



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Ingersoll PC  
Sale FG-341-2022-W00482-01

District: Forest Grove

Date: July 28, 2021

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**Cost Summary**

|                         | Conifer      | Hardwood          | Total        |
|-------------------------|--------------|-------------------|--------------|
| Gross Timber Sale Value | \$353,920.96 | \$0.00            | \$353,920.96 |
|                         |              | Project Work:     | \$0.00       |
|                         |              | Advertised Value: | \$353,920.96 |



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**Timber Description**

Location:

Stand Stocking: 20%

| Specie Name   | AvgDBH | Amortization (%) | Recovery (%) |
|---------------|--------|------------------|--------------|
| Douglas - Fir | 15     | 0                | 98           |

| Volume by Grade | 2S | 3S & 4S 6"-11" | Total |
|-----------------|----|----------------|-------|
| Douglas - Fir   | 73 | 639            | 712   |
| Total           | 73 | 639            | 712   |

**Comments:** Pond Values Used: Local Pond Values, June 2021.

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:

\$443.95/MBF = \$722/MBF - \$278.05

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

\$875.95/MBF = \$1,054/MBF - \$278.05/MBF

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:

\$329.95/MBF = \$608/MBF - \$278.05/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$950 daily truck cost.

Other Costs (with Profit & Risk to be added): None

Other Costs (No Profit & Risk added):

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

10 hours x \$150/hour = \$1,500

Machine Time to Pile Landing Slash and Sort Firewood:

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

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

TOTAL Other Costs (No Profit & Risk added) = \$7,500

ROAD MAINTENANCE

(Includes: Move-in, Grading, Rolling and Spot Rocking)

Move-in = \$1,893.88

General Road Maintenance: 1.80 X \$2,241.91 = \$4,035.43

TOTAL Road Maintenance: \$5,929.31 / 712 MBF = \$8.32/MBF



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### Logging Conditions

|                                                                     |               |                                 |
|---------------------------------------------------------------------|---------------|---------------------------------|
| <b>Combination#:</b> 1                                              | Douglas - Fir | 100.00%                         |
| <b>Logging System:</b> Shovel                                       |               | <b>Process:</b> Stroke Delimber |
| <b>yarding distance:</b> Short (400 ft)                             |               | <b>downhill yarding:</b> No     |
| <b>tree size:</b> Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF |               |                                 |
| <b>loads / day:</b> 6                                               |               | <b>bd. ft / load:</b> 4100      |
| <b>cost / mbf:</b> \$128.94                                         |               |                                 |
| <b>machines:</b> Stroke Delimber (B)                                |               |                                 |

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### Logging Costs

|                         |                           |
|-------------------------|---------------------------|
| Operating Seasons: 1.00 | Profit Risk: 15%          |
| Project Costs: \$0.00   | Other Costs (P/R): \$0.00 |
| Slash Disposal: \$0.00  | Other Costs: \$7,500.00   |

Miles of Road

Road Maintenance: \$8.32

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

Hauling Costs

| Species       | \$ / MBF | Trips/Day | MBF / Load |
|---------------|----------|-----------|------------|
| Douglas - Fir | \$0.00   | 3.0       | 3.7        |



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### Logging Costs Breakdown

| Logging       | Road Maint | Fire Protect | Hauling | Other P/R appl | Profit & Risk | Slash Disposal | Brand & Paint | Other   | Total    |
|---------------|------------|--------------|---------|----------------|---------------|----------------|---------------|---------|----------|
| Douglas - Fir |            |              |         |                |               |                |               |         |          |
| \$128.94      | \$8.49     | \$6.16       | \$87.30 | \$0.00         | \$34.63       | \$0.00         | \$2.00        | \$10.53 | \$278.05 |

| Specie        | Amortization | Pond Value | Stumpage | Amortized |
|---------------|--------------|------------|----------|-----------|
| Douglas - Fir | \$0.00       | \$775.13   | \$497.08 | \$0.00    |



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**Summary**

**Amortized**

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

**Unamortized**

| Specie        | MBF | Value    | Total        |
|---------------|-----|----------|--------------|
| Douglas - Fir | 712 | \$497.08 | \$353,920.96 |

**Gross Timber Sale Value**

**Recovery:** \$353,920.96

**Prepared By:** Kenton Burns

**Phone:** 503-359-7477

**CRUISE REPORT**  
**Ingersoll PC**  
**#FG-341-2022-W00482-01**

**1. LOCATION:** Portions of Section 28, T3N, R5W, W.M., Washington County, Oregon.

**2. CRUISE DESIGN:** Pre-cruise evaluation indicated that the stand's average DBH is approximately 13 inches with a Coefficient of Variation of about 50%. For sales of this size and approximate value, ODF cruise standards require a Sampling Error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. Statistical analysis indicated that 30 variable radius plots utilizing a 20 BAF prism would produce an adequate sample size.

**3. SAMPLING METHOD:** The Timber Sale Area was cruised in July 2021. The Timber Sale Area was sampled with 30 variable radius plots laid out on a 5-chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Cruisers chose 'take' trees as though thinning from below to 130 ft<sup>2</sup> of basal area.

