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QA: N/A

JUN 24 1994

Daniel A. Dreyfus, Director, Civilian Radioactive Waste Management, HQ (RW-1) FORS

YUCCA MOUNTAIN SITE CHARACTERIZATION OFFICE WEEKLY HIGHLIGHTS FOR THE WEEK ENDING JUNE 3, 1994 (SCP: N/A)

I. FORECAST SIGNIFICANT EVENTS

Suitability and Licensing

A dry run in preparation of the upcoming Nuclear Waste Technical Review Board Structural Geology & Geoenvironmental Panel meeting was held on June 2, 1994, in Las Vegas, Nevada. The panel meeting will be held at the Holiday Inn Crowne Plaza, 4255 South Paradise Road in Las Vegas from 1 p.m. to 5 p.m. on Monday, June 13, and from 8 a.m. to noon on Tuesday, June 14. The meeting agenda will include discussion of improving the efficiency of underground exploration and construction of the Exploratory Studies Facility.

Public Outreach and Institutional Activities

The Affected Units of Government Meeting will be held June 10, 1994, in Las Vegas, Nevada.

Exploratory Studies Facility

Continue two shift, six days-a-week assembly of the tunnel boring machine.

II. CRITICAL ITEM STATUS - YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Site Characterization Activities

Exploratory Studies Facility

Construction

Regarding Job Package 92-20, Exploratory Studies Facility North Portal Pad and Facilities, resumed two shift, six days-a-week assembly of the tunnel boring machine. Continued assembly of hydraulic/lube circuits, installing of components and ventilation system on gantry cars 1-5, welding on side/top gripper shoes to forward shield assembly, and wiring of electric drive motors. Completed welding of the bridge beam.

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Began placement of the mud slab in the starter tunnel invert.

Continued final grading and backfilling in the box cut area in preparation for extending the tunnel boring machine runway to the starter tunnel portal.

Continued construction of the subsurface waste water, sanitary sewer, and fire/potable water lines on the North Portal Pad. Continue backfilling of utility trenches.

Continued placement of work slabs at tunnel liner segment precast yard.

Continued certification of the concrete batch plant. Completed certification of the truck mixers.

Completing construction on the temporary power system with the wiring of final transformer, and installation and backfilling of the duct banks on the North Portal pad.

The following milestone represents the near-term plan for Exploratory Studies Facility activities:

Begin tunnel boring machine operations on August 8, 1994.

Design

Continue comment resolution and started incorporation of comment resolutions for Design Package 2C. Continuing design activities for Design Packages 1D, 8A, and the Integrated Data and Control System.

Suitability and Licensing

Held a telecon with participant Technical Project Officers to initiate a review cycle of the semiannual Site Characterization Progress Report Number 10. The purpose for this additional review cycle is to increase quality, results, and substance in this and all future progress reports and to adequately report the significant changes represented in the Proposed Program Approach.

Site Characterization Testing

Exploratory drilling operations progress is summarized as follows:

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<u>Borehole</u>	<u>Current Core Depth 06/03/94</u>	<u>Current Ream Depth 06/03/94</u>	<u>Total Planned Depth</u>
UZ-14	Completed		
SD-9	105.8 meters (347.2 feet)		
SD-12	250.2 meters (820.8 feet)	244.1 meters (800.7 feet)	701.04 meters (2,300 feet)

Regarding Borehole UZ-14, the U.S. Geological Survey Saturated Zone Studies group continue measuring rising water levels in this borehole. The water table is now at 1,909 feet, rising approximately 2 feet per day.

Regarding Job Package 94-04, SD-12 Borehole, the bottom of the borehole is presently in the Topopah Spring (TSW₂) unit.

Regarding Job Package 94-06, SD-9 Borehole, preparations to set surface casing to a depth of approximately 15.2 meters (50 feet) are underway. The bottom of the borehole is currently in the Topopah Spring (TSW₁) unit.

A wet zone was found in Borehole NRG-7/7A at the base of the Topopah Spring Vitrophone that correlates with water found in UZ-14.

