U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

NUCLEAR WASTE TECHNICAL REVIEW BOARD
FULL BOARD MEETING

SUBJECT: STATUS OF TESTING ACTIVITIES IN THE FIELD

PRESENTER: ARCH GIRDLEY

PRESENTER'S TITLE AND ORGANIZATION: FIELD TEST COORDINATOR
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
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LAS VEGAS, NEVADA
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Status of Surface-Based Testing Activities in the Field		
SCP Study	Locations	Field Test Status
8.3.1.2.2.1 - Unsaturated Zone Infiltration (USGS)	One hundred neutron-access boreholes ranging in depth from 60 to 270 ft.	Completed coring 60-ft-deep Borehole UE-25 UZN-39 in alluvium in Jackass Flats 8/25/93. N-39 is the last of a series of 24 boreholes drilled during the past 2 years for measuring natural infiltration. Supplements 76 boreholes drilled during 1980s. Neutron moisture logging by USGS is ongoing.
8.3.1.2.2.2 - Water Movement Tracer Tests (LANL)	Borehole UZ-14 Borehole UZ-16 Neutron Access Boreholes North Ramp Geologic Boreholes	Ream bit cuttings collected for CL-36 analyses by LANL
8.3.1.2.2.3 - Percolation in the Unsaturated Zone (USGS)	Borehole UZ-14	Drilling in progress since 4/15/93. Suspended drilling in August while USGS tested water-bearing zone encountered at about 1250 ft. Hydraulic testing conducted 8/17/93 to 8/27/93. Samples collected for isotopic and chemical analyses. Cemented water-bearing interval 9/13/93. Began drilling ahead 9/24/93.
	Borehole UZ-16	Drilling was completed 3/10/93. Geophysical logging and preliminary vertical seismic profiling were completed in August.
8.3.1.2.2.6 - Gaseous Phase Movement in the Unsaturated Zone (USGS)	Borehole UZ-14	UZ-14 drilling still in progress.
	Borehole UZ-6s	Gas concentration samples plus flow and temperature data collected.
	Borehole UZ-16	Gas sampling by USGS in progress.

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8.3.1.2.2.7 - Unsaturated Zone Hydrochemistry (USGS)	Borehole UZ-14 Borehole UZ-16A	Core samples being collected for laboratory tests. Tracer gas being injected during drilling in preparation for later testing. First phase gas sampling completed by USGS.
8.3.1.2.3.1 - Site Saturated Zone Groundwater Flow System (USGS)	C-Well Complex (3 boreholes) Other boreholes	Water-level measurements obtained in support of planned FY94 hydrologic testing. Ongoing water-level monitoring
8.3.1.2.3.2 - Saturated Zone Hydrochemistry	Various Water Table Boreholes	No field activity this period.
8.3.1.4.2.1 - Vertical/ Lateral Distribution of Stratigraphic Units in Site Area (USGS)	All new boreholes Boreholes WT-2, NRG-6, UZ-16	Ongoing logging of core. Vertical Seismic Profiling (VSP) conducted.
8.3.1.4.2.2 - Structural Features Within Site Area (USGS)	Ghost Dance Fault	A 650-ft-long pavement and partial rock cut was constructed across the Ghost Dance fault zone in the south side of Antler Ridge. Mapping ongoing.
8.3.1.8.5.1 - Characterization of Volcanic Features (LANL)	Trenches along Stagecoach Road and Paintbrush faults (USGS)	LANL examining trenches to determine distribution of tephra and ash from Lathrop Wells volcano.

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8.3.1.14.2 - Soil and Rock Properties of Potential Location of Surface Facilities (USGS)	Borehole USW-NRG-2B	Borehole USW-NRG-2B drilled to 329.5 ft (TD) 9/14/93. Penetrated bedded tuff at ramp depth. Encountered Bow Ridge fault at approximately 245 ft.
	Borehole USW-NRG-4	Borehole completed to total depth of 726 ft in Topopah Spring upper lithophysal unit (7/21/93).
	Borehole USW-NRG-7	Located where north ramp may turn to enter Topopah Spring main drift. Planned TD = 1450 ft. near base of Topopah Spring.
8.3.1.17.4.2 - Location and Recency of Faulting Near Prospective Surface Facilities (USGS)	Midway Valley	Trench mapping completed; awaiting age dates to finalize conclusions.
8.3.1.17.4.3 - Quaternary Faulting Within 100 km of Yucca Mountain (USGS)	Bare Mountain fault	Completed detailed Quaternary surficial geologic mapping on east side of Bare Mountain; fault traces identified; trenching program planned. Excavated two of 10 planned soil pits, BMPT-6 and BMPT-7, to confirm ages of mapped deposits. Re-excavated trench BMT-2, exposing Bare Mountain fault at south end of Crater Flat. Trench on Bare Mountain fault scarp at Tarantula Canyon excavated in late September. This is the most prominent expression of the fault in Quaternary deposits.