**4. CRUISE RESULTS:** Trees were measured and graded producing a cumulative Sampling Error of 3.6% on the Basal Area and 4.3% on the Board Foot Volume.

**5. TREE MEASUREMENT AND GRADING:** All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40-foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a six-inch top.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

**6. DATA PROCESSING**

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics, were derived from Super Ace 2008 cruise software.
- b) **Deductions:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

**7. CRUISERS:** The sale was cruised by ODF cruiser Kenton Burns.

Prepared by: \_\_\_\_\_  
Name Date

Reviewed by: \_\_\_\_\_  
Name Date



| TC PSTATS                                                        |      |       |       | PROJECT STATISTICS |        |           |        |         | PAGE            | 1         |           |
|------------------------------------------------------------------|------|-------|-------|--------------------|--------|-----------|--------|---------|-----------------|-----------|-----------|
|                                                                  |      |       |       | PROJECT            |        | INGERPC   |        |         | DATE            | 7/23/2021 |           |
| TWP                                                              | RGE  | SC    | TRACT | TYPE               |        | ACRES     |        | PLOTS   | TREES           | CuFt      | BdFt      |
| 03N                                                              | 05   | 29    | 28    | 00PC               |        | 99.00     |        | 30      | 295             | S         | W         |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
|                                                                  |      |       |       | TREES              |        | ESTIMATED |        | PERCENT |                 |           |           |
|                                                                  |      |       |       | PER PLOT           |        | TOTAL     |        | SAMPLE  |                 |           |           |
|                                                                  |      |       |       | PLOTS              | TREES  | TREES     |        | TREES   |                 |           |           |
| TOTAL                                                            |      |       | 30    | 295                | 9.8    |           |        |         |                 |           |           |
| CRUISE                                                           |      |       | 30    | 295                | 9.8    |           | 20,181 |         | 1.5             |           |           |
| DBH COUNT                                                        |      |       |       |                    |        |           |        |         |                 |           |           |
| REFOREST                                                         |      |       |       |                    |        |           |        |         |                 |           |           |
| COUNT                                                            |      |       |       |                    |        |           |        |         |                 |           |           |
| BLANKS                                                           |      |       |       |                    |        |           |        |         |                 |           |           |
| 100 %                                                            |      |       |       |                    |        |           |        |         |                 |           |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| STAND SUMMARY                                                    |      |       |       |                    |        |           |        |         |                 |           |           |
| SAMPLE                                                           |      |       | TREES | AVG                | BOLE   | REL       | BASAL  | GROSS   | NET             | GROSS     | NET       |
| TREES                                                            |      |       | /ACRE | DBH                | LEN    | DEN       | AREA   | BF/AC   | BF/AC           | CF/AC     | CF/AC     |
| DOUG FIR-L                                                       |      |       | 195   | 139.4              | 13.1   | 83        | 35.9   | 130.0   | 15,801          | 15,801    | 3,724     |
| DOUG FIR-S                                                       |      |       | 15    | 16.2               | 10.6   | 59        | 3.1    | 10.0    |                 |           | 3,724     |
| DOUG FIR-T                                                       |      |       | 85    | 48.3               | 14.7   | 92        | 14.8   | 56.7    | 7,338           | 7,328     | 1,819     |
| TOTAL                                                            |      |       | 295   | 203.8              | 13.3   | 83        | 53.9   | 196.7   | 23,139          | 23,129    | 5,543     |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CONFIDENCE LIMITS OF THE SAMPLE                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| 68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR |      |       |       |                    |        |           |        |         |                 |           |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | SAMPLE TREES - BF  |        |           |        |         | # OF TREES REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 59.5  | 4.3                | 138    | 144       | 150    |         |                 |           |           |
| DOUG FIR-S                                                       |      |       |       |                    |        |           |        |         |                 |           |           |
| DOUG FIR-T                                                       |      |       | 37.6  | 4.1                | 162    | 169       | 175    |         |                 |           |           |
| TOTAL                                                            |      |       | 59.2  | 3.4                | 139    | 144       | 149    | 140     | 35              | 16        |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | SAMPLE TREES - CF  |        |           |        |         | # OF TREES REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 59.0  | 4.2                | 33     | 34        | 36     |         |                 |           |           |
| DOUG FIR-S                                                       |      |       |       |                    |        |           |        |         |                 |           |           |
| DOUG FIR-T                                                       |      |       | 38.1  | 4.1                | 40     | 42        | 44     |         |                 |           |           |
| TOTAL                                                            |      |       | 58.9  | 3.4                | 34     | 35        | 36     | 139     | 35              | 15        |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | TREES/ACRE         |        |           |        |         | # OF PLOTS REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 21.5  | 4.0                | 134    | 139       | 145    |         |                 |           |           |
| DOUG FIR-S                                                       |      |       | 171.5 | 31.8               | 11     | 16        | 21     |         |                 |           |           |
| DOUG FIR-T                                                       |      |       | 63.7  | 11.8               | 43     | 48        | 54     |         |                 |           |           |
| TOTAL                                                            |      |       | 30.3  | 5.6                | 192    | 204       | 215    | 38      | 9               | 4         |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | BASAL AREA/ACRE    |        |           |        |         | # OF PLOTS REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 7.8   | 1.5                | 128    | 130       | 132    |         |                 |           |           |
| DOUG FIR-S                                                       |      |       | 146.2 | 27.1               | 7      | 10        | 13     |         |                 |           |           |
| DOUG FIR-T                                                       |      |       | 62.2  | 11.6               | 50     | 57        | 63     |         |                 |           |           |
| TOTAL                                                            |      |       | 19.5  | 3.6                | 190    | 197       | 204    | 16      | 4               | 2         |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | NET BF/ACRE        |        |           |        |         | # OF PLOTS REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 12.2  | 2.3                | 15,444 | 15,801    | 16,158 |         |                 |           |           |
| DOUG FIR-S                                                       |      |       |       |                    |        |           |        |         |                 |           |           |
| DOUG FIR-T                                                       |      |       | 65.2  | 12.1               | 6,441  | 7,328     | 8,216  |         |                 |           |           |
| TOTAL                                                            |      |       | 22.9  | 4.3                | 22,145 | 23,129    | 24,114 | 22      | 5               | 2         |           |
|                                                                  |      |       |       |                    |        |           |        |         |                 |           |           |
| CL                                                               | 68.1 | COEFF |       | NET CUFT FT/ACRE   |        |           |        |         | # OF PLOTS REQ. |           | INF. POP. |
| SD:                                                              | 1.0  | VAR.% | S.E.% | LOW                | AVG    | HIGH      |        |         | 5               | 10        | 15        |
| DOUG FIR-L                                                       |      |       | 10.6  | 2.0                | 3,651  | 3,724     | 3,797  |         |                 |           |           |
| DOUG FIR-S                                                       |      |       |       |                    |        |           |        |         |                 |           |           |

