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HOLONICH, J.      Repository Licensing & Quality Assurance Project Director

SUBJECT: Forwards Ofc of Geologic Disposal weekly highlights for wk ending 920904.

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*Bill Belke*

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Reply to:  
301 E. Stewart Ave., #203  
Las Vegas, NV 89101

Tel: (702) 388-6125

TO: Joseph Holonich, Director, HLPD, M/S 4 H 3  
FROM: Sr. On-Site Representatives Office, Las Vegas  
DATE: September 18, 1992  
SUBJECT: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE  
WEEKS ENDING SEPTEMBER 4, 1992

Please find enclosed the above-referenced reports.

There is nothing requiring specific management attention in the  
report.

cc: w/enc.: William Belke, M/S 4 H 3  
Rosetta Virgilio, M/S 3 D 23  
Dean Kunihiro, Region 5

PTP:nan

NOTE TO WILLIAM BELKE: Also enclosed is: the Daily Operations Reports,  
NRC Weekly Interactions Calendar, Field Test Coordinator's Reports for  
August 24-28, 1992; REECo YMP Status Report (August 1992); and  
Preliminary Field Composite Borehole Logs (UE-25 UZN-34) and UE-25  
UZN 33)

9209250248 920918  
PDR WASTE PDR  
WM-11

ADD: Bill Belke 4H3

Wr. Encl.  
1 1

102  
WM-11  
NH03



**Department of Energy**  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.9.2  
QA: N/A

SEP 10 1992

John W. Bartlett, Director, Civilian Radioactive Waste Management,  
HQ (RW-1) FORS

✓ OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING  
SEPTEMBER 4, 1992

I. CRITICAL ITEM STATUS - YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
(YMP)

A. Site Characterization Planning

Field Operations

The Site Manager and Field Operations Center staff participated in and provided logistical support for three major tours.

Because the transmission failed on the LM-300 drill rig, no drilling activities were conducted this week with this rig. Reynolds Electrical & Engineering Co., Inc. (REECo), expedited a purchase order to repair or replace the transmission. It is anticipated that the LM-300 drill rig will be back in operation by September 4, 1992.

The delay in work on neutron access boreholes, USW UZN-31 and USW UZN-32, was due to the difficulty in upgrading the access road to the site as terrain is extremely rough. REECo is mobilizing for the start of drilling activities on the boreholes on September 3, 1992, with the CME-85 drill rig.

Excavation for the Quaternary faulting by Busted Butte was completed. REECo is currently excavating trenches in Crater Flat.

The required drilling was completed on the Fran Ridge Pit Mapping work. REECo completed the first increment of blasting on September 1, 1992; they expect to complete the last segment of blasting on September 4, 1992.

REECo commenced excavation of additional trenches in Crater Flat for the U.S. Geological Survey on September 2, 1992, upon direction of the Site Manager.

Sample Management Facility

The first core examination meeting for all principal investigators was conducted utilizing core from UE25 UZ-16. Processing of core and cuttings from UE25 UZ-16 continued. Drilling began on USW UZN-32. Approximately 1,000 pounds of outcrop samples were shipped to the University of New Mexico.

Site InvestigationsQuaternary Faulting (Job Package [JP] 92-12)

Clearing of the final pavement at Busted Butte was completed on August 27, 1992.

Trenches across the Stagecoach Road fault will be excavated next week.

Neutron-Access Boreholes

Borehole USW UZN-33 was completed on August 18, 1992, to a total depth of 84.08 feet. The hole penetrated approximately 50 feet of unconsolidated material and 34 feet of ashflow tuff ending about 10 feet into the Yucca Mountain, Nevada, member.

USW UZ-16 Borehole (JP 92-3 and 92-4)

The interval, 627.41 feet to 673.41 feet (46.05 feet total), was cored in the first three and one-half days this week, and the 12 1/4-inch borehole was advanced from 618.98 to 639.16 feet. At that time, mechanical difficulties were noted with the rig transmission.

Sampling continued in the middle nonlithophysal zone of the Topopah Spring member. Sampling will continue in this interval next week when the drill rig becomes operational.

Exploratory Studies Facility (ESF) Task Force Activities

An ESF Management Review meeting was held on September 4, 1992. Meetings are held on a biweekly basis regarding preparations for the start of ESF construction.

Site Characterization Plan (SCP) Progress Report (PR)

Concurrence on PR 6 is expected from the Office of General Counsel by the end of this week. When it is received, PR 6 will be submitted to the Secretary of Energy for approval. The estimated approval and release dates are now September 21, 1992, and

October 5, 1992, respectively. The guidance letter regarding input for PR 7 will be distributed to the Yucca Mountain Site Characterization Project Office (YMPO), the U.S. Department of Energy (DOE)/Headquarters (HQ), and participants on September 4, 1992.

SCP Study Plan (SP) Status

No new SPs were approved by YMPO this week.

STUDY PLAN BREAKDOWN

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In Screening Review .....	0
In YMPO and DOE/HQ Review .....	1
Awaiting Comment Resolution .....	12
Awaiting Author Revision .....	5
In YMPO/HQ Verification Audit .....	5
Preparing to Submit or Awaiting YMPO Approval .....	4
Awaiting Submission to the U.S. Nuclear Regulatory Commission (NRC) .....	0
NRC Phase 1 Review .....	17
NRC Acceptance .....	27
Total .....	71

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SCP/SP Status:

Total SPs Assigned to Cover 106 Studies .....	103
SPs Not Yet Submitted for Review .....	38
SPs Submitted for Initial Review .....	65
Revised SPs Submitted for Review .....	6
Total SPs Submitted for Review .....	71

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State of Nevada Comments Status:

Received Comments from the State of Nevada .....	10
Responses Transmitted to the State of Nevada .....	8

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NRC Comments Status:

Received Comments from NRC .....	14
Responses Transmitted from OGD to DOE/HQ .....	9

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B. Project Planning and Control

The Project Annualized Cost Plan, which reflects the most current status of the Mission 2001 replanning exercise, was produced for the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O).

The draft of the new Project Summary Schedule, which reflects milestone dates outlined in the proposed Revision 3 of the Project Cost and Schedule Baseline, was further developed. The final draft is scheduled for completion during the week of September 11, 1992.

C. Quality Assurance (QA) Implementation

Determination of Importance and Grading Enhancement

Quality (Q) List and Q-List Procedure Development

Sandia National Laboratories indicates that they will provide the assessment team (AT) with the Items Important to Waste Isolation report on September 10, 1992, and the Items Important to Safety report during the week of September 20, 1992, at which time a YMPO policy review will begin.

Management Control (MC) List and Procedure Development

Discussions with YMPO regarding the contents, concepts, and processes contained in the MC List Plan continue. The plan is scheduled to be transmitted to YMPO during the week of September 8, 1992.

Implementation

The AT continues to meet weekly regarding participant processes and classifications products and developing the details of operation.

D. Public Outreach and Institutional Activities

A tour to Yucca Mountain was conducted on August 29, 1992, for 20 Native American youths.

Institutional and External Affairs (IEA) personnel set up and staffed a YMP exhibit at the White Pine County Fair in Ely, Nevada, August 28-30, 1992. This exhibit was set up in connection with the Rural Nevada Outreach Program and was visited by approximately 100-150 people.

The IEA staff coordinated logistics for the transportation container to be located at the Las Vegas Yucca Mountain Information Office (YMIO) August 29-30, 1992. On August 29, 1992, approximately 60 people stopped to see the container and another 90 people drove by and displayed interest in the exhibit. Reginald LaFrance of KLVX-Channel 10, a Las Vegas public broadcasting station, videotaped footage of the transportation container and YMIO for a documentary. On August 30, 1992, radio station KFM-102 broadcast live from YMIO as part of the advertising campaign for the transportation container exhibit. During the broadcast, over 250 people stopped by to view the container. On both days, most of the visitors who viewed the container also toured YMIO, received literature, and signed up for tours to Yucca Mountain.