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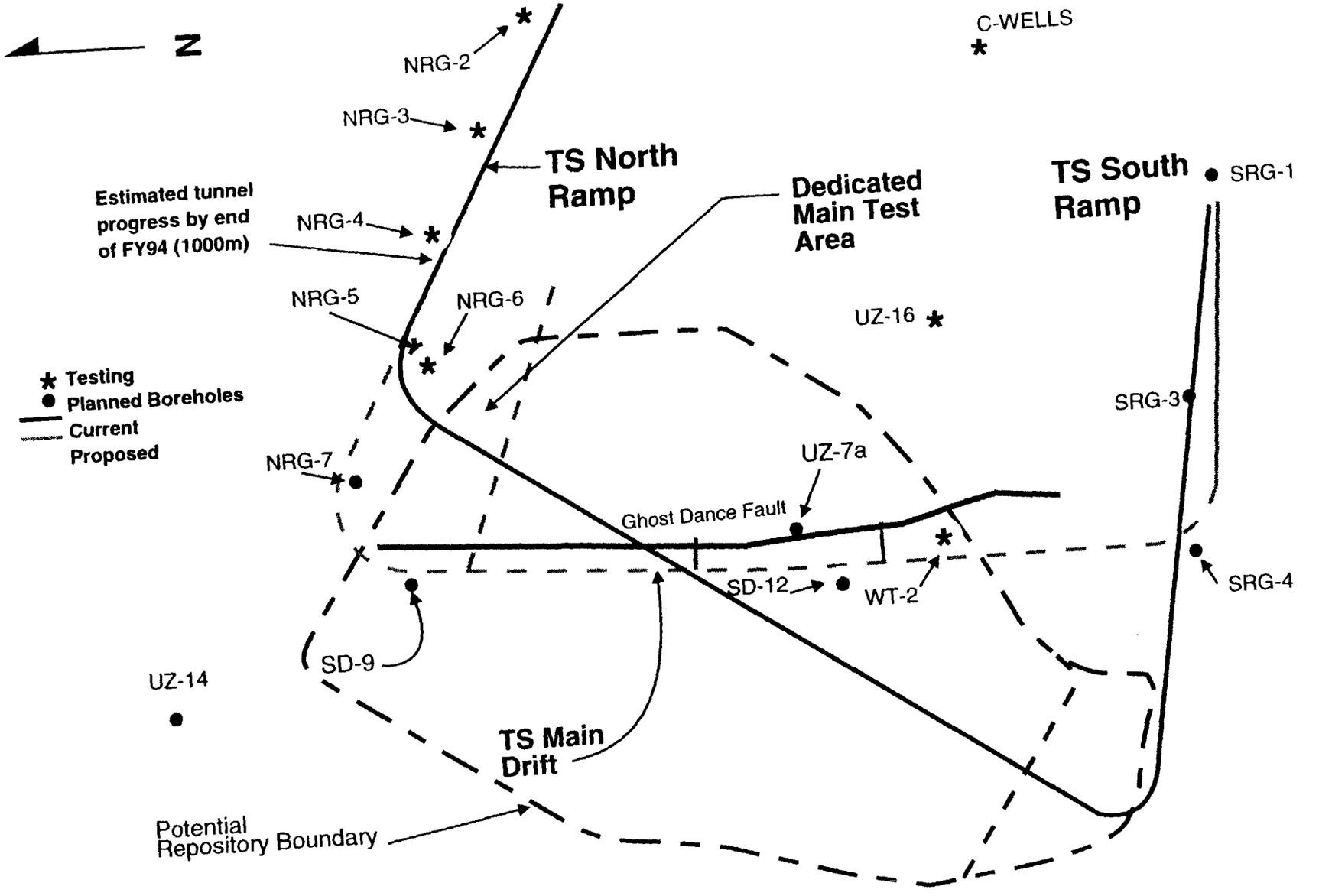
8.3.1.17.4.4 - Quaternary Faulting in NE-Trending Fault Zones (USGS)	Rock Valley fault Mine Mountain fault	Field exposures and existing geologic maps being assessed. No fault scarps identified in Quaternary deposits on western portion of Rock Valley fault near LSM EQ epicenter.
8.3.1.17.4.6 - Quaternary Faulting Within Site Area (USGS)	Solitario Canyon fault Stagecoach Road fault	Trenches excavated at four new sites to evaluate fault segmentation. Two sites, SCF-T3, SCF-T4, on north-trending main trace adjacent to CPDB and two sites, SCF-T2 and SCF-E1, on northwest-trending splays south of the CPDB. Mapping is in progress. Trench logging completed for two FY 92 trench sites.
8.3.1.2.1.1 - Precipitation and Meteorological Monitoring for Regional Hydrology (USGS)	Five weather stations	Lightning strike patterns documented from storm on 8/27/93.
8.3.1.2.1.2 - Runoff and Streamflow (USGS)	Gauging stations.	Ongoing activity. Three new stations being installed.
8.3.1.2.1.3 - Regional Ground Water Flow (USGS)	Fortymile Wash, Amargosa Desert area	Ongoing activity.
8.3.1.4.3.1 - Systematic Acquisition of Site-Specific Subsurface Information (SNL)	Borehole USW SD-12	Pad and access road construction in progress. Anticipate drilling with LM-300 to start in November. Planned TD = 2300 ft.



Current Field Activities

LYOTRDA.CDR.124/10-1-93