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

Aug 5, 1992

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: Paul T. Prestholt and John W. Gilray
Sr. On-Site Licensing Representatives

DATE: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK OF JULY 17, 1992, and JULY 24, 1992

Please find enclosed the above-referenced reports.

There is nothing requiring specific management attention in the reports.

nan

c: w/encs.: Charlotte Abrams, M/S 4 H 3
Rosetta Virgilio, M/S 3 D 23
Dean Kunihiro, Region 5

NOTE TO CHARLOTTE: Also enclosed is the Preliminary Field Composite Borehole Logs for NRG-1 and the Daily Operations Reports for Yucca Mountain Site Characterization Project drill holes UE-25 NRG-1, UE-25 UZ16, and USW UZ N53; NRC Interactions Report and Field Test Coordinator's Reports

Ltr. Encl.
ADD: Charlotte Abrams

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

JUL 2 1 1992

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

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING JULY 17, 1992

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

A. Site Characterization Planning

Field Operations

The Field Operations Center (FOC) staff and Site Manager participated in and provided logistical support for four major tours.

Drilling activities continue at UZ-16, using the LM-300 drill rig. As of July 14, 1992, Reynolds Electrical & Engineering Co., Inc. cored the UZ-16 borehole to 148.57 feet; it was also reamed to 148.57 feet. The industrial vacuum loader was installed and is in operation. It has eliminated the dust emission problems that were experienced during the past few weeks.

Sample Management Facility

Processing and recovery of core and cuttings from USW UZ-16 continued. A total of 187 core specimens were shipped from NRG-1 to the U.S. Bureau of Reclamation. Twelve boxes of core from USW UZN-16 were laid out for examination by the U.S. Geological Survey (USGS). For mechanical properties testing purposes, TSW-2 outcrop samples were collected for New England Research, Incorporated.

Site Investigations

The level of aftershock activity, associated with the Little Skull Mountain earthquake on June 29, 1992, diminished significantly. As a result, USGS returned their portable seismometers to their office in Denver, Colorado. A University of Nevada, Reno, 9-station portable array continues to operate. A portable seismometer was installed by the university in X-tunnel, which is located at Little Skull Mountain.

Regulatory Interactions

On behalf of the U.S. Department of Energy (DOE), Thomas Bjerstedt (Yucca Mountain Site Characterization Project Office [YMPO]) presented a paper, which statuses the United States (U.S.) high-level radioactive waste program, to attendees of the joint meeting of the Canadian Institute of Public Health Inspectors/U.S. National Environmental Health Association in Winnipeg, Manitoba, Canada, on July 13, 1992. His slide presentation was specific to YMP. Mr. Bjerstedt was also given a tour of the nearby Underground Research Laboratory, where generic research on granite as a host rock for a potential repository in Canada is being performed.

The Regulatory Interactions Branch coordinated a meeting with the U.S. Nuclear Regulatory Commission (NRC) on-site representatives. The meeting was held on July 14, 1992, to discuss technical data management system and design control in preparation for the Exploratory Studies Facility (ESF) 90 percent design review, which is scheduled for the end of July, 1992. Claudia Newbury (YMPO) presented an overview of the technical data management system.

ESF Task Force Activities

The 90 percent design review was completed on schedule. In addition to those in the 50 percent review, the 90 percent review is comprised of 80 drawings, 38 analyses, and 52 specifications. The Independent Technical Review will begin on July 27, 1992.

Site Characterization Plan (SCP) Progress Report (PR)

The Office of Civilian Radioactive Waste Management (OCRWM) concurrence on PR 6 is expected by July 17, 1992. PR 5 is being printed this week at the Office of Scientific and Technical Information, and it should be distributed next week.

Technical Analysis

The Software Advisory Group, which is chaired by Claudia Newbury, submitted a draft of Supplement I of the Quality Assurance Requirements Document for review at DOE/Headquarters (HQ).

Jeremy Boak and Scott Borg (YMPO) met with Civilian Radioactive Waste Management System Management & Operating Contractor (CRWMS M&O) staff on July 13, 1992, to discuss fiscal year (FY) 1993 plans for performance assessment (PA) tasks. Discussions focused on scope of work and budget for the CRWMS M&O; however, preliminary ideas for the next iteration of total system PA work were discussed, as well as contingency plans, in the event FY 1993 funding is lower than anticipated.

PA support staff provided input to DOE to include with their comments to the Environmental Protection Agency on the draft of 40 CFR 191.

The YMP Technical Data Catalog for the period ending June 30, 1992, was reviewed, printed, and distributed.

SCP Study Plan (SP) Status

No new SPs were approved by YMPO this week.

STUDY PLAN BREAKDOWN

In Screening Review	0
In YMPO and HQ Review	0
Awaiting Comment Resolution	12
Awaiting Author Revision	6
In YMPO/HQ Verification Audit	8
Preparing to Submit or Awaiting YMPO Approval	3
Awaiting Submission to NRC	0
NRC Phase 1 Review	14
NRC Acceptance	27
Total	70

SCP/SP Status:

Total SPs Assigned to Cover 106 Studies	103
SPs Not Yet Submitted for Review	39
SPs Submitted for Initial Review	64
Revised SPs Submitted for Review	6
Total SPs Submitted for Review	70

State of Nevada Comments Status:

Received Comments from the State of Nevada	10
Responses Transmitted to the State of Nevada	6

NRC Comments Status:

Received Comments from NRC	14
Responses Transmitted from OGD to DOE/HQ	6

B. Project Planning and Control

Participant Planning and Control System (PACS) status cost/schedule data for June 1992, was received. Status was uploaded from the participant workstations to PACS. The new data was calculated through the PACS rollup in all participant databases. The participant data was combined in the central PACS project-level database.

Participant Cost Performance Reports and Planning and Scheduling status reports were produced for distribution to the participants.

Updates to the Mission 2001 planning data were received from the participants, and the data was uploaded to the PACS participant databases.

Updated planning reports were produced from the participant databases for distribution to CRWMS M&O.

C. Quality Assurance Implementation

Determination of Importance and Grading Enhancement

Quality (Q) List and Q-List Procedure Development

Sandia National Laboratories (SNL) continues progress in their Items Important to Waste Isolation and Items Important to Safety activities. Training preparations of AP 6.17Q, for use in training new Assessment Team (AT) members, continue.

Management Control (MC) List and Procedure Development

Discussions continue, relative to implementation of the MC List Plan. Effort is placed on comment resolution to the proposed AP 5.40 (MC List Procedure).

Implementation

Establishment of the new AT continues, with identification and notification of candidate AT members. The final draft of AP 6.17Q, Revision 1, implementation plan is being prepared. Technical Direction Letters to SNL and Raytheon Services Nevada, which request submittal of the implementing plans or procedures for review and approval by YMPO, have been issued.

D. Public Outreach and Institutional Activities

A tour to Yucca Mountain, Nevada, was conducted on July 13, 1992, for 15 guests of the French Utilities. A project overview presentation was given by A. C. Robison (YMPO) at the Las Vegas Yucca Mountain Information Office (YMIO), prior to the tour.

On July 16, 1992, a tour to Yucca Mountain was conducted for two NBC Nightly News reporters to give an update, with an emphasis on the current earthquake. Gayle Fisher (YMPO) was the escort.

Institutional and External Affairs (IEA) staff attended a meeting in Chicago, Illinois, on July 13-14, 1992, to review professional papers for the American Nuclear Society Annual Meeting, which will be held in November 1992.

The YMP exhibit was set up and staffed for the White Pine County Town Forum, which was held in Ely, Nevada, on July 16, 1992. IEA staff assisted YMPO personnel in coordinating briefing materials and handling logistics for the Forum. A. C. Robison gave a project overview presentation, and Kathleen Grassmeier (YMPO) and John Carlson (Technical and Management Support Services) provided presentations on transportation and socioeconomics. Approximately 50 people attended.

Dale Van Natta (CRWMS M&O) prepared media contact guidelines for CRWMS M&O staff.

Regulatory & Site Evaluation Division personnel (Jeanne Cooper, Claudia Newbury, Jeremy Boak, Scott Borg, and Roy Long) participated as tour guides for the Seventeenth Public Open House tour of Yucca Mountain, which was conducted on July 17, 1992, for approximately 120 people. Tour participants visited the Las Vegas YMIO, the FOC, the LM-300 drilling rig, and Yucca Mountain.

IEA and CRWMS M&O staff coordinated efforts to finalize arrangements for a tour of the Oconee Nuclear Power Plant in South Carolina July 30-31, 1992, for YMP staff and Nevada county officials.

Max Powell (YMPO) and Dale Van Natta met with Dale Anderson, Dean of Education, University of Nevada, Las Vegas (UNLV), to discuss an education plan for university activities.

II. ANALYSIS & VERIFICATION DIVISION

The staff participated in a meeting to discuss PA support to site testing and design activities July 14-15, 1992, in Las Vegas, Nevada. The meeting accomplished the objective of educating the CRWMS M&O about specific design and testing support, that will be required from participants, as surface and underground work proceeds at YMP.

Attended the Seventeenth Annual Hazards Research and Application Workshop, which included a special session entitled "Yucca Mountain — What Lessons Have Been Learned," July 12-15, 1992, in Boulder, Colorado.

III. GENERAL INFORMATION ITEMS

CRWMS M&O

Initial training of Configuration Management (CM)/Change Control Board personnel on CM Stat, which will be used for CM, was completed.

YMP

A Value Engineering training program was initiated. A 40-hour workshop was conducted this week with attendees from YMPO and CRWMS M&O.

A plan was completed, which will expedite the underground work of the ESF north portal by the end of FY 1993, for $30 million.

Los Alamos National Laboratory (Los Alamos)

Four Los Alamos scientists presented papers at the Seventh Water-Rock Interactions Symposium, which was held July 13-18, 1992, in Park City, Utah. David Broxton presented a paper entitled "Chemical Changes Associated with Zeolitization on the Tuffaceous Beds of Calico Hills at Yucca Mountain, Nevada." David Vaniman presented a paper, "Precipitation of Calcite, Dolomite, Sepiolite, and Silica from Evaporated Carbonate and Tuffaceous Waters of Southern Nevada." Giday Woldegabriel presented a paper, "Preliminary Assessment of Clinoptilolite K/AR Results from Yucca Mountain, Nevada: A Potential High-Level Radioactive Waste Repository Site." Michael Ebinger presented a paper entitled "Water-Rock Interaction and the pH Stability of Groundwaters from Yucca Mountain, Nevada."

Lawrence Livermore National Laboratory

Tests with partially-oxidized spent-fuel fragments (approximately 1 millimeter in size) have been initiated. Results from these tests will be compared with previous tests, which were conducted with partially-oxidized spent-fuel grains (approximately 15 micrometers in size). The combined results are expected to provide information on the effects of oxidation on effective spent-fuel surface area (i.e., oxidation may make the grain boundaries more accessible to water, thereby increasing the effective surface area).

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.

Date	Event	Location	YMPO Contact
A. DOE/BQ Meetings			
Wednesday, July 22	OCRWM Biweekly Seminar	Washington, DC	C. Gertz
B. CRWMS M&O/DOE Meetings			
Wednesday, July 22	CRWMS M&O Program Review	Vienna, VA	C. Gertz
Tuesday, July 28	Monthly Managers Review	Las Vegas, NV	R. Barton
C. Internal and DOE/NV Meetings			
Wednesday, July 22	NV Manager's Program Review	Las Vegas, NV	C. Gertz
Friday, July 24	Project Manager/TPO Meeting	Las Vegas, NV	C. Gertz
Friday, July 24	Planning and Budget Meeting	Las Vegas, NV	C. Gertz
D. NRC Interactions			
Wednesday, July 22	Technical Exchange - Three-Bucket Approach	Bethesda, MD	T. Bjerstedt
Thursday, July 23	Agreement on Format and Content of Yucca Mountain SPs	Rockville, MD	T. Bjerstedt
Tuesday, August 25	Technical Exchange - Resolution of Volcanism Related Concerns	Video-Conference	T. Bjerstedt
Wednesday-Thursday, September 16-17 (Tentative)	Technical Exchange - Midway Valley	LV/NTS/YM	T. Bjerstedt

D. NRC Interactions (Continued)

Date	Event	Location	YMPO Contact
Tuesday, September 29	Technical Exchange - Functional Analysis of 10 CFR 60	San Antonio, TX	T. Bjerstedt
Wednesday, October 28	Technical Exchange - Total System Performance Assessment	Albuquerque, NM	T. Bjerstedt
Tuesday, November 17	Technical Exchange - Volcanism	Rockville, MD	T. Bjerstedt
Wednesday, November 18	Interaction Planning Meeting	Rockville, MD	T. Bjerstedt

E. NWTRB Interactions (P)

Tuesday-Wednesday, October 13-14	NWTRB Full Board Meeting	Las Vegas, NV	A. Simmons
Thursday-Friday, October 15-16	NWTRB Panel on SG&G	Las Vegas, NV	A. Simmons

Date	Event	Location	Speaker
F. State and Public Interactions			
Tuesday, July 28	Yucca Mountain Lecture Series (P)	Las Vegas, NV	A. Flint
Wednesday, July 29	Nevada Department of Transportation	Sparks, NV	B. Andrews
Thursday, July 30	Yucca Mountain Lecture Series (P)	Beatty, NV	A. Flint
Wednesday, August 5	UNLV Alumni Center	Las Vegas, NV	C. Gertz G. Milligan
Thursday, August 6	Rotary Club of Las Vegas	Las Vegas, NV	C. Gertz

Date	Event	Location	Speaker
F. State and Public Interactions (Continued)			
Monday, August 31	Nuclear Information & Records Management Association Symposium	San Francisco, CA	C. Gertz
Thursday, September 17	American Nuclear Society	Lynchburg, VA	C. Gertz
Monday, September 21	Emerging Technologies for Hazardous Waste Management	Atlanta, GA	C. Gertz
Tuesday, September 29	American Institute of Professional Geologists	Lake Tahoe, NV	J. Younker
Wednesday, October 7	North American Tunneling Conference	Boston, MA	C. Gertz
Thursday, October 8	Massachusetts Institute of Technology (MIT)	Cambridge, MA	C. Gertz
Thursday, October 22	LV Chamber of Commerce	Las Vegas, NV	C. Gertz
Friday, October 30	Colorado School of Mines	Golden, CO	C. Gertz

Date	Event	Location
G. Exhibits Scheduled		
Tuesday-Wednesday, July 28-29	Department of Transportation Railroad Safety Meeting	Sparks, NV
Wednesday-Sunday, August 12-16	Nevada State Fair	Reno, NV
Thursday-Saturday, August 20-22	Nevada League of Cities	Winnemucca, NV

Date	Event	Location
G. Exhibits Scheduled (Continued		
Saturday, August 22	Public Open House (P)	Las Vegas, NV
Friday-Sunday, September 18-20	Home Show	Las Vegas, NV
Friday-Sunday, September 18-20	Pahrump Harvest Festival	Pahrump, NV
Saturday, September 26	Public Open House (P)	Las Vegas, NV
Sunday-Wednesday, September 27-30	American Institute of Professional Geologists	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

Date	Event	Escorts
H. Tours Scheduled		
Wednesday, July 29	Las Vegas Review-Journal Editorial Board	G. Fisher
Friday, July 31	British Government Officials	TBD
Saturday, August 22	Public Open House (P)	Various Escorts
Saturday, September 26	Public Open House (P)	Various Escorts

Date	Event	Escorts
H. Tours Scheduled (Continued)		
Saturday, October 17	Public Open House (P)	Various Escorts
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-4522

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

JUL 28 1992

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

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING JULY 24, 1992

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

A. Site Characterization Planning

Field Operations

The Field Operations Center (FOC) staff and Site Manager participated in and provided logistical support for two major tours.

