

WILLIAMS & ASSOCIATES, INC.

P.O. Box 10000, Reno, NV 89506 (208) 883-0153 (208) 875-0147
Hydrogeology • Mineral Resources Waste Management • Geological Engineering • Mine Hydrology

86 JAN 13 P5:04

January 7, 1986
Contract No. NRC-02-85-008
Fin No. D-1020
Communication No. 18

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

RE: Monthly Report--December 1985

Dear Jeff:

This document constitutes the third monthly (December 1-31, 1985) progress report as required by Contract No. NRC-02-85-008. Williams and Associates, Inc. reviewed several documents this month for the Nevada Test Site, the BWIP site, and for the Palo Duro Basin. These document reviews are in draft and final forms. We have completed our reviews of two draft generic technical position papers. We attended a BWIP consultation meeting on hydrology. We are continuing our efforts on the required list of tasks outlined in the SOW. Details about our efforts on this contract are outlined based on Task and Subtask numbers.

WM-RES
WM Record File
D1020
WFA

WM Project 10, 11, 16
Docket No. _____
PDR ✓
LPDR B, N, S

Distribution:

Pohle	Jean-Licket
Still	
(Return to WM, 623-SS)	

8603130347 860107
PDR WMRES EECWILA
D-1020 PDR

2741

TASK 1

The following work was conducted under Task 1.

Subtask 1.1

We are evaluating the DOE NNWSI issue hierarchy and DOE Mission Plan as requested. Comments will be forwarded to you by February 7, 1986.

Subtask 1.2

Written reviews were prepared for the following three documents.

1. Travis, B.J., 1984, TRACR3D: A Model of Flow and Transport in Porous/Fractured Media: LA-0667-MS, Los Alamos National Laboratory, Los Alamos, New Mexico.
2. Ogard, A.E., and Kerrisk, J.F., 1984, Groundwater Chemistry Along Flow Paths between a Proposed Repository Site in the Assessible Environment: LA-10188-MS, Los Alamos National Laboratory, Los Alamos, New Mexico.
3. Kerrisk, J.F., 1983, Reaction-Path Calculations of Ground Water Chemistry and Mineral Formation at Rainer Mesa, Nevada: LA-9912-MS, Los Alamos National Laboratory, Los Alamos, New Mexico, 41 p.

Selected documents added to our NNWSI data base during the month of December, 1985 also are being reviewed. In addition, we are reviewing the information pertaining to the NNWSI Exploratory Shaft as requested.

Subtask 1.3

Williams and Associates, Inc. is continuing to work on a preliminary phase of conceptual model evaluation for NNWSI.

TASK 2

The following work was conducted under Task 2.

Subtask 2.1

Williams and Associates, Inc. completed a review of past interactions between the NRC and DOE. These interactions have been and are being reviewed with respect to their relevance to the issues. We completed our review of the issues (Communication #17). The BWIP document list was revised and updated. The document list was included in our review of the issues. We are reviewing the issue hierarchy approach developed for NNWSI; our comments on the issue hierarchy approach will be forwarded to you by February 7, 1986.

Subtask 2.2

Williams and Associates, Inc. received and reviewed the new BWIP test plan entitled "Test Plan for Multiple-Well Hydraulic Testing of Selected Hydrogeologic Units at the RRL-2 Site, Basalt Waste Isolation Project, Reference Repository Location" (November 1985, SD-BWI-TP-040). Copies of our review (Communication #9) were sent to Mr. Weber in Richland, Washington, in preparation for the hydrology workshop. The workshop was held December 9, 10, and 11, 1985 (see Task 5).

We are reviewing the test plan, a two volume set, entitled "Exploratory Shaft Test Plan, Volume I: Exploratory Shaft Test Program" and "Exploratory Shaft Test Plan, Volume II: Preliminary Test Description." We are reviewing all sections of these lengthy documents with respect to possible hydrogeologic implications of the described test plans. We anticipate completing our review of these documents by January 31, 1986.

We reviewed a copy of the document entitled "HEADCO: A Program for Converting Observed Water Levels and Pressure Measurements to Formation Pressure and Standard Hydraulic Head" by F. Spane, Jr., and R. Mercer. We did not conduct a detailed review based on NRC instructions accompanying this document.

Subtask 2.3

Williams and Associates, Inc. is continuing the preliminary phase of conceptual model evaluation. We are considering the existing concepts regarding groundwater flow at the BWIP site; these concepts are being evaluated based upon the water level data collected in the multi-piezometer clusters (DC-19, DC-20, and DC-22). Our concepts of ground water flow are being revised based on the additional water level data presented during the DOE/NRC consultation meeting held December 1985. The water level perturbations created by pulling the bridge plugs at borehole RRL-14 and by drilling borehole DC-23W provide additional insight into the conceptual model(s) of groundwater flow.