A borehole video camera was run in the following boreholes: NRG-2C, NRG-2D and NRG-7/7A. A spectral gamma log was run in boreholes NRG-2A and NRG-2B. A spectral gamma log is a useful tool to determine the identification of fault zones and paleosols (paleosols are early, archaic forms of soil).

The Corel Draw version of the SD-12 lithologic log is complete to 375 feet. The log was printed on May 27, 1994, and delivered to the Civilian Radioactive Waste Management System Management and Operating Contractor. Corel Draw logs will be accelerated to catch up with the current drill hole depth and then be maintained concurrently.

The Sample Management Facility processed core and cuttings from drilling activities.

Created 513 specimens from core samples for analysis by principal investigators. Prepared and shipped specimens to the U.S. Geological Survey.

The following is a listing of site characterization field activities that are currently active:

SITE CHARACTERIZATION PLAN ACTIVITY	TITLE	COMMENTS
8.3.1.3.2.1	Mineralogy, Petrology & Rock Chemistry of Transport Pathways	Exploratory Studies Facility sampling
8.3.1.3.2.2	Mineralogic & Geochemical Alteration	Exploratory Studies Facility sampling
8.3.1.4.2.1	Characterization of Vertical/Lateral Distribution of Stratigraphic Units in Site Area	Ongoing core logging
8.3.1.4.2.2	Structural Features within Site Area	Surface and Exploratory Studies Facility mapping
8.3.1.4.3.1	Systematic Acquisition of Site Specific Subsurface Information	Systematic drilling/testing
8.3.1.8.5.1	Characterization of Volcanic Features	Test pits, trenching
8.3.1.14.2	Soil & Rock Properties of Potential Location of Surface Facilities	Trenching and ramp exploration holes
8.3.1.17.4.2	Location & Recency of Faulting Near Prospective Surface Facilities	Trench logging
8.3.1.17.4.3	Quaternary Faulting within 100 km of Yucca Mountain	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 & Meteorological Monitoring for Regional Hydrology	Ongoing measurements
8.3.1.2.1.2	Runoff & Streamflow	Ongoing measurements
8.3.1.2.1.3	Regional Groundwater Flow System	Ongoing monitoring
8.3.1.2.2.1	Unsaturated Zone Infiltration	Logging of neutron-access holes; ponding tests
8.3.1.2.2.2	Water Movement Tracer Tests	C1-36 measurements (surface-based testing drillholes, Exploratory Studies Facility)
8.3.1.2.2.3	Percolation in the Unsaturated Zone	Unsaturated zone drilling/testing
8.3.1.2.2.4	Characterization of Unsaturated Zone (Exploratory Studies Facility)	Hydrochemistry/radial boreholes testing
8.3.1.2.2.6	Gaseous Phase Movement in Unsaturated Zone	Unsaturated Zone drilling/testing
8.3.1.2.2.7	Unsaturated Zone Hydrochemistry	Unsaturated Zone drilling/testing
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
8.3.1.15.1.8	In Situ Design Verification	Construction monitoring/testing
8.3.4.2.4.4	Engineered Barrier System Field Test	Preparation of Fran Ridge Test Block

Environmental Safety and Health Programs

Thirteen environmental compliance and safety surveillances were conducted at the Yucca Mountain site ensuring compliance with permit and programmatic requirements.

Large Block Test

Excavating continues around the Large Block. Sandia National Laboratories is mapping three test zones.

Site Characterization Plan/Study Plan Status

One study plan was approved, 8.3.1.2.2.4, Revision 2, "Characterization of the Yucca Mountain Unsaturated Zone in the ESF," by the Yucca Mountain Site Characterization Office.