Regarding UZ-16 drilling activities, Reynolds Electrical & Engineering Co., Inc. cored to 288 feet as of July 21, 1992. They drilled to 267 feet on the 12 1/4-inch ream hole.

The Site Manager is expecting to receive the notice to proceed on Job Package (JP) 92.12, "Quaternary Faulting," from the Project Manager. The notice to proceed applies to numerous pits and trench work.

The Site Manager received the damage inspection report from the outside structural engineering association. The report states that there were no major structural damages or hazards that would prevent occupancy of the FOC. The Site Manager presented a report on the findings at the Project Manager/Technical Project Officers (PM/TPO) Meeting held on July 24, 1992.

Sample Management Facility

Processing and recovery of core and cuttings from UE25 UZ-16 continued. Thirty-three boxes of UE25 UZ-16 core were laid out for examination by the U.S. Geological Survey (USGS). Neutron Hole 23 specimens were processed for USGS.

Site Investigations

Activities regarding UZ-16 (JP 92-03) included cutting 109 feet of core and reaming 87 feet of the 12 1/4-inch hole. High penetration rates (up to 160 feet per hour during coring) were experienced in the bedded tuffs. This interval is normally characterized by very poor welding and, consequently, low core recovery. A polycrystalline diamond cutter core bit was used to sample this interval with very good success. Except for a five-foot loss in what is believed to be a rubble zone in the transition to the bedded tuff (between 239 and 244 feet), core recovery was in excess of 80 percent. Inclination surveys of 1/4 and 1/2 degrees were taken at 148 feet and 188 feet respectively; the inclinations are within expected values. While reaming at 198 feet, some delay was caused by jamming of unconsolidated material behind the reaming bit. By midday on July 22, 1992, the core track was at 298 feet, and the ream depth was 288 feet.

Between March and June 1992, a total of 28 soil test pits and four trenches were excavated in the Midway Valley area (JP 92-05). The test pits are located on alluvial fan deposits with different relative ages, as described on the preliminary Surficial Geologic Map of Midway Valley (SAND91-0607). Descriptions of the soils exposed in the pits and the results of sample analyses will contribute to the preparation of the final Surficial Geologic Map, which will be completed in 1993. An 1100-foot long trench (MWV-T5) and a 50-foot long offset trench (MWV-T6) have been excavated across the Exploratory Studies Facility (ESF) north access site area, in the immediate vicinity of the proposed repository surface facilities. Trench MWV-T14D exposes the most recent trace of the Bow Ridge Fault, which is approximately 100 yards south of the existing Trench 14, and MWV-T4 (Trench 17) exposes a splay of the Paintbrush Canyon fault at the south end of Midway Valley. Mapping and description of all of these excavations is currently in progress by USGS and contractors.

Regulatory Interactions

The Regulatory Interactions Branch (RIB) organized and moderated a Technical Exchange between the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC), on July 22, 1992, in Bethesda, Maryland. The Technical Exchange was regarding the NRC's "three-bucket approach" to demonstrating compliance with 40 CFR 191. The three-bucket approach refers to a sorting of probability for events (scenarios) into categories: likely, unlikely, and very unlikely, for treatment in performance assessment modeling. The Technical Analysis Branch provided the technical lead for this meeting. The Environmental Protection Agency attended the meeting.

The RIB met with NRC on July 23, 1992, in Rockville, Maryland, to renegotiate the 1986 level-of-detail agreement for Study Plans (SP). The Office of Civilian Radioactive Waste Management (OCRWM) has an approved Quality Assurance (QA) program, has issued its Site Characterization Plan (SCP), and has four years experience in preparing SPs. The Yucca Mountain Site Characterization Project Office (YMPO) is suggesting changes that update content requirements, eliminate the 90-day waiting period to start work while NRC reviews an SP, and eliminate obsolete references to the Texas and Hanford sites.

ESF Task Force Activities

The Management Technical Review of the 90 percent complete ESF Design Package 1A was concluded. In addition to those in the 50 percent review, the 90 percent review is comprised of 80 drawings, 38 analyses, and 52 specifications. The Independent Technical Review will begin on July 27, 1992.

SCP Progress Report (PR)

PR 5 was mailed from the Office of Scientific and Technical Information on July 21, 1992. Distribution is expected by July 24 or 27, 1992. PR 6 is still in concurrence at OCRWM.

SCP Study Plan (SP) Status

No new SPs were approved by YMPO this week.

STUDY PLAN BREAKDOWN

In Screening Review	0
In YMPO and DOE/Headquarters (HQ) Review	0
Awaiting Comment Resolution	12
Awaiting Author Revision	6
In YMPO/HQ Verification Audit	7
Preparing to Submit or Awaiting YMPO Approval	4
Awaiting Submission to NRC	0
NRC Phase 1 Review	14
NRC Acceptance	27
Total	70

SCP/SP Status:

Total SPs Assigned to Cover 106 Studies	103
SPs Not Yet Submitted for Review	39
SPs Submitted for Initial Review	64
Revised SPs Submitted for Review	6
Total SPs Submitted for Review	70

State of Nevada Comments Status:

Received Comments from the State of Nevada	10
Responses Transmitted to the State of Nevada	7

NRC Comments Status:

Received Comments from NRC	14
Responses Transmitted from OGD to DOE/HQ	6

B. Project Planning and Control

A project-level Cost Plan through fiscal year 2001 was produced. The Cost Plan provides annualized costs by work breakdown structure (WBS) through license application, based on new data, which was provided by participants for the Mission 2001 replanning exercise.

Performance measurement report booklets for June 1992, were compiled and distributed for Carl Gertz (Project Manager), DOE Division Directors, and project WBS element managers.

C. QA Implementation

Determination of Importance and Grading Enhancement

Continuation of Existing Process

The transition process, which consists of the cancellation of Administrative Procedure (AP) 5.28 and the new Revision 1 of AP 6.17Q, continues.

Quality (Q) List and Q-List Procedure Development

Sandia National Laboratories (SNL) continues progress in their Items Important to Waste Isolation and Items Important to Safety (IITS) activities. An interfacing meeting was conducted by SNL on July 17, 1992, for the purpose of providing early status and IITS input for ESF package 1A. Draft training material for AP 6.17Q was completed.

Management Control (MC) List and Procedure Development

Discussions continue relative to implementation of the MC List Plan. Effort is placed on comment resolution to the proposed AP 5.40 (MC List Procedure). Work on proposed AP 5.41 (MC Grading Procedure) and training preparations for both AP 5.40 and AP 5.41 are on hold until AP 5.40 is complete.

Implementation

Establishment of the new Assessment Team was completed, and their initial meeting was conducted on July 23, 1992. The AP 6.17Q, Revision 1, implementation plan is in the approval cycle. Technical Direction Letters to SNL and Raytheon Services Nevada, which request submittal of the implementing plans or procedures for review and approval by YMPO, have been issued.

D. Public Outreach and Institutional Activities

A. C. Robison (YMPO) and several members of management and technical project staff toured the Oconee Nuclear Power Station in Clemson, South Carolina, July 21-22, 1992.

The YMP staff escorted reporters on a tour of the X-Tunnel on July 22, 1992. The tour was coordinated in conjunction with the Nevada Test Site/Office of External Affairs.

Jeanne Cooper (YMPO) and Mindy Wadkins (Technical & Management Support Services) gave a project overview presentation to members of the Soroptomists of South Lake Tahoe on July 22, 1992, in Lake Tahoe, Nevada. Robert Loux, who represents the state, also gave a presentation. Approximately 100 members attended.

Maxwell Blanchard (YMPO) provided an update on the earthquake that occurred near Little Skull Mountain on June 29, 1992, at the DOE/Nevada Managers Program Review, which was held in Las Vegas, Nevada, on July 22, 1992. Also, Carl Gertz provided further information on the earthquake during a media briefing on July 24, 1992, in Las Vegas.

Institutional and External Affairs (IEA) staff attended the State/Local Government Planning Group meeting on July 23, 1992, at McCarran International Airport, in Las Vegas, Nevada. They also attended the PM/TPO Meeting, on July 24, 1992, in Las Vegas, Nevada.

IEA staff finalized arrangements for a meeting with representatives of the affected counties and John Bartlett, OCRWM Director. The meeting will be held on July 29, 1992, in Washington, D.C.

II. ANALYSIS & VERIFICATION DIVISION

The staff participated in the DOE/NRC Technical Exchange on the NRC's three-bucket approach to Performance Assessment on July 22, 1992, in Bethesda, Maryland. On July 23, 1992, they participated in the DOE/NRC Management Meeting regarding the 1986 Level of Detail Agreement on SPs in Rockville, Maryland.

Two verification reviews for SPs were initiated: a verification review under Implementing Line Procedure 22.3.1 for SP 8.3.1.8.2.1, "Study Plan for the Analysis of Waste Package Rupture Due to Tectonic Processes and Events;" and a verification review under AP 1.10Q for SP 8.3.1.5.2.1, "Characterization of the Yucca Mountain Quaternary Regional Hydrology."

The staff participated in a briefing by Thomas Isaacs (Director, Office of Strategic Planning and International Programs) to Franklin Peters (Deputy Director, OCRWM), John Bartlett, and Associate Directors/Office Directors. The briefing, which was held on July 21, 1992, in Washington, D.C., was regarding the preliminary results from the analysis of contingency options, should Yucca Mountain be found unsuitable for any reason.

III. GENERAL INFORMATION ITEMS

Civilian Radioactive Waste Management System Management & Operating Contractor (CRWMS M&O)

The staff attended a Value Engineering Workshop in Richland, Washington. The planning for a Value Engineering Program for YMP was initiated.

Los Alamos National Laboratory

The report, "Los Alamos National Laboratory Yucca Mountain Site Characterization Project 1991 Quality Program Status Report," by Steven Bolivar, et al., was published.

The mixed waste issue for U/Th disequilibrium dating work for the volcanism task was resolved and work has resumed.

Lawrence Livermore National Laboratory

A test to study the feasibility of using a gas displacement method to measure suction potential versus saturation in high temperature rock was initiated. Scoping calculations for in situ heater tests in Busted Butte and ESF were also initiated.

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.

Date	Event	Location	YMPO Contact
A. DOE/HQ Meetings			
Friday, August 7	Program Management Meeting	Washington, DC	C. Gertz

Date	Event	Location	YMPO Contact
B. CRWMS M&O/DOE Meetings			
Postponed TBD	Monthly Managers Review	Las Vegas, NV	R. Barton
C. Internal and DOE/NV Meetings			
Friday, July 24	PM/TPO Meeting	Las Vegas, NV	C. Gertz
Friday, July 24	Planning and Budget Meeting	Las Vegas, NV	C. Gertz
D. NRC Interactions			
Tuesday, August 25	Technical Exchange - Resolution of Volcanism Related Concerns	Video-Conference	T. Bjerstedt
Wednesday-Thursday, September 16-17	Technical Exchange - Midway Valley	LV/NTS/YM	T. Bjerstedt
Tuesday, September 29	Technical Exchange - Functional Analysis of 10 CFR 60	San Antonio, TX	T. Bjerstedt
Thursday, October 29	Technical Exchange - Total System Performance Assessment	Albuquerque, NM	T. Bjerstedt
Tuesday, November 17	Technical Exchange - Volcanism	Rockville, MD	T. Bjerstedt
Wednesday, November 18	Interaction Planning Meeting	Rockville, MD	T. Bjerstedt
E. NWTRB Interactions (P)			
Tuesday-Wednesday, October 13-14	NWTRB Full Board Meeting	Las Vegas, NV	A. Simmons
Thursday-Friday, October 15-16	NWTRB Panel on SG&G	Las Vegas, NV	A. Simmons

	Date	Event	Location	Speaker
F.	**State and Public Interactions**			
	Monday, July 27	World Affairs Council	Las Vegas, NV	V. Best
	Tuesday, July 28	Yucca Mountain Lecture Series (P)	Las Vegas, NV	A. Flint
	Wednesday, July 29	Nevada Department of Transportation	Sparks, NV	B. Andrews
	Wednesday, July 29	Frontier Girl Scouts of America	Las Vegas, NV	R. Arnold
	Wednesday, July 29	Pretour Briefing Las Vegas Review-Journal Editorial Board	Las Vegas, NV	C. Gertz
	Thursday, July 30	Yucca Mountain Lecture Series (P)	Beatty, NV	A. Flint
	Wednesday, August 5	UNLV Alumni Center	Las Vegas, NV	C. Gertz G. Milligan
	Thursday, August 6	Rotary Club of Las Vegas	Las Vegas, NV	C. Gertz
	Monday, August 31	Nuclear Information & Records Management Association Symposium	San Francisco, CA	C. Gertz
	Thursday, September 3	American Business Women's Association	Las Vegas, NV	C. Gertz
	Monday, September 14	Daughters of the American Revolution Group	Las Vegas, NV	R. Arnold
	Thursday, September 17	American Nuclear Society	Lynchburg, VA	C. Gertz
	Friday, September 18	Americana Realtors' Group	Las Vegas, NV	A. Robison
	Monday, September 21	Emerging Technologies for Hazardous Waste Management	Atlanta, GA	C. Gertz

Date	Event	Location	Speaker
F. State and Public Interactions (Continued)			
Tuesday, September 29	American Institute of Professional Geologists	Lake Tahoe, NV	J. Younker
Wednesday, October 7	North American Tunneling Conference	Boston, MA	C. Gertz
Thursday, October 8	Massachusetts Institute of Technology (MIT)	Cambridge, MA	C. Gertz
Thursday, October 22	LV Chamber of Commerce	Las Vegas, NV	C. Gertz
Friday, October 30	Colorado School of Mines	Golden, CO	C. Gertz

Date	Event	Location
G. Exhibits Scheduled		
Tuesday-Wednesday, July 28-29	Department of Transportation Railroad Safety Meeting	Sparks, NV
Wednesday-Sunday, August 12-16	Nevada State Fair	Reno, NV
Thursday-Saturday, August 20-22	Nevada League of Cities	Winnemucca, NV
Saturday, August 22	Public Open House (P)	Las Vegas, NV
Friday-Sunday, September 18-20	Home Show	Las Vegas, NV
Friday-Sunday, September 18-20	Pahrump Harvest Festival	Pahrump, NV
Saturday, September 26	Public Open House (P)	Las Vegas, NV

	Date	Event	Location
G.	**Exhibits Scheduled** (Continued)		
	Sunday-Wednesday, September 27-30	American Institute of Professional Geologists	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
	Date	**Event**	**Escorts**
H.	**Tours Scheduled**		
	Wednesday, July 29	Las Vegas Review-Journal Editorial Board	G. Fisher
	Friday, July 31	British Government Officials	TBD
	Saturday, August 22	Public Open House (P)	Various Escorts
	Saturday, September 26	Public Open House (P)	Various Escorts
	Thursday, October 8	Realtor Association	TBD
	Tuesday, October 13	Senior Tripsters	TBD
	Saturday, October 17	Public Open House (P)	Various Escorts
	Wednesday, November 18	Public Open House (P)	Various Escorts
	Saturday, December 12	Public Open House (P)	Various Escorts

Maxwell Blanchard for
Carl P. Gertz
Project Manager

YMP:VFI-4614

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

JUL 16 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
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 NRG-1 which was developed by the Drilling Support and Sample Management Department of Technical and Management Support Services. Drilling of the borehole was completed on June 23, 1992.

