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

August 2, 1985
Contract NRC-02-83-033
FIN #B-7389-3
Communication #57

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

Re: Twentieth Monthly Progress Report

Dear Fred:

This document constitutes the twentieth monthly (July 1-31, 1985) progress report as required by contract No. NRC-02-83-033.

Task 1, Subtask 1.1

Documents which we have obtained are noted in the attached reference list. The documents received this month are listed by category (Palo Duro, Paradox, and Salt Domes plus a Generic category for non-site specific reports). We are continuing to order copies of all ONWI documents either published or to be published which we feel will have some bearing on our efforts. We are obtaining copies of non-ONWI reports and articles which may have a bearing on our efforts.

A series of reports, prepared by the Texas Bureau of Economic Geology, were received from the NRC. We have reviewed those reports you designated as being important for the upcoming meeting in Austin, Texas. We have reviewed most of the other reports received this month on a 'for our information' basis. Formal written reviews have not been prepared per your instructions.

Task 1, Subtask 1.2, 1.3, and 1.4

These subtasks have been completed.

Task 2, Subtask 2.1

A reference list is attached for those documents received this month pertaining to the Paradox Basin. See Subtask 1.1 for details concerning our parallel effort on this subtask.

Task 2, Subtask 2.2, 2.3, and 2.4

These subtasks have been completed.

Task 3, Subtask 3.1

A reference list is attached for those documents received this month pertaining to salt domes. See Subtask 1.1 for details concerning our parallel effort on this subtask.

Task 3, Subtask 3.2, 3.3, and 3.4

These subtasks have been completed.

Task 4

This task is inactive at this time.

Task 5

The Environmental Assessments (EA) for Deaf Smith County, Swisher County, Lavender Canyon, Cypress Creek Dome, Vacherie Dome, and Richton Dome have been reviewed previously. The final NRC comments on the draft EA's have been received; we have reviewed these comments per instructions received from the project officer. We have reviewed the EA comments prepared by the U. S. Department of Interior and the state of Utah.

Future Activities

Williams and Associates will continue their efforts to obtain all relevant documents pertaining to the salt repository sites. We are continuing to review all the reports received from ONWI pertaining to salt sites. In addition, we will review the documents we obtain through our own initiative. These documents deal with the sites and subjects pertinent to the hydrogeologic analysis of data. We will continue our review of those documents that precede the receipt of Site Characterization Plans (SCP).

Williams and Associates have made travel plans to attend the August 5-8, 1985, meeting in Austin, Texas. This meeting is with the Texas Bureau of Economic Geology, NRC, and the DOE.

We will complete our review of the documents you forwarded this month to Williams and Associates. These documents will be reviewed for our information only at this time.

Contractural Problems

We have no contractural problems.

Current Expenditures

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

Sincerely,

Gerry Winter

TABLE 1
INDIVIDUAL HOURS AND CHARGES

	This Month		Cumulative Expenses	
Gerry Winter	124 hrs=	$2108.00	1891.5 hrs=	$31,219.50
John Sharp	6 hrs=	240.00	293 hrs=	11,720.00
Jeffrey Brown	0 hrs=	.00	424 hrs=	14,840.00
Jim Osiensky	0 hrs=	.00	175.5 hrs=	2,808.00
Terry Eckwright	0 hrs=	.00	366 hrs=	4,758.00
Roy Williams	32 hrs=	1472.00	440 hrs=	20,700.00
C. Smith	0 hrs=	.00	108.00 hrs=	7,650.00
Clerical	0 hrs=	.00	128.90 hrs=	1,196.10
Travel	$	.00		12,583.92
TOTAL (includes overhead, etc.)	$ 6,962.63			$193,451.91

