JC 149-2

UNION CARBIDE

INTERNAL CORRESPONDENCE

SEP 13 1982

PLAINTIFF'S EXHIBIT

UC-2215

**MINING AND METALS DIVISION** • P. O. BOX K, KING CITY, CALIFORNIA 93930

To (Name) B. L. Ingalls
Division Metals Division
Location Niagara Falls, NY

Date May 14, 1982

Originating Dept.

Answering letter date

Subject Samples

Copy to D. F. Kapral
R. J. Klotzbach
R. O. Marsten
W. C. Thurber
R. G. Woolery

D. Kapral
Is this a dead issue?

Under separate cover, I am sending you four separate bags of material which were "extracted" from a tailings sample by Dr. Earl Flowers. He is the one who has "invented" a process to reduce the toxicity of asbestos. The samples are identified as:

1. Washed Fines, #6
2. Washed Coarse, #5
3. Product #2, Grey ppt. from 1st $(NH_4)_2 SO_4$
4. Product #5, Grey ppt. from 2nd " "

He has retained two gallons of liquid for lab analysis. He suggests that we analyze the "product" samples for asbestos content and metals, especially magnesium and iron. He claims that the "washed fines and coarse" are asbestos-free, neutral pH, and would grow grass if you add fertilizer and seed. They could be used for landfill.

After we signed a joint secrecy agreement, Dr. Flowers visited the plant on 2/19/82 to discuss his process. The attached sketch was copied from his blackboard "ramblings". He feels our mill tails would provide some of the raw materials for his process. A copy of the secrecy agreement and a couple of letters are enclosed.

He has tentative plans to be in Niagara Falls on 6/11/82 and I'd like to have him meet with Dan, Bob K., Bob W. and you. I'll be in Niagara Falls at that time also. I'll let you know when his plans are firmed up.