The 25-ton transportation container was displayed at REECO's Wyandotte facility on September 3, 1992, for 35 members of the American Business Women's Association. Carl Gertz, Project Manager, provided a general YMP overview presentation to the American Business Women's Association. The container was also displayed at the Commission on Nuclear Projects meeting at the University of Nevada, Las Vegas, on September 4, 1992.

Carl Gertz was the guest luncheon speaker at the Nuclear Information and Records Management Association Symposium in San Francisco, California, on August 31, 1992. Over 500 people attended.

The IEA staff accompanied Lander County, Nevada, officials on a tour of the Waste Isolation Pilot Plant in Carlsbad, New Mexico, on September 1, 1992. They also accompanied Lincoln County's Joint City/County Impact Alleviation Committee on a tour of the Hanford site in Richland, Washington, on September 1, 1992.

James Harper (Technical and Management Support Services [T&MSS]) gave a presentation at the DOE/Environmental Protection Agency Trade Symposium in Overland, Kansas, on September 1, 1992.

Carl Gertz gave a presentation to the Nuclear Waste Fund Financial Audit Committee on September 2, 1992, in Las Vegas, Nevada.

Richard Arnold (a consultant) provided an environmental presentation to a fourth grade class at Faye Galloway Elementary School in Las Vegas, on September 2, 1992. Approximately 31 students were present.

James Blink (Lawrence Livermore National Laboratory [LLNL]) and Effie Harle (T&MSS) gave presentations on nuclear energy, YMP, and atoms to approximately 100 students (kindergarten through eighth grade) at the Amargosa School, Amargosa, Nevada, on September 4, 1992.

Carl Gertz gave a YMP general overview to the Sawyer Commission on September 4, 1992, in Las Vegas. Dr. Tom Greider, from the University of Kentucky, was present to discuss the issue of perceived risk with the Commission.

The CRWMS M&O staff provided information for the transportation container fact sheet, assisted at public exhibits, and began planning for presentations on nuclear power to be used in public schools.

## II. ANALYSIS & VERIFICATION DIVISION

The staff participated in two meetings: a Systems Requirements meeting regarding Mined Geologic Disposal System-Systems Requirements Document, September 1-2, 1992; and a Thermal Load Task Corrosion Team meeting on September 1, 1992. Both meetings were held in Las Vegas.

The verification review under ILP 22.3.1 for SP 8.3.1.4.3.1, "Systematic Acquisition of Site Specific Subsurface Information," was completed.

Reviews of Defense Waste Processing Facility Waste Qualification Report, Volumes 2 and 9, were completed.

## III. GENERAL INFORMATION ITEMS

### CRWMS M&O

The Advanced Conceptual Design Work Plan draft is completed and is in internal review.

### LLNL

Work continued on the preliminary scoping calculations of in situ heater tests. Work has been done on analyzing trade-offs between test duration (and heating rate) and the primary hydrological, geochemical, and geomechanical objectives of in situ heater tests. Investigations were made on the ability of heater tests to discriminate during the course of the test between conduction-dominated heatflow and heatflow that is significantly influenced by far-field convection. When convection drives the water vapor above the dry out zone, a very pronounced vertical asymmetry in the temperature distribution is generated. The upper heat-pipe (or condensate) zone is more than twice the vertical extent of the reference case; and the boiling regions shift upward 2.5 meters after one year, 5.5 meters after two years, and 9.0 meters after four years of full-power heating. Therefore, the vertical temperature distribution is a very clear discriminator as to whether the far-field convection significantly affects heatflow.

LOS ALAMOS NATIONAL LABORATORY (LOS ALAMOS)

Los Alamos was assigned lead responsibility for organizing a workshop on colloid transport for YMP. An agenda for the colloid workshop was prepared and reviewed by participants and YMP personnel at a meeting in Albuquerque, New Mexico, on August 26, 1992. At the workshop, a combination of participants from inside and outside YMP will discuss the importance of colloid transport and identify key studies that must be conducted for YMP.

IV. 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 handled by the Speakers Bureau; contact Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are handled by Kevin Rohrer at (702) 794-7769, and tours are handled by Carleen Hill at (702) 794-7375.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
A. <u>DOE/HQ Meetings</u>			
No significant new meetings this week.			
B. <u>CRWMS M&amp;O/DOE Meetings</u>			
Wednesday, September 23	CRWMS M&O Program Management Review	Las Vegas, NV	C. Gertz
Friday, September 25	Performance Measurement Meeting	Las Vegas, NV	C. Gertz
C. <u>Internal and DOE/NV Meetings</u>			
Friday, September 11	Technical Project Officers Meeting	Las Vegas, NV	C. Gertz
Friday, September 11	Planning and Budget Meeting	Las Vegas, NV	C. Gertz
D. <u>NRC Interactions</u>			
Thursday- Friday, September 17-18	Site Visit: Midway Valley (P)	LV/NTS/YM	T. Bjerstedt
Tuesday, September 29	Technical Exchange - Functional Analysis of 10 CFR 60 (P)	San Antonio, TX	T. Bjerstedt

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
D. <u>NRC Interactions</u> (Continued)			
Thursday, October 29	Technical Exchange - Total System Performance Assessment (P)	Albuquerque, NM	T. Bjerstedt
Tuesday, November 17	Technical Exchange - Volcanism (P)	Rockville, MD	T. Bjerstedt
Wednesday, November 18	Interaction Planning Meeting (P)	Rockville, MD	T. Bjerstedt
E. <u>NWTRB Interactions</u>			
Monday- Tuesday, September 14-15	NWTRB SG&G Panel Meeting (P)	Las Vegas, NV	J. Cooper
Wednesday, September 16	NWTRB SG&G Field Trip (P)	TBD	J. Cooper
Wednesday- Thursday, September 30- October 1	NWTRB Dry Run	Las Vegas, NV	J. Cooper
Wednesday- Thursday, October 14-15	NWTRB Full Board Meeting (P)	Las Vegas, NV	J. Cooper
Friday, October 16	NWTRB Yucca Mountain Site Tour (P)	Las Vegas, NV	J. Cooper
Wednesday- Friday, November 4-6 (Tentative)	NWTRB SG&G Panel Meeting (P)	Denver, CO	J. Cooper
Wednesday- Friday, November 18-20 (Tentative)	Workshop on Expert Judgment (P)	Albuquerque, NM	A. Simmons
Tuesday- Wednesday, January 5-6, 1993	NWTRB Full Board Meeting (P)	Arlington, VA	J. Cooper

