



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Dairy Delight  
Sale 341-14-16

District: Forest Grove

Date: March 17, 2014

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**cost summary**

|                         | Conifer        | Hardwood          | Total          |
|-------------------------|----------------|-------------------|----------------|
| Gross Timber Sale Value | \$1,442,872.68 | \$18,348.44       | \$1,461,221.12 |
|                         |                | Project Work:     | \$(20,340.00)  |
|                         |                | Advertised Value: | \$1,440,881.12 |



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**timber description**

**Location:** Portions of Section 17, T2N, R3W, W.M., Washington County, Oregon.

**Stand Stocking:** 20%

| SpecieName    | AvgDBH | Amortization (%) | Recovery (%) |
|---------------|--------|------------------|--------------|
| Douglas - Fir | 19     | 0                | 98           |
| Alder (Red)   | 14     | 0                | 98           |

| Volume by Grade | 2S    | 3S  | 4S  | Camprun | Total |
|-----------------|-------|-----|-----|---------|-------|
| Douglas - Fir   | 1,828 | 961 | 142 | 0       | 2,931 |
| Alder (Red)     | 0     | 0   | 0   | 44      | 44    |
| Total           | 1,828 | 961 | 142 | 44      | 2,975 |



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

Western Hemlock and Other Conifers Stumpage Price = Pond Value  
minus Logging Cost:  
 $\$348.07/\text{MBF} = \$515/\text{MBF} - \$166.93/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value  
minus Logging Cost:  
 $\$883.07/\text{MBF} = \$1,050/\text{MBF} - \$166.93/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Brand and Paint: 2,975 MBF @ \$1/MBF = \$2,975

TOTAL Other Costs (with Profit & Risk to be added) = \$2,975

Other Costs (No Profit & Risk added):

Block/Waterbar Skid Roads: 15 hours @ \$150/hour = \$2,250

Pile Landing Slash: 15 hours @ \$150/hour = \$2,250

Slash Treatment: Move-in & 10 acres @ \$200/acre = \$2,000

Stimson Road Use Fee + Cost of Trees = \$7,942

Equipment Cleaning: 4 machines @ \$1,000/machine = \$4,000

Snag Creation: 75 Snags @ \$40/snag = \$3,000

TOTAL Other Costs (No Profit & Risk added) = \$21,442

ROAD MAINTENANCE

Move-in: \$2,000

General Road Maintenance: 2.5 miles x \$1,000/mile = \$2,500

TOTAL:  $\$4,500 / 2,975 \text{ MBF} = \$1.51/\text{MBF}$



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**logging conditions**

**combination#:** 1      Douglas - Fir      87.00%  
                                 Alder (Red)      87.00%

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Shovel      **Process:** Stroke Delimber

**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 7.0      **bd. ft / load:** 4,800  
**cost / mbf:** \$42.80

**machines:** Stroke Delimber (B)

**combination#:** 2      Douglas - Fir      13.00%  
                                 Alder (Red)      13.00%

**yarding distance:** Short (400 ft)      **downhill yarding:** No  
**logging system:** Cable: Medium Tower >40 - <70      **Process:** Stroke Delimber

**tree size:** Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 5.0      **bd. ft / load:** 4,800  
**cost / mbf:** \$139.34

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



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Dairy Delight Sale 341-14-16

**District: Forest Grove**

**Date: March 17, 2014**

## logging costs

|                           |             |                           |             |
|---------------------------|-------------|---------------------------|-------------|
| <b>Operating Seasons:</b> | 1.00        | <b>Profit Risk:</b>       | 15.00%      |
| <b>Project Costs:</b>     | \$20,340.00 | <b>Other Costs (P/R):</b> | \$2,975.00  |
| <b>Slash Disposal:</b>    | \$0.00      | <b>Other Costs:</b>       | \$21,442.00 |

### Miles of Road

**Road Maintenance:** \$1.51

| Dirt | Rock<br>(Contractor) | Rock<br>(State) | Paved |
|------|----------------------|-----------------|-------|
| 0.0  | 0.0                  | 0.0             | 0.0   |

### Hauling Costs

| Species       | \$ / MBF | Trips/Day | MBF / Load |
|---------------|----------|-----------|------------|
| Douglas - Fir | \$0.00   | 2.0       | 4.6        |
| Alder (Red)   | \$0.00   | 2.0       | 3.7        |



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### logging costs breakdown

| Logging              | Road Maint | Fire Protect | Hauling | Other P/R appl | Profit & Risk | Slash Disposal | Scaling | Other  | Total    |
|----------------------|------------|--------------|---------|----------------|---------------|----------------|---------|--------|----------|
| <b>Douglas - Fir</b> |            |              |         |                |               |                |         |        |          |
| \$55.35              | \$1.54     | \$1.47       | \$75.19 | \$1.00         | \$20.18       | \$0.00         | \$5.00  | \$7.21 | \$166.94 |
| <b>Alder (Red)</b>   |            |              |         |                |               |                |         |        |          |
| \$55.35              | \$1.54     | \$1.47       | \$93.49 | \$1.00         | \$22.93       | \$0.00         | \$5.00  | \$7.21 | \$187.99 |

| Specie        | Amortization | Pond Value | Stumpage | Amortized |
|---------------|--------------|------------|----------|-----------|
| Douglas - Fir | \$0.00       | \$659.22   | \$492.28 | \$0.00    |
| Alder (Red)   | \$0.00       | \$605.00   | \$417.01 | \$0.00    |



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**summary**

**Amortized**

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

**Unamortized**

| Specie        | MBF   | Value    | Total          |
|---------------|-------|----------|----------------|
| Douglas - Fir | 2,931 | \$492.28 | \$1,442,872.68 |
| Alder (Red)   | 44    | \$417.01 | \$18,348.44    |

