



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Miami Fire  
Sale 341-14-84

District: Tillamook

Date: April 21, 2014

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**cost summary**

|                                | <b>Conifer</b> | <b>Hardwood</b>          | <b>Total</b>   |
|--------------------------------|----------------|--------------------------|----------------|
| <b>Gross Timber Sale Value</b> | \$547,140.32   | \$78,664.08              | \$625,804.40   |
|                                |                | <b>Project Work:</b>     | \$(186,530.00) |
|                                |                | <b>Advertised Value:</b> | \$439,274.40   |



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**timber description**

**Location:** Portions of Section 10, 11, 14, and 15, T2N, R9W, W.M., Tillamook County, Oregon.

**Stand Stocking:** 60%

| SpecieName            | AvgDBH | Amortization (%) | Recovery (%) |
|-----------------------|--------|------------------|--------------|
| Douglas - Fir         | 16     | 0                | 95           |
| Western Hemlock / Fir | 17     | 0                | 95           |
| Sitka Spruce          | 13     | 0                | 95           |
| Alder (Red)           | 13     | 0                | 90           |

| Volume by Grade       | 10" - 11" | 2S    | 3S  | 4S  | 6" - 7" | 8" - 9" | Total |
|-----------------------|-----------|-------|-----|-----|---------|---------|-------|
| Douglas - Fir         | 0         | 955   | 804 | 338 | 0       | 0       | 2,097 |
| Western Hemlock / Fir | 0         | 121   | 61  | 3   | 0       | 0       | 185   |
| Sitka Spruce          | 0         | 11    | 0   | 10  | 0       | 0       | 21    |
| Alder (Red)           | 23        | 0     | 0   | 0   | 463     | 12      | 498   |
| Total                 | 23        | 1,087 | 865 | 351 | 463     | 12      | 2,801 |



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comments: Pond Values Used: 1st Quarter Calendar Year 2014.

Western redcedar and Other Cedars Stumpage Price = Pond Value  
minus Logging Cost:

$\$825/\text{MBF} = \$1,175/\text{MBF} - \$350/\text{MBF}$

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

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

FUEL COST ALLOWANCE =  $\$4.00/\text{Gallon}$

HAULING COST ALLOWANCE

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

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

Brand and Paint:  $\$2/\text{MBF} \times 2,801 \text{ MBF} = \$5,602$

Machine Cleaning:  $\$1,000/\text{machine} \times 4 = \$4,000$

Snag Creation (Area 2):  $176 \text{ snags} \times \$10/\text{snag} = \$1,760$

Truck Assist (Area 1):  $1,613 \text{ MBF} \times \$20/\text{MBF} = \$32,260$

TOTAL Other Costs (with Profit & Risk to be added) =  $\$43,622$

Other Costs (No Profit & Risk added):

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

Non-Project Spur Construction:  $4.5 \text{ stations} \times \$150/\text{station} = \$675$

Slash Piling and Sorting (Cable Ground):  $\$5/\text{acre} \times 166 \text{ acres} =$   
 $\$830$

Construct Road Block at Point C:  $1 \times \$75 = \$75$

TOTAL Other Costs (No Profit & Risk added) =  $\$1,680$

ROAD MAINTENANCE

Spot rocking:  $20 \text{ cy}/\text{mmbf}/\text{mile} \times \$7.00/\text{cy} \times 2.801 \text{ MMBF} \times 7.8 \text{ mile}$   
 $/ 2,801 \text{ MBF} = \$1.09 / \text{MBF}$

Interim Maintenance Grading:  $\$250 \times 7.8 \text{ miles}/2,801 \text{ MBF} \times 2 \text{ times}$   
 $= \$1.39/\text{MBF}$

Final Maintenance Grading:  $\$500 \times 7.8 \text{ miles}/2,801 \text{ MBF} = \$1.39/\text{MBF}$

Final Maintenance Compaction:  $\$950/\text{mile} \times 7.8 \text{ miles}/2,801 \text{ MBF} =$   
 $\$2.65/\text{MBF}$

TOTAL Road Maintenance:  $\$6.52/\text{MBF}$



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**logging conditions**

**combination#: 1**

|                       |        |
|-----------------------|--------|
| Douglas - Fir         | 89.83% |
| Western Hemlock / Fir | 89.97% |
| Sitka Spruce          | 88.00% |
| Alder (Red)           | 89.12% |

**yarding distance:** Long (1,500 ft)      **downhill yarding:** No  
**logging system:** Cable: Large Tower >=70      **Process:** Stroke Delimber  
**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 6.0      **bd. ft / load:** 2,900  
**cost / mbf:** \$219.92

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

**combination#: 2**

|                       |        |
|-----------------------|--------|
| Douglas - Fir         | 10.17% |
| Western Hemlock / Fir | 10.03% |
| Sitka Spruce          | 12.00% |
| Alder (Red)           | 10.88% |

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Shovel      **Process:** Stroke Delimber  
**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF  
**loads / day:** 7.0      **bd. ft / load:** 3,000  
**cost / mbf:** \$68.49

**machines:** Stroke Delimber (B)



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**logging costs**

|                           |              |                           |             |
|---------------------------|--------------|---------------------------|-------------|
| <b>Operating Seasons:</b> | 2.00         | <b>Profit Risk:</b>       | 13.00%      |
| <b>Project Costs:</b>     | \$186,530.00 | <b>Other Costs (P/R):</b> | \$43,622.00 |
| <b>Slash Disposal:</b>    | \$0.00       | <b>Other Costs:</b>       | \$1,680.00  |

**Miles of Road**

Road Maintenance: \$6.52

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

**Hauling Costs**

| Species               | \$ / MBF | Trips/Day | MBF / Load |
|-----------------------|----------|-----------|------------|
| Douglas - Fir         | \$0.00   | 2.0       | 2.7        |
| Western Hemlock / Fir | \$0.00   | 3.0       | 2.8        |
| Sitka Spruce          | \$0.00   | 2.0       | 3.4        |
| Alder (Red)           | \$0.00   | 3.0       | 3.3        |



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**logging costs breakdown**

| Logging                      | Road Maint | Fire Protect | Hauling  | Other P/R appl | Profit & Risk | Slash Disposal | Scaling | Other  | Total    |
|------------------------------|------------|--------------|----------|----------------|---------------|----------------|---------|--------|----------|
| <b>Douglas - Fir</b>         |            |              |          |                |               |                |         |        |          |
| \$204.51                     | \$6.85     | \$3.13       | \$134.22 | \$15.57        | \$47.36       | \$0.00         | \$5.00  | \$0.60 | \$417.24 |
| <b>Western Hemlock / Fir</b> |            |              |          |                |               |                |         |        |          |
| \$204.73                     | \$6.85     | \$3.13       | \$86.29  | \$15.57        | \$41.15       | \$0.00         | \$5.00  | \$0.60 | \$363.32 |
| <b>Sitka Spruce</b>          |            |              |          |                |               |                |         |        |          |
| \$201.75                     | \$6.85     | \$3.13       | \$106.59 | \$15.57        | \$43.41       | \$0.00         | \$5.00  | \$0.60 | \$382.90 |
| <b>Alder (Red)</b>           |            |              |          |                |               |                |         |        |          |
| \$203.45                     | \$7.17     | \$3.13       | \$76.69  | \$15.57        | \$39.78       | \$0.00         | \$5.00  | \$0.60 | \$351.39 |

| Specie                | Amortization | Pond Value | Stumpage | Amortized |
|-----------------------|--------------|------------|----------|-----------|
| Douglas - Fir         | \$0.00       | \$660.80   | \$243.56 | \$0.00    |
| Western Hemlock / Fir | \$0.00       | \$543.00   | \$179.68 | \$0.00    |
| Sitka Spruce          | \$0.00       | \$533.10   | \$150.20 | \$0.00    |
| Alder (Red)           | \$0.00       | \$509.35   | \$157.96 | \$0.00    |



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**summary**

**Amortized**

| Specie                | MBF | Value  | Total  |
|-----------------------|-----|--------|--------|
| Douglas - Fir         | 0   | \$0.00 | \$0.00 |
| Western Hemlock / Fir | 0   | \$0.00 | \$0.00 |
| Sitka Spruce          | 0   | \$0.00 | \$0.00 |
| Alder (Red)           | 0   | \$0.00 | \$0.00 |

**Unamortized**

| Specie                | MBF   | Value    | Total        |
|-----------------------|-------|----------|--------------|
| Douglas - Fir         | 2,097 | \$243.56 | \$510,745.32 |
| Western Hemlock / Fir | 185   | \$179.68 | \$33,240.80  |
| Sitka Spruce          | 21    | \$150.20 | \$3,154.20   |
| Alder (Red)           | 498   | \$157.96 | \$78,664.08  |

**Gross Timber Sale Value**

Recovery: \$625,804.40

Prepared by: Bryan Huck

Phone: 503-815-7025



**PROJECT SUMMARY SHEET**

Sale: Miami Fire

**CONSTRUCTION**

|                              |        |       |            |                    |
|------------------------------|--------|-------|------------|--------------------|
| Point                        | C to D | 47+60 | stations = | \$53,883.82        |
| Point                        | E to F | 2+50  | stations = | \$5,220.50         |
| Point                        | G to H | 5+00  | stations = | \$22,295.00        |
| <b>SUBTOTAL CONSTRUCTION</b> |        |       |            | <b>\$81,399.32</b> |

**IMPROVEMENT**

|                             |        |        |                                  |                    |
|-----------------------------|--------|--------|----------------------------------|--------------------|
| Point                       | A to B | 383+80 | stations =                       | \$9,954.87         |
| Point                       | I to J | 89+80  | stations =                       | \$6,418.76         |
| Point                       | K to L | 216+30 | stations =                       | \$14,545.96        |
| Point                       | B to C | 63+80  | stations = (not incl. stockpile) | \$40,720.63        |
| <b>SUBTOTAL IMPROVEMENT</b> |        |        |                                  | <b>\$71,640.22</b> |

**VACATE**

|                        |        |       |            |                   |
|------------------------|--------|-------|------------|-------------------|
| Point                  | M to N | 19+00 | stations = | \$4,466.63        |
| <b>SUBTOTAL VACATE</b> |        |       |            | <b>\$4,466.63</b> |

**SPECIAL PROJECTS**

|                                  |        |               |         |                    |
|----------------------------------|--------|---------------|---------|--------------------|
| Stockpile                        | B to C | 2+70          | 1000 CY | \$12,630.00        |
| Brush                            | 16.9   | miles of road |         | \$11,830.00        |
| <b>SUBTOTAL SPECIAL PROJECTS</b> |        |               |         | <b>\$24,460.00</b> |