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
E. <u>NWTRB Interactions (Continued)</u>			
February or March 1993 TBD	NWTRB HG&G Panel Meeting (P)	TBD	J. Cooper
Tuesday- Friday, April 20-23, 1993	NWTRB Full Board Meeting (P)	Reno, NV	J. Cooper
Tuesday, June 1, 1993	NWTRB International Trip	TBD	J. Cooper
Monday- Thursday, July 12-15, 1993	NWTRB Full Board Meeting (P)	Denver, CO	J. Cooper
Tuesday- Friday, October 19-22, 1993	NWTRB Full Board Meeting (P)	Las Vegas, NV	J. Cooper
F. <u>State and Public Interactions</u>			
Monday, September 14	Daughters of the American Revolution	Las Vegas, NV	R. Arnold
Tuesday, September 15	American Nuclear Society	Richmond, VA	C. Gertz
Wednesday, September 16	St. Viator's School	Las Vegas, NV	R. Arnold
Thursday, September 17	Society of American Military Engineers	Las Vegas, NV	A. Gil
Friday, September 18	Las Vegas Board of Realtors	Las Vegas, NV	A. Robison
Monday, September 21	Emerging Technologies for Hazardous Waste Management	Atlanta, GA	C. Gertz
Thursday, September 24	Yucca Mountain Lecture Series (P)	Beatty, NV	P. Buck
Monday, September 28	Rotary Club	Las Vegas, NV	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>State and Public Interactions (Continued)</u>			
Tuesday, September 29	American Institute of Professional Geologists (AIPG)	Lake Tahoe, NV	J. Younker
Tuesday, September 29	Yucca Mountain Lecture Series (P)	Las Vegas, NV	P. Buck
Tuesday, September 29	Kiwanis of Southwest Las Vegas	Las Vegas, NV	D. Van Natta
Wednesday, October 7	North American Tunneling Conference	Boston, MA	C. Gertz
Thursday, October 8	Massachusetts Institute of Technology	Cambridge, MA	C. Gertz
Saturday, October 10	Girl Scouts of America	Calico Basin, NV	R. Arnold
Wednesday, October 14	American Society of Civil Engineers & National Society of Professional Engineers	Las Vegas, NV	C. Gertz
Thursday, October 15	United Kingdom Pretour Briefing	Las Vegas, NV	C. Gertz
Thursday, October 22	LV Chamber of Commerce	Las Vegas, NV	C. Gertz
Tuesday, October 27	Yucca Mountain Lecture Series (P)	Las Vegas, NV	B. Crowe
Thursday, October 29	Yucca Mountain Lecture Series (P)	Pahrump, NV	B. Crowe
Friday, October 30	Colorado School of Mines	Golden, CO	C. Gertz
Friday, October 30	KNPB-Channel 5 Panel Discussion	Reno, NV	C. Gertz
Tuesday, November 17	Yucca Mountain Lecture Series (P)	Beatty, NV	R. Saunders

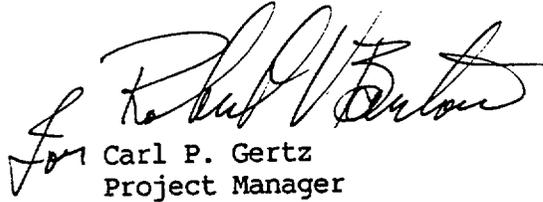
<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>State and Public Interactions (Continued)</u>			
Wednesday, November 18	American Association of University Women	Las Vegas, NV	M. Powell
Thursday, November 19	Yucca Mountain Lecture Series (P)	Las Vegas, NV	R. Saunders

<u>Date</u>	<u>Event</u>	<u>Location</u>
G. <u>Exhibits Scheduled</u>		
Friday- Sunday, September 18-20	Home Show	Las Vegas, NV
Friday- Sunday, September 18-20	Pahrump Harvest Festival	Pahrump, NV
Saturday- Sunday, September 19-20	LLNL 40th Anniversary Family Open House	Livermore, CA
Saturday, September 26	Public Open House (P)	Las Vegas, NV
Sunday- Wednesday, September 27-30	AIPG	Lake Tahoe, NV
Friday- Sunday, October 2-11	Jaycees State Fair	Las Vegas, NV
Monday- Friday, October 5-9	Association of Engineering Geologists	Long Beach, CA
Thursday- Saturday, October 8-10	Nevada Library Association	Las Vegas, NV
Saturday, October 17	Public Open House (P)	Las Vegas, NV
Sunday- Thursday, October 18-22	American Mining Congress	Las Vegas, NV

<u>Date</u>	<u>Event</u>	<u>Location</u>
G. <u>Exhibits Scheduled (Continued)</u>		
Friday-Sunday, October 23-25	Fairshow '92	North Las Vegas, NV
Monday-Thursday, October 26-29	Geological Society of America	Cincinnati, OH
Tuesday-Thursday, November 17-19	American Nuclear Society Winter Meeting	Chicago, IL
Thursday-Saturday, November 19-21	Nevada Association of Counties	Fallon, NV

<u>Date</u>	<u>Event</u>	<u>Escorts</u>
H. <u>Tours Scheduled</u>		
Tuesday, September 8	Nye County Consultants	P. Seidler
Wednesday, September 16	NWTRB	A. Simmons
Thursday-Friday, September 17-18	NRC	T. Bjerstedt
Wednesday, September 23	Beatty Chamber of Commerce	S. Tarr
Friday, September 25	National Association of Regulatory Utility Commissioners	A. Robison
Saturday, September 26	Public Open House (P)	Various Escorts
Tuesday, October 6	Western Region Group	TBD
Thursday, October 8	Realtor Association (Las Vegas Board of Realtors)	TBD

<u>Date</u>	<u>Event</u>	<u>Escorts</u>
H. <u>Tours Scheduled (Continued)</u>		
Tuesday, October 13	Senior Tripsters	TBD
Thursday, October 15	Boulder City Senior Center	TBD
Thursday, October 15 (Tentative)	US/UK Defense Coordination Meeting	TBD
Friday, October 16	NWTRB	A. Simmons
Saturday, October 17	Public Open House (P)	Various Escorts
Thursday, October 22	Advisory Committee on Nuclear Waste	TBD
Tuesday, October 27	Quail Estates West	TBD
Wednesday, October 28	Southern NV Retired Teachers' Association	TBD
Friday, November 13	Boy Scouts of America	M. Penovich
Wednesday, November 18	Public Open House (P)	Various Escorts
Saturday, December 12	Public Open House (P)	Various Escorts


  
 For Carl P. Gertz  
 Project Manager

YMP:VFI-5409



**Department of Energy**  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.3.5  
QA: N/A

SEP 11 1992

Carl H. Johnson, State of Nevada, Carson City, NV  
Phillip Niedzielski-Eichner, Nye County, Chantilly, VA  
Dennis A. Bechtel, Clark County, Las Vegas, NV  
Albert C. Douglas, City of Las Vegas, Las Vegas, NV  
Philip S. Justus, NRC, Las Vegas, NV ✓

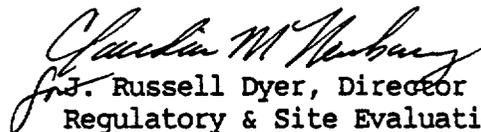
DAILY OPERATIONS REPORTS AND WEEKLY INTERACTIONS REPORT

Enclosed for your information are copies of the Daily Operations Reports for Yucca Mountain Site Characterization Project drill holes UE-25 UZ16, and USW UZ N34 (enclosure 1). These reports were prepared by Raytheon Services Nevada and cover August 24-28, 1992.

A copy of the weekly U.S. Nuclear Regulatory Commission Interactions Report (enclosure 2) is enclosed for your information. It includes a section providing the status of boreholes, trenches, and test pits.

Copies of the field test coordinator's reports (enclosure 3) summarizing activities of the previous week and a forecast of the activities planned for the current week are also included for your information.

If you need additional information regarding these reports, please contact Uel S. Clanton at (702) 794-7943.

  
Russell Dyer, Director  
Regulatory & Site Evaluation Division

RSED:USC-5450

Enclosures:

1. Daily Operations Reports
2. NRC Interactions Report
3. Field Test Coordinator's Reports

**RAYTHEON SERVICES NEVADA**  
**DAILY OPERATIONS REPORT**  
**YUCCA MOUNTAIN PROJECT**

Report Time: 7:30  
 Date: August 31, 1992  
 Page: 1 of 1

Job Package No.: 92-03

Station: UE-25 UZ16

Drill Rig: LM300

Activity: Repairing the front rig transmission.

Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50' minimum.  
 3) Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuously core and ream to 1663'. 6) Prepare final location and elevation survey. 7) Install wellhead box

**REPORT FOR: August 28, 1992 (Rig Day 67)**

HOURS  
FROM - TO

OPERATIONS DESCRIPTION

0800 - 1630

No coring or reaming activity. Removed the front transmission, took it to area 6. Took Haz-Vac to sub dock and cleaned out. Took sample collector apart for repair.

