SILVICULTURAL TREATMENT EFFECTS ON HEIGHT GROWTH

IFC ANNUAL MEETING

MARCH 24, 2020
**BACKGROUND**

- % Regen: 0-10 meter HT growth, as percentage of the 10m Site Index
- 10m Site Index: 10-20 meter HT growth
- % Shape: 20-30 meter HT growth, as percentage of the 10m Site Index
- CASH Card: 0-6 meter height growth
- Traditional Site Index = 10m Site * 10 + 30
- Example: 5.0 meter site * 10 + 30 = 80
“Typical threshold for silvicultural investment decisions is a height gain of at least 10 percent over the baseline stand.”

“Our field measurement methods are typically accurate to about the nearest foot.”
BACKGROUND- SITE GRID

ANNUAL PRECIPITATION

GROWING SEASONS DAYS
BACKGROUND SITE GRID

ROOTING DEPTH

STRATA IN STANDS
BACKGROUND 10 M SITE TREES
BACKGROUND
BACKGROUND
## SITE GRID

<table>
<thead>
<tr>
<th>Class</th>
<th>Day3</th>
<th>WetA</th>
<th>Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-154</td>
<td>17-27</td>
<td>14-37</td>
</tr>
<tr>
<td>2</td>
<td>155-211</td>
<td>28-40</td>
<td>38-48</td>
</tr>
<tr>
<td>3</td>
<td>212-266</td>
<td>41-47</td>
<td>48-59</td>
</tr>
<tr>
<td>Mean</td>
<td>182.78</td>
<td>33.74</td>
<td>47.85</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>28.34</td>
<td>6.5</td>
<td>10.37</td>
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<tr>
<td>Lower</td>
<td>154.44</td>
<td>27.24</td>
<td>37.48</td>
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<tr>
<td>Upper</td>
<td>211.12</td>
<td>40.24</td>
<td>58.22</td>
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</table>
STUDY AREA

- Cutdown 253 Total Trees: 60 DF, 87 PP, 106 WL
- Total of 1,049 taper measurements
STAND HISTORY

TOTAL RODENT CONTROL COSTS INCLUDING MATERIAL & EQUIPMENT $156.06

LABOR

<table>
<thead>
<tr>
<th>NO. MEN</th>
<th>MAN HOURS</th>
<th>RATE</th>
<th>TOTAL COST</th>
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<tbody>
<tr>
<td>284</td>
<td>2216</td>
<td></td>
<td>5,899.41</td>
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</tbody>
</table>

Contracted price $1,967.39

TOTAL MAN HOURS 2216

PLANTING MAN HOURS 1790

AVG. PER TRAVEL MAN HOURS 1.426 DAY 19

TREES PLANTED PER MAN/DAY 350

REMARKS:

(2) Includes planting time only.

MATERIAL & EQUIPMENT

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>COST PER UNIT</th>
<th>PURCHASED/RENTED FROM</th>
<th>TOTAL COST</th>
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</thead>
<tbody>
<tr>
<td>Horse</td>
<td>1</td>
<td>$5.50/day</td>
<td>Martin Fraker</td>
<td>104.50</td>
</tr>
<tr>
<td>Chainsaw</td>
<td>1</td>
<td>.75/hour</td>
<td>Martin Fraker</td>
<td>49.13</td>
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PRORATED COSTS
STAND HISTORY
10 METER SITE TREES 2019 WITH CASH CARD TREES
CASH CARD TREES
STRATA 1232

![Graph showing height vs years for different categories: DF, WL, Planted WL, Planted PP.](image)
Strata 1313

**Strata 1313**

**Western Larch**

- WL
- DF
- PP
- Planted WL

- Nat
- Plant
10 METER SITE TREES 2019
DOUGLAS-FIR NATURAL VS PLANTED
PONDEROSA PINE NATURAL VS PLANTED
WESTERN LARCH NATURAL VS PLANTED

WL 6M Growth in Meters Per Decade

Strata

Obs_type
- cash_nat
- cash_pl
WESTERN LARCH PLANT ONLY, NATURAL, HERBICIDE
CONCLUSION
CONCLUSION: CALIBRATED SITE GRID
CONCLUSION: HARVEST SCHEDULER
QUESTIONS....