**Gross Timber Sale Value**

Recovery: \$1,461,221.12

Prepared by: Joe Koch

Phone: 503-359-7460

## **TIMBER SALE SUMMARY**

### **Dairy Delight**

**Contract No. 341-14-16**

1. **Legal Description:** Portions of Section 17, T2N, R3W, W.M., Washington County, Oregon.
2. **Type of Sale:** 76 acres of Modified Clearcut (MC). The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF; 100% Washington County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise Data:** The Timber Sale was cruised by ODF foresters in December 2013. For more information see Cruise Report.
6. **Timber Description:** Timber Sale Area is a well stocked, 76 year old stand of Douglas-fir with minor amounts of hardwoods. The average Douglas-fir volume per acre is approximately 39.5 MBF. The average DBH is approximately 19 inches.
7. **Topography and Logging Method:** Slopes within the sale vary in aspect and range from 5% to 50%. The sale area is 87% ground-based yarding and 13% cable-based yarding.
8. **Access:** From Forest Grove head north on Highway 47 approximately 7.5 miles to Banks. Travel north 1 mile through Banks and turn east onto NW Banks Road. Continue 1.8 miles to Highway 26. At this point Banks Road becomes Harrison Road. Continue east on Harrison Road approximately 0.4 miles then turn left onto Hahn Road. Continue on Hahn Road for approximately 0.6 miles then stay left onto Davidson Road. Continue 1.6 miles to the end of the pavement then an additional 2.5 miles on gravel to the Timber Sale Area.
9. **Project Costs:**

|                                                |                    |
|------------------------------------------------|--------------------|
| Project No. 1: 1.11 miles of road construction | \$14,120.59        |
| Project No. 2: Waterbar Installation           | \$1,725.00         |
| Move in and equipment cleaning                 | \$4,490.90         |
| <b>TOTAL Projects (rounded)</b>                | <b>\$20,340.00</b> |
10. **Other Costs:**

|                                                               |                |
|---------------------------------------------------------------|----------------|
| <b>Other Costs (with Profit &amp; Risk to be added):</b>      |                |
| Brand and Paint: 2,975 MBF @ \$1/MBF                          | \$2,975        |
| <b>TOTAL Other Costs (with Profit &amp; Risk to be added)</b> | <b>\$2,975</b> |



**Other Costs (No Profit & Risk added):**

|                                                  |         |
|--------------------------------------------------|---------|
| Block/Waterbar Skid Roads: 15 hours @ \$150/hour | \$2,250 |
| Pile Landing Slash: 15 hours @ \$150/hour        | \$2,250 |
| Slash Treatment: Move-in & 10 acres @ \$200/acre | \$2,000 |
| Stimson Road Use Fee + Cost of R/W Trees         | \$7,942 |
| Equipment Cleaning: 4 machines @ \$1,000/machine | \$4,000 |
| Snag Creation: 75 Snags @ \$40/snag              | \$3,000 |

|                                                       |                 |
|-------------------------------------------------------|-----------------|
| <b>TOTAL Other Costs (No Profit &amp; Risk added)</b> | <b>\$21,442</b> |
|-------------------------------------------------------|-----------------|

**ROAD MAINTENANCE:**

|                                                    |                |
|----------------------------------------------------|----------------|
| Move-in                                            | \$2,000        |
| General Road Maintenance: 2.5 miles x \$1,000/mile | \$2,500        |
| <b>TOTAL Road Maintenance</b>                      | <b>\$4,500</b> |

PROJECT COST SUMMARY SHEET

Timber Sale: Dairy Delight

Sale Number: 341-14-16

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PROJECT NO. 1: ROAD CONSTRUCTION

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| <u>Road Segment</u> | <u>Length</u> | <u>Cost</u> |
|---------------------|---------------|-------------|
| A to B              | 29+20         | \$7,006.44  |
| C to D              | 8+10          | \$1,953.25  |
| E to F              | 6+90          | \$1,704.62  |
| G to H              | 14+40         | \$3,456.28  |
| 58+60 stations      |               |             |
| 1.11 miles          |               |             |

TOTAL PROJECT NO. 1 COST =      \$14,120.59

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PROJECT NO. 2: WATERBAR INSTALLATION

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Install driveable waterbars on all road segments

TOTAL PROJECT NO. 2 COST =      \$1,725.00

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MOVE IN & EQUIPMENT CLEANING      \$4,490.98

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|                           |                    |
|---------------------------|--------------------|
| <u>TOTAL ALL PROJECTS</u> | <u>\$20,336.57</u> |
| <u>TOTAL CREDITS</u>      | <u>\$20,340.00</u> |

# SUMMARY OF CONSTRUCTION COST

|               |                      |                  |                                            |
|---------------|----------------------|------------------|--------------------------------------------|
| Timber Sale:  | <u>Dairy Delight</u> | Timber Sale No.: | <u>341-14-16</u>                           |
| Road Segment: | <u>A to B</u>        | Construction:    | <u>29+20 stations</u><br><u>0.55 miles</u> |

## PROJECT NO. 1

### EXCAVATION

|                                 |       |         |          |            |                   |
|---------------------------------|-------|---------|----------|------------|-------------------|
| Clearing and Grubbing (Scatter) | 2.68  | acres @ | \$980.00 | per acre = | \$2,626.40        |
| Balanced Road Construction      | 29.20 | sta @   | \$90.00  | per sta =  | \$2,628.00        |
| Construct Turnouts              | 1     | ea @    | \$60.00  | per ea =   | \$60.00           |
| Construct Turnaround            | 1     | ea @    | \$75.00  | per ea =   | \$75.00           |
| Landing                         | 1     | ea @    | \$200.00 | per ea =   | \$200.00          |
| Grade and Roll (Outslope)       | 14.00 | sta @   | \$27.20  | per sta =  | \$380.80          |
| Grade, Ditch, and Roll          | 15.20 | sta @   | \$28.70  | per sta =  | \$436.24          |
| TOTAL EXCAVATION COSTS=         |       |         |          |            | <u>\$6,406.44</u> |