**CORING:** Average air rate: NA  
 Average vacuum rate: NA

**REAMING:** Average air rate: NA  
 Average vacuum rate: NA

Ending Depth:	Cored 673.41'	Reamed 639.16'	Drilled 0
Daily Footage:	Cored 0	Reamed 0	Drilled 0

Drilling Rep: Richard Sowards, REECO

A/E Rep: N/A

Personnel On Site: 1-RSN; 9-REECO; 0-USGS; 0-SMF; 0-Visitors.

Field Report Prepared By: David Putnam

Office Report Prepared By: David Putnam

CORE LOSS	DRILLING RATE (ft/hr)	DRILLING RATE (BITS)		PRAC FREQ (/ 5 ft)	DEPTH	GRAPHIC	LITHOLOGY/ REMARK
		0	20				
RUNS DATES	0	10	20	0	50		
	20	70	120	50	100		
148	4.8			18		635	
149 11.9/9.8 82%	4.2			25			
150 8/26/92	4.8			18		640	
151	3.6			15		645	
152	4.1			5		650	
153 15.7/15.3 97%	13.4			7		655	
154 8/27/92	10.2			7		660	
155				2		665	
18.3/16.5 90%						670	

**RAYTHEON SERVICES NEVADA**  
**DAILY OPERATIONS REPORT**  
**YUCCA MOUNTAIN PROJECT**

**Report Time:** 7:30  
**Date:** August 28, 1992  
**Page:** 1 of 1

**Job Package No.:** 92-03

**Station:** UE-25 UZ16

**Drill Rig:** LM300

**Activity:** Repairing the rig transmission.

**Objectives:** 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50' minimum.  
 3) Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuously core and ream to 1663'. 6) Prepare final location and elevation survey. 7) Install wellhead box

**REPORT FOR: August 27, 1992 (Rig Day 66)**

<u>HOURS FROM - TO</u>	<u>OPERATIONS DESCRIPTION</u>
0800 - 0825	Service and warm up equipment.
0825 - 0924	Core run # 154 from 655.05' - 664.77', Rec 9.1', 43 min.
0924 - 1121	Core run # 155 from 664.77' - 673.41', Rec 7.4', 52 min.
1121 - 1200	Inspect rig transmission.
1200 - 1230	Lunch.
1230 - 1630	Inspect rig transmission. Shut down due to transmission problems. The transmission is leaking and metal shavings were found on an inspection plate.

**CORING:** Average air rate: 502 SCFM  
 Average vacuum rate: 1168 SCFM

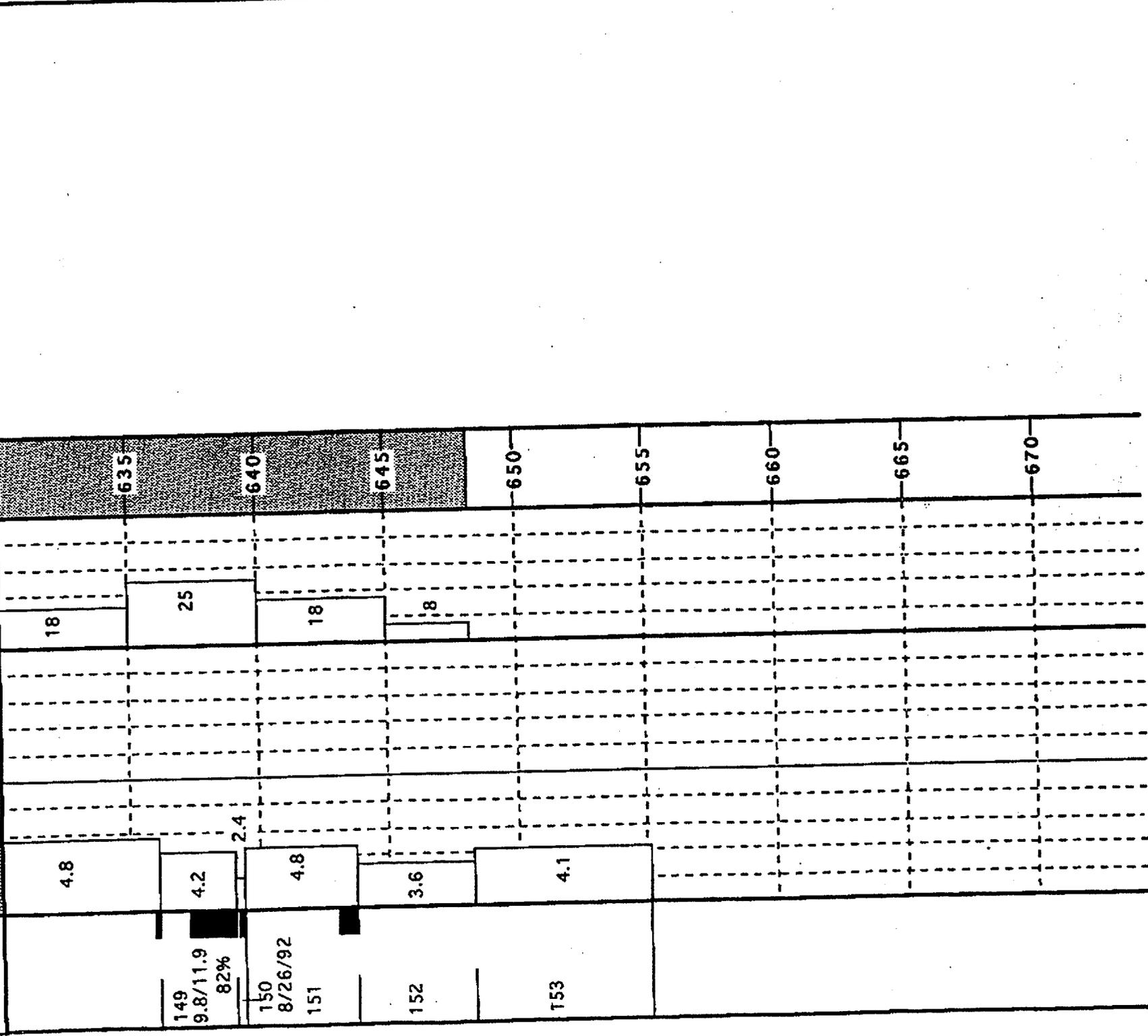
**REAMING:** Average air rate: 0  
 Average vacuum rate: 0

<b>Ending Depth:</b>	<b>Cored 673.41'</b>	<b>Reamed 639.16'</b>	<b>Drilled 0</b>
<b>Daily Footage:</b>	<b>Cored 18.36'</b>	<b>Reamed 0</b>	<b>Drilled 0</b>

**Drilling Rep:** Richard Sowards, REECO  
**A/E Rep:** David Putnam and James Anthony, RSN  
**Personnel On Site:** 2-RSN; 9-REECO; 2-USGS; 4-SMF; 4-Visitors.

