

T. W. Quigley
Environmental Project Leader
Sand Rock Mill
Minerals Department



Conoco Inc.
555 Seventeenth Street
Denver, CO 80202
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PDR
Return to
D. Cramer
396-55

May 8, 1981



Ms. Catherine Kraeger-Rovey
Ott Water Engineers, Inc.
2701 Alcott Street, #262
Denver, Colorado 80217

Re: Additional Reference Materials for Sand Rock Mill Project - NRC
Docket No. 40-8743

Dear Ms. Kraeger-Rovey:

Enclosed are two documents which are currently lacking in your files on this project:

1. Response to Ott Water Engineers on Hydrological Methodology, dated January 20, 1981
2. Dames and Moore Preliminary Site Evaluation and Geotechnical Investigation - Mill Site and Tailings Disposal Area, Moore Ranch Uranium Project, Campbell County, Wyoming, October, 1979

Please note on the cover letter to Item 1, a copy was transmittted to Jim Barrett of Ott Water Engineers. A duplicate copy is being sent at this time, along with individual copies to both Linda Peck and Tom Fleming of the NRC. Item 2 was previously furnished to the NRC on September 4, 1980.

If you have any question regarding this material, please contact me.

Sincerely,

T. W. Quigley
T. W. Quigley

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Enclosures

- cc: J. E. Cearley (w/o enc.)
D. W. Bollig (w/o enc.)
Tom Fleming - NRC (w/enc. of Item 1)
Linda Peck - NRC (w/enc. of Item 1)
Jim Barrett - Ott (w/enc. of Item 1)



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Add'l info



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January 20, 1981

Ms. Kathy Hamill
Project Manager
U.S. Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Spring, Maryland 20910

Re: Responses to Ott Water Engineers Comments on Hydrological Methodology - Sand Rock Mill Project - NRC Docket No. 40-8743

Dear Ms. Hamill:

On October 31, 1980, Conoco staff members discussed hydrological methods with you and your consultants (Ott Water Engineers) regarding procedures used by Conoco in the Sand Rock Mill Environmental Report. After careful study and consideration of the questions raised, Conoco is offering the following commentary.

Below is a discussion of the length of test requirements for applicability of the straight line method, (modified Theis equation) and the time values which these tests should yield a straight line plot.

A plot of the well function, $W(u)$, and the inverse of the well function variable, $1/u$, shows that one should expect the straight line to be applicable near a u value of 0.1 (see Figure 1). Even the $1/u$ value of 5 (u of 0.2) plots very close to the straight line. Therefore, Theis' theory shows that the straight line method should be applicable for u values less than 0.1, instead of the 0.01 which Jacob recommended.

A match of log-log data plots to the Theis type curve were made using the transmissivities obtained from the straight line method. In general, a good match was obtained between the data and the type curve. The test time for a u value of 0.1 was noted. The following table gives the time since the test started for the u values of 0.1 and the length of the test.

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DUPLICATE

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