### CULVERTS - MATERIALS & INSTALLATION

|              |                 |
|--------------|-----------------|
| Culverts     |                 |
| 30 LF of 18" | <u>\$600.00</u> |

TOTAL CULVERT COSTS = \$600.00

PROJECT NO. 1 TOTAL COST = \$7,006.44

# SUMMARY OF CONSTRUCTION COST

|               |                      |                   |                                           |
|---------------|----------------------|-------------------|-------------------------------------------|
| Timber Sale:  | <u>Dairy Delight</u> | Timber Sale No. : | <u>341-14-16</u>                          |
| Road Segment: | <u>C to D</u>        | Construction :    | <u>8+10 stations</u><br><u>0.15 miles</u> |

## PROJECT NO. 1

### EXCAVATION

|                                 |      |         |          |            |                 |
|---------------------------------|------|---------|----------|------------|-----------------|
| Clearing and Grubbing (Scatter) | 0.74 | acres @ | \$980.00 | per acre = | \$728.93        |
| Balanced Road Construction      | 8.10 | sta @   | \$90.00  | per sta =  | \$729.00        |
| Construct Turnaround            | 1    | ea @    | \$75.00  | per ea =   | \$75.00         |
| Landing                         | 1    | ea @    | \$200.00 | per ea =   | \$200.00        |
| Grade and Roll (Outslope)       | 8.10 | sta @   | \$27.20  | per sta =  | <u>\$220.32</u> |

PROJECT NO. 1 TOTAL COST = \$1,953.25

# SUMMARY OF CONSTRUCTION COST

|               |               |                   |               |
|---------------|---------------|-------------------|---------------|
| Timber Sale:  | Dairy Delight | Timber Sale No. : | 341-14-16     |
| Road Segment: | E to F        | Construction :    | 6+90 stations |
|               |               |                   | 0.13 miles    |

## PROJECT NO. 1

### EXCAVATION

|                                 |      |         |          |            |          |
|---------------------------------|------|---------|----------|------------|----------|
| Clearing and Grubbing (Scatter) | 0.63 | acres @ | \$980.00 | per acre = | \$620.94 |
| Balanced Road Construction      | 6.90 | sta @   | \$90.00  | per sta =  | \$621.00 |
| Construct Turnaround            | 1    | ea @    | \$75.00  | per ea =   | \$75.00  |
| Lending                         | 1    | ea @    | \$200.00 | per ea =   | \$200.00 |
| Grade and Roll (Outslope)       | 6.90 | sta @   | \$27.20  | per sta =  | \$187.68 |

PROJECT NO. 1 TOTAL COST = \$1,704.62

# SUMMARY OF CONSTRUCTION COST

|               |                      |                  |                       |
|---------------|----------------------|------------------|-----------------------|
| Timber Sale:  | <u>Dairy Delight</u> | Timber Sale No.: | <u>341-14-16</u>      |
| Road Segment: | <u>G to H</u>        | Construction:    | <u>14+40</u> stations |
|               |                      |                  | <u>0.27</u> miles     |

## PROJECT NO. 1

### EXCAVATION

|                                 |       |         |          |            |                 |
|---------------------------------|-------|---------|----------|------------|-----------------|
| Clearing and Grubbing (Scatter) | 1.32  | acres @ | \$980.00 | per acre = | \$1,293.60      |
| Balanced Road Construction      | 14.40 | sta @   | \$90.00  | per sta =  | \$1,296.00      |
| Construct Turnaround            | 1     | ea @    | \$75.00  | per ea =   | \$75.00         |
| Approach to landing             | 1.00  | sta @   | \$90.00  | per sta =  | \$90.00         |
| Landings                        | 2     | ea @    | \$200.00 | per ea =   | \$400.00        |
| Grade, Ditch, and Roll          | 14.40 | sta @   | \$27.20  | per sta =  | <u>\$391.68</u> |

PROJECT NO. 1 TOTAL COST = \$3,456.28

# SUMMARY OF CONSTRUCTION COST

Timber Sale: Dairy Delight

Timber Sale No.: 341-14-16

## PROJECT NO. 2

|                   |    |      |         |          |          |
|-------------------|----|------|---------|----------|----------|
| Segment A to B    | 23 | ea @ | \$25.00 | per ea = | \$575.00 |
| Segment C to D    | 8  | ea @ | \$25.00 | per ea = | \$200.00 |
| Segment E to F    | 3  | ea @ | \$25.00 | per ea = | \$75.00  |
| Segment G to H    | 15 | ea @ | \$25.00 | per ea = | \$375.00 |
| Equipment Move in |    |      |         |          | \$500.00 |

PROJECT NO. 2 TOTAL COST = \$1,725.00

# Move-In & Equipment Cleaning

Timber Sale: Dairy Delight

Sale Number: 341-14-16

| LOWBOY HAUL (One-way) |                 |                    |
|-----------------------|-----------------|--------------------|
| DIST.<br>(mi)         | ROAD            | AVE SPEED<br>(mph) |
| 7.0                   | Main<br>Lines   | 7                  |
| 0.0                   | Steep<br>Grades | 2                  |