STUDY PLAN BREAKDOWN

	Initial Plans	Major Revisions
Not Submitted to Yucca Mountain Site		
Characterization Office	32	0
In Screening Review	0	0
In Yucca Mountain Site		
Characterization Office Review	2	3
Awaiting Comment Resolution	3	3
In Verification Audit	7	0
Awaiting Yucca Mountain Site		
Characterization Office Approval	1	0
Awaiting Submission to		
U.S. Nuclear Regulatory Commission...	0	1
Awaiting U.S. Nuclear Regulatory		
Commission Initial Review	9	6
Accepted by U.S. Nuclear Regulatory		
Commission	50	6
Totals	104	19
Total Submitted to U.S. Nuclear		
Regulatory Commission	59	12

State of Nevada Comments Status:

Received Comments from the State of Nevada.....	32
Responses Transmitted to the State of Nevada	29

U.S. Nuclear Regulatory Commission Comments Status:

Received Comments from U.S. Nuclear Regulatory Commission	31
Responses Transmitted from U.S. Department of Energy to U.S. Nuclear Regulatory Commission.....	25

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III. GENERAL INFORMATION ITEMS

All Mineralogy-Petrology Principal Investigators met with A. Mitchell and David Boak at Los Alamos National Laboratory on June 1, 1994, to revise the planning information for consolidated sampling in the Exploratory Studies Facility North Ramp.

Revisions were made and a complete draft was prepared for the LA-MS report, "Distribution and Chemistry of Fracture-Lining Minerals at Yucca Mountain, Nevada" (Los Alamos National Laboratory milestone LA3371). Completed a revised draft of the LA-MS report "Mineralogic Variation in Drill Core UE-25 UZ-16, Yucca Mountain, Nevada" following a technical review (Los Alamos National Laboratory milestone LA3372). Technical review of the LA-MS report "Petrography, Mineralogy, and Chemistry of Calcite-Silica Deposits at Exile Hill, Nevada, in Comparison with Local Spring Deposits" continued throughout this week (Los Alamos National Laboratory milestone LA3376).

Suitability and Licensing held a kickoff meeting for the second Seismic Hazards Topical Report on June 3, 1994, in Las Vegas. This Topical Report will address the selection of the appropriate seismic hazard levels for repository design. Primary writers, technical resources, and others were present to discuss the scope of the topical, their assignments, and schedules. Completion of a draft report is planned by the end of September 1994.

U.S. Geological Survey personnel performed tectonics field work at Jackass Summit, Mine Mountain, and in the old Ghost Dance trench in Split Wash (area names on the Nevada Test Site).

Regarding unsaturated zone studies, U.S. Geological Survey staff completed hydrochemistry gas-phase sampling activities on UE-25 UZ-16 and moved the equipment off the hole. Preparations began on air permeability testing on USW NRG-7/7A on June 13, 1994, and hydrochemistry gas-phase sampling on USW UZ-14.

U.S. Geological Survey personnel collected rock and soil samples in Crater Flat for bulk geochemical analysis.

The U.S. Geological Survey Quality Administrative Office performed an internal audit on three technical activities: Stratigraphic Studies, Geologic Mapping of Zonal Features, and Geologic Mapping of the Exploratory Studies Facility and drifts. Results of the audit will be forthcoming.

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IV. PUBLIC OUTREACH AND INSTITUTIONAL ACTIVITIES

The U.S. Department of Energy Science Center Steering Committee met May 27, 1994, at the Las Vegas Yucca Mountain Science Center. Fliers were sent to the DOE Nevada Operations Office and Yucca Mountain Site Characterization Project mailing lists to augment news media calendar announcements. This resulted in the attendance of the first group of citizens not affiliated with a special interest group. The meeting was positive and productive. The input from citizens and committee members was constructive and supportive. The next meeting is scheduled for September 1994.

Yucca Mountain Site Characterization Project staff conducted a LESSON Teacher Workshop on physics and science activities on May 31, 1994, in Mercury, Nevada. The staff also conducted LESSON workshops for Nye County June 1-3, 1994, also in Mercury. These workshops covered physics, electromagnetism, and environmental and earth science. Eighteen people attended each of these workshops.

A presentation on Native American Culture was given to 10 students at Captain Kidd's Sixth Grade School on May 31, 1994, in Las Vegas. A presentation on "Career Choice and How You Made It" was given to 18 guests of the University of Nevada, Reno, Cooperative Extension in Las Vegas on June 2, 1994.

