

FEB 24 1977

Ref: SA/ER

MEMORANDUM FOR: Lee Rouse, NMSS  
Kermit White, IE

FROM: G. Wayne Kerr, Assistant Director  
for State Agreements Program  
Office of State Programs

SUBJECT: LETTER TO URANIUM MILL OPERATORS IN NEW MEXICO

Enclosed are copies of the letters sent to uranium mill operators in New Mexico following the incident at the United Nuclear - Homestake Partner's mill, Grants, New Mexico.

We would appreciate receiving copies of similar correspondence, if any, sent to NRC licensees.

Original Signed by  
G. Wayne Kerr

G. Wayne Kerr, Assistant Director  
for State Agreements Program  
Office of State Programs

Enclosure:  
As stated

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February 10, 1977

G. D. Milligan  
Environmental Specialist-Administrative  
Kerr McGee Corporation  
Kerr McGee Center  
Oklahoma City, OK 73125

Dear Mr. Milligan:

As you may know there has recently been a uranium mill tailings dam failure in the Grants area. Since the dam that failed was constructed in a manner similar to the Kerr McGee dam in Ambrosia Lake, we request that Kerr McGee provide this Agency with information related to the possibility of a similar situation occurring at the Kerr McGee Mill.

Please provide the following information: within 30 days:

- 1) An analysis of the potential hazard to public health and safety and property damage associated with a break in the dam in which all liquor, slimes, and associated eroded sands that are impounded by the dam are released.
- 2) A description of existing and planned measures and systems which would prevent the released materials from leaving Kerr McGee property.
- 3) A description of existing and planned measures and systems which would prevent failure of the dam by washout due to a break in the slurry pipeline.
- 4) A description of the clean-up and reclamation of the area affected by such a failure.

In light of the recent failure, the Agency is very concerned about this problem and would appreciate your continued cooperation in these matters related to impact on public health, safety and property.

I would like to take this opportunity to acknowledge the receipt of your letter of February 3, 1977. We are in the process of evaluating your request and would appreciate receiving any additional analyses of impact of mine backfill with mill tailings that you might have. Reference was made in your letter to the Ra 226 content in the tailings, do you also have data on the Th 230 and Pb 210 concentrations?

JK-6

G. D. Milligan  
~~February 10, 1977~~  
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If we may answer any questions relating to these subjects, please contact Mr. Patrick Donahoe or me.

Sincerely,

Alphonso A. Topp, Jr.  
Environmental Scientist III

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ENVIRONMENTAL IMPROVEMENT AGENCY  
Radiation Protection Section  
P.O. Box 2348 - Crown Building  
Santa Fe, NM 87503

February 9, 1977

H. John Abbiss  
United Nuclear Corp.  
P.O. Box 3951  
Albuquerque, NM 87110

Dear Mr. Abbiss:

A recent tailings dam failure of a dam built in essentially the same manner as you propose in your application has caused this Agency to Re-examine its position with respect to tailings dams so constructed.

Please provide this Agency with your analysis of the potential public health hazard and the damage created by assumed breaks in your proposed dam as it approaches maximum height. Breaks should be assumed to cut the dam completely to spill all liquids and to occur (1) at the Southwest corner of your dam and (2) near the center of your dam.

In light of the recent dam failure, this Agency is very concerned over the proximity of the Church Rock dam to the pipeline arroyo stream and the lack of an adequate company controlled buffer zone immediately downstream of the dam. Please provide assurance that preventive measures to contain liquor, slimes, and sands on your property and not in the stream or across public land will be effective for the maximum break.

Please be advised that the Agency is presently evaluating your letter of February 2, 1977 and will respond to it in the near future. If you have any questions please contact Mr. Patrick Donahoe or me.

Sincerely,

Alphonso A. Topp, Jr.  
Environmental Scientist III

AAT:PFD:feb

P. O. Box 2348, Santa Fe, NM 87503

Environmental Improvement Agency  
RADIATION PROTECTION SECTION

February 11, 1977

*Dr. Lynn Jacobson (946 2/14/77)*

~~E. E. Mauer~~  
Sohio Petroleum Company  
6001 Marble N.E.  
Suite 15-16  
Albuquerque, NM 87110

*Dr. Jacobson*  
Dear ~~Mr. Mauer~~:

As you may know, there has recently been a uranium mill tailings dam failure in the Grants area. This incident has resulted in a re-examination of the Agency's policy regarding such retention systems. The Agency is in need of certain information regarding your waste retention system to aid us in our evaluation.

