



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

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

Tel: (702) 388-6125

TO: Joseph Holonich, Director, HLPD, M/S 4 H 3
FROM: Sr. On-Site Licensing Representatives Office, Las Vegas
DATE: NOVEMBER 19, 1992
SUBJECT: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE
WEEK ENDING OCTOBER 30 AND NOVEMBER 6, and YUCCA MOUNTAIN
SITE OFFICE (YMSO) FIELD ACTIVITY REPORT FOR WEEK ENDING
OCTOBER 30 AND NOVEMBER 6, 1992

Please find enclosed the above-referenced reports

There is nothing requiring specific management attention in the reports.

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

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NOTE TO CHARLOTTE - Also enclosed: REECo YMP Status Report (October 1992); and Daily Operations Reports, Weekly Interactions Calendar, Field Test Coordinator's Report prepared by Raytheon for November 2-6, 1992

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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

NOV 16 1992

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

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING
NOVEMBER 6, 1992

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

A. Site Characterization Planning

Field Operations

The Site Manager and Field Operations Center staff participated in and provided logistical support for three major tours this reporting period. They finalized logistical support for the upcoming public tour on November 14, 1992. Approximately 200 visitors are expected to attend.

Regarding Job Package (JP) 92-3, drilling activities continue with the LM-300 drill rig on Borehole UZ-16. Reynolds Electrical & Engineering Co., Inc. (REECo), has cored to a depth of 939 feet and reamed to 934 feet.

On JP 91-9, Neutron Access Boreholes, drilling activities continue with the CME-850 drill rig on USW UZN-35. REECo has cored to a depth of 108 feet and reamed to 94 feet.

The Site Manager has issued JP authorizations for two new activities: JP 92-11, NRG-6 drilling activities; and JP 92-20, the start of site preparation for the Exploratory Studies Facility (ESF) north portal pad and facilities.

REECo continues the earth excavation and extraction of rocks for the NRG-6 Drill Pad (JP 92-10).

On JP 92-5, Soil Test Pits and Trenches, Phase II, excavation continues on Trench MWV-T7.

Sample Management Facility

Processing of core and recovery of core and cuttings from UE25 UZ-16 continued. Two hundred forty-one core boxes from UE25 A1, USW G1, and USW G2 were laid out for examination by Los Alamos National Laboratory; 45 core boxes from UE25 UZ-16 were laid out for the Core Party; and 35 boxes of core from neutron holes were laid out for the U.S. Geological Survey (USGS).

Site Investigations

Borehole USW UZN-57, the seventh of 12 boreholes in Phase II of the neutron access borehole program (JP 91-1), will be completed by the end of this week. As of November 3, 1992, the borehole depth was 109 feet. The planned depth of the borehole is 120 feet.

Regarding UZ-16, the borehole inclination has been limited to approximately 2 degrees. Standard reaming and coring operations are commencing now that less fracturing is being encountered in the core.

Regulatory Interactions

Advisory Committee on Nuclear Waste (ACNW) Interactions

Preparations for the ACNW Working Group on the Impact of Long-Range Climate Change in the Area of the Southern Basin and Range are nearing completion. The purpose of the meeting which will be held on November 18, 1992, in Bethesda, Maryland, is to establish an understanding of the significance of climate change and its effects on the potential repository at Yucca Mountain, Nevada. Presentations will be provided on climate change as indicated by paleohydrologic reconstruction, studies in Great Basin paleoclimate, and global and regional modeling of climates.

Environmental Field Programs

The ESF Floodplain Assessment and Statement of Findings was approved and published in the Federal Register on October 23, 1992.

ESF Task Force Activities

The Tunnel Boring Machine (TBM) specification has been accepted for procurement by the Yucca Mountain Site Characterization Project Office (YMPO) and issued through Document Control. The initial part of Design Package 1A has been accepted for construction by YMPO and submitted to the Change Control Board.

Site Characterization Plan (SCP) Study Plan (SP) Status

Two revised SPs were submitted to YMPO this week: - SP 8.3.1.15.1.1, Revision 1, "Laboratory Thermal Properties," and SP 8.3.1.15.1.2, Revision 1, "Laboratory Thermal Expansion Testing." These revisions were submitted to update the plans with respect to the new ESF configuration.