**Field Report Prepared By:** David Putnam  
**Office Report Prepared By:** David Putnam

RUNS DATES	CORE LOSS	DRILLING RATE (ft/hr)		(BITS)		FRAC FREQ (/ 5 ft)	DEPTH	GRAPHIC LOG	LITHOLOGY/ REMARK
		0	10	20	50				





CORE LOSS	DRILLING RATE (ft/hr)		BIT(S)		TRAV. TIME (/ 5 ft)		DEPTH GRAPH
	0	10	20	0	50	100	

149 9.8/11.9 82%	4.2	2.4	25	635	
150 8/26/92	4.8		18	640	
151	4.8		18	645	
152	3.6		8	650	
153	4.1			655	
				660	
				665	
				670	

UE25uz#16  
LITHOLOGY/ REMARK

**RAYTHEON SERVICES NEVADA**  
**DAILY OPERATIONS REPORT**  
**YUCCA MOUNTAIN PROJECT**

Report Time: 7:30  
 Date: August 26, 1992  
 Page: 1 of 1

Job Package No.: 92-03

Station: UE-25 UZ16

Drill Rig: LM300

Activity: Coring

Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50' minimum.  
 3) Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuously core and ream to 1663'. 6) Prepare final location and elevation survey. 7) Install wellhead box

**REPORT FOR: August 25, 1992 (Rig Day 64)**

**HOURS  
FROM - TO**

**OPERATIONS DESCRIPTION**

0800 - 0830	Service and warm up equipment.
0830 - 0940	Pull out of hole with coring assembly.
0940 - 0948	Rig up to ream.
0948 - 1200	Ream cycle #54 from 618.98' - 639.16'.
1200 - 1230	Lunch. NOTE: Eastman Teleco survey truck arrived on location at 1150 hrs.
1230 - 1400	Rig up Eastman Teleco.
1400 - 1545	Eastman Teleco runs gyro survey.
1545 - 1615	Repair power slips and rig up to core.
1615 - 1630	Shut down and secure rig.

NOTE: Results of gyro survey have not been processed and will be given on the next report.

**CORING:** Average air rate: N/A  
 Average vacuum rate: N/A

**REAMING:** Average air rate: 1148 SCFM  
 Average vacuum rate: 1294 SCFM

Ending Depth:	Cored 639.39'	Reamed 639.16'	Drilled 0
Daily Footage:	Cored 0'	Reamed 20.18'	Drilled 0

Drilling Rep: Richard Sowards, REECO

A/E Rep: David Putnam and James E. Anthony, RSN

Personnel On Site: 2-RSN; 8-REECO; 4-USGS; 6-SMF; 8-Visitors; DOE-1.

Field Report Prepared By: David Putnam

Office Report Prepared By: Richard W. Wright

RUNS DATES	CORE LOSS	DRILLING RATE			FRAC FREQ		DEPTH	GRAPHIC LOG	LITHOLOGY/ REMARK
		(ft/hr)	(BITS)		(/ 5 ft)				
		0	10	20	0	50			
		20	70	120	50	100			
136		7.2			23		595		
137 22.3/22.2 100%		6.0			36		600		
138 8/20/92		4.2			28		605		
139		4.8			84		610		
140		9.0			85		615		
141		6.7					620		
142 17.8/14.2 80%		3.9			29		625		
143		4.8					630		
144 08/21/92		5.4			24			@ 621.6 Closely spaced planar parallel fractures or joints with clay and manganese dendrites on fracture surfaces.	
145		4.8							
146 8.4/8.4 100%		3.6			22				
147 8/24/92		5.0							
148		4.8							

RUNS DATES	CORE LOSS			DEPTH GRAPHIC LOG	LITHOLOGY/ REMARK
	DRILLING RATE (ft/hr)	(BITS)	TRAC. REC'D (/ 5 ft)		
149 9.8/11.9 82%	4.8	20	0	635	UE25uz#16 LITHOLOGY/ REMARK
	4.2	70	50	640	
	2.4	120	100	645	
				650	
				655	
				660	
				665	
				670	

**RAYTHEON SERVICES NEVADA**  
**DAILY OPERATIONS REPORT**  
**YUCCA MOUNTAIN PROJECT**

Report Time: 7:30  
 Date: August 25, 1992  
 Page: 1 of 1

Job Package No.: 92-03  
 Station: UE-25 UZ16  
 Drill Rig: LM300  
 Activity: Coring

Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50' minimum.  
 3) Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuously core and ream to 1663'. 6) Prepare final location and elevation survey. 7) Install wellhead box

**REPORT FOR: August 24, 1992 (Rig Day 63)**

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 1130	Change out rig hydraulic fluid.
1130 - 1200	Lunch.
1200 - 1230	Fill hydraulic tank with oil.
1230 - 1237	Warm up equipment.
1237 - 1354	Core run # 147 from 627.46' - 632.34', Rec 4.8', 58 min.
1354 - 1500	Core run # 148 from 632.34' - 636.09', Rec 3.6', 49 min.
1500 - 1600	Core run # 149 from 636.09' - 638.97', Rec 1.2', 39 min.
1600 - 1615	Core run # 150 from 638.97' - 639.39', Rec 0.2', 10 min.
1615 - 1630	Shut down and secure rig.

**CORING:** Average air rate: 485 SCFM  
 Average vacuum rate: 1089 SCFM

**REAMING:** Average air rate: 0  
 Average vacuum rate: 0

Ending Depth:	Cored 639.39'	Reamed 618.98'	Drilled 0
Daily Footage:	Cored 11.93'	Reamed 0	Drilled 0

Drilling Rep: Richard Sowards, REECO  
 A/E Rep: David Putnam and James E. Anthony, RSN  
 Personnel On Site: 2-RSN; 8-REECO; 3-USGS; 4-SMF; 1-Visitors; DOE-1.

Field Report Prepared By: David Putnam  
 Office Report Prepared By: David Putnam

**RAYTHEON SERVICES NEVADA**  
**DAILY OPERATIONS REPORT**  
**YUCCA MOUNTAIN PROJECT**

**Report Time:** 7:30 hrs  
**Date:** August 25, 1992  
**Page:** 1 of 1

**Job Package No.:** 91-9, Revision 3

**Station:** USW-UZ N34

**Drill Rig:** CME-850

**Activity:** Rigging down

**Objectives:** 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately  $\pm 75'$ . 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

**REPORT FOR: August 21, 1992 (Rig Day 5)**

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Safety meeting, service and start up rig.
0830 - 0936	Core run #16 from 69.48' - 73.83' (31 min.) Rec. 4.3'.
0936 - 1031	Core run #17 from 73.83' - 78.98' (27 min.) Rec. 5.2'.
1031 - 1115	Core run #18 from 78.98' - 84.08' (28 min.) Rec. 5.1'.
1115 - 1200	Pull out of the hole with core rods and lay down core rods.
1200 - 1230	Lunch
1230 - 1250	Trip in hole with Odex hammer.
1250 - 1425	Ream cycle #7 from 56.38' - 84.08'.
1425 - 1500	Pull out of the hole and lay down pipe.
1500 - 1630	Rig down equipment and prepare for rig move, shut down and secure rig.

**FINAL REPORT**

**NOTE:** Average air rates  
Coring - 300 SCFM Reaming - 310 SCFM

A verbal was written for continuation of this hole beyond the planned 75' depth, to 10' through the top of the Yucca Mountain member.

<b>Ending Depth:</b>	<b>Cored 84.08'</b>	<b>Reamed 84.08'</b>	<b>Drilled 0</b>
<b>Daily Footage:</b>	<b>Cored 14.60'</b>	<b>Reamed 27.70'</b>	<b>Drilled 0</b>