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

for: Russell Dyer, Director
Regulatory & Site Evaluation Division

RSED:USC-4147

Enclosure:
Composite Borehole Log

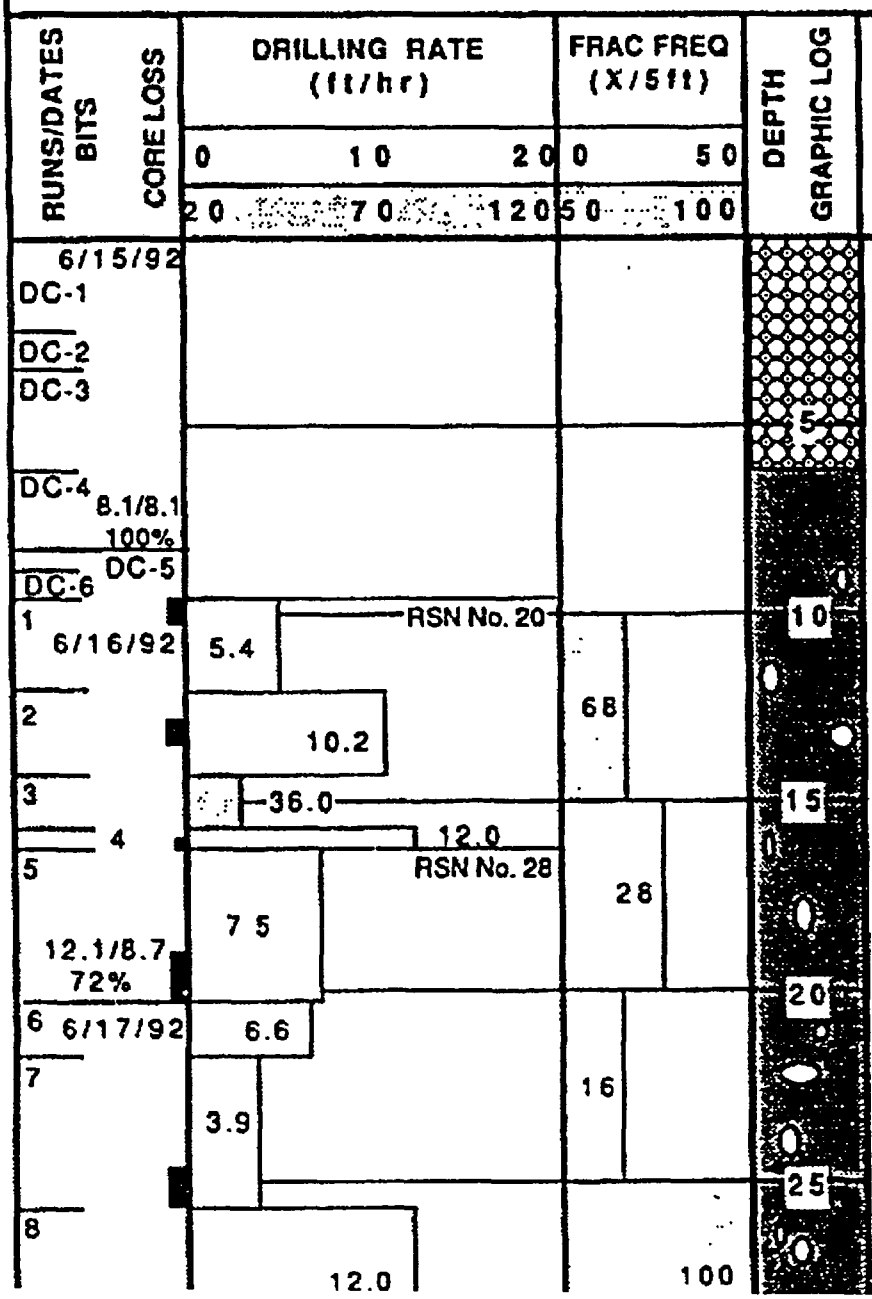
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
PRELIMINARY FIELD COMPOSITE BOREHOLE LOG

COREHOLE ID: UE25nrg#1
STUDY PLAN NO: 8.3.1.14.2
CORE SIZE: HQ 2.25"
DRILL DATES: 06/15/92-06/23/92
GROUND ELEV: 3754.6 ft. Surveyed
COORDINATES: N: 765,410 est
E: 569,890 est.
TOTAL DEPTH: 150.1 ft.
ANGLE FROM VERT: NA BEARING: NA

ALLUVIUM
NON-WELDED
PARTIALLY WELDED
DENSELY WELDED
BEDDED TUFF
VITROPHYRE

FINAL LOG DATE 7/9/92

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



0.0 - 6.1 Alluvium; brown to gray brown sandy and silty, unconsolidated Tiva Canyon debris

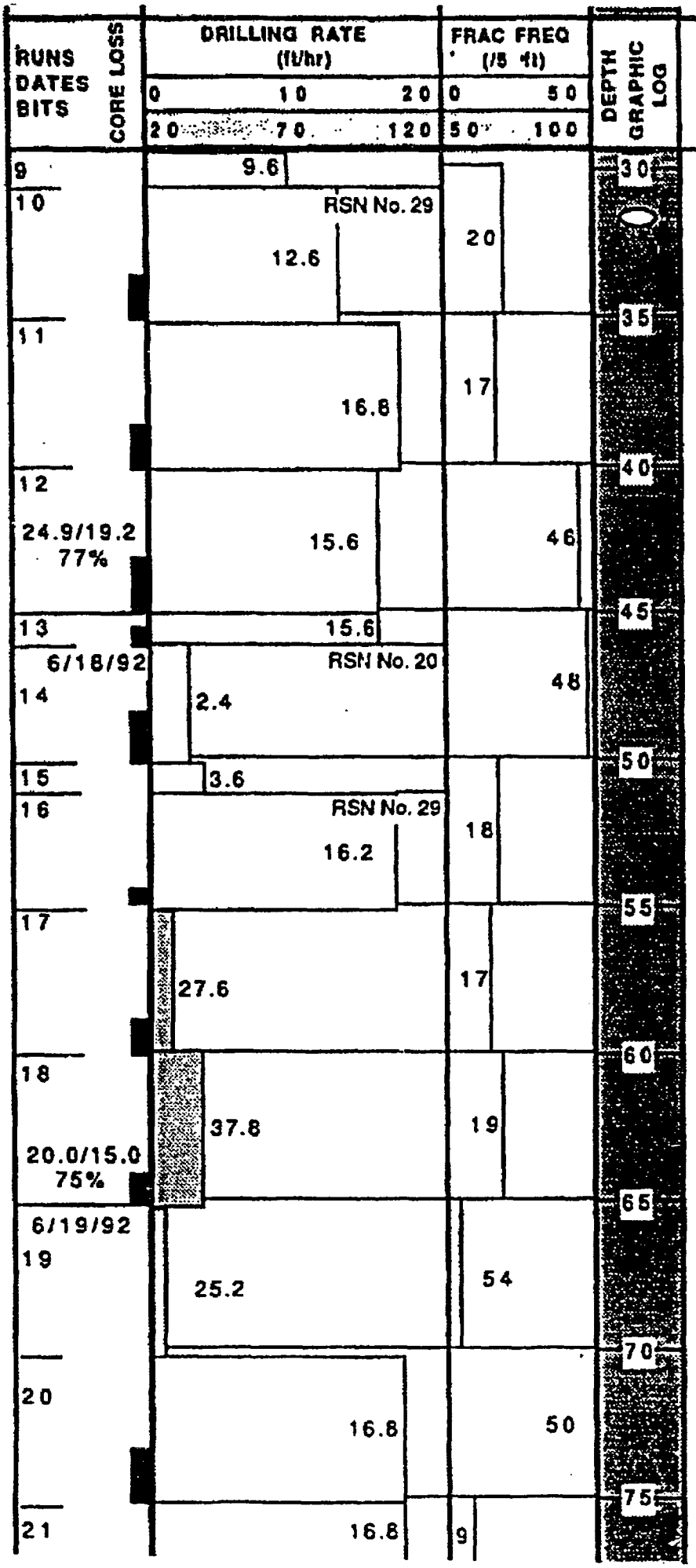
ALLUVIUM / TIVA CANYON CONT. @ 6.1

6.1 - 9.5 Tuff, ashflow: medium gra numerous fractures, sandy.

9.5 - 14.3 Tuff, ashflow: medium g with pinkish gray margins around lithophysae; pumice fragments 0.2 1.5 cm; 3% phenocrysts, alkali feldspar and sanidine; 3% lithophys oblate, 1-3 cm

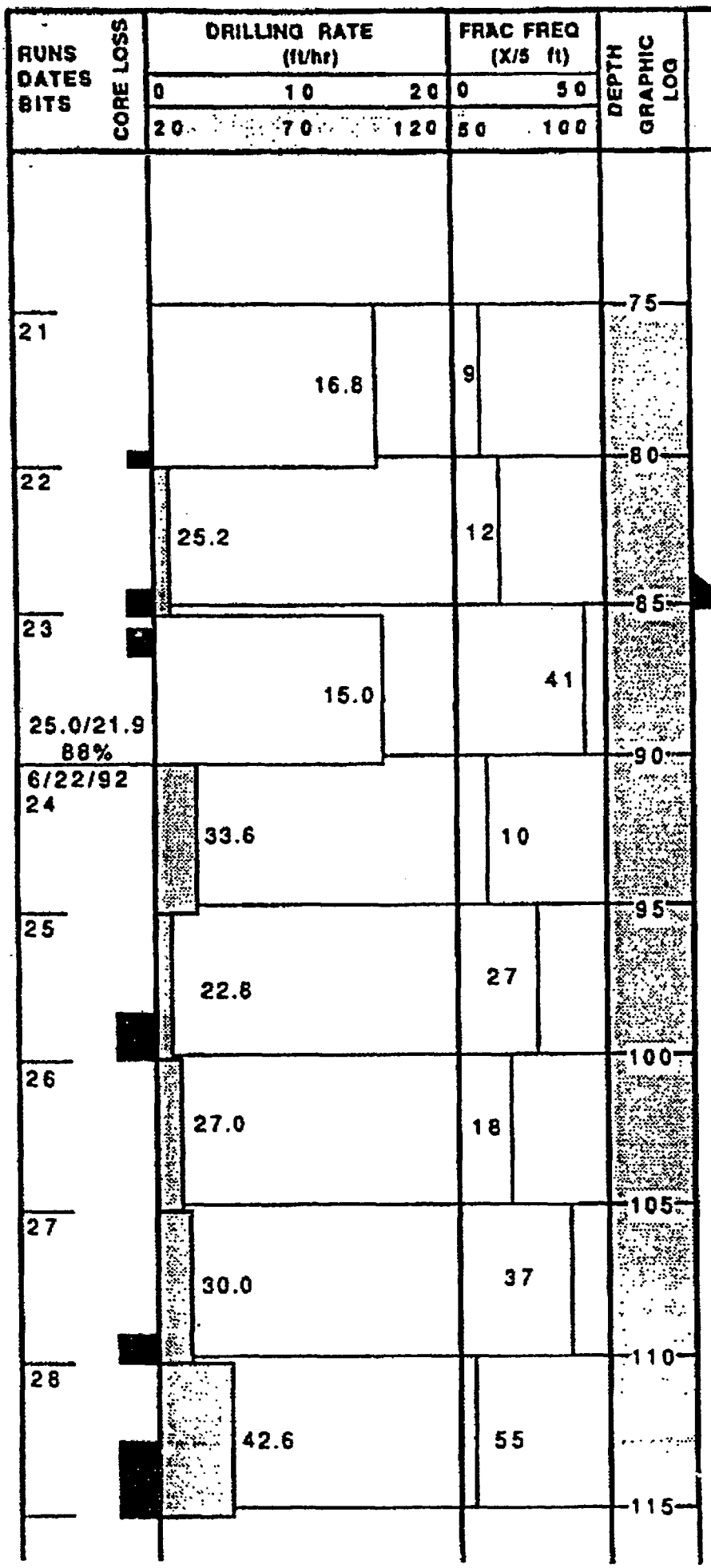
14.3 - 25.6 Tuff, ashflow: light gr moderately welded, devitrified; 35% K-spar phenocryst, 10% biotite, ar 15% pumice