STUDY PLAN BREAKDOWN

In Screening Review	2
In YMPO and U.S. Department of Energy (DOE)/Headquarters (HQ) Review	4
Awaiting Comment Resolution	10
Awaiting Author Revision	4
In YMPO/HQ Verification Audit	5
Preparing to Submit or Awaiting YMPO Approval	7
Awaiting Submission to the U.S. Nuclear Regulatory Commission (NRC)	0
NRC Phase 1 Review	15
NRC Acceptance	28
Total	75

SCP/SP Status:

Total SPs Assigned to Cover 106 Studies	103
SPs Not Yet Submitted for Review	35
SPs Submitted for Initial Review	68
Revised SPs Submitted for Review	7
Total SPs Submitted for Review	75

State of Nevada Comments Status:

Received Comments from the State of Nevada	10
Responses Transmitted to the State of Nevada	9

NRC Comments Status:

Received Comments from NRC	18
Responses Transmitted from OGD to DOE/HQ	11

B. Project Planning and Control

Minor participants' planning data for Work Breakdown Structure 1.2.10, Financial/Technical Assistance, were consolidated in the MINOR data base. Processing of the participants' revised fiscal year (FY) 1993 planning data began. Draft FY 1993 planning guidance letters which contain the final budget splits were developed and distributed to all participants.

C. Quality Assurance (QA) Implementation

Determination of Importance and Grading Enhancement

Quality (Q) List and Q-List Procedure Development

The Items Important to Safety report was not received from SNL on November 4, 1992, as scheduled. Resolution relative to receipt continues.

Management Control (MC) List and Procedure Development

The MC List Plan is being finalized and will be transmitted to the Deputy Project Manager.

The Requirements Traceability Network User's Manual was transmitted to Richard Spence, YMP QA Division. Support is being provided to distribute the manual.

Implementation

Resolution of identified issues for two of the 11 ESF classification reports submitted by Raytheon Services Nevada (RSN) continues in support of ESF milestones. The Assessment Team (AT) is reviewing revised reports and documents are being added to the AT Controlled List. The AT began reviewing an additional draft RSN classification report.

D. Public Outreach and Institutional Activities

A tour to Yucca Mountain was conducted on November 4, 1992, for five employees of the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O). A. C. Robison, YMPO, escorted NRC Commissioner de Planque on a tour to Yucca Mountain on November 5, 1992. A pretour briefing was provided by Carl Gertz, Project Manager.

Michael Pitterle, Technical and Management Support Services (T&MSS), gave educational presentations on geology to a third grade class at Lee Antonello Elementary School and a sixth grade class at CVT Gilbert Sixth Grade Center in Las Vegas, Nevada, on November 3, 1992. Approximately 182 students attended the two presentations.

James Blink, Lawrence Livermore National Laboratory (LLNL), gave an educational presentation on nuclear power, atoms, fission, and fusion to four sixth grade classes at Kermit R. Booker Sixth Grade Center in Las Vegas on November 3, 1992. Approximately 120 students attended.

Michael Foley, Science Applications International Corporation, gave an educational presentation to students of applied physics in grades 10 through 12 at the Southern Nevada Vocational Technical School in Las Vegas on November 3, 1992. Approximately 160 students attended.

Approximately 25 people attended an Outreach Program overview provided by Shirley Tarr, T&MSS, to Beatty's Parent-Teacher Association in Beatty, Nevada, on November 3, 1992.

Richard Arnold (a consultant) gave a presentation on Native Americans to approximately 24 students in the fifth grade class of Beatty Elementary School in Beatty on November 4, 1992. Richard Arnold also provided a cultural resources presentation to five seventh grade classes at Roy Martin Junior High School in Las Vegas on November 5, 1992. Approximately 110 students attended.

Beatrice Reilly, T&MSS, gave a general project overview to the Las Vegas Success Network in Las Vegas on November 5, 1992. Approximately 20 people were in attendance.

Approximately 100 people attended an educational presentation provided by Dorothy Tepper, USGS, to the Department of Earth Sciences at the University of Waterloo in Ontario, Canada, on November 5, 1992.

Jean Younker, CRWMS M&O, participated in a Geology Colloquium at Michigan State University in East Lansing, Michigan, and gave a general project overview presentation on November 6, 1992. Approximately 50 people attended the presentation.

