



Timber Sale Appraisal  
Ax Ridge  
Sale TL-341-2017-56-

District: Tillamook

Date: November 28, 2016

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**Cost Summary**

|                         | Conifer        | Hardwood          | Total          |
|-------------------------|----------------|-------------------|----------------|
| Gross Timber Sale Value | \$1,286,844.24 | \$434,549.62      | \$1,721,393.86 |
|                         |                | Project Work:     | (\$799,170.00) |
|                         |                | Advertised Value: | \$922,223.86   |



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## Timber Description

**Location:** Portions of Sections 19, 20, and 30, T1N, R7W, W.M., Tillamook County, Oregon.

**Stand Stocking: 20%**

| Specie Name   | AvgDBH | Amortization (%) | Recovery (%) |
|---------------|--------|------------------|--------------|
| Douglas - Fir | 17     | 0                | 95           |
| Alder (Red)   | 13     | 0                | 90           |
| Maple         | 16     | 0                | 90           |

| Volume by Grade | 2S    | 3S    | 4S  | 8" - 9" | 10" - 11" | 12"+ | 6" - 7" | Total |
|-----------------|-------|-------|-----|---------|-----------|------|---------|-------|
| Douglas - Fir   | 1,780 | 2,187 | 521 | 0       | 0         | 0    | 0       | 4,488 |
| Alder (Red)     | 0     | 0     | 0   | 344     | 402       | 119  | 729     | 1,594 |
| Maple           | 0     | 0     | 0   | 56      | 12        | 0    | 25      | 93    |
| <b>Total</b>    | 1,780 | 2,187 | 521 | 400     | 414       | 119  | 754     | 6,175 |

**Comments:** Pond Values Used: 3rd Quarter Calendar Year 2016.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:  
 $\$840/\text{MBF} = \$1,150/\text{MBF} - \$310/\text{MBF}$

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:  
 $\$180/\text{MBF} = \$490/\text{MBF} - \$310/\text{MBF}$

Pulp Price (Conifer and Hardwood) =  $\$25/\text{MBF}$

SCALING COST ALLOWANCE =  $\$5.00/\text{MBF}$

BRANDING AND PAINTING COST ALLOWANCE:  $\$2.00/\text{MBF}$

FUEL COST ALLOWANCE =  $\$3.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling cost equivalent to  $\$780$  daily truck cost.

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

Snag Creation, Girdling at Base:  $\$10/\text{tree} \times 372 \text{ trees} = \$3,720$

TOTAL Other Costs (with Profit & Risk to be added) =  $\$3,720$

Other Costs (No Profit & Risk added):

Machine Cleaning:  $\$1,000/\text{machine} \times 2 = \$2,000$

Cover Materials for Piles:  $\$5/\text{pile} \times 20 \text{ piles} = \$100$

Non-Project #1, #2 and #3 Spur Construction:  $3 \text{ stations} \times \$200/\text{station} = \$600$

Non-Project #4, #5, #6, & #7 Spur Construction:  $26 \text{ stations} \times \$500/\text{station} = \$13,000$

Truck Assist Non-Project #4 and #5:  $310 \text{ MBF} \times \$20/\text{MBF} = \$6,200$

Approach Rock for Non-Project Spurs:  $7 \text{ approaches} \times 40 \text{ yds/approach} \times \$6/\text{yd} = \$1,680$

Slash Piling and Sorting:  $\$5/\text{acre} \times 245 \text{ acres} = \$1,225$

Heliport Slash Sorting:  $2 \text{ heliports} \times \$500/\text{heliport} = \$1,000$

Ditch Cleaning and Bank Sluff Removal:

Mobilization: two times – dump truck w/tilt bed & small excavator:  $\$890 \times 2 = \$1,780$

Small excavator (Cat 312 or equivalent):  $40 \text{ hrs.} @ \$95/\text{hr} = \$3,800$

Dump Truck:  $40 \text{ hrs.} @ \$70/\text{hr} = \$2,800$

TOTAL Other Costs (No Profit & Risk added) =  $\$34,185$

ROAD MAINTENANCE:

Spot rocking:  $15 \text{ cy/mmmbf/mile} \times \$3.90/\text{cy} \times 6.175 \text{ MMBF} \times 9 \text{ miles} / 6,175 \text{ MBF} = \$.53/\text{MBF}$

Interim Maintenance Grading:  $\$250 \times 9 \text{ miles}/6,175 \text{ MBF} \times 3 \text{ times} = \$1.09/\text{MBF}$

Final Maintenance Grading:  $\$500 \times 9 \text{ miles}/6,175 \text{ MBF} = \$0.73/\text{MBF}$

Final Maintenance Compaction:  $\$950/\text{mile} \times 4 \text{ miles}/6,175 \text{ MBF} = \$0.62/\text{MBF}$

TOTAL Road Maintenance:  $\$2.97/\text{MBF}$



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## Logging Conditions

|                          |                                                                 |        |                                 |
|--------------------------|-----------------------------------------------------------------|--------|---------------------------------|
| <b>Combination#: 1</b>   | Douglas - Fir                                                   | 66.51% |                                 |
|                          | Alder (Red)                                                     | 72.79% |                                 |
|                          | Maple                                                           | 35.00% |                                 |
| <b>Logging System:</b>   | Cable: Medium Tower >40 - <70                                   |        | <b>Process:</b> Stroke Delimber |
| <b>yarding distance:</b> | Medium (800 ft)                                                 |        | <b>downhill yarding:</b> No     |
| <b>tree size:</b>        | Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF |        |                                 |
| <b>loads / day:</b>      | 8                                                               |        | <b>bd. ft / load:</b> 3700      |
| <b>cost / mbf:</b>       | \$202.70                                                        |        |                                 |
| <b>machines:</b>         | Log Loader (A)<br>Stroke Delimber (A)<br>Tower Yarder (Medium)  |        |                                 |
| <hr/>                    |                                                                 |        |                                 |
| <b>Combination#: 2</b>   | Douglas - Fir                                                   | 20.57% |                                 |
|                          | Alder (Red)                                                     | 19.16% |                                 |
|                          | Maple                                                           | 50.00% |                                 |
| <b>Logging System:</b>   | Shovel                                                          |        | <b>Process:</b> Stroke Delimber |
| <b>yarding distance:</b> | Medium (800 ft)                                                 |        | <b>downhill yarding:</b> No     |
| <b>tree size:</b>        | Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF               |        |                                 |
| <b>loads / day:</b>      | 9                                                               |        | <b>bd. ft / load:</b> 3700      |
| <b>cost / mbf:</b>       | \$95.25                                                         |        |                                 |
| <b>machines:</b>         | Stroke Delimber (B)                                             |        |                                 |
| <hr/>                    |                                                                 |        |                                 |
| <b>Combination#: 3</b>   | Douglas - Fir                                                   | 12.93% |                                 |
|                          | Alder (Red)                                                     | 8.05%  |                                 |
|                          | Maple                                                           | 15.00% |                                 |
| <b>Logging System:</b>   | Cable: Medium Tower >40 - <70                                   |        | <b>Process:</b> Stroke Delimber |
| <b>yarding distance:</b> | Medium (800 ft)                                                 |        | <b>downhill yarding:</b> No     |
| <b>tree size:</b>        | Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF            |        |                                 |
| <b>loads / day:</b>      | 6                                                               |        | <b>bd. ft / load:</b> 3700      |
| <b>cost / mbf:</b>       | \$270.27                                                        |        |                                 |
| <b>machines:</b>         | Log Loader (A)<br>Stroke Delimber (A)<br>Tower Yarder (Medium)  |        |                                 |



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### Logging Costs

|                             |                               |
|-----------------------------|-------------------------------|
| Operating Seasons: 2.00     | Profit Risk: 10%              |
| Project Costs: \$799,170.00 | Other Costs (P/R): \$3,720.00 |
| Slash Disposal: \$0.00      | Other Costs: \$34,185.00      |

Miles of Road

Road Maintenance: \$2.97

| 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   | 3.0       | 3.7        |
| Alder (Red)   | \$0.00   | 3.0       | 3.2        |
| Maple         | \$0.00   | 3.0       | 3.2        |



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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    |
|----------------------|------------|--------------|---------|----------------|---------------|----------------|-------------------------|--------|----------|
| <b>Douglas - Fir</b> |            |              |         |                |               |                |                         |        |          |
| \$189.34             | \$3.12     | \$1.42       | \$73.78 | \$0.60         | \$26.83       | \$0.00         | \$7.00                  | \$5.54 | \$307.63 |
| <b>Alder (Red)</b>   |            |              |         |                |               |                |                         |        |          |
| \$187.56             | \$3.27     | \$1.42       | \$89.38 | \$0.60         | \$28.22       | \$0.00         | \$7.00                  | \$5.54 | \$322.99 |
| <b>Maple</b>         |            |              |         |                |               |                |                         |        |          |
| \$159.11             | \$3.27     | \$1.42       | \$89.38 | \$0.60         | \$25.38       | \$0.00         | \$7.00                  | \$5.54 | \$291.70 |

| Specie        | Amortization | Pond Value | Stumpage | Amortized |
|---------------|--------------|------------|----------|-----------|
| Douglas - Fir | \$0.00       | \$594.36   | \$286.73 | \$0.00    |
| Alder (Red)   | \$0.00       | \$586.37   | \$263.38 | \$0.00    |
| Maple         | \$0.00       | \$450.00   | \$158.30 | \$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 |
| Maple         | 0   | \$0.00 | \$0.00 |

### Unamortized

| Specie        | MBF   | Value    | Total          |
|---------------|-------|----------|----------------|
| Douglas - Fir | 4,488 | \$286.73 | \$1,286,844.24 |
| Alder (Red)   | 1,594 | \$263.38 | \$419,827.72   |
| Maple         | 93    | \$158.30 | \$14,721.90    |

### Gross Timber Sale Value

Recovery: \$1,721,393.86

Prepared By: Nick Stumpf

Phone: 503-842-2545



## PROJECT SUMMARY SHEET

Sale: Ax Ridge

### CONSTRUCTION

|                       |        |        |            |                     |
|-----------------------|--------|--------|------------|---------------------|
| Point                 | A to B | 104+65 | stations = | \$299,619.84        |
| Point                 | C to D | 23+25  | stations = | \$40,260.96         |
| Point                 | E to F | 17+55  | stations = | \$20,025.20         |
| Point                 | G to H | 3+00   | stations = | \$1,859.35          |
| Point                 | I to J | 5+35   | stations = | \$13,560.10         |
| Point                 | K to L | 4+50   | stations = | \$36,234.91         |
| Point                 | M to N | 14+15  | stations = | \$24,037.73         |
| Point                 | O to P | 3+45   | stations = | \$1,516.02          |
| Point                 | Q to R | 0+00   | stations = | \$0.00              |
| Point                 | U to V | 1+45   | stations = | \$1,831.55          |
| SUBTOTAL CONSTRUCTION |        |        |            | <b>\$438,945.66</b> |

### IMPROVEMENT

|                      |          |        |            |                     |
|----------------------|----------|--------|------------|---------------------|
| Point                | A to B   | 236+90 | stations = | \$218,982.16        |
| Point                | Y to Z   | 4+00   | stations = | \$49,717.20         |
| Point                | AA to BB | 259+60 | stations = | \$6,497.80          |
| SUBTOTAL IMPROVEMENT |          |        |            | <b>\$275,197.16</b> |

### RECONSTRUCTION

|                         |        |      |            |                   |
|-------------------------|--------|------|------------|-------------------|
| Point                   | Q to R | 0+00 | stations = | \$0.00            |
| Point                   | S to T | 0+00 | stations = | \$0.00            |
| Point                   | W to X | 8+00 | stations = | \$6,076.00        |
| SUBTOTAL RECONSTRUCTION |        |      |            | <b>\$6,076.00</b> |

### SPECIAL PROJECTS

|                                     |        |            |                    |
|-------------------------------------|--------|------------|--------------------|
| Archers Pit Trail Construction      | 8.00   | Hours=     | \$1,160.00         |
| Archers Pit Test Drilling           | 8.00   | Hours=     | \$1,800.00         |
| Upper Jordan Pit Trail Construction | 16.00  | Hours=     | \$2,320.00         |
| Upper Jordan Pit Test Drilling      | 10.00  | Hours=     | \$2,250.00         |
| Column Pit Trail Construction       | 2.00   | Hours=     | \$290.00           |
| Column Pit Test Drilling            | 4.00   | Hours=     | \$900.00           |
| Roadside Brushing                   | 803.14 | stations = | \$14,992.18        |
| Point A Stockpile                   |        |            | \$19,650.00        |
| Point EE Stockpile                  |        |            | \$17,030.00        |
| Column Pit Stockpile                |        |            | \$2,178.00         |
| SUBTOTAL SPECIAL PROJECTS           |        |            | <b>\$62,570.18</b> |

**MOVE IN** **\$16,381.00**

**GRAND TOTAL** **\$799,170.00**

# SUMMARY OF CONSTRUCTION COST

Sale:

**Ax Ridge**

Road:

**A to B**

|                       |        |          |                      |        |          |                         |      |          |
|-----------------------|--------|----------|----------------------|--------|----------|-------------------------|------|----------|
| <u>Construction -</u> | 104+65 | stations | <u>Improvement -</u> | 236+90 | stations | <u>Reconstruction -</u> | 0+00 | stations |
|                       | 1.98   | miles    |                      | 4.49   | miles    |                         | 0.00 | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE

| Station | to | Station | Average Sideslope | Avg. Dist. To W.A. (mi.) | Outslope/ Ditch | Cost per Station | Drill & Shoot / Endhaul |         |                  |
|---------|----|---------|-------------------|--------------------------|-----------------|------------------|-------------------------|---------|------------------|
| 13+35   |    | 24+35   | 40%               |                          | Ditch           | \$330            | =                       | \$3,630 |                  |
| 247+90  |    | 252+21  | 15%               |                          | Ditch           | \$152            | =                       | \$655   |                  |
| 252+21  |    | 255+27  | 39%               |                          | Ditch           | \$256            | =                       | \$783   |                  |
| 255+27  |    | 264+54  | 66%               |                          | Ditch           | \$2,700          | \$7,055.00              | =       | \$32,084         |
| 264+54  |    | 269+26  | 16%               |                          |                 | \$107            | \$5,580.00              | =       | \$6,085          |
| 269+26  |    | 273+65  | 80%               |                          | Ditch           | \$4,531          | \$28,531.13             | =       | \$48,422         |
| 273+65  |    | 274+10  | 22%               |                          | Ditch           | \$183            | \$144.00                | =       | \$226            |
| 274+10  |    | 290+86  | 15%               |                          |                 | \$107            | \$4,462.50              | =       | \$6,256          |
| 290+86  |    | 293+02  | 55%               |                          | Ditch           | \$996            | \$1,152.00              | =       | \$3,303          |
| 293+02  |    | 294+49  | 17%               |                          |                 | \$107            | \$252.00                | =       | \$409            |
| 294+49  |    | 300+05  | 74%               |                          | Ditch           | \$3,241          | \$8,440.50              | =       | \$26,460         |
| 300+05  |    | 303+23  | 55%               |                          | Ditch           | \$996            | \$5,344.50              | =       | \$8,512          |
| 303+23  |    | 304+67  | 36%               |                          | Ditch           | \$256            | \$3,037.50              | =       | \$3,406          |
| 304+67  |    | 305+90  | 58%               |                          | Ditch           | \$996            | \$624.00                | =       | \$1,849          |
| 305+90  |    | 307+26  | 34%               |                          | Ditch           | \$256            | \$445.00                | =       | \$793            |
| 307+26  |    | 308+97  | 55%               |                          | Ditch           | \$996            | \$475.00                | =       | \$2,178          |
| 308+97  |    | 310+31  | 19%               |                          |                 | \$129            |                         | =       | \$173            |
| 310+31  |    | 312+34  | 61%               |                          | Ditch           | \$2,194          | \$1,053.00              | =       | \$5,507          |
| 312+34  |    | 314+28  | 32%               |                          | Ditch           | \$256            | \$510.00                | =       | \$1,007          |
| 314+28  |    | 319+00  | 56%               |                          | Ditch           | \$996            | \$3,293.86              | =       | \$7,995          |
| 319+00  |    | 322+07  | 21%               |                          |                 | \$139            | \$1,338.00              | =       | \$1,765          |
| 322+07  |    | 328+02  | 57%               |                          | Ditch           | \$996            | \$3,860.86              | =       | \$9,787          |
| 328+02  |    | 329+60  | 24%               |                          |                 | \$139            | \$786.00                | =       | \$1,006          |
| 329+60  |    | 334+31  | 65%               |                          | Ditch           | \$2,700          | \$5,102.86              | =       | \$17,820         |
| 334+31  |    | 335+67  | 19%               |                          |                 | \$129            | \$704.00                | =       | \$879            |
| 335+67  |    | 336+89  | 10%               |                          |                 | \$90             | \$291.00                | =       | \$401            |
| 336+89  |    | 337+48  | 55%               |                          | Ditch           | \$996            | \$767.00                | =       | \$1,355          |
| 337+48  |    | 337+93  | 89%               |                          | Ditch           | \$5,281          | \$1,173.00              | =       | \$3,549          |
| 337+93  |    | 338+99  | 50%               |                          | Ditch           | \$651            | \$1,137.00              | =       | \$1,827          |
| 338+99  |    | 339+73  | 26%               |                          | Ditch           | \$219            | \$1,239.00              | =       | \$1,401          |
| 339+73  |    | 341+12  | 56%               |                          | Ditch           | \$996            | \$1,768.00              | =       | \$3,152          |
| 341+12  |    | 341+54  | 14%               |                          | Ditch           | \$143            | \$150.00                | =       | \$210            |
|         |    |         |                   |                          |                 |                  |                         |         | <b>TOTAL</b>     |
|         |    |         |                   |                          |                 |                  |                         |         | <b>\$202,885</b> |

## CULVERTS - MATERIALS & INSTALLATION

|                                     |           |          |  |    |           |       |  |  |                       |
|-------------------------------------|-----------|----------|--|----|-----------|-------|--|--|-----------------------|
| <u>Culverts</u>                     |           |          |  |    |           |       |  |  |                       |
| 890                                 | LF of 18" | \$15,575 |  | 60 | LF of 12" | \$680 |  |  |                       |
|                                     |           | \$15,575 |  |    |           | \$680 |  |  |                       |
| <u>Half Rounds</u>                  |           |          |  |    |           |       |  |  |                       |
| 40                                  | LF of 18" | \$161    |  | 0  | LF of 30" | \$0   |  |  |                       |
|                                     |           | \$161    |  |    |           | \$0   |  |  |                       |
| <u>Culvert Stakes &amp; Markers</u> |           |          |  |    |           |       |  |  |                       |
| 10                                  | stakes    | \$80     |  |    |           |       |  |  |                       |
| 28                                  | markers   | \$224    |  |    |           |       |  |  |                       |
|                                     |           | \$304    |  |    |           |       |  |  |                       |
|                                     |           |          |  |    |           |       |  |  | <b>TOTAL CULVERTS</b> |
|                                     |           |          |  |    |           |       |  |  | <b>\$16,720</b>       |

## ROCK

|                               |              |        |        |         |         |                   |                   |           |                   |
|-------------------------------|--------------|--------|--------|---------|---------|-------------------|-------------------|-----------|-------------------|
| 0+00                          | to           | 171+98 | 5,980  | cy. of  | Crushed | @                 | \$21.57 per c.y.= | \$128,989 |                   |
| 247+90                        | to           | 341+55 | 6,920  | cy. of  | Jawrun  | @                 | \$10.70 per c.y.= | \$74,044  |                   |
| 13+35                         | to           | 24+35  | 820    | cy. of  | Jawrun  | @                 | \$19.75 per c.y.= | \$16,195  |                   |
| Cross Drain Backfill/bedding  | 15cy/x-drain | 270    | cy. of | Crushed | @       | \$13.00 per c.y.= | \$3,510           |           |                   |
| Cross Drain energy dissipator | 5cy/x-drain  | 130    | cy. of | Riprap  | @       | \$13.00 per c.y.= | \$1,690           |           |                   |
| Rubber Waterbar Removal/Berr  | 5cy each     | 40     | cy. of | Crushed | @       | \$11.42 per c.y.= | \$457             |           |                   |
| Fill Widening                 | 22+94        | 35     | cy. of | Jawrun  | @       | \$19.82 per c.y.= | \$694             |           |                   |
| Curve/fill Widenings          | 22+94        | 50     | cy. of | Crushed | @       | \$15.72 per c.y.= | \$786             |           |                   |
| Landings                      | As Directed  | 320    | cy. of | Jawrun  | @       | \$10.35 per c.y.= | \$3,312           |           |                   |
| Traction Rock                 | As Directed  | 1,345  | cy. of | Crushed | @       | \$15.32 per c.y.= | \$20,605          |           |                   |
| Drain Rock                    | 22+94        | 500    | cy. of | Riprap  | @       | \$12.09 per c.y.= | \$6,045           |           |                   |
| Curve/fill Widenings          | As Directed  | 150    | cy. of | Jawrun  | @       | \$10.70 per c.y.= | \$1,605           |           |                   |
|                               |              |        |        |         |         |                   |                   |           | <b>TOTAL ROCK</b> |
|                               |              |        |        |         |         |                   |                   |           | <b>\$257,932</b>  |

## SPECIAL PROJECTS

|                                               |        |              |          |             |          |
|-----------------------------------------------|--------|--------------|----------|-------------|----------|
| Construct Large Fills                         | 24.00  | hours @      | \$385.00 | per hour    | \$9,240  |
| Construct Ditchouts                           | 24.00  | @            | \$60.00  | each        | \$1,440  |
| Construct waste areas -                       | 12.00  | hours @      | \$145.00 | per hour    | \$1,740  |
| Clean Ditchlines(Endhaul)-                    | 91.05  | stations @   | \$100.00 | each        | \$9,105  |
| Nonwoven Geotextile Frabric for fill at 22+94 | 700.00 | square yard@ | \$0.95   | per sqyd    | \$665    |
| Culvert Cleanout                              | 1.00   | @            | \$20.00  | each        | \$20     |
| Grade and shape road -                        | 341.55 | stations @   | \$15.50  | per station | \$5,294  |
| Construct Ditchlines(No Endhaul)-             | 83.66  | stations @   | \$75.00  | per station | \$6,275  |
| Rubber Waterbar Removal                       | 7.00   | @            | \$48.33  | each        | \$338    |
| Roll Road following grading -                 | 341.55 | stations @   | \$13.20  | per station | \$4,508  |
| Grass seed and fertilize -                    | 10.00  | acres @      | \$220.00 | per acre    | \$2,200  |
| Mulching -                                    | 0.400  | acres @      | \$600.00 | per acre    | \$240    |
| TOTAL SPECIAL PROJECTS                        |        |              |          |             | \$41,065 |

**GRAND TOTAL**

**\$518,602**

## SUMMARY OF CONSTRUCTION COST

Sale:

**Ax Ridge**

Road:

**C to D**

|                       |              |          |                      |             |          |                         |             |          |
|-----------------------|--------------|----------|----------------------|-------------|----------|-------------------------|-------------|----------|
| <u>Construction -</u> | <u>23+25</u> | stations | <u>Improvement -</u> | <u>0+00</u> | stations | <u>Reconstruction -</u> | <u>0+00</u> | stations |
|                       | 0.44         | miles    |                      | 0.00        | miles    |                         | 0.00        | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

| <u>Station</u> | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>Avg. Dist.</u><br><u>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |   | <u>Drill &amp; Shoot / Endhaul</u> |                    |
|----------------|-----------|----------------|-----------------------|-------------------------------------------|-----------------------|-------------------------|---|------------------------------------|--------------------|
| 0+00           |           | 0+50           | 15%                   |                                           | Ditch                 | \$152                   | = |                                    | \$76.00            |
| 0+50           |           | 1+37           | 73%                   | 0.1                                       | Ditch                 | \$3,476                 | = |                                    | \$3,024.12         |
| 1+37           |           | 2+35           | 19%                   |                                           | Ditch                 | \$168                   | = |                                    | \$164.64           |
| 2+35           |           | 4+48           | 43%                   |                                           | Ditch                 | \$330                   | = |                                    | \$702.90           |
| 4+48           |           | 11+19          | 20%                   |                                           | Ditch                 | \$183                   | = |                                    | \$1,227.93         |
| 11+19          |           | 13+25          | 45%                   |                                           | Ditch                 | \$367                   | = |                                    | \$756.02           |
| 13+25          |           | 16+66          | 12%                   |                                           | Ditch                 | \$143                   | = |                                    | \$487.63           |
| 16+66          |           | 20+08          | 30%                   |                                           | Ditch                 | \$256                   | = |                                    | \$875.52           |
| 20+08          |           | 21+38          | 75%                   | 0.1                                       | Ditch                 | \$4,105                 | = | \$595.00                           | \$5,336.50         |
| 21+38          |           | 21+85          | 35%                   |                                           | Ditch                 | \$256                   | = |                                    | \$120.32           |
| 21+85          |           | 23+25          | 8%                    |                                           | Ditch                 | \$132                   | = |                                    | \$184.80           |
| <b>TOTAL</b>   |           |                |                       |                                           |                       |                         |   |                                    | <b>\$12,956.38</b> |

### **CULVERTS - MATERIALS & INSTALLATION**

|                                     |           |           |                   |  |    |           |                   |
|-------------------------------------|-----------|-----------|-------------------|--|----|-----------|-------------------|
| <u>Culverts</u>                     | 60        | LF of 18" | <u>\$1,050.00</u> |  | 60 | LF of 24" | <u>\$1,620.00</u> |
|                                     |           |           | \$1,050.00        |  |    |           | \$1,620.00        |
| <u>Culvert Stakes &amp; Markers</u> |           |           |                   |  |    |           |                   |
|                                     | 4 markers |           | <u>\$32.00</u>    |  |    |           |                   |
|                                     |           |           | \$32.00           |  |    |           |                   |
| <b>TOTAL CULVERTS</b>               |           |           |                   |  |    |           | <b>\$2,702.00</b> |

### **ROCK**

|                   |              |       |        |         |   |                   |                    |
|-------------------|--------------|-------|--------|---------|---|-------------------|--------------------|
| 0+00 to           | 23+25        | 1,330 | cy. of | Jawrun  | @ | \$12.09 per c.y.= | \$16,079.70        |
| 5+15 to           | 9+10         | 80    | cy. of | Crushed | @ | \$17.37 per c.y.= | \$1,389.60         |
| Intersection      | As Marked    | 50    | cy. of | Jawrun  | @ | \$11.74 per c.y.= | \$587.00           |
| Energy Dissipator | As Marked    | 10    | cy. of | Riprap  | @ | \$11.96 per c.y.= | \$119.60           |
| Landings          | 50CY/Landing | 200   | cy. of | Jawrun  | @ | \$11.74 per c.y.= | \$2,348.00         |
| Curve Widening    | As Directed  | 120   | cy. of | Jawrun  | @ | \$12.09 per c.y.= | \$1,450.80         |
| <b>TOTAL ROCK</b> |              |       |        |         |   |                   | <b>\$21,974.70</b> |

### **SPECIAL PROJECTS**

|                                                      |       |            |  |          |  |             |                   |
|------------------------------------------------------|-------|------------|--|----------|--|-------------|-------------------|
| Install Gate                                         |       |            |  |          |  | Lump Sum    | \$445.00          |
| Construct waste areas -                              | 7.00  | hours @    |  | \$145.00 |  | per hour    | \$1,015.00        |
| Grade and shape road -                               | 23.25 | stations @ |  | \$15.50  |  | per station | \$360.38          |
| Roll subgrade w/ vibratory roller prior to rocking - | 23.25 | stations @ |  | \$13.20  |  | per station | \$306.90          |
| Grass seed and fertilize -                           | 1.73  | acres @    |  | \$220.00 |  | per acre    | \$380.60          |
| Mulching -                                           | 0.200 | acres @    |  | \$600.00 |  | per acre    | \$120.00          |
| <b>TOTAL SPECIAL PROJECTS</b>                        |       |            |  |          |  |             | <b>\$2,627.88</b> |

