WILLIAMS & ASSOCIATES, INC.

P.O. Box 48, Viola, Idaho 83872 (208) 883-0153 (208) 875-0147

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

June 13, 1988
Contract No. NRC-02-85-008
Fin No. D-1020
Communication No. 186

Mr. Jeff Pohle
Division of Waste Management
Mail Stop 4-H-3
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Monthly Report-May 1988

Dear Jeff:

This document constitutes the thirty-second monthly (May 1-31, 1988) progress report as required by Contract No. NRC-02-85-008. We are continuing our efforts on the required list of subtasks outlined in the SOW for Task 1 and for Task 5. Details about our efforts on this contract are outlined based on Task and Subtask numbers.

<u>TASK 1</u>

The following work was conducted under Task 1 (NNWSI).

<u>Subtask 1.1</u>

This subtask has been completed.

<u>Subtask 1.2</u>

Williams and Associates, Inc. continues to review documents requested by the NRC prior to the receipt of the CDSCP. All of the documents reviewed relate in one way or another to conceptual models of the site. The following reviews were completed this month as Communication No. 184 (this Communication was mislabeled as No. 183).

NH14
WM-11 D1020

1. Ross, Benjamin, December 1987, A First Survey of Disruption Scenarios for a High-Level-Waste Repository at Yucca Mountain, Nevada. Prepared by Sandia National Laboratories, Albuquerque, NM for the U.S. Department of Energy, SAND85-7117, 139 p.

2. Russell, C.E., 1987, Hydrogeologic Investigations of Flow in Fractured Tuffs, Rainier Mesa, Nevada Test Site. Unpublished M.S. Thesis, Dept. of Geoscience, University of Nevada, Las Vegas.

3. Thordarson, William, and Howells, Lewis, 1987, Hydraulic Tests and Chemical Quality of Water at Well USW VH-1, Crater Flat, Nye County, Nevada. U.S. Geological Survey, Water-Resources Investigations Report 86-4359, 20 p.

Subtask 1.3

Williams and Associates, Inc. is continuing to review the literature pertaining to conceptual models for NNWSI. We are investigating the relationships between the spatial distribution of heterogeneities of hydrogeologic properties and the depositional history of the tuffs at Yucca Mountain. We are investigating the role that earthquakes have played in the alteration of groundwater elevations. We have forwarded Communication No. 181 that outlines some of the major unverified assumptions that we believe are inherent in the conceptual hydrogeologic model of the groundwater flow system discussed in the CDSCP. A report has been prepared in draft form that discusses an additional assumption that we believe is inherent in the NNWSI conceptual hydrogeologic model. The final draft of this report will be forwarded to the NRC in June.

Subtask 1.4

Williams and Associates, Inc. completed the review of the Consultation Draft SCP for NNWSI. This subtask was completed with submission of our second and final set of draft comments (Communication No. 170) to the NRC.

TASK 2

All work under Task 2 has been terminated.

Subtask 2.6

This subtask covers the transfer of data to the FFRDC. This subtask will not be initiated by the NRC.

TASK 3

All work under Task 3 has been terminated.

Subtask 3.6

This subtask covers the transfer of data to the FFRDC. This subtask will not be initiated by the NRC.

TASK 5

Williams and Associates, Inc. completed work on our initial modeling effort to evaluate the effect of hydrogeologic heterogeneities on uniformity or nonuniformity of downward flux in Yucca Mountain. We have been evaluating additional hydrogeologic frameworks that we believe deserve further study. We are deliberating these frameworks internally. We drafted a document (Communication No. 182) that outlines the scenarios which we submitted to the NRC.

We reviewed the "Draft Technical Position on Groundwater Travel Time" dated April 25, 1988. Our combined comments were sent by Federal Express to the NRC as Communication No. 183.

Contractural Problems

No contractual problems have arisen.

Current Expenditures

A breakdown of 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,

Roy E Williams /pl

Roy E. Williams

cc: D.L. Chery, Jr.