| No.                  | EQUIPMENT<br>DESCRIPTION          | Equipment<br>Cleaning | Base<br>Cost | Woods<br>Cost | Pilot<br>Cars | Within       |                  |                | Within         |              |               |
|----------------------|-----------------------------------|-----------------------|--------------|---------------|---------------|--------------|------------------|----------------|----------------|--------------|---------------|
|                      |                                   |                       |              |               |               | Area<br>Move | Begin<br>Mileage | End<br>Mileage | Total<br>Miles | Area<br>Cost | Total<br>Cost |
| 0                    | Drill & Compressor                |                       | \$0.00       | \$0.00        |               | \$46.00      | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Brush Cutter                      |                       | \$0.00       | \$0.00        |               | \$4.00       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 1                    | Graders                           | \$0                   | \$300.00     | \$180.00      |               | \$3.65       | 0.0              | 0.0            | 0.0            | \$0.00       | \$480.00      |
| 0                    | Loader (Small)                    |                       | \$0.00       | \$0.00        | 1             | \$3.55       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Loader (Med. & Large)             |                       | \$0.00       | \$0.00        | 1             | \$9.00       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 1                    | Rollers (smooth/grid) & Compactor | \$0                   | \$308.59     | \$201.25      |               | \$5.00       | 0.0              | 0.0            | 0.0            | \$0.00       | \$509.84      |
| 0                    | Excavators (Small)                | \$0                   | \$0.00       | \$0.00        |               | \$22.00      | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Excavators (Med.)                 | \$0                   | \$0.00       | \$0.00        |               | \$35.50      | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 1                    | Excavators (Large)                | \$1,000               | \$466.14     | \$289.80      | 1             | \$44.80      | 0.0              | 0.0            | 0.0            | \$0.00       | \$1,755.94    |
| 0                    | Tired Backhoes/Skidlers           | \$0                   | \$0.00       | \$0.00        |               | \$3.00       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Tractors (D6)                     | \$0                   | \$0.00       | \$0.00        | 2             | \$7.10       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Tractors (D7)                     | \$0                   | \$0.00       | \$0.00        | 2             | \$11.30      | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 1                    | Tractor (D8)                      | \$1,000               | \$473.80     | \$271.40      | 2             | \$15.10      | 0.0              | 0.0            | 0.0            | \$0.00       | \$1,745.20    |
| 0                    | Dump Truck (10 cy +)              |                       | \$0.00       | \$0.00        |               | \$2.85       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Dump Truck (Off Hiway)            |                       | \$0.00       | \$0.00        | 1             | \$4.75       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Water Truck (1500 Gal)            |                       | \$0.00       | \$0.00        |               | \$2.85       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| 0                    | Water Truck (2500 Gal)            |                       | \$0.00       | \$0.00        |               | \$2.85       | 0.0              | 0.0            | 0.0            | \$0.00       | \$0.00        |
| TOTAL MOVE-IN COSTS: |                                   |                       |              |               |               |              |                  |                |                | \$4,490.98   |               |



**CRUISE REPORT**  
**Dairy Delight**  
**341-14-16**

**1. LOCATION:**

Portions of Section 17, T2N, R3W, W.M., Washington County, Oregon.

**2. CRUISE DESIGN:**

The cruise design assumed a Coefficient of Variation (CV%) of 40%, a Confidence Level of 68%, a desired sampling error (SE%) of 11%, an average stand diameter of 15 inches and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 5 trees per plot could be realized with a 40 BAF prism.

**3. SAMPLING METHOD:**

The Sale Areas were cruised in December, 2013 with a total of 20 variable radius plots using a 40 BAF prism. Plots were laid out on a 5 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Only conifer species were sampled in the plot data. The hardwood volume was based on an average per acre estimate of approximately 600 board feet.

**4. CRUISE RESULTS**

88 trees were measured and graded in the Timber Sale Area. The cumulative sampling error was 13.7% on the board foot volume and 12.2% on the basal area.

**5. TREE MEASUREMENT AND GRADING:**

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

a) **Height Standards:**

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

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

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

**5. DATA PROCESSING**

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

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

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

Prepared by: Joe Koch

Reviewed by: Eric Foucht

| TC PLOGSTVB          |        | Log Stock Table - MBF |            |              |          |                   |          |                                          |     |     |     |       |       |       |       |       |       |                |     |
|----------------------|--------|-----------------------|------------|--------------|----------|-------------------|----------|------------------------------------------|-----|-----|-----|-------|-------|-------|-------|-------|-------|----------------|-----|
| T02N R03W S17 Ty0001 |        |                       |            | 76.00        |          | Project: DAIRDEL2 |          |                                          |     |     |     |       |       |       |       |       |       | Page 1         |     |
|                      |        |                       |            |              |          | Acres             |          | 76.00                                    |     |     |     |       |       |       |       |       |       | Date 2/19/2014 |     |
|                      |        |                       |            |              |          |                   |          |                                          |     |     |     |       |       |       |       |       |       | Time 3:43:03PM |     |
| Spp                  | S<br>T | So Gr<br>rt de        | Log<br>Len | Gross<br>MBF | Def<br>% | Net<br>MBF        | %<br>Spc | Net Volume by Scaling Diameter in Inches |     |     |     |       |       |       |       |       |       |                |     |
|                      |        |                       |            |              |          |                   |          | 2-3                                      | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39          | 40+ |
| DF                   |        | 2M                    | 14         | 10           |          | 10                | .3       |                                          |     |     |     |       |       |       |       | 10    |       |                |     |
| DF                   |        | 2M                    | 20         | 17           |          | 17                | .6       |                                          |     |     |     |       |       |       |       |       | 17    |                |     |
| DF                   |        | 2M                    | 36         | 15           |          | 15                | .5       |                                          |     |     |     |       |       |       |       | 15    |       |                |     |
| DF                   |        | 2M                    | 40         | 1,832        |          | 1,824             | 61.0     |                                          |     |     |     | 309   |       | 333   | 685   | 365   | 131   |                |     |
| DF                   |        | 3M                    | 24         | 6            |          | 6                 | .2       |                                          |     |     | 6   |       |       |       |       |       |       |                |     |
| DF                   |        | 3M                    | 30         | 4            |          | 4                 | .1       |                                          |     |     | 4   |       |       |       |       |       |       |                |     |
| DF                   |        | 3M                    | 32         | 83           |          | 83                | 2.8      |                                          |     | 15  | 36  | 27    | 5     |       |       |       |       |                |     |
| DF                   |        | 3M                    | 34         | 3            |          | 3                 | .1       |                                          |     | 3   |     |       |       |       |       |       |       |                |     |
| DF                   |        | 3M                    | 36         | 37           |          | 37                | 1.2      |                                          |     | 29  | 8   |       |       |       |       |       |       |                |     |
| DF                   |        | 3M                    | 38         | 8            |          | 8                 | .3       |                                          |     | 8   |     |       |       |       |       |       |       |                |     |
| DF                   |        | 3M                    | 40         | 842          |          | 840               | 28.1     |                                          |     | 49  | 250 | 326   | 171   | 45    |       |       |       |                |     |
| DF                   |        | 4M                    | 12         | 10           |          | 10                | .3       |                                          |     | 10  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 14         | 16           |          | 16                | .5       |                                          |     | 16  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 16         | 13           |          | 13                | .4       |                                          |     | 13  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 18         | 9            |          | 9                 | .3       |                                          |     | 9   |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 20         | 8            |          | 8                 | .3       |                                          |     | 5   |     | 3     |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 22         | 6            |          | 6                 | .2       |                                          |     | 6   |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 24         | 11           |          | 11                | .4       |                                          |     | 11  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 26         | 6            |          | 6                 | .2       |                                          |     | 6   |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 28         | 20           |          | 20                | .7       |                                          |     | 20  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 30         | 23           |          | 23                | .8       |                                          |     | 23  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 32         | 10           |          | 10                | .3       |                                          |     | 10  |     |       |       |       |       |       |       |                |     |
| DF                   |        | 4M                    | 40         | 14           |          | 14                | .5       |                                          |     | 14  |     |       |       |       |       |       |       |                |     |
| DF                   |        | Totals                |            | 3,002        |          | 2,992             | 100.0    |                                          |     | 246 | 304 | 356   | 485   | 378   | 685   | 390   | 147   |                |     |
| Total                |        | All Species           |            | 3,002        |          | 2,992             | 100.0    |                                          |     | 246 | 304 | 356   | 485   | 378   | 685   | 390   | 147   |                |     |