**MOVE IN**

**\$4,563.83**

**GRAND TOTAL** **\$186,530.00**



## SUMMARY OF CONSTRUCTION COST

|   |                   |                                     |                      |                |                   |                         |                               |                               |                   |
|---|-------------------|-------------------------------------|----------------------|----------------|-------------------|-------------------------|-------------------------------|-------------------------------|-------------------|
| Sale:   | <b>Miami Fire</b> |                                     |                      |                | Road:             | <b>A to B</b>           |                               |                               |                   |
| <u>Construction -</u>                                       | 0+00<br>0.00      | stations<br>miles                   | <u>Improvement -</u> | 383+80<br>7.27 | stations<br>miles | <u>Reconstruction -</u> | 0+00<br>0.00                  | stations<br>miles             |                   |
| <br>  |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| <b>IMPROVEMENT: EXCAVATION -</b>                            |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| Widening  |                   |                                     |                      | 20             | cy. @             | \$1.40                  | per c.y. =                    | \$28.00                       |                   |
| Slope Stabilization Prep.                                   |                   |                                     |                      | 47             | cy. @             | \$1.40                  | per c.y. =                    | \$65.80                       |                   |
|   |                   |                                     |                      |                |                   |                         | <b>TOTAL EXCAVATION</b>       | <b>\$93.80</b>                |                   |
| <br>  |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| <b>IMPROVEMENT: ENDHAUL -</b>                               |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| Widening  | 298+00            | to                                  | 298+20               | 20             | cy. @             | \$5.31                  | per c.y. =                    | \$106.20                      |                   |
| Slope Stabilization Prep.                                   | 292+20            | to                                  | 292+60               | 31             | cy. @             | \$5.44                  | per c.y. =                    | \$168.64                      |                   |
| Slope Stabilization Prep.                                   | 297+00            | to                                  | 297+20               | 16             | cy. @             | \$5.33                  | per c.y. =                    | \$85.28                       |                   |
| Spread & compact  |                   |                                     |                      | 67             | cy. @             | \$0.25                  | per c.y. =                    | \$16.75                       |                   |
|   |                   |                                     |                      |                |                   |                         | <b>TOTAL ENDHAUL</b>          | <b>\$376.87</b>               |                   |
| <br>  |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| <b>CULVERTS - MATERIALS &amp; INSTALLATION</b>              |                   |                                     |                      |                |                   |                         |                               |                               |                   |
|   |                   | <u>Culverts</u>                     |                      | 40             | LF of 18"         | \$700.00                |                               | 0                             |                   |
|   |                   |                                     |                      |                |                   | \$700.00                |                               | LF of 24"                     |                   |
|   |                   |                                     |                      |                |                   |                         |                               | \$0.00                        |                   |
|   |                   | <u>Culvert Stakes &amp; Markers</u> |                      |                |                   |                         |                               | \$0.00                        |                   |
|   |                   | 0 stakes                            |                      |                |                   | \$0.00                  |                               |                               |                   |
|   |                   | 1 markers                           |                      |                |                   | \$8.00                  |                               |                               |                   |
|   |                   |                                     |                      |                |                   | \$8.00                  |                               |                               |                   |
|   |                   |                                     |                      |                |                   |                         | <b>TOTAL CULVERTS</b>         | <b>\$708.00</b>               |                   |
| <br>  |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| <b>ROCK</b>   |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| Spot Rock   |                   |                                     |                      | 200            | cy. of            | Crushed                 | @                             | \$17.43 per c.y. = \$3,486.00 |                   |
| Slope Stabilization   | 292+40, 297+10    |                                     |                      | 90             | cy. of            | Riprap                  | @                             | \$10.24 per c.y. = \$921.60   |                   |
| Energy Dissipator   | 116+50            |                                     |                      | 10             | cy. of            | Riprap                  | @                             | \$13.02 per c.y. = \$130.20   |                   |
| Bedding/Backfill  | 116+50            |                                     |                      | 20             | cy. of            | Crushed                 | @                             | \$16.76 per c.y. = \$335.20   |                   |
|   |                   |                                     |                      |                |                   |                         | <b>TOTAL ROCK</b>             | <b>\$4,873.00</b>             |                   |
| <br>  |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| <b>SPECIAL PROJECTS</b>                                     |                   |                                     |                      |                |                   |                         |                               |                               |                   |
| Construct lead-off ditches at west end bridge corners -     |                   |                                     |                      | 2.00           | @                 | \$30.00                 | each                          | \$60.00                       |                   |
| Construct sediment traps in ditch line from 0+00 to 85+00 - |                   |                                     |                      | 20.00          | @                 | \$30.00                 | each                          | \$600.00                      |                   |
| Construct sediment trap at 113+20 -                         |                   |                                     |                      | 1.00           | @                 | \$30.00                 | each                          | \$30.00                       |                   |
| Grade and shape road -                                      |                   |                                     |                      | 10.00          | stations @        | \$14.00                 | per station                   | \$140.00                      |                   |
| Clean existing ditches and catch basins -                   |                   |                                     |                      | 145.80         | stations @        | \$20.00                 | per station                   | \$2,916.00                    |                   |
| Roll subgrade w/ vibratory roller -                         |                   |                                     |                      | 10.00          | stations @        | \$13.20                 | per station                   | \$132.00                      |                   |
| Grass seed and fertilize -                                  |                   |                                     |                      | 0.06           | acres @           | \$220.00                | per acre                      | \$13.20                       |                   |
| Mulching -  |                   |                                     |                      | 0.020          | acres @           | \$600.00                | per acre                      | \$12.00                       |                   |
|   |                   |                                     |                      |                |                   |                         | <b>TOTAL SPECIAL PROJECTS</b> | <b>\$3,903.20</b>             |                   |
|   |                   |                                     |                      |                |                   |                         |                               | <b>GRAND TOTAL</b>            | <b>\$9,954.87</b> |

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **B to C**

|                       |             |          |                      |              |          |                         |             |          |
|-----------------------|-------------|----------|----------------------|--------------|----------|-------------------------|-------------|----------|
| <u>Construction -</u> | <u>0+00</u> | stations | <u>Improvement -</u> | <u>63+80</u> | stations | <u>Reconstruction -</u> | <u>0+00</u> | stations |
|                       | 0.00        | miles    |                      | 1.21         | miles    |                         | 0.00        | miles    |

**IMPROVEMENT: CLEARING AND GRUBBING -**

|                                    |       |         |          |            |                 |
|------------------------------------|-------|---------|----------|------------|-----------------|
| Widening                           | 0.107 | acres @ | \$660.00 | per acre = | \$70.62         |
| Scattering                         | 0.220 | acres @ | \$980.00 | per acre = | \$215.60        |
| <b>TOTAL CLEARING AND GRUBBING</b> |       |         |          |            | <b>\$286.22</b> |

**IMPROVEMENT: EXCAVATION -**

|                         |     |       |        |           |                   |
|-------------------------|-----|-------|--------|-----------|-------------------|
| Widening                | 765 | cy. @ | \$1.40 | per c.y.= | \$1,071.00        |
| <b>TOTAL EXCAVATION</b> |     |       |        |           | <b>\$1,071.00</b> |

**IMPROVEMENT: ENDHAUL -**

|                      |       |    |       |     |       |        |           |                   |
|----------------------|-------|----|-------|-----|-------|--------|-----------|-------------------|
| Widening             | 62+00 | to | 62+35 | 101 | cy. @ | \$4.68 | per c.y.= | \$472.68          |
| Widening             | 62+35 | to | 63+05 | 338 | cy. @ | \$4.69 | per c.y.= | \$1,585.22        |
| Widening             | 63+05 | to | 63+55 | 109 | cy. @ | \$4.71 | per c.y.= | \$513.39          |
| Widening             | 3+30  | to | 4+30  | 78  | cy. @ | \$3.13 | per c.y.= | \$244.14          |
| Widening             | 18+50 | to | 19+25 | 109 | cy. @ | \$3.53 | per c.y.= | \$384.77          |
| Widening             | 23+90 | to | 24+10 | 20  | cy. @ | \$3.66 | per c.y.= | \$73.20           |
| Widening             | 29+20 | to | 29+30 | 10  | cy. @ | \$3.80 | per c.y.= | \$38.00           |
| Spread & compact     |       |    |       | 765 | cy. @ | \$0.25 | per c.y.= | \$191.25          |
| <b>TOTAL ENDHAUL</b> |       |    |       |     |       |        |           | <b>\$3,502.65</b> |

**ROCK**

|                   |       |       |        |         |   |         |           |                    |
|-------------------|-------|-------|--------|---------|---|---------|-----------|--------------------|
| 0+00 to           | 63+80 | 2,230 | cy. of | Crushed | @ | \$14.94 | per c.y.= | \$33,316.20        |
| Junction Rock     | 0+00  | 20    | cy. of | Crushed | @ | \$14.44 | per c.y.= | \$288.80           |
| Widening          | 62+20 | 30    | cy. of | Crushed | @ | \$15.44 | per c.y.= | \$463.20           |
| <b>TOTAL ROCK</b> |       |       |        |         |   |         |           | <b>\$34,068.20</b> |

**SPECIAL PROJECTS**

|  |       |            |          |             |                   |
|--|-------|------------|----------|-------------|-------------------|
| Grade and shape road -                               | 63.80 | stations @ | \$14.00  | per station | \$893.20          |
| Roll subgrade w/ vibratory roller prior to rocking - | 63.80 | stations @ | \$13.20  | per station | \$842.16          |
| Grass seed and fertilize -                           | 0.26  | acres @    | \$220.00 | per acre    | \$57.20           |
| <b>TOTAL SPECIAL PROJECTS</b>                        |       |            |          |             | <b>\$1,792.56</b> |

**GRAND TOTAL** **\$40,720.63**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **C to D**

|                |       |          |               |      |          |                  |      |          |
|----------------|-------|----------|---------------|------|----------|------------------|------|----------|
| Construction - | 47+60 | stations | Improvement - | 0+00 | stations | Reconstruction - | 0+00 | stations |
|                | 0.90  | miles    |               | 0.00 | miles    |                  | 0.00 | miles    |

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

| Station      | to | Station | Avg. Sideslope | Avg. Dist.<br>To W.A. (mi.) | Outslope/Ditch | Cost per Station | = |                    |
|--------------|----|---------|----------------|-----------------------------|----------------|------------------|---|--------------------|
| 0+00         |    | 33+40   | Designed Seg.  | 1.5                         | Outslope       | \$1,008          | = | \$33,667.20        |
| 33+40        |    | 33+70   | 10%            |                             | Outslope       | \$90             | = | \$27.00            |
| 33+70        |    | 37+80   | 60%            | 0.1                         | Outslope       | \$1,521          | = | \$6,236.10         |
| 37+80        |    | 38+50   | 10%            | 0.1                         | Outslope       | \$180            | = | \$126.00           |
| 38+50        |    | 40+80   | 35%            | 0.1                         | Outslope       | \$382            | = | \$878.60           |
| 40+80        |    | 42+40   | 10%            | 0.2                         | Outslope       | \$180            | = | \$288.00           |
| 42+40        |    | 43+60   | 30%            | 0.2                         | Outslope       | \$382            | = | \$458.40           |
| 43+60        |    | 46+40   | 30%            |                             | Outslope       | \$191            | = | \$534.80           |
| 46+40        |    | 47+00   | 50%            |                             | Outslope       | \$459            | = | \$275.40           |
| 47+00        |    | 47+60   | 20%            |                             | Outslope       | \$139            | = | \$83.40            |
| <b>TOTAL</b> |    |         |                |                             |                |                  |   | <b>\$42,574.90</b> |

**ROCK**

|                   |              |     |        |         |   |                   |                   |
|-------------------|--------------|-----|--------|---------|---|-------------------|-------------------|
| 0+00 to           | 1+00         | 60  | cy. of | Crushed | @ | \$15.44 per c.y.= | \$926.40          |
| Junction Rock     | 0+00         | 20  | cy. of | Crushed | @ | \$15.44 per c.y.= | \$308.80          |
| Ridgetop Fills    | 0+20 to 1+40 | 800 | cy. of | Riprap  | @ | \$9.86 per c.y.=  | \$7,888.00        |
| <b>TOTAL ROCK</b> |              |     |        |         |   |                   | <b>\$9,123.20</b> |

