

JUN 4 1982

Docket File No. 40-8793

- 1 -

WMUR:YAY
Docket No. 40-8793

DISTRIBUTION

PDR
WMUR r/f
WMUR w/f
WM r/f
NMSS r/f
NRC Region IV
YAYoung
JJLinehan
HJPettengill
DEMartin
RAScarano
REBrowning
JBMartin
BFisher

Gillen
Johnson
Pohle
Ross

MEMORANDUM FOR: Docket File No. 40-8793
FROM: Yvonne A. Young, Project Manager
Operating Facility Section I
Uranium Recovery Licensing Branch
SUBJECT: MEETING WITH CONOCO INCORPORATED (RUBY RANCH PROJECT SITE)

Place and Date

Willste Building, Silver Spring, Maryland
May 5, 1982

Attendees

NRC

Conoco

Dan Gillen
Ted Johnson
John Linehan
Jeffrey Pohle
Fred Ross
Yvonne Young

Duane Bollig
Ted Quigley
Calvin Chien

Purpose

To discuss the status of overdue submittals requested in a letter from the NRC dated 2/11/82 and the results of the NRC's review of Conoco's aquifer pump test.

Summary of Meeting

In December, 1981, Conoco Incorporated submitted an application for their proposed Ruby Ranch In Situ Project.

Following the NRC's review of this submittal, additional information was requested in a February 11, 1982 letter. A delay in Conoco's submittal of the requested information in addition to NRC concern's with their pump
DIST: 40-8793/yay/82/05/10/0
TICKET NO:

OFC	: WMUR	: WMUR	: 8208040542	: 820604	:	:
			: PDR	: ADOCK 04008793	:	:
			: C	: PDR	:	:
NAME	: YAYoung:ag	: JJLinehan	:	:	:	:
DATE	: 6/ /82	: 6/ /82	:	:	:	:

JUN 4 1982

Docket File No. 40-8793

- 2 -

test, resulted in a meeting with Conoco Incorporated. Major points of discussion and commitments are as follows:

1. NRC staff indicated that review of Conoco's application could proceed no further until information requested on 2/11/82 was received. Conoco committed to provide NRC with a proposed response date by 5/20/82.
2. Conoco Incorporated's May 6, 1981 pump test analyses (analyzed using the Hantush method) was reviewed by our Consultant Hydrologist, Dr. Roy E. Williams. Dr. Williams' review indicated that the primary deficiency of Conoco's pump test is that the hydraulic characteristics of the multiple aquifer-aquitard system using the Hantush method have not been adequately defined. Therefore, it should not be concluded, as Conoco did, that the overlying sand is hydraulically isolated from the "70" sand.

Dr. Williams further concluded that in order to determine the amount of water that is released from storage in the aquitards, and to determine the vertical hydraulic conductivity of the aquitards, it is necessary to measure changes in pore water pressure that occur in the aquitards during the pump test (using the state-of-the-art method, the ratio method, by Neuman and Witherspoon in evaluating multiple aquifer-aquitard systems). Therefore, a new aquifer pump test was recommended to collect these data.

3. Conoco's plans were not to conduct an additional pump test, determined necessary by NRC and WyDEQ, and water quality testing until after an NRC license and WyDEQ permit were issued. Testing would probably be in spring-summer '83. According to Conoco, this has been agreed to by WyDEQ. Conoco stated that at their April 29, 1982 meeting with WyDEQ, Ms. Paula Schmitt diel (WyDEQ) and Mr. Gary Beech (WyDEQ) had particular concerns regarding the confinement of Ruby Ranch's ore-zone because the pump test was conducted about 300 feet north of the production zone. As a result of the meeting with WyDEQ, Conoco proposed additional pump testing at the Ruby Ranch Project site in spring-summer 1982 consisting of another 24 or 36 hour pump test. WyDEQ preferred a longer duration for the pump test. However, Conoco contemplates using the Hantush method for their pump test in lieu of the ratio method by Neuman and Witherspoon. Conoco's Hydrological Engineer, Dr. Calvin C. Chien, feels that the ratio method is not a fully

DIST: 40-8793/yay/82/05/10/0

TICKET NO:

OFC :	WMUR	:	WMUR	:	:	:	:	:
NAME :	YAYoung:ag	:	JJLinehan	:	:	:	:	:
DATE :	6/ /82	:	6/ /82	:	:	:	:	:

JUN 4 1982

Docket File No. 40-8793

- 3 -

substantiated method for conducting pump tests because the original testing program upon which the theory is based did not consider tidal effects.

NRC staff explained that additional pump testing could not be deferred unless the staff could make a determination, using existing information, that there was basic confinement of the ore zone. If this was found to be the case, the NRC could proceed with the license review. If a decision was then made to issue a license, it would be conditioned to require a pump test to be run prior to injection of lixiviant. NRC review of this pump test might result in tighter operational controls and more stringent monitoring.