TASK 3

The following work was conducted under Task 3.

Subtask 3.1

Work continued during the month of December on site familiarization and expansion of the document library. Much of the site familiarization work has involved examination of reports, documents and unanalyzed data in support of specific documents under review. The site familiarization and report review process has been limited to documents and information from the Palo Duro Basin site. Work has begun on the review of hydrology issues in preparation for a letter report on these issues; the letter report will be forwarded to the NRC in January.

Subtask 3.2

During the month of December two formal reviews of technical reports were completed and forwarded to NRC staff. The documents reviewed are:

1. Orr, E.D. and Kreitler, C.W., 1985, Interpretation of Pressure-Depth Data from Confined Underpressured Aquifers Exemplified By the Deep-Basin Brine Aquifer, Palo Duro Basin, Texas: Water Resources Research, vol. 21, no. 4, April.
2. Wyatt, A.W., Bell, A.E., and Morrison, S., 1977, Analytical Study of the Ogallala Aquifer in the Deaf Smith County, Texas: Texas Water Development Board Report No. 213, May.

In addition, the review of several other documents was begun during this month and it is anticipated that these reviews will be forwarded to NRC staff during the month of January.

Subtask 3.3

Consideration of conceptual models and model alternatives has begun as part of the site familiarization process. Documents specifically relating to the definition of the hydrogeologic framework are being collected as potential source material for review of conceptual models. Refamiliarization with possible

conceptual models, as outlined in contract exhibits, is underway also.

TASK 4

(not initiated)

TASK 5

Williams and Associates, Inc. submitted Communication No. 2 (in October) to the NRC requesting further consideration of a proposal initially submitted under the previous contract. This request presents additional information pertaining to the determination of effective porosity from field data. Effective porosity is a parameter required for calculating ground water velocities and travel times. This request is pending further discussions.

Williams and Associates, Inc. completed reviews of two generic technical position papers. These papers are entitled "Draft Generic Technical Position on Groundwater Travel Time (GWTT)" and "Draft Generic Technical Position: Interpretation and Identification of the Extent of the Disturbed Zone in the High-Level Waste Rule (10 CFR 60)." The reviews were forwarded as Communication #12.

Williams and Associates, Inc. attended two premeetings (December 5 and December 8, 1985) in Richland, Washington, prior to the DOE/NRC consultation meeting (December 9-11, 1985). Dr. Williams, Dr. Ralston, and Mr. Winter attended these meetings. The meetings are described in our trip report (Communication #15). We prepared several detailed comments that are based on the information we gained at the consultation meeting and site visit. The detailed comments were forwarded as Communication #16. Available water level data and pertinent documents were reviewed prior to attending these meetings.

Contractual Problems

No contractual problems have arisen.

Current Expenditures

A breakdown of individual hours and charges is shown on the attached table. Cumulative costs and projected costs are shown on the second table. The attached figure illustrates projected and current cumulative costs.

Sincerely,

A handwritten signature in cursive script that reads "Roy E. Williams".

Roy E. Williams

INDIVIDUAL HOURS AND CHARGES

	This Month (hours)	Cumulative (hours)	Cumulative (amount)
Roy Williams	72	184	\$ 9,200
Gerry Winter	173.3	519.9	9,879
Jeff Brown	37	124	4,340
Jim Osiensky	116	348	6,612
Dale Ralston	57	68	2,992
Kirk Steinhorst	-	-	-
Terry Eckwright	7	12	180
Jack Sharp	-	-	-
Charles Smith	-	-	-
George Bloomsburg	5	19	760
Terry Howard	-	-	-
Stanley Miller	16	16	560

CURRENT AND CUMULATIVE PROJECT COSTS

Task	Current Month	Cumulative to Date		Total to Date
		FY 85	FY 86	
1	\$ 4,869	\$ 19,545	\$-----	\$ 19,545
2	11,136	26,799	-----	26,799
3	3,617	17,704	-----	17,704
4	-----	-----	-----	-----
5	5,783	11,191	-----	11,191

Percentage billed to total funds allocated = 17%

Williams and Associates, Inc.
Viola, Idaho 83872
Contract No. NRC-02-85-008

Cost in Dollars x 100

800
700
600
500
400
300
200
100
0

Oct 1985 Nov 1985 Dec 1985 Jan 1986 Feb 1986 Mar 1986 Apr 1986 May 1986 Jun 1986 Jul 1986 Aug 1986 Sep 1986

Projected Costs
Actual Costs