Sixty fifth-grade students from John F. Mendoza Elementary School toured the Las Vegas Yucca Mountain Science Center on June 1, 1994. The students were given a geology presentation.

Yucca Mountain Site Characterization Project staff set up and manned exhibits for Jim Butler Days in Tonopah, Nevada, May 27-30, 1994. Approximately 150 people visited the displays.

Yucca Mountain Site Characterization Project staff met with Daniel Dreyfus, Director, Office of Civilian Radioactive Waste Management, and senior staff on June 1, 1994, in Washington, D.C., to discuss and finalize actions regarding the National Urban Coalition's "Say YES to a Youngster's Future" proposal. Staff also met with senior officials of the coalition to further refine the proposal.

The staffs of Yucca Mountain Site Characterization Project and the University of Nevada, Las Vegas, met on June 3, 1994, to discuss Native American involvement in the environmental studies program and to include participation of students in project activities.

Staff completed 22 external information requests. Written responses were prepared to both written and verbal queries and/or by supplying existing literature.

V. UPCOMING EVENTS CALENDAR

Please note that the usage of "(P)" in the calendar indicates that the event is open to the public. Educational presentations and State and Public Interactions are coordinated by the Speakers Bureau; contact Lawrence Weekly at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are coordinated by Joanna Magruder at (702) 794-7056, Neighborhood Dialogues are coordinated by Lawrence Weekly at (702) 794-7896, and Tours are coordinated by Carleen Hill at (702) 794-7375.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Yucca Mountain Site Characterization Project Contact</u>
A. <u>Stakeholders' Meetings</u>			
Friday, June 10	Affected Units of Government (P)	Las Vegas, NV	R. Nelson
B. <u>U.S. Department of Energy/Headquarters Meetings</u>			
Thursday, June 9	Office of Civilian Radioactive Waste Management - Director's Program Review (P)	Video-conference	R. Nelson
C. <u>Civilian Radioactive Waste Management System Management and Operating Contractor/U.S. Department of Energy Meetings</u>			
Wednesday, July 6	Civilian Radioactive Waste Management System Management and Operating Contractor - Program Management Review (P)	Video-conference	R. Nelson
D. <u>Internal and U.S. Department of Energy/Nevada Operations Office (NV) Meetings</u>			
No significant meetings to report.			
E. <u>U.S. Nuclear Regulatory Commission Interactions</u>			
Tuesday-Thursday July 26-28	U.S. Nuclear Regulatory Commission Interactions. Topics (TBD)	(TBD)	T. Bjerstedt

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Yucca Mountain
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Date Event Location

F. Nuclear Waste Technical Review Board Interactions

Monday- Tuesday June 13-14	Nuclear Waste Technical Review Board SG&G Panel Meeting - Exploratory Studies Facility Update in Light of the Proposed Program Approach	Las Vegas, NV	J. Nesbit
Wednesday- Thursday June 15-16	Nuclear Waste Technical Review Board: Engineered Barrier System Panel Meeting; Tour of Hanford Site	Richland, WA	TBD
Tuesday- Wednesday July 12-13	Nuclear Waste Technical Review Board Full Board Meeting	Denver, CO	C. Newbury

G. Advisory Committee on Nuclear Waste Interactions

Wednesday- Thursday, June 22-23	65th Advisory Committee on Nuclear Waste Meeting on Topics (TBD) (P)	Bethesda, MD	A. Gil
Wednesday- Thursday, July 20-21	66th Advisory Committee on Nuclear Waste Meeting on Topics (TBD)	Bethesda, MD	A. Gil

H. National Academy of Sciences Interactions

No significant interactions to report.