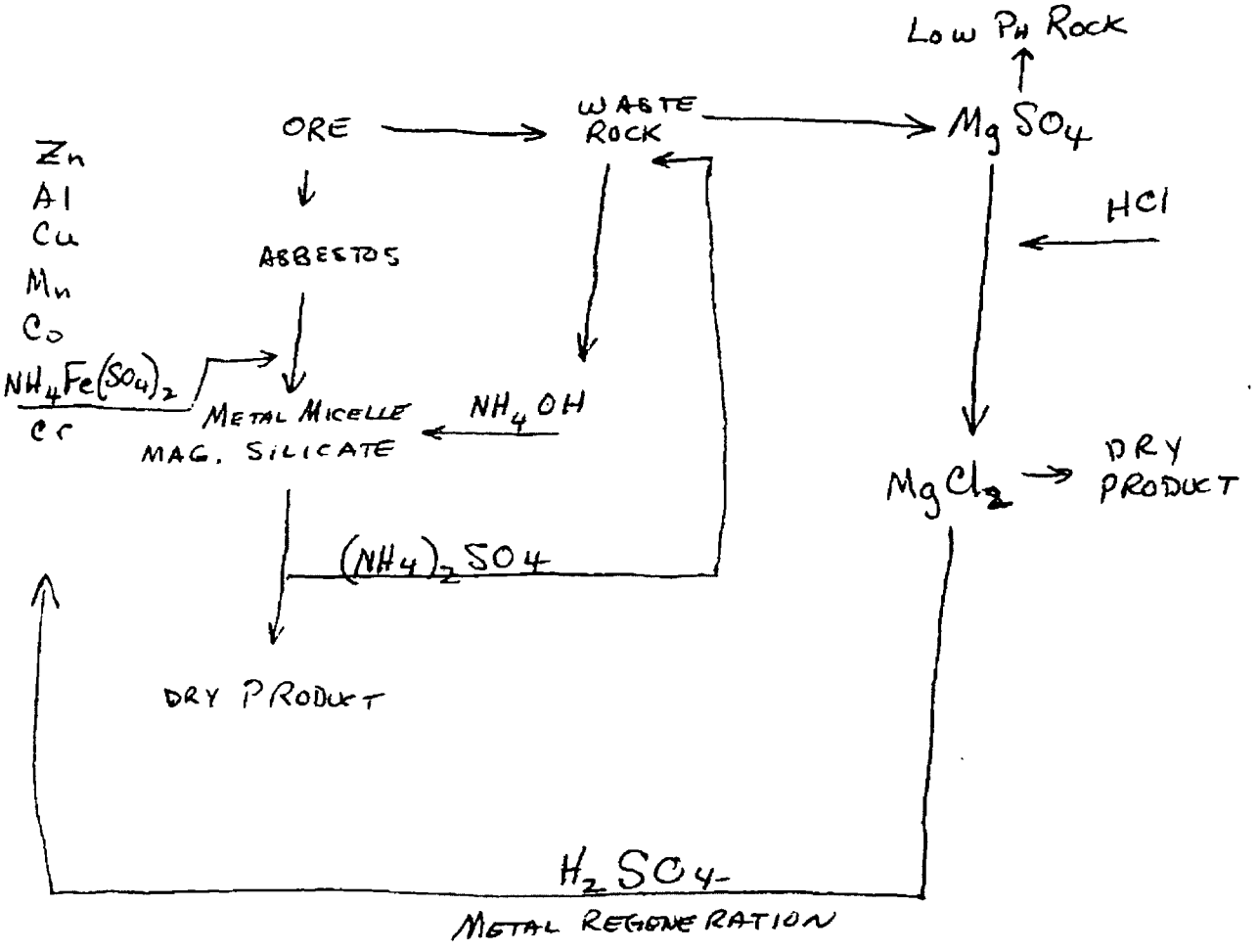
John L. Myers

/dm

RECEIVED
SEP 07 1982
PRODUCT DEVELOPMENT

MAY 18 1982

EARL S. FLOWERS, PhD
2-19-82




Copied by DLM 5/13/82

FLOW GENERAL INCORPORATED

EARL S. FLOWERS, PH.D.
CERTIFIED INDUSTRIAL HYGIENIST

101 RENE DRIVE
PETALUMA, CA 94952
707-762-5818

7695 OLD SPRINGHOUSE RD.
MCLEAN, VA 22102
703-821-8810

February 2, 1982

RECEIVED
FEB - 5 1982
UNION CARBIDE
KING CITY, CA

Mr. John L. Meyers
Operations Manager
Calidria Asbestos
Union Carbide Corporation
Metals Division
King City, CA 93930

Dear Mr. Meyers:

I enjoyed talking with you about my visiting the Calidria Mine near King City, California. As we discussed, I have invented a process for the chemical modification of an asbestos surface to decrease the toxicity of fibers to human lung cells, and I am interested in learning more about the wet process that you use in the mining of asbestos. Since my invention uses a wet slurry of asbestos, I believe that it would be possible to integrate my treatment into your mining operation.

Flow General Inc. owns the exclusive rights to my invention, and a patent on it is about to issue. We believe, based on data from Ontario Research Foundation, that the treatment will allow my chemically modified asbestos to substitute for untreated or native asbestos in a variety of applications.

To facilitate more detailed discussions prior to the issuance of the patent, I mentioned the need for an exchange of nondisclosure agreements to protect the interests of Union Carbide and Flow General. An agreement is enclosed for your information and examination. 2/9/82 Wants w/ by 2/15

I believe that the first week of March is an appropriate time for a visit to the mine. If you agree to an exchange of nondisclosure agreements, we can arrange a definite date for my visit.

Please call me (707/762-5818) to let me know your views on the timing of the visit, or if you have any questions.

Sincerely,

Earl F Flowers
by ABE

Earl S. Flowers, PH.D.

Enclosure

He was Here 2/19/82, w/ Lawrence Dr Bivort

Subsidiaries: Flow Laboratories, Inc. and General Research Corporation
An Equal Opportunity Employer

**Flow General Inc.**

7655 Old Springhouse Road
McLean, Virginia 22102, USA
(703) 893-5915

RECEIVED
MAR 25 1982

Earl S. Flowers, Ph.D.
101 Rene Drive
Petaluma, California
94952

March 22, 1982

3/26/82 Will be in Cin. wk of 6/7.
OK for mtg on 6/11/82
at 9am in NF

John L. Meyers
Operations Manager
Calidria Asbestos
Union Carbide Corporation
P.O. Box K
King City, California 93930

Dear Mr. Meyers,

It was a pleasure to visit the operation in King City and to learn more about Union Carbide's process for the wet extraction of asbestos. The background information on the discovery and development of the Coalinga asbestos deposit was very interesting.

I have evaluated the 5 pound sample of ore tailings with some interesting results. Essentially, I added ammonium sulfate solution to the tailings and recovered ammonium hydroxide, metal sulfates and magnesium hydroxide. The various samples have been submitted for quantitative analyses.

From my initial evaluation, the scheme that I outlined for extraction of alkalinity and magnesium values form the ore tailings appears to be technologically feasible. It is possible to generate the ammonium hydroxide needed for my treatment process by use of the ore tailings. In addition there appears to be a substantial ammount of iron in the form of magnetite that could provide a source for generating the iron treatment compound.

In evaluating the ore slurry as received from the mine I found that the components of the ore tailings also react with my treatment chemicals. It appears that the best stage for applying my treatment is after the asbestos has been separated from the tailings and oppened to the maximum surface area. The slurry solution is highly alkaline.

I would like to have a meeting at the Metals Division in Niagara Falls for a more detailed discussion of the treatment process. I will be in McLean, Virginia for the week of March 29th and at a conference on biological effects of mineral dusts from April 25-28. A one-day trip to Niagara Falls is possible for next week, or we could schedule a meeting sometime between April 4 and April 24. 6/11/82

Please contact me if you have any questions or comments.

Sincerely,

Earl S. Flowers

Earl S. Flowers, Ph.D.
Director of Special Projects

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