**GRAND TOTAL** **\$40,260.96**

## SUMMARY OF CONSTRUCTION COST

Sale: Ax Ridge

Road: E to F

|                |       |          |               |      |          |                  |      |          |
|----------------|-------|----------|---------------|------|----------|------------------|------|----------|
| Construction - | 17+55 | stations | Improvement - | 0+00 | stations | Reconstruction - | 0+00 | stations |
|                | 0.33  | miles    |               | 0.00 | miles    |                  | 0.00 | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

| <u>Station</u> | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>Avg. Dist.</u><br><u>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |   | <u>Drill &amp; Shoot / Endhaul</u> |                   |
|----------------|-----------|----------------|-----------------------|-------------------------------------------|-----------------------|-------------------------|---|------------------------------------|-------------------|
| 0+00           |           | 1+51           | 57%                   | 0.1                                       | Ditch                 | \$996                   | = | \$4,829.50                         | \$6,333.46        |
| 1+51           |           | 4+36           | 36%                   |                                           | Ditch                 | \$256                   | = |                                    | \$729.60          |
| 4+36           |           | 5+29           | 46%                   | 0.1                                       | Ditch                 | \$374                   | = | \$760.50                           | \$347.82          |
| 5+29           |           | 17+55          | 22%                   |                                           | Ditch                 | \$183                   | = |                                    | \$2,243.58        |
|                |           |                |                       |                                           |                       |                         |   | <b>TOTAL</b>                       | <b>\$9,654.46</b> |

## CULVERTS - MATERIALS & INSTALLATION

|                                     |    |           |          |    |           |                       |                   |
|-------------------------------------|----|-----------|----------|----|-----------|-----------------------|-------------------|
| <u>Culverts</u>                     | 30 | LF of 18" | \$525.00 | 30 | LF of 24" | \$810.00              |                   |
|                                     |    |           | \$525.00 |    |           | \$810.00              |                   |
| <u>Culvert Stakes &amp; Markers</u> |    |           | \$16.00  |    |           |                       |                   |
|                                     | 2  | markers   | \$16.00  |    |           |                       |                   |
|                                     |    |           |          |    |           | <b>TOTAL CULVERTS</b> | <b>\$1,351.00</b> |

**ROCK**

|                   |              |     |        |        |   |                   |                   |                   |
|-------------------|--------------|-----|--------|--------|---|-------------------|-------------------|-------------------|
| 0+00 to           | 7+50         | 430 | cy. of | Jawrun | @ | \$11.35 per c.y.= | \$4,880.50        |                   |
| Intersection      | 0+00         | 30  | cy. of | Jawrun | @ | \$11.08 per c.y.= | \$332.40          |                   |
| Energy Dissipator | 5cy/Culvert  | 5   | cy. of | Riprap | @ | \$11.03 per c.y.= | \$55.15           |                   |
| Landings          | 50CY/Landing | 100 | cy. of | Jawrun | @ | \$11.03 per c.y.= | \$1,103.00        |                   |
|                   |              |     |        |        |   |                   | <b>TOTAL ROCK</b> | <b>\$6,371.05</b> |

## SPECIAL PROJECTS

|                                                      |       |            |          |             |                   |
|------------------------------------------------------|-------|------------|----------|-------------|-------------------|
| Develop Waste Area                                   | 14.00 | hours @    | \$145.00 | per hour    | \$2,030.00        |
| Grade and shape road -                               | 17.55 | stations @ | \$15.50  | per station | \$272.03          |
| Roll subgrade w/ vibratory roller prior to rocking - | 17.55 | stations @ | \$13.20  | per station | \$231.66          |
| Grass seed and fertilize -                           | 0.25  | acres @    | \$220.00 | per acre    | \$55.00           |
| Mulching -                                           | 0.100 | acres @    | \$600.00 | per acre    | \$60.00           |
| <b>TOTAL SPECIAL PROJECTS</b>                        |       |            |          |             | <b>\$2,648.69</b> |

|                    |                    |
|--------------------|--------------------|
| <b>GRAND TOTAL</b> | <b>\$20,025.20</b> |
|--------------------|--------------------|

SUMMARY OF CONSTRUCTION COST

|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  |                         |  |                                    |  |
|--------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|--|-----------------|--|-----------------------|-------|-------------------|--|----------------------|---------------|-------------------------|--|-------------------------|--|------------------------------------|--|
| Sale:                                                                                                                                      |  |             |  | <u>Ax Ridge</u> |  |                       | Road: |                   |  |                      | <u>G to H</u> |                         |  |                         |  |                                    |  |
| <u>Construction -</u>                                                                                                                      |  | <u>3+00</u> |  | stations        |  | <u>Improvement -</u>  |       | <u>0+00</u>       |  | stations             |               | <u>Reconstruction -</u> |  | <u>0+00</u>             |  | stations                           |  |
|                                                                                                                                            |  | 0.06        |  | miles           |  |                       |       | 0.00              |  | miles                |               |                         |  | 0.00                    |  | miles                              |  |
| <b>CONSTRUCTION:</b> CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA - |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  |                         |  |                                    |  |
| <u>Station</u>                                                                                                                             |  | <u>to</u>   |  | <u>Station</u>  |  | <u>Avg. Sideslope</u> |       | <u>Avg. Dist.</u> |  | <u>To W.A. (mi.)</u> |               | <u>Outslope/Ditch</u>   |  | <u>Cost per Station</u> |  | <u>Drill &amp; Shoot / Endhaul</u> |  |
| 0+00                                                                                                                                       |  |             |  | 3+00            |  | 45%                   |       |                   |  |                      |               | Ditch                   |  | \$367                   |  | = \$89.25                          |  |
|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  | \$1,190.25              |  |                                    |  |
|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  | <b>TOTAL</b>            |  | <b>\$1,190.25</b>                  |  |
| <b>ROCK</b>                                                                                                                                |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  |                         |  |                                    |  |
| Intersection                                                                                                                               |  |             |  | 0+00            |  | 50                    |       | cy. of            |  | Jawrun               |               | @                       |  | \$11.22 per c.y.=       |  | \$561.00                           |  |
|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  | <b>TOTAL ROCK</b>       |  | <b>\$561.00</b>                    |  |
| <b>SPECIAL PROJECTS</b>                                                                                                                    |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  |                         |  |                                    |  |
| Grade and shape road -                                                                                                                     |  |             |  |                 |  |                       |       |                   |  | 3.00                 |               | stations @              |  | \$15.50                 |  | per station \$46.50                |  |
| Roll subgrade w/ vibratory roller prior to rocking -                                                                                       |  |             |  |                 |  |                       |       |                   |  | 3.00                 |               | stations @              |  | \$13.20                 |  | per station \$39.60                |  |
| Grass seed and fertilize -                                                                                                                 |  |             |  |                 |  |                       |       |                   |  | 0.10                 |               | acres @                 |  | \$220.00                |  | per acre \$22.00                   |  |
|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  | TOTAL SPECIAL PROJECTS  |  | <b>\$108.10</b>                    |  |
|                                                                                                                                            |  |             |  |                 |  |                       |       |                   |  |                      |               |                         |  | <b>GRAND TOTAL</b>      |  | <b>\$1,859.35</b>                  |  |

SUMMARY OF CONSTRUCTION COST

|                                                                                                                                            |           |                |                       |                      |                       |                         |          |                                    |                               |                         |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|-----------------------|----------------------|-----------------------|-------------------------|----------|------------------------------------|-------------------------------|-------------------------|--|--|
| Sale:                                                                                                                                      |           |                | <u>Ax Ridge</u>       |                      |                       | Road:                   |          |                                    | <u>I to J</u>                 |                         |  |  |
| <u>Construction -</u>                                                                                                                      |           |                | <u>5+35</u>           | stations             | <u>Improvement -</u>  |                         |          | <u>0+00</u>                        | stations                      | <u>Reconstruction -</u> |  |  |
|                                                                                                                                            |           |                | 0.10                  | miles                |                       |                         |          | 0.00                               | miles                         |                         |  |  |
| <u>CONSTRUCTION:</u> CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA - |           |                |                       |                      |                       |                         |          |                                    |                               |                         |  |  |
|                                                                                                                                            |           |                | <u>Avg. Dist.</u>     |                      |                       |                         |          |                                    |                               |                         |  |  |
| <u>Station</u>                                                                                                                             | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> | Endhaul  | <u>Drill &amp; Shoot / Endhaul</u> |                               |                         |  |  |
| 0+00                                                                                                                                       |           | 5+35           | 18%                   |                      | Ditch                 | \$168                   | =        | \$11,948.75                        | \$12,847.55                   |                         |  |  |
|                                                                                                                                            |           |                |                       |                      |                       |                         |          |                                    | <b>TOTAL</b>                  | <b>\$12,847.55</b>      |  |  |
| <b>ROCK</b>                                                                                                                                |           |                |                       |                      |                       |                         |          |                                    |                               |                         |  |  |
| Intersection                                                                                                                               |           |                | 0+00                  | 50                   | cy. of                | Jawrun                  | @        | \$10.30 per c.y.=                  | \$515.00                      |                         |  |  |
|                                                                                                                                            |           |                |                       |                      |                       |                         |          |                                    | <b>TOTAL ROCK</b>             | <b>\$515.00</b>         |  |  |
| <b>SPECIAL PROJECTS</b>                                                                                                                    |           |                |                       |                      |                       |                         |          |                                    |                               |                         |  |  |
| Grade and shape road -                                                                                                                     |           |                |                       |                      | 5.35                  | stations @              | \$15.50  | per station                        | \$82.93                       |                         |  |  |
| Roll subgrade w/ vibratory roller prior to rocking -                                                                                       |           |                |                       |                      | 5.35                  | stations @              | \$13.20  | per station                        | \$70.62                       |                         |  |  |
| Grass seed and fertilize -                                                                                                                 |           |                |                       |                      | 0.20                  | acres @                 | \$220.00 | per acre                           | \$44.00                       |                         |  |  |
|                                                                                                                                            |           |                |                       |                      |                       |                         |          |                                    | <b>TOTAL SPECIAL PROJECTS</b> | <b>\$197.55</b>         |  |  |
| <b>GRAND TOTAL</b>                                                                                                                         |           |                |                       |                      |                       |                         |          |                                    |                               | <b>\$13,560.10</b>      |  |  |

## SUMMARY OF CONSTRUCTION COST

Sale:

**Ax Ridge**

Road:

**K to L**

|                       |             |          |                      |             |          |                         |             |          |
|-----------------------|-------------|----------|----------------------|-------------|----------|-------------------------|-------------|----------|
| <u>Construction -</u> | <u>4+50</u> | stations | <u>Improvement -</u> | <u>0+00</u> | stations | <u>Reconstruction -</u> | <u>0+00</u> | stations |
|                       | 0.09        | miles    |                      | 0.00        | miles    |                         | 0.00        | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

| <u>Station</u> | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>Avg. Dist.</u><br><u>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |   | <u>Drill &amp; Shoot / Endhaul</u> |                    |
|----------------|-----------|----------------|-----------------------|-------------------------------------------|-----------------------|-------------------------|---|------------------------------------|--------------------|
| 0+00           |           | 1+52           | 20%                   | 0.0                                       | Ditch                 | \$183                   | = | \$3,656.67                         | \$3,934.83         |
| 1+52           |           | 3+82           | 58%                   | 0                                         | Ditch                 | \$996                   | = | \$24,491.67                        | \$26,782.47        |
| 3+82           |           | 4+50           | 20%                   | 0                                         | Ditch                 | \$183                   | = | \$3,656.67                         | \$3,781.11         |
|                |           |                |                       |                                           |                       |                         |   |                                    | <b>TOTAL</b>       |
|                |           |                |                       |                                           |                       |                         |   |                                    | <b>\$34,498.41</b> |

### **CULVERTS - MATERIALS & INSTALLATION**

|                                     |    |           |          |  |   |           |                       |
|-------------------------------------|----|-----------|----------|--|---|-----------|-----------------------|
| <u>Culverts</u>                     | 30 | LF of 18" | \$525.00 |  | 0 | LF of 24" | \$0.00                |
|                                     |    |           | \$525.00 |  |   |           | \$0.00                |
| <u>Culvert Stakes &amp; Markers</u> | 1  | markers   | \$8.00   |  |   |           |                       |
|                                     |    |           | \$8.00   |  |   |           |                       |
|                                     |    |           |          |  |   |           | <b>TOTAL CULVERTS</b> |
|                                     |    |           |          |  |   |           | <b>\$533.00</b>       |

### **ROCK**

|                   |             |    |        |        |   |                   |                   |
|-------------------|-------------|----|--------|--------|---|-------------------|-------------------|
| Intersection      | 0+00        | 50 | cy. of | Jawrun | @ | \$10.17 per c.y.= | \$508.50          |
| Intersection      | 4+50        | 50 | cy. of | Jawrun | @ | \$10.31 per c.y.= | \$515.50          |
| Energy Dissipator | 5cy/Culvert | 5  | cy. of | Riprap | @ | \$10.07 per c.y.= | \$50.35           |
|                   |             |    |        |        |   |                   | <b>TOTAL ROCK</b> |
|                   |             |    |        |        |   |                   | <b>\$1,074.35</b> |

### **SPECIAL PROJECTS**

|                                                      |      |            |         |             |                               |
|------------------------------------------------------|------|------------|---------|-------------|-------------------------------|
| Grade and shape road -                               | 4.50 | stations @ | \$15.50 | per station | \$69.75                       |
| Roll subgrade w/ vibratory roller prior to rocking - | 4.50 | stations @ | \$13.20 | per station | \$59.40                       |
|                                                      |      |            |         |             | <b>TOTAL SPECIAL PROJECTS</b> |
|                                                      |      |            |         |             | <b>\$129.15</b>               |

