN BULL
 PORTIONS OF SECTIONS 27, 28, & 33
 T3N, R6W, W.M.,
 TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
 October, 2017

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



APPROXIMATE NET ACRES

TRACTOR = 46

CABLE = 51

1:12,000

1 inch = 1,000 feet

