

NRC Form 488  
6-86

U.S. NUCLEAR REGULATORY COMMISSION

## TRIP REPORT

TO: John J. Linehan, Acting Branch Chief Repository Projects Branch	TRAVELER FROM Newton K. Stablein Repository Projects Branch
PLACES VISITED Yucca Mountain, Nevada	DATE OF TRIP February 18, 1986

PERSONS CONTACTED  
Jerry Szymanski (DOE), Dave Dawson (SAIC)

PURPOSE OF TRIP  
The purpose of the trip was to gain insight into current site-related matters of concern to the NNWSI Project by visiting key areas on and around the Yucca Mountain site.

ACCOMPLISHMENTS  
We examined the relationships between the proposed site of the surface facilities and major faults nearby; saw the silica-carbonate vein deposits in Trench 14 and discussed possible origins based upon the available evidence; saw similar material as a fault breccia filling in a wide (possibly up to 2000') fault zone on Busted Butte. Enclosure lists photographs taken of these features.

PROBLEMS ENCOUNTERED  
The group discovered an unnumbered trench currently not being studied near the north end of the Solitario Canyon fault on the west side of Yucca Mountain; this trench will be the object of future attention by NNWSI investigators. What appeared to be a basalt dike and some of the silica-carbonate material were present in the trench.

PENDING ACTIONS  
The NNWSI Project has a program ongoing to establish whether the faults near the proposed site of the surface facilities are active; the Project is also addressing the subject of how close to an active fault the surface facilities may be located in terms of licensability of the repository. Regarding the silica-carbonate veins, the NNWSI Project is developing a program to determine their origin.

RECOMMENDATIONS  
The NRC and NNWSI Project should continue planning for a site-specific seismotectonics meeting. The NRC and the NNWSI Project should also have appropriate interactions before the NNWSI Project finalizes its plans for pinning down the origin and significance of the silica-carbonate vein deposits.

Note: On-site Representative Paul Prestholt concurred with this report via telephone.

APPROVED - TRAVELER  
*Newton K. Stablein* 6/27/86



## PHOTOGRAPHS TAKEN DURING SITE VISIT TO YUCCA MOUNTAIN 2/18/86:

1. West from top of Yucca Mountain to Bear Mountain across Crater Flat showing Black Cone and Red Cone
2. West side of unnumbered trench; basalt dike
3. Same view as #2
4. Unnumbered trench near north end of Solitario Canyon Fault; basalt dike and vein fillings (east side of trench)
5. Same view as #4
6. Northern trace of Solitario Canyon Fault
7. West side of Yucca Mountain and Lathrop Wells Cone looking south along Solitario Canyon Fault; photo taken standing on the Little Prow
8. Busted Butte
9. Southern end of Yucca Mountain (taken from the east at the E-Mad facility)
10. Northern end of Yucca Mountain (taken from the east)
11. Skull Mountain
12. Northern part of Bare Mountain as seen from the top of Yucca Mountain
13. Fran Ridge from top of Yucca Mountain (looking east)
14. Alice Hill from top of Yucca Mountain (looking east)
15. Silica-carbonate vein fillings near top of ridge above fault showing 4.5 meters displacement (see #21)
16. South from top of Yucca Mountain to Lathrop Cone
17. Aproned secondary material near top of ridge one or two ridges over from where fault displacement (see #21) is in evidence
18. Same fault as #21 and #22, showing visible fault displacement fading toward the top; root casts of #25 and vein filling of #18 are at top
19. Root casts in sand at top of ridge above fault showing 4.5 m displacement
20. Looking east along fault plane in Busted Butte (at center bottom is the material shown in side view in #22)
21. Same fault as in #22, other side of ravine, showing 4.5 m displacement by offset of layer
22. Fault breccia vein filling in fault plane at Busted Butte (looking perpendicular to the fault plane)
23. Busted Butte seen from the top of Yucca Mountain (looking east)
24. NRC On-site representative Paul Prestholt and field vehicle
41. UZ-6 at crest of Yucca Mountain
42. East from top of Yucca Mountain to Skull Mountain
43. East from top of Yucca Mountain to Busted Butte
44. Lathrop Cone as seen from Busted Butte (looking along a possible major fault); Funeral Mountains are in the background.

NOTE: All pictures taken are included; jump from 24 to 41 is an artifact of the numbering scheme used by the film developer.