**Drilling Rep:** Neal Walker, REECo

**A/E Rep:** Richard Wright

**Personnel On Site:** 1-RSN; 4-REECo; 2-SMF; 1-USGS; 2-Visitors

**Field Report Prepared By:** Richard Wright

**Office Report Prepared By:** Richard Wright

2

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 8/28/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
8/25/92 Video- Conference	NRC TE: Resolution of Volcanism- related concerns	Cooper (Jerez-M&O)	Bjerstedt (LeRoy-M&O)	M&O LANL	Discussed DOE approach as identified in NRC staff reviews of SCP 8.3.1.8.1.1 and 8.3.1.8.5.1.
9/14-15/92 Las Vegas, NV (Alexis Park Hotel)	NWTRB SG&G Panel Meeting	TBD	Cooper (Hoffman-SAIC)	LANL	Update on volcanism studies. This topic was formerly planned for discussion at October NWTRB meeting.
9/16/92 Field Locations TBD	NWTRB SG&G Field Trip	TBD	Cooper (Hoffman-SAIC)	LANL	
9/17-18/92 LV/NTS/YM	NRC Site Visit: Midway Valley	Sullivan (Statton-M&O)	Bjerstedt (LeRoy-M&O)	M&O USGS	Discuss Study Plan 8.3.1.17.4.2, preliminary results, and plans for future work, and Tour Midway Valley.
9/24-25/92 Bethesda, MD	ACNW 46th Meeting		Gil (LeRoy-M&O)		Agenda TBD. May add afternoon of 9/23.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 8/28/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
9/29/92 San Antonio, TX	NRC TE: CNWRA Functional Analysis of 10CFR60		Bjerstedt (LeRoy-M&O)	M&O	Discuss CNWRA activities related to systems engineering.
10/14-15/92 Las Vegas, NV (Plaza Suite Hotel)	NWTRB Full Board	D. Harrison	Cooper (Hoffman-SAIC)	M&O LLNL PNL	Source term; 1) Concept and release mechanisms, 2) spent fuel testing, 3) PA and design implications.
10/16/92 Las Vegas, NV	NWTRB Yucca Mountain Site Tour		Cooper (Hoffman-SAIC)		
10/20/92 Las Vegas, NV	ACNW WG on Human Intrusion		Gil (LeRoy-M&O)		Discuss methodologies for assessment of potential for natural resources at YM, and relationship between such resources and potential for human intrusion.
10/21/92 Las Vegas, NV	ACNW 47th Meeting		Gil (LeRoy-M&O)		Agenda TBD.
10/22/92	ACNW Yucca Mountain and NTS Tours		Gil (LeRoy-M&O)		Agenda TBD.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 8/28/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
10/23/92	ACNW GIS Tour		Gil (LeRoy-M&O)		Tour will take place in the morning only.
10/27/92 Albuquerque, NM	WIPP Roundtable discussion - NRC observation	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	M&O SNL PNL	NRC staff observe interaction between YMPO PA and WIPP PA.
10/28/92 Carlsbad, NM	Tour of WIPP Site	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	M&O	
10/29/92 Albuquerque, NM	NRC TE: Total System Performance Assessment	Boak (Pahwa-M&O)	Bjerstedt (LeRoy-M&O)	M&O SNL PNL	Discuss methods and results of DOE PACE, TSPA, and NRC IPA.
11/4-6/92 Denver, CO (TENTATIVE)	NWTRB SG&G Panel Meeting		Cooper (Hoffman-SAIC)	M&O	Discuss ESF and repository design.
11/16-17/92 Bethesda, MD	ACNW 48th Meeting		Gil (LeRoy-M&O)		Agenda TBD
11/17/92 Rockville, MD	NRC TE: Volcanism	Cooper (Jerez-M&O)	Bjerstedt (LeRoy-M&O)	M&O LANL	Discuss DOE volcanism studies as detailed in LANL report.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 8/28/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
11/18/92 Bethesda, MD	ACNW WG Climate		Gil (LeRoy-M&O)		Discuss the potential for climate changes in Southern Basin and Range and the impact on natural processes affecting PA of potential repository at YM. Original scheduled 11/19/91, this has been rescheduled from 4/22/92.
11/18/92 Rockville, MD	Interaction Planning Meeting	Bjerstedt (LeRoy-M&O)	Bjerstedt (LeRoy-M&O)	M&O	Discuss/plan DOE/NRC interactions for first half 1993.
11/18-20/92 Las Vegas, NV (TENTATIVE)	DOE Workshop on Expert Judgment	Dyer/Boak (Yunker-M&O, Van Luik-M&O, Weaver-M&O)	Simmons (Hoffman-SAIC)	M&O	Examine DOE's use of expert judgment for YMP, learn how other projects have used expert judgment, make recommendations for future use, fulfill NWTRB recommendation to hold workshop.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

Note: If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 8/28/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
12/16/92 Bethesda, MD	ACNW WG on PA - Phase 2 HLW Interactive PA by NRC	Boak (Van Luik-M&O)	Gil (LeRoy-M&O)	M&O SNL	Will discuss progress of Phase 2 PA effort. Also will hear briefing from DOE on status of TSPA.
12/17-18/92 Bethesda, MD	ACNW 49th Meeting		Gil (LeRoy-M&O)		Agenda TBD.
1/5-6/93 Arlington, VA	NWTRB Full Board Meeting		Cooper (Hoffman-SAIC)		M&O systems update and ESF and respository design follow-up.
2/93 or 3/93 TBD	NWTRB HG&G Panel Meeting		Cooper (Hoffman-SAIC)		Agenda TBD.
4/20-23/93 Reno, NV	NWTRB Full Board Meeting		Cooper (Hoffman-SAIC)		Agenda TBD.
6/1/93 TBD	NWTRB International Trip		Cooper (Hoffman-SAIC)		Agenda TBD.
7/12-15/93 Denver, CO	NWTRB Full Board Meeting		Cooper (Hoffman-SAIC)		Agenda TBD.
10/19-22/93 Las Vegas, NV	NWTRB Full Board Meeting		Cooper (Hoffman-SAIC)		Agenda TBD.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES  
8/28/92

<u>DESIGNATION</u>	<u>PLANNED START DATE</u>	<u>PLANNED END DATE</u>	<u>BACKFILL DATE</u>	<u>YMPO SITE CONTACT</u>	<u>COMMENTS</u>
Busted Butte Pavement Study	8/4/92	8/28/92	N/A	Sullivan	Map any expression of Quaternary faulting in the exposures at Busted Butte.
Midway Valley Investigations	7/22/92	8/7/92	N/A	Sullivan	Four (one additional is optional) gravity and Magnetic evaluation lines going East-West across Midway Valley were completed.
Soil and Rock Properties Test Pits (Phase II)	8/17/92	10/31/92	TBD	Williams	Excavate 41 test pits for engineering properties of planned roads, one each fields, and concrete aggregate sources. Data for design of ESF.
Fran Ridge Test Pit No. 1	8/24/92	9/15/92	N/A	Girdley	Bedrock excavation in Topopah by controlled blasting. Fracture network mapping will be undertaken.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES  
8/28/92

<u>DESIGNATION</u>	<u>PLANNED START DATE</u>	<u>PLANNED END DATE</u>	<u>BACKFILL DATE</u>	<u>YMPO SITE CONTACT</u>	<u>COMMENTS</u>
Crater Flat Trenches	8/17/92	8/22/92	TBD	Sullivan	Three trenches across Quaternary faults were excavated for detailed mapping.
Volcanic Centers Soil Test and Sample Collection	9/16/92	TBD	TBD	Cooper	Continue examination of soil development on volcanic rocks to test results of chronology studies. Collect samples of volcanic rocks for petrology studies. This activity began July 1991 and occurs periodically.
Lathrop Wells Cinder Cone Volcanic Trenching	9/8/92	9/16/92	9/16/92	Cooper	Continuation of the volcanic studies.
Unsaturated Zone Borehole No. 16	5/27/92	12/24/92	N/A	Long	Unsaturated zone site characterization and vertical seismic profiling.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note:** If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.

WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES  
8/28/92

<u>DESIGNATION</u>	<u>PLANNED START DATE</u>	<u>PLANNED END DATE</u>	<u>BACKFILL DATE</u>	<u>YMPO SITE CONTACT</u>	<u>COMMENTS</u>
Neutron-Access Boreholes Phase II (12 boreholes)	8/3/92	TBD	N/A	Girdley	Core taken from these holes will be used by USGS for determination of moisture content and to construct tritium profiles.