Date Event Location Speaker

I. State and Public Interactions

Sunday, June 5	Outdoor Education Committee - Tell Stories of Native Americans	Las Vegas, NV	R. Arnold
Friday, June 10	Affected Units of Government Meeting	Las Vegas, NV	Various Staff

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (continued)			
Monday, June 13	Southeast Area Regulatory Utility Commissioners - How Yucca Mountain was Selected as a Possible Permanent Disposal Site	Charleston, SC	M. Blanchard
Tuesday, June 21	Yucca Mountain Speaker Series - "Walk Through Nevada History" (P)	Las Vegas, NV	R. Arnold C. Chairsell M. Johnson
Friday, June 24	Teachers' Workshop - General Overview & Native American Culture	Palo Verde, AZ	R. Arnold G. Fasano
Sunday, June 26	Yucca Mountain Speaker Series - "Take a Hike With a Geologist" (P)	Pahrump, NV	J. Peck
J. <u>Educational Interactions</u>			
Saturday, June 4	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various Staff
Monday, June 6	Nye County Workshop: LESSONS-Chemistry	Mercury, NV	TBD
Tuesday, June 7	Nye County Workshop: LESSONS-Chemistry	Mercury, NV	TBD
Wednesday- Friday, June 1-10	Nye County Workshop - TBD	Las Vegas, NV	TBD
Saturday, June 4	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various Staff
Thursday, June 9	Nye County Workshop: LESSONS-Biology	Mercury, NV	TBD
Thursday, June 9	Y.M.C.A. - Hands on Activity - Making Fossils	Las Vegas, NV	A. Gil

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
J. <u>Educational Interactions</u> (continued)			
Friday, June 10	Nye County Workshop: LESSONS-Biology	Mercury, NV	TBD
Monday- Thursday, June 13-23	LESSON Teacher Science Workshops	Las Vegas, NV	TBD
Monday, June 20	C.C. Ronnow Elementary School - "Yucca Mountain Johnny"	Las Vegas, NV	J. Hartley
Tuesday, June 21	John F. Mendoza Elementary School - 5th Grade Tour - Geology	Las Vegas, NV	J. Sizemore M. d'Ouville
Thursday, June 30	Hewetson Elementary School - "Yucca Mountain Johnny"	Las Vegas, NV	J. Hartley

<u>Date</u>	<u>Event</u>	<u>Location</u>
K. <u>Exhibits Scheduled</u>		
Sunday- Tuesday, June 12-14	Southeast Area Regulatory Utility Commissioners	Charlotte, SC
Sunday- Wednesday, June 12-15	American Association of Petroleum Geologists	Denver, CO
Friday- Sunday, June 17-19	Gridley Days	Austin, NV
Sunday- Wednesday, June 19-22	American Nuclear Society	New Orleans, LA
Wednesday, June 22	Yucca Mountain Open House and Tour	Las Vegas, NV

<u>Date</u>	<u>Event</u>	<u>Escorts</u>
L. <u>Tours Scheduled</u>		
Monday, June 6	Tara O'Toole	W. Dixon
Tuesday, June 7	University of Nevada, Reno, Cooperative Extension	TBD
Thursday, June 9	Transportation Coordination Group	TBD

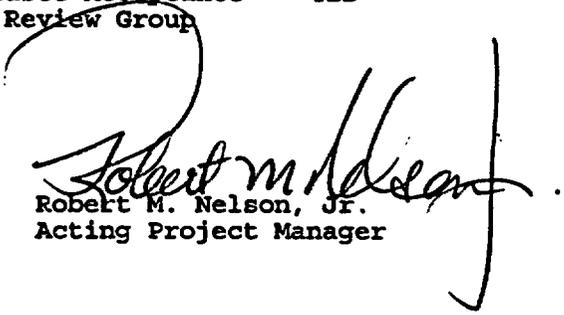
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<u>Date</u>	<u>Event</u>	<u>Escorts</u>
L. <u>Tours Scheduled</u> (continued)		
Friday, June 10	Japan Electric Power Information Center	TBD
Thursday, June 16	National Federation of Press Women	TBD
Tuesday, June 21	Babcock & Wilcox	TBD
Wednesday, June 22	Public Open House (P)	Various Escorts
Thursday, June 23	Study Committee	TBD
Thursday, June 23	U.S. DOE Waste Acceptance Technical Review Group	TBD

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Acting Project Manager