| TC PSTATS                                                        |      |       | PROJECT STATISTICS |            |                   |                             |                            |                 | PAGE         | 1              |              |
|------------------------------------------------------------------|------|-------|--------------------|------------|-------------------|-----------------------------|----------------------------|-----------------|--------------|----------------|--------------|
|                                                                  |      |       | PROJECT            | DAIRDEL2   |                   |                             |                            |                 |              | DATE           | 2/19/2014    |
| TWP                                                              | RGE  | SC    | TRACT              | TYPE       |                   | ACRES                       | PLOTS                      | TREES           | CuFt         | BdFt           |              |
| 02N                                                              | 03   | 17    | 0001               | 0001       |                   | 76.00                       | 20                         | 88              | S            | W              |              |
|                                                                  |      |       |                    |            |                   |                             |                            |                 |              |                |              |
|                                                                  |      |       | PLOTS              | TREES      | TREES<br>PER PLOT | ESTIMATED<br>TOTAL<br>TREES | PERCENT<br>SAMPLE<br>TREES |                 |              |                |              |
| TOTAL                                                            |      |       | 20                 | 88         | 4.4               |                             |                            |                 |              |                |              |
| CRUISE                                                           |      |       | 20                 | 88         | 4.4               | 6,755                       | 1.3                        |                 |              |                |              |
| DBH COUNT                                                        |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| REFOREST                                                         |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| COUNT                                                            |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| BLANKS                                                           |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| 100 %                                                            |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| STAND SUMMARY                                                    |      |       |                    |            |                   |                             |                            |                 |              |                |              |
| SAMPLE<br>TREES                                                  |      |       | TREES<br>/ACRE     | AVG<br>DBH | BOLE<br>LEN       | REL<br>DEN                  | BASAL<br>AREA              | GROSS<br>BF/AC  | NET<br>BF/AC | GROSS<br>CF/AC | NET<br>CF/AC |
| DOUG FIR                                                         |      |       | 88                 | 88.9       | 19.1              | 123                         | 40.3                       | 176.0           | 39,497       | 39,363         | 8,280        |
| TOTAL                                                            |      |       | 88                 | 88.9       | 19.1              | 123                         | 40.3                       | 176.0           | 39,497       | 39,363         | 8,280        |
| 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                                                         |      |       | 73.3               | 7.8        | 660               | 716                         | 772                        |                 |              |                |              |
| TOTAL                                                            |      |       | 73.3               | 7.8        | 660               | 716                         | 772                        | 215             | 54           | 24             |              |
| 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                                                         |      |       | 65.8               | 7.0        | 136               | 146                         | 156                        |                 |              |                |              |
| TOTAL                                                            |      |       | 65.8               | 7.0        | 136               | 146                         | 156                        | 173             | 43           | 19             |              |
| 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                                                         |      |       | 65.9               | 15.1       | 75                | 89                          | 102                        |                 |              |                |              |
| TOTAL                                                            |      |       | 65.9               | 15.1       | 75                | 89                          | 102                        | 183             | 46           | 20             |              |
| 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                                                         |      |       | 53.4               | 12.2       | 154               | 176                         | 198                        |                 |              |                |              |
| TOTAL                                                            |      |       | 53.4               | 12.2       | 154               | 176                         | 198                        | 120             | 30           | 13             |              |
| 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                                                         |      |       | 59.7               | 13.7       | 33,972            | 39,363                      | 44,754                     |                 |              |                |              |
| TOTAL                                                            |      |       | 59.7               | 13.7       | 33,972            | 39,363                      | 44,754                     | 150             | 38           | 17             |              |
| 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                                                         |      |       | 57.8               | 13.3       | 7,182             | 8,280                       | 9,377                      |                 |              |                |              |
| TOTAL                                                            |      |       | 57.8               | 13.3       | 7,182             | 8,280                       | 9,377                      | 141             | 35           | 16             |              |