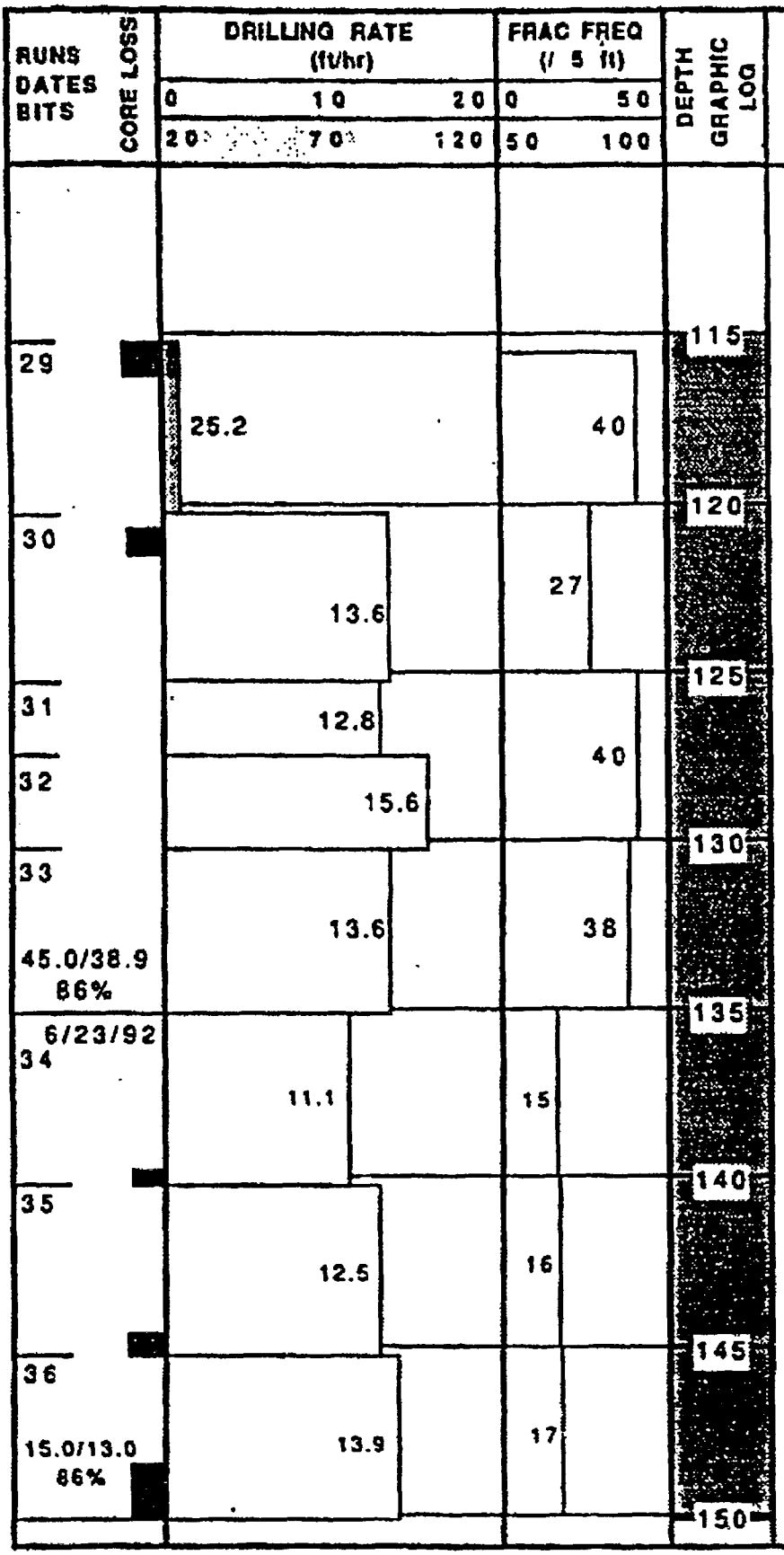
25.6 - 108.3 Tuff, ashflow: grayish pink, moderately welded, vitric; 5% lithophysae with vapor-phase



LITHOLOGY/ REMARKS

with minor altered biotite phenocrysts; some clay alteration o some of the fractures.


RUNS
DATES
BITS
CORE LOSS
DRILLING RATE (ft/hr)
0 10 20
20 70 120
FRAC FREQ (X/5 ft)
0 50
50 100
DEPTH
GRAPHIC LOG
LITHOLOGY/ REMARKS
21
16.8
9
22
25.2
12
23
15.0
41
25.0/21.9
88%
6/22/92
24
33.6
10
25
22.8
27
26
27.0
18
27
30.0
37
28
42.6
55
75
80
85
90
95
100
105
110
115
5.5" casing @ 85.1
LOWER LITHOPHYSAL / HACKLY Z
CONTACT @ 108.3
108.3 - 135.0 Tuff, ashflow: pale re
grayish pink, mostly vitric, moderate
densely welded; less than 3 % phenoc
of alkali feldspar, sanidine, and biotit
some fractures filled with milky banc
quartz; abundant euhedral to subhedr
milky to clear quartz on some fractu
surfaces



LITHOLOGY/ REMARKS

HACKLY ZONE / COLUMNAR ZONE CONTACT GRADATIONAL @ 135.0

135.0 - 150.1 Tuff, ashflow: pale re moderately to densely welded, vitric to devit; increase in potassium feldspar with depth; phenocrysts increase with depth to 5 % sanidine and 3 % biotite. MnO on some fractures

TOTAL CORE DEPTH = 150.1
CASING DEPTH = 85.1
CUMULATIVE TOTALS:
CUT: 150.1 / REC: 124.8 / 83

Bit Information

RSN No. 20: 2S022901, Carbonado, Christensen, 25 stones/ct, 10 airways (1/6 x 1/6) wide x deep
RSN No. 28: 2S25277, Strata Pac, 15 PDC's, 1/4" dia, 10 Airways, (1/4 x 5/16) wide x deep
RSN No. 29: 2S25278, Strata Pac, 15 PDC's, 1/4" dia, 10 Airways, (1/4 x 5/16) wide x deep

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

JUL 27 1992

Carl B. Johnson, State of Nevada, Carson City, NV
Phillip Niedzielski-Eichner, Nye County, Chantilly, VA
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Albert C. Douglas, City of Las Vegas, Las Vegas, NV
Paul T. Prestholt, 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 NRG-1, UE-25 UZ16, and USW UZ N53 (enclosure 1). These reports were prepared by Raytheon Services Nevada and cover previous weeks when drilling was conducted. Subsequent reports will be on a weekly basis.

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 report (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.

p.p. Russell Dyer, Director
Regulatory & Site Evaluation Division

RSED:JTS-4603

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

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 15, 1992

Job Package No.: 92-2 Page: 1 of 1
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline coring system, SF_6 tracer gas shall be injected in the compressed air circulation media. 3) Use Odex syste coring and hammering from surface to max depth 50', or as directe the DOE/SR. 4) To estimated total depth 150'. 5) Remove Odex c except two Joints(10'± 2'). 6) Joints with Cal-Seal plug at surface. Run geophysical logs. 8) Demobilize equipment. 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 13, 1992	N/A
1000 - 1200	Moving in coring equipment.
1200 - 1230	Break for Lunch.
1230 - 1630	Moving and rigging up coring equipment.

Drilling Rep: Neal Walker, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: n/a
Total Participants: n/a
Visitors On Site: N/A
Total personnel on location: n/a
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 16, 1992

Job Package No.: 92-2 Page: 1 of 1
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Drive Sample
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline coring system, SF_6 tracer gas shall be injected in the compressed air circulation media. 3) Use Odex sys coring and hammering from surface to max depth 50', or as direct the DOE/SR. 4) To estimated total depth 150'. 5) Remove Odex except two Joints(10' ± 2'). 6) Joints with Cal-Seal plug at surface Run geophysical logs. 8) Demobilize equipment. 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 15, 1992	Day 1
0800 - 0830	Start-up rig and safety meeting.
0830 - 1200	Nipple up and rigging up rig.
1200 - 1230	Break for Lunch.
1230 - 1345	Continue nipple up and rigging up rig.
1345 - 1445	Drive Sample #1 from 0.00' to 2.26', recovered 2.26'. Drive Sample #2 from 2.26' to 3.45', recovered 1.50'. Drive Sample #3 from 3.45' to 6.05', recovered 2.20'.
1445 - 1509	Lay down drive hammer. Pick up Odex hammer. Nipple up to ream.
1509 - 1520	Ream #1 from 0.00' to 6.05'.
1520 - 1537	Lay down Odex hammer. Pick up drive hammer.
1537 - 1547	Drive Sample #4 from 6.05' to 8.07'.
1547 - 1630	Shut down and secure rig.

Status: TD drive samples 8.07'
TD reamed 6.05'

Drilling Rep: Neal Walker, REECo
A/E Rep: Curtis Clark, RSN

Personnel On Site: 2-RSN; 4-REECo; 4-SMF; 1-USGS
Total Participants: 11
Visitors On Site: N/A
Total personnel on location: 11
Field Report prepared by Richard Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 17, 1992
Page: 1 of 1

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline coring system, SF_6 tracer gas shall be injected in the compressed air circulation media. 3) Use Odex syst coring and hammering from surface to max depth 50', or as directe the DOE/SR. 4) To estimated total depth 150'. 5) Remove Odex c except two Joints(10'± 2'). 6) Joints with Cal-Seal plug at surface. Run geophysical logs. 8) Demobilize equipment. 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 16, 1992	(DAY 2)
0800 - 0830	Start up Rig.
0830 - 0846	Make up drive sample Botton Hole Assembly and Trip in Hole.
0846 - 0859	Drive Sample #5 from 8.07'to 8.78', recovered 1.75'.
0859 - 0920	Drive Sample #6 from 8.78'to 9.49', recovered 2.38'.
0920 - 0957	Lay down drive sample and pick up Core Run Assembly.
0957 - 1055	Core #1 from 9.44' to 12.00', recovered 1.1', 29 min.
1055 - 1200	Ream Interval #2 from 6.05' to 12.00'.
1200 - 1230	Break for Lunch.
1230 - 1246	Core #2 from 12.00' to 14.33', recovered 1.0', 14 min.
1246 - 1323	Core #3 from 14.33' to 15.65', recovered 2.0', 20 min.
1323 - 1330	Core #4 from 15.65' to 16.20', recovered 0.4', 3 min.
1330 - 1356	Lay down Core Assembly, pick up Odex Hammer, change bit.
1356 - 1420	Ream Interval #3 from 12.00' to 16.20.
1420 - 1452	Move Tracer Gas Injection System.
1452 - 1600	Core run #5 from 16.20' to 20.20', recovered 2.8', 32 min.
1600 - 1630	Shut down and Secure Rig. NOTES: Core Run #1 Air Flow Volume: 55 SCFM , 517 SCFM #2, 550 SCFM #3, Tracer Gas Operational on all Core & Reaming

STATUS: Ending Depths: Cored 20.20'
Reamed 16.20'
Daily Footage: Cored 10.76'
Reamed 10.15'
Drilling Rep: Neal Walker, REECo
A/E Rep: Richard Wright, RSN

Personnel On Site: 2-RSN; 2-USGS; 4-SMF; 4-REECo; 1-DOE;
Field Report prepared by Richard W. Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 18, 1992

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline coring system. SF_6 tracer gas shall be injected in the compressed air circulation media. 3) Use Odex syster coring and hammering from surface to max depth 50'. or as directed by the DOE/SR. 4) To estimate depth 150'. 5) Remove Odex casing, except two Jomts(10' ± 2'). 6) Joints with Cal-Seal plug at surfa Run geophysical logs. 8) Demobilize equipment. 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 17, 1992	Day 3
0800 - 0830	Service rig and equipment.
0830 - 0917	Core #6 from 20.20' to 21.82', recovered 2.5', 15 min.
0917 - 0958	Ream #4 from 16.20 to 21.82'.
0958 - 1113	Core #7 from 21.82' to 25.62', recovered 2.8', 58 min.
1113 - 1142	Core #8 from 25.62' to 29.35', recovered 3.0', 19 min.
1142 - 1200	Core #9 from 29.35' to 30.62', recovered 1.2', 8 min.
1200 - 1230	Lunch.
1230 - 1308	Change bits, removed Bit RSN #28 SN 2S25277 and replaced with Bit RS #29 SN 2S25278. Lay down coring assembly and pick up Odex hammer.
1308 - 1417	Ream #5 from 21.82' to 30.62'.
1417 - 1600	Core #10 from 30.62' to 35.10', recovered 3.7', 18 min. Core #11 from 35.10' to 40.10', recovered 3.7', 18 min. Core #12 from 40.10' to 45.10', recovered 3.1', 19 min.
1600 - 1630	Shut down and secure rig. Cored to 45.10' and reamed to 30.62'. Made 24.9' coring and 8.8' reaming in todays operations.

Drilling Rep: Neal Walker, REECo
A/E Rep: Curtis Clark, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS; 1-DOE
Field Report prepared by Richard Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 19, 1992
Page: 1 of 1

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wl coring system & inject SF_6 tracer gas to a total depth of ±150' 3) Remove Odex casing, except 10' & install Cal-Seal surface plug. 7) Run geophysical logs. 8) Demobilize equipn 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 18, 1992	(Day 4)
0800 - 0830	Service rig and equipment.
0830 - 0906	Ream core barrel back to bottom
0906 - 0940	Core run #13 from 45.10' to 46.14' (4 min.), rec 0.5 ft.
0940 - 1050	Ream cycle #6 from 30.62 to 46.14'.
1050 - 1118	Trip out with hammer & trip in with coring assembly.
1118 - 1209	Core run #14 from 46.14'
1209 - 1239	Lunch
1239 - 1338	Finish Core run #14 to 50.12' (96 min), rec 2.3 ft
1338 - 1408	Core run #15 from 50.12'to 51.12'(18 min), rec 1.0'
1408 - 1433	Change core bits from PDC to carbonado style.
1433 - 1459	Core run #16 from 51.12' to 55.14' (15 min), rec 3.3'
1459 - 1526	Core run #17 from 55.14' to 60.10' (11 min), rec 3.9'
1526 - 1600	Core run #18 from 60.10' to 65.14' (8 min), rec 4.0'
1600 - 1630	Shut down and secure rig. Cored 20.04' to 65.14' and reamed 15.52' to 46.14'.