**GRAND TOTAL** **\$36,234.91**

SUMMARY OF CONSTRUCTION COST

|                         |              |          |                      |             |          |
|-------------------------|--------------|----------|----------------------|-------------|----------|
| Sale: <b>Ax Ridge</b>   |              |          | Road: <b>M to N</b>  |             |          |
| <u>Construction -</u>   | <u>14+15</u> | stations | <u>Improvement -</u> | <u>0+00</u> | stations |
|                         | <u>0.27</u>  | miles    |                      | <u>0.00</u> | miles    |
| <u>Reconstruction -</u> | <u>0+00</u>  | stations |                      | <u>0+00</u> | stations |
|                         | <u>0.00</u>  | miles    |                      | <u>0.00</u> | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

| <u>Station</u> | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>Avg. Dist.<br/>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |   | <u>Drill&amp;Shoot Cost</u> |                    |
|----------------|-----------|----------------|-----------------------|-------------------------------------|-----------------------|-------------------------|---|-----------------------------|--------------------|
| 0+00           |           | 7+12           | 15%                   | 0.0                                 | Ditch                 | \$152                   | = |                             | \$1,082.24         |
| 7+12           |           | 9+70           | 55%                   | 0                                   | Ditch                 | \$996                   | = | \$4,823.50                  | \$7,393.18         |
| 7+90           |           | 14+15          | 38%                   |                                     | Ditch                 | \$256                   | = |                             | \$1,600.00         |
| <b>TOTAL</b>   |           |                |                       |                                     |                       |                         |   |                             | <b>\$10,075.42</b> |

CULVERTS - MATERIALS & INSTALLATION

|                                     |    |           |                   |   |           |                   |
|-------------------------------------|----|-----------|-------------------|---|-----------|-------------------|
| <u>Culverts</u>                     | 60 | LF of 18" | <u>\$1,050.00</u> | 0 | LF of 24" | <u>\$0.00</u>     |
|                                     |    |           | \$1,050.00        |   |           | \$0.00            |
| <u>Culvert Stakes &amp; Markers</u> | 2  | markers   | <u>\$16.00</u>    |   |           |                   |
|                                     |    |           | \$16.00           |   |           |                   |
| <b>TOTAL CULVERTS</b>               |    |           |                   |   |           | <b>\$1,066.00</b> |

ROCK

|                               |     |        |         |   |                    |                    |
|-------------------------------|-----|--------|---------|---|--------------------|--------------------|
| 0+00 to 14+15                 | 820 | cy. of | Jawrun  | @ | \$10.20 per c.y. = | \$8,364.00         |
| 3+20 to 13+75                 | 190 | cy. of | Crushed | @ | \$15.65 per c.y. = | \$2,973.50         |
| Intersection 0+00             | 30  | cy. of | Jawrun  | @ | \$9.98 per c.y. =  | \$299.40           |
| Landings 80CY/Landing         | 80  | cy. of | Jawrun  | @ | \$10.06 per c.y. = | \$804.80           |
| Energy Dissipator 5cy/Culvert | 5   | cy. of | Riprap  | @ | \$9.70 per c.y. =  | \$48.50            |
| <b>TOTAL ROCK</b>             |     |        |         |   |                    | <b>\$12,490.20</b> |

SPECIAL PROJECTS

|                                                      |       |            |         |             |                 |
|------------------------------------------------------|-------|------------|---------|-------------|-----------------|
| Grade and shape road -                               | 14.15 | stations @ | \$15.50 | per station | \$219.33        |
| Roll subgrade w/ vibratory roller prior to rocking - | 14.15 | stations @ | \$13.20 | per station | \$186.78        |
| <b>TOTAL SPECIAL PROJECTS</b>                        |       |            |         |             | <b>\$406.11</b> |

|                    |                    |
|--------------------|--------------------|
| <b>GRAND TOTAL</b> | <b>\$24,037.73</b> |
|--------------------|--------------------|

SUMMARY OF CONSTRUCTION COST

|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               |                        |                   |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|-----------------|-----------------------|-------------------|-------------------------|-----------------------|-------------------------|---------------|------------------------|-------------------|
| Sale:                                                                                                                                      |                |           | <u>Ax Ridge</u> |                       |                   | Road:                   |                       |                         | <u>O to P</u> |                        |                   |
| <u>Construction -</u>                                                                                                                      |                |           | 3+45            | stations              |                   | <u>Improvement -</u>    |                       |                         | 0+00          | stations               |                   |
|                                                                                                                                            |                |           | 0.07            | miles                 |                   |                         |                       |                         | 0.00          | miles                  |                   |
|                                                                                                                                            |                |           |                 |                       |                   | <u>Reconstruction -</u> |                       |                         | 0+00          | stations               |                   |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         | 0.00          | miles                  |                   |
| <u>CONSTRUCTION:</u> CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA - |                |           |                 |                       |                   |                         |                       |                         |               |                        |                   |
|                                                                                                                                            | <u>Station</u> | <u>to</u> | <u>Station</u>  | <u>Avg. Sideslope</u> | <u>Avg. Dist.</u> | <u>To W.A. (mi.)</u>    | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |               |                        |                   |
|                                                                                                                                            | 0+00           |           | 3+45            | 10%                   |                   |                         |                       | \$90                    | =             |                        | \$310.50          |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               |                        | <b>TOTAL</b>      |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               |                        | <b>\$310.50</b>   |
| <b>ROCK</b>                                                                                                                                |                |           |                 |                       |                   |                         |                       |                         |               |                        |                   |
| Intersection                                                                                                                               |                |           | 0+00            | 50                    | cy. of            | Jawrun                  | @                     | \$10.09                 | per c.y.=     |                        | \$504.50          |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               |                        | <b>TOTAL ROCK</b> |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               |                        | <b>\$504.50</b>   |
| <b>SPECIAL PROJECTS</b>                                                                                                                    |                |           |                 |                       |                   |                         |                       |                         |               |                        |                   |
| Construct waste areas -                                                                                                                    |                |           |                 |                       |                   | 4.00                    | hours @               | \$145.00                | per hour      |                        | \$580.00          |
| Grade and shape road -                                                                                                                     |                |           |                 |                       |                   | 3.45                    | stations @            | \$15.50                 | per station   |                        | \$53.48           |
| Roll subgrade w/ vibratory roller prior to rocking -                                                                                       |                |           |                 |                       |                   | 3.45                    | stations @            | \$13.20                 | per station   |                        | \$45.54           |
| Grass seed and fertilize -                                                                                                                 |                |           |                 |                       |                   | 0.10                    | acres @               | \$220.00                | per acre      |                        | \$22.00           |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               | TOTAL SPECIAL PROJECTS | <b>\$701.02</b>   |
|                                                                                                                                            |                |           |                 |                       |                   |                         |                       |                         |               | <b>GRAND TOTAL</b>     | <b>\$1,516.02</b> |

SUMMARY OF CONSTRUCTION COST

|                         |             |          |                      |             |          |
|-------------------------|-------------|----------|----------------------|-------------|----------|
| Sale: <u>Ax Ridge</u>   |             |          | Road: <u>U to V</u>  |             |          |
| <u>Construction -</u>   | <u>1+45</u> | stations | <u>Improvement -</u> | <u>0+00</u> | stations |
|                         | <u>0.03</u> | miles    |                      | <u>0.00</u> | miles    |
| <u>Reconstruction -</u> | <u>0+00</u> | stations |                      | <u>0.00</u> | miles    |

**CONSTRUCTION:** CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

| <u>Station</u> | <u>to</u> | <u>Station</u> | <u>Avg. Sideslope</u> | <u>Avg. Dist.</u> | <u>To W.A. (mi.)</u> | <u>Outslope/Ditch</u> | <u>Cost per Station</u> |   | <u>Drill &amp; Shoot</u> |              |                   |
|----------------|-----------|----------------|-----------------------|-------------------|----------------------|-----------------------|-------------------------|---|--------------------------|--------------|-------------------|
| 0+00           |           | 1+45           | 15%                   |                   |                      |                       | \$107                   | = | \$1,127.78               | \$1,282.93   |                   |
|                |           |                |                       |                   |                      |                       |                         |   |                          | <b>TOTAL</b> | <b>\$1,282.93</b> |

|              |  |      |    |        |        |   |  |  |                  |                   |                 |
|--------------|--|------|----|--------|--------|---|--|--|------------------|-------------------|-----------------|
| <b>ROCK</b>  |  |      |    |        |        |   |  |  |                  |                   |                 |
| Intersection |  | 0+00 | 50 | cy. of | Jawrun | @ |  |  | \$9.70 per c.y.= | \$485.00          |                 |
|              |  |      |    |        |        |   |  |  |                  | <b>TOTAL ROCK</b> | <b>\$485.00</b> |

|                                                      |  |  |  |  |      |            |          |             |         |                        |                   |
|------------------------------------------------------|--|--|--|--|------|------------|----------|-------------|---------|------------------------|-------------------|
| <b>SPECIAL PROJECTS</b>                              |  |  |  |  |      |            |          |             |         |                        |                   |
| Grade and shape road -                               |  |  |  |  | 1.45 | stations @ | \$15.50  | per station | \$22.48 |                        |                   |
| Roll subgrade w/ vibratory roller prior to rocking - |  |  |  |  | 1.45 | stations @ | \$13.20  | per station | \$19.14 |                        |                   |
| Grass seed and fertilize -                           |  |  |  |  | 0.10 | acres @    | \$220.00 | per acre    | \$22.00 |                        |                   |
|                                                      |  |  |  |  |      |            |          |             |         | TOTAL SPECIAL PROJECTS | <b>\$63.62</b>    |
|                                                      |  |  |  |  |      |            |          |             |         | <b>GRAND TOTAL</b>     | <b>\$1,831.55</b> |

SUMMARY OF CONSTRUCTION COST

|                                            |  |  |                 |          |  |                      |         |  |               |          |  |                         |  |  |                          |          |  |
|--------------------------------------------|--|--|-----------------|----------|--|----------------------|---------|--|---------------|----------|--|-------------------------|--|--|--------------------------|----------|--|
| Sale:                                      |  |  | <u>Ax Ridge</u> |          |  | Road:                |         |  | <u>W to X</u> |          |  |                         |  |  |                          |          |  |
| <u>Construction -</u>                      |  |  | <u>0+00</u>     | stations |  | <u>Improvement -</u> |         |  | <u>0+00</u>   | stations |  | <u>Reconstruction -</u> |  |  | <u>8+00</u>              | stations |  |
|                                            |  |  | 0.00            | miles    |  |                      |         |  | 0.00          | miles    |  |                         |  |  | 0.15                     | miles    |  |
| <b>SPECIAL PROJECTS</b>                    |  |  |                 |          |  |                      |         |  |               |          |  |                         |  |  |                          |          |  |
| Clear Road                                 |  |  |                 |          |  | 5.00                 | hours @ |  | \$125.00      | per hour |  | \$625.00                |  |  |                          |          |  |
| Remove Overburden Material and Place Alder |  |  |                 |          |  | 36.00                | hours @ |  | \$125.00      | per hour |  | \$4,500.00              |  |  |                          |          |  |
| Waterbar and Block Road                    |  |  |                 |          |  | 5.00                 | hours @ |  | \$125.00      | per hour |  | \$625.00                |  |  |                          |          |  |
| Grass seed and fertilize -                 |  |  |                 |          |  | 0.30                 | acres @ |  | \$220.00      | per acre |  | \$66.00                 |  |  |                          |          |  |
| Mulching -                                 |  |  |                 |          |  | 0.300                | acres @ |  | \$600.00      | per acre |  | <u>\$180.00</u>         |  |  |                          |          |  |
|                                            |  |  |                 |          |  |                      |         |  |               |          |  | TOTAL SPECIAL PROJECTS  |  |  | <b>\$5,996.00</b>        |          |  |
|                                            |  |  |                 |          |  |                      |         |  |               |          |  | <b>GRAND TOTAL</b>      |  |  | <b><u>\$6,076.00</u></b> |          |  |

SUMMARY OF CONSTRUCTION COST

|                         |             |          |                      |             |          |
|-------------------------|-------------|----------|----------------------|-------------|----------|
| Sale: <b>Ax Ridge</b>   |             |          | Road: <b>Y to Z</b>  |             |          |
| <u>Construction -</u>   | <u>0+00</u> | stations | <u>Improvement -</u> | <u>4+00</u> | stations |
|                         | <u>0.00</u> | miles    |                      | <u>0.08</u> | miles    |
| <u>Reconstruction -</u> | <u>0+00</u> | stations |                      |             |          |
|                         | <u>0.00</u> | miles    |                      |             |          |

CULVERTS - MATERIALS & INSTALLATION

|                                     |    |           |                 |   |           |                 |
|-------------------------------------|----|-----------|-----------------|---|-----------|-----------------|
| <u>Culverts</u>                     | 40 | LF of 18" | <u>\$700.00</u> | 0 | LF of 24" | <u>\$0.00</u>   |
|                                     |    |           | \$700.00        |   |           | \$0.00          |
| <u>Culvert Stakes &amp; Markers</u> |    |           |                 |   |           |                 |
|                                     | 1  | markers   | <u>\$8.00</u>   |   |           |                 |
|                                     |    |           | \$8.00          |   |           |                 |
| <b>TOTAL CULVERTS</b>               |    |           |                 |   |           | <b>\$708.00</b> |

ROCK

|                     |          |       |        |         |   |                    |                    |
|---------------------|----------|-------|--------|---------|---|--------------------|--------------------|
| 0+00 to             | 4+00     | 160   | cy. of | Crushed | @ | \$22.30 per c.y. = | \$3,568.00         |
| Lowboy Turnaround   | 3+51     | 70    | cy. of | Jawrun  | @ | \$22.13 per c.y. = | \$1,549.10         |
| Temporary Stockpile | Point DD | 2,015 | cy. of | Crushed | @ | \$21.10 per c.y. = | \$42,516.50        |
| <b>TOTAL ROCK</b>   |          |       |        |         |   |                    | <b>\$47,633.60</b> |