**SPECIAL PROJECTS**

|                                     |       |            |          |             |                   |
|-------------------------------------|-------|------------|----------|-------------|-------------------|
| Construct waste areas -             | 1.50  | hours @    | \$130.00 | per hour    | \$195.00          |
| Construct landing at 46+70 -        | 1.00  | @          | \$300.00 | each        | \$300.00          |
| Grade and shape road -              | 47.60 | stations @ | \$14.00  | per station | \$666.40          |
| Roll subgrade w/ vibratory roller - | 47.60 | stations @ | \$13.20  | per station | \$628.32          |
| Grass seed and fertilize -          | 1.80  | acres @    | \$220.00 | per acre    | \$396.00          |
| <b>TOTAL SPECIAL PROJECTS</b>       |       |            |          |             | <b>\$2,185.72</b> |

**GRAND TOTAL** **\$53,883.82**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **E to F**

|                |      |          |               |      |          |
|----------------|------|----------|---------------|------|----------|
| Construction - | 2+50 | stations | Improvement - | 0+00 | stations |
|                | 0.05 | miles    |               | 0.00 | miles    |
|                |      |          |               |      | 0.00     |
|                |      |          |               |      | miles    |

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

| Station | to | Station | Avg. Sideslope | Avg. Dist.<br>To W.A. (mi.) | Outslope/Ditch | Cost per Station | = |              |                 |
|---------|----|---------|----------------|-----------------------------|----------------|------------------|---|--------------|-----------------|
| 0+00    |    | 0+40    | 25%            |                             | Outslope       | \$165            | = | \$66.00      |                 |
| 0+40    |    | 0+70    | 35%            |                             | Outslope       | \$191            | = | \$57.30      |                 |
| 0+70    |    | 1+00    | 50%            |                             | Outslope       | \$459            | = | \$137.70     |                 |
| 1+00    |    | 1+40    | 40%            |                             | Outslope       | \$243            | = | \$97.20      |                 |
| 1+40    |    | 2+50    | 25%            |                             | Outslope       | \$165            | = | \$181.50     |                 |
|         |    |         |                |                             |                |                  |   | <b>TOTAL</b> | <b>\$539.70</b> |

| <b>ROCK</b>   |    |      |     |        |         |   |                   |                   |                   |
|---------------|----|------|-----|--------|---------|---|-------------------|-------------------|-------------------|
| 0+00          | to | 2+50 | 150 | cy. of | Crushed | @ | \$14.97 per c.y.= | \$2,245.50        |                   |
| Landing Rock  |    | 2+50 | 100 | cy. of | Crushed | @ | \$14.99 per c.y.= | \$1,499.00        |                   |
| Junction Rock |    | 0+00 | 30  | cy. of | Crushed | @ | \$14.95 per c.y.= | \$448.50          |                   |
|               |    |      |     |        |         |   |                   | <b>TOTAL ROCK</b> | <b>\$4,193.00</b> |

| <b>SPECIAL PROJECTS</b>                              |  |      |            |          |             |  |          |                               |                 |
|--|--|------|------------|----------|-------------|--|----------|-------------------------------|-----------------|
| Construct landing -                                  |  | 1.00 | @          | \$250.00 | each        |  | \$250.00 |                               |                 |
| Grade and shape road -                               |  | 2.50 | stations @ | \$14.00  | per station |  | \$35.00  |                               |                 |
| Roll subgrade w/ vibratory roller prior to rocking - |  | 2.50 | stations @ | \$13.20  | per station |  | \$33.00  |                               |                 |
| Remove large stumps -                                |  | 1.00 | lump sum @ | \$150.00 |             |  | \$150.00 |                               |                 |
| Grass seed and fertilize -                           |  | 0.09 | acres @    | \$220.00 | per acre    |  | \$19.80  |                               |                 |
|  |  |      |            |          |             |  |          | <b>TOTAL SPECIAL PROJECTS</b> | <b>\$487.80</b> |

**GRAND TOTAL** **\$5,220.50**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **G to H**

|                |              |                   |               |              |                   |                  |              |                   |
|----------------|--------------|-------------------|---------------|--------------|-------------------|------------------|--------------|-------------------|
| Construction - | 5+00<br>0.09 | stations<br>miles | Improvement - | 0+00<br>0.00 | stations<br>miles | Reconstruction - | 0+00<br>0.00 | stations<br>miles |
|----------------|--------------|-------------------|---------------|--------------|-------------------|------------------|--------------|-------------------|

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

| Station      | to | Station | Avg. Sideslope | Avg. Dist.<br>To W.A. (mi.) | Outslope/Ditch | Cost per Station | = |                    |
|--------------|----|---------|----------------|-----------------------------|----------------|------------------|---|--------------------|
| 0+00         |    | 0+60    | 35%            | 1.4                         | Outslope       | \$382            | = | \$229.20           |
| 0+60         |    | 0+90    | 70%            | 1.4                         | Outslope       | \$3,065          | = | \$919.50           |
| 0+90         |    | 1+20    | 80%            | 1.4                         | Outslope       | \$4,404          | = | \$1,321.20         |
| 1+20         |    | 1+80    | 90%            | 1.4                         | Outslope       | \$6,034          | = | \$3,620.40         |
| 1+80         |    | 2+60    | 60%            | 1.5                         | Outslope       | \$2,278          | = | \$1,822.40         |
| 2+60         |    | 4+30    | 70%            | 1.5                         | Outslope       | \$3,466          | = | \$5,892.20         |
| 4+30         |    | 5+00    | 60%            | 1.5                         | Outslope       | \$2,278          | = | \$1,594.60         |
| <b>TOTAL</b> |    |         |                |                             |                |                  |   | <b>\$15,399.50</b> |

**ROCK**

|                         |      |     |        |         |   |                   |                   |
|-------------------------|------|-----|--------|---------|---|-------------------|-------------------|
| 0+00 to                 | 5+00 | 270 | cy. of | Crushed | @ | \$14.73 per c.y.= | \$3,977.10        |
| Water Diverter Backfill |      | 10  | cy. of | Crushed | @ | \$12.84 per c.y.= | \$128.40          |
| Landing Rock            | 5+00 | 100 | cy. of | Crushed | @ | \$14.87 per c.y.= | \$1,487.00        |
| Junction Rock           | 0+00 | 20  | cy. of | Crushed | @ | \$14.69 per c.y.= | \$293.80          |
| <b>TOTAL ROCK</b>       |      |     |        |         |   |                   | <b>\$5,886.30</b> |

**SPECIAL PROJECTS**

|  |      |            |          |             |                   |
|--|------|------------|----------|-------------|-------------------|
| Construct waste areas -                              | 1.50 | hours @    | \$130.00 | per hour    | \$195.00          |
| Construct landing at Point H -                       | 1.00 | @          | \$250.00 | each        | \$250.00          |
| Grade and shape road -                               | 5.00 | stations @ | \$14.00  | per station | \$70.00           |
| Construct/Install rubber water diverter -            | 1.00 | @          | \$360.00 | each        | \$360.00          |
| Roll subgrade w/ vibratory roller prior to rocking - | 5.00 | stations @ | \$13.20  | per station | \$66.00           |
| Grass seed and fertilize -                           | 0.31 | acres @    | \$220.00 | per acre    | \$68.20           |
| <b>TOTAL SPECIAL PROJECTS</b>                        |      |            |          |             | <b>\$1,009.20</b> |

**GRAND TOTAL** **\$22,295.00**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **I to J**

|                       |             |          |                      |              |          |                         |             |          |
|-----------------------|-------------|----------|----------------------|--------------|----------|-------------------------|-------------|----------|
| <u>Construction -</u> | <u>0+00</u> | stations | <u>Improvement -</u> | <u>89+80</u> | stations | <u>Reconstruction -</u> | <u>0+00</u> | stations |
|                       | 0.00        | miles    |                      | 1.70         | miles    |                         | 0.00        | miles    |

**IMPROVEMENT: EXCAVATION -**

|          |    |       |        |           |                         |                |
|----------|----|-------|--------|-----------|-------------------------|----------------|
| Widening | 60 | cy. @ | \$1.40 | per c.y.= | \$84.00                 |                |
|          |    |       |        |           | <b>TOTAL EXCAVATION</b> | <b>\$84.00</b> |

**IMPROVEMENT: ENDHAUL -**

|                  |       |    |       |    |       |        |                      |                 |
|------------------|-------|----|-------|----|-------|--------|----------------------|-----------------|
| Widening         | 86+90 | to | 87+00 | 10 | cy. @ | \$2.99 | per c.y.=            | \$29.90         |
| Widening         | 85+10 | to | 85+30 | 20 | cy. @ | \$3.11 | per c.y.=            | \$62.20         |
| Widening         | 83+70 | to | 83+90 | 20 | cy. @ | \$3.22 | per c.y.=            | \$64.40         |
| Widening         | 78+40 | to | 78+50 | 10 | cy. @ | \$3.63 | per c.y.=            | \$36.30         |
| Spread & compact |       |    |       | 60 | cy. @ | \$0.25 | per c.y.=            | \$15.00         |
|                  |       |    |       |    |       |        | <b>TOTAL ENDHAUL</b> | <b>\$207.80</b> |

**SPECIAL PROJECTS**

|   |       |            |          |             |                               |                   |
|---|-------|------------|----------|-------------|-------------------------------|-------------------|
| Clean existing ditches and catch basins - | 89.80 | stations @ | \$40.00  | per station | \$3,592.00                    |                   |
| Grade and shape road -                    | 89.80 | stations @ | \$14.00  | per station | \$1,257.20                    |                   |
| Roll subgrade w/ vibratory roller -       | 89.80 | stations @ | \$13.20  | per station | \$1,185.36                    |                   |
| Grass seed and fertilize -                | 0.42  | acres @    | \$220.00 | per acre    | \$92.40                       |                   |
|   |       |            |          |             | <b>TOTAL SPECIAL PROJECTS</b> | <b>\$6,126.96</b> |

**GRAND TOTAL** **\$6,418.76**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **K to L**

|                       |      |          |                      |        |          |                         |      |          |
|-----------------------|------|----------|----------------------|--------|----------|-------------------------|------|----------|
| <u>Construction</u> - | 0+00 | stations | <u>Improvement</u> - | 216+30 | stations | <u>Reconstruction</u> - | 0+00 | stations |
|                       | 0.00 | miles    |                      | 4.10   | miles    |                         | 0.00 | miles    |

**IMPROVEMENT: CLEARING AND GRUBBING -**

|            |       |         |          |            |                 |                 |
|------------|-------|---------|----------|------------|-----------------|-----------------|
| Side cast  | 0.025 | acres @ | \$660.00 | per acre = | \$16.50         |                 |
| Scattering | 0.250 | acres @ | \$980.00 | per acre = | \$245.00        |                 |
|            |       |         |          |            | <u>\$261.50</u> | <b>\$261.50</b> |

**IMPROVEMENT: EXCAVATION -**

|          |     |       |        |            |                 |                 |
|----------|-----|-------|--------|------------|-----------------|-----------------|
| Pullback | 104 | cy. @ | \$1.40 | per c.y. = | \$145.60        |                 |
|          |     |       |        |            | <u>\$145.60</u> | <b>\$145.60</b> |

**IMPROVEMENT: ENDHAUL -**

|                  |        |    |        |     |       |        |            |                 |                 |
|------------------|--------|----|--------|-----|-------|--------|------------|-----------------|-----------------|
| Pullback         | 168+00 | to | 168+60 | 104 | cy. @ | \$3.05 | per c.y. = | \$317.20        |                 |
| Spread & compact |        |    |        | 104 | cy. @ | \$0.25 | per c.y. = | \$26.00         |                 |
|                  |        |    |        |     |       |        |            | <u>\$343.20</u> | <b>\$343.20</b> |

