

R.J. BLACK,
WAIPA SAWMILL

WINDTHROW SALVAGE - WAIPA SAWMILL

Windthrown logs from the Easter storm created considerable problems for milling at Waipa, all of which were centred around two key factors. These were:

1. The overnight change in the nature of the log supply in terms of log size.
2. The later, further decline in log quality associated with the onset of sapstain.

The results of scaling studies performed at the mill (graphs appended) clearly show the dramatic change in log size with respect to both small end diameter and volume. The lines marked at the SED point 35cm is the cut-off used under normal circumstances to segregate logs for the Circular Mill (less than 35 cm) and the Bandmill (35 cm and larger).

The log supply post-windthrow was clearly weighted more heavily towards Circular Mill production than the pre-windthrow supply. It was regularly necessary to ignore the normal and optimum cut-off point for the two mills to maintain something like a reasonable stock balance and keep the Bandmill working.

Log size has a major affect on Mill productivity, log to sawn timber conversion, grade recovery and potential sawn timber size recovery. As log size decreases the affect on each of these measures of milling efficiency worsens. In addition the flexibility to log grade and sort for specific cuts is reduced, if not lost at times. All of these problems were experienced at Waipa.

Log Handling

When Waipa gangs moved initially into windthrown stands the Mill experienced short falls in supply. It quickly became evident that our own gangs would not be able to totally meet the Mill's log requirements and therefore additional logs were received from Conservancy logging operations.

Logs received from all sources contained a greater proportion of shorts than normal, 22% of supply as opposed to 17% normally. The greater proportions of smaller and shorter logs caused storage problems in a log yard that has developed to accommodate the distribution of logs received over the years. Smaller logs frequently had to be held in areas where it was inconvenient and therefore more expensive to handle and store them.

Sawmill Productivity

1. Conversion - a decline in the Radiata log to sawn timber conversion of 5% was experienced during the salvage.
2. Productivity - studies indicate average production was reduced by 16%.

3. Grade Recovery:

Significantly higher proportions of industrial grades were produced at the expense of high quality appearance, decorative and building grades. Comparisons show decreases of 7% and 10% respectively for appearance and building grades and increases of 17% for industrial grades.

4. Sawn timber size - the smaller log size restricted our ability to recover wide boards and larger squares for which we have contract commitments.

Each of the factors has a serious affect on the profitability of milling. The production of small sized low grades created marketing and handling problems resulting from the increase in low grade stocks.

The reduction in proportions of appearance and building grades created shortages for downstream processing and ultimately marketing.

Log Quality

Apart from size, three other log quality problems were anticipated. These were:

Shattered/split log ends
Compression shake within the logs
Staining

All three were experienced but stain was by far the most significant.

Compression shake was found in timber milled fairly early in the salvage operations and caused initial concern because of the difficulty of identifying its presence. Experience showed the incidence at Waipa was negligible but other mills found large proportions of their production was affected. These mills were receiving their logs from the very south of Kaingaroa.

The shake in its worst form is a strength-reducing defect and would therefore need to be excluded from building grades.

The incidence of split log ends was observed to have increased, but did not become a major problem. Those logs that were split would have lowered conversion, resulted in shorter sawn timber lengths and eliminated the potential of using those logs for squares.

Sapstain first became noticeable at the mill towards the end of August and the level was closely monitored from that time. Once the stain was observed it quickly reached the stage where it was affecting approx. 100 m³ of sawn timber per week (3-4 percent of production). It was established in consultation with T.P.A. officers that certain levels of light and intermittent stain could be kiln dried and multisalt treated and still be acceptable for building grades and lower board grades. It was necessary, however, to exclude