SPECIAL PROJECTS

|                                                      |      |            |          |             |                    |
|------------------------------------------------------|------|------------|----------|-------------|--------------------|
| Clean Ditch                                          | 1.68 | stations @ | \$60.00  | per hour    | \$100.80           |
| Construct Stockpile Area and Lowboy Turnaround -     | 8.00 | hours @    | \$145.00 | per hour    | \$1,160.00         |
| Grade and shape road -                               | 4.00 | stations @ | \$15.50  | per station | \$62.00            |
| Roll subgrade w/ vibratory roller prior to rocking - | 4.00 | stations @ | \$13.20  | per station | \$52.80            |
| <b>TOTAL SPECIAL PROJECTS</b>                        |      |            |          |             | <b>\$1,375.60</b>  |
| <b>GRAND TOTAL</b>                                   |      |            |          |             | <b>\$49,717.20</b> |

SUMMARY OF CONSTRUCTION COST

|                         |  |  |                 |  |  |                 |  |  |                         |  |  |
|-------------------------|--|--|-----------------|--|--|-----------------|--|--|-------------------------|--|--|
| Sale:                   |  |  | <u>Ax Ridge</u> |  |  | Road:           |  |  | <u>AA to BB</u>         |  |  |
| <u>Construction -</u>   |  |  | <u>0+00</u>     |  |  | <u>stations</u> |  |  | <u>Improvement -</u>    |  |  |
|                         |  |  | <u>0.00</u>     |  |  | <u>miles</u>    |  |  | <u>259+60</u>           |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>4.92</u>             |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>stations</u>         |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>miles</u>            |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>Reconstruction -</u> |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>0+00</u>             |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>stations</u>         |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>0.00</u>             |  |  |
|                         |  |  |                 |  |  |                 |  |  | <u>miles</u>            |  |  |
| <b>ROCK</b>             |  |  |                 |  |  |                 |  |  |                         |  |  |
| Spot Patching           |  |  | As Directed     |  |  | 200             |  |  | cy. of                  |  |  |
|                         |  |  |                 |  |  |                 |  |  | Crushed                 |  |  |
|                         |  |  |                 |  |  |                 |  |  | @                       |  |  |
|                         |  |  |                 |  |  |                 |  |  | \$12.37 per c.y. =      |  |  |
|                         |  |  |                 |  |  |                 |  |  | \$2,474.00              |  |  |
|                         |  |  |                 |  |  |                 |  |  | <b>TOTAL ROCK</b>       |  |  |
|                         |  |  |                 |  |  |                 |  |  | <b>\$2,474.00</b>       |  |  |
| <b>SPECIAL PROJECTS</b> |  |  |                 |  |  |                 |  |  |                         |  |  |
| Grade and shape road -  |  |  |                 |  |  | 259.60          |  |  | stations @              |  |  |
|                         |  |  |                 |  |  |                 |  |  | \$15.50                 |  |  |
|                         |  |  |                 |  |  |                 |  |  | per station             |  |  |
|                         |  |  |                 |  |  |                 |  |  | \$4,023.80              |  |  |
|                         |  |  |                 |  |  |                 |  |  | TOTAL SPECIAL PROJECTS  |  |  |
|                         |  |  |                 |  |  |                 |  |  | <b>\$4,023.80</b>       |  |  |
|                         |  |  |                 |  |  |                 |  |  | <b>GRAND TOTAL</b>      |  |  |
|                         |  |  |                 |  |  |                 |  |  | <b>\$6,497.80</b>       |  |  |

|             |                 |                    |                         |
|-------------|-----------------|--------------------|-------------------------|
| Pit:        | Axed Pit        | Location:          | Sec. 15, T1S, R7W, W.M. |
| Sale:       | <b>Ax Ridge</b> | Road:              | 10905 c.y.              |
| Swell:      | 1.40            | Stockpile:         | c.y.                    |
| Shrinkage   | 1.16            | Total Truck Loads: | 10905 c.y.              |
| Drill Pct.: | 100%            | In Place Total:    | 7789 c.y.               |

|                     |                |   |               |   |             |
|---------------------|----------------|---|---------------|---|-------------|
| Drill & Shoot:      | \$2.50 /cu.yd. | x | 7789 cu.yds.  | = | \$19,472.50 |
| Push Rock:          | \$0.70 /cu.yd. | x | 10905 cu.yds. | = | \$7,633.50  |
| Load Crusher:       | \$0.70 /cu.yd. | x | 10905 cu.yds. | = | \$7,633.50  |
| Crush Rock(4"):     | \$2.50 /cu.yd. | x | 10905 cu.yds. | = | \$27,262.50 |
| Load Dump Truck:    | \$0.70 /cu.yd. | x | 10905 cu.yds. | = | \$7,633.50  |
| Oversize Reduction: | \$4.50 /cu.yd. | x | 1091 cu.yds.  | = | \$4,909.50  |

|                                         |   |   |          |          |                   |
|-----------------------------------------|---|---|----------|----------|-------------------|
| Move In/Set-up Crusher                  |   |   |          |          | \$1,799.00        |
| Move In and set up Drill and Compressor | 1 | @ | \$832.98 | =        | \$832.98          |
|                                         |   |   |          | Subtotal | <u>\$2,631.98</u> |

|                        |             |
|------------------------|-------------|
| TOTAL PRODUCTION COSTS | \$81,816.98 |
|------------------------|-------------|

|  |                     |              |
|--|---------------------|--------------|
|  | TOTAL ROCKING COSTS | \$118,573.70 |
|--|---------------------|--------------|

## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

|             |                 |                    |                         |
|-------------|-----------------|--------------------|-------------------------|
| Pit:        | Archers Pit     | Location:          | Sec. 17, T1S, R7W, W.M. |
| Sale:       | <b>Ax Ridge</b> | Road:              | 925 c.y.                |
| Swell:      | 1.40            | Stockpile:         | c.y.                    |
| Shrinkage   | 1.16            | Total Truck Loads: | 925 c.y.                |
| Drill Pct.: | 0%              | In Place Total:    | 661 c.y.                |

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburder in Waste Area, spread and compact. \$2,900.00

|                  |                |   |             |   |            |
|------------------|----------------|---|-------------|---|------------|
| Rip Rock:        | \$0.70 /cu.yd. | x | 661 cu.yds. | = | \$462.70   |
| Load Crusher:    | \$0.70 /cu.yd. | x | 925 cu.yds. | = | \$647.50   |
| Crush Rock:      | \$2.35 /cu.yd. | x | 925 cu.yds. | = | \$2,173.75 |
| Load Dump Truck: | \$0.70 /cu.yd. | x | 925 cu.yds. | = | \$647.50   |

Subtotal \$6,831.45

|                                         |   |   |            |   |            |
|-----------------------------------------|---|---|------------|---|------------|
| Move In/Set-up Crusher                  |   |   |            |   | \$1,799.00 |
| Move In and set up Drill and Compressor | 1 | @ | \$832.98   | = | \$832.98   |
| Move in Roller and Compactor            | 1 | @ | \$832.98   | = | \$832.98   |
| Move in Grader                          | 1 | @ | \$214.38   | = | \$214.38   |
| Move in D-8                             | 1 | @ | \$1,011.43 | = | \$1,011.43 |
| Move in Loader                          | 1 | @ | \$866.34   | = | \$866.34   |
| Move in Excavator                       | 1 | @ | \$1,102.03 | = | \$1,102.03 |
| Move in Trucks                          | 3 | @ | \$280.66   | = | \$841.98   |
| Move in Water Truck                     | 1 | @ | \$329.90   | = | \$329.90   |

Subtotal \$7,831.02

TOTAL PRODUCTION COSTS      \$14,662.47

Base Cost Pitrun/rip rap= \$15.85 Per Cu.Yd.

| Road Segment                      | Haul Cost<br>\$/cu.yd. | Proc Cost<br>\$/cu.yd. | Base Cost.<br>\$/cu.yd. | Cost<br>\$/cu.yd. | Number<br>Cu. Yds | ROCK<br>COST |
|-----------------------------------|------------------------|------------------------|-------------------------|-------------------|-------------------|--------------|
| A to B 1335 2435 (Jawrun)         | 2.80                   | 1.10                   | 15.85                   | 19.75             | 820               | \$16,195.00  |
| A to B Fill Widening (Jawrun)     | 2.87                   | 1.10                   | 15.85                   | 19.82             | 35                | \$693.70     |
| Y to Z Lowboy Turnaround (Jawrun) | 5.53                   | 0.75                   | 15.85                   | 22.13             | 70                | \$1,549.10   |

Total C.Y.      925      Sub Total      \$18,437.80

TOTAL ROCKING COSTS      \$18,437.80

## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

|             |                 |                    |                         |
|-------------|-----------------|--------------------|-------------------------|
| Pit:        | Column Pit      | Location:          | Sec. 15, T1S, R7W, W.M. |
| Sale:       | <b>Ax Ridge</b> | Road:              | 11145 c.y.              |
| Swell:      | 1.40            | Stockpile:         | c.y.                    |
| Shrinkage   | 1.16            | Total Truck Loads: | 11145 c.y.              |
| Drill Pct.: | 100%            | In Place Total:    | 7961 c.y.               |

Pit Development & Cleanup including Clearing and grubbing of  
Waste Area @ adjacent to pit, place overburden  
in Waste Area, spread and compact. \$3,480.00

|                     |        |         |   |               |   |             |
|---------------------|--------|---------|---|---------------|---|-------------|
| Drill & Shoot:      | \$2.50 | /cu.yd. | x | 7961 cu.yds.  | = | \$19,902.50 |
| Push Rock:          | \$0.70 | /cu.yd. | x | 11145 cu.yds. | = | \$7,801.50  |
| Load Crusher:       | \$0.70 | /cu.yd. | x | 11145 cu.yds. | = | \$7,801.50  |
| Crush Rock(1 1/2"): | \$2.70 | /cu.yd. | x | 11145 cu.yds. | = | \$30,091.50 |
| Load Dump Truck:    | \$0.70 | /cu.yd. | x | 11145 cu.yds. | = | \$7,801.50  |
| Oversize Reduction: | \$4.50 | /cu.yd. | x | 1115 cu.yds.  | = | \$5,017.50  |

Subtotal \$81,896.00

|                                         |   |   |            |   |          |             |
|-----------------------------------------|---|---|------------|---|----------|-------------|
| Move In/Set-up Crusher                  |   |   |            |   |          | \$6,808.00  |
| Move In and set up Drill and Compressor | 1 | @ | \$832.98   | = |          | \$832.98    |
| Move in Roller and Compactor            | 1 | @ | \$832.98   | = |          | \$832.98    |
| Move in Grader                          | 1 | @ | \$214.38   | = |          | \$214.38    |
| Move in D-8                             | 1 | @ | \$1,011.43 | = |          | \$1,011.43  |
| Move in Loader                          | 1 | @ | \$866.34   | = |          | \$866.34    |
| Move in Excavator                       | 1 | @ | \$1,102.03 | = |          | \$1,102.03  |
| Move in Trucks                          | 3 | @ | \$280.66   | = |          | \$841.98    |
| Move in Water Truck                     | 1 | @ | \$329.90   | = |          | \$329.90    |
|                                         |   |   |            |   | Subtotal | \$12,840.02 |

TOTAL PRODUCTION COSTS \$94,736.02

Base Cost= \$8.50 Per Cu.Yd.

| Road Segment                              | Haul Cost<br>\$/cu.yd. | Proc Cost<br>\$/cu.yd. | Base Cost.<br>\$/cu.yd. | Cost<br>\$/cu.yd. | Number<br>Cu. Yds | ROCK<br>COST |
|-------------------------------------------|------------------------|------------------------|-------------------------|-------------------|-------------------|--------------|
| A to B 0 17198 (Crushed)                  | 10.62                  | 2.45                   | 8.50                    | 21.57             | 5980              | \$128,988.60 |
| A to B Cross Drain Backfill/bedding (Crus | 3.60                   | 0.90                   | 8.50                    | 13.00             | 270               | \$3,510.00   |
| A to B Cross Drain energy dissipator (Rip | 3.60                   | 0.90                   | 8.50                    | 13.00             | 130               | \$1,690.00   |
| Point A Crushed                           | 9.90                   | 1.25                   | 8.50                    | 19.65             | 1000              | \$19,650.00  |
| Column Pit Crushed                        | 1.14                   | 1.25                   | 8.50                    | 10.89             | 200               | \$2,178.00   |
| A to B Rubber Waterbar Removal/Berm (     | 2.32                   | 0.60                   | 8.50                    | 11.42             | 40                | \$456.80     |
| A to B Curve/fill Widening (Crushed)      | 4.77                   | 2.45                   | 8.50                    | 15.72             | 50                | \$786.00     |
| A to B Traction Rock (Crushed)            | 4.37                   | 2.45                   | 8.50                    | 15.32             | 1345              | \$20,605.40  |
| A to B Drain Rock (Riprap)                | 10.09                  | 1.10                   | 8.50                    | 19.69             | 500               | \$9,845.00   |
| C to D 515 910 (Crushed)                  | 6.42                   | 2.45                   | 8.50                    | 17.37             | 80                | \$1,389.60   |
| M to N 320 1375 (Crushed)                 | 4.70                   | 2.45                   | 8.50                    | 15.65             | 190               | \$2,973.50   |
| Point EE Crushed                          | 7.28                   | 1.25                   | 8.50                    | 17.03             | 1000              | \$17,030.00  |
| Y to Z 0 400 (Crushed)                    | 11.35                  | 2.45                   | 8.50                    | 22.30             | 160               | \$3,568.00   |
| Y to Z Temporary Stockpile (Crushed)      | 11.35                  | 1.25                   | 8.50                    | 21.10             | 2015              | \$42,516.50  |
| AA to BB Spot Patching (Crushed)          | 3.87                   | 0.00                   | 8.50                    | 12.37             | 200               | \$2,474.00   |
| Total C.Y.                                |                        |                        |                         |                   | 11145             | Sub Total    |
|                                           |                        |                        |                         |                   |                   | \$257,661.40 |