On November 3, 1992, Carl Gertz gave a general overview presentation to YMP Outreach participants to help strengthen their overall project knowledge. Approximately 60 people attended.

Effie Harle, T&MSS, provided an educational presentation focusing on energy to three first grade classes at the Harvey Dondero Elementary School in Las Vegas on November 6, 1992. Approximately 90 students attended.

Institutional and External Affairs (IEA) staff began planning for the State/Local Government Planning Group meeting to be held in Reno, Nevada, on November 12, 1992.

The IEA staff coordinated a review board composed of scientists and administrators from all major disciplines/site characterization areas for a comprehensive review of all public communication products (18 fact sheets and one ESF video) before they are forwarded for DOE/HQ approval. The review board met in Las Vegas on November 4, 1992.

II. ANALYSIS & VERIFICATION DIVISION

The staff attended the Nuclear Waste Technical Review Board (NWTRB) Structural Geology and Geoen지니어ing Panel meeting on ESF Construction and Testing Alternatives November 3-4, 1992, in Las Vegas. They participated in the Hydrology Integration Task Force meeting on November 4, 1992, in Las Vegas.

The staff conducted a review of Waste Package Plan, Revision 1 (Draft A dated September 17, 1992, YMP/90-62, Revision 1). Comments were submitted on November 6, 1992.

III. GENERAL INFORMATION ITEMS

LLNL

The impact of repository heat-driven flow on hydrological performance has been described as a series of hydrothermal flow regimes (HFR). Three major HFRs have been identified, with HFR I corresponding to when boiling (and possibly condensate flow) dominate hydrological performance, HFR II corresponding to the postboiling period when the fluid distribution and intrinsic hydrological properties are still significantly altered by the repository heat, and HFR III which occurs when repository heat no longer affects hydrological performance.

USGS

A draft data report on hydrochemistry and Ostracode occurrence, which includes data collected over the past several years, was submitted for technical review.

Cross sections incorporating lithologically-significant subdivisions of the Topopah Springs Formation and mapped subdivisions of the Tiva Canyon Formation and other cross sections of the north portal, south portal, and the tunnel connecting the two beneath the mountain are being prepared; the cross sections will be submitted to RSN for tunnel design and incorporated into the digitized data base for input into a three-dimensional modeling program.

SNL

Additional analyses for waste isolation impacts associated with ESF Design Package 1A have been completed. A proposed plan for testing activities in the starter tunnel for the ESF was submitted to Los Alamos.

T&MSS

The IEA staff organized the first Teacher Educational Steering Committee meeting, which will be held on November 18, 1992. Their first meeting will be a brainstorming, organizational meeting to establish goals and objectives. The purpose of the steering committee is to evaluate existing YMP educational programs and develop applicable new programs for kindergarten through twelfth grades.

USGS

The staff continued lithologic logging of recently-drilled and currently-active core holes. A preliminary log of UZ-16 to a depth of 810 feet has been completed, and detailed logging continued as core was acquired. Detailed field work began in upper Paintbrush Canyon on the stratigraphic relationships in the rhyolitic rocks of Calico Hills. This study works within the stratigraphic and structural framework for the area and focuses on facies analysis of the sedimentary units. Initial efforts have begun to interpret the lowest and thickest of four redeposited tuffaceous units that are interstratified with five lava flows and pumiceous breccias. Compilation of outcrop and structural section data for the Topopah Springs units continue.

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 coordinated by the Speakers Bureau; contact Linda Artis at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are coordinated by Kevin Rohrer at (702) 794-7769, Public Update Meetings are coordinated by Joanna Magruder at (702) 794-7056, and tours are coordinated by Carleen Hill at (702) 794-7375.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
A. <u>DOE/HQ Meetings</u>			
Monday, November 16	ESAAB Presentation	Washington, DC	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
D. <u>NRC Interactions</u> (Continued)			
TBD 1993	Technical Exchange - Volcanism (P)	Albuquerque, NM	T. Bjerstedt
E. <u>NWIRB Interactions</u>			
Wednesday- Friday, November 18-20	Workshop on Expert Judgment (P)	Albuquerque, NM	A. Simmons
Tuesday- Wednesday, January 5-6, 1993	NWIRB Full Board Meeting (P)	Arlington, VA	J. Cooper
February or March 1993 TBD	NWIRB HG&G Panel Meeting (P)	TBD	J. Cooper
Tuesday- Friday, April 20-23, 1993	NWIRB Full Board Meeting (P)	Reno, NV	J. Cooper
Tuesday, June 1, 1993	NWIRB International Trip	TBD	J. Cooper
Monday- Thursday, July 12-15, 1993	NWIRB Full Board Meeting (P)	Denver, CO	J. Cooper
Tuesday- Friday, October 19-22, 1993	NWIRB Full Board Meeting (P)	Las Vegas, NV	J. Cooper
F. <u>ACNW Interactions</u>			
Wednesday, November 18	ACNW WG Climate (P)	Bethesda, MD	A. Gil
Thursday- Friday, November 19-20	ACNW 48th Meeting (P)	Bethesda, MD	A. Gil