Please provide the following information:

- 1) An analysis of the potential hazard to public health and safety and property damage associated with a break in the dam in which all liquor, slimes, and associated eroded sands that are impounded by the dam are released.
- 2) A description of existing and planned measures and systems which would prevent the released materials from leaving the Sohio Petroleum Company property.
- 3) A description of existing and planned measures and systems which would prevent failure of the dam by washout due to a break in the slurry pipelines
- 4) A description of the clean-up and reclamation of the area affected by such failure.

Please refer to any information already submitted to the Agency. A response within 30 days would be greatly appreciated.

The Agency is very concerned about this problem and values your continued cooperation in these matters related to potential impact on public health, safety and property. If there are questions regarding this request, please contact Mr. Patrick Donahoe on me.

Sincerely,

Alphonso A. Topp, Jr.  
Environmental Scientist III

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FEB 11 1977

DEPARTMENT OF HEALTH AND  
ENVIRONMENT DIVISION

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

SATAAN MEMORIAL BUILDING  
STATE CAPITOL  
SANTA FE, NEW MEXICO 87503

February 11, 1977

Mr. Russell Rhoades, Chief  
Radiation Protection Section  
Environmental Improvement  
Agency  
Post Office Box 2348  
Santa Fe, New Mexico 87503

Dear Mr. Rhoades:

In response to a verbal request from the Environmental Improvement Agency the writer inspected the United Nuclear-Homestake Partners tailings

POND  
LOCATED

pond located in the North 4 Section 26, Township 12 North, Range 10 West N.M.P.M. on February 8, 1977. In addition the writer attended a meeting in the Santa Fe offices of the Environmental Improvement Agency along with representatives of the EIA, United Nuclear-Homestake Partners and International Engineering of San Francisco, California. Dr. Edward Smith of International Engineering presented a verbal report concerning the breaching of the tailings pond east cell and the utilization of the tailings pond west cell for storage of tailings.

To facilitate reopening of the United Nuclear Homestake Partners mill the corporation has agreed to limit operation of the tailings pond west cell as follows:

1. Maintain a freeboard of at least 5 feet at all times. Freeboard being the vertical distance between the water surface and the embankment crest.
2. Maintain a beach of at least 50 feet at all times between the water surface and embankment crest.
3. Maintain the water level in the tailings pond west cell within  $\pm 0.5$  foot of that now existing.

It is my opinion that the condition of the west cell is adequate for storage of tailing subject to the above restrictions.