|              |            |           |              |                                  |                         |       |              |                        |             |                  |
|--------------|------------|-----------|--------------|----------------------------------|-------------------------|-------|--------------|------------------------|-------------|------------------|
| TC PSTATS    |            |           |              | <b><u>PROJECT STATISTICS</u></b> |                         |       |              | PAGE                   | <b>2</b>    |                  |
|              |            |           |              | PROJECT INGERPC                  |                         |       |              | DATE                   | 7/23/2021   |                  |
| <b>TWP</b>   | <b>RGE</b> | <b>SC</b> | <b>TRACT</b> | <b>TYPE</b>                      | <b>ACRES</b>            |       | <b>PLOTS</b> | <b>TREES</b>           | <b>CuFt</b> | <b>BdFt</b>      |
| 03N          | 05         | 29        | 28           | 00PC                             | 99.00                   |       | 30           | 295                    | S           | W                |
| CL           | 68.1       |           | COEFF        |                                  | <b>NET CUFT FT/ACRE</b> |       |              | <b># OF PLOTS REQ.</b> |             | <b>INF. POP.</b> |
| SD:          | 1.00       |           | VAR.         | S.E.%                            | LOW                     | AVG   | HIGH         | 5                      | 10          | 15               |
| DOUG FIR-T   |            |           | 64.0         | 11.9                             | 1,603                   | 1,819 | 2,035        |                        |             |                  |
| <b>TOTAL</b> |            |           | 22.6         | 4.2                              | 5,311                   | 5,543 | 5,775        | 21                     | 5           | 2                |