**BOLD INDICATES REVISIONS AND NEW INFORMATION**

**Note: If you are interested in attending a meeting, please contact the "YMPO Site Contact" for verification.**



## Department of Energy

Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.3  
QA: N/A

SEP 01 1992

J. Russell Dyer, YMP, NV  
Winfred A. Wilson, YMP, Mercury, NV, M/S 717

FIELD TEST COORDINATOR'S REPORT FOR THE WEEK ENDING AUGUST 28, 1992: USW  
UZ-16 BOREHOLE (JOB PACKAGES 92-3, 92-4)

Scope of Activity: A borehole approximately 1700 feet in depth will be drilled using the LM-300 drilling system. The primary purpose of the hole will be for vertical seismic profile testing, although other tests such as air permeability, hydrogeochemistry, and matrix hydrologic properties are also being planned. Drilling is scheduled from May through December 1992, following pad construction in March 1992.

Week 27 Activities: The interval, 627.41 feet to 673.41 feet (46.05 feet total), was cored in the first three and one half days this week, and the 12-1/4 inch borehole was advanced from 618.98 feet to 639.16 feet. At that time mechanical difficulties were noted with the rig transmission. Estimated time for repair is one week.

Sampling this week continued in the middle nonlithophysal zone of the Topopah Spring member. Sampling will continue in this interval next week when the drill rig becomes operational.

If you have any questions, please contact me at 794-7503.

Roy C. Long  
Site Investigations Branch  
Regulatory & Site Evaluation Division

RSED:RCL-5332



## Department of Energy

Yucca Mountain Site Characterization

Project Office

P. O. Box 98608

Las Vegas, NV 89193-8608

SEP 01 1992

WBS 1.2.3

QA: N/A

J. Russell Dyer, YMP, NV  
Winfred A. Wilson, YMP, Mercury, NV, M/S 717

FIELD TEST COORDINATOR'S REPORT FOR THE WEEK ENDING AUGUST 28, 1992:  
NEUTRON-ACCESS BOREHOLES

Scope of Activity: Approximately 24 shallow boreholes will be drilled/cored for neutron logging by the U.S. Geological Survey (USGS) in order to evaluate natural infiltration. Core taken from these holes will be used by USGS for determination of moisture content and to construct tritium profiles. The drilling operation utilizes an Odex drilling system, which produces HQ core and a cased hole having a diameter of approximately six inches. The drilling program is being implemented in two phases, each consisting of 12 boreholes that will take several months to complete.

Status as of August 28, 1992: Borehole USW UZN-34 was completed August 21, 1992, to a total depth of 84.08 feet. The hole penetrated approximately 50 feet of unconsolidated material and 34 feet of ashflow tuff, ending about 10 feet into the Yucca Mountain member.

Drilling is temporarily suspended until access road improvement is completed for boreholes N-31 and N-32, located in Split Wash near the trace of the Ghost Dance fault. Drilling is expected to resume on or about September 2, 1992.

If you have any questions, please contact me at 794-7584.

*W. A. Girdley*

W. Arch Girdley  
Site Investigations Branch  
Regulatory & Site Evaluation Division

RSED:WAG-5333



# Reynolds Electrical & Engineering Co., Inc.

Post Office Box 98521 • Las Vegas, NV 89193-8521

IN REPLY REFER TO:  
580-01-649

WBS 1.2.9.1  
QA: N/A

September 4, 1992

Carl P. Gertz, Project Manager  
Yucca Mountain Site Characterization  
Project Office  
U.S. Department of Energy  
Post Office Box, 98608  
Las Vegas, NV 89193-8608

## YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP) STATUS REPORT

Attached is the August YMP Status Report for Reynolds Electrical & Engineering Co., Inc.'s participation in the YMP.

If further information is required, please contact Sandra L. Hughes at 794-7192.

R. F. Pritchett, Manager  
Yucca Mountain Project Division  
YMP Technical Project Officer

RFP:SLH:mab

Enclosure  
Status Report (3 pages)

cy: See page 2

**TOTAL QUALITY IS OUR BUSINESS**

**REECO**

AN  **EG&G** COMPANY

  
REYNOLDS ELECTRICAL & ENGINEERING CO., INC.  
(REECO)

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

AUGUST 1992 - STATUS REPORT

Reeco has no reportable Level 0 or Level 1 Milestones.

**SITE (1.2.3)**

WBS 1.2.3.2

Task: Fran Ridge Test Pits (Job Package 92-7)

Began field activities in the north pit by mobilizing, mucking, scaling, rock bolting, and drilling the first vee-cut round.

WBS 1.2.3.5

Task: Capital Equipment to support Drilling Programs

Procurement is in process for the following drilling support equipment: Cuttings/handling system, hydraulic casing jacks and bag house, drill rig to replace the Joy 1. The Request for Proposal (RFP) 3-DH-92 for the replacement drill rig was sent out to eleven prospective offerors with a closing date of August 13, 1992. No proposals were received. The RFP was amended with a closing date of September 16, 1992. Received Sutorbilt blower during this period.

Task: Neutron Access Holes (Job Package 91-9)

Commenced operations on August 3, 1992, on Phase II of the Neutron Access Boreholes. To date, three of the twelve holes, UZ-N63, UZ-N33 and UZ-N34 have been completed. Initiated preparation of UZ-N31 and UZ-N32 drill pads and access. Access road to UZ-N31 and UZ-N32 is tentatively scheduled for completion on September 1, 1992.

Task: North Portal Drill Hole and Surface Facility Test Pits (Job Package 92-2)

Resumed activity with mobilization and commenced pavement clearing up slope of drill pad.

Task: UZ-16 Drilling and Testing (Job Package 92-3)

Drilling operations were temporarily suspended on August 27, 1992, due to equipment failure. The #1 Allison transmission on the LM-300 drill rig has been removed and transported to the Detroit Diesel/Allison facility in Las Vegas for repairs or replacement. Turnaround time for repairs or replacement has not been determined at this time. Present depth of the core hole is 673 feet; depth of the 12 1/4-inch reamed hole is 639 feet.

Overheating of the Haz-Vac unit's engine continues to present a problem on warmer days. Efforts to obtain a larger radiator have been unsuccessful. A 16,000 cfm evaporative cooler for auxiliary cooling has been ordered to eliminate downtime.

Task: Midway Valley Trenching (Job Package 92-5)

No field activity during this period.

Task: Quaternary Faulting (Job Package 92-12)

Mobilized and began field activities. Completed pavement clearing on the west flank of Busted Butte; excavated trenches in Crater Flats.

**EXPLORATORY STUDIES (1.2.6)**

WBS 1.2.6.1

Task: Exploratory Studies Facility (ESF)

Source Evaluation Board continued evaluation of the proposals submitted for the Technical Support and Underground Excavation for the ESF.

**FIELD OPERATIONS (1.2.7.4)**

Task: Administrative & Maintenance Support

Earthquake damage in July to the Site Office, Building No. 4015, was extensive; because of funding limitations, only minor cleanup was accomplished to meet minimum safety requirements.

Continued support to W. A. Wilson, Yucca Mountain Site Manager, to include: processing of purchase requisitions for Field Operations Center (FOC) Site Office requirements; providing support services to participants and maintenance on YMP utilized facilities, equipment and roads in Area 25; and providing logistical and support services to management contractor.

Provided support for the Yucca Mountain Site Office open house and public tours. Nine tours were held during this period with 177 people attending. Support included but was not limited to; arrangements for buses, registration of guests, coordination of lunches/beverages, medical service, furniture, mechanical service and grading of access road. Continued preparations for upcoming tours.

**PROJECT MANAGEMENT (1.2.9)**

WBS 1.2.9.1

Task: Management and Administrative Support

Continued coordination and staffing of YMP displays at meetings, exhibits, conferences and tours; staffed and supported the Public Reading Room of the Research and Study Center.

Task: Site Characterization Plan (SCP) Distribution

Two SCP sets were distributed during this period.

Task: Long Range Planning (LRP)

Continued status and update of Planning and Control System (PACS); reviewed output data for Mission 2001 schedule; completed cost estimates as required.

