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Hydrogeology • Mineral Resources Waste Management • Geological Engineering • Mine Hydrology

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August 2, 1985
Contract NRC-02-82-044
FIN #B7372-3
Communication #137

Mr. Matthew Gordon
Division of Waste Management
Mail Stop 623-SS
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

WM-RES
WM Record File
B7372
WVA

WM Project 10
Docket No.
PDR ✓
LPDR ✓ (B)

Re: Thirty-seventh Monthly Progress Report

Distribution:
Gordon
x Still
(Return to WM, 623-SS)
Jean-Licker for Gordon
of

Dear Matt:

This document constitutes the thirty-seventh monthly (July 1-31, 1985) progress report as required by contract No. NRC-02-82-044 and modification.

Task 1, Subtask 1.1

A document list for references received this month is attached.

Task 1, Subtask 1.2 through Subtask 1.3

These subtasks are completed.

Task 2 and 3

These tasks have been completed.

Task 4

The work conducted under this active task is the preparation to review the BWIP Site Characterization Plan (SCP).

Task 6

Williams & Assoc., Inc. reviewed the draft BWIP EA previously. The NRC comments on the draft EA have been received.

Additional Work Performed

We submitted, in April, a request (Communication #123) to the NRC that an alternate means of quantifying effective porosity be investigated for the BWIP site. This approach is based on the application of methodologies using barometric and earth tide data for quantification of this parameter. Mr. Gordon raised several pertinent questions regarding this request. We responded to these questions in Communication #126. We still are considering this topic.

We continued our efforts on the statistical analysis of the latest hydrochemical data produced by Rockwell Hanford Operations. A first draft of the report on this analysis has been submitted to the NRC as Communication #124. Comments were received from the NRC on this draft. We revised the draft report based on these comments. A second draft of the report was submitted to the NRC as Communication #131. Comments have been received from the NRC on this second draft. The changes requested by the NRC have been started.

We completed and submitted reviews of SD-BWI-DP-059 (Communication #133), SD-BWI-TC-023 (Communication #133), a letter report from Mr. Rowe of Golder Assoc. to Mr. Luttrell of Rockwell Hanford Operations (Communication #134), and SD-BWI-TP-039 (Communication #135). We have completed our review of "Basalt System Characterization: Inverse Technique" by Lu and Yeh. Our review was forwarded as Communication #136. We believe this last document is important to the analysis of the upcoming large scale stress (pumping) test scheduled for this fall at the BWIP site.

We have been discussing the NRC trip to the BWIP site with the Project Officer. Williams and Associates may be involved in this trip.

Future Activities

Williams and Associates will continue their preparation for the review of the Site Characterization Plan (SCP). We will review the appropriate documents as directed by the project officer.

We hope to receive copies of the released baseline data for the BWIP site for the months following December 1984. We will perform the same analyses on these data as we performed on the data we presented to the NRC in May. Relevant concerns developed from this data review will be forwarded to the project officer.

We will review the document forwarded by the Project Officer

entitled "Numerical Modeling of the Groundwater Flow System at the Location, Hanford Site, Washington".

Contractural Problems

No contractural problems have arisen.

Current Expenditures

A break down of individual hours and charges plus travel expenses is shown on the attached Table 1. Cumulative costs and projected costs are shown on the attached Table 2.

Sincerely,

Roy E. Williams
Roy E. Williams

TABLE 1
INDIVIDUAL HOURS AND CHARGES

	<u>This Month</u>	<u>Cumulative Expenses</u>
Roy Williams	16 hrs=\$ 736.00	1067 hrs=\$47,135.00
Gerry Winter	52 hrs= 884.00	4554.5 hrs= 77,525.50
Dale Ralston	6 hrs= 240.00	673.5 hrs= 26,055.00
Jim Osienky	0 hrs= .00	4 hrs= 63.00
Jeffrey Brown	0 hrs= .00	267.5 hrs= 9,362.50
K. Steinhorst	0 hrs= .00	122.25 hrs= 4,278.75
Clerical	3.5 hrs= 28.00	471.65 hrs= 3,753.20
Key punch	0 hrs= .00	28.5 hrs= 195.00
Travel	\$.00	27,519.58
TOTAL (includes over- head, etc.)	\$ 3,339.03	\$311,042.28

TABLE 2
CURRENT AND CUMULATIVE PROJECT COSTS

TASK	CURRENT MONTH	CUMULATIVE TO DATE				TOTAL TO DATE	PROJECTIONS	
		FY82	FY83	FY84	FY85		NEXT MONTH/CUMULATIVE	
1	Complete	\$67,549	\$-----	\$-----	\$-----	\$67,549	\$-----	Complete
2	Complete	\$23,930	\$51,257	\$-----	\$-----	\$75,187	\$-----	Complete
3	Complete	\$-----	\$25,846	\$-----	\$-----	\$25,846	\$-----	Complete
4	\$ 3,339	\$-----	\$-----	\$88,484	\$35,321	\$123,805	\$ 6,000	\$129,805
6	\$ -----	\$-----	\$-----	\$-----	\$18,655	\$18,655	\$-----	\$ 18,655
TOTAL	\$ 3,339	\$91,479	\$77,103	\$88,484	\$53,976	\$311,042*	\$ 6,000	\$317,042

TOTAL CONTRACT LIMIT PLUS MODIFICATIONS

\$390,625

* Round off error from total in Table 1

REFERENCE LIST

- Brace, W. F. 1980. Permeability of Crystalline and Argillaceous Rocks. *International Journal of Rock Mechanics and Mineral Science & Geomechanics*, vol. 17, p. 241-251.
- Hantush, M. S. 1964. Drawdown around Wells of Variable Discharge. *Journal of Geophysical Research*, vol. 69, no. 20, p. 4221-4235.
- Moench, A. F. 1985. Reply to comment by Williams. *Water Resources Research*, vol. 21, no. 6, p. 893-894.
- Neuzil, C. E. 1985. Comment on "Possible Effects of Erosional Changes of the Topographic Relief on Pore Pressures at Depth" by J. Toth and R. F. Millar. *Water Resources Research*, vol. 21, no. 6, p. 895-898.
- Sharma, H. C., Chauhan, H. S., and Sewa Ram. 1985. Hydraulics of a Well Pumped with Linearly Decreasing Discharge. *Journal of Hydrology*, vol. 77, p. 281-291.
- Sun, Ne-Zheng and Yeh, W. G. 1985. Identification of Parameter Structure in Groundwater Inverse Problem. *Water Resources Research*, vol. 21, no. 6, p. 869-883.
- Toth, J. and Millar, R. F. 1985. Reply to comment by Neuzil. *Water Resources Research*, vol. 21, no. 6, p. 899-903.
- Williams, R. E. 1985. Comment on "Double-Porosity Models for a Fissured Groundwater Reservoir With Fracture Skin" by Allen Moench. *Water Resources Research*, vol. 21, no. 6, p. 889-891.
- Witherspoon, P. A. and Gale, J. E. 1977. Mechanical and Hydraulic Properties of Rocks Related to Induced Seismicity. *Engineering Geology*, vol. 11, p. 23-55.