| TC                                   |    | PSPCSTGR         |                                    | Species, Sort Grade - Board Foot Volumes (Project) |        |                   |                                  |      |       |     |            |       |       |       |             |                |          |           |                      |       |  |
|--------------------------------------|----|------------------|------------------------------------|----------------------------------------------------|--------|-------------------|----------------------------------|------|-------|-----|------------|-------|-------|-------|-------------|----------------|----------|-----------|----------------------|-------|--|
| <div>T02N R03W S17 Ty000176.00</div> |    |                  |                                    |                                                    |        | Project: DAIRDEL2 |                                  |      |       |     |            |       |       |       |             | Page 1         |          |           |                      |       |  |
|                                      |    |                  |                                    |                                                    |        | Acres 76.00       |                                  |      |       |     |            |       |       |       |             | Date 2/19/2014 |          |           |                      |       |  |
|                                      |    |                  |                                    |                                                    |        |                   |                                  |      |       |     |            |       |       |       |             | Time 3:43:03PM |          |           |                      |       |  |
| S So Gr<br>Spp T rt ad               |    | %<br>Net<br>BdFt | Bd. Ft. per Acre<br>Def% Gross Net |                                                    |        | Total<br>Net MBF  | Percent of Net Board Foot Volume |      |       |     |            |       |       |       | Average Log |                |          |           | Logs<br>Per<br>/Acre |       |  |
|                                      |    |                  |                                    |                                                    |        |                   | Log Scale Dia.                   |      |       |     | Log Length |       |       |       | Ln<br>Ft    | Dia<br>In      | Bd<br>Ft | CF/<br>Lf |                      |       |  |
|                                      |    |                  |                                    |                                                    |        |                   | 4-5                              | 6-11 | 12-16 | 17+ | 12-20      | 21-30 | 31-35 | 36-99 |             |                |          |           |                      |       |  |
| DF                                   | CU |                  |                                    |                                                    |        |                   |                                  |      |       |     |            |       |       |       |             | 2              | 17       |           | 0.00                 | 2.3   |  |
| DF                                   | 2M | 62               | .4                                 | 24,650                                             | 24,545 | 1,865             |                                  |      | 47    | 53  | 1          |       |       | 99    |             | 40             | 16       | 411       | 2.02                 | 59.8  |  |
| DF                                   | 3M | 33               | .2                                 | 12,939                                             | 12,910 | 981               |                                  |      | 78    | 22  |            |       | 1     | 9     | 90          | 38             | 9        | 123       | 0.74                 | 105.1 |  |
| DF                                   | 4M | 5                |                                    | 1,908                                              | 1,908  | 145               |                                  |      | 100   |     | 39         | 45    | 7     | 10    |             | 21             | 6        | 26        | 0.34                 | 72.0  |  |
| DF Totals                            |    | 100              | .3                                 | 39,497                                             | 39,363 | 2,992             |                                  |      | 30    | 37  | 33         | 3     | 3     | 3     | 92          | 33             | 10       | 165       | 1.05                 | 239.2 |  |
| Totals                               |    |                  | 0.3                                | 39,497                                             | 39,363 | 2,992             |                                  |      | 30    | 37  | 33         | 3     | 3     | 3     | 92          | 33             | 10       | 165       | 1.05                 | 239.2 |  |