- 4. Conoco agreed to submit a proposed design for additional pump testing. NRC will coordinate its review with WyDEQ.

It was agreed that Conoco would submit the following information supporting a determination of ore zone confinement by 6/4/82:

- 1) Geophysical and lithologic logs for pump test area, proposed R&D well field area, and area between (if available)
- 2) Preliminary estimate of vertical permeabilities and travel times and,
- 3) Potentiometric data to show that the different lithologic units are separate and distinct.

Within 4 weeks of receipt of the above information, the NRC will notify Conoco whether existing information is adequate to determine basic confinement or if an additional pump test is necessary to make this determination.

- 5. Another concern of WyDEQ, as Conoco stated, was the possible need for installation of a monitor well in each overlying aquifer. Based on our review to date, the NRC doesn't feel that installation of a monitor well in each overlying aquifer is necessary. However, the NRC staff indicated to Conoco that we have not considered this matter on a generic basis, and that we will be reviewing this matter as well as other matters of the proposed operations of ISL with WyDEQ, prior to making any licensing decisions.

DIST: 40-8793/yay/82/05/10/0

TICKET NO:

OFC	:	WMUR	:	WMUR	:	:	:	:	:
NAME	:	YAYoung:ag	:	JJLinehan	:	:	:	:	:
DATE	:	6/ /82	:	6/ /82	:	:	:	:	:

JUN 4 1982

Docket File No. 40-8793

- 4 -

- 6. Conoco stated that they will consider modifications to their proposed leak detection system (LDS) as suggested in the NRC's February 11, 1982 letter regarding the construction of the LDS. The NRC staff pointed out and Conoco agreed that the leak detection system would have to be field tested prior to operation, as suggested in the staff position on liners (WM-8101).
- 7. Briefly, Mr. Dan Gillen, NRC, reviewed a rough draft of Conoco's layout of the evaporation ponds and provided Conoco with some general comments concerning the geotechnical aspects of the ponds' layout.

By May 5, 1982, Conoco will inform the NRC staff of a date by which time the final evaporation pond report (including construction specifications and pond cross sections which were not included with the application) will be submitted for NRC's review.

151

Yvonne A. Young, Project Manager
 Operating Facility Section I
 Uranium Recovery Licensing Branch
 Division of Waste Management

APPROVED BY:

151

John J. Linehan, Section Leader
 Operating Facility Section I
 Uranium Recovery Licensing Branch

Enclosures:

Consultant Hydrologist, Dr. Roy E. Williams' March 12, 1982 letter/review of Conoco Pump Test Analyses *mc: 20362*

Original signed Meeting Minutes of Meeting held on 5/5/82

CC: W. Ackerman - WyDEQ
 P. Schmittiel - WyDEQ
 T. Quigley - Conoco

DIST: 40-8793/yay/82/05/10/0

TICKET NO:

OFC	: WMUR	:	WMUR	:	:	:	:	:
NAME	: YAYoung:ag	:	JJLinehan	:	:	:	:	:
DATE	: 6/04/82	:	: 6/4/82	:	:	:	:	:

5/5/82 CONOCO RUBY RANCH R&D ISL

A meeting was held with Conoco to discuss the status of submittals requested in a letter from the NRC dated 2/11/82 and the results of the NRC review of Conoco's aquifer pump test. Major points of discussion and commitments are as follows:

1. NRC staff indicated that review of Conoco's application could proceed no further until information requested on 2/11/82 was received. Conoco committed to provide NRC with a proposed response date by 5/20/82
2. Conoco's plans were not to conduct an additional pump test, determined necessary by NRC and DEQ, and water quality testing until after an NRC license and DEQ permit were issued. Testing would probably be in spring-summer '83. According to Conoco this has been agreed to by DEQ. NRC staff explained that additional pump testing could not be deferred unless the staff could make a determination with existing information that there was basic confinement of the ore zone. If this was found to be the case, the NRC could proceed with the license review. If a decision was then made to issue a license, it would be conditioned to require a pump test to be run prior to injection of lixiviant. NRC review of this pump test might result in tighter operational controls and more stringent monitoring.

It was agreed that Conoco would submit the following information supporting a determination of ore zone confinement by 6/4/82:

- 1) Geophysical and lithologic logs for pump test area, proposed R&D well field area, and area between (if available)
- 2) Preliminary estimate of vertical permeabilities and travel times and,
- 3) Potentiometric data to show different lithologic units are separate and distinct.

Within 4 weeks of receipt of the above information, the NRC will notify Conoco whether existing information is adequate to determine

basic confinement or if an additional pump test is necessary to make this determination.

3. Conoco will submit a proposed design for additional pump testing. NRC will coordinate its review with WyDEQ.

Yvonne Young, NRC
T.W. Lingle, Conoco
Sharon W. Bellis, Conoco
John J. [unclear], NRC