| TC                                   |        | PSPCSTGR |     | Species, Sort Grade - Board Foot Volumes (Project) |        |        |        |                                  |      |       |     |            |       |       |       |                |     |      |       |       |     |
|--------------------------------------|--------|----------|-----|----------------------------------------------------|--------|--------|--------|----------------------------------|------|-------|-----|------------|-------|-------|-------|----------------|-----|------|-------|-------|-----|
| <div>T03N R05W S29 Ty00PC99.00</div> |        |          |     | Project: INGERPC                                   |        |        |        |                                  |      |       |     |            |       |       |       | Page 1         |     |      |       |       |     |
|                                      |        |          |     | Acres 99.00                                        |        |        |        |                                  |      |       |     |            |       |       |       | Date 7/23/2021 |     |      |       |       |     |
|                                      |        |          |     |                                                    |        |        |        |                                  |      |       |     |            |       |       |       | Time 3:04:13PM |     |      |       |       |     |
| S So Gr                              |        |          | %   | Bd. Ft. per Acre                                   |        |        | Total  | Percent of Net Board Foot Volume |      |       |     |            |       |       |       | Average Log    |     |      |       | Logs  |     |
| Spp                                  | T      | rt ad    | Net | Def%                                               | Gross  | Net    |        | Log Scale Dia.                   |      |       |     | Log Length |       |       |       | Ln             | Dia | Bd   | CF/   |       | Per |
|                                      |        |          |     |                                                    |        |        |        | 4-5                              | 6-11 | 12-16 | 17+ | 12-20      | 21-30 | 31-35 | 36-99 |                |     |      |       |       |     |
| DF                                   | L      | 3M       | 87  |                                                    | 13,765 | 13,765 | 1,363  | 86                               | 14   | 1     |     | 40         | 32    | 28    | 31    | 8              | 74  | 0.56 | 185.4 |       |     |
| DF                                   | L      | 4M       | 13  |                                                    | 2,036  | 2,036  | 202    | 100                              |      |       |     | 6          | 92    | 2     | 24    | 7              | 34  | 0.33 | 59.7  |       |     |
| DF                                   | Totals |          | 68  |                                                    | 15,801 | 15,801 | 1,564  | 87                               | 12   | 0     |     | 1          | 46    | 28    | 25    | 29             | 8   | 64   | 0.52  | 245.1 |     |
| DF                                   | T      | 2M       | 10  |                                                    | 749    | 749    | 74     | 100                              |      |       | 100 |            |       |       | 40    | 13             | 226 | 1.34 | 3.3   |       |     |
| DF                                   | T      | 3M       | 76  | .2                                                 | 5,623  | 5,614  | 556    | 100                              |      |       | 496 |            |       |       | 39    | 8              | 107 | 0.67 | 52.6  |       |     |
| DF                                   | T      | 4M       | 14  |                                                    | 965    | 965    | 96     | 100                              |      |       | 36  | 62         | 2     |       | 22    | 6              | 25  | 0.32 | 38.3  |       |     |
| DF                                   | Totals |          | 32  | .1                                                 | 7,338  | 7,328  | 725    | 90                               | 10   |       |     | 5          | 8     | 4     | 83    | 32             | 8   | 78   | 0.60  | 94.3  |     |
| DF                                   | S      | CU       |     |                                                    |        |        |        |                                  |      |       |     |            |       |       | 24    | 7              |     | 0.00 | 19.5  |       |     |
| DF                                   | Totals |          |     |                                                    |        |        |        |                                  |      |       |     |            |       |       | 24    | 7              |     | 0.00 | 19.5  |       |     |
| Totals                               |        |          |     |                                                    | 0.0    | 23,139 | 23,129 | 2,290                            | 88   | 11    | 0   | 2          | 34    | 20    | 43    | 30             | 7   | 64   | 0.52  | 358.9 |     |