| TC                   |   | PSTNDSUM |       | Stand Table Summary |          |                |             |              |               |               |               |                       | Page                  |             | 1         |       |
|----------------------|---|----------|-------|---------------------|----------|----------------|-------------|--------------|---------------|---------------|---------------|-----------------------|-----------------------|-------------|-----------|-------|
|                      |   |          |       |                     |          |                |             |              |               |               |               |                       | Date:                 |             | 2/19/2014 |       |
| T02N R03W S17 Ty0001 |   |          |       | 76.00               |          |                |             | Project      |               | DAIRDEL2      |               |                       | Time:                 |             | 3:43:02PM |       |
|                      |   |          |       |                     |          |                |             | Acres        |               | 76.00         |               |                       | Grown Year:           |             |           |       |
| S<br>Sp              | T | Sample   |       | Tot                 |          | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre | Average Log   |               | Tons/<br>Acre | Net<br>Cu.Ft.<br>Acre | Net<br>Bd.Ft.<br>Acre | T o t a l s |           |       |
|                      |   | DBH      | Trees | FF<br>16'           | Av<br>Ht |                |             |              | Net<br>Cu.Ft. | Net<br>Bd.Ft. |               |                       |                       | Tons        | Cunits    | MBF   |
| DF                   |   | 8        | 1     | 81                  | 73       | 5.730          | 2.00        | 5.73         | 3.8           | 20.0          | .62           | 22                    | 115                   | 47          | 17        | 9     |
| DF                   |   | 10       | 2     | 87                  | 87       | 7.334          | 4.00        | 11.00        | 8.9           | 43.3          | 2.78          | 98                    | 477                   | 211         | 74        | 36    |
| DF                   |   | 11       | 1     | 87                  | 73       | 3.031          | 2.00        | 3.03         | 14.8          | 60.0          | 1.28          | 45                    | 182                   | 97          | 34        | 14    |
| DF                   |   | 13       | 3     | 90                  | 111      | 6.509          | 6.00        | 13.02        | 17.3          | 85.0          | 6.43          | 226                   | 1,107                 | 489         | 171       | 84    |
| DF                   |   | 14       | 2     | 87                  | 99       | 3.742          | 4.00        | 7.48         | 17.9          | 77.5          | 3.83          | 134                   | 580                   | 291         | 102       | 44    |
| DF                   |   | 15       | 3     | 87                  | 126      | 4.889          | 6.00        | 11.41        | 22.4          | 101.4         | 7.30          | 256                   | 1,157                 | 554         | 195       | 88    |
| DF                   |   | 16       | 4     | 86                  | 119      | 5.730          | 8.00        | 15.76        | 20.0          | 84.5          | 8.97          | 315                   | 1,332                 | 682         | 239       | 101   |
| DF                   |   | 17       | 7     | 88                  | 132      | 8.882          | 14.00       | 26.65        | 23.8          | 103.3         | 18.04         | 633                   | 2,753                 | 1,371       | 481       | 209   |
| DF                   |   | 18       | 4     | 88                  | 132      | 4.527          | 8.00        | 13.58        | 26.1          | 111.7         | 10.11         | 355                   | 1,517                 | 768         | 270       | 115   |
| DF                   |   | 19       | 7     | 87                  | 135      | 7.110          | 14.00       | 21.33        | 31.1          | 137.6         | 18.91         | 663                   | 2,936                 | 1,437       | 504       | 223   |
| DF                   |   | 20       | 1     | 85                  | 113      | .917           | 2.00        | 2.75         | 28.2          | 116.7         | 2.21          | 78                    | 321                   | 168         | 59        | 24    |
| DF                   |   | 21       | 6     | 89                  | 143      | 4.989          | 12.00       | 16.63        | 35.9          | 170.0         | 16.99         | 596                   | 2,827                 | 1,291       | 453       | 215   |
| DF                   |   | 22       | 10    | 88                  | 141      | 7.576          | 20.00       | 25.00        | 39.5          | 185.2         | 28.14         | 987                   | 4,629                 | 2,139       | 750       | 352   |
| DF                   |   | 23       | 2     | 88                  | 121      | 1.386          | 4.00        | 4.16         | 41.3          | 178.3         | 4.89          | 172                   | 742                   | 372         | 130       | 56    |
| DF                   |   | 24       | 5     | 88                  | 142      | 3.183          | 10.00       | 9.55         | 52.5          | 244.0         | 14.29         | 501                   | 2,330                 | 1,086       | 381       | 177   |
| DF                   |   | 25       | 5     | 87                  | 147      | 2.934          | 10.00       | 9.97         | 51.6          | 245.9         | 14.68         | 515                   | 2,452                 | 1,115       | 391       | 186   |
| DF                   |   | 26       | 4     | 88                  | 153      | 2.170          | 8.00        | 8.14         | 52.3          | 256.7         | 12.13         | 426                   | 2,088                 | 922         | 323       | 159   |
| DF                   |   | 27       | 1     | 90                  | 147      | .503           | 2.00        | 1.51         | 68.1          | 380.0         | 2.93          | 103                   | 573                   | 223         | 78        | 44    |
| DF                   |   | 28       | 5     | 89                  | 148      | 2.339          | 10.00       | 8.89         | 60.1          | 315.8         | 15.21         | 534                   | 2,806                 | 1,156       | 406       | 213   |
| DF                   |   | 29       | 2     | 86                  | 157      | .872           | 4.00        | 3.49         | 59.7          | 312.5         | 5.93          | 208                   | 1,090                 | 451         | 158       | 83    |
| DF                   |   | 30       | 4     | 88                  | 158      | 1.630          | 8.00        | 6.52         | 68.0          | 350.0         | 12.64         | 443                   | 2,282                 | 961         | 337       | 173   |
| DF                   |   | 31       | 2     | 87                  | 150      | .763           | 4.00        | 3.05         | 66.7          | 357.5         | 5.80          | 204                   | 1,091                 | 441         | 155       | 83    |
| DF                   |   | 32       | 2     | 87                  | 161      | .716           | 4.00        | 2.86         | 79.0          | 415.0         | 6.45          | 226                   | 1,189                 | 490         | 172       | 90    |
| DF                   |   | 34       | 1     | 82                  | 141      | .317           | 2.00        | .95          | 99.7          | 433.3         | 2.70          | 95                    | 412                   | 205         | 72        | 31    |
| DF                   |   | 35       | 1     | 89                  | 171      | .299           | 2.00        | 1.20         | 102.5         | 585.0         | 3.50          | 123                   | 700                   | 266         | 93        | 53    |
| DF                   |   | 36       | 1     | 82                  | 159      | .283           | 2.00        | 1.13         | 96.3          | 487.5         | 3.11          | 109                   | 552                   | 236         | 83        | 42    |
| DF                   |   | 37       | 1     | 89                  | 161      | .268           | 2.00        | 1.07         | 105.6         | 595.0         | 3.22          | 113                   | 637                   | 245         | 86        | 48    |
| DF                   |   | 38       | 1     | 82                  | 152      | .254           | 2.00        | 1.02         | 99.1          | 477.5         | 2.87          | 101                   | 485                   | 218         | 77        | 37    |
| DF                   |   | Totals   | 88    | 87                  | 123      | 88.882         | 176.00      | 236.88       | 35.0          | 166.2         | 235.98        | 8,280                 | 39,363                | 17,934      | 6,293     | 2,992 |
| Totals               |   | 88       | 87    | 123                 |          | 88.882         | 176.00      | 236.88       | 35.0          | 166.2         | 235.98        | 8,280                 | 39,363                | 17,934      | 6,293     | 2,992 |

**VOLUME SUMMARY**

(Shown in MBF)