**CULVERTS - MATERIALS & INSTALLATION**

|                                     |   |           |               |    |           |                   |                   |
|-------------------------------------|---|-----------|---------------|----|-----------|-------------------|-------------------|
| <u>Culverts</u>                     | 0 | LF of 30" | \$0.00        | 40 | LF of 36" | \$1,930.00        |                   |
|                                     |   |           | <u>\$0.00</u> |    |           | <u>\$1,930.00</u> |                   |
| <u>Culvert Stakes &amp; Markers</u> |   |           |               |    |           |                   |                   |
| 0 stakes                            |   |           | \$0.00        |    |           |                   |                   |
| 1 markers                           |   |           | <u>\$8.00</u> |    |           |                   |                   |
|                                     |   |           | \$8.00        |    |           |                   | <b>\$1,938.00</b> |

**ROCK**

|                   |                |     |        |         |   |         |            |                   |                   |
|-------------------|----------------|-----|--------|---------|---|---------|------------|-------------------|-------------------|
| Fill Armor        | 149+70         | 20  | cy. of | Riprap  | @ | \$8.19  | per c.y. = | \$163.80          |                   |
| Spot Rock         |                | 200 | cy. of | Crushed | @ | \$14.63 | per c.y. = | \$2,926.00        |                   |
| Energy Dissipator | 138+90, 152+40 | 20  | cy. of | Riprap  | @ | \$8.13  | per c.y. = | \$162.60          |                   |
| Bedding/Backfill  | 138+90         | 10  | cy. of | Crushed | @ | \$11.79 | per c.y. = | \$117.90          |                   |
|                   |                |     |        |         |   |         |            | <u>\$3,370.30</u> | <b>\$3,370.30</b> |

**SPECIAL PROJECTS**

|   |        |            |          |             |                   |                   |
|---|--------|------------|----------|-------------|-------------------|-------------------|
| Clean existing ditches and catch basins - | 63.00  | stations @ | \$40.00  | per station | \$2,520.00        |                   |
| Grade and shape road -                    | 216.30 | stations @ | \$14.00  | per station | \$3,028.20        |                   |
| Roll subgrade w/ vibratory roller -       | 216.30 | stations @ | \$13.20  | per station | \$2,855.16        |                   |
| Grass seed and fertilize -                | 0.30   | acres @    | \$220.00 | per acre    | \$66.00           |                   |
| Mulching -                                | 0.030  | acres @    | \$600.00 | per acre    | \$18.00           |                   |
|   |        |            |          |             | <u>\$8,487.36</u> | <b>\$8,487.36</b> |

**GRAND TOTAL** **\$14,545.96**

## SUMMARY OF CONSTRUCTION COST

Sale: **Miami Fire**

Road: **M to N**

|                       |             |          |                      |             |          |                 |              |          |
|-----------------------|-------------|----------|----------------------|-------------|----------|-----------------|--------------|----------|
| <u>Construction -</u> | <u>0+00</u> | stations | <u>Improvement -</u> | <u>0+00</u> | stations | <u>Vacate -</u> | <u>19+00</u> | stations |
|                       | 0.00        | miles    |                      | 0.00        | miles    |                 | 0.36         | miles    |

**VACATE: CLEARING AND GRUBBING -**

|                                    |       |         |          |            |          |                 |
|------------------------------------|-------|---------|----------|------------|----------|-----------------|
| Side cast                          | 0.113 | acres @ | \$660.00 | per acre = | \$74.58  |                 |
| Scattering                         | 0.140 | acres @ | \$980.00 | per acre = | \$137.20 |                 |
| <b>TOTAL CLEARING AND GRUBBING</b> |       |         |          |            |          | <b>\$211.78</b> |

**VACATE: EXCAVATION -**

|                         |     |       |        |           |          |                 |
|-------------------------|-----|-------|--------|-----------|----------|-----------------|
| Pullback                | 513 | cy. @ | \$1.40 | per c.y.= | \$718.20 |                 |
| Spread & compact        | 513 | cy. @ | \$0.25 | per c.y.= | \$128.25 |                 |
| <b>TOTAL EXCAVATION</b> |     |       |        |           |          | <b>\$846.45</b> |

**SPECIAL PROJECTS**

|   |       |         |          |          |            |                   |
|---|-------|---------|----------|----------|------------|-------------------|
| Remove fills at station 8+80, 15+90 & 19+00 - | 20.00 | hours @ | \$145.00 | per hour | \$2,900.00 |                   |
| Construct waterbars -                         | 6.00  | @       | \$25.00  | each     | \$150.00   |                   |
| Grass seed and fertilize -                    | 0.44  | acres @ | \$220.00 | per acre | \$96.80    |                   |
| Mulching -                                    | 0.436 | acres @ | \$600.00 | per acre | \$261.60   |                   |
| <b>TOTAL SPECIAL PROJECTS</b>                 |       |         |          |          |            | <b>\$3,408.40</b> |

**GRAND TOTAL** **\$4,466.63**



## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

|             |                   |                    |  |
|-------------|-------------------|--------------------|--|
| Pit:        | Crushed           | Location:          | SW 1/4, SE 1/4, Sec 11, T2N, R9W, W.M. |
| Sale:       | <b>Miami Fire</b> | Road:              | 5410 c.y.                              |
| Swell:      | 1.40              | Stockpile:         | c.y.                                   |
| Shrinkage   | 1.16              | Total Truck Loads: | 5410 c.y.                              |
| Drill Pct.: | 60%               | In Place Total:    | 3864 c.y.                              |

Pit Development & cleanup including clearing and grubbing of Waste Area and endhaul of overburden and screened material to Waste Area, spreading and compaction. \$2,246.60

|                     |        |         |   |      |         |   |             |
|---------------------|--------|---------|---|------|---------|---|-------------|
| Drill & Shoot:      | \$2.50 | /cu.yd. | x | 2318 | cu.yds. | = | \$5,795.00  |
| Rip Rock:           | \$1.90 | /cu.yd. | x | 1546 | cu.yds. | = | \$2,937.40  |
| Load Crusher:       | \$0.70 | /cu.yd. | x | 4610 | cu.yds. | = | \$3,227.00  |
| Crush Rock:         | \$2.62 | /cu.yd. | x | 4610 | cu.yds. | = | \$12,078.20 |
| Load Dump Truck:    | \$0.70 | /cu.yd. | x | 5410 | cu.yds. | = | \$3,787.00  |
| Oversize Reduction: | \$4.50 | /cu.yd. | x | 1475 | cu.yds. | = | \$6,637.50  |
| Screening:          | \$2.60 | /cu.yd. | x | 4470 | cu.yds. | = | \$11,622.00 |
| Subtotal            |        |         |   |      |         |   | \$48,330.70 |

|   |   |   |            |   |            |
|---|---|---|------------|---|------------|
| Move In/Set-up Crusher                  | 1 | @ | \$2,200.00 | = | \$2,200.00 |
| Move In and set up Drill and Compressor | 1 | @ | \$640.55   | = | \$640.55   |
| Move in Roller and Compactor            | 1 | @ | \$640.55   | = | \$640.55   |
| Move in Grader                          | 1 | @ | \$308.06   | = | \$308.06   |
| Move in Excavator                       | 1 | @ | \$1,466.74 | = | \$1,466.74 |
| Move in Trucks                          | 4 | @ | \$212.53   | = | \$850.12   |
| Move in Water Truck                     | 1 | @ | \$249.81   | = | \$249.81   |
| Change Gradation                        | 1 | @ | \$210.00   | = | \$210.00   |
| Subtotal                                |   |   |            |   | \$6,565.83 |

|            |         |            |  |                        |             |
|------------|---------|------------|--|------------------------|-------------|
| Base Cost= | \$10.15 | Per Cu.Yd. |  | TOTAL PRODUCTION COSTS | \$54,896.53 |
|------------|---------|------------|--|------------------------|-------------|

| 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 Spot Rock (Crushed)               | 4.83                   | 2.45                   | 10.15                   | 17.43             | 200               | \$3,486.00   |           |             |
| A to B Slope Stabilization (Riprap)      | 3.23                   | 1.40                   | 5.61                    | 10.24             | 90                | \$921.60     |           |             |
| A to B Energy Dissipator (Riprap)        | 6.01                   | 1.40                   | 5.61                    | 13.02             | 10                | \$130.20     |           |             |
| A to B Bedding/Backfill (Crushed)        | 6.01                   | 0.60                   | 10.15                   | 16.76             | 20                | \$335.20     |           |             |
| C to D 0 100 (Crushed)                   | 2.84                   | 2.45                   | 10.15                   | 15.44             | 60                | \$926.40     |           |             |
| C to D Junction Rock (Crushed)           | 2.84                   | 2.45                   | 10.15                   | 15.44             | 20                | \$308.80     |           |             |
| C to D Ridgetop Fills (Riprap)           | 2.85                   | 1.40                   | 5.61                    | 9.86              | 800               | \$7,888.00   |           |             |
| E to F 0 250 (Crushed)                   | 2.37                   | 2.45                   | 10.15                   | 14.97             | 150               | \$2,245.50   |           |             |
| E to F Landing Rock (Crushed)            | 2.39                   | 2.45                   | 10.15                   | 14.99             | 100               | \$1,499.00   |           |             |
| E to F Junction Rock (Crushed)           | 2.35                   | 2.45                   | 10.15                   | 14.95             | 30                | \$448.50     |           |             |
| G to H 0 500 (Crushed)                   | 2.13                   | 2.45                   | 10.15                   | 14.73             | 270               | \$3,977.10   |           |             |
| G to H Water Diverter Backfill (Crushed) | 2.09                   | 0.60                   | 10.15                   | 12.84             | 10                | \$128.40     |           |             |
| G to H Landing Rock (Crushed)            | 2.27                   | 2.45                   | 10.15                   | 14.87             | 100               | \$1,487.00   |           |             |
| G to H Junction Rock (Crushed)           | 2.09                   | 2.45                   | 10.15                   | 14.69             | 20                | \$293.80     |           |             |
| K to L Fill Armor (Riprap)               | 1.18                   | 1.40                   | 5.61                    | 8.19              | 20                | \$163.80     |           |             |
| K to L Spot Rock (Crushed)               | 2.03                   | 2.45                   | 10.15                   | 14.63             | 200               | \$2,926.00   |           |             |
| K to L Energy Dissipator (Riprap)        | 1.12                   | 1.40                   | 5.61                    | 8.13              | 20                | \$162.60     |           |             |
| K to L Bedding/Backfill (Crushed)        | 1.04                   | 0.60                   | 10.15                   | 11.79             | 10                | \$117.90     |           |             |
| B to C 0 6380 (Crushed)                  | 2.34                   | 2.45                   | 10.15                   | 14.94             | 2230              | \$33,316.20  |           |             |
| B to C Junction Rock (Crushed)           | 1.84                   | 2.45                   | 10.15                   | 14.44             | 20                | \$288.80     |           |             |
| B to C Widening (Crushed)                | 2.84                   | 2.45                   | 10.15                   | 15.44             | 30                | \$463.20     |           |             |
| B to C Stockpile (Crushed)               | 1.88                   | 0.60                   | 10.15                   | 12.63             | 1000              | \$12,630.00  |           |             |
|  |                        |                        |                         |                   | Total C.Y.        | 5410         | Sub Total | \$74,144.00 |

|  |                     |             |
|--|---------------------|-------------|
|  | TOTAL ROCKING COSTS | \$74,144.00 |
|--|---------------------|-------------|