TOTAL ROCKING COSTS \$257,661.40

## Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Ax Ridge**

| LOWBOY HAUL (Round Trip) |              |                 |
|--------------------------|--------------|-----------------|
| DIST. (mi)               | ROADWAY      | AVE SPEED (mph) |
| 56.0                     | Pavement     | 30              |
| 21.4                     | Main Lines   | 7               |
| 0.0                      | Steep Grades | 2               |

| No. | EQUIPMENT DESCRIPTION              | Move in Cost | Pilot Cars | Within Area Move (\$/mile) | Begin Mileage | End Mileage | Total Miles | Within Area Cost | Total Cost |
|-----|------------------------------------|--------------|------------|----------------------------|---------------|-------------|-------------|------------------|------------|
| 2   | Drill & Compressor                 | \$1,630.77   |            | \$46.00                    | 3.26          | 5.19        | 1.93        | \$177.56         | \$1,808.33 |
| 3   | Brush Cutter                       | \$2,378.20   |            | \$4.00                     | 0.00          | 0.00        | 0           | \$0.00           | \$2,378.20 |
| 0   | Graders                            | \$0.00       |            | \$3.65                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Loader (Small)                     | \$0.00       | 1          | \$3.55                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Loader (Med. & Large)              | \$0.00       | 1          | \$9.00                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Rollers (smooth/grid) & Compactors | \$0.00       |            | \$5.00                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Excavators (Small)                 | \$0.00       |            | \$22.00                    | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Excavators (Med.)                  | \$0.00       |            | \$35.50                    | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 3   | Excavators (Large)                 | \$3,434.89   | 1          | \$44.80                    | 3.26          | 5.19        | 1.93        | \$259.39         | \$3,694.28 |
| 0   | Tired Backhoes/Skidlers            | \$0.00       |            | \$3.00                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Tractors (D6)                      | \$0.00       | 0          | \$7.10                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 0   | Tractors (D7)                      | \$0.00       | 2          | \$11.30                    | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 2   | Tractor (D8)                       | \$2,194.59   | 2          | \$15.10                    | 3.26          | 5.19        | 1.93        | \$58.29          | \$2,252.88 |
| 0   | Dump Truck (10 cy +)               | \$0.00       |            | \$2.85                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 6   | Dump Truck (Off Hiway)             | \$5,576.52   | 1          | \$4.75                     | 0.00          | 0.00        | 0           | \$0.00           | \$5,576.52 |
| 0   | Water Truck (1500 Gal)             | \$0.00       |            | \$2.85                     | 0.00          | 0.00        | 0           | \$0.00           | \$0.00     |
| 2   | Water Truck (2500 Gal)             | \$659.79     |            | \$2.85                     | 3.26          | 5.19        | 1.93        | \$11.00          | \$670.79   |
| 0   | Jaw                                | \$1,066.00   |            |                            |               |             |             |                  |            |
| 0   | 2-Stage Crusher                    | \$1,597.00   |            |                            |               |             |             |                  |            |
| 0   | 3-Stage Crusher                    | \$2,489.00   |            |                            |               |             |             |                  |            |

|  |                      |             |
|--|----------------------|-------------|
|  | TOTAL MOVE-IN COSTS: | \$16,381.00 |
|--|----------------------|-------------|



## OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Ax Ridge*

### 1. Type of Sale

Area 1: Partial Cut, Recovery

Areas 2 & 3: Modified Clearcut, Recovery

### 2. Legal Description

Portions of Sections 19, 20, and 30, T1N, R7W, W.M., Tillamook County, Oregon.

### 3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

|                            | ACRES        |            |
|----------------------------|--------------|------------|
|                            | <u>Gross</u> | <u>Net</u> |
| Area 1 (Partial Cut)       | 87           | 62         |
| Area 2 (Modified Clearcut) | 122          | 99         |
| Area 3 (Modified Clearcut) | 139          | 84         |

#### Gross Acres

Area within the Timber Sale Boundary signs.

#### Net acres

*Used for calculating the advertised volume.*

Gross acres, less roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

### 4. Cruising Procedures

#### **A. Cruise Method**

Area 1 has 11 cruise plots, Area 2 has 16 cruise plots, and Area 3 has 20 cruise plots. All plots were full cruise plots at a spacing of 700' x 350'. All conifers 8 inches DBH and greater containing 20 net board feet and all hardwoods 10 inches DBH and greater containing 30 net board feet were recorded on all plots. Species were recorded on all trees and measured for merchantable bole height, diameter, and form factor. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods respectively.

#### **B. Plot size**

A basal area factor of 40 was used for all plots. The point of observation is 4.5 feet.

#### **C. Grading System**

All species were graded using Columbia River Log Scaling and Grading Bureau rules favoring a 40' log.

### 5. Computation Procedure

The volumes and statistics for the timber cruise were computed using SuperACE 2008, developed by Atterbury Consultants, Inc. SuperACE has calculated basal

areas, advertised volumes, volume summaries, log stock tables, and stand tables for each species and type. This stand was cruised in 2013 and has been grown forward in SuperACE to January, 2017. A reduction factor for the growth was used due to Swiss Needle Cast. The standard error and the coefficient of variation for the cruise based on net board feet per acre on Area 1 is 11.7% and 37.1%, Area 2 is 13.2% and 51.1, and Area 3 is 12.3% and 53.5% respectively.

**6. Hidden Defect and Breakage**

A 1% reduction was applied to conifers and a 2% reduction to hardwood volumes for hidden defect and breakage. This was in addition to visual defect deducted during the cruise.

**7. Timber Description**

The sale areas were burned during the 1940's and planted and seeded in the 1950's. See attached stand tables and volume summary for a quantitative evaluation of estimated timber volumes and snags per acre.

| <b>Sale Area – Species</b> | <b>DBH</b> | <b>Merchantable Bole Height</b> | <b>Merchantable Top</b> |
|----------------------------|------------|---------------------------------|-------------------------|
| Area 1: Douglas-fir        | 14         | 50                              | 5"                      |
| Area 1: Alder              | 13         | 30                              | 6"                      |
| Area 2: Douglas-fir        | 18         | 70                              | 5"                      |
| Area 2: Alder              | 13         | 40                              | 6"                      |
| Area 3: Douglas-fir        | 18         | 75                              | 5"                      |
| Area 3: Alder              | 13         | 50                              | 6"                      |
| Area 3: Maple              | 16         | 50                              | 6"                      |

**8. Cruiser Names/Dates**

ODF Staff 2013

**9. Revenue Distribution**

FDF: 100%

Tax Code: 9-2 (100%)

Deed Numbers: 157, 159, and 186

**10. Attachments**

Volume Summaries

Stand Table Summary

Log Stock Tables

Logging Plan Map

**11. Stand and Log Stock Tables Species Key**

DF – Douglas-fir

RA – Red alder

BM – Big leaf maple

OC- Other Conifer (Snags)

SS – Sitka Spruce leave

DL—Douglas-fir leave

AL—Red alder leave



**Log Stock Table - MBF**  
**Project: AX\_RIDG2**

**T01N R07W S19 TPC**

**T01N R07W S19 TPC**

|            |            |            |               |             |              |              |                     |             |                   |
|------------|------------|------------|---------------|-------------|--------------|--------------|---------------------|-------------|-------------------|
| <b>Twp</b> | <b>Rge</b> | <b>Sec</b> | <b>Tract</b>  | <b>Type</b> | <b>Acres</b> | <b>Plots</b> | <b>Sample Trees</b> | <b>Page</b> | <b>2</b>          |
| <b>01N</b> | <b>07W</b> | <b>19</b>  | <b>A1GROW</b> | <b>PC</b>   | <b>62.00</b> | <b>11</b>    | <b>62</b>           | <b>Date</b> | <b>10/21/2016</b> |
|            |            |            |               |             |              |              |                     | <b>Time</b> | <b>7:22:16AM</b>  |

| Spp               | S | So | Gr | Log | T      | Gross<br>MBF | %<br>Def | 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+ |
| SS                |   | CO | 4  | 36  |        | 14           |          | 14         | 51.3     |                                          |     |     |     |       |       | 14    |       |       |       |       |     |
| SS                |   |    |    |     | Totals | 28           |          | 28         | 1.5      |                                          |     | 14  |     |       |       | 14    |       |       |       |       |     |
| OC                |   | *  | *  | 32  |        | 25           |          | 25         | 100.0    |                                          |     | 25  |     |       |       |       |       |       |       |       |     |
| OC                |   |    |    |     | Totals | 25           |          | 25         | 1.4      |                                          |     | 25  |     |       |       |       |       |       |       |       |     |
| Total All Species |   |    |    |     |        | 1,861        | 1.8      | 1,828      | 100.0    |                                          | 167 | 187 | 245 | 181   | 325   | 275   | 410   | 38    |       |       |     |

| FI                |     | TSTNDSUM |        |           |                |             |              |             |               |               |               |                |                |            | Stand Table Summary |           |  |
|-------------------|-----|----------|--------|-----------|----------------|-------------|--------------|-------------|---------------|---------------|---------------|----------------|----------------|------------|---------------------|-----------|--|
| Project           |     |          |        |           |                |             |              |             |               |               |               |                |                |            | AX RIDG2            |           |  |
| T01N R07W S19 TPC |     |          |        |           |                |             |              |             |               |               |               |                |                |            | T01N R07W S19 TPC   |           |  |
| Twp               | Rge | Sec      | Tract  | Type      |                |             | Acres        |             | Plots         | Sample Trees  |               |                | Page:          | 1          |                     |           |  |
| 01N               | 07W | 19       | A1GROW | PC        |                |             | 62.00        |             | 11            | 62            |               |                | Date:          | 10/21/2016 |                     |           |  |
|                   |     |          |        |           |                |             |              |             |               |               |               |                |                |            | Time:               | 7:22:16AM |  |
| S<br>Spc          | T   | Sample   |        | Av        | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre | Average Log |               | Tons/<br>Acre | Net           | Net            | T o t a l s    |            |                     |           |  |
|                   |     | DBH      | Trees  | FF<br>16' |                |             |              | Ht<br>Tot   | Net<br>Cu.Ft. |               | Net<br>Bd.Ft. | Cu.Ft.<br>Acre | Bd.Ft.<br>Acre | Tons       | Cunits              | MBF       |  |
| DL                |     | 10       |        | 83        | 49             | 7.184       | 3.84         | 7.43        | 8.6           | 32.9          | 1.76          | 64             | 245            | 109        | 40                  | 15        |  |
| DL                |     | 14       |        | 86        | 94             | 7.014       | 7.69         | 14.51       | 17.8          | 64.6          | 7.11          | 259            | 938            | 441        | 161                 | 58        |  |
| DL                |     | 17       |        | 86        | 97             | 4.883       | 7.69         | 12.52       | 21.4          | 78.0          | 7.35          | 268            | 977            | 456        | 166                 | 61        |  |
| DL                |     | 18       |        | 85        | 63             | 2.063       | 3.84         | 4.27        | 22.5          | 82.3          | 2.64          | 96             | 351            | 163        | 60                  | 22        |  |
| DL                |     | 20       |        | 87        | 116            | 5.036       | 11.53        | 13.88       | 35.1          | 142.7         | 13.37         | 487            | 1,981          | 829        | 302                 | 123       |  |
| DL                |     | 21       |        | 85        | 88             | 4.719       | 11.53        | 11.35       | 35.0          | 121.8         | 10.90         | 397            | 1,383          | 676        | 246                 | 86        |  |
| DL                |     | 22       |        | 85        | 74             | 1.422       | 3.84         | 2.94        | 38.9          | 120.8         | 3.14          | 114            | 355            | 195        | 71                  | 22        |  |
| DL                |     | 23       |        | 85        | 109            | 2.555       | 7.69         | 6.61        | 46.6          | 182.3         | 8.45          | 308            | 1,204          | 524        | 191                 | 75        |  |
| DL                |     | 24       |        | 87        | 117            | 1.224       | 3.84         | 3.80        | 44.8          | 194.0         | 4.67          | 170            | 737            | 289        | 105                 | 46        |  |
| DL                |     | 26       |        | 86        | 109            | 5.202       | 19.22        | 15.11       | 51.0          | 212.0         | 21.38         | 771            | 3,203          | 1,325      | 478                 | 199       |  |
| DL                |     | 28       |        | 87        | 111            | .907        | 3.84         | 2.81        | 57.6          | 241.5         | 4.45          | 162            | 680            | 276        | 101                 | 42        |  |
| DL                |     | 29       |        | 87        | 120            | 2.574       | 11.53        | 7.11        | 70.9          | 308.7         | 13.83         | 504            | 2,195          | 858        | 312                 | 136       |  |
| DL                |     | 30       |        | 87        | 114            | 2.384       | 11.53        | 7.40        | 66.4          | 303.0         | 13.48         | 491            | 2,242          | 836        | 304                 | 139       |  |
| DL                |     | Totals   |        | 86        | 93             | 47.168      | 107.65       | 109.74      | 37.3          | 150.3         | 112.52        | 4,092          | 16,490         | 6,976      | 2,537               | 1,022     |  |
| DF                |     | 9        |        | 84        | 54             | 8.057       | 3.71         | 8.33        | 7.2           | 32.9          | 1.72          | 60             | 275            | 106        | 37                  | 17        |  |
| DF                |     | 10       |        | 84        | 37             | 20.284      | 11.14        | 20.98       | 7.2           | 29.4          | 4.29          | 151            | 617            | 266        | 93                  | 38        |  |
| DF                |     | 11       |        | 85        | 73             | 5.394       | 3.71         | 11.16       | 8.2           | 38.4          | 2.61          | 92             | 429            | 162        | 57                  | 27        |  |
| DF                |     | 13       |        | 85        | 61             | 7.667       | 7.42         | 15.86       | 10.5          | 38.6          | 4.73          | 166            | 612            | 293        | 103                 | 38        |  |
| DF                |     | 15       |        | 86        | 72             | 8.626       | 11.14        | 17.85       | 16.6          | 58.6          | 8.46          | 296            | 1,046          | 525        | 183                 | 65        |  |
| DF                |     | 16       |        | 85        | 74             | 2.716       | 3.71         | 5.62        | 18.5          | 54.9          | 2.96          | 104            | 309            | 184        | 64                  | 19        |  |
| DF                |     | 17       |        | 86        | 85             | 2.258       | 3.71         | 4.67        | 25.0          | 98.8          | 3.33          | 117            | 462            | 206        | 72                  | 29        |  |
| DF                |     | 19       |        | 87        | 109            | 5.522       | 11.14        | 15.27       | 28.6          | 111.0         | 12.46         | 436            | 1,695          | 772        | 271                 | 105       |  |
| DF                |     | 20       |        | 87        | 110            | 5.064       | 11.14        | 10.48       | 43.0          | 161.3         | 12.81         | 450            | 1,690          | 795        | 279                 | 105       |  |
| DF                |     | 21       |        | 87        | 126            | 1.480       | 3.71         | 4.59        | 35.8          | 157.4         | 4.68          | 165            | 723            | 290        | 102                 | 45        |  |
| DF                |     | 22       |        | 88        | 109            | 1.348       | 3.71         | 4.18        | 36.9          | 172.0         | 4.39          | 154            | 720            | 272        | 96                  | 45        |  |
| DF                |     | 23       |        | 87        | 94             | 1.289       | 3.71         | 2.67        | 51.0          | 159.2         | 3.87          | 136            | 425            | 240        | 84                  | 26        |  |
| DF                |     | 24       |        | 87        | 92             | 1.182       | 3.71         | 3.67        | 36.9          | 150.0         | 3.85          | 135            | 550            | 239        | 84                  | 34        |  |
| DF                |     | 26       |        | 86        | 113            | 1.028       | 3.71         | 3.19        | 48.4          | 204.9         | 4.40          | 154            | 654            | 273        | 96                  | 41        |  |
| DF                |     | Totals   |        | 85        | 68             | 71.915      | 85.38        | 128.52      | 20.4          | 79.4          | 74.57         | 2,617          | 10,204         | 4,624      | 1,622               | 633       |  |
| RA                |     | 10       |        | 88        | 24             | 6.289       | 3.63         | 6.40        | 6.2           | 22.6          | 1.09          | 40             | 144            | 68         | 25                  | 9         |  |
| RA                |     | 11       |        | 80        | 37             | 5.198       | 3.63         | 5.29        | 9.0           | 33.9          | 1.31          | 48             | 179            | 81         | 29                  | 11        |  |
| RA                |     | 14       |        | 82        | 71             | 3.209       | 3.63         | 3.26        | 28.8          | 79.0          | 2.59          | 94             | 258            | 160        | 58                  | 16        |  |
| RA                |     | 16       |        | 86        | 61             | 4.914       | 7.27         | 7.49        | 19.9          | 86.5          | 4.09          | 149            | 648            | 254        | 92                  | 40        |  |
| RA                |     | Totals   |        | 84        | 44             | 19.609      | 18.17        | 22.44       | 14.7          | 54.8          | 9.08          | 330            | 1,229          | 563        | 205                 | 76        |  |
| AL                |     | 16       |        | 83        | 82             | 5.209       | 7.19         | 10.42       | 17.8          | 68.3          | 5.92          | 185            | 712            | 367        | 115                 | 44        |  |
| AL                |     | Totals   |        | 83        | 82             | 5.209       | 7.19         | 10.42       | 17.8          | 68.3          | 5.92          | 185            | 712            | 367        | 115                 | 44        |  |
| SS                |     | 14       |        | 86        | 39             | 3.698       | 3.71         | 3.82        | 15.1          | 57.6          | 1.50          | 58             | 220            | 93         | 36                  | 14        |  |
| SS                |     | 35       |        | 85        | 54             | .541        | 3.71         | .56         | 153.8         | 414.9         | 2.23          | 86             | 232            | 139        | 53                  | 14        |  |
| SS                |     | Totals   |        | 86        | 41             | 4.239       | 7.41         | 4.38        | 32.8          | 103.2         | 3.74          | 144            | 452            | 232        | 89                  | 28        |  |
| OC                |     | 12       |        | 90        | 42             | 4.393       | 3.73         | 4.39        | 29.1          | 90.7          | 3.19          | 128            | 399            | 198        | 79                  | 25        |  |
| OC                |     | Totals   |        | 90        | 42             | 4.393       | 3.73         | 4.39        | 29.1          | 90.7          | 3.19          | 128            | 399            | 198        | 79                  | 25        |  |
| Totals            |     |          |        | 85        | 72             | 152.533     | 229.52       | 279.89      | 26.8          | 105.3         | 209.03        | 7495           | 29,486         | 12,960     | 4,647               | 1,828     |  |



