

K.G. Thomas

Date Nov. 21, 1985

Copies To K. Blower, S.E. Alf

Ref.

From B.C. Cross

Subject Stack Test Performed Nov. 19, 1985.

The roaster stack was sampled on November 19, 1985. A single traverse in the North-South was not completed but the results are still considered good. The reason the traverse was not complete is the weather conditions. Normally sampling begins with the sample recovery impingers outside the building as the probe moves into each of the 16 sampling points in the South-North direction. While getting set up and performing leak checks the water in the impingers froze. To thaw them we ran the probe all the way into the stack and boiled up some snow which was poured around them. Rather than put the just thawed sample case outside we decided to sample in the North-South direction. This was successful until we came to the last four sampling points the umbilical cord hanging outside connecting the sample case to the control console cooled the air going to the console and the differential pressure gauges froze.

The last four points are in the laminar flow zone where sample volumes extracted are much lower as is the particulate content. In essence if we had been able to sample those points the overall result of the test would in all likelihood have been a lower emission rate. The following results were obtained for the test:

Total Arsenic Emission Rate	14.43 mg/sM3
Total Particulate Emission Rate	7.62 mg/sM3
Stack Gas Volumetric Flowrate	1,300.4 M3/min

The Federal Governments allowable limit for arsenic emissions is still 50.0 mg/M3 while in 1979 they Gazetted the intention of lowering it to 20.0 mg/M3.

Total percent isokineticity was 94.64, while the range 90-110 is what determines an acceptable test.

Another thing that should be taken note of is the fact that one compartment of the baghouse was shut down for repair at the time of the test and because of this plus air leaks into the flues the stack fan was running at high speed.