WBS 1.2.9.3

Task: Quality Assurance (QA)

Received and accepted an action plan from the YMP Division to correct significant document control deficiencies identified on Correction Action Report (CAR) CA-92-002. The CAR identified the following problems:  
1) outdated and superseded documents were not removed and destroyed;  
2) subsequent revisions were not transmitted to the original document holder;  
and 3) no procedure existed to control the internal distribution of Job Packages, Drawings and Specifications. Actions to correct the CAR are scheduled to be completed by November 1, 1992.

Received guidance from DOE/YMP regarding establishment and implementation of a first line Quality Control Inspection Program for ESF by REECO/YMP.

Significant training deficiencies documented on CAR CA-92-001 were successfully resolved and verification completed as scheduled.



## Department of Energy

Yucca Mountain Site Characterization

Project Office

P. O. Box 98608

Las Vegas, NV 89193-8608

SEP 01 1992

WBS 1.2.3.5

QA: N/A

Carl H. Johnson, State of Nevada, Carson City, NV  
Phillip Niedzielski-Eichner, Nye County, Chantilly, VA  
Dennis A. Bechtel, Clark County, Las Vegas, NV  
Albert C. Douglas, City of Las Vegas, Las Vegas, NV  
Paul T. Prestholt, NRC, Las Vegas, NV

### PRELIMINARY FIELD COMPOSITE BOREHOLE LOGS

For your information, enclosed is a copy of the Preliminary Field Composite Borehole Log for borehole UE-25 UZN-34 which was developed by the Drilling Support and Sample Management Department of Technical and Management Support Services. Drilling of the borehole was completed on August 21, 1992.

If you need additional information regarding the log, please contact Uel S. Clanton at (702) 794-7943.

A handwritten signature in cursive script, appearing to read "J. Russell Dyer".

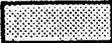
J. Russell Dyer, Director  
Regulatory & Site Evaluation Division

RSED:USC-5330

Enclosure:  
Preliminary Field Composite  
Borehole Log

# YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PRELIMINARY FIELD COMPOSITE BOREHOLE LOG

BOREHOLE ID: USW UZN-34  
 STUDY PLAN NO: 8.3.1.2.2.1  
 CORE SIZE: HQ  
 DRILL DATES: 8/18/92 - 8/24/92  
 GROUND ELEV: 4,440' (unsurveyed)  
 COORDINATES: N: 770,200' (unsurveyed)  
 E: 562,100' (unsurveyed)  
 TOTAL DEPTH: 84.1'  
 ANGLE FROM VERT: 0 BEARING: NA

-  ALLUVIUM
-  NONWELDED
-  PARTIALLY WELDED
-  DENSELY WELDED
-  VITROPHYRE
-  BEDDED TUFF

FINAL LOG DATE:  
8/27/92

Logging by Drilling Support Division, Drilling Support and Sample Management Dept, T&MSS

RUNS DATES	CORE LOSS	DRILLING RATE (ft/hr)		BITS		FRAC FREQ (/5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/REMARKS
		0	10	20	0	50	50		
8/18/92				132.0					0.0 - 50.2 Alluvium: brown to gray, sandy, silty unconsolidated material
DC-1									
DC-2		5.1/4.2	60.0						
DC-3	82%		60.0						
8/19/92									
DC-4			69.0						
DC-5			9.6						
DC-6			46.8						
NORUN		NOT ATTEMPTED							
DC-7				17.4					
DC-8				10.2					
1				31.2		Bit No. 30			
2				37.8					
13.4/8.6 64%									
3 8/20/92				33.6					
4				30.0					

ENCLOSURE

USW 4-34

UNSDATES	CORE LOSS	DRILLING RATE (ft/hr)		FRAC FREQ (/ 5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/REMARKS	
		0	10	20	0			50
		20	70	120	50			100
5		39.6					NO DATA	
6		30.0						
7			14.4					
8		33.0						
25.8/7.5 29%				16.8				
8/21/92		58.2						
DC 9		3.48	12		42			
12		8.4		Bit No. 32				
13		10.2		Bit No. 30	23			
14			13.2		29			
15				16.8	28			
23.9/18.9 79%								

**ALLUVIUM/YUCCA MOUNTAIN CONTACT @ 50.2**

50.2 - 55.8 Tuff, ashflow: light gray, nonwelded to partially welded, devitrified; white vitric pumice; 2% phenocrysts of plagioclase and alkali feldspar

55.8 - 64.0 Tuff, ashflow: medium dark gray, densely welded, devitrified; 2% white pumice; sparse dark brown to black lithic fragments; 5% phenocrysts of sanidine and plagioclase

64.0 - 84.1 Tuff, ashflow: reddish brown, moderately welded, devitrified; 2% white vitric pumice; 3% phenocrysts of plagioclase and sanidine

RUNS DATES	CORE LOSS	DRILLING RATE (ft/hr)			FRAC FREQ (/5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/REMARKS
		0	10	20	0	50		
		20	70	120	50	100		
16 8/24/92		8.4				59		TOTAL DEPTH: 84.1' RECOVERED: 54.0' PERCENTAGE: 64%  IN BEDROCK:  CORED: 38.5' RECOVERED: 33.5' PERCENTAGE: 87%
17		11.4			39	75		
18		10.8			31	80		
14.6/14.6 100%								

**Bit Information:**  
 Bit No. 30 - SN#2S25774 15 PDC cutters, 10 airways, 1/4' x 3/16" wide x deep  
 Bit No. 32 - SN#9 Drag Bit, 8 tungsten carbide cutters, 8 open-face airways



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WBS 1.2.3.5

QA: N/A

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Albert C. Douglas, City of Las Vegas, Las Vegas, NV  
Paul T. Prestholt, NRC, Las Vegas, NV

### PRELIMINARY FIELD COMPOSITE BOREHOLE LOGS

For your information, enclosed is a copy of the Preliminary Field Composite Borehole Log for borehole UE-25 UZN-33 which was developed by the Drilling Support and Sample Management Department of Technical and Management Support Services. Drilling of the borehole was completed on August 18, 1992.

If you need additional information regarding the log, please contact Uel S. Clanton at (702) 794-7943.

A handwritten signature in cursive script, appearing to read "J. Russell Dyer".

J. Russell Dyer, Director  
Regulatory & Site Evaluation Division

RSED:USC-5329

Enclosure:  
Preliminary Field Composite  
Borehole Log



RUNS DATES	CORE LOSS	DRILLING RATE (ft/hr) (BITS)			FRAC FREQ (/ 5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/ REMARKS
		0	10	20	0	50		
		20	70	120	50	100		
5				18.0		11		
6				21.6		8	30	
7				30.0		13	35	
8	8/17/92			25.8		8	40	
9				33.0		22	45	44.2 Shardy Base/Bedded Tuff Contact
10				37.5		24	50	44.2 - 59.2 Bedded tuff, ashfall: grayish orange pink to light gray, nonwelded, vitric; < 5% pumice fragments; < 5% glass shards; 1-2% phenocryst
11				16.8		22	55	59.2 Bedded Tuff/Yucca Mountain Member Contact
12				6.0		51	60	59.2 - 75.0 Tuff ashflow: medium light gray to light brownish gray, nonwelded to partially welded, devitrified; 1% pumice, bluish white, vitric
13				16.8		22	65	
14				18.0			70	

RUNS DATES BITS	CORE LOSS	DRILLING RATE (ft/hr)			FRAC FREQ (/ 5 ft)		DEPTH GRAPHIC LOG	USW UZN-33	Page 3 of 3
		0	10	20	0	50		LITHOLOGY/ REMARKS	
		20	70	120	50	100			
14 33.7/33.2 98%		18.0					75	TOTAL CORE DEPTH = 75.0 CASING DEPTH = 74.0 RECOVERED = 74.4 PERCENTAGE = 99%	
15 8/18		11.4			18				
1.9/1.9 100%									