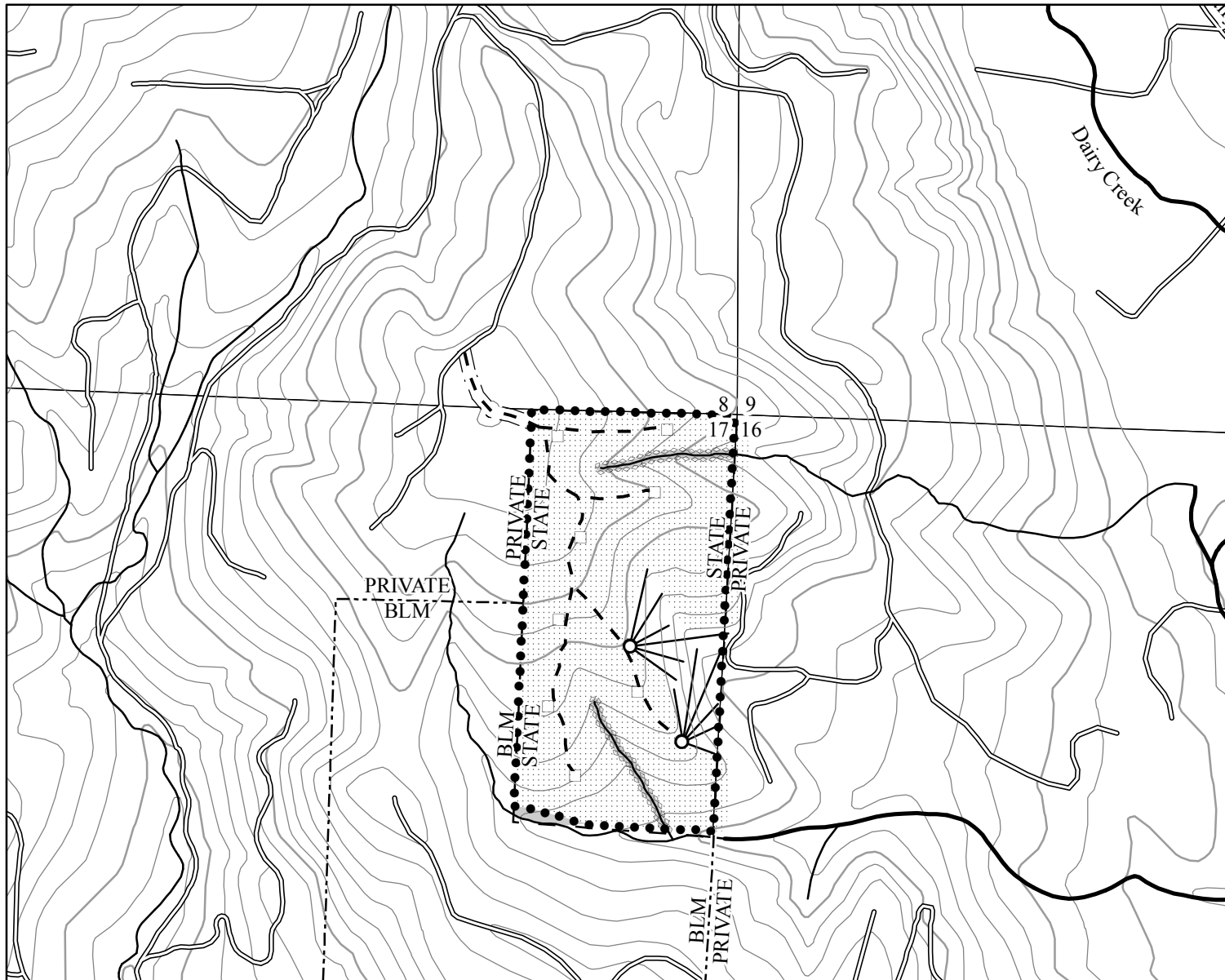
**Dairy Delight****341-14-16****January 2014****AREA 1: MC (76 ACRES)**

| <b>SPECIES</b> |                  | <b>2 SAW</b> | <b>3 SAW</b> | <b>4 SAW</b> | <b>TOTAL</b> |
|----------------|------------------|--------------|--------------|--------------|--------------|
| Douglas-fir    | Cruise Volume    | 1,865        | 981          | 145          | 2,991        |
|                | Hidden D&B (2%)  | (37)         | (20)         | (3)          | (60)         |
|                | <b>NET TOTAL</b> | 1,828        | 961          | 142          | 2,931        |
|                | % of Total       | 62           | 33           | 5            |              |

| <b>SPECIES</b>                |                  | <b>CR</b> | <b>TOTAL</b> |
|-------------------------------|------------------|-----------|--------------|
| Red Alder/ Other<br>Hardwoods | Cruise Volume    | 45        | 45           |
|                               | Hidden D&B (2%)  | (1)       | (1)          |
|                               | <b>NET TOTAL</b> | 44        | 44           |

**SALE TOTAL**

| <b>SPECIES</b>                | <b>2 SAW</b> | <b>3 SAW</b> | <b>4 SAW</b> | <b>CR</b> | <b>TOTAL</b> |
|-------------------------------|--------------|--------------|--------------|-----------|--------------|
| Douglas-fir                   | 1,828        | 961          | 142          | 0         | 2,931        |
| Red Alder/ Other<br>Hardwoods | 0            | 0            | 0            | 44        | 44           |
|                               |              |              |              |           | 2,975        |



## LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-14-16  
DAIRY DELIGHT  
PORTIONS OF SECTION 17, T2N, R3W, W.M.  
WASHINGTON COUNTY, OREGON

Forest Grove District GIS  
January, 2014

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



APPROXIMATE NET ACRES

TRACTOR CABLE

66

10

### Legend

- Timber Sale Boundary
- Roads
- - New Construction
- - - Posted R/W Boundary
- Type F Stream
- Type N Stream
- Stream Buffer
- ◇◇◇ Posted Stream Buffer Boundary
- Section Line
- 200 Foot Contour Band
- 40 Foot Contour Band
- ⚡ Cable Yarding Area
- ▤ Tractor Yarding Area
- Cable Landing
- Tractor Landing
- - ODF Property Boundary
- - - Other Property Boundary

1:12,000

1 inch = 1,000 feet

