



Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
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MAY 14 1996

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FIELD TEST COORDINATION REPORT FOR THE WEEK ENDING MAY 10, 1996
(SCPB: N/A)

Enclosure 2 lists site characterization field activities that are currently active. Many of these are ongoing monitoring and mapping activities; therefore, only those activities having significant status change are addressed below.

BOREHOLE USW G-2 AQUIFER TEST

Fluid level recovery from the pump test conducted in April 1996 continues to be monitored by an automated data collector and is expected to require several weeks to return to its pre-test level.

C-HOLE COMPLEX HYDRAULIC INTERFERENCE TESTING

Pumping was initiated this early this week in Borehole C-3 in preparation for injection of tracer early next week. Present pump rate is about 155 gallons per minute. On the morning of May 10, 1996, approximately 442,800 gallons had been pumped during the current test and drawdown in Boreholes C-1, C-2, and C-3 was 0.75 feet, 0.74 feet, and 16.5 feet, respectively.

BOREHOLE USW SD-12

Gas sampling by the U.S. Geological Survey is in progress at SD-12.

EXPLORATORY STUDIES FACILITY (ESF) TESTING

The Tunnel Boring Machine progressed to station 52+70.8 meters as of 8 a.m., Friday, May 10, 1996. Instrument installation and data collection in support of construction monitoring continues. Geologic mapping and sampling were completed to approximate station 51+60 meters. Preliminary tunnel stratigraphy identified to date is summarized in Enclosure 1.

9606030015 960514
PDR WASTE
WM-11 PDR

102.B
WM71
NH03

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ESF Alcove 3 (Upper Paintbrush Tuff [non-welded] Contact):

Air permeability (Air-K) testing in the two boreholes continued this week. The testing will investigate pneumatic and hydrologic properties of the lithologic contact between the Tiva Canyon welded units and the Paintbrush bedded units.

ESF Alcove 5 (Thermal Testing Facility Access/Observation Drift):

Excavation of the Thermal Testing Facility/Observation Drift continued and had progressed to approximate station 0+85.9 meters from tunnel centerline as of 8 a.m., Friday, May 10, 1996. Total design length of the straight portion of the Thermal Testing Facility is 130 meters.

Drilling of test instrumentation boreholes continued in the thermomechanical block and will likely be completed early next week. The boreholes are for use in testing in the Thermomechanical Alcove.

ESF Alcove 6 (Northern Ghost Dance Alcove):

No activity this period, but excavation is planned to resume with the Alpine Miner next week.

If you have any questions, please contact either W. Arch Girdley at 794-1438 or Drew H. Coleman at 295-7926.

W. A. Girdley

W. Arch Girdley, Team Leader
Field Test Coordination

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AMSP:WAG-1768

Enclosures:

1. Tunnel Stratigraphy
2. Site Characterization Field Activities in Progress

cc w/encls:

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ESF TUNNEL STRATIGRAPHY*

STATION

0+00 to 0+99.5m	Tiva Canyon crystal poor upper lithophysal zone. <u>Alcove #1</u> (centerline station intersection): 0+42.5
0+99.5 to 1+90m	Tiva Canyon crystal poor middle nonlithophysal zone <u>Alcove #2</u> (centerline station intersection): 1+68.2
1+90 to 1+99.5m	Tiva Canyon crystal poor lower lithophysal zone.
1+99.5 to 2+02m	Bow Ridge fault zone (placing Pre-Ranier Mesa Tuff against Tiva Canyon Tuff)
2+02 to 2+20m	pre-Ranier Mesa Tuff
2+20	Fault (4.3m offset)***
2+20 to 2+63.5m	pre-Ranier Mesa Tuff
2+63.5 to 3+37m	Tuff "X"
3+37 to 3+49.5m	pre-Tuff "X"
3+49.5 to 3+59.5m	Tiva Canyon vitric zone
3+59.5 to 4+30m	Tiva Canyon crystal rich nonlithophysal zone
4+30m	Fault (~10m offset)***
4+30 to 4+34	Tiva Canyon crystal rich nonlithophysal zone
4+34 to 4+39m	Tiva Canyon crystal rich lithophysal zone
4+39 to 5+50m	Tiva Canyon crystal poor upper lithophysal zone
5+50m	Fault (~5m offset)***
5+50 to 5+53	Tiva Canyon crystal poor upper lithophysal zone
5+53 to 5+87m	Tiva Canyon crystal poor middle nonlithophysal zone