Drilling Rep: Neal Walker, REECo
A/E Rep: Curtis Clark, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS; 1-DOE

Field Report prepared by Richard Wright
Office Report prepared by Don Cunninhgam

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 22, 1992
Page: 1 of 1

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex drilling system. 2) Continuous core wi HQ-3 and/or NQ-3 wireline coring system & inject SF_6 tracer gas to a total depth of ±150'. 3) Remove Odex casing, except 10' & install (Seal surface plug. 7) Run geophysical logs. 8) Demobilize equipmer 9) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 19, 1992	(Day 5)
0800 - 0830	Service rig and equipment.
0830 - 0906	Trip in with hammer
0940 - 1050	Ream cycle #7 from 46.14' to 65.14'
1050 - 1118	Trip out with hammer & trip in with coring assembly.
1118 - 1209	Core run #19 from 65.14' to 70.12' (12 min), rec 5.0'
1041 - 1110	Core run #20 from 70.12' to 75.12' (18 min), rec 3.5'
1110 - 1200	Core run #21 from 75.12' to 80.12' (18 min), rec 4.8'
1200 - 1230	Lunch
1230 - 1315	Core run #22 from 80.12' to 85.12' (12 min), rec 4.6'
1315 - 1338	Trip out with coring assembly & trip in with hammer.
1338 - 1448	Ream cycle #8 from 65.14' to 85.12'.
1448 - 1514	Trip out with hammer & trip in with coring assembly.
1514 - 1545	Core run #23 from 85.12' to 90.12' (20 min), rec 4.6'
1545 - 1630	Shut down and secure rig. Cored 24.98' to 90.12' and reamed 38.98' to 85.12'. Average Air Rate 300 SCFM while compressor is running.

Drilling Rep: Neal Walker, REECo
A/E Rep: Curtis Clark, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS; 1-DOE

Field Report prepared by Curtis Clark
Office Report prepared by Don Cunninhgam

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30 hrs
Date: June 23,1992

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline Coring system & inject SF_6 tracer gas to a total depth of ±150'. 3) Remove Odex casing except 10' & install Cal-Seal surface plug. 7) Run geophysical logs. 8) Demobilize equipment. 9) Prepared final location and elevation survey.

REPORT FOR: June 22,1992 (Rig Day 19)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0921	Service rig and equipment. Safety Meeting.
0921 - 0942	Core run #24 from 90.12' to 95.12' (9 min), rec 5.0'
0942 - 1005	Core run #25 from 95.12' to 100.12' (13 min), rec 3.6'
1005 - 1058	Core run #26 from 100.12' to 105 12' (11 min), rec 5.0'
1058 - 1152	Core run #27 from 105.12' to 110.12' (10 min), rec 4.2'
1152 - 1208	Core run #28 from 110.12' to 115.12' (7 min), rec 2.8'
1208 - 1238	Lunch
1238 - 1320	Core run #29 from 115.12' to 120.12' (12 min), rec 4.0'
1320 - 1355	Core run #30 from 120.12' to 125.12' (22 min), rec 4.3'
1355 - 1421	Core run #31 from 125.12' to 127.52' (10 min), rec 2.4'
1421 - 1440	Core run #32 from 127.52' to 130.12' (10 min), rec 2.6'
1440 - 1523	Pulled up 20' and reamed core barrel back to bottom .
1523 - 1600	Core run #33 from 130.12' to 135.12' (22 min), rec 5.0'
1600 - 1630	Secure rig. Average air rate 330 SCFM while coring.

Ending Depth:	**Cored** 135.12	**Reamed** 85.12	**Drilled** 0
Daily Footage:	**Cored** 45	**Reamed** 0	**Drilled** 0

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham
Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS, 0-DOE

Field Report Prepared By: James Anthony
Office Report Prepared By: Don Cunningham

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30 hrs
Date: June 24,1992

Job Package No.: 92-2
Station: UE-25 NRG-1, North Portal Ramp Borehole
Drill Rig: CME-850
Activity: Final Report
Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with HQ-3 and/or NQ-3 wireline Coring system & inject SF_6 tracer gas to a total depth of ±150'. 3) Remove Odex casing except 10' & install Cal-Seal surface plug. 7) Run geophysical logs. 8) Demobilize equipment. 9) Prepared final location and elevation survey.

REPORT FOR: June 23,1992 (Rig Day 7)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0926	Trip out to check bit. Trip in with same bit.
0926 - 1022	Core run #34 from 135.12' to 140.12' (27 min), rec 4.8'
1022 - 1102	Core run #35 from 140.12' to 145 12' (24 min), rec 4 6'
1102 - 1230	Core run #36 from 145.12' to 150 12' (26 min), rec 3.6'
1230 - 1300	Lunch
1300 - 1347	Trip out of hole laying down core rods.
1347 - 1515	Trip out of hole laying down casing.
1515 - 1600	Left 10.02' of casing below ground level and 2.01' above ground level. Grout top 18" of casing.
1600 - 1630	Secure rig. Average air rate 330 SCFM while coring. Hole at 150.12', total depth. Move out rig. Final Report.

Ending Depth:	**Cored** 150.12	**Reamed** 10 02	**Drilled** 0
Daily Footage:	**Cored** 15	**Reamed** 0	**Drilled** 0

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham
Personnel On Site: 1-RSN; 6-REECo; 4-SMF, 1-DOE

Field Report Prepared By: James Anthony
Office Report Prepared By: Don Cunningham

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 9, 1992
Page: 1 of 2

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Reaming
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground lev to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to tota depth. 4) Cement casing to surface. 5) Continuous core with ±4.38(OD/±2.4 ID inch coring bit. 6) And ream down core track with ±12.: OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 8, 1992	DAY 9
0800 - 0950	Safety meeting. Service and warm up equipment.
0950 - 1055	Ream down hole with 22" Bit from 42.14'.
1055 - 1200	Change out suction & discharge fittings and hose on water pump.
1200 - 1230	Break for Lunch.
1230 - 1248	Change out suction & discharge fittings and hose on water pump.
1248 - 1610	Ream down hole with 22" Bit to 47.50'.
1610 - 1630	Clean up and secure rig.

STATUS: TD cored 55.00'
TD reamed(22" hole) 47.50'

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 1-RSN; 11-REECO; 1-USGS; 1-SMF;
Total Participants: 14
Visitors On Site: N/A
Total personnel on location: 14
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 10, 1992
Page: 1 of 2

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Reaming
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to t depth. 4) Cement casing to surface. 5) Continuous core with ±4.3 OD/±2.4 ID inch coring bit. 6) And ream down core track with ±1 OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location an elevation survey.

Date / Hours From - To	Operations Description
June 9, 1992	DAY 10
0800 - 0825	Service and warm up equipment. Run in hole. No fill.
0825 - 0935	Ream down hole with 22" Bit from 47.50'.
0935 - 1200	Shut down for equipment repair.
1200 - 1230	Break for Lunch.
1230 - 1305	Shut down for equipment repair.
1305 - 1315	Ream down hole with 22" Bit.
1315 - 1400	Shut down for equipment repair.
1400 - 1610	Ream down hole with 22" Bit to 52.00'.
1610 - 1630	Clean up and secure rig.

STATUS: TD cored 55.00'
TD reamed(22" hole) 52.00'

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 1-RSN; 12-REECO; 1-USGS; 1-SMF; 1-Doe; 1-Lang
Total Participants: 16
Visitors On Site: N/A
Total personnel on location: 16
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 11, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Cementing
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground le to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to tot depth. 4) Cement casing to surface. 5) Continuous core with ±4.38 OD/±2.4 ID inch coring bit. 6) And ream down core track with ±12. OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 10, 1992	DAY 11
0800 - 0826	Service and warm up equipment.
0826 - 0907	Ream down hole with 22" bit. Ending Depth 53.04'.
0907 - 1200	Lay down drill pipe & bit. Survey rig mast for plumb, pick up 16" 75 #/ft. Casing
1200 - 1230	Break for Lunch.
1230 - 1330	Continue laying down drill pipe & bit. Survey rig mast for plumb, pick up 1 75 #/ft. K-55 Casing.
1330 - 1404	Started mixing cement, mixed cement to 15.7 #/gal.
1404 - 1408	Using a Redi-mix truck placed 1211 lbs, Type II Cement (15.3 Cuft). End casing off bottom approximately 1". End of casing at 52.25, (total depth 53 .80' fill.
1408 - 1600	Waiting on cement.
1600 - 1630	Clean up and secure rig.

STATUS: Cementing Surface Casing

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 3-RSN; 20-REECO; 1-USGS; 0-SMF; 3-DOE;
Total Participants: 27
Visitors On Site: N/A
Total personnel on location: 27
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 12, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Nipple up head
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground le to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to tot depth. 4) Cement casing to surface. 5) Continuous core with ±4.38 OD/±2.4 ID inch coring bit. 6) And ream down core track with ±12. OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 11, 1992	DAY 12
0800 - 0853	Service and warm up equipment. Tagged cement inside casing at 49.49'. Have 2.75' cement inside casing.
0853 - 0930	Mix cement.
0930 - 0937	Placed 115 cuft, 15.6 lb/gal Type II cement slurry in annulus, did not fill to surface. Cement is 25' downhole. Had 24.29' fill.
0937 - 1315	Waiting on cement. Ordered out third stage of cement. Break for Lunch.
1315 - 1348	Mixing cement.
1348 - 1418	Placed 115 cuft, 15.6 lb/gal Type II cement slurry in annulus. Filled to surf
1418 - 1630	Waiting on cement. Clean up and secure rig. Cement fell back 1.7'. Calculated volume 69.60 cuft.

STATUS: Cementing surface casing

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 3-RSN; 15-REECO; 2-USGS; 2-DOE;
Total Participants: 22
Visitors On Site: N/A
Total personnel on location: 22
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 15, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Nipple Up Wellhead
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground le to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to tot depth. 4) Cement casing to surface. 5) Continuous core with ±4.38 OD/±2.4 ID inch coring bit. 6) And ream down core track with ±12. OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 12, 1992	DAY 13
0800 - 0830	Service and warm up equipment.
0830 - 1200	Lay down landing joint. Move out casing handling tools, move in equipmen drill out cement. Check rig mast for plumb - less than 3/4°. Install a 1.50" plate in air processing meter run. Start picking up Bottomhole Assembly.
1200 - 1230	Break for Lunch.
1230 - 1341	Finish picking up Bottomhole Assembly. Pick up 3 Joints 9 5/8" dual wall drillpipe.
1341 - 1444	Drill out cement & fill to 53.04' using a 14 3/4" Hughes DSC 3 AJ Tricone SN-TN 863.
1444 - 1630	Pull out of hole, lay down drill pipe & Bottonhole Assebbly. Install Spider Slips. Clean up & secure rig.

STATUS: Nipple Up Wellhead

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 1-RSN; 12-REECO; 1-USGS; 2-LANG
Total Participants: 16
Visitors On Site: N/A
Total personnel on location: 16

Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 16, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: None
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuous core with ±4.380 OD/±2.4 ID inch coring bit. 6) And ream down core track with ±12.25 OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 15, 1992	DAY 14
0800 - 0830	Service and warm up equipment.
0830 - 0945	Run open Centeved 12 1/4" Bit and 9 5/8" dual wall drill pipe.
0945 - 1200	Install Wellheads, pick up and run core barrel with core bit #3, Serial 2S24194 to bottom. Bit #3, PDC w/18 cutters (6.6.6/O.C.I.) and 12 air passages.
1200 - 1230	Break for Lunch.
1230 - 1332	Make preparations to begin Coring.
1332 - 1515	Core #9 from 53.04' to 60.83', recovered 7.8', 82 min.
1515 - 1600	Put out of hole, recover Core, change Bit. Trip in Hole. Replaced Bit #3, Serial # 2S24194, with Bit #4, Serial # L-87048. Run in Hole, Carbinata.
1600 - 1630	Shut Down and Secure Rig.

STATUS: TD cored 60.83'
Air Rate 865 cu ft/min.

Drilling Rep: Richard Sowards, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 2-RSN; 14-REECO; 2-USGS; 2-LANG; 1-DOE; 5-SAIC;
Total Participants: 26
Visitors On Site: N/A
Total personnel on location: 26

Field Report prepared by James E. Anthony
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 17, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: None
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground to 50'min. 3) Vacuum drill 22 inch hole and set 16" OD casing to t depth. 4) Cement casing to surface. 5) Continuous core with ±4. OD/±2.4 ID inch coring bit. 6) And ream down core track with ±1 OD/±4.5 ID inch reaming bit to estimated depth 1663' which is approximately ±40' below water table. 7) Prepare final location an elevation survey.

Date / Hours From - To	Operations Description
June 16, 1992	DAY 15
0800 - 0830	Service and warm up equipment.
0830 - 0920	Ready equipment and location for Media Tour.
0920 - 1010	Core run #10 from 60.83' to 62.88', Recovered 2.1', 23 min.
1010 - 1027	Pull out of hole with Core Bit #4.
1027 - 1105	Break off 9 5/8" Coring Well Head & Top Drive Cross Overs.
1105 - 1200	Fit Rubber in 16" Wellhead Flange, Pick up 9 5/8" casing from bottom. Out and lay down 10' 9 5/8" Pup Joint.
1200 - 1230	Break for Lunch.
1230 - 1250	Run Compresser / Vacuum Pressure Test
1250 - 1323	Adjust Air System.
1323 - 1418	Survey and Adjust Derrick Angle. Change Derrick from E-W 0°, N-S 0.3 E.W 0.01° E, N-S 0.07° N. Rig floor to G.L. changed from 4.30' to 4.12'.
1418 - 1435	Ream core hole with 12 1/4" Ream out bit from 53.04' to 55.03'.
1435 - 1511	Check air flow through bit with reverse sub, check Vacuum System.
1511 - 1524	Ream core hole from 55.03' to 55.14'.
1524 - 1600	Check air flow through bit w/reverse sub. check Vacuum System.
1600 - 1630	Shut down & Secure Rig.
	STATUS: Ending Depths: cored 62.88'
	reamed 55.14'
	Air Rate 849 CFM
	Daily Footage: cored 2.05'
	reamed 2.10'
	Drilling Rep: Richard Sowards, REECo
	A/E Rep: Don Cunningham, RSN

Personnel On Site: 3-RSN; 11-REECO; 3-USGS; 2-LANG; 2-DOE; 4-SAIC;
Field Report prepared by James E. Anthony
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 18, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Reaming
Objectives: 1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50'min. 3) Vacuum drill 22 hole and set 16" OD casing to total depth. 4) Cement casing to surface. 5) Continuously core and rea 1663' 6) Prepare final location and elevation survey. 7) Install wellhead box.

