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NUCLEAR SYSTEMS SAFETY PROGRAM  
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LPDR - WM-10 (2)  
WM-11 (2)  
WM-16 (2)

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April 3, 1987

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Project Officer, WMGT  
Geology/Geophysics Section  
Technical Review Branch  
Division of High-Level Management  
Office of Nuclear Materials Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

WM-RES  
WM Record File  
A-0297  
LLL

WM Project 10/11/16  
Docket No. \_\_\_\_\_  
\* PDR \_\_\_\_\_  
\* LTR B.N.S.  
\* Joan Tinkler

Distribution:  
\* BLACKFORD  
(Return to WM, 623-SS)

SUBJECT: Monthly Management Letter Report No. 8  
Progress for the Month of March 1987  
NRC FIN A-0297  
Technical Assistance in the Identification and  
Evaluation of Seismo-Tectonic Issues Related to  
Repository Site Characterization Plans

Dear Mr. Blackford:

This is our Monthly Management Letter Report No. 8 under the subject  
NRC FIN Number A-0297.

### 1. PROGRESS - MARCH 1986

General:

Our Final Summary Report on "Seismo-Tectonic Impacts in  
Repositories," under NRC FIN No. A-0294 project, was published as  
UCID-20992, dated January 1987. A set of 10 copies of this Final Summary  
Report has been submitted on 24 March 1987.

BWIP:

During this reporting period, we have not performed any new work on  
the BWIP site.

NNWSI:

H. Larry McKague and C. Rus Purcell participated and led field trip  
programs during the period of February 23 to March 2, 1987. Their trip  
report entitled "NRC Field Trip February 23 to March 2, 1987" was submitted  
on 19 March 1987.

From the standpoint of our project objectives, we state five (5) high  
points of this field trip as follows:

- (1) The review of a large number of trenches (10) crossing various

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types of faults allowed comparison of features. Especially valuable was the comparison of features in trenches CF-2 and -3, in Crater Flat, with a trench crossing a scarp resulting from horizontal movement during the 1932 Cedar Mountain earthquake. Similar features occurred in both trenches.

(2) Participation of the University of Nevada - Reno group (re: Fred Peterson) was very valuable in that it provided a new view of problems related to soils based on 20 plus years of experience in Nevada.

(3) The stops in the Bullfrog Hills and in the canyon south of the Mormon Point turtleback provided a first hand of two different detachment surfaces. A third detachment surface, at stop 2 of the first day, has been suggested by the U.S. Geological Survey group. However, our team saw no evidence for detachment.

(4) Stop 3 on day 3 was at a potential southern extension of the Solitario Canyon Fault. This could extend the length of the Solitario Canyon Fault by several miles or more. This location and one further south was discussed in our earlier Letter Report (authored by C. Rus Purcell), dated 3 October 1986, of work done in Crater Flat in May 1986.

(5) Discussions with the Nevada Bureau of Mines and Geology (re: Hal Bonham) were enlightening in suggesting the types of economic mineralization one might expect associated with the southwestern Nevada volcanic field.

Other points of interest may be referred to in the actual field trip report.

#### SALTS:

In accordance with NRC task letter of 25 February 1987, we have completed our review and evaluation of the DOE report entitled "Petroleum Potential of Two Sites in Deaf Smith and Swisher Counties, Texas Penhandle," BMI/ONWI-621 and two other related DOE's documents (BMI/ONWI-589 and BMI/ONWI-590). Of these three DOE documents, BMI/ONWI-589 and -590 discussed the petroleum potential of the Palo Duro Basin in general, while BMI/ONWI-621 focused more closely on the Deaf Smith and Swisher County sites.

Essential conclusions of these reports are that the historic yield and probable hydrocarbon potential of the Palo Duro Basin are low. Potential source and reservoir rocks are present, as are structural and stratigraphic traps. The lack of hydrocarbon yield is attributed to the combination of a relatively shallow basin and low thermal gradient, so that thermal maturity and hydrocarbon generation have not yet been achieved. We feel that the conclusions in general reached in these reports are consistent with the data presented and with most other information available for the region.

Several other points requiring our comments have been detailed in our

Letter Report, which was submitted on 24 March 1987.

2. PLANS FOR NEXT MONTH

The project coordination, along with Larry McKague's presentation on the potential of volcanism at the Yucca Mountain region, is being planned for May 1987.

3. ESTIMATED PROJECT FINANCIAL STATUS

See ATTACHMENT A. The Attachment A will become available in late April 1987. We will submit it when it becomes available.

NRC Form 173, with \$100,000, was received on 16 March 1987, for extending the period of performance from 9/30/87 to 12/31/87.

4. LIST OF CONSULTANTS/SUBCONTRACTORS

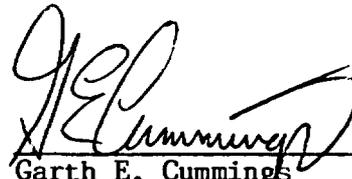
D. B. Slemmons and Associates  
Richard W. Galster  
Charles (Rus) Purcell  
Robert J. Wright

5. PROJECT CONCERNS

None



Dae H. (Danny) Chung  
Project Leader



Garth E. Cummings  
NSSP Program Leader

cc: K. Anderson, LLNL/NSSP  
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