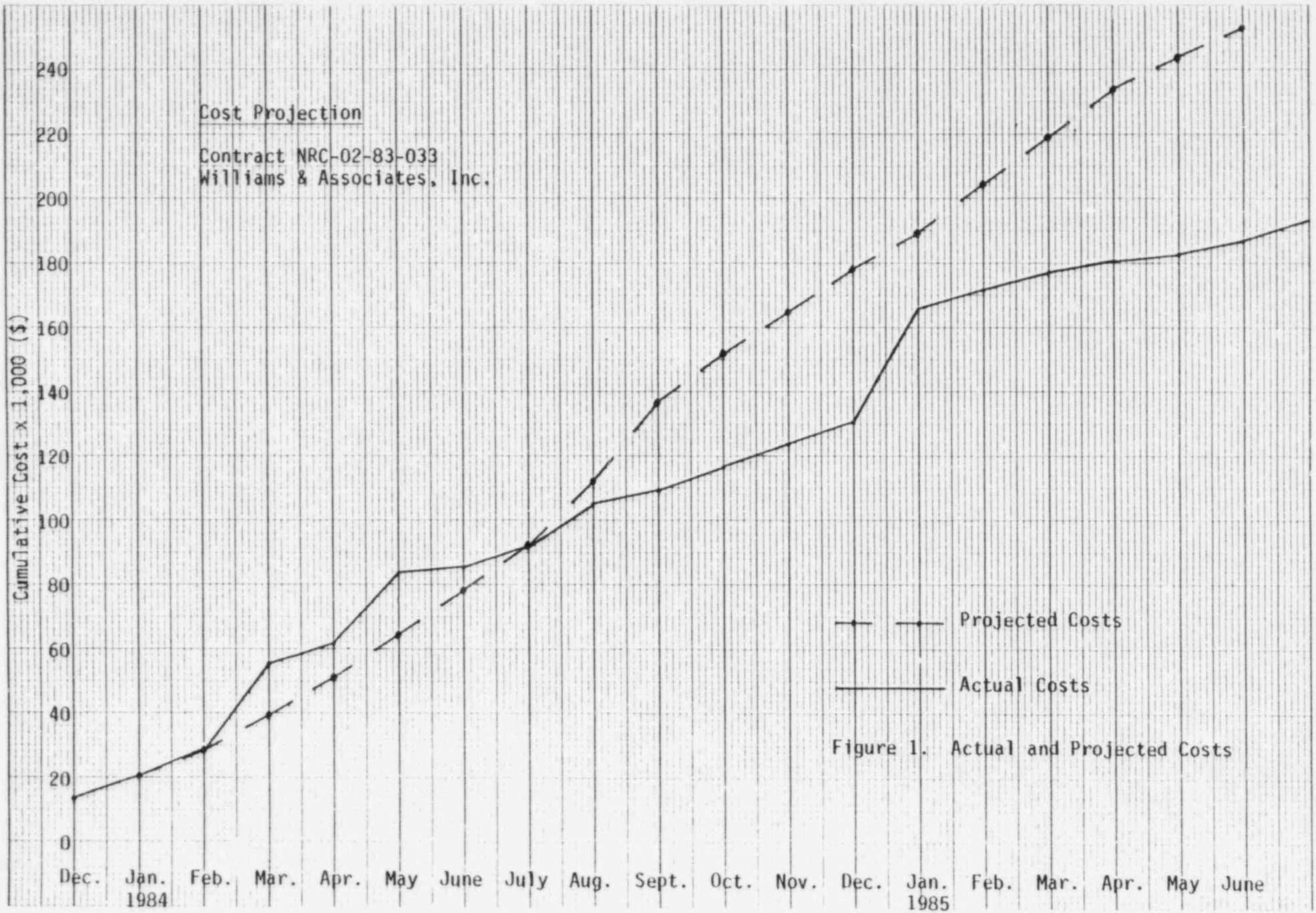

Figure 1. Actual and Projected Costs

NEW REFERENCES

Palo Duro

Conti, R. D., Senger, R. K., Wirojanagud, P., and Herron, M. J. 1984. Wolfcampian Series Porosity Distribution: Implications for Deep-Basin Ground-Water Flow in the Palo Duro Basin, Texas Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-33, revision 1, Austin, Texas.

Dutton, A. R., Fisher, R. S., Richter, B. C., and Smith D. A. 1985. Hydrologic Testing in the Salt-Dissolution Zone of the Palo Duro Basin, Texas Panhandle, Preliminary Report of Field Data at Sawyer #2 and Mansfield #2 Wells, Test Plan WTWI-101. Texas Bureau of Economic Geology, OF-WTWI-1985-3, Austin, Texas.

Dutton, A. R. and Orr, E. D. 1984. Geostatistical Analysis of Potentiometric Surface of the San Andres Formation, Texas Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-22, Austin, Texas.

Fracasso, M. A. and Hovorka, S. D. 1984. Cyclicity in the Middle Permian San Andres Formation, Palo Duro Basin, Texas, Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-21, revision 1, Austin, Texas.

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Johns, D. A. and Hovorka, S. D. 1984. Core and Sample Analysis of the Dockum Group, DOE - Gruy Federal #1 Grabbe, Swisher County, Texas. Texas Bureau of Economic Geology, OF-WTWI-1984-45, Austin, Texas.

Kreitler, C. W., Fisher, R. S., Senger, R. K., Hovorka, S. D., and Dutton, A. R. 1984. Hydrology of an Evaporite Aquitard: Permian Evaporite. Texas Bureau of Economic Geology, OF-WTWI-1984-52, Austin, Texas, 33 p.

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Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1983-4, Austin, Texas.

Senger, R. K. 1984. Hydrodynamic Development of the Palo Duro Basin and Other Mechanisms Creating Possible Transient Flow Conditions. Texas Bureau of Economic Geology, OF-WTWI-1984-54, Austin, Texas.

Senger, R. K. 1985. Evaluation of Numerical Codes for Fracture Flow Modeling. Texas Bureau of Economic Geology, OF-WTWI-1985-4, Austin, Texas.

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Smith, D. A. 1984. Evaluation of the J. Friemel #1 Vertical Well Tests, Deaf Smith County, Palo Duro Basin, Texas Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-28, Austin, Texas.

Smith, D. A. 1984. Hydrologic Test Data, J. Friemel #1 Well, Deaf Smith County, Palo Duro Basin, Texas Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-42, Austin, Texas.

Wirojanagud, Prakob, Kreitler, C. W., and Smith, D. A. 1984. Numerical Modeling of Regional Ground-Water Flow in the Deep-Brine Aquifers of the Palo Duro Basin, Texas Panhandle. Texas Bureau of Economic Geology, OF-WTWI-1984-8, revision 1, Austin, Texas.

Paradox

Blanchard, B. March 26, 1985. Transmittal letter and comments developed by the U. S. Dept. of Interior on the Draft Environmental Assessment prepared by the U. S. Dept. of Energy for the Paradox Basin.

Naccarato, R. M. May 28, 1985. Transmittal letter and comments developed by the state of Utah on the Draft Environmental Assessment prepared by the U. S. Dept. of Energy for the Paradox Basin, Appendices A, B, and C included.

Salt Domes

Generic

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.

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