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

Sale: **Miami Fire**

| LOWBOY HAUL (Round Trip) |              |                 |
|--------------------------|--------------|-----------------|
| DIST. (mi)               | ROADWAY      | AVE SPEED (mph) |
| 39.0                     | Pavement     | 30              |
| 3.2                      | Main Lines   | 7               |
| 13.8                     | 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        |
|-----------------------------|------------------------|--------------|------------|----------------------------|---------------|-------------|-------------|------------------|-------------------|
| 1                           | Excavators (Large)     | \$1,496.64   | 1          | \$44.80                    | 0.00          | 0.00        | 0           | \$0.00           | \$1,496.64        |
| 1                           | Tractor (D8)           | \$1,367.25   | 2          | \$15.10                    | 0.00          | 0.00        | 0           | \$0.00           | \$1,367.25        |
| 2                           | Dump Truck (10 cy +)   | \$522.70     |            | \$2.85                     | 0.00          | 0.00        | 0           | \$0.00           | \$522.70          |
| 1                           | Dump Truck (Off Hiway) | \$1,177.24   | 1          | \$4.75                     | 0.00          | 0.00        | 0           | \$0.00           | \$1,177.24        |
| <b>TOTAL MOVE-IN COSTS:</b> |                        |              |            |                            |               |             |             |                  | <b>\$4,563.83</b> |



## OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Miami Fire*

- Type of Sale**  
Modified Clearcut, Recovery.
- Legal Description**  
Portions of sections 10, 11, 14, and 15, T2N, R9W, W.M., Tillamook County, Oregon.
- Sale Acreage**  
Sale acreage was determined by GPS and orthophotographs along with GIS.

|                            | ACRES        |            |
|----------------------------|--------------|------------|
|                            | <u>Gross</u> | <u>Net</u> |
| Area 1 (Modified Clearcut) | 152          | 97         |
| Area 2 (Modified Clearcut) | 131          | 88         |

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

*Used for calculating the advertised volume.*

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

#### 4. **Cruising Procedures** **A. Cruise Method**

Area 1 has 18 plots cruised for the 97 harvest acres, and Area 2 has 15 plots cruised for 88 harvest acres. 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 33.61 was used for Area 1, while a basal area factor of 27.78 was used for Area 2. 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. The standard error and the coefficient of variation for the cruise based on net board feet per acre on Area 1 is 11.1% and 46.0%, and Area 2 is 13.4% and 50.3% respectively.

**6. Hidden Defect and Breakage**

A 5% reduction was applied to conifers and a 10% reduction to hardwood volumes for hidden defect and breakage. This was in addition to visual defect deducted during the cruise.

**7. Timber Description**

The stand was planted in the mid 1950's. See attached cruise report for a quantitative evaluation of estimated timber volumes and snag per acre.

| <b>Sale Area – Species</b> | <b>DBH</b> | <b>Merchantable Bole Height</b> | <b>Merchantable Top</b> |
|----------------------------|------------|---------------------------------|-------------------------|
| Area 1: Douglas-fir        | 15         | 55                              | 5"                      |
| Area 1: Alder              | 13         | 31                              | 6"                      |
| Area 1: Western Hemlock    | 20         | 81                              | 5"                      |
| Area 1: Sitka Spruce       | 13         | 28                              | 5"                      |
| Area 2: Douglas-fir        | 16         | 57                              | 5"                      |
| Area 2: Alder              | 13         | 30                              | 6"                      |
| Area 2: Western Hemlock    | 16         | 63                              | 5"                      |

**8. Cruiser Names/Dates**

Service Contract; April 2013

**9. Revenue Distribution**

FDF: 100%

Tax Code: 56-1 (9%) & 56 (91%)

Deed Numbers: 15

**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

SS – Sitka spruce

WH – Western hemlock

OC- Other Conifer (Snags)

| TC                |     | TSTNDSUM |           | Stand Table Summary |                |             |                   |             |               |                      |                       |                       |               |        |        |       |
|-------------------|-----|----------|-----------|---------------------|----------------|-------------|-------------------|-------------|---------------|----------------------|-----------------------|-----------------------|---------------|--------|--------|-------|
| Project           |     |          |           |                     |                |             |                   |             |               | MFIRE                |                       |                       |               |        |        |       |
| T02N R09W S11 TA2 |     |          |           |                     |                |             | T02N R09W S11 TA2 |             |               |                      |                       |                       |               |        |        |       |
| Twp               | Rge | Sec      | Tract     | Type                | Acres          | Plots       | Sample Trees      | Page:       | 1             |                      |                       |                       |               |        |        |       |
| 02N               | 09W | 11       | MIAMIFIRE | A2                  | 88.00          | 15          | 81                | Date:       | 02/18/2014    |                      |                       |                       |               |        |        |       |
|                   |     |          |           |                     |                |             |                   | Time:       | 9:53:46AM     |                      |                       |                       |               |        |        |       |
| S<br>Spc          | T   | Sample   |           | Av                  | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre      | Average Log |               | Net<br>Tons/<br>Acre | Net<br>Cu.Ft.<br>Acre | Net<br>Bd.Ft.<br>Acre | Totals        |        |        |       |
|                   |     | DBH      | Trees     | FF<br>16'           |                |             |                   | Ht<br>Tot   | Net<br>Cu.Ft. |                      |                       |                       | Net<br>Bd.Ft. | Tons   | Cunits | MBF   |
| DF                |     | 9        | 2         | 90                  | 32             | 8.118       | 3.70              | 8.12        | 5.6           | 25.2                 | 1.30                  | 46                    | 204           | 115    | 40     | 18    |
| DF                |     | 10       | 1         | 90                  | 38             | 3.264       | 1.85              | 3.26        | 8.1           | 30.0                 | .75                   | 26                    | 98            | 66     | 23     | 9     |
| DF                |     | 11       | 1         | 90                  | 41             | 2.966       | 1.85              | 2.97        | 10.2          | 30.0                 | .86                   | 30                    | 89            | 76     | 27     | 8     |
| DF                |     | 12       | 2         | 89                  | 45             | 4.776       | 3.70              | 4.78        | 12.7          | 43.9                 | 1.73                  | 61                    | 210           | 152    | 53     | 18    |
| DF                |     | 13       | 2         | 86                  | 68             | 4.152       | 3.70              | 6.33        | 14.2          | 46.3                 | 2.56                  | 90                    | 293           | 225    | 79     | 26    |
| DF                |     | 14       | 4         | 88                  | 69             | 6.965       | 7.41              | 12.25       | 15.1          | 52.7                 | 5.26                  | 185                   | 645           | 463    | 162    | 57    |
| DF                |     | 15       | 4         | 87                  | 70             | 6.021       | 7.41              | 10.47       | 18.5          | 61.2                 | 5.52                  | 194                   | 641           | 486    | 170    | 56    |
| DF                |     | 16       | 4         | 87                  | 78             | 5.311       | 7.41              | 10.62       | 20.6          | 72.3                 | 6.23                  | 219                   | 767           | 549    | 192    | 68    |
| DF                |     | 17       | 3         | 88                  | 86             | 3.598       | 5.56              | 7.20        | 24.9          | 94.8                 | 5.12                  | 179                   | 682           | 450    | 158    | 60    |
| DF                |     | 18       | 6         | 88                  | 84             | 6.435       | 11.11             | 12.87       | 27.4          | 98.5                 | 10.07                 | 353                   | 1,267         | 886    | 311    | 112   |
| DF                |     | 19       | 6         | 87                  | 95             | 5.696       | 11.11             | 12.31       | 30.8          | 105.4                | 10.81                 | 379                   | 1,298         | 951    | 334    | 114   |
| DF                |     | 20       | 3         | 87                  | 110            | 2.625       | 5.56              | 7.00        | 31.3          | 119.9                | 6.25                  | 219                   | 840           | 550    | 193    | 74    |
| DF                |     | 21       | 2         | 87                  | 96             | 1.540       | 3.70              | 3.08        | 41.4          | 137.5                | 3.63                  | 127                   | 423           | 319    | 112    | 37    |
| DF                |     | 22       | 1         | 88                  | 91             | .695        | 1.85              | 1.39        | 45.6          | 165.0                | 1.81                  | 63                    | 229           | 159    | 56     | 20    |
| DF                |     | 23       | 4         | 88                  | 102            | 2.591       | 7.41              | 7.10        | 38.8          | 154.6                | 7.86                  | 276                   | 1,098         | 691    | 243    | 97    |
| DF                |     | 25       | 1         | 87                  | 117            | .543        | 1.85              | 1.63        | 47.9          | 210.0                | 2.22                  | 78                    | 342           | 196    | 69     | 30    |
| DF                |     | 27       | 1         | 88                  | 122            | .484        | 1.85              | 1.45        | 55.7          | 240.0                | 2.30                  | 81                    | 348           | 203    | 71     | 31    |
| DF                |     | 29       | 1         | 86                  | 105            | .404        | 1.85              | 1.21        | 58.3          | 163.3                | 2.01                  | 71                    | 198           | 177    | 62     | 17    |
| DF                |     | 30       | 2         | 87                  | 105            | .750        | 3.70              | 1.88        | 76.9          | 325.7                | 4.12                  | 145                   | 612           | 363    | 127    | 54    |
| DF                |     | 31       | 1         | 88                  | 120            | .353        | 1.85              | 1.06        | 75.0          | 343.3                | 2.27                  | 80                    | 364           | 199    | 70     | 32    |
| DF                |     | 33       | 1         | 87                  | 117            | .320        | 1.85              | .96         | 82.3          | 366.7                | 2.25                  | 79                    | 351           | 198    | 69     | 31    |
| DF                |     | 39       | 1         | 86                  | 129            | .223        | 1.85              | .67         | 127.9         | 653.3                | 2.44                  | 86                    | 438           | 215    | 75     | 39    |
| DF                |     | Totals   | 53        | 88                  | 71             | 67.830      | 98.16             | 118.60      | 25.9          | 96.5                 | 87.38                 | 3,066                 | 11,439        | 7,690  | 2,698  | 1,007 |
| RA                |     | 10       | 1         | 88                  | 32             | 3.396       | 1.85              | 3.40        | 7.1           | 30.0                 | .66                   | 24                    | 102           | 58     | 21     | 9     |
| RA                |     | 11       | 2         | 86                  | 33             | 5.772       | 3.70              | 5.77        | 8.9           | 34.9                 | 1.42                  | 51                    | 201           | 125    | 45     | 18    |
| RA                |     | 12       | 2         | 87                  | 42             | 4.528       | 3.70              | 4.53        | 14.7          | 44.9                 | 1.83                  | 66                    | 203           | 161    | 59     | 18    |
| RA                |     | 13       | 3         | 86                  | 41             | 5.909       | 5.56              | 5.91        | 15.7          | 46.6                 | 2.56                  | 93                    | 275           | 225    | 82     | 24    |
| RA                |     | 14       | 5         | 86                  | 37             | 8.843       | 9.26              | 8.84        | 16.9          | 49.9                 | 4.12                  | 150                   | 442           | 362    | 132    | 39    |
| RA                |     | 15       | 3         | 87                  | 52             | 4.717       | 5.56              | 4.72        | 24.5          | 56.8                 | 3.18                  | 116                   | 268           | 280    | 102    | 24    |
| RA                |     | 16       | 2         | 86                  | 33             | 2.740       | 3.70              | 2.74        | 21.1          | 55.2                 | 1.59                  | 58                    | 151           | 140    | 51     | 13    |
| RA                |     | 17       | 2         | 83                  | 48             | 2.350       | 3.70              | 2.35        | 33.2          | 55.0                 | 2.14                  | 78                    | 129           | 189    | 69     | 11    |
| RA                |     | Totals   | 20        | 86                  | 39             | 38.255      | 37.04             | 38.26       | 16.6          | 46.3                 | 17.49                 | 636                   | 1,772         | 1,539  | 560    | 156   |
| WH                |     | 12       | 1         | 90                  | 60             | 2.439       | 1.85              | 2.44        | 17.1          | 60.0                 | 1.34                  | 42                    | 146           | 118    | 37     | 13    |
| WH                |     | 14       | 1         | 88                  | 84             | 1.732       | 1.85              | 3.46        | 16.8          | 70.0                 | 1.87                  | 58                    | 243           | 164    | 51     | 21    |
| WH                |     | 18       | 1         | 88                  | 98             | 1.109       | 1.85              | 2.22        | 32.5          | 125.0                | 2.30                  | 72                    | 277           | 203    | 63     | 24    |
| WH                |     | 20       | 1         | 86                  | 91             | .849        | 1.85              | 1.70        | 40.0          | 140.0                | 2.17                  | 68                    | 238           | 191    | 60     | 21    |
| WH                |     | 24       | 1         | 87                  | 95             | .615        | 1.85              | 1.23        | 55.4          | 150.0                | 2.18                  | 68                    | 184           | 192    | 60     | 16    |
| WH                |     | Totals   | 5         | 88                  | 80             | 6.744       | 9.26              | 11.05       | 27.9          | 98.5                 | 9.86                  | 308                   | 1,088         | 867    | 271    | 96    |
| OC                |     | 15       | 1         | 88                  | 72             | 1.509       | 1.85              |             |               |                      |                       |                       |               |        |        |       |
| OC                |     | 34       | 1         | 85                  | 21             | .294        | 1.85              |             |               |                      |                       |                       |               |        |        |       |
| OC                |     | 35       | 1         | 86                  | 36             | .277        | 1.85              |             |               |                      |                       |                       |               |        |        |       |
| OC                |     | Totals   | 3         | 87                  | 60             | 2.080       | 5.56              |             |               |                      |                       |                       |               |        |        |       |
| Totals            |     |          | 81        | 87                  | 61             | 114.908     | 150.01            | 167.90      | 23.9          | 85.2                 | 114.73                | 4010                  | 14,299        | 10,096 | 3,529  | 1,258 |