| TC                         |   | PSTNDSUM |                 | Stand Table Summary |          |                |             |                 |               |               |               |                |                | Page 1          |             |       |  |
|----------------------------|---|----------|-----------------|---------------------|----------|----------------|-------------|-----------------|---------------|---------------|---------------|----------------|----------------|-----------------|-------------|-------|--|
|                            |   |          |                 |                     |          |                |             |                 |               |               |               |                |                | Date: 7/23/2021 |             |       |  |
| T03N R05W S29 Ty00PC 99.00 |   |          |                 | Project INGERPC     |          |                |             | Time: 3:04:15PM |               |               |               |                |                |                 |             |       |  |
|                            |   |          |                 | Acres 99.00         |          |                |             | Grown Year:     |               |               |               |                |                |                 |             |       |  |
| S<br>SpC                   | T | Tot      |                 |                     |          |                |             |                 | Average Log   |               | Net           |                | Net            |                 | T o t a l s |       |  |
|                            |   | DBH      | Sample<br>Trees | FF<br>16'           | Av<br>Ht | Trees/<br>Acre | BA/<br>Acre | Logs<br>Acre    | Net<br>Cu.Ft. | Net<br>Bd.Ft. | Tons/<br>Acre | Cu.Ft.<br>Acre | Bd.Ft.<br>Acre | Tons            | Cunits      | MBF   |  |
| DF L                       |   | 8        | 2               | 86                  | 74       | 3.820          | 1.33        | 3.82            | 5.0           | 30.0          | .54           | 19             | 115            | 54              | 19          | 11    |  |
| DF L                       |   | 9        | 7               | 85                  | 67       | 10.563         | 4.67        | 10.56           | 7.8           | 38.6          | 2.36          | 83             | 407            | 233             | 82          | 40    |  |
| DF L                       |   | 10       | 16              | 86                  | 73       | 19.557         | 10.67       | 24.45           | 9.3           | 45.0          | 6.45          | 226            | 1,100          | 639             | 224         | 109   |  |
| DF L                       |   | 11       | 16              | 87                  | 80       | 16.163         | 10.67       | 29.30           | 9.0           | 38.3          | 7.52          | 264            | 1,121          | 744             | 261         | 111   |  |
| DF L                       |   | 12       | 21              | 87                  | 81       | 17.825         | 14.00       | 34.80           | 10.0          | 39.5          | 9.91          | 348            | 1,375          | 981             | 344         | 136   |  |
| DF L                       |   | 13       | 31              | 87                  | 82       | 22.421         | 20.67       | 43.40           | 12.8          | 49.0          | 15.84         | 556            | 2,126          | 1,568           | 550         | 211   |  |
| DF L                       |   | 14       | 25              | 88                  | 88       | 15.591         | 16.67       | 31.18           | 16.4          | 74.8          | 14.55         | 511            | 2,332          | 1,441           | 506         | 231   |  |
| DF L                       |   | 15       | 17              | 88                  | 93       | 9.235          | 11.33       | 18.47           | 19.2          | 85.9          | 10.13         | 355            | 1,586          | 1,003           | 352         | 157   |  |
| DF L                       |   | 16       | 18              | 88                  | 93       | 8.594          | 12.00       | 17.19           | 23.1          | 100.0         | 11.31         | 397            | 1,719          | 1,120           | 393         | 170   |  |
| DF L                       |   | 17       | 16              | 88                  | 97       | 6.767          | 10.67       | 13.53           | 26.4          | 108.7         | 10.17         | 357            | 1,472          | 1,007           | 353         | 146   |  |
| DF L                       |   | 18       | 13              | 88                  | 96       | 4.904          | 8.67        | 9.81            | 30.6          | 119.6         | 8.55          | 300            | 1,173          | 846             | 297         | 116   |  |
| DF L                       |   | 19       | 6               | 88                  | 95       | 2.032          | 4.00        | 4.06            | 35.0          | 140.0         | 4.06          | 142            | 569            | 401             | 141         | 56    |  |
| DF L                       |   | 20       | 3               | 88                  | 94       | .917           | 2.00        | 2.14            | 31.9          | 132.9         | 1.95          | 68             | 284            | 193             | 68          | 28    |  |
| DF L                       |   | 21       | 1               | 88                  | 100      | .277           | .67         | .55             | 45.2          | 175.0         | .71           | 25             | 97             | 71              | 25          | 10    |  |
| DF L                       |   | 22       | 2               | 88                  | 99       | .505           | 1.33        | 1.26            | 36.6          | 154.0         | 1.32          | 46             | 194            | 131             | 46          | 19    |  |
| DF L                       |   | 25       | 1               | 88                  | 112      | .196           | .67         | .59             | 45.5          | 220.0         | .76           | 27             | 129            | 75              | 26          | 13    |  |
| DF L                       |   | Totals   | 195             | 87                  | 83       | 139.367        | 130.00      | 245.11          | 15.2          | 64.5          | 106.13        | 3,724          | 15,801         | 10,507          | 3,687       | 1,564 |  |
| DF T                       |   | 9        | 1               | 87                  | 74       | 1.509          | .67         | 1.51            | 8.2           | 40.0          | .35           | 12             | 60             | 35              | 12          | 6     |  |
| DF T                       |   | 12       | 7               | 88                  | 88       | 5.942          | 4.67        | 11.03           | 11.8          | 46.9          | 3.71          | 130            | 518            | 367             | 129         | 51    |  |
| DF T                       |   | 13       | 13              | 88                  | 90       | 9.402          | 8.67        | 18.80           | 13.8          | 55.4          | 7.37          | 259            | 1,041          | 730             | 256         | 103   |  |
| DF T                       |   | 14       | 14              | 88                  | 92       | 8.731          | 9.33        | 17.46           | 16.6          | 66.8          | 8.27          | 290            | 1,166          | 818             | 287         | 115   |  |
| DF T                       |   | 15       | 14              | 88                  | 95       | 7.605          | 9.33        | 15.21           | 20.1          | 82.5          | 8.71          | 306            | 1,255          | 863             | 303         | 124   |  |
| DF T                       |   | 16       | 15              | 88                  | 94       | 7.162          | 10.00       | 14.32           | 23.0          | 93.3          | 9.38          | 329            | 1,337          | 928             | 326         | 132   |  |
| DF T                       |   | 17       | 11              | 88                  | 95       | 4.652          | 7.33        | 9.30            | 26.8          | 108.6         | 7.10          | 249            | 1,011          | 703             | 247         | 100   |  |
| DF T                       |   | 18       | 3               | 88                  | 103      | 1.132          | 2.00        | 2.26            | 32.6          | 128.3         | 2.10          | 74             | 290            | 208             | 73          | 29    |  |
| DF T                       |   | 19       | 2               | 88                  | 97       | .677           | 1.33        | 1.35            | 35.5          | 135.0         | 1.37          | 48             | 183            | 136             | 48          | 18    |  |
| DF T                       |   | 20       | 4               | 88                  | 101      | 1.222          | 2.67        | 2.44            | 39.4          | 150.0         | 2.75          | 96             | 367            | 272             | 95          | 36    |  |
| DF T                       |   | 21       | 1               | 88                  | 110      | .277           | .67         | .55             | 45.9          | 180.0         | .72           | 25             | 100            | 72              | 25          | 10    |  |
| DF T                       |   | Totals   | 85              | 88                  | 92       | 48.312         | 56.67       | 94.27           | 19.3          | 77.7          | 51.84         | 1,819          | 7,328          | 5,132           | 1,801       | 725   |  |
| DF S                       |   | 8        | 3               | 82                  | 53       | 5.730          | 2.00        |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 9        | 2               | 83                  | 55       | 3.018          | 1.33        |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 10       | 2               | 85                  | 65       | 2.445          | 1.33        |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 11       | 1               | 88                  | 47       | 1.010          | .67         |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 12       | 1               | 88                  | 83       | .849           | .67         |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 14       | 2               | 84                  | 62       | 1.247          | 1.33        |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 15       | 2               | 87                  | 77       | 1.086          | 1.33        |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 16       | 1               | 88                  | 85       | .477           | .67         |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | 20       | 1               | 84                  | 56       | .306           | .67         |                 |               |               |               |                |                |                 |             |       |  |
| DF S                       |   | Totals   | 15              | 84                  | 59       | 16.168         | 10.00       |                 |               |               |               |                |                |                 |             |       |  |
| Totals                     |   |          | 295             | 87                  | 83       | 203.847        | 196.67      | 339.38          | 16.3          | 68.2          | 157.97        | 5,543          | 23,129         | 15,639          | 5,487       | 2,290 |  |

