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HCL/HS
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Mr. H.S.D. Hardie

15th April, 1976

PRIVATE & CONFIDENTIAL

Report on visit to Havelock Asbestos Mines, Swaziland,
from 9th March 1976 - 12th March 1976

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This visit was undertaken at my own request as I had to go to South Africa to study asbestos and health problems at TAP Ltd. in Durban.

My concern was mainly with conditions in the dusty jobs (i.e. milling), with the medical arrangements and industrial hygiene practice. I did not wish to inspect the underground operations on this occasion.

1. HISTORICAL BACKGROUND

Havelock Mine has been in production since 1938/39. Proved deposits of chrysotile are available for at least another 10 years and the old tailings dumps can be re-processed to yield fibre not adequately extracted in the earlier days of the mining operation.

Although Havelock is a chrysotile mine, in approximately 1951/53 crocidolite fibre from Bute mine was brought to Swaziland and Limpet spray fibre was processed there. This process was discontinued in about 1953 or 54. The fibre was sold to Dowson and Dobson Ltd. for use in spraying railway carriages. The grades used were HLB 1, 2 and 4.

2. THE LABOUR FORCE

The labour force at Havelock is fairly stable. Approximately two white employees are engaged per month whereas the seasonal working habits of the Swazis result in a turnover of about 20% per annum. At the time of my visit there were 360 miners working underground who had completed more than 5 years service and 139 mill employees with more than 5 years service.

3. THE FIBRE MILLING OPERATION

Mr. Honey, the Chief Milling Superintendent, conducted me on a tour of the milling operation. We were accompanied by Dr. Bradley, (the Medical Officer), and Mr. Neethling (Ventilation Officer).

The areas inspected were :-

- (1) Conveyors to storage bins and driers.
- (2) Rock plant - primary crushers.
- (3) Number 1 treatment (recovery) Plant.
- (4) Grading Mill.
- (5) Through Mill to storage shed.
- (6) Number 2 treatment (recovery) plant.
- (7) Conditioning Mill.
- (8) Fibre Bagging.

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I do not propose to discuss in detail the conditions in the Mill but attach here a few photographs taken on this visit which illustrate the very unsatisfactory state of affairs in some areas.

I was in two minds as to whether I should enter the grading mill without the protection of a positive pressure respirator. Going through the mill to the storage shed and then through the shed climbing over piles of fibre was frightening. The operative sitting in a glass box and operating the scoop which feeds fibre to the conveyor was covered in fibre. I was astonished to see a man poking at a blocked screw conveyor and creating clouds of dust all about him.

Mr. Neethling has been given the task of dust sampling and has recently acquired 1 Cassella Model 'C' pump and the requisite filter heads and membranes. No dust samples have every been taken at Havelock and Mr. Neethling has not yet commenced. He proposes to sample at least two operations daily employing 1 full-time dust-counter. He has been instructed in dust sampling by Mr. Weatherburn of Turner's Asbestos Products Ltd. in Durban.

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Every employee in dusty jobs is issued with a dust mask, but these are in my opinion of unsuitable design and probably not adequate for asbestos. I recommended the Baxter Pneuseal type of mask. Respirators are seldom used.

A Dusting and Spillage Programme was inaugurated at Havelock 25 years ago and is reviewed solely for budgeting purposes. There is no formal process to review health hazards or to institute dust control programmes. One of the major difficulties facing the engineers charged with the task of reducing dust emission is the lack of skilled artisans to do the work. Mr. Ward stressed this point and indicated his disappointment at the slow progress being made. In those areas of the mills which have been modernised dust conditions have been greatly improved.

4. MEDICAL ARRANGEMENTS

Two full-time doctors are employed at Havelock. There are approximately 2000 employees of whom about 500 work underground and 300 work in the mill. The town of Havelock is owned by the Company and about 4200 black dependents and 230 white dependents live in the immediate vicinity of the mine.

The Medical Officers, Drs. Bradley and Cunningham, are mainly involved in general practice in the small cottage hospital. Because of Company requirements they supervise the initial medical examinations and issue certificates of fitness.

The Initial Medical examination consists of:-

- (1) Registration in Personnel department - furnished with necessary documents.
- (2) Report at hospital to senior clerk.
- (3) Urine analysis - if no evidence of bilharzia then proceed to next stage. If bilharzia suspected not engaged and sent for treatment.
- (4) Previous mining history obtained by X-ray technician at time of 100 mm. Chest X-ray being taken.
- (5) Medical examination - routine clinical.

*enclosed with Mr. Hardie's copy only.

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I did not ascertain when medical examinations were first introduced. Old medical records are available but hospital notes may be destroyed. When African employees leave the mine they are inevitably lost track of and there appears to be no way of continuing to monitor their health experience. Death certificates are not available for Africans who die away from urban areas. Last year only 800 births were in fact registered in Swaziland Post-mortem examinations are hardly ever done.

No epidemiological study has ever been carried out at Havelock and the prevalence of asbestos associated diseases is not known.

Vitality

No tests of lung function are performed and there is no proper follow-up of asbestos workers.

The Medical Officers do not make regular visits of inspection at the Mine or Mill.

Dr. Bradley informed me that in his opinion 27 people had X-ray changes suggestive of asbestosis. He had no knowledge of the incidence of cancer of the lung in Havelock and had not seen any cases of mesothelioma. Two cases of lung cancer have occurred in European ex-patriots in the past five years and they were husband and wife. Both were smokers, the wife smoking very heavily indeed.

5. COMMENTS

Conditions in the mill at Havelock were dusty and needed improving.

Medical arrangements are not adequate and cannot be expected to yield satisfactory data for use in epidemiology unless a full-scale programme of surveillance with initial and periodic examinations is introduced. There is a requirement to equip the hospital with X-ray facilities capable of taking full-scale chest X-rays and to institute a simple form of lung function testing, bearing in mind the many difficulties in obtaining co-operation from African patients in the execution of such tests.

Until dust measurements commence there is no possibility of relating exposure to biological effects, but in view of the fact that milling conditions have not materially altered in many areas, base-line levels of dustiness in these areas could still be obtained and used in estimating exposure histories if necessary.

Notwithstanding the drawbacks, I believe that a full-scale epidemiological survey should be carried out at Havelock. It would be helpful if the assistance of the National Research Institute for Occupational Diseases in Johannesburg could be obtained in the planning and execution of such a survey. I know that Dr. Irwig would be most interested in studying the Havelock population.



H.C. Lewinsohn.