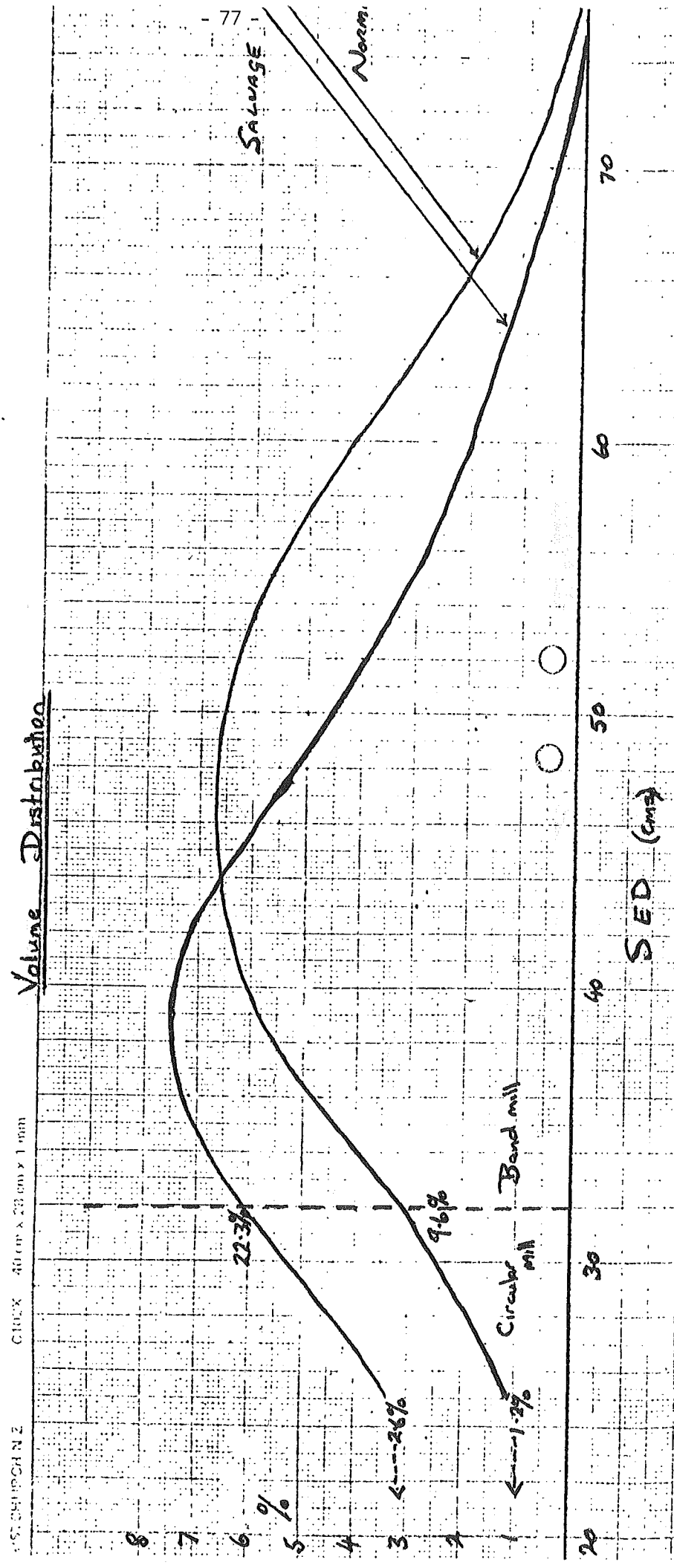
stain from decorative grades, export timbers and boron framing production for both technical and marketing reasons. It is unfortunate that sapstain affects the outer portion of the log from which the best decorative and building grades are derived.

Log size was again an important factor as the smaller logs were more seriously affected by stain porportionately than the larger logs. It was considered at the mill that logs displaying stain either on the ends or along the outside and which were less than 250mm SED were not viable as sawlogs.

Any one of the problems that have been experienced during wind-throw would have been considered serious if it had occurred alone during normal production. For the months from April to October 1982 Waipa has experienced them all together and I am sure that it is an experience that none at the Mill would be particularly keen to see happen again.

Extract from letter received 1 December 1982. "Smaller logs can still be milled through saws designed principally to handle larger diameters but the efficiency of milling declines. Sawmills, I believe have developed to match the resource from which they are supplied. At Waipa we have two mills, one to handle smaller logs and the other to handle logs over 350 mm S.E.D. The production capacities of both mills are such that they are tuned to match the number of logs of each size class being delivered under normal circumstances. Overnight changes that affect this balance cannot be matched by changes to milling equipment that would better suit the new resource." R.J. Black.

LOG SIZE - MAIPA SAMMILL 1 Windthrow Salvage



LOG SIZE - WAIPA SAWMILL - Windthrow Salvage

Small End Diameter Distribution