ESF TUNNEL STRATIGRAPHY CONTINUED*

5+87 to 6+19m	Tiva Canyon crystal poor lower lithophysal zone
6+19 to 7+00m	Tiva Canyon crystal poor lower nonlithophysal zone
7+00m	Fault (~20m? offset)***
7+00 to 7+77m	Tiva Canyon crystal poor lower nonlithophysal zone. <u>Alcove #3</u> (centerline station intersection): 7+54.
7+77 to 8+69m	Tiva Canyon crystal poor vitric zone
8+69 to 9+12m	Bedded tuffs (including thin Yucca Mountain member)
9+12 to 10+20m	Pah Canyon Member.
10+20 to 10+51.5m	Pre-Pah Canyon tuffs <u>Alcove #4</u> (centerline station intersection): 10+27.8
10+51.5 to 11+93m	Topopah Spring crystal rich vitric zone
11+93 to 17+17m	Topopah Spring crystal rich nonlithophysal zone
17+17 to 17+97m	Topopah Spring crystal rich lithophysal zone
17+97 to 27+20m	Topopah Spring crystal poor upper lithophysal zone
27+20 to 35+93m	Topopah Spring crystal poor middle nonlithophysal zone <u>Alcove #5</u> (centerline station intersection): 28+27
35+93m	Sundance fault (most prominent fault plane, minor fracturing reported between Stations 35+85 and 36+40)
35+93 to face	Topopah Spring crystal poor middle nonlithophysal zone

* All stations given are referenced to the right springline unless otherwise noted. Station 0+00 is located at coordinates N765352.7, E569814.4.

** Indicates that contact is preliminary and has not been verified.

*** Only faults with greater than 4 meters offset are noted on the table.

Site Characterization Field Activities in Progress

<u>SCP ACTIVITY</u>	<u>TITLE</u>	<u>ACTIVITY</u>
8.3.1.3.2.1	Mineralogy, Petrology, and Rock Chemistry of Transport Pathways	ESF Sampling, Borehole Sampling
8.3.1.3.2.2	Mineralogic and Geochemical Alteration	ESF Sampling, Borehole Sampling
8.3.1.4.2.2	Structural Features Within Site Area	Surface & ESF Mapping
8.3.1.17.4.3	Quaternary Faulting Within 100 km of Yucca Mtn.	Surface Mapping
8.3.1.17.4.4	Quaternary Faulting in NE-Trending Fault Zones	Surface Mapping
8.3.1.17.4.6	Quaternary Faulting Within Site Area	Trench Logging
8.3.1.2.1.1	Precipitation and Meteorological Monitoring for Regional Hydrology	Ongoing Measurements
8.3.1.2.1.2	Runoff and Streamflow	Ongoing Measurements
8.3.1.4.2.1	Characterization of Vertical/Lateral Distribution Stratigraphic Units in Site Area	Core Logging (all boreholes), surface of geophysical surveys
8.3.1.2.1.3	Regional Groundwater Flow System	Ongoing monitoring
8.3.1.2.2.1	Unsaturated Zone Infiltration	Shallow borehole neutron logging
8.3.1.2.2.2	Water Movement Tracer Tests	Cl ³⁶ measurements (SBT drillholes, ESF)

Activities in Progress Continued

<u>SCP ACTIVITY</u>	<u>TITLE</u>	<u>ACTIVITY</u>
8.3.1.2.2.4	Characterization of Unsaturated Zone (ESF)	Hydrochemistry/Radial Boreholes testing
8.3.1.2.2.6	Gaseous Phase Movement in the Unsaturated Zone	Pneumatic pathways monitoring
8.3.1.2.3.1	Site Saturated Zone Groundwater Flow System	Ongoing monitoring, C-well testing
8.3.1.2.3.2	Saturated Zone Hydrochemistry	Ongoing monitoring
8.3.1.4.3.1	Systematic Acquisition of Site Specific Subsurface Information	Core logging
8.3.1.15.1.8	In Situ Design verification	Construction monitoring/testing
8.3.1.9.2.1	Natural Resource Assessment of Yucca Mountain	Rock sampling
8.3.1.3.4.2	Biological Sorption and Transport	Sampling in ESF
8.3.1.19.5.1	Engineered Barrier System Field Tests	Sampling in ESF