| TC                |        | TSTNDSUM |           |           |                |             |              |             |               |                      |                       |                       | Stand Table Summary |       |        |     |
|-------------------|--------|----------|-----------|-----------|----------------|-------------|--------------|-------------|---------------|----------------------|-----------------------|-----------------------|---------------------|-------|--------|-----|
| Project           |        |          |           |           |                |             |              |             |               |                      |                       |                       | MFIRE               |       |        |     |
| T02N R09W S15 TA1 |        |          |           |           |                |             |              |             |               | T02N R09W S15 TA1    |                       |                       |                     |       |        |     |
| Twp               | Rge    | Sec      | Tract     | Type      | Acres          | Plots       | Sample Trees | Page:       | 1             |                      |                       |                       |                     |       |        |     |
| 02N               | 09W    | 15       | MIAMIFIRE | A1        | 97.00          | 18          | 111          | Date:       | 02/18/2014    |                      |                       |                       |                     |       |        |     |
|                   |        |          |           |           |                |             |              | Time:       | 9:53:46AM     |                      |                       |                       |                     |       |        |     |
| S<br>Spc          | T      | Sample   |           | Av        | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre | Average Log |               | Net<br>Tons/<br>Acre | Net<br>Cu.Ft.<br>Acre | Net<br>Bd.Ft.<br>Acre | Totals              |       |        |     |
|                   |        | DBH      | Trees     | FF<br>16' |                |             |              | Ht<br>Tot   | Net<br>Cu.Ft. |                      |                       |                       | Net<br>Bd.Ft.       | Tons  | Cunits | MBF |
| DF                |        | 9        | 1         | 90        | 46             | 3.874       | 1.87         | 3.87        | 7.3           | 30.0                 | .80                   | 28                    | 116                 | 78    | 27     | 11  |
| DF                |        | 10       | 4         | 90        | 47             | 14.064      | 7.47         | 14.06       | 9.2           | 34.6                 | 3.68                  | 129                   | 487                 | 357   | 125    | 47  |
| DF                |        | 11       | 5         | 89        | 58             | 14.009      | 9.34         | 16.74       | 11.6          | 38.4                 | 5.51                  | 193                   | 642                 | 535   | 188    | 62  |
| DF                |        | 12       | 3         | 89        | 69             | 7.404       | 5.60         | 12.22       | 10.7          | 42.1                 | 3.71                  | 130                   | 515                 | 360   | 126    | 50  |
| DF                |        | 13       | 2         | 88        | 71             | 4.083       | 3.73         | 8.17        | 11.8          | 42.5                 | 2.74                  | 96                    | 347                 | 266   | 93     | 34  |
| DF                |        | 14       | 2         | 88        | 92             | 3.348       | 3.73         | 6.70        | 18.6          | 75.0                 | 3.54                  | 124                   | 502                 | 344   | 121    | 49  |
| DF                |        | 15       | 3         | 88        | 76             | 4.632       | 5.60         | 7.63        | 19.9          | 73.9                 | 4.33                  | 152                   | 564                 | 420   | 147    | 55  |
| DF                |        | 16       | 6         | 88        | 87             | 8.285       | 11.20        | 16.57       | 22.3          | 87.4                 | 10.51                 | 369                   | 1,449               | 1,020 | 358    | 141 |
| DF                |        | 17       | 4         | 88        | 85             | 4.757       | 7.47         | 9.51        | 24.6          | 93.7                 | 6.68                  | 234                   | 892                 | 648   | 227    | 87  |
| DF                |        | 18       | 3         | 88        | 94             | 3.255       | 5.60         | 6.51        | 30.0          | 113.6                | 5.56                  | 195                   | 739                 | 539   | 189    | 72  |
| DF                |        | 19       | 4         | 88        | 78             | 3.755       | 7.47         | 7.51        | 29.4          | 103.6                | 6.28                  | 220                   | 778                 | 609   | 214    | 75  |
| DF                |        | 20       | 3         | 88        | 95             | 2.638       | 5.60         | 5.28        | 37.1          | 129.7                | 5.57                  | 196                   | 685                 | 541   | 190    | 66  |
| DF                |        | 21       | 2         | 88        | 102            | 1.553       | 3.73         | 3.88        | 35.5          | 134.0                | 3.92                  | 138                   | 520                 | 381   | 134    | 50  |
| DF                |        | 22       | 2         | 88        | 99             | 1.415       | 3.73         | 3.54        | 39.3          | 156.0                | 3.96                  | 139                   | 552                 | 384   | 135    | 54  |
| DF                |        | 23       | 3         | 87        | 100            | 1.920       | 5.60         | 4.49        | 46.1          | 168.3                | 5.90                  | 207                   | 755                 | 572   | 201    | 73  |
| DF                |        | 24       | 1         | 86        | 114            | .580        | 1.87         | 1.74        | 44.0          | 180.0                | 2.18                  | 77                    | 313                 | 212   | 74     | 30  |
| DF                |        | 25       | 1         | 86        | 77             | .557        | 1.87         | 1.11        | 51.0          | 185.0                | 1.62                  | 57                    | 206                 | 157   | 55     | 20  |
| DF                |        | 26       | 1         | 88        | 93             | .506        | 1.87         | 1.01        | 67.0          | 250.0                | 1.93                  | 68                    | 253                 | 188   | 66     | 25  |
| DF                |        | 27       | 2         | 88        | 99             | .939        | 3.73         | 2.35        | 58.7          | 240.0                | 3.93                  | 138                   | 564                 | 381   | 134    | 55  |
| DF                |        | 28       | 3         | 87        | 101            | 1.323       | 5.60         | 3.53        | 60.9          | 251.1                | 6.12                  | 215                   | 886                 | 594   | 208    | 86  |
| DF                |        | 29       | 2         | 87        | 107            | .814        | 3.73         | 2.04        | 71.2          | 298.0                | 4.13                  | 145                   | 607                 | 401   | 141    | 59  |
| DF                | Totals | 57       | 89        | 72        | 83.710         | 106.43      | 138.46       | 23.5        | 89.3          | 92.63                | 3,250                 | 12,371                | 8,985               | 3,153 | 1,200  |     |
| RA                | 10     | 2        | 87        | 26        | 6.847          | 3.73        | 6.85         | 6.4         | 30.0          | 1.20                 | 44                    | 205                   | 117                 | 42    | 20     |     |
| RA                | 11     | 4        | 87        | 38        | 11.169         | 7.47        | 11.17        | 9.9         | 37.6          | 3.03                 | 110                   | 420                   | 294                 | 107   | 41     |     |
| RA                | 12     | 7        | 87        | 41        | 16.866         | 13.07       | 16.87        | 12.5        | 41.6          | 5.81                 | 211                   | 702                   | 564                 | 205   | 68     |     |
| RA                | 13     | 9        | 86        | 37        | 18.190         | 16.80       | 18.19        | 14.6        | 43.2          | 7.32                 | 266                   | 787                   | 710                 | 258   | 76     |     |
| RA                | 14     | 8        | 86        | 45        | 13.965         | 14.94       | 13.96        | 19.6        | 49.9          | 7.52                 | 273                   | 697                   | 729                 | 265   | 68     |     |
| RA                | 15     | 7        | 87        | 54        | 10.906         | 13.07       | 10.91        | 26.5        | 68.5          | 7.94                 | 289                   | 747                   | 770                 | 280   | 72     |     |
| RA                | 16     | 2        | 86        | 50        | 2.642          | 3.73        | 2.64         | 30.8        | 65.1          | 2.24                 | 81                    | 172                   | 217                 | 79    | 17     |     |
| RA                | 17     | 2        | 86        | 54        | 2.442          | 3.73        | 3.70         | 21.7        | 60.0          | 2.21                 | 80                    | 222                   | 214                 | 78    | 22     |     |
| RA                | 18     | 1        | 85        | 46        | 1.057          | 1.87        | 1.06         | 33.2        | 50.0          | .96                  | 35                    | 53                    | 94                  | 34    | 5      |     |
| RA                | 19     | 2        | 86        | 43        | 1.949          | 3.73        | 1.95         | 35.5        | 49.7          | 1.90                 | 69                    | 97                    | 185                 | 67    | 9      |     |
| RA                | Totals | 44       | 87        | 42        | 86.032         | 82.16       | 87.29        | 16.7        | 47.0          | 40.13                | 1,459                 | 4,101                 | 3,892               | 1,415 | 398    |     |
| WH                | 19     | 1        | 87        | 91        | .938           | 1.87        | 1.88         | 35.4        | 125.0         | 2.13                 | 66                    | 235                   | 206                 | 64    | 23     |     |
| WH                | 20     | 3        | 88        | 98        | 2.638          | 5.60        | 5.28         | 40.2        | 148.3         | 6.79                 | 212                   | 782                   | 659                 | 206   | 76     |     |
| WH                | Totals | 4        | 88        | 96        | 3.577          | 7.47        | 7.15         | 39.0        | 142.2         | 8.92                 | 279                   | 1,017                 | 865                 | 270   | 99     |     |
| SS                | 10     | 1        | 87        | 31        | 3.165          | 1.87        | 3.17         | 8.2         | 30.0          | .67                  | 26                    | 95                    | 65                  | 25    | 9      |     |
| SS                | 23     | 1        | 85        | 56        | .647           | 1.87        | 1.29         | 34.7        | 105.0         | 1.17                 | 45                    | 136                   | 113                 | 44    | 13     |     |
| SS                | Totals | 2        | 87        | 35        | 3.812          | 3.73        | 4.46         | 15.9        | 51.8          | 1.84                 | 71                    | 231                   | 178                 | 69    | 22     |     |
| OC                | 11     | 1        | 89        | 30        | 2.829          | 1.87        |              |             |               |                      |                       |                       |                     |       |        |     |
| OC                | 17     | 1        | 87        | 21        | 1.185          | 1.87        | 1.18         | 15.7        | 30.0          | .47                  | 19                    | 36                    | 45                  | 18    | 3      |     |
| OC                | 18     | 1        | 86        | 34        | 1.081          | 1.87        |              |             |               |                      |                       |                       |                     |       |        |     |
| OC                | 21     | 1        | 88        | 20        | .776           | 1.87        |              |             |               |                      |                       |                       |                     |       |        |     |
| OC                | Totals | 4        | 88        | 28        | 5.871          | 7.47        | 1.18         | 15.7        | 30.0          | 0.47                 | 19                    | 36                    | 45                  | 18    | 3      |     |
| Totals            |        | 111      | 88        | 56        | 183.002        | 207.26      | 238.54       | 21.3        | 74.4          | 143.98               | 5077                  | 17,756                | 13,966              | 4,925 | 1,722  |     |