Date / Hours From - To	Operations Description
June 17, 1992	DAY 16
0800 - 0830	Service rig and equipment.
0830 - 0900	Problems with removing rock cuttings from the hole. Inspected the top he drive. Cleaned out cuttings in the return line.
0900 - 1200	Ream #26 from 55.14'. Rock cuttings collecting in the rig return lines and must be cleared periodically.
1200 - 1230	Lunch.
1230 - 1321	Continue Ream #26 to 59.02'.
1321 - 1422	Cuttings continue to collect in the return line. Pick up core assembly and trip in the hole to clear debris from original core hole.
1422 - 1610	Core #11 from 58.39' to 65.95', recovered 6.6', 83 min. Held RSN Core Resolution meeting, determined that the section from 58.39' to 62.88' was core on core run #10 and the interval from 62.88' to 65.95' was new core.
1610 - 1630	Shut down and secure rig. Cored to 65.95'; reamed to 59.02'. Maded 7.5 coring and 3.88' reaming in todays operations. Air volume 793 SCFM.

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 3-RSN; 15-REECO; 2-USGS; 2-DOE;

Field Report prepared by James Anthony
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 19, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM 300
Activity: Reaming
Objectives: 1) Mobilize drill rig 2) Continuous core/drive sample from ground level to 50'min. 3) Vacuum drill 2: hole and set 16" OD casing to total depth 4) Cement casing to surface. 5) Continuously core and re 1663 ft. 6) Prepare final location and elevation survey. 7) Install wellhead box.

Date / Hours From - To	Operations Description
June 18, 1992	DAY 17
0800 - 0830	Service rig and equipment.
0830 - 0854	Unload 12 1/4" bit.
0854 - 0943	Core run #12 from 65.95' to 67.38' (38 min.), rec 1.6 ft.
0943 - 1200	Trip out with coring assembly & trip in with 12 1/4" tri-cone bit. Install dive equipment.
1200 - 1230	Lunch.
1230 - 1410	Ream cycle #27 from 59.02 to 67.38'
1410 - 1600	Trip out with drill bit. Change core bits from RSN #L4 to RSN #L5. Trip i with coring assembly.
1600 - 1630	Shut down and secure rig. Cored 1.43' to 67.38' and reamed 8.36' to 67.

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 4-RSN; 9-REECO; 2-USGS; 2-DOE; 4-SMF;

Field Report prepared by James Anthony
Office Report prepared by Don Cunningham

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 22, 1992

Job Package No.:	**92-03**
Station:	**UE-25 UZ16**
Drill Rig:	LM 300
Activity:	Reaming
Objectives:	1) Mobilize drill rig. 2) Continuous core/drive sample from ground level to 50'min. Vacuum drill 22 inch hole and set 16" OD casing to total depth. 4) Cement casing surface. 5) Continuously core and ream to 1663 ft. 6) Prepare final location and elevation survey. 7) Install wellhead box.

Date / Hours From - To	Operations Description
June 19, 1992	(DAY 18)
0800 - 0830	Service rig and equipment.
0830 - 0955	Check for air flow through bit. No flow. Trip out with bit. Found inr core barrel blocking flow.
0955 - 1037	Core run #13 from 67.38'
1037 - 1200	Shut down to work on rig motors
1200 - 1230	Lunch
1230 - 1405	Core run #13 from 67.38' to 77.28' (81 min), rec 9.9'
1405 - 1600	Core run #14 from 77.28' to 85.28' (96 min), rec 8.0'
1600 - 1630	Shut down and secure rig. Cored 17.94' to 85.32', Air rate 755 SC while compressor is operating.

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN

Personnel On Site: 1-RSN; 9-REECO; 3-USGS; 1-DOE; 4-SMF

Field Report prepared by Don Cunningham
Office Report prepared by Don Cunningham

RAYTHEON SEVICES NEVADA·

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 23, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
Objectives: 1)Mobilize drill rig. 2)Continuous core/drive sample from ground level to 50' minimun. 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: June 22,1992 (Rig Day 19)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0600 - 0830	Service rig and equipment.
0830 - 1200	Work on Vacuum unit.
1200 - 1230	Lunch
1230 - 1342	Work on Vacuum unit.
1230 - 1601	Core run #15 from 85.32' to 91.45' (139 min), rec 5.7'
1601 - 1630	Shut down and secure rig. Average air rate 666 SCFM while coring.

Ending Depth:	**Cored** 91.45'	**Reamed** 67.38'	**Drilled** 0
Daily Footage:	**Cored** 5.13'	**Reamed** 0	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 2-RSN; 12-REECo; 2-USGS. 0-DOE: 4-SMF.

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

RAYTHEON SEVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 24, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
Objectives: 1)Mobilize drill rig. 2)Continuous core/drive sample from ground level to 50' minimun. 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: June 23,1992 (Rig Day 20)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0925	Core run #15 from 91.45' to 93.67'(47 min). rec 2.6'
0925 - 1018	Work on weight indicator.
0830 - 1200	Core run #16 from 93.67'
1200 - 1230	Lunch
1230 - 1416	Core run #16 from 93.67' to 98.67'(128 min). rec 5.0'
1416 - 1600	Ream #28 from 67.38' to 85.15' caught ream sample from 73' to 74'
1600 - 1630	Shut down and secure rig. Average air rate 728 SCFM while coring and 786 SCFM while reaming.

Ending Depth:	**Cored** 98.67'	**Reamed** 85.15'	**Drilled** 0
Daily Footage:	**Cored** 7.6'	**Reamed** 17.77	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 2-RSN; 12-REECo; 2-USGS; 0-DOE, 4-SMF

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

RAYTHEON SEVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 25, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: *Work on vacuum system*
Objectives: 1)Mobilize drill rig. 2)Continuous core/drive sample from ground level to 50' minimun. 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: June 24,1992 (Rig Day 21)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 1020	Wait on industrial hygiene personnel. Install a flag above compressors to indicate wind direction.
1020 - 1112	Wait on safety personnel
1112 - 1215	Ream from 85.15' to 98.67'.
1215 - 1245	Lunch
1245 - 1345	Rig to start coring, Installed bit #5, Longyear strata type A1TBBA/1, SN# L 96595, RSN #L5
1345 - 1600	Shut down operations to work on vacuum unit.
1600 - 1630	Shut down and secure rig. Average air rate 786 SCFM while reaming.

Ending Depth:	**Cored** 98.67'	**Reamed** 98.67'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 13.52'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 10-REECo; 4-USGS, 2-DOE, 4-SMF.

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

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 26, 1992

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: June 25,1992 (Rig Day 22)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 1020	Work on Vacuum System.
1020 - 1112	Wait on safety personnel
1112 - 1215	Core Run #18 from 98.67' to 103.67' (54 mins). Rec. 4 4'
1200 - 1230	Lunch
1230 - 1414	Work on Vacuum System.
1414 - 1503	Core Run #19 from 103.67' to 109.54' (49 mins), Rec. 3.9'
1503 - 1615	Attempt to core. Core barrel plugged off.
1615 - 1630	Shut down and secure rig. Average air rate 770 SCFM while reaming.

Ending Depth:	**Cored** 109.54	**Reamed** 98.67'	**Drilled** 0
Daily Footage:	**Cored** 10.87'	**Reamed** 0	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 3-RSN; 10-REECo; 4-USGS; 1-DOE; 4-SMF;

Field Report Prepared By: Don Cunningham
Office Report Prepared By: Don Cunningham

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 29, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
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: June 26,1992 (Rig Day 23)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0825	Service rig and equipment.
0825 - 1030	Core Run #20 from 109.54' to 118.68' (125 mins). Rec. 7.6'
1030 - 1200	Trip out of hole with coring assembly. Rig up to start reaming.
1200 - 1230	Lunch
1230 - 1600	Test and work on vacuum system. Note - hose broke on vacuum system, 25 barrels of water spilt on east side of location near water tank and flowed away from well bore.
1615 - 1630	Shut down and secure rig. Average air rate 708 SCFM while coring.

Ending Depth:	**Cored** 118.68'	**Reamed** 98.67'	**Drilled** 0
Daily Footage:	**Cored** 9.14'	**Reamed** 0	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 5-RSN; 11-REECo; 4-USGS, 3-DOE, 4-SMF.

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

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: June 30, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
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: June 29,1992 (Rig Day 24)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 1000	Survey derrick .01' to the west and .05' to the north. Canceled dust test on vacuum system due to wind. Clean out and refill water tanks on vacuum system.
1000 - 1200	Work on vacuum system
1200 - 1230	Lunch
1230 - 1600	Install valve in dust collector and work on vacuum system
1615 - 1630	Shut down and secure rig.

Note: Dust test with industrial hygiene rescheduled for 0830, 6/30/92

Ending Depth:	Cored 118.68'	Reamed 98.67'	Drilled 0
Daily Footage:	Cored 0	Reamed 0	Drilled 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 5-RSN, 11-REECo, 4-USGS; 3-DOE, 4-SMF;

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

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 1, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Dust Test
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: June 30,1992 (Rig Day 25)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0930	Rig up and empty middle water compartment. Repair pump suction connection.
0930 - 1059	Run and adjust vacuum system. Install flow meter on vacuum system.
1059 - 1200	Ream from 98.67' to 108.43'. Stopped for 16 mins. to monitor and adjust flow meter. Stopped at 108.43' for dust. Air volume: 786 SCFM
1200 - 1230	Lunch
1230 - 1450	Lay down vacuum unit. Rework jets in air-water mixing assembly. Erect vacuum unit.
1450 - 1510	Take readings for barton meter coefficient determination.
1510 - 1630	Run test on pumps with new jets. Shut down and secure rig. Note: Dust test with industrial hygiene scheduled for 09:00, 7/01/92

Ending Depth:	**Cored** 118.68'	**Reamed** 108.43'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 9.76'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 3-RSN; 16-REECo; 4-USGS; 3-DOE; 4-SMF;

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

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 2, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Equipment Modification
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: July 1,1992 (Rig Day 26)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0900	Work on air diverter head. Pump air down the 9 5/8 inner string to check for plugging.
0900 - 0945	Wait for dust test to start..
0945 - 1000	Dust test, stopped test due to dust coming up the outside of the 9 5/8 drill pipe.
1000 - 1050	Wait on down hole camera.
1050 - 1110	Rig up and run TV camera, found 12' fill inside drill pipe.
1110 - 1200	Lay down drill pipe to check for plugging.
1200 - 1230	Lunch.
1230 - 1330	Clean out drill pipe and go in hole.
1330 - 1400	Run TV camera.
1400 - 1505	Pull out of hole to change out the open centered for the tri-cone bit.
1505 - 1520	Ream from 108.43 to 112.02'. Shut down due to dust coming out of the vaccum unit discharge.
1520 - 1630	Clean up and secure rig.

Ending Depth:	**Cored** 118.68'	**Reamed** 112 02'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 3.77'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: David Putnam, RSN
Personnel On Site: 4-RSN; 16-REECo; 5-USGS, 2-DOE, 4-SMF.

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
Date: July 6, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Equipment Modification
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) : istall wellhead box

REPORT FOR: July 2, 1992 (Rig Day 27)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment
0830 - 1200	Work on vacuum system. change out water nozzles. Disconnect centrifugal pumps and hook up duplex pump.
1200 - 1230	Lunch.
1230 - 1400	Rig up vacuum separator and test.
1400 - 1430	Ream from 112.02 to 113.12'. Shut down due to dust coming out of the vacuum unit discharge.
1430 - 1630	Lay down vacuum separator and repair. Clean up and secure rig.

Ending Depth:	**Cored** 118.68'	**Reamed** 113.12'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 1 10'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: Richard Wright, RSN
Personnel On Site: 3-RSN; 16-REECo; 4-USGS; 2-DOE. 3-SMF.

Field Report Prepared By: Richard Wright
Office Report Prepared By: James E. Anthony

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 7, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Equipment Modification
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: July 6, 1992 (Rig Day 28)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0845	Safety meeting, service rig and equipment.
0845 - 0940	Installed reworked jetting flange in vacuum system. Reconnect lines, raise unit and ready unit for dust test.
0940 - 1016	Wait on Industrial Hygiene and Environmental Personnel to conduct dust test.
1016 - 1029	Conduct dust test and ream cycle #33 from 113.12' to 114.00'.
1029 - 1200	Stop test. Break off return line and clean out lines and vacuum equipment. Change out compressor #86078 for #86079.
1200 - 1230	Lunch
1230 - 1328	Complete hook-up of compressor #86079 Check gauge calibration. OK.
1328 - 1338	Dust test. Ream cycle #34 from 114.00' to 115.18'
1338 - 1357	Hook up Haz Vac.
1357 - 1405	Ream cycle #35 from 115.18' to 115.93'. Haz Vac quit.
1405 - 1457	Repair Haz Vac. Rig down blue vacuum system.
1457 - 1537	Ream cycle #36 from 115.93' to 118.68'
1537 - 1600	Rig down blue vacuum system. Pull and lay down 2 jts. of drill pipe
1600 - 1630	Shut down and secure rig.

Ending Depth:	**Cored** 118.68'	**Reamed** 118.68'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 5.56'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: Richard Wright, RSN
Personnel On Site: 5-RSN; 21-REECO; 4-USGS, 1-SMF, 2-LANG, 1-SAIC

Field Report Prepared By: James E. Anthony
Office Report Prepared By: Richard W Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 8, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Equipment Modification
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: July 7, 1992 (Rig Day 29)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 1200	Move out vacuum unit, modify air discharge pipe of the Haz Vac unit. Fabricate discharge line to meter run.
1200 - 1230	Lunch.
1230 - 1500	Continue working on meter run. Trip out tri-cone bit. Trip in open face bit and core tools. Test Haz Vac on core #21. No visible dust.
1500 - 1600	Clean up and wait on orders to go ahead and core.
1600 - 1630	Shut down and secure rig.

Ending Depth:	**Cored** 118.68'	**Reamed** 118.68'	**Drilled** 0
Daily Footage:	**Cored** 0	**Reamed** 0'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: Richard Wright, RSN
Personnel On Site: 3-RSN; 20-REECO; 4-USGS, 3-SMF.

Field Report Prepared By: Richard W. Wright
Office Report Prepared By: Richard W. Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 9, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Equipment Modification
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: July 8, 1992 (Rig Day 30)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0822	Service rig and equipment.
0822 - 1118	Core run #21 from 118.68' - 120.99' (135 min.) 2.3 Rec.
1118 - 1200	Pulled core rods out of the hole, change out core bit SN# L 96511, RSN #L5
1200 - 1230	Lunch.
1230 - 1410	Trip in hole with new bit RSN #L6, SN# L2S25766, Tag fill, work to bottom, pull core and adjust core barrel length.
1410 - 1600	Core run #22 from 120.99' - 126.22' (95 min.), 5.2' Rec
1600 - 1630	Shut down and secure rig.
	Average air rate 650 SCFM while coring.