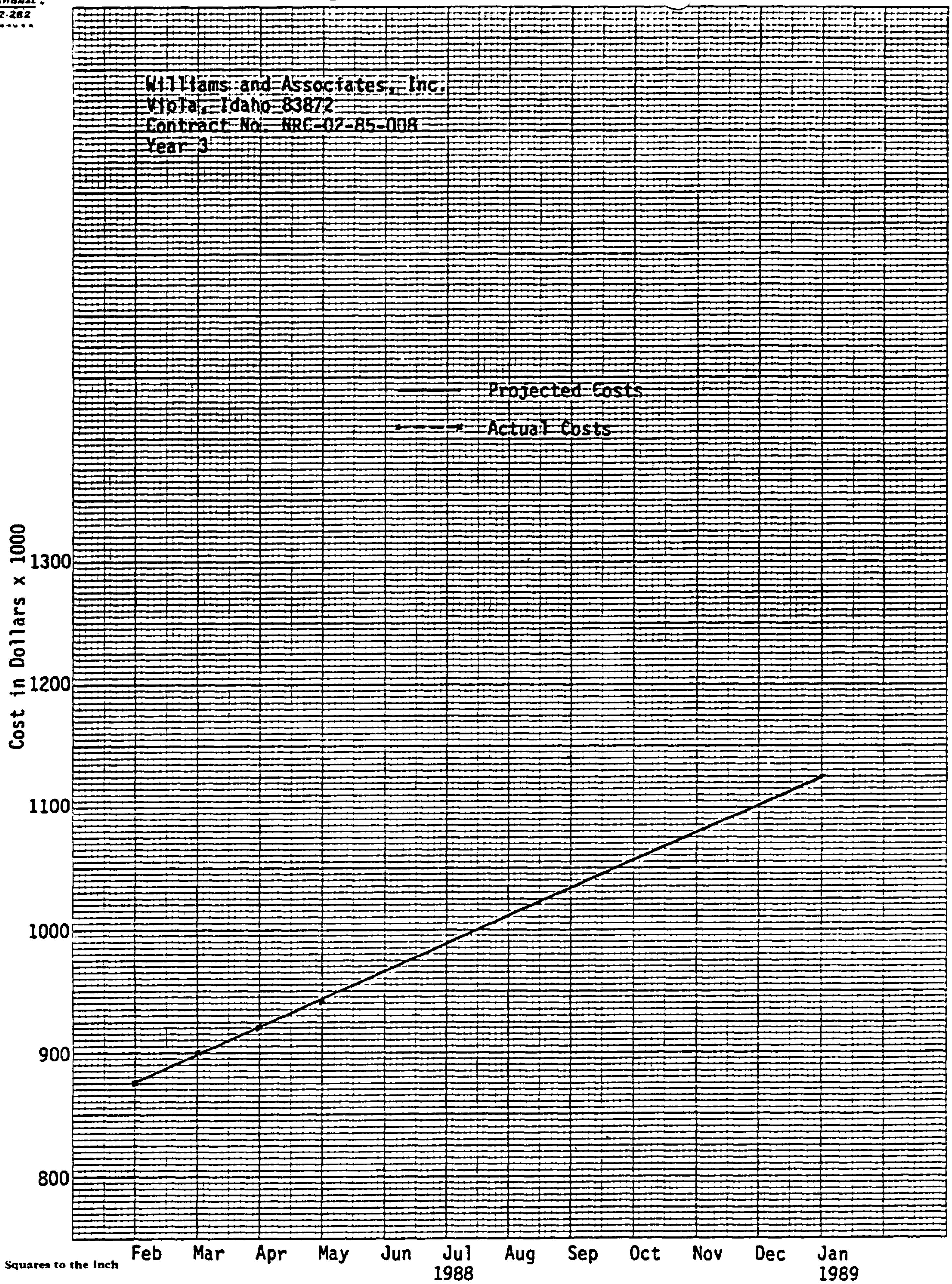
INDIVIDUAL HOURS AND CHARGES

	This Month (hours)	Cumulative (hours)	Cumulative (amount)
Gerry Winter	173.3	4,845.6	111,053.22
Jeff Brown	-	358	12,530
Jim Osiensky	18	3,545.2	68,685.36
Dale Ralston	0	347	15,698.76
Roy Williams	104	2,816	$148,090.24
Kirk Steinhorst	1	149.75	5,707.92
Terry Eckwright	0	165	2,523.00
John Sharp	0	127.5	5,209
Charles Smith	-	-	-
George Bloomsburg	4	716	29,801.30
Terry Howard	-	-	-
Stanley Miller	0	354	12,740.88
Noel Krothe	-	7.6	380
Richard Parizek	0	67.75	3,387.5
Barbara Williams	27	665.5	13,633.97
John Riley	13	457	8,336
Tom Lachmar	0	150	2,550
Ken Sprenke	0	62	2,170

CURRENT AND CUMULATIVE PROJECT COSTS

Task 1 Subtasks	Current Month	Cumulative to Date FY 88	Total to Date
1.2	7,538	15,612	15,612
1.3	6,361	18,466	18,466
1.4	0	21,922	21,922
Task 5	6,782	36,471	36,471
Total	20,681		

Percent billed to total funds allocated, 84%



20 Squares to the Inch