| TC                |        | TLOGSTVB |           | Log Stock Table - MBF |           |       |              |                   | Project: MFIRE                           |     |     |     |       |       |       |       |       |
|-------------------|--------|----------|-----------|-----------------------|-----------|-------|--------------|-------------------|--|-----|-----|-----|-------|-------|-------|-------|-------|
| T02N R09W S11 TA2 |        |          |           |                       |           |       |              | T02N R09W S11 TA2 |  |     |     |     |       |       |       |       |       |
| Twp               | Rge    | Sec      | Tract     | Type                  | Acres     | Plots | Sample Trees | Page              | 1  |     |     |     |       |       |       |       |       |
| 02N               | 09W    | 11       | MIAMIFIRE | A2                    | 88.00     | 15    | 81           | Date              | 2/18/2014                                |     |     |     |       |       |       |       |       |
|                   |        |          |           |                       |           |       |              | Time              | 9:52:55AM                                |     |     |     |       |       |       |       |       |
| Spp               | T      | So       | Gr        | Log                   | Gross MBF | % Def | Net MBF      | % Spc             | Net Volume by Scaling Diameter in Inches |     |     |     |       |       |       |       |       |
|                   |        |          |           |                       |           |       |              |                   | 2-3                                      | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 |
| DF                | CO     | 2        | 26        | 8                     | 5.0       | 7     | .8           |                   |  |     |     |     | 7     |       |       |       |       |
| DF                | CO     | 2        | 40        | 501                   | 7.7       | 462   | 48.3         |                   |  |     |     | 197 | 91    | 63    | 85    | 26    |       |
| DF                | CO     | 3        | 30        | 1                     | 5.0       | 1     | .1           |                   |  |     | 1   |     |       |       |       |       |       |
| DF                | CO     | 3        | 32        | 13                    | 58.4      | 6     | .6           |                   |  |     |     | 6   |       |       |       |       |       |
| DF                | CO     | 3        | 36        | 28                    | 10.3      | 25    | 2.6          |                   |  |     | 20  | 5   |       |       |       |       |       |
| DF                | CO     | 3        | 38        | 10                    | 5.0       | 10    | 1.0          |                   |  |     | 5   | 4   |       |       |       |       |       |
| DF                | CO     | 3        | 40        | 336                   | 5.9       | 316   | 33.1         |                   |  |     | 57  | 116 | 143   |       |       |       |       |
| DF                | CO     | 4        | 12        | 6                     | 5.0       | 6     | .6           |                   | 6  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 14        | 3                     | 5.0       | 3     | .3           |                   | 3  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 16        | 2                     | 52.5      | 1     | .1           |                   | 1  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 18        | 7                     | 5.0       | 7     | .7           |                   |  | 7   |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 20        | 14                    | 5.0       | 14    | 1.4          |                   | 9  | 1   | 4   |     |       |       |       |       |       |
| DF                | CO     | 4        | 22        | 4                     | 5.0       | 3     | .4           |                   | 3  | 1   |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 24        | 19                    | 5.0       | 18    | 1.9          |                   | 12                                       | 6   |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 26        | 17                    | 5.0       | 16    | 1.7          |                   | 16                                       |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 28        | 14                    | 5.0       | 13    | 1.4          |                   | 11                                       | 3   |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 30        | 11                    | 5.0       | 10    | 1.1          |                   | 10                                       |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 31        | 3                     | 5.0       | 3     | .3           |                   | 3  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 32        | 3                     | 5.0       | 3     | .3           |                   | 3  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 34        | 6                     | 28.8      | 4     | .4           |                   | 4  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 36        | 5                     | 5.0       | 5     | .5           |                   | 5  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 38        | 6                     | 5.0       | 6     | .6           |                   | 6  |     |     |     |       |       |       |       |       |
| DF                | CO     | 4        | 40        | 14                    | 5.0       | 13    | 1.4          |                   | 13                                       |     |     |     |       |       |       |       |       |
| DF                | CO     | UT       | 22        | 2                     | 5.0       | 2     | .2           |                   | 2  |     |     |     |       |       |       |       |       |
| DF                | CO     | UT       | 26        | 2                     | 5.0       | 2     | .2           |                   | 2  |     |     |     |       |       |       |       |       |
| DF                | CO     | UT       | 30        | 1                     | 5.0       | 1     | .1           |                   |  | 1   |     |     |       |       |       |       |       |
| DF                | Totals |          |           | 1,036                 | 7.7       | 957   | 80.5         |                   | 108                                      | 81  | 146 | 147 | 203   | 98    | 63    | 85    | 26    |
| RA                | CO     | 4        | 38        | 7                     | 22.9      | 6     | 4.0          |                   |  | 6   |     |     |       |       |       |       |       |
| RA                | H      | 3        | 14        | 8                     | 10.0      | 7     | 4.9          |                   |  |     |     | 7   |       |       |       |       |       |
| RA                | H      | 3        | 16        | 8                     | 35.7      | 5     | 3.7          |                   |  |     |     | 5   |       |       |       |       |       |
| RA                | H      | 4        | 20        | 17                    | 10.0      | 15    | 10.8         |                   |  | 15  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 24        | 18                    | 10.0      | 16    | 11.6         |                   |  | 16  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 26        | 7                     | 10.0      | 6     | 4.5          |                   |  | 6   |     |     |       |       |       |       |       |
| RA                | H      | 4        | 28        | 16                    | 18.8      | 13    | 9.3          |                   |  | 13  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 30        | 17                    | 10.0      | 15    | 11.0         |                   |  | 15  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 32        | 21                    | 25.0      | 16    | 11.1         |                   |  | 16  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 34        | 31                    | 16.9      | 26    | 18.2         |                   |  | 26  |     |     |       |       |       |       |       |
| RA                | H      | 4        | 38        | 20                    | 22.9      | 15    | 10.9         |                   |  | 15  |     |     |       |       |       |       |       |
| RA                | Totals |          |           | 169                   | 17.2      | 140   | 11.8         |                   |  | 128 |     | 12  |       |       |       |       |       |
| WH                | CO     | 2        | 40        | 57                    | 18.7      | 46    | 50.9         |                   |  |     |     | 34  | 12    |       |       |       |       |
| WH                | CO     | 3        | 32        | 4                     | 5.0       | 4     | 3.9          |                   |  | 4   |     |     |       |       |       |       |       |
| WH                | CO     | 3        | 36        | 6                     | 5.0       | 6     | 6.1          |                   |  | 6   |     |     |       |       |       |       |       |
| WH                | CO     | 3        | 40        | 34                    | 5.0       | 33    | 35.9         |                   |  | 15  | 17  |     |       |       |       |       |       |
| WH                | CO     | 4        | 20        | 3                     | 5.0       | 3     | 3.2          |                   |  | 3   |     |     |       |       |       |       |       |
| WH                | Totals |          |           | 104                   | 12.5      | 91    | 7.7          |                   |  | 27  | 17  |     | 34    | 12    |       |       |       |
| Total All Species |        |          |           | 1,310                 | 9.3       | 1,188 | 100.0        |                   | 108                                      | 237 | 163 | 159 | 237   | 111   | 63    | 85    | 26    |

| TC                |        | TLOGSTVB |           | Log Stock Table - MBF |       |       |              |                   | Project: MFIRE                           |     |     |     |     |     |     |     |       |       |       |       |
|-------------------|--------|----------|-----------|-----------------------|-------|-------|--------------|-------------------|--|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| T02N R09W S15 TA1 |        |          |           |                       |       |       |              | T02N R09W S15 TA1 |  |     |     |     |     |     |     |     |       |       |       |       |
| Twp               | Rge    | Sec      | Tract     | Type                  | Acres | Plots | Sample Trees | Page              | 1  |     |     |     |     |     |     |     |       |       |       |       |
| 02N               | 09W    | 15       | MIAMIFIRE | A1                    | 97.00 | 18    | 111          | Date              | 2/18/2014                                |     |     |     |     |     |     |     |       |       |       |       |
|                   |        |          |           |                       |       |       |              | Time              | 9:52:55AM                                |     |     |     |     |     |     |     |       |       |       |       |
| Spp               | T      | So       | Gr        | Log                   | Gross | %     | Net          | %                 | Net Volume by Scaling Diameter in Inches |     |     |     |     |     |     |     |       |       |       |       |
|                   |        |          |           |                       |       |       |              |                   | MBF                                      | Def | MBF | Spc | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 |
| DF                | CO     | 2        | 20        |                       | 11    | 5.0   | 10           | .9                |  |     |     |     |     | 10  |     |     |       |       |       |       |
| DF                | CO     | 2        | 38        |                       | 36    | 5.0   | 34           | 3.0               |  |     |     |     |     | 17  | 17  |     |       |       |       |       |
| DF                | CO     | 2        | 40        |                       | 472   | 6.5   | 442          | 38.7              |  |     |     |     |     | 124 | 120 | 198 |       |       |       |       |
| DF                | CO     | 3        | 30        |                       | 6     | 5.0   | 6            | .5                |  |     |     |     |     | 6   |     |     |       |       |       |       |
| DF                | CO     | 3        | 34        |                       | 14    | 5.0   | 13           | 1.1               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 3        | 36        |                       | 42    | 5.0   | 40           | 3.5               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 3        | 40        |                       | 408   | 5.0   | 387          | 34.0              |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 12        |                       | 4     | 5.0   | 4            | .3                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 14        |                       | 9     | 14.3  | 8            | .7                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 16        |                       | 6     | 5.0   | 6            | .5                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 18        |                       | 1     | 5.0   | 1            | .1                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 19        |                       | 3     | 5.0   | 3            | .2                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 20        |                       | 7     | 5.0   | 7            | .6                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 22        |                       | 3     | 5.0   | 3            | .3                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 24        |                       | 3     | 5.0   | 3            | .3                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 26        |                       | 20    | 5.0   | 19           | 1.7               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 28        |                       | 11    | 5.0   | 11           | .9                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 30        |                       | 22    | 5.0   | 21           | 1.9               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 32        |                       | 3     | 5.0   | 3            | .3                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 34        |                       | 32    | 5.0   | 30           | 2.7               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 36        |                       | 39    | 5.0   | 38           | 3.3               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 38        |                       | 25    | 5.0   | 24           | 2.1               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | 4        | 40        |                       | 27    | 5.0   | 26           | 2.3               |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | CO     | UT       | 18        |                       | 1     | 5.0   | 1            | .1                |  |     |     |     |     |     |     |     |       |       |       |       |
| DF                | Totals |          |           |                       | 1,208 | 5.7   | 1,140        | 70.5              |  |     |     |     |     | 200 | 103 | 128 | 223   | 151   | 137   | 198   |
| RA                | H      | 3        | 30        |                       | 13    | 18.2  | 11           | 3.1               |  |     |     |     |     | 11  |     |     |       |       |       |       |
| RA                | H      | 4        | 12        |                       | 2     | 10.0  | 2            | .6                |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 18        |                       | 35    | 10.0  | 32           | 8.9               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 22        |                       | 11    | 10.0  | 10           | 2.8               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 24        |                       | 36    | 22.1  | 28           | 7.8               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 26        |                       | 59    | 10.0  | 53           | 14.9              |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 28        |                       | 47    | 16.6  | 39           | 10.9              |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 30        |                       | 31    | 15.2  | 27           | 7.4               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 32        |                       | 27    | 22.0  | 21           | 5.9               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 34        |                       | 42    | 13.6  | 36           | 10.1              |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 36        |                       | 26    | 13.6  | 22           | 6.2               |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 38        |                       | 47    | 19.8  | 38           | 10.5              |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | H      | 4        | 40        |                       | 43    | 10.0  | 39           | 10.8              |  |     |     |     |     |     |     |     |       |       |       |       |
| RA                | Totals |          |           |                       | 421   | 14.9  | 358          | 22.2              |  |     |     |     |     | 335 | 12  | 11  |       |       |       |       |
| OC                | H      | 4        | 18        |                       | 3     |       | 3            | 100.0             |  |     |     |     |     |     |     |     |       |       |       |       |
| OC                | Totals |          |           |                       | 3     |       | 3            | .2                |  |     |     |     |     |     |     |     |       |       |       |       |
| WH                | CO     | 2        | 40        |                       | 80    | 6.0   | 75           | 79.8              |  |     |     |     |     | 75  |     |     |       |       |       |       |
| WH                | CO     | 3        | 32        |                       | 5     | 5.0   | 4            | 4.6               |  |     |     |     |     |     |     |     |       |       |       |       |
| WH                | CO     | 3        | 36        |                       | 5     | 5.0   | 5            | 5.0               |  |     |     |     |     |     |     |     |       |       |       |       |
| WH                | CO     | 3        | 38        |                       | 5     | 5.0   | 5            | 5.2               |  |     |     |     |     |     |     |     |       |       |       |       |
| WH                | CO     | 3        | 40        |                       | 5     | 5.0   | 5            | 5.3               |  |     |     |     |     |     |     |     |       |       |       |       |
| WH                | Totals |          |           |                       | 100   | 5.8   | 94           | 5.8               |  |     |     |     |     | 19  |     | 75  |       |       |       |       |