| TC                         |        | PLOGSTVB       |            | Log Stock Table - MBF |          |            |          |                                          |     |     |     |       |       |       |       |       |       |       |     |           |  |
|----------------------------|--------|----------------|------------|-----------------------|----------|------------|----------|------------------------------------------|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----------|--|
| T03N R05W S29 Ty00PC 99.00 |        |                |            | Project:              |          | INGERPC    |          |                                          |     |     |     |       |       |       |       |       |       | Page  |     | 1         |  |
|                            |        |                |            | Acres                 |          | 99.00      |          |                                          |     |     |     |       |       |       |       |       |       | Date  |     | 7/23/2021 |  |
|                            |        |                |            |                       |          |            |          |                                          |     |     |     |       |       |       |       |       |       | Time  |     | 3:04:12PM |  |
| Spp                        | S<br>T | So Gr<br>rt de | Log<br>Len | Gross<br>MBF          | Def<br>% | Net<br>MBF | %<br>Spc | Net Volume by Scaling Diameter in Inches |     |     |     |       |       |       |       |       |       |       |     |           |  |
|                            |        |                |            |                       |          |            |          | 2-3                                      | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39 | 40+ |           |  |
| DF                         | L      | 3M             | 21         | 8                     |          | 8          | .5       |                                          |     |     | 8   |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 22         | 16                    |          | 16         | 1.0      |                                          |     | 7   | 4   | 5     |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 23         | 9                     |          | 9          | .5       |                                          |     |     | 9   |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 24         | 17                    |          | 17         | 1.1      |                                          |     | 6   | 5   | 6     |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 25         | 14                    |          | 14         | .9       |                                          |     | 2   | 13  |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 26         | 102                   |          | 102        | 6.5      |                                          |     | 26  | 69  |       | 7     |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 27         | 36                    |          | 36         | 2.3      |                                          |     | 12  | 15  | 10    |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 28         | 136                   |          | 136        | 8.7      |                                          |     | 31  | 49  | 49    |       |       | 7     |       |       |       |     |           |  |
| DF                         | L      | 3M             | 29         | 39                    |          | 39         | 2.5      |                                          |     | 21  | 14  |       | 4     |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 30         | 164                   |          | 164        | 10.5     |                                          |     | 45  | 10  | 85    | 6     | 10    | 8     |       |       |       |     |           |  |
| DF                         | L      | 3M             | 31         | 41                    |          | 41         | 2.6      |                                          |     | 10  |     | 31    |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 32         | 132                   |          | 132        | 8.5      |                                          |     | 46  |     | 86    |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 33         | 39                    |          | 39         | 2.5      |                                          |     | 10  |     | 29    |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 34         | 153                   |          | 153        | 9.8      |                                          |     | 58  |     | 68    | 27    |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 35         | 72                    |          | 72         | 4.6      |                                          |     | 15  |     | 44    | 7     | 6     |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 36         | 113                   |          | 113        | 7.2      |                                          |     | 44  |     | 49    | 20    |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 37         | 62                    |          | 62         | 4.0      |                                          |     | 34  |     |       | 28    |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 38         | 97                    |          | 97         | 6.2      |                                          |     | 32  |     | 21    | 44    |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 39         | 23                    |          | 23         | 1.4      |                                          |     | 15  |     |       | 7     |       |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 40         | 62                    |          | 62         | 4.0      |                                          |     | 23  |     | 24    | 7     | 8     |       |       |       |       |     |           |  |
| DF                         | L      | 3M             | 41         | 27                    |          | 27         | 1.7      |                                          |     | 27  |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 20         | 11                    |          | 11         | .7       |                                          |     | 7   | 4   |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 21         | 9                     |          | 9          | .6       |                                          |     | 9   |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 22         | 64                    |          | 64         | 4.1      |                                          |     | 38  | 26  |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 23         | 25                    |          | 25         | 1.6      |                                          |     | 13  | 12  |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 24         | 56                    |          | 56         | 3.6      |                                          |     | 27  | 29  |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 25         | 10                    |          | 10         | .6       |                                          |     | 10  |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 26         | 7                     |          | 7          | .4       |                                          |     | 7   |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 28         | 4                     |          | 4          | .3       |                                          |     | 4   |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 30         | 11                    |          | 11         | .7       |                                          |     | 11  |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | L      | 4M             | 31         | 5                     |          | 5          | .3       |                                          |     | 5   |     |       |       |       |       |       |       |       |     |           |  |
| DF                         |        | Totals         |            | 1,564                 |          | 1,564      | 68.3     |                                          |     | 595 | 267 | 506   | 150   | 32    | 15    |       |       |       |     |           |  |
| DF                         | T      | 2M             | 40         | 74                    |          | 74         | 10.2     |                                          |     |     |     | 66    | 8     |       |       |       |       |       |     |           |  |
| DF                         | T      | 3M             | 32         | 17                    |          | 17         | 2.3      |                                          |     | 17  |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | T      | 3M             | 34         | 8                     |          | 8          | 1.1      |                                          |     | 8   |     |       |       |       |       |       |       |       |     |           |  |
| DF                         | T      | 3M             | 36         | 13                    |          | 13         | 1.8      |                                          |     | 7   | 6   |       |       |       |       |       |       |       |     |           |  |
| DF                         | T      | 3M             | 38         | 13                    |          | 13         | 1.8      |                                          |     | 13  |     |       |       |       |       |       |       |       |     |           |  |