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>ACNW Interactions</u> (Continued)			
Wednesday, December 16	ACNW WG on PA - Phase 2 HLW Inter- active PA by NRC (P)	Bethesda, MD	A. Gil
Thursday- Friday, December 17-18	ACNW 49th Meeting (P)	Bethesda, MD	A. Gil
Wednesday- Thursday, January 27-28, 1993	ACNW 50th Meeting (P)	Bethesda, MD	A. Gil
Wednesday- Thursday, February 24-25, 1993	ACNW 51st Meeting (P)	Bethesda, MD	A. Gil
G. <u>State and Public Interactions</u>			
Saturday, November 7	Nevada State Science Teachers' Conference	Las Vegas, NV	M. Pitterle J. Hartley
Saturday, November 7	Republican Senators Pretour Briefing	Las Vegas, NV	C. Gertz
Monday, November 9	Tony Batt, <u>Review-Journal</u> Pretour Briefing	Las Vegas, NV	C. Gertz
Monday, November 9	Public Update Meeting (P)	Amargosa Valley, NV	C. Gertz
Tuesday, November 10	Public Update Meeting(P)	Las Vegas, NV	C. Gertz
Tuesday, November 10	Cornell University, Department of Geological Sciences	Ithaca, NY	D. Tepper
Tuesday, November 10	Robert Taylor Elementary School	Henderson, NV	J. Blink S. Wheeler
Thursday, November 12	Kermit Booker Sixth Grade Center	Las Vegas, NV	L. Linden

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
G. <u>State and Public Interactions</u> (Continued)			
Thursday, November 12	Harvey Dondero Elementary School	Las Vegas, NV	J. Hartley
Thursday, November 12	Public Update Meeting (P)	Reno, NV	C. Gertz
Friday, November 13	Madison Sixth Grade Center	Las Vegas, NV	R. Arnold
Monday, November 16	Kenny Guinn Junior High School	Las Vegas, NV	J. Blink
Monday, November 16	Beatty Elementary School	Beatty, NV	D. Merritt
Tuesday, November 17	Yucca Mountain Lecture Series (P)	Beatty, NV	R. Saunders
Tuesday, November 17	Lake Mead National Park Service	Henderson, NV	R. Arnold
Wednesday, November 18	American Association of University Women	Las Vegas, NV	J. Cooper
Wednesday, November 18	American Nuclear Society (ANS)	Chicago, IL	C. Gertz
Thursday, November 19	Yucca Mountain Lecture Series (P)	Las Vegas, NV	R. Saunders
Thursday, November 19	Archael Nevada	Las Vegas, NV	R. Arnold
Friday, November 20	State of the Project	Las Vegas, NV	C. Gertz
Friday, November 20	Madison 6th Grade Center	Las Vegas, NV	R. Arnold
Wednesday, November 25	Japan Atomic Industrial Forum	Las Vegas, NV	M. Wadkins M. d'Ouille
Wednesday, December 2	Court Continuation School	Las Vegas, NV	R. Arnold

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
G. <u>State and Public Interactions</u> (Continued)			
Monday, December 7	State of the Project, USGS	Denver, CO	C. Gertz
Thursday, December 10	Savannah Chapter of ANS	Aiken, SC	TBD
Monday, December 14	NRC Commissioner Curtis Pretour Briefing	Las Vegas, NV	C. Gertz
Wednesday, January 13, 1993	ANS	Schenectady, NY	C. Gertz
Thursday, January 14, 1993	ANS	Parsippany, NJ	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>
H. <u>Exhibits Scheduled</u>		
Friday- Saturday, November 6-7	Nevada State Science Conference	Las Vegas, NV
Monday, November 9	Public Update Meeting (P)	Amargosa Valley, NV
Tuesday, November 10	Public Update Meeting (P)	Las Vegas, NV
Thursday, November 12	Public Update Meeting (P)	Reno, NV
Tuesday- Thursday, November 17-19	ANS Winter Meeting	Chicago, IL
Wednesday, November 18	Public Open House (P)	Las Vegas, NV
Thursday- Saturday, November 19-21	Nevada Association of Counties	Fallon, NV