TC TLOGSTVB

**Log Stock Table - MBF**

**Project: MFIRE**

**T02N R09W S15 TA1**

**T02N R09W S15 TA1**

**Twp Rge Sec Tract Type Acres Plots Sample Trees**  
**02N 09W 15 MIAMIFIRE A1 97.00 18 111**

**Page 2**  
**Date 2/18/2014**  
**Time 9:52:55AM**

| Spp               | T | S      | So | Gr | Log | Gross | %    | Net   | %     | Net Volume by Scaling Diameter in Inches |     |     |     |     |     |     |     |       |
|-------------------|---|--------|----|----|-----|-------|------|-------|-------|--|-----|-----|-----|-----|-----|-----|-----|-------|
|                   |   |        |    |    |     |       |      |       |       | MBF                                      | Def | MBF | Sp  | 2-3 | 4-5 | 6-7 | 8-9 | 10-11 |
| SS                |   | CO     | 2  | 30 |     | 13    | 14.0 | 11    | 53.3  |  |     |     |     | 11  |     |     |     |       |
| SS                |   | CO     | 4  | 16 |     | 1     | 5.0  | 1     | 5.6   |  |     | 1   |     |     |     |     |     |       |
| SS                |   | CO     | 4  | 22 |     | 9     | 5.0  | 9     | 41.1  |  |     | 9   |     |     |     |     |     |       |
| SS                |   | Totals |    |    |     | 24    | 10.0 | 21    | 1.3   |  |     | 10  |     | 11  |     |     |     |       |
| Total All Species |   |        |    |    |     | 1,756 | 7.9  | 1,616 | 100.0 |  | 200 | 467 | 143 | 234 | 226 | 148 | 198 |       |



STEWARDSHIP IN FORESTRY

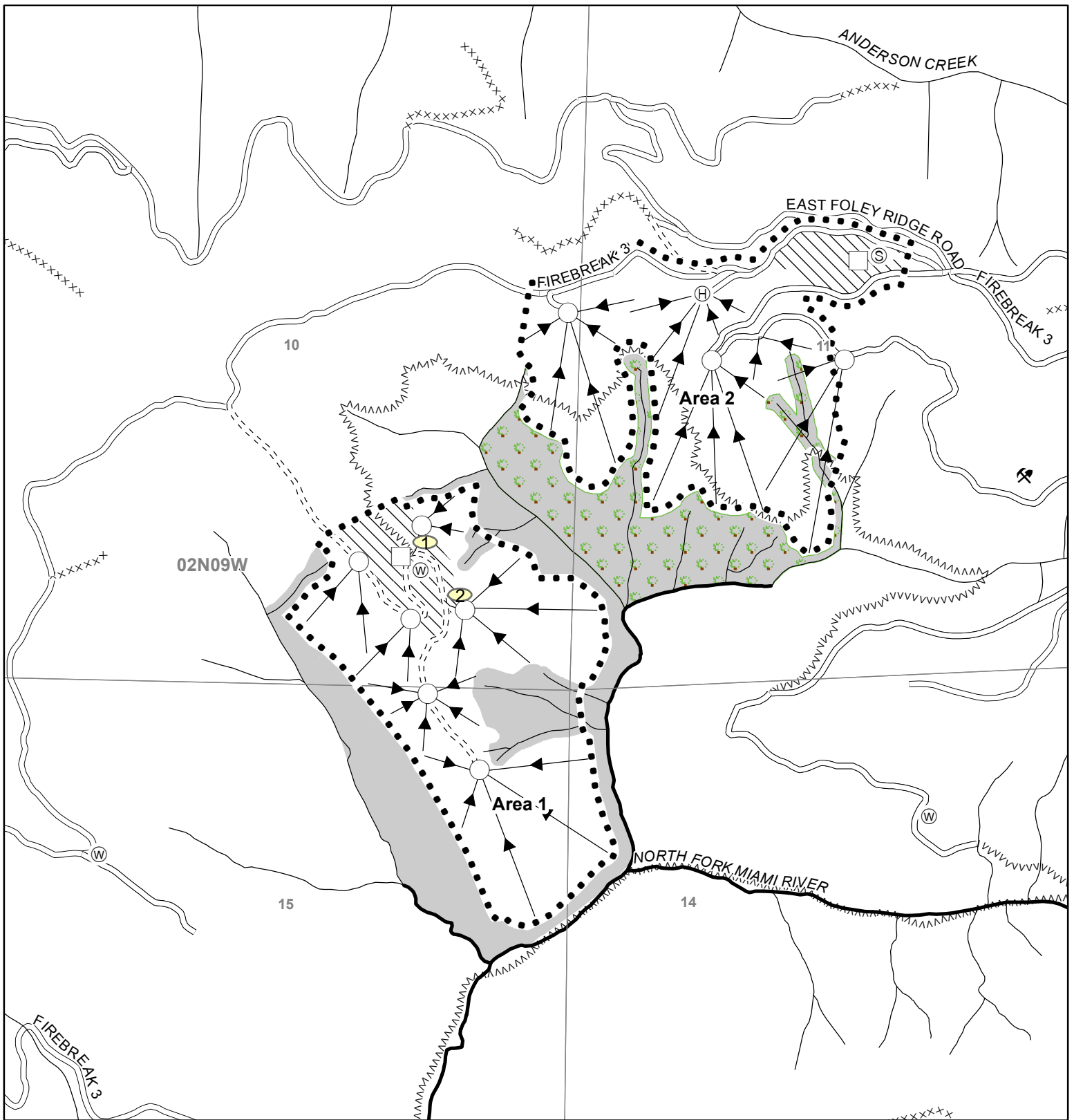
**Miami Fire**

**Volume Summary**

| <b>Area 1-Modified Clear Cut</b> |             |             |        |             |
|----------------------------------|-------------|-------------|--------|-------------|
| 97 acres                         |             |             |        |             |
| SPECIES                          | Cruised Net | Cruised Net | Hidden | Net Sale    |
|                                  | MBF/ Acre   | MBF         | D&B    | MBF         |
| Douglas-fir                      | 12.4        | 1200        | 5%     | 1140        |
| Hemlock                          | 1.0         | 99          | 5%     | 94          |
| Spruce                           | 0.2         | 22          | 5%     | 21          |
| Noble Fir                        |             | 0           | 5%     | 0           |
| Alder                            | 4.1         | 398         | 10%    | 358         |
| <b>TOTAL</b>                     | <b>17.7</b> | <b>1719</b> |        | <b>1613</b> |

| <b>Area 2-Modified Clear Cut</b> |             |             |        |             |
|----------------------------------|-------------|-------------|--------|-------------|
| 88 acres                         |             |             |        |             |
| SPECIES                          | Cruised Net | Cruised Net | Hidden | Net Sale    |
|                                  | MBF/ Acre   | MBF         | D&B    | MBF         |
| Douglas-fir                      | 11.4        | 1007        | 5%     | 956         |
| Hemlock                          | 1.1         | 96          | 5%     | 91          |
| Spruce                           |             | 0           | 5%     | 0           |
| Noble Fir                        |             | 0           | 5%     | 0           |
| Alder                            | 1.8         | 156         | 10%    | 140         |
| <b>TOTAL</b>                     | <b>14.3</b> | <b>1258</b> |        | <b>1188</b> |

| <b>TOTAL SALE VOLUME</b> |                   |                |
|--------------------------|-------------------|----------------|
|                          | 185 acres         |                |
| SPECIES                  | Cruised Net (MBF) | Net Sale (MBF) |
| Douglas-fir              | 2207              | 2096           |
| Hemlock                  | 194               | 185            |
| Spruce                   | 22                | 21             |
| Alder                    | 554               | 498            |
| <b>TOTAL</b>             | <b>2977</b>       | <b>2801</b>    |



- Rock source
- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site
- Landing
- Buffer
- Buffer & Snag Creation Area
- Cable yarding
- Ground yarding
- Helicopter yarding
- Downhill yarding
- Green tree retention area
- Restricted area
- Area boundary
- Sale boundary
- Ownership boundary
- Cable yarding
- Tractor Landing
- Yarder Landing
- Perennial Type-F stream
- Perennial Type-N stream
- Unsurfaced road
- Surfaced road
- Paved road
- Abandoned road
- Swing road
- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad

**LOGGING PLAN**  
 Timber Sale Contract No. 341-14-084  
**MIAMI FIRE**  
 Portions of Sections 10, 11, 14, & 15  
 T2N, R9W, W.M.,  
 Tillamook County, Oregon

1,000                      0                      1,000 Feet



| Area  | Type of Operation | Acres      |
|-------|-------------------|------------|
|       |                   | Gross Net  |
| 1     | Modified Clearcut | 152    97  |
| 2     | Modified Clearcut | 131    88  |
| Total |                   | 283    185 |



Tillamook District GIS  
 2/27/2014  
 This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.