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CSR Limited

23rd March 1979

Mr. G. Major,
Physicist,
Occupational Health Unit,
School of Public Health and Tropical Medicine,
The University of Sydney,
SYDNEY, N.S.W. 2006.

Dear Gersh,

I would be grateful if you would look through and correct the attached brief notes on our conversation earlier this week. You will note that the last paragraph requires completion because I cannot remember the reason which you gave.

Yours sincerely,

Brian Munday.

Encl.

MIDALCO P/L ats. JOHNSEN

INTERVIEW WITH MR. G. MAJOR, B.Sc. (Physicist, Occupational Health Unit, School of Public Health and Tropical Medicine, The University of Sydney) on 22nd March 1979.

(Present: Mr. G. Major, Dr. B. Munday, F.B. Gill).

Mr. Major commenced by commenting on his visit to Wittenoom in 1966 (details of his investigations during this visit are set out in his paper which he delivered at the First Australian Pneumoconiosis Conference at Sydney University in 1968, commencing at page 467).

His visit was made at the invitation of Dr. J. McNulty (the W.A. Public Health Department paid his fares and the Commonwealth Health Department paid his expenses - Dr. McNulty had been requesting him to visit the mine for some years but until then he had not had the time). Dr. McNulty has a good collection of photographs of ABA's operations, which he took each time he visited Wittenoom.

In his opinion, the equipment at Wittenoom in 1966 was inappropriate for separating asbestos from rock - the separating screens (which moved up and down) were the same as those used for separating concrete/road aggregate; he believes the same sort of screens as are used at CSR's Pyrmont Refinery (i.e. they rotate and move up and down and are enclosed) should have been used).

Another example he gave was in the trommels area. If the fibre was wet, the workers would light fires in 44-gallon drums and blow the hot air and smoke into the trommels in order to dry the fibre. This meant that there was positive air pressure in the trommels, whereas there should have been negative air pressure. In addition, the exhaust from the rotoclones was still being put into the air - a stand-off had been reached whereby ABA maintained that it was steam and the Mines Department maintained that it was fibre.

The dust in the crushing stage of the mill contained a greater percentage of asbestos than in the mine (the ore was approximately 2% asbestos) because workmen ("pickers") picked out some barren rock before the first crushing stage.

Mr. Major considers that a konimeter is not useful for measuring dust. It was designed in 1917 and comprises a glass plate which is covered with petroleum jelly. The amount of the petroleum jelly covering is critical. In early times, the petroleum jelly used to be smeared on with the finger but by 1950 it was being dissolved in xylene (about a one percent solution) and then poured on to the glass. By means of a pump, a small jet of the surrounding air is impacted on to a sampling spot on the glass. The pump sucks in 5 mls of air which is gathered in half a second - this is not a very representative sample. The glass is examined under a microscope and the number of particles calculated. The glass can be illuminated by one of two means:

(i) a bright field (direct light is placed beneath the glass - in many cases a miner's lamp would have been used);

(ii) a dark field (the glass is exposed to indirect light which gives a scattered light).

Dark field illumination would reveal at least twice as many particles as would be visible under a bright field. With the konimeter, only the total number of dust particles are measured - fibres are not singled out.

Another method of measuring dust is with a midget impinger which has been used since 1922. This method was used by Dreesen in his 1938 study of the asbestos textile industry in the United States, as a result of which the conclusion was reached that 5 mppcf was a good standard of cleanliness (it is impossible to translate this standard to fibres per cc). In the 1950s, the thermal precipitator was being used overseas.

Further details of dust sampling and measurement techniques are given in Mr. Major's paper to the First Australian Pneumoconiosis Conference in 1968 - Proceedings, page 7.

On his visit to Wittenoom, he found ABA's konimeter to be unserviceable; further, ABA's ventilation officer was a former school teacher who, although enthusiastic, had no experience or qualifications in respect of the use of the konimeter.

In his opinion, the Colonial Gorge mill in 1966 was too dusty for a mill processing any harmful substance, let alone asbestos. Everyone told him that the old mill (i.e. Wittenoom Gorge mill) was even dustier.

He would not have been at all surprised if, even in 1966, a person working in an office, which was 70 metres from the mill, contracted asbestosis. It is impossible to say how far dust will travel - the finer fibres might travel less but they do have a tendency to stick to larger fibres. Blue asbestos tends to shed far more fibres than white asbestos and it is far more dangerous as far as mesothelioma is concerned.

Even in the 1920s, people were conscious that big particles were less troublesome than the small ones. Silicosis was known to be caused by the small particles and not the large ones.

In 1966, ABA's respirator programme was very poorly conducted - it was not even a programme. Some of the respirators were of the right type but some were only 'nuisance dust' respirators. There was inadequate maintenance of the respirators and insufficient spare parts for them. Some workers did not even wear a respirator. Reluctance to wear respirators in the Wittenoom climate and mill conditions was understandable. The workers, who were subjected to the most amount of dust, were the maintenance workers who would get very dusty because they used to climb inside the machinery.

On the last day that he was at Wittenoom, the mill was not operating because the bag factory had burned down the previous night. He understands that some not very successful attempts were made to obtain further bags and that the mill and mine were closed down shortly afterwards. Unlined hessian bags were still being used.

In his opinion, the Colonial Gorge mill was as bad (i.e. dangerously dusty) as any mill he has seen. The only present operations he can compare it with are some mobile crushing plants (less than 600 tons per day) used in some quarries, and which have no dust suppression or extraction equipment. The Colonial Gorge mill was typical of the generally poor standards of the mining industry at the time.

His recollection is that Mr. Bob Marshall, who is now the Chief Inspector of Mines for New South Wales, was a worker at Wittenoom or a W.A. Mines Inspector. (Note our records show that Mr. R.F. Marshall was a CSR-seconded undergraduate engineer at Wittenoom from 1958-60.).

The main role of workmen's inspectors is to detect obvious safety hazards; such as potentially explosive or unsafe mining practices. Their training was insufficient to enable them to evaluate more subtle chronic hazards.

Mr. R.W. Green of H.P. Gregory's installed the bag filters at Wittenoom. Bag filters were being used in Canada in about 1957.

He is not very impressed with Professor M.S.T. Wood's statistical analysis of the incidence of asbestos- related disease at Wittenoom. It is not sound to sample 30% of the workers, and then calculate incidence rates on the basis of all the 6,000 workers who were at Wittenoom.

Mr. Major does not believe that the total number of mesothelioma cases from Wittenoom will be as large as Professor Hobbs estimates because .....

F.B.G.
23.3.79