| FI TLOGSTVB       |         |          |                  | Log Stock Table - MBF |          |            |              |                                          |           |                   |            |       |       |       |       |       |       |       |     |  |  |
|-------------------|---------|----------|------------------|-----------------------|----------|------------|--------------|------------------------------------------|-----------|-------------------|------------|-------|-------|-------|-------|-------|-------|-------|-----|--|--|
|                   |         |          |                  | Project: AX_RIDG2     |          |            |              |                                          |           |                   |            |       |       |       |       |       |       |       |     |  |  |
| T01N R07W S19 TMC |         |          |                  |                       |          |            |              |                                          |           | T01N R07W S19 TMC |            |       |       |       |       |       |       |       |     |  |  |
| Twp               | Rge     | Sec      | Tract            | Type                  | Acres    | Plots      | Sample Trees | Page                                     | 2         |                   |            |       |       |       |       |       |       |       |     |  |  |
| 01N               | 07W     | 19       | A2GROW           | MC                    | 99.00    | 16         | 105          | Date                                     | 10/7/2016 |                   |            |       |       |       |       |       |       |       |     |  |  |
|                   |         |          |                  |                       |          |            |              |                                          |           | Time              | 12:20:01PM |       |       |       |       |       |       |       |     |  |  |
| S<br>Spp          | So<br>T | Gr<br>rt | Log<br>de<br>Len | Gross<br>MBF          | %<br>Def | 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+ |  |  |
| RA                | H       | 4        | 37               | 11                    |          | 11         | 1.2          |                                          |           | 11                |            |       |       |       |       |       |       |       |     |  |  |
| RA                | H       | 4        | 38               | 48                    |          | 48         | 5.1          |                                          |           | 48                |            |       |       |       |       |       |       |       |     |  |  |
| RA                | H       | 4        | 40               | 255                   | 1.4      | 251        | 26.7         |                                          |           | 151               | 58         | 42    |       |       |       |       |       |       |     |  |  |
| RA                | H       | 4        | 32               | 20                    |          | 20         | 2.1          |                                          |           | 20                |            |       |       |       |       |       |       |       |     |  |  |
| RA Totals         |         |          |                  | 952                   | 1.2      | 941        | 30.4         |                                          |           | 488               | 106        | 277   | 36    | 34    |       |       |       |       |     |  |  |
| Total All Species |         |          |                  | 3,131                 | 1.3      | 3,090      | 100.0        |                                          | 126       | 677               | 322        | 665   | 312   | 399   | 479   | 109   |       |       |     |  |  |

| FI                |     | TSTNDSUM |        |           |           |                |             |              |               |               |               |                |                |        | Stand Table Summary |           |                   |  |
|-------------------|-----|----------|--------|-----------|-----------|----------------|-------------|--------------|---------------|---------------|---------------|----------------|----------------|--------|---------------------|-----------|-------------------|--|
|                   |     |          |        |           |           |                |             |              |               |               |               |                |                |        | Project             |           | AX RIDG2          |  |
| T01N R07W S19 TMC |     |          |        |           |           |                |             |              |               |               |               |                |                |        |                     |           | T01N R07W S19 TMC |  |
| Twp               | Rge | Sec      | Tract  | Type      |           |                | Acres       | Plots        | Sample Trees  |               |               | Page:          | 1              |        |                     |           |                   |  |
| 01N               | 07W | 19       | A2GROW | MC        |           |                | 99.00       | 16           | 105           |               |               | Date:          | 09/29/2016     |        |                     |           |                   |  |
|                   |     |          |        |           |           |                |             |              |               |               |               |                |                |        | Time:               | 6:30:03AM |                   |  |
| S<br>Spc          | T   | Sample   |        | Av        |           |                |             | Average Log  |               | Net           |               | Net            | T o t a l s    |        |                     |           |                   |  |
|                   |     | DBH      | Trees  | FF<br>16' | Ht<br>Tot | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre | Net<br>Cu.Ft. | Net<br>Bd.Ft. | Tons/<br>Acre | Cu.Ft.<br>Acre | Bd.Ft.<br>Acre | Tons   | Cunits              | MBF       |                   |  |
| DF                |     | 8        |        | 92        | 18        | 7.011          | 2.55        | 7.25         | 2.9           | 10.7          | .60           | 21             | 78             | 59     | 21                  | 8         |                   |  |
| DF                |     | 10       |        | 85        | 26        | 4.971          | 2.55        | 5.14         | 6.0           | 21.4          | .87           | 31             | 110            | 86     | 30                  | 11        |                   |  |
| DF                |     | 11       |        | 87        | 63        | 3.708          | 2.55        | 3.84         | 14.2          | 42.9          | 1.55          | 54             | 164            | 153    | 54                  | 16        |                   |  |
| DF                |     | 12       |        | 87        | 97        | 9.624          | 7.66        | 19.91        | 12.3          | 53.4          | 6.97          | 245            | 1,064          | 690    | 243                 | 105       |                   |  |
| DF                |     | 15       |        | 86        | 65        | 4.219          | 5.10        | 8.73         | 13.4          | 42.9          | 3.32          | 117            | 374            | 329    | 115                 | 37        |                   |  |
| DF                |     | 16       |        | 87        | 121       | 8.763          | 12.76       | 23.57        | 22.6          | 99.8          | 15.14         | 532            | 2,351          | 1,499  | 527                 | 233       |                   |  |
| DF                |     | 17       |        | 87        | 103       | 6.210          | 10.21       | 14.45        | 25.3          | 101.2         | 10.39         | 365            | 1,463          | 1,029  | 362                 | 145       |                   |  |
| DF                |     | 18       |        | 86        | 106       | 5.619          | 10.21       | 13.06        | 28.8          | 115.4         | 10.70         | 376            | 1,507          | 1,059  | 372                 | 149       |                   |  |
| DF                |     | 19       |        | 86        | 108       | 4.971          | 10.21       | 12.86        | 30.7          | 120.0         | 11.24         | 395            | 1,543          | 1,113  | 391                 | 153       |                   |  |
| DF                |     | 20       |        | 84        | 82        | 2.302          | 5.10        | 3.60         | 43.2          | 129.7         | 4.43          | 156            | 467            | 438    | 154                 | 46        |                   |  |
| DF                |     | 21       |        | 86        | 123       | 4.070          | 10.21       | 12.63        | 35.2          | 151.0         | 12.65         | 444            | 1,906          | 1,252  | 440                 | 189       |                   |  |
| DF                |     | 22       |        | 86        | 112       | 1.898          | 5.10        | 4.88         | 43.7          | 173.5         | 6.07          | 213            | 848            | 601    | 211                 | 84        |                   |  |
| DF                |     | 23       |        | 85        | 117       | 5.937          | 17.86       | 17.55        | 42.4          | 176.9         | 21.15         | 743            | 3,103          | 2,094  | 736                 | 307       |                   |  |
| DF                |     | 25       |        | 84        | 112       | 3.637          | 12.76       | 9.78         | 51.1          | 204.6         | 14.47         | 500            | 2,002          | 1,432  | 495                 | 198       |                   |  |
| DF                |     | 27       |        | 85        | 116       | 1.327          | 5.10        | 3.43         | 60.9          | 259.4         | 5.95          | 209            | 890            | 589    | 207                 | 88        |                   |  |
| DF                |     | 28       |        | 86        | 109       | 1.231          | 5.10        | 3.18         | 62.7          | 257.2         | 5.68          | 200            | 819            | 562    | 198                 | 81        |                   |  |
| DF                |     | 29       |        | 87        | 129       | 1.133          | 5.10        | 3.51         | 66.4          | 301.8         | 6.64          | 233            | 1,061          | 657    | 231                 | 105       |                   |  |
| DF                |     | 30       |        | 86        | 111       | .533           | 2.55        | 1.10         | 91.0          | 401.9         | 2.86          | 100            | 444            | 283    | 99                  | 44        |                   |  |
| DF                |     | 32       |        | 88        | 143       | .452           | 2.55        | 1.40         | 92.2          | 468.0         | 3.68          | 129            | 657            | 364    | 128                 | 65        |                   |  |
| DF                |     | 37       |        | 83        | 107       | .692           | 5.10        | 1.79         | 104.4         | 478.0         | 5.32          | 187            | 856            | 527    | 185                 | 85        |                   |  |
| DF                |     | Totals   |        | 87        | 91        | 78.310         | 140.36      | 171.68       | 30.6          | 126.4         | 149.66        | 5,251          | 21,709         | 14,816 | 5,199               | 2,149     |                   |  |
| RA                |     | 9        |        | 87        | 17        | 10.676         | 5.00        | 10.86        | 4.5           | 22.0          | 1.36          | 49             | 239            | 134    | 49                  | 24        |                   |  |
| RA                |     | 11       |        | 85        | 57        | 36.083         | 24.98       | 33.06        | 14.4          | 56.1          | 13.10         | 476            | 1,853          | 1,297  | 472                 | 183       |                   |  |
| RA                |     | 12       |        | 83        | 55        | 15.280         | 12.49       | 18.59        | 13.6          | 47.5          | 6.95          | 253            | 884            | 688    | 250                 | 87        |                   |  |
| RA                |     | 13       |        | 85        | 64        | 17.910         | 17.49       | 23.41        | 16.9          | 56.3          | 10.86         | 395            | 1,319          | 1,075  | 391                 | 131       |                   |  |
| RA                |     | 14       |        | 85        | 63        | 4.412          | 5.00        | 4.49         | 25.8          | 71.6          | 3.19          | 116            | 321            | 316    | 115                 | 32        |                   |  |
| RA                |     | 15       |        | 83        | 56        | 3.843          | 5.00        | 5.86         | 14.7          | 58.8          | 2.38          | 86             | 344            | 235    | 86                  | 34        |                   |  |
| RA                |     | 17       |        | 86        | 63        | 14.734         | 22.48       | 20.05        | 25.7          | 77.7          | 14.16         | 515            | 1,559          | 1,402  | 510                 | 154       |                   |  |
| RA                |     | 19       |        | 84        | 67        | 12.041         | 22.48       | 20.42        | 27.5          | 101.3         | 15.46         | 562            | 2,069          | 1,531  | 557                 | 205       |                   |  |
| RA                |     | 20       |        | 84        | 72        | 4.791          | 9.99        | 8.53         | 29.0          | 107.0         | 6.79          | 247            | 912            | 672    | 244                 | 90        |                   |  |
| RA                |     | Totals   |        | 85        | 57        | 119.771        | 124.90      | 145.26       | 18.6          | 65.4          | 74.25         | 2,700          | 9,500          | 7,351  | 2,673               | 941       |                   |  |
| Totals            |     |          |        | 86        | 70        | 198.080        | 265.26      | 316.95       | 25.1          | 98.5          | 223.91        | 7951           | 31,209         | 22,167 | 7,872               | 3,090     |                   |  |

