UC 149-2

INTERNAL CORRESPONDENCE

PLAINTIFF'S EXHIBIT UC-719

MINING AND METALS DIVISION • P O BOX 579, NIAGARA FALLS, NEW YORK 14302

To (Name) Mr. J. L. Myers
Division
Location Niagara Falls, New York

Date July 24, 1972

Originating Dept. Research and Development Department

Answering letter date

Copy to Messrs. R. E. Byrne, Jr.
F. H. Larrison
J. W. Rawlings
H. Wyatt (Montello Sanitation Co.)
File ✓

Subject Zero Dust Asbestos for Drilling Muds

Dear John:

As noted in my ROC of 6/21/72 re Montello, a "dustless" asbestos will be important or possibly absolutely essential to maintain a position in the drilling mud market. An obvious way to solve this problem is to provide pellets with sufficient moisture to look damp but not be so wet that they stick together in the bag or freeze into a solid lump.

This letter presents the results of a preliminary look at the technical feasibility of pellets of this type from consideration of the end use. It is fully realized that there are real and substantial problems in the manufacture of such pellets and capital expenditures for plant equipment might be needed. The data presented herein are intended to provide part of the basic information needed to make a rational decision relative to this and possibly other aqueous end use asbestos markets.

The SVB pellets to be described were made by mixing equal weights of SVB and water and extruding the mix through a 5/32 die attached to a hand-operated meat grinder. (SVB used was Q.C. sample of October 1971 product.) The pellets were then dried at 100°C for various times to give a range of water contents between 13 and 37% (see Table I). The samples were then placed in a freezer at -5°C for 16 hours. The results of this test are also listed in Table I.

The data indicate that pellets in the range of 15-20% may have satisfactory physical properties. They look moist but do not appear to be excessively soft or sticky. They may stiffen a little on freezing but still break easily and do not form a mass. There is no way to tell from these small samples, however, whether these pellets will congeal into a solid mass when stacked and shipped.

The other key property needed for SVB is the ability to "open" under reasonable shear. We normally use the procedure developed for the AEC SVB purchases to check SVB. This is a particularly sensitive test intended to separate SVB from all other asbestos. A very short (4 minute) shearing period in a Multimixer is used to mix the mud (50% SVB - 50% bentonite). More typical "mud" laboratory procedures call for 20 minutes in the Multimixer or 5 minutes

at high speed in a Hamilton Beach mixer. A variety of these procedures have been used to assess the way in which the pellets with 20% moisture open. Results are shown in Table II.

Referring to Table II, the first sample, 1857-63-1, shows that under the very low shear conditions in the standard AEC test the relatively heavy wet pellets sank to the bottom of the Multimixer cup and did not open at all. When the same bentonite-asbestos mix was subjected to very high shear in the Waring Blender (Test 1857-63-2), outstanding properties were attained. The pellets when completely dry also opened quite well (see 1857-63-3).

The last four runs in Table II were made to give a better definition of the opening requirements. Test 1857-63-4 shows that four minutes at high speed in the Hamilton Beach gave excellent properties. This demonstrates that the pellets per se are not hard to open when there is sufficient agitation to carry them into the shearing zone. Some mud laboratories consider this shear level as a good approximation of what occurs in a well.

For runs 1857-65-1 and 1857-65-2 the wet pellets were "opened" in a Waring Blender before mixing the mud. Results are better but there was a pronounced tendency for the dry bentonite to coat the wet asbestos chunks and form almost a protective layer. There is also a serious question whether the most pellets could be ground in commercial equipment although a thin roll-crushed flakes are certainly possible technically.

In the last run, 1857-65-3, the bentonite was wet out first to avoid coating the pellets. Pellets were then added to the blend using the standard AEC 4 minute mix. The properties obtained just about meet the current SVB specifications.

It can be concluded from these data that the dustless pellets containing around 15% moisture are more difficult to open than the current Supervisbestos but can be opened quite satisfactorily under generally acceptable laboratory test conditions. Our experience with SG-200 pellets as SVB has demonstrated clearly, however, that actual field testing is the only way to get a reliable assessment of product performance.

We have thus gone as far as practical in the laboratory with reasonably encouraging results. In order to establish technical feasibility in the end use it is now necessary to determine whether the moist pellets congeal into a solid mass when shipped and, if not, whether these smaller but heavier pellets will open under field conditions. A preliminary assessment of the shipping behavior can be made by shipping several sacks of the moist pellets at the bottom of a regular shipment. A field test would require about 25 sacks (1250 pounds).

Preliminary discussions with the King City plant indicate that there are serious technical problems in preparing such relatively small quantities of moist pellets. As a compromise, it is suggested that about 1000 pounds of SG-200 filter cake be shipped to Niagara Falls. We can extrude and dry it to several moisture levels, bag it, and ship it to Oklahoma City. This should provide a Reasonably good answer to the shipping question and at least an assessment of whether there is an immediate and obvious opening problem.

HBR:cjb

H. B. Rhodes

TABLE I

CHARACTERISTICS OF WET SVB PELLETS

Sample No.	% Moisture	Appearance	
		As Is	After Freezing
1	37	Moist - sticky.	Pellets solid, stuck firmly together.
2	32.6	Moist - somewhat sticky.	Same as Sample #1.
3	20.0	Definitely moist. Did not stick.	Pellets free flowing. May be a little harder.
4	13.1	Some dry areas.	Pellets free flowing.

TABLE II

AEC SPECIFICATION TEST RESULTS - 20% MOISTURE SVB PELLETS

Data Reference	Procedure	AV	PV	YP	Comments
1857-63-1	Standard AEC test.	--	--	--	Did not open.
1957-63-2	Standard AEC mix. Open 2 minutes H.S.W.B.	60	13	94	-
1857-63-3	Pellets completely dry. Standard AEC test.	16	5	22	Typical values. Few unopened lumps.
1857-63-4	Standard AEC mix. Open 4 minutes on Hamilton Beach - high speed.	25	3	44	Excellent properties.
1857-65-1	Open SVB pellets 2 minutes H.S.W.B., then run standard AEC test.	6	2	8	Bentonite stuck to wet pellets.
1857-65-2	Same opened pellets. AEC with Hamilton Beach - low speed.	13	7	15	Marginal.
1857-65-3	AEC test except bentonite added to water alone and wet out. Then SVB pellets added.	13	7	15	Marginal.

J. L. Myers
F. J. Shortsleeve
J. W. Whittlesey
File

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UNION CARBIDE CORPORATION • METALS DIVISION • P. O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-278-3376

September 22, 1978

Mr. Ken Campbell
Montello, Inc.
6106 East 32nd Place
Tulsa, OK 74135

Dear Ken:

In accordance with our telephone conversation I have passed on to our OSHA expert the verbal information you supplied regarding a possible legal problem in Louisiana. He concurs in the course of action we outlined which includes:

1. Provide us with details, in writing, of the entire situation.

2. Strongly encourage the warehouse owner not to respond to any letters, phone calls, or other contacts by the other party.

3. Keep us informed immediately of any future contacts.

4. Encourage the warehouse owner to try to obtain a written confirmation from OSHA concerning their investigation of the complaint, i.e., that there was no asbestos exposure.

Regards,

Harry

Harrison B. Rhodes
Technology Manager

/rmm