| TC                                   |        | PLOGSTVB       |            | Log Stock Table - MBF |          |            |          |                                          |     |     |     |       |       |       |       |       |       |           |     |
|--------------------------------------|--------|----------------|------------|-----------------------|----------|------------|----------|------------------------------------------|-----|-----|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
| <div>T03N R05W S29 Ty00PC99.00</div> |        |                |            | Project:              |          | INGERPC    |          |                                          |     |     |     |       |       |       |       | Page  |       | 2         |     |
|                                      |        |                |            |                       |          |            |          |                                          |     |     |     |       |       |       |       | Date  |       | 7/23/2021 |     |
|                                      |        |                |            |                       |          |            |          |                                          |     |     |     |       |       |       |       | Time  |       | 3:04:12PM |     |
| Spp                                  | S<br>T | So Gr<br>rt de | Log<br>Len | Gross<br>MBF          | Def<br>% | Net<br>MBF | %<br>Spc | Net Volume by Scaling Diameter in Inches |     |     |     |       |       |       |       |       |       |           |     |
|                                      |        |                |            |                       |          |            |          | 2-3                                      | 4-5 | 6-7 | 8-9 | 10-11 | 12-13 | 14-15 | 16-19 | 20-23 | 24-29 | 30-39     | 40+ |
| DF                                   | T      | 3M             | 40         | 506                   |          | 505        | 69.6     |                                          |     | 39  | 238 | 229   |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 12         | 4                     |          | 4          | .5       |                                          |     | 4   |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 14         | 5                     |          | 5          | .8       |                                          |     | 5   |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 16         | 3                     |          | 3          | .4       |                                          |     | 3   |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 18         | 9                     |          | 9          | 1.2      |                                          |     | 9   |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 20         | 14                    |          | 14         | 1.9      |                                          |     | 14  |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 22         | 7                     |          | 7          | .9       |                                          |     | 7   |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 24         | 10                    |          | 10         | 1.4      |                                          |     | 10  |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 26         | 13                    |          | 13         | 1.8      |                                          |     | 13  |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 28         | 13                    |          | 13         | 1.9      |                                          |     | 13  |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 30         | 16                    |          | 16         | 2.2      |                                          |     | 16  |     |       |       |       |       |       |       |           |     |
| DF                                   | T      | 4M             | 32         | 2                     |          | 2          | .3       |                                          |     | 2   |     |       |       |       |       |       |       |           |     |
| DF                                   |        | Totals         |            | 726                   |          | 725        | 31.7     |                                          |     | 179 | 243 | 229   | 66    | 8     |       |       |       |           |     |
| Total                                |        | All Species    |            | 2,291                 |          | 2,290      | 100.0    |                                          |     | 774 | 510 | 735   | 216   | 40    | 15    |       |       |           |     |

## RESIDUAL STAND SPECIFICATIONS

Ingersoll PC  
#FG-341-2022-W00482-01

### Unit 1

Residual QMD assumption (from leave tree cruise information) = 

|    |
|----|
| 13 |
|----|

  
Target Relative Density = 

|    |
|----|
| 35 |
|----|

|                         | Minimum | Target | Maximum |
|-------------------------|---------|--------|---------|
| <b>Relative Density</b> | 33      | 36     | 39      |
| <b>Basal Area</b>       | 120     | 130    | 140     |
| <b>Trees per Acre</b>   | 130     | 141    | 152     |