Ending Depth:	**Cored** 126.22'	**Reamed** 118.68'	**Drilled** 0
Daily Footage:	**Cored** 7.54	**Reamed** 0	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: Richard Wright, RSN
Personnel On Site: 2-RSN; 20-REECO; 4-USGS, 4-SMF; 1-SAIC

Field Report Prepared By: Richard W. Wright
Office Report Prepared By: Richard W Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 10, 1992

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: July 9, 1992 (Rig Day 31)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0846	Work on Haz-Vac vacuum truck
0846 - 0954	Core run #23 from 126.22' - 128.41' (53 min.), 2.2' Rec
0954 - 1100	Core run #24 from 128.41' - 130.42' (47 min.), 1.8' Rec
1100 - 1200	Start core run #25
1200 - 1230	Lunch.
1230 - 1306	Core run #25 from 130.42' - 133.12' (55 min.), 2.5' Rec
1306 - 1347	Core run #26 from 133.12' - 133.74' (30 min), 0 6' Rec
1347 - 1500	Core run #27 from 133.74' - 134.83' (69 min.), 1.1' Rec
1500 - 1539	Trip out with bit, change out bit, Trip in hole with new diamond bit RSN #L7.
1539 - 1600	Start core run #28
1600 - 1630	Shut down and secure rig.

Average air rate 676 SCFM while coring.
Average vacuum rate 795 SCFM while coring.

Ending Depth:	Cored 134.83'	Reamed 118.68'	Drilled 0
Daily Footage:	Cored 8.61'	Reamed 0	Drilled 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: Richard Wright, RSN
Personnel On Site: 7-RSN; 18-REECO; 4-USGS; 4-SMF, 1-DOE.

Field Report Prepared By: Richard W. Wright
Office Report Prepared By: Richard W. Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 13, 1992

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
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: July 10, 1992 (Rig Day 32)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0821	Service rig and equipment.
0821 - 0917	Continue core run #28 from 134 83' - 136.50' (74 min), 1.7' Rec
0917 - 1200	Core run #29 from 136.50'
1200 - 1230	Lunch.
1230 - 1322	Continue core run #29 from 136.50' - 138.22' (104 min.), 1.7' Rec
1322 - 1350	Pull out of hole with coring string. Rig up to ream core hole
1350 - 1505	Ream cycle #37 from 118.68' - 131.26' (62 min)
1505 - 1600	Compressor broke down. Repair compressor.
1600 - 1630	Shut down and secure rig.
	Note: Moisture on core

CORING: Average air rate 375 SCFM.
Average vacuum rate 825 SCFM.

REAMING: Average air rate 762 SCFM.
Average vacuum rate 955 SCFM.

Ending Depth:	**Cored** 138.20'	**Reamed** 131.26'	**Drilled** 0
Daily Footage:	**Cored** 3.37'	**Reamed** 12 58'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: James E. Anthony, RSN
Personnel On Site: 5-RSN; 16-REECO; 4-USGS; 3-SMF; 2-DOE

Field Report Prepared By: James E. Anthony
Office Report Prepared By: James E. Anthony

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7 30
Date: July 15, 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: July 14, 1992 (Rig Day 34)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0824	Service rig and equipment.
0824 - 1030	Core run #33 from 146.13' - 148.57' (119 min), 2.2' Rec
1030 - 1113	Pull out of the hole with core rods and lay down all stabilizers. Pick up one joint of dual wall drill pipe.
1113 - 1130	Ream cycle #39 from 138.20' - 144.50' (Take samples at 143 5' - 144.50')
1130 - 1200	Stop reaming and attempt to remove obstruction from reaming bit.
1200 - 1230	Lunch.
1230 - 1340	Trip in hole with core rods to remove obstruction, drill out obstruction and trip out of hole
1340 - 1400	Resume ream cycle #39 from 144.50' - 148.57'
1400 - 1530	Repair leaking air seals on power swivel
1530 - 1600	Take inclination survey at total depth of 148.57', ½ degree
1600 - 1615	Trip in hole with core rods and change out bits. Remove RSN Bit #L7. Make up RSN Bit #L8, SN# L 96594, Longyear, Stratapak, 12 airways, 16 cutters.
1615 - 1630	Shut down and secure rig.

CORING: Average air rate 540 SCFM.
Average vacuum rate 1150 SCFM.

REAMING: Average air rate 944 SCFM.
Average vacuum rate 1212 SCFM.

Ending Depth:	Cored 148.57'	Reamed 148.57'	Drilled 0
Daily Footage:	Cored 2.44'	Reamed 10.37'	Drilled 0

Drilling Rep: Richard Sowards, REECO
A/E Rep: Richard W. Wright, RSN
Personnel On Site: 2-RSN; 10-REECO; 4-USGS, 5-SMF, 1-DOE.

Field Report Prepared By: Richard W. Wright
Office Report Prepared By: Richard W. Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 14, 1992

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: July 13, 1992 (Rig Day 33)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 0930	Ream cycle #38 from 131.26' - 138.20' (50 min).
0930 - 1005	Rig up to core. Trip in hole with core bit RSN L7, Serial #2S25771
1005 - 1200	Core run #30 from 138.20' - 139.27' (100 min), 1.1 Rec
1200 - 1230	Lunch.
1230 - 1435	Core run #31 from 139.27' - 144 06' (94 min), 2.1' Rec
1435 - 1513	Fans on Haz Vac hydraulic oil cooling tank failed Modify system to cool oil.
1513 - 1600	Core run #32 from 144.06' - 146.13' (39 min), 2 0' Rec
1600 - 1630	Shut down and secure rig.

CORING: Average air rate 543 SCFM.
Average vacuum rate 1083 SCFM.

REAMING: Average air rate 793 SCFM.
Average vacuum rate 1138 SCFM.

Ending Depth:	**Cored** 146.13'	**Reamed** 138.20'	**Drilled** 0
Daily Footage:	**Cored** 7.93'	**Reamed** 6 94'	**Drilled** 0

Drilling Rep: Richard Sowards, REECo
A/E Rep: James E. Anthony, RSN
Personnel On Site: 5-RSN; 10-REECO; 4-USGS, 5-SMF 1-DOE

Field Report Prepared By: James E Anthony
Office Report Prepared By: James E Anthony

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 16, 1992

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: July 15, 1992 (Rig Day 35)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig and equipment.
0830 - 1048	Core run #34 from 148.57' - 157 73' (113 min), 3.6' Rec
1048 - 1114	Core run #35 from 157.73' - 167.90' (14 min), 10.2' Rec
1114 - 1200	Core run #36 from 167.90' - 178.64' (4 min), 10.0' Rec
1200 - 1230	Lunch.
1230 - 1300	Core run #37 from 178.64' - 188 51' (4 min), 9.9' Rec
1300 - 1348	Run an empty core barrel in the hole and retrieve missing core (recovered 1.5').
1348 - 1542	Ream cycle #40 from 148.57' - 188 51'
1542 - 1615	Core run #38 from 188.51' - 199 18' (4 min), 9 9' Rec
1615 - 1630	Shut down and secure rig.

NOTE: Correction on inclination survey on 7/14/92 at total depth of 148.57'. Survey - ¼ degrees

CORING: Average air rate 400 SCFM.
Average vacuum rate 1100 SCFM.

REAMING: Average air rate 1138 SCFM.
Average vacuum rate 1370 SCFM.

Ending Depth:	**Cored** 199.18'	**Reamed** 188.51'	**Drilled** 0
Daily Footage:	**Cored** 50.61'	**Reamed** 39 94'	**Drilled** 0

Drilling Rep: Richard Sowards, REECO
A/E Rep: Richard W. Wright, RSN
Personnel On Site: 2-RSN; 10-REECO; 1-USGS. 5-SMF 1-DOE.

Field Report Prepared By: Richard W Wright
Office Report Prepared By: Richard W Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 17, 1992
Page: 1 of 1

Job Package No.: 92-03
Station: UE-25 UZ16
Drill Rig: LM300
Activity: Reaming
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: July 16, 1992 (Rig Day 36)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 1058	Rig maintenance
1058 - 1100	Begin core run # 39
1100 - 1200	Rig maintenance
1200 - 1230	Lunch.
1230 - 1302	Service rig and equipment
1302 - 1318	Core run #39 from 199.18' - 209.02' (4 min), 9.8' Rec
1318 - 1333	Core run #40 from 209.02' - 218 53' (4 min), 8 9' Rec
1333 - 1404	Pull out of hole with core bit, rig up to ream.
1404 - 1429	Run angle survey tool. Hole angle ½ degree at 188'
1429 - 1447	Lay down 10' dual wall pipe joint and clear return lines.
1447 - 1456	Begin ream cycle #41 at 188 51'
1456 - 1611	Tight hole at 198'. Unable to pull up out of tight spot @ 190'. Work pipe until free.
1611 - 1630	Shut down and secure rig.

CORING: Average air rate 400 SCFM.
Average vacuum rate 1150 SCFM

REAMING: Average air rate 750 SCFM.
Average vacuum rate 1370 SCFM

Ending Depth:	**Cored** 218.53'	**Reamed** 198 00'	**Drilled** 0
Daily Footage:	**Cored** 19.35'	**Reamed** 9 49'	**Drilled** 0

Drilling Rep: Richard Sowards, REECO
A/E Rep: Richard W. Wright, RSN
Personnel On Site: 5-RSN, 10-REECO, 3-USGS, 5-SMF, 2-DOE.

Field Report Prepared By: Richard W Wright
Office Report Prepared By: Richard W Wright

RAYTHEON SERVICES NEVADA

DAILY OPERATIONS REPORT

YUCCA MOUNTAIN PROJECT

Report Time: 7:30
Date: July 20, 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: July 17, 1992 (Rig Day 37)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service rig.
0830 - 0920	Ream cycle #41 from 188.51'- 218.54' (39 min)
0920 - 0957	Trip in hole with core rods.
0957 - 1024	Core run #41 from 218.54' - 228.34' (6 min) 7.6' Rec
1024 - 1106	Core run #42 from 228.34' - 233.22' (25 min) 3.7' Rec
1106 - 1200	Core run #43 from 233.22' - 238.09' (30 min) 3.7' Rec
1200 - 1230	Lunch.
1230 - 1458	Core run #44 from 238.09' - 244.14' (76 min) 1 1' Rec
1458 - 1516	Core run #45 from 244.14' - 246.20' (2 min), 2.1' Rec
1516 - 1545	Core run #46 from 246.20' - 247.67' (2 min), 1.1' Rec
1545 - 1600	Resolution meeting requested by SMF
1600 - 1630	Shut down and secure rig.

CORING: Average air rate 400 SCFM.
Average vacuum rate 1000 SCFM.

REAMING: Average air rate 1210 SCFM.
Average vacuum rate 1444 SCFM.

Ending Depth:	**Cored** 247.67'	**Reamed** 218.54'	**Drilled** 0
Daily Footage:	**Cored** 29.14'	**Reamed** 30.03'	**Drilled** 0

Drilling Rep: Richard Sowards, REECO
A/E Rep: Richard W. Wright, James Anthony, and David Putnam, RSN
Personnel On Site: 3-RSN; 10-REECO; 3-USGS; 5-SMF; 1-DOE

Field Report Prepared By: Richard W. Wright
Office Report Prepared By: James E. Anthony

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 9, 1992
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Job Package No.: 91- 9
Station: USW UZ N53
Drill Rig: CME-850
Activity: Run TV camera
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core w HQ-3 wireline coring system. 3) Ream down core track with 6-inch 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey

Date / Hours From - To	Operations Description
June 8, 1992	DAY 14
0800 - 0900	Safety meeting.
0900 - 0930	Start up rig.
0930 - 1015	Core #64 from 145.20' to 148.98', recovered 3.4', 2 min.
1015 - 1046	Pull out of hole with core string. Pick up Odex hammer and drill string.
1046 - 1200	Ream down casing from 109.08' to 128.70'.
1200 - 1230	Break for Lunch.
1230 - 1330	Repair air compressor.
1330 - 1435	Ream down casing from 128.70' to 148.98'.
1435 - 1600	Pull out of hole with Odex hammer. Waiting on TV camera.
1600 - 1630	Secure rig.

STATUS: TD cored 148.98'
TD reamed 148.98'

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS;
Total Participants: 10
Visitors On Site: N/A
Total personnel on location: 10
Field Report prepared by Richard Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 10, 1992
Page: 1 of 1

Job Package No.: 91- 9
Station: USW UZ N53
Drill Rig: CME-850
Activity: Coring
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core wi HQ-3 wireline coring system. 3) Ream down core track with 6-inch b 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 9, 1992	DAY 15
0800 - 0830	Safety meeting. Start-up rig.
0830 - 0930	Run TV camera.
0930 - 1000	Core #65 from 148.98' to 150.23', recovered 1.2', 3 min.
1000 - 1030	Core #66 from 150.23' to 155.23', recovered 5.0', 15 min.
1030 - 1044	Core #67 from 155.23' to 160.23', recovered 5.0', 14 min.
1044 - 1144	Core #68 from 160.23' to 163.74', recovered 1.9', 19 min.
1144 - 1200	Pull out of hole.
1200 - 1230	Break for Lunch.
1230 - 1311	Trip in hole with Odex hammer and prepare to ream down casing.
1311 - 1355	Ream Down casing from 148.38' to 163.74'.
1355 - 1441	Core #69 from 163.74' to 165.23', recovered 1.5', 4 min.
1441 - 1512	Core #70 from 165.23' to 170.23', recovered 3.9', 7 min.
1512 - 1600	Core #71 from 170.23' to 175.23', recovered 5.0', 12 min.
1600 - 1630	Secure rig.

STATUS: TD cored 175.23'
TD reamed 163.74'

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS;
Total Participants: 10
Visitors On Site: N/A
Total personnel on location: 10
Field Report prepared by Richard Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 11, 1992
Page: 1 of 1

Job Package No.: 91- 9
Station: USW U? N53
Drill Rig: CME-850
Activity: Reaming
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core wit HQ-3 wireline coring system. 3) Ream down core track with 6-inch bi 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 10, 1992	DAY 16
0800 - 0830	Safety meeting. Start-up rig.
0830 - 0957	Repair Kelly Hose/Gooseneck connection
0957 - 1025	Core #72 from 175.23' to 178.53', recovered 3.3', 5 min.
1025 - 1058	Pull out of hole and lay down Core barrels. Pick up and go in hole with Oc hammer.
1058 - 1200	Ream down casing #16 from 163.74 to 178.53.
1200 - 1235	Break for Lunch.
1235 - 1323	Pull out of hole and lay down Odex hammer. Pick up and go in hole with c barrel.
1323 - 1333	Core #73 from 178.53' to 180.23', recovered 1.7', 2 min.
1333 - 1349	Core #74 from 180.23' to 185.23', recovered 2.1', 3 min.
1349 - 1411	Core #75 from 185.23' to 190.23', recovered 5.0', 5 min.
1411 - 1437	Core #76 from 190.23' to 195.23', recovered 5.0', 10 min.
1437 - 1455	Core #77 from 195.23' to 198.38', recovered 3.2', 3 min.
1455 - 1540	Pull out of hole and lay down Core barrels. Pick up and go in hole with Oc hammer.
1540 - 1550	Ream down casing #17 178.53 to 183.42.
1550 - 1630	Secure rig.