|                   |          |     |       |                       |       |       |              |       |                                          |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
|-------------------|----------|-----|-------|-----------------------|-------|-------|--------------|-------|------------------------------------------|-------------------|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-----|--|--|--|--|
| FI                | TLOGSTVB |     |       | Log Stock Table - MBF |       |       |              |       |                                          |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
|                   |          |     |       | Project: AX_RIDG2     |       |       |              |       |                                          |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| T01N R07W S19 TMC |          |     |       |                       |       |       |              |       |                                          | T01N R07W S19 TMC |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| Twp               | Rge      | Sec | Tract | Type                  | Acres | Plots | Sample Trees | Page  | 1                                        |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| 01N               | 07W      | 19  | A3GRO | MC                    | 84.00 | 20    | 107          | Date  | 10/21/2016                               |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
|                   |          |     |       |                       |       |       |              |       |                                          | Time              | 7:52:30AM |     |       |       |       |       |       |       |       |     |  |  |  |  |
| Spp               | S        | So  | Gr    | Log                   | Gross | % Def | Net          | % 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                | CO       | 2   | 26    |                       | 18    | 11.1  | 16           | .9    |                                          |                   |           |     |       |       |       |       | 16    |       |       |     |  |  |  |  |
| DF                | CO       | 2   | 32    |                       | 291   | .9    | 289          | 16.5  |                                          |                   |           |     |       |       | 51    | 175   | 62    |       |       |     |  |  |  |  |
| DF                | CO       | 2   | 40    |                       | 291   | .4    | 290          | 16.6  |                                          |                   |           |     |       | 46    | 88    | 84    | 73    |       |       |     |  |  |  |  |
| DF                | CO       | 3   | 30    |                       | 2     |       | 2            | .1    |                                          |                   |           | 2   |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 3   | 32    |                       | 412   |       | 412          | 23.5  |                                          |                   | 21        | 19  | 143   | 51    | 156   | 23    |       |       |       |     |  |  |  |  |
| DF                | CO       | 3   | 37    |                       | 3     |       | 3            | .1    |                                          |                   | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 3   | 40    |                       | 491   | .7    | 487          | 27.8  |                                          |                   | 3         | 178 | 79    | 99    | 116   | 12    |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 13    |                       | 1     |       | 1            | .0    |                                          | 1                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 15    |                       | 7     |       | 7            | .4    |                                          | 7                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 17    |                       | 1     |       | 1            | .0    |                                          | 1                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 20    |                       | 3     |       | 3            | .2    |                                          | 3                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 21    |                       | 3     |       | 3            | .2    |                                          | 3                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 23    |                       | 1     |       | 1            | .1    |                                          | 1                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 24    |                       | 5     |       | 5            | .3    |                                          | 4                 |           | 1   |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 25    |                       | 19    |       | 19           | 1.1   |                                          | 17                | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 26    |                       | 1     |       | 1            | .1    |                                          |                   | 1         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 27    |                       | 15    |       | 15           | .8    |                                          | 12                | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 29    |                       | 20    |       | 20           | 1.1   |                                          | 20                |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 30    |                       | 4     |       | 4            | .2    |                                          | 4                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 31    |                       | 2     |       | 2            | .1    |                                          | 2                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 32    |                       | 18    |       | 18           | 1.0   |                                          |                   |           |     |       |       | 18    |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 33    |                       | 4     |       | 4            | .2    |                                          | 4                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 34    |                       | 19    |       | 19           | 1.1   |                                          | 16                | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 35    |                       | 5     |       | 5            | .3    |                                          | 2                 | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 36    |                       | 8     |       | 8            | .5    |                                          | 8                 |           |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | CO       | 4   | 40    |                       | 116   |       | 116          | 6.6   |                                          | 39                | 76        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| DF                | Totals   |     |       |                       | 1,760 |       | 1,751        | 69.2  |                                          | 143               | 116       | 200 | 223   | 195   | 429   | 294   | 151   |       |       |     |  |  |  |  |
| RA                | *        | *   | 32    |                       | 26    |       | 26           | 4.2   |                                          |                   | 26        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 3   | 17    |                       | 12    |       | 12           | 1.9   |                                          |                   |           |     | 12    |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 3   | 40    |                       | 31    |       | 31           | 5.0   |                                          |                   |           | 31  |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 13    |                       | 3     |       | 3            | .6    |                                          |                   | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 14    |                       | 3     |       | 3            | .6    |                                          |                   | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 15    |                       | 3     |       | 3            | .6    |                                          |                   | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 16    |                       | 3     |       | 3            | .6    |                                          |                   | 3         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 17    |                       | 9     |       | 9            | 1.5   |                                          |                   | 9         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 19    |                       | 4     |       | 4            | .6    |                                          |                   | 4         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 20    |                       | 9     |       | 9            | 1.5   |                                          |                   | 9         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 21    |                       | 7     |       | 7            | 1.1   |                                          |                   | 7         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 23    |                       | 16    |       | 16           | 2.6   |                                          |                   | 16        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 24    |                       | 42    |       | 42           | 6.9   |                                          |                   | 16        | 12  |       | 14    |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 25    |                       | 14    |       | 14           | 2.3   |                                          |                   | 14        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 27    |                       | 10    |       | 10           | 1.6   |                                          |                   | 10        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 28    |                       | 9     |       | 9            | 1.5   |                                          |                   | 9         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 30    |                       | 6     |       | 6            | 1.0   |                                          |                   | 6         |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 32    |                       | 238   | 2.6   | 232          | 38.0  |                                          |                   |           | 166 | 66    |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 34    |                       | 22    |       | 22           | 3.7   |                                          |                   | 22        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 36    |                       | 12    | 16.7  | 10           | 1.6   |                                          |                   | 10        |     |       |       |       |       |       |       |       |     |  |  |  |  |
| RA                | H        | 4   | 40    |                       | 138   |       | 138          | 22.6  |                                          |                   | 39        | 36  | 42    | 21    |       |       |       |       |       |     |  |  |  |  |
| RA                | Totals   |     |       |                       | 618   | 1.3   | 609          | 24.1  |                                          |                   | 211       | 244 | 119   | 34    |       |       |       |       |       |     |  |  |  |  |
|                   |          |     |       |                       |       |       |              |       |                                          |                   |           |     |       |       |       |       |       |       |       |     |  |  |  |  |

| FI TLOGSTVB       |        |     |       | Log Stock Table - MBF |       |       |              |       |                                          |           |     |                   |       |       |       |       |       |       |       |     |
|-------------------|--------|-----|-------|-----------------------|-------|-------|--------------|-------|------------------------------------------|-----------|-----|-------------------|-------|-------|-------|-------|-------|-------|-------|-----|
|                   |        |     |       | Project: AX_RIDG2     |       |       |              |       |                                          |           |     |                   |       |       |       |       |       |       |       |     |
| T01N R07W S19 TMC |        |     |       |                       |       |       |              |       |                                          |           |     | T01N R07W S19 TMC |       |       |       |       |       |       |       |     |
| Twp               | Rge    | Sec | Tract | Type                  | Acres | Plots | Sample Trees | Page  | 2                                        |           |     |                   |       |       |       |       |       |       |       |     |
| 01N               | 07W    | 19  | A3GRO | MC                    | 84.00 | 20    | 107          | Date  | 10/21/2016                               |           |     |                   |       |       |       |       |       |       |       |     |
|                   |        |     |       |                       |       |       |              |       | Time                                     | 7:52:30AM |     |                   |       |       |       |       |       |       |       |     |
| Spp               | S      | So  | Gr    | Log                   | Gross | % Def | Net          | % 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+ |
| BM                | H      | 3   | 40    |                       | 27    | 4.8   | 26           | 27.3  |                                          |           | 26  |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 14    |                       | 7     |       | 7            | 6.9   |                                          |           | 7   |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 16    |                       | 3     |       | 3            | 3.1   |                                          |           | 3   |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 27    |                       | 3     |       | 3            | 3.2   |                                          |           | 3   |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 32    |                       | 14    | 7.1   | 13           | 14.0  |                                          |           |     | 13                |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 36    |                       | 6     | 33.3  | 4            | 4.3   |                                          |           | 4   |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 38    |                       | 2     |       | 2            | 2.2   |                                          |           | 2   |                   |       |       |       |       |       |       |       |     |
| BM                | H      | 4   | 40    |                       | 40    | 7.4   | 37           | 38.9  |                                          |           | 7   | 30                |       |       |       |       |       |       |       |     |
| BM                | Totals |     |       |                       | 103   | 7.2   | 95           | 3.8   |                                          |           | 26  | 56                | 13    |       |       |       |       |       |       |     |
| OC                | *      | *   | 32    |                       | 37    |       | 37           | 100.0 |                                          |           | 37  |                   |       |       |       |       |       |       |       |     |
| OC                | Totals |     |       |                       | 37    |       | 37           | 1.5   |                                          |           | 37  |                   |       |       |       |       |       |       |       |     |
| DL                | CO     | 3   | 40    |                       | 38    | 14.1  | 33           | 97.6  |                                          |           | 3   |                   |       |       | 11    |       | 19    |       |       |     |
| DL                | CO     | 4   | 24    |                       | 1     |       | 1            | 2.4   |                                          | 1         |     |                   |       |       |       |       |       |       |       |     |
| DL                | Totals |     |       |                       | 39    | 13.8  | 33           | 1.3   |                                          | 1         | 3   |                   |       |       | 11    |       | 19    |       |       |     |
| SS                | CO     | 4   | 22    |                       | 4     |       | 4            | 100.0 |                                          | 4         |     |                   |       |       |       |       |       |       |       |     |
| SS                | Totals |     |       |                       | 4     |       | 4            | .2    |                                          | 4         |     |                   |       |       |       |       |       |       |       |     |
| Total All Species |        |     |       |                       | 2,560 | 1.2   | 2,530        | 100.0 |                                          | 148       | 390 | 504               | 356   | 229   | 429   | 305   | 170   |       |       |     |







"STEWARDSHIP IN FORESTRY"

## Ax Ridge

### Volume Summary

| Area 1- Partial Cut |             |             |        |            |
|---------------------|-------------|-------------|--------|------------|
| 62 acres            |             |             |        |            |
| SPECIES             | Cruised Net | Cruised Net | Hidden | Net Area   |
|                     | MBF/ Acre   | MBF         | D&B    | MBF        |
| Douglas-fir         | 10.2        | 633         | 1%     | 626        |
| Alder               | 1.2         | 76          | 2%     | 75         |
| <b>TOTAL</b>        | <b>11.4</b> | <b>709</b>  |        | <b>701</b> |

| Areas 2-Modified Clearcut |             |             |        |             |
|---------------------------|-------------|-------------|--------|-------------|
| 99 acres                  |             |             |        |             |
| SPECIES                   | Cruised Net | Cruised Net | Hidden | Net Area    |
|                           | MBF/ Acre   | MBF         | D&B    | MBF         |
| Douglas-fir               | 21.7        | 2149        | 1%     | 2128        |
| Alder                     | 9.5         | 941         | 2%     | 922         |
| <b>TOTAL</b>              | <b>31.2</b> | <b>3090</b> |        | <b>3049</b> |

| Areas 3-Modified Clearcut |             |             |        |             |
|---------------------------|-------------|-------------|--------|-------------|
| 84 acres                  |             |             |        |             |
| SPECIES                   | Cruised Net | Cruised Net | Hidden | Net Area    |
|                           | MBF/ Acre   | MBF         | D&B    | MBF         |
| Douglas-fir               | 20.8        | 1751        | 1%     | 1734        |
| Alder                     | 7.3         | 610         | 2%     | 597         |
| Big leaf Maple            | 1.1         | 95          | 2%     | 93          |
| <b>TOTAL</b>              | <b>28.1</b> | <b>2361</b> |        | <b>2424</b> |

| TOTAL SALE VOLUME |                   |                |
|-------------------|-------------------|----------------|
| 245 acres         |                   |                |
| SPECIES           | Cruised Net (MBF) | Net Sale (MBF) |
| Douglas-fir       | 4533              | 4488           |
| Red alder         | 1626              | 1594           |
| Big Leaf Maple    | 95                | 93             |
| <b>TOTAL</b>      | <b>6254</b>       | <b>6175</b>    |



**LOGGING PLAN**

Timber Sale Contract No. 341-17-56

AX RIDGE

Portions of Sections 19, 20, and 30

T1N, R7W, W.M.,

Tillamook County, Oregon

Tillamook District GIS  
10/13/2016

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

**Legend**

**Rock source**

- Rock pile
- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site

**Restricted area**

- Area boundary
- Sale boundary
- Ownership boundary
- Fish stream
- Non-fish stream
- Unsurfaced road
- Surfaced road
- Paved road
- Abandoned road

**Swing road**

- Swing road
- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad
- Cable yarding
- Ground Landing
- Yarder Landing

**Buffer**

- Non-required thinning
- Cable yarding
- Ground yarding
- Tailhold Restricted Buffer
- Dowhilling yarding
- Green tree retention area

**Acres**

| Area         | Operation         | Gross      | Net        |
|--------------|-------------------|------------|------------|
| 1            | Partial Cut       | 87         | 62         |
| 2            | Modified Clearcut | 122        | 99         |
| 3            | Modified Clearcut | 139        | 84         |
| <b>Total</b> |                   | <b>348</b> | <b>245</b> |

**Scale**

1,000 0 1,000 Feet

**North Arrow**

N