

## LARGE SCALE METHYL BROMIDE RECAPTURE FOR QPS

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### Summary

The custom built large-scale gas recapture system supplied to a major Australian Log Exporter proved successful during its commissioning on Friday, 23<sup>rd</sup> July. It achieved a > 95% recapture efficiency whilst allowing minimal breakthrough of methyl bromide to the atmosphere. The system proved to reduce the initial concentration of 43g/m<sup>3</sup> to < 2g/m<sup>3</sup>.

This report will provide a detailed summary of the Commissioning and Recapture process conducted, including concentration readings taken on-line at various points on the recapture equipment including emission points.



Trailer Mounted Large-Scale Recapture System

### The Nordiko System

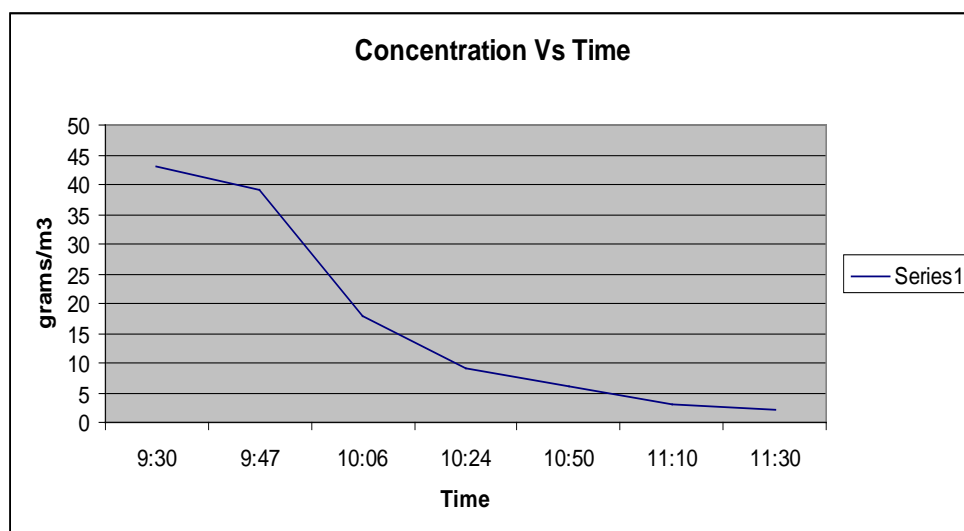
Nordiko has patented systems that change the way fumigation is carried out in most instances. This is achieved through:

1. Making the fumigation more measurable
2. Making the fumigation safer for all parties concerned
3. Recovering and degrading or disposing the toxic fumigant gas after fumigation

## Process Description

A log stack with a volume of approx 30,000ft<sup>3</sup> (850m<sup>3</sup>) was fumigated using 54kg of methyl bromide. The recapture process was started at approx 0930, with a starting concentration of 43g/m<sup>3</sup>. Atmospheric emission readings were then regularly monitored using a photo ionization detector (PID) through the filters.

The concentration with-in the log fumigation was reduced from 43g/m<sup>3</sup> to < 2g/m<sup>3</sup> (530ppm) with-in the 2 hours as shown on the graph below.



The graph above displays a typical recapture curve where most of the gas is adsorbed on the carbon filters at the beginning of the recapture process. At 10:24am, the concentration reading was at < 9g/m<sup>3</sup>, meaning that approx 80% of the initial concentration had been reduced to this point in time. The readings after this point show a diminishing curve, this is due to the desorption effects of MB from the commodity. It is during this phase that the rate of recapture slows down at lower concentrations (<5g/m<sup>3</sup>).

At 11:30am, (< 2g/m<sup>3</sup>), the recapture process was stopped. At this point, the recapture process achieved a recapture efficiency of > 95% from the initial concentration of 43g/m<sup>3</sup>.

## Benefits

- Protection of the health & safety of site staff and contractors, as well as neighboring property holders from fugitive emissions
- Achievement of Corporate environmental goals – methyl bromide is damaging to the earth's ozone layer – the shrinking of this has contributed to the incidence of skin cancers in Australia and New Zealand
- Providing leadership within the forest products industry and establishing best practice standards with regards to quarantine treatments
- Achieving these objectives, without causing any delays in the export supply chain to customers.