PLAINTIFF'S EXHIBIT UC-402

UC 1547-2

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270 PARK AVENUE, NEW YORK, NEW YORK 10017

To (Name) Mr. J. A. Riddle
Division Mining and Metals Division
Location King City, California

Date July 7, 1966

Originating Dept Medical

Answering letter date

Copy to Mr. L. B. Emlet/C. E. Brown
Drs. J. J. Welsh/K. S. Lane
Mr. L. C. O'Rourke

Subject

Dear Mr. Riddle:

The following are the results of dust determinations at King City mine and mill June 22, 23, 1966. I'm sure they have been reported to you before now by Mr. Kamens, however, they are repeated here as a matter of record for our files.

Location	MPPCF[1,2]	Remarks
Mine Site - 6/22/66		
Beside operator of front loader (no cab) loading ore truck.	26.0	Contractor operator.
Beside operator of new Michigan front loader (air-conditioned cab)	3.0 7.9	Some dust came into cab through gear shift opening.
Area around truck during loading.	15.4	Visible dust.
General area around grizzly during truck loading	14.2	Much loose, finely divided material on ground.
Mill - 6/23/66		
Beside bagger operator (Morning)	8.9 11.2	Bagging open fiber Visible dust.
Same location (Afternoon)	7.8	Same
Beside operator at discharge of bag conveyor	14.3 14.8	Visible dust part of which was caused by hand shaping full bags.

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Location	MPPCF[1,2]	Remarks
Mill (cont'd)		
Press area	9.7	
Rock fiber circuit-general	7.4	
Beside front loader operator ore pile	20.2	
Ground floor around offices and switch board at north side of building	4.3	

1. MPPCF - Millions of particles per cubic foot of air.

2. Samples were collected by impingement in distilled water. Dust counts were performed by the light-field microscope technique at a magnification of 100 diameters.

You will note that there were only a few samples that showed dust concentrations below the recommended limit of 5.0 MPPCF. At the mine site the concentrations were influenced to a considerable extent by the presence of a large amount of loose, finely divided material in the haulage way for the front loaders. Loading operations kept the material stirred up enough that even in the general area varying from 20-50 feet from the grizzly the counts were several times the limit. In view of the findings it is recommended that the operator of the front loader that has no air-conditioned cab be supplied a respirator. For operation with an air-conditioned cab it appears that adequate dust control can be achieved if the opening around the gear levers can be sealed.

At the mill the principle source of dust still seems to be the bagging operation. Occasional bag ruptures and the loss of material from the bag valve when it is removed from the filling spout and when the bag drops to the conveyor all combine to produce more dust than the exhaust system can control. While we supply the bagger operator with a respirator, in view of the concentrations of dust that he may encounter, I believe it wise that we consider improvement in the dust control system. An additional reason for better dust control at the bagger is prevention of the spread of dust to other areas of the mill.

The high counts in the area of the discharge from the bag conveyor were related in part to the practice of hand shaping the filled bags. Each time a bag was hit there was a visible loss of dust from the valve. With this operating practice, it

was difficult to determine the effect of dust loss from the bagger at the conveyor discharge point. I suggest that the practice be eliminated if possible.

The high dust concentration around the operator of the front loader while dressing the ore pile indicates that he should wear a respirator while performing this and probably other operations involved in handling ore. I don't believe we can rely on the moisture content of the ore for adequate dust control.

In inspecting the mill I noted the new sample bucking room and the two hoods provided for dust control. I suggested that skirts of some type be provided for the sides and the backs of the hoods in order to provide more air velocity at the face. Mr. Cohan felt that the skirts could be made of canvas and not interfere with operations.

As Mr. Kamens gets further into the practices of routine dust evaluation I believe that additional equipment will be needed as follows:

1. Carrying case for impinger sampling tubes, sampling apparatus and other accessories. Mr. Kamens felt that such a case could be made in the shop at the plant.

2. Additional impingers. The present number is insufficient to allow a complete survey of the mill without interruption. I have enclosed a catalog that may be helpful in selecting a supplier.

3. Additional counting cells. As with the impingers the number is insufficient for the most efficient use of time in dust counting.

4. Stage micrometer for the microscope. This is desirable as a means for calibrating the field of view.

5. A dust count record book which I discussed with Mr. Kamens.

During this visit Mr. Crow informed me of the proposed study by the California Bureau of Occupational Health and I had a chance to review the letter from the Chief of the Bureau, Thomas H. Milby, M.D. As I understand it you will be contacted personally by a member of the Bureau in early July to make arrangements for the study at a later date in the summer. If possible I suggest we made the date as late in the season as

possible. I hope to be in King City for at least part of the study and the later date would be better for me as well as for the plant. I also suggest the following action prior to the study.

Mill:

1. Clean-up the loose asbestos around the outside and inside the plant. This, of course, is action that we would wish to follow routinely but I believe it especially important before the study.

2. Make certain that personnel are well indoctrinated in the use of respirators and also in the care of respirators. For example, a respirator should fit well and should be worn when conditions warrant. When not in use it should be stored away from dust.

3. Notify the plant physician of the impending visit. I have discussed this with Dr. K. S. Lane and he agrees that this is desirable because the State people may be planning to contact our physician.

4. Review the dust control system for the baggers so that even if we haven't modified it by the date of the visit we can point to our plans for improvement.

5. Eliminate any visible dust leaks in duct work, et cetera. This, too, is something we would normally do routinely but it is important especially before the visit.

Mine:

1. Remove finely divided, loose material from haulage way as much as possible.

It is important that the State investigators know that we are aware of the dust producing potential of this material and that we attempt to eliminate it.

As you know, we have developed a good deal of information about the characteristics of the material we have been handling. We have studied the size range of the air-borne dust and know that it varies considerably from the usual asbestos, being much shorter. Our studies of the settling rates in water made it necessary that we increase the settling time in counting cells in order to obtain reproducible results. Thus though we follow the United States Public Health Service dust collection

and count procedures (a copy of which is attached) we have found it necessary to modify the settling time. Our results therefore tend to be on the conservative (safer) side.

We have also found from electron microscope and optical microscope studies of the dust that the fibrous material is difficult to identify at usual magnification (100-400X). Therefore, in our count procedures as a matter of increased safety we consider all visible particles to be fibrous.

We made it a practice, of course, to keep up with the literature dealing with the toxicity of asbestos. We are aware of the developing beliefs that there is a relationship between exposure to dust and carcinoma. We make a special effort to stay abreast of experience with short fiber asbestos. I feel, therefore, that we can demonstrate to the State investigators that we have respect for asbestos dust and are constantly reviewing methods for handling it effectively.

Yours very truly,

Paul W. McDaniel
Industrial Hygiene Engineer

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encs.