Sincerely,

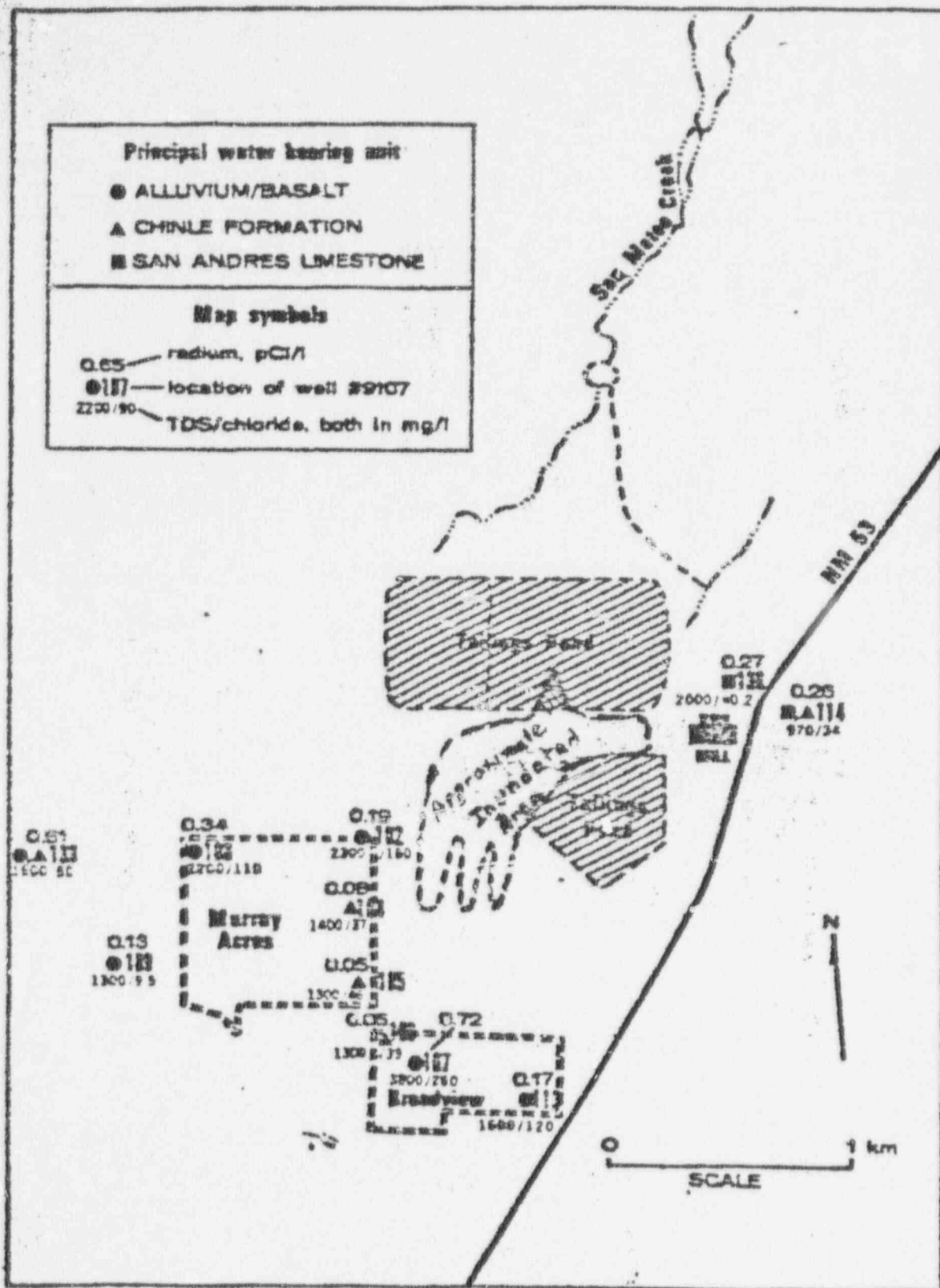


Figure 7.

United Nuclear-Homestake Partners Mill

February 11, 1977

Mr. Russell Rhoades  
Division Director  
Environmental Improvement Agency  
Santa Fe, New Mexico 87501

Dear Mr. Rhoades:

United Nuclear - Homestake Partners proposes normal mill operations at its uranium processing mill near Grants, New Mexico with tailings discharge to the western section or compartment of the existing tailings facilities, pending review by your agency, on the following basis:

1) The water level in the western pond will be maintained in accordance with Items 1, 2 and 3 of the State Engineer's Office letter of February 11, 1977. It is recognized that adjustments in measurements must be made from time to time in terms of slime buildup.

2) Surveillance of the crest of the entire tailings dike and mill tailings discharge pipelines will be maintained on a 24-hour basis by personnel assigned solely to such function. The personnel have recently been equipped with walkie-talkies and additional transmittal equipment has been ordered for such personnel and will be installed when received.

3) A switch will be made from Dresser couplings to Maylor Quik-lock-type couplings on the discharge line in the entire tailings pond dike. The switch will be completed before discharge begins.

4) An alarm system will be installed upon the discharge line, the objective of which will be that the alarm system would be activated when a substantial reduction in pressure in the tailings discharge line is experienced. Specifications for the system will be submitted to the Environmental Improvement Agency by March 1, 1977. Plans and recommendations relating to an improved lighting system for the tailings pond area will be submitted as soon as reasonably practicable.

5) United Nuclear - Homestake Partners shall submit to the Environmental Improvement Agency within ninety (90) days from the date hereof a dike stability analysis of the entire pond. United Nuclear - Homestake Partners shall also



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submit a work schedule in connection with the study by March 1, 1977, giving the times of various stages of the work. It is anticipated that this study will be done by International Engineering Company of San Francisco.

6) United Nuclear - Homestake Partners shall submit to the Environmental Improvement Agency and the State Engineer's office reports on a weekly basis of water levels in the west tailings compartment pending completion of said study.

7) United Nuclear - Homestake Partners shall immediately instruct its appropriate mill personnel to institute emergency shut-down control should any indications develop that major spillage appears probable.

It is understood that the Environmental Improvement Agency will be reviewing various submittals by United Nuclear - Homestake Partners and operations will be continued under the above provisions pending such review. It is further understood that United Nuclear - Homestake Partners may wish to submit for the agency's review information changing measurements from water levels to freeboard levels which would be subject to further agreement between the parties.

Sincerely yours,

UNITED NUCLEAR - HOMESTAKE PARTNERS  
By: Paul M. Price, General Manager

By: HOMESTAKE MINING COMPANY

By: s/ A. B. Cottens  
A. B. Cottens  
Manager, Uranium Division

#### APPENDUM

It is recognized that it will be necessary to initially build up the pond level to the decant tower so that water will discharge. It is understood that it may be initially necessary to raise the level above six inches (6") to remove accumulation of slimes so that the water will flow to the decant tower, after which time the six-inch variation in level shall be maintained.