RESPONSE COMPARISON OF AN AGE CLASS III LODGEPOLE PINE STAND THINNED TO FOUR DIFFERENT DENSITIES IN THE ICHg3

Working Plan

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Ministry of Forests
Silviculture Branch
TITLE: Response Comparison of an Age Class III Lodgepole Pine Stand Thinned to Four Different Densities in the ICHg3.

1. INTRODUCTION

This operational trial was conceived with demand for "slag poles" from local contractors in the district. Slag poles are approximately 3 meters (length) by 2-5 centimeters (diameter) "sticks" manufactured from green pine (Pinus contorta) which are used in the smelting process at ALCAN'S Kitimat smelter.

In the southwest part of the Kispiox District, the ICHg3 (Interior Cedar Hemlock Northwest Transitional subzone, Hazelton Variant: O2 and O8 ecosystem associations) contains age class 2 and 3 stands which are optimum for this type of cutting. The slag pole operation is technically a commercial thinning operation and provides an excellent vehicle for doing inexpensive intensive silviculture. The silvicultural benefits from it include: improvement in stand health; reduction in competition and better distribution of growth to crop stems; capturing stand mortality which would normally go unused; producing a usable commercial crop where none would exist without stand improvements.

The SX 83 403 R trial is located approximately 6 kilometers southwest of Kitwanga adjacent to Price Creek on Cassiar District Lot 834. The site is in the Interior Cedar Hemlock Northwestern Transitional subzone, Pine-soapberry seral ecosystem association (ICHg3/08) and the stand is approximately 58 years old averaging 12.3 cm dbh and 14.2 meters in height. The trial is on a fluvial terrace over a well to rapidly drained ORTHO-HUMO ferric podzol. The stand is submarginal for a
commercial thinning operation due to its age and limited growth response capability. It was decided to do the trial to see exactly what the response would be.

2. OBJECTIVES

The objectives of the trial are as follows:

1. To compare the response, primarily diameter of the leave trees within four areas thinned to different densities: 200, 400, 800 and 1200 stems per hectare.

2. To determine the feasibility of extracting and monitor stand damage from extracting slag poles from the stand.

3. DESIGN AND LAYOUT

The steps required to layout the trial were:

1. Reconnaissance of the area to determine feasibility of the thinning operation and trial layout.

2. Description of soils and Biogeoclimatic information.

3. Layout of four homogeneous quarter hectare units to be spaced to 200, 400, 800 and 1200 stems per hectare.

4. Marking leave trees within each unit with orange ribbon. Selection was based on intertree spacing (3.1 m x 3.1 m for 1200 sph, 3.8m x 3.8m for 800 sph, 5.37m x 5.37m for 400 sph, and 7.1m x 7.1 for 200 sph), tree quality (stems free of crooks, forks, scars and disease). In the higher densities, tree quality took precedence over spacing.

5. Approximately 45 trees per density were numbered with orange paint and dbh was recorded. In addition, a prism sweep was done in each density to provide a basal area before and after cutting.

6. The units were traversed and mapped.

7. Extraction roads within the trial area were laid out by the Licencee and approved by Ministry of Forests staff.

8. The contract was drawn up in the form of Cash Sale Licence A20282 outlining cutting restriction required to meet the standards for the operational trial. Post treatment prism sweeps were done, pictures were taken, markers for identifying the trial were posted and cedar stakes were put at the corners of each density to identify them.
9. Post treatment, the heights of all the numbered trees was measured and plots were put in to establish damage done during extraction.

4. MEASUREMENT

Initially diameter, height, basal area per hectare, stems per hectare in each density was measured. It is anticipated that remeasurement and reassessment will occur every five years at which time a written status report will be produced.

5. ANALYSIS

An estimate of growth response since thinning will be made by correlating annual growth over time. No formal statistical analysis is planned but could be incorporated if required.

6. MATERIALS REQUIRED

- 12 cedar stakes
- 4 marking tags
- 1 hip chain, compass, suunto, metal chain, and note paper
- 2 tins orange paint
- 4 BAF prism
- 1 5.64 meter plot card
- 1 blue, orange, and pink ribbon
- 1 staple gun
- photos and maps
- 1 DBH tape
- 1 shovel

7. RESPONSIBILITY

The trial was set-up jointly by District-Regional Silvicultural staff. The Kispox District office will handle contract administration for the Cash Sale.
Upon completion of the cash sale, it will be deleted and no further tenures will be issued until final stand harvest. Copies of this work report will be sent to the Prince Rupert Regional Silviculture office and the Silvicultural Branch, Victoria.

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