$$RD = BA / \sqrt{DBH}$$

$$BA = \sqrt{DBH} (RD)$$

$$TPA = (BA/acre) / (BA/tree)$$

$$BA / tree = (\pi r^2) / (144)$$

**VOLUME SUMMARY**  
(Shown in MBF)  
**Ingersoll PC**  
**FG-341-2022-W00482-01**  
**July 2021**

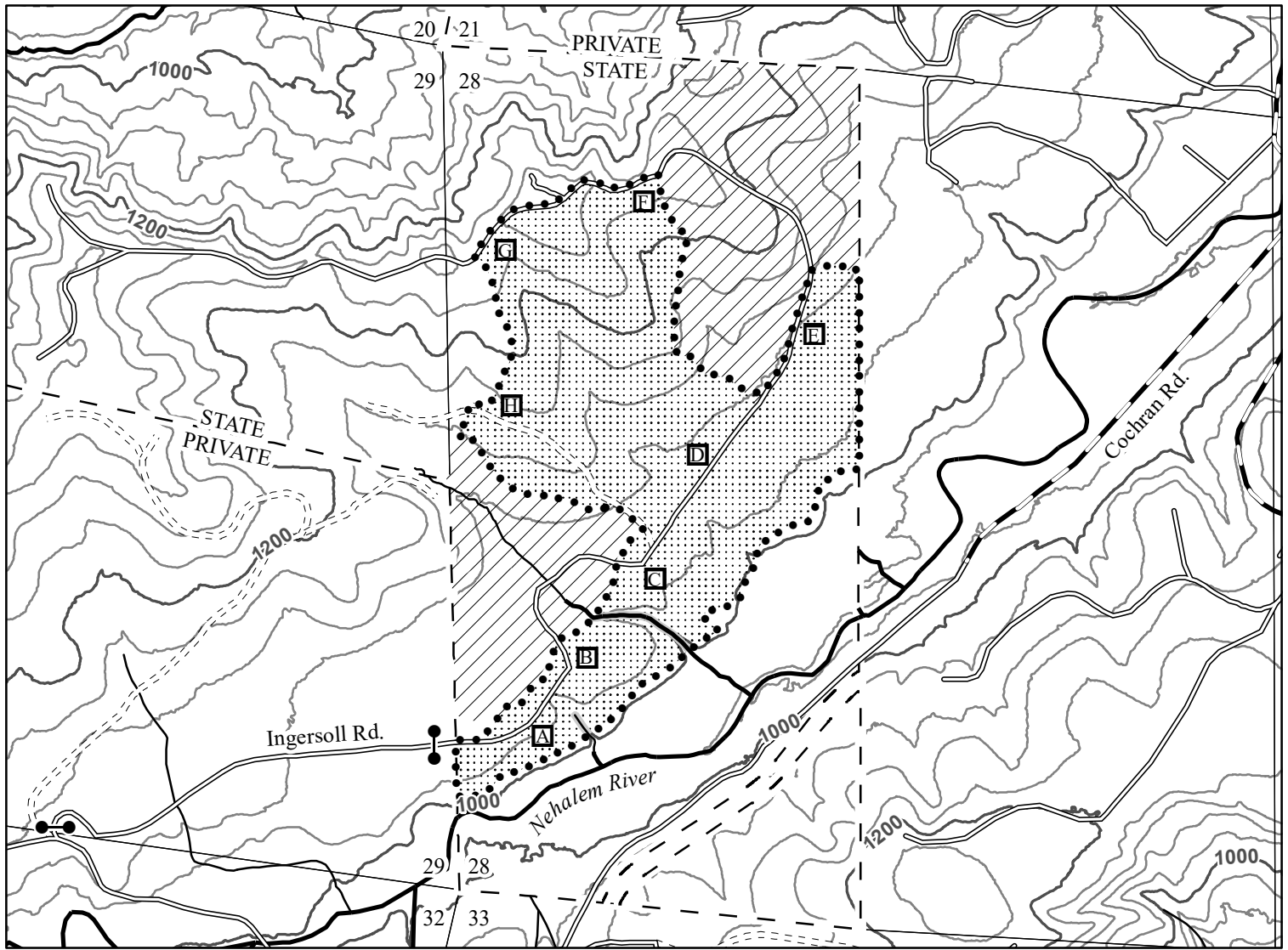
**UNIT 1: PC-M (99 ACRES)**

| <b>SPECIES</b> |                  | <b>2 SAW</b> | <b>3 SAW</b> | <b>4 SAW</b> | <b>TOTAL</b> |
|----------------|------------------|--------------|--------------|--------------|--------------|
| Douglas-fir    | Cruise Volume    | 74           | 556          | 96           | 726          |
|                | Hidden D&B (2%)  | (1)          | (11)         | (2)          | (14)         |
|                | <b>NET TOTAL</b> | 73           | 545          | 94           | 712          |
|                | % of Total       | 10           | 77           | 13           |              |

**SALE TOTAL**

| <b>SPECIES</b> | <b>2 SAW</b> | <b>3 SAW</b> | <b>4 SAW</b> | <b>TOTAL</b> |
|----------------|--------------|--------------|--------------|--------------|
| Douglas-fir    | 73           | 545          | 94           | 712          |
| Total          | 73           | 545          | 94           | 712          |





## Legend

- Timber Sale Boundary
- Paved Road
- Surfaced Road
- ==== Unsurfaced Road
- Type-F Stream
- Type-N Stream
- Tractor Landing
- Tractor Yarding Area
- Stream Buffer
- /// Reforested Area
- - - ODF Ownership Boundary
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band
- Gate

## LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2022-W00482-01  
 INGERSOLL PC  
 PORTIONS OF SECTION 28, T3N, R5W, W.M.,  
 WASHINGTON COUNTY, OREGON

Forest Grove District GIS  
 July, 2021

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

1:12,000

1 inch = 1,000 feet



## APPROXIMATE NET ACRES

|       | TRACTOR | CABLE |
|-------|---------|-------|
| TOTAL | 99      | 0     |