STATUS: TD cored 198.38'
TD reamed 183.42'

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 3-USGS; 2-DOE;
Total Participants: 14
Visitors On Site: N/A
Total personnel on location: 14
Field Report prepared by Curtis Clark
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 12, 1992
Page: 1 of 1

Job Package No.: 91- 9
Station: USW UZ N53
Drill Rig: CME-850
Activity: Run TV camera
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core wi HQ-3 wireline coring system. 3) Ream down core track with 6-inch b 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 11, 1992	DAY 17
0800 - 0830	Safety meeting. Start-up rig.
0830 - 1008	Continue ream interval #17 from 183.42' to 198.38'.
1008 - 1020	Core #78 from 198.38' to 200.23', recovered 1.8', 1 min.
1020 - 1040	Core #79 from 200.23' to 205.23', recovered 3.7', 9 min.
1040 - 1109	Core #80 from 205.23' to 210.23', recovered 4.1', 9 min.
1109 - 1200	Core #81 from 210.23' to 213.01', recovered 2.8', 7 min.
1200 - 1230	Break for Lunch.
1230 - 1308	Trip in hole with Odex hammer.
1308 - 1405	Ream interval #18 from 198.38' to 209.59'.
1405 - 1440	Discontinue reaming due to drive shoe failure.
1440 - 1500	Pull out of hole with Odex hammer assembly.
1500 - 1600	Run TV camera.
1600 - 1630	Secure rig.

STATUS: TD cored 213.01'
TD reamed 209.59'

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS;
Total Participants: 10
Visitors On Site: N/A
Total personnel on location: 10
Field Report prepared by Richard Wright
Office Report prepared by Ezra Wasson

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RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 15, 1992
Page: 1 of 1

Job Package No.: 91- 9
Station: USW UZ N53
Drill Rig: CME-850
Activity: Rigging Down
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core with HQ-3 wireline coring system. 3) Ream down core track with 6-inch bit . 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey.

Date / Hours From - To	Operations Description
June 12, 1992	DAY 18
0800 - 0830	Start-up rig.
0830 - 0913	Trip in hole with Core Rods.
0913 - 0934	Core #82 from 213.01' to 215.23', recovered 2.2', 2 min.
0934 - 1000	Core #83 from 215.23' to 220.23', recovered 5.0', 7 min.
1000 - 1016	Core #84 from 220.23' to 223.33' recovered 3.1', 4 min.
1016 - 1034	Core #85 from 223.33' to 225.23' ecovered 1.7', 5 min.
1034 - 1051	Core #86 from 225.23' to 230.23', acovered 5.0', 17 min.
1051 - 1200	Core #87 from 230.23' to 231.68', recovered 1.2', 25 min.
1200 - 1230	Break for Lunch.
1230 - 1308	Core #88 from 231.68' to 232.31', recovered 0 63', 25 min.
1308 - 1347	Core #89 from 232.31' to 234.47', recovered 1.4', 22 min.
1347 - 1630	Rig Down CME 850 and Lay Down Drill Pipe. Rig Move.

STATUS: TD cored 234.47'
TD reamed 209.59'

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: 1-RSN; 4-REECo; 4-SMF; 1-USGS; 1-DOE;
Total Participants: 11
Visitors On Site: N/A
Total personnel on location: 11
Field Report prepared by Richard W. Wright
Office Report prepared by Ezra Wasson

RAYTHEON SERVICES NEVADA
YUCCA MOUNTAIN PROJECT
DAILY OPERATIONS REPORT

Report Time: 7:30 hrs.
Date: June 15, 1992
Page: 1 of 1

Job Package No.: 91- 9
Station: USW UZ N53
Drill Rig: CME-850
Activity: None
Objectives: 1) Mobilize drill rig & Odex 115 drilling system. 2) Continuous core w HQ-3 wireline coring system. 3) Ream down core track with 6-inch 5.5-inch O.D. steel casing to 60 feet or as specified by USGS. 4) Demobilize equipment. 5) Prepare final location and elevation survey

Date / Hours From - To	Operations Description
June 13, 1992	DAY 19
0800 - 1000	Moving out Coring equipment.
	Final Report.

Drilling Rep: Neal Walker, REECo
A/E Rep: Don Cunningham, RSN

Personnel On Site: N/A-RSN; N/A-REECo; N/A-SMF; N/A-USGS; N/A-DOE;
Total Participants: N/A
Visitors On Site: N/A
Total personnel on location: N/A
Field Report prepared by David Putnam
Office Report prepared by Ezra Wasson

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 7/17/92

DATE/LOC.	TOPIC	TECHNICAL LEAD (SUPPORT)	CONTACT (SUPPORT)	PARTICIPANT (SUPPORT)	COMMENTS
7/22/92 Bethesda,MD	NRC TE: Three-Bucket Approach	Bosk (Pahwa-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O SNL PNL	Discuss NRC's proposed Three-Bucket Approach by examining implementation of trial examples.
7/23/92 Rockville, MD	NRC meeting: 5/7-8/86 Agreement on Format and Content of Yucca Mountain Study Plans	Crawley (Rogers-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O	Renegotiate the DOE/NRC agreement on study plans.
7/30-31/92 Bethesda, MD	ACNW 45th Meeting		Cooper (LeRoy-M&O)		Agenda TBD.
8/25/92 Video-Conference	NRC TE: Resolution of Volcanism-related concerns	Cooper (Jerez-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O LANL	Discuss DOE approach as identified in NRC staff reviews of SCP 8.3.1.8.1.1 and 8.3.1.8.5.1.
9/16-17/92 LV/NTS/YM (Tentative)	NRC TE: Midway Valley	Sullivan (Stanton-M&O)	Bjerstedt (LeRoy-M&O)	TESS 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		Cooper (LeRoy-M&O)		Agenda TBD.

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 7/17/92

DATE/LOC.	TOPIC	TECHNICAL LEAD (SUPPORT)	CONTACT (SUPPORT)	PARTICIPANT (SUPPORT)	COMMENTS
9/29/92 San Antonio, TX	NRC TE: CNWRA Functional Analysis of 10CFR60		Bjerstedt (LeRoy-M&O)	TESS M&O	Discuss CNWRA activities related to systems engineering.
10/13-14/92 Las Vegas, NV	NWTRB Full Board		Simmons	TESS M&O	Agenda TBD.
10/15-16/92 Las Vegas, NV	NWTRB Panel on SG&G		Simmons		Volcanism - Agenda TBD.
10/21/92 Bethesda, MD	ACNW WG on Human Intrusion		Cooper (LeRoy-M&O)		Discuss methodologies for assessment of potential for natural resources at YM, and relationship between such resources and potential for human intrusion.
10/22-23/92 Las Vegas, NV	ACNW 47th Meeting		Cooper (LeRoy-M&O)		Agenda TBD.
10/27/92 Albuquerque, NM	WIPP Roundtable discussion - NRC observation	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O SNL PNL	NRC staff observe interaction between YMPO PA and WIPP PA.
10/28/92 Albuquerque, NM	NRC TE: Total System Performance Assessment	Boak (Pahwa-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O SNL PNL	Discuss methods and results of DOE PACE, TSPA, and NRC IPA.
10/29/92 Carlsbad, NM	Tour of WIPP Site	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O	

"(A)" INDICATES REVISIONS AND NEW INFORMATION

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 7/17/92

DATE/LOC.	TOPIC	TECHNICAL LEAD (SUPPORT)	CONTACT (SUPPORT)	PARTICIPANT (SUPPORT)	COMMENTS
11/17/92 Rockville, MD	NRC TE: Volcanism	Cooper (Jerez-M&O)	Bjerstedt (LeRoy-M&O)	TESS M&O LANL	Discuss DOE volcanism studies as detailed in LANL report.
11/18/92 Bethesda, MD	ACNW WG Climate		Cooper (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)		Discuss/plan DOE/NRC interactions for first half 1993.
11/19-20/92 Bethesda, MD	ACNW 48th Meeting		Cooper (LeRoy-M&O)		Agenda TBD
12/16/92 Bethesda, MD	ACNW WG on PA - Phase 2 HLW Interactive PA by NRC		Cooper (LeRoy-M&O)		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		Cooper (LeRoy-M&O)		Agenda TBD

[illegible] REVISIONS AND NEW INFORMATION

WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES
7/17/92

DESIGNATION	PLANNED START DATE	PLANNED END DATE	BACKFILL DATE	YMPO SITE CONTACT	COMMENTS
Midway Valley Trench No. 5	5/26/92	6/5/92	11/93	Sullivan	Evaluate potential for faulting (if any) near prospective ESF surface facilities. Planned backfill during ESF Pad Construction.
Midway Valley Trencgh No. 4	6/8/92	6/9/92	TBD	Sullivan	Deepen trench to study Paint Brush Canyon fault splay.
Midway Valley Trench No. 14D	6/10/92	6/12/92	TBD	Sullivan	Evaluate Bow Ridge fault at Exile Hill.
Midway Valley Trench No. 6	6/16/92	6/17/92	TBD	Sullivan	Improve and deepen exposures adjacent to Midway Valley Trench No. 5.
Midway Valley Soil Test Pits	6/24/92	6/30/92	TBD	Sullivan	Twenty-eight (28) pits throughout Midway Valley to provide soils descriptions to better define relative ages of deposits.
Fran Ridge Test Pit No. 1	7/13/92	7/31/92	N/A	Girdley	Bedrock excavation in Topopah by controlled blasting.

[illegible] REVISIONS AND NEW INFORMATION

WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES
7/17/92

Lathrop Wells Volcanic Center Soil Test and Sample Collection	9/92	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.
Unsaturated Zone Borehole No. 16	5/27/92	10/14/92	N/A	Long	Unsaturated zone site characterization and vertical seismic profiling.
UE-25 North Ramp Geologic Borehole No. 1	6/15/92	Completed	N/A	Williams	Drilling completed; lab activities are continuing to study soil and rock properties at north portal ESF.

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

JUL 21 1992

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

FIELD TEST COORDINATOR'S REPORT FOR THE WEEK ENDING JULY 17, 1992

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 early April through August 1992, following pad construction in March 1992.

Week 21 Activities: Activity this week included cutting 109.47 feet of core, with a final core depth of 247.67 feet, and reaming 87.28 feet of 12-1/4 inch hole, with a final ream depth of 218.54 feet. The high penetration rates (up to 160 feet per hour during coring) were experienced in the bedded tuffs. This interval is normally characterized by very poor welding and, consequently, low core recovery. A Polycrystalline Diamond Cutter (PDC) core bit was used to sample this interval with very good success. Except for a five foot loss in what is believed to be a rubble zone in the transition to the bedded tuff, between 239 and 244 feet, core recovery was in excess of 80 percent. Inclination surveys of 1/4 and 1/2 degrees were taken at 148.51 feet and 188 feet respectively; the inclinations are within expected values. Some delay during reaming at 198 feet was caused by jamming of unconsolidated material behind the reaming bit.

For the week ending July 24, 1992, coring and reaming will continue into the top of the Topopah Springs unit. If you have any questions, please contact me at 794-7503.

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

RSED:RCL-4545

cc:
J. R. Stockey, HQ (RW-22) FORS
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R. C. Long, YMP, NV
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Department of Energy
Yucca Mountain Site Characterization
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P. O. Box 98608
Las Vegas, NV 89193-8608

WBS 1.2.3
QA: N/A

JUL 2 2 1992

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

FIELD TEST COORDINATOR'S REPORT FOR MIDWAY VALLEY INVESTIGATIONS - JOB PACKAGE 92-05, JULY 22, 1992

Scope of Activity: Test pits and trenches will be excavated to provide exposures of Quaternary deposits and faults for mapping by geologists from the U.S. Geological Survey (USGS) and Geomatrix Consultants as described in the Study Plan for Evaluating the Location and Recency of Faulting Near Prospective Surface Facilities (8.3.1.17.4.2). Phase I excavation of 18 test pits was completed in March 1992. Phase II includes excavation of a "continuous trench" on the east side of Exile Hill, an additional exploratory trench on the Bow Ridge fault south of Trench 14, modification of an exposure of a strand of the Paintbrush Canyon fault in existing Trench 17 about one half mile west of Fran Ridge, and additional test pits at the south end of Midway Valley.

Current Status of Investigations: Between March and June of 1992, a total of 28 soil test pits and 4 trenches were excavated in the Midway Valley area. The test pits are located on alluvial fan deposits with different relative ages as described on the Preliminary Surficial Geologic Map of Midway Valley (SAND91-0607). Descriptions of the soils exposed in the pits and the results of sample analyses will contribute to the preparation of the final surficial geologic map to be completed in 1993. An 1100-foot-long trench (MWV-T5) and a 50-foot-long offset trench (MWV-T6) have been excavated across the Exploratory Studies Facility north access site area in the immediate vicinity of the proposed repository surface facilities. Trench MWV-T14D exposes the most recent trace of the Bow Ridge Fault about 100 yards south of the existing Trench 14, and MWV-T4 (Trench 17) exposes a splay of the Paintbrush Canyon fault at the south end of Midway Valley.

Mapping and description of all of these excavations is currently in progress by the USGS and contractors.

Future Work: Following preliminary evaluation of these trenches, additional trench excavation for this study, if required, would be completed later this year.

Trench excavations for Study Plan 8.3.1.17.4.6, Quaternary Faulting in the Site Area, are planned for August 1992. This will include trenches on the Solitario Canyon fault, the Stagecoach Road fault, the Windy Wash fault, and the Paintbrush Canyon fault at Busted Butte.

If you have any questions, please contact me at 794-7915.

J. Timothy Sullivan

J. Timothy Sullivan
Site Investigations Branch
Regulatory & Site Evaluation Division

RSED:JTS-4574

cc:
J. R. Stockey, HQ (RW-22) FORS
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