<u>Date</u>	<u>Event</u>	<u>Location</u>
H. <u>Exhibits Scheduled</u> (Continued)		
Friday, November 20	State of the Project Meeting	Las Vegas, NV
Monday- Friday, December 7-11	American Geophysical Union	San Francisco, CA
Saturday, December 12	Public Open House (P)	Las Vegas, NV

<u>Date</u>	<u>Event</u>	<u>Escorts</u>
I. <u>Tours Scheduled</u>		
Saturday, November 7	Republican Senators Nevada	D. Bradford
Monday, November 9	Donrey Media Group	G. Fisher T. Bjerstedt
Thursday, November 12	Thurman White Middle School	TBD
Wednesday, November 18	Public Open House (P)	Various Escorts
Thursday, November 19	Pahrump Middle School	TBD
Friday, November 20	National Association of Regulatory Utility Commissioners	A. Robison
Monday, November 23	Palo Verde Nuclear Power Station	TBD
Tuesday, December 1	Paradise Christian Academy	TBD
Wednesday, December 2	WMP Business Opportunity	TBD
Thursday, December 3	Pahrump Middle School	TBD
Thursday, December 3	TRB/State of Nevada Environmental	W. Dixon

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<u>Date</u>	<u>Event</u>	<u>Escorts</u>
I. <u>Tours Scheduled</u> (Continued)		
Monday, December 7	UNLV Cooperative Agreement Group	M. Powell
Tuesday, December 8	Bonanza/Cheyenne Las Vegas Rotary Club	TBD
Saturday, December 12	Public Open House (P)	Various Escorts
Monday, December 14	NRC Commissioner Curtis	TBD
Saturday, January 16, 1993	Public Open House (P)	Various Escorts
Wednesday, January 20, 1993	Tonopah Middle School	TBD
Saturday, February 20, 1993	Public Open House (P)	Various Escorts
Wednesday, February 24, 1993	Tonopah Middle School	TBD
Thursday, March 11, 1993	Meadows School	TBD
Thursday, March 18, 1993	Gabs School	TBD
Tuesday, April 20, 1993	Round Mountain High School	TBD
Monday, June 21, 1993	Girl Scouts Wider Opportunity Program	TBD

for 
 Carl P. Gertz
 Project Manager

YMP:VFI-857



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

NOV 09 1992

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

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING
OCTOBER 30, 1992

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

A. Site Characterization Planning

Field Operations

The Site Manager and Field Operations Center staff participated in and provided logistical support for four major tours this reporting period.

Drilling activities continue at Borehole UZ-16 with the LM-300 drill rig. As of October 27, 1992, the borehole had been cored to a depth of 899.23 feet. The 12 1/4-inch reamed hole continues to be cored at intervals of 20 feet.

Regarding Job Package (JP) 91-1, Neutron Access Boreholes, Phase II, USW UZN-35 was completed to a depth of 175.81 feet. Reynolds Electrical & Engineering Co., Inc. (REECo), moved the CME-850 drill rig and associated equipment to the next borehole, USW UZN-57.

REECo completed grading of the access road to the next boreholes: USW UZN-57, USW UZN-58, and USW UZN-59.

Regarding JP 92-10, NRG-6 Drill Pad and Access Road, REECo began excavation and movement of top soil for the pad and road. They continued the ripping of bedrock and huge boulders.

On JP 92-5, Soil Test Pits and Trenches, Phase II, REECo removed top soil and excavated Trench MWV-T7 located on the east side of Exile Hill.

Sample Management Facility

Processing of core and recovery of core and cuttings from UE25 UZ-16 continued. Thirty-two core boxes from UE25 UZ-16 were laid out for examination by the U.S. Geological Survey. Drilling on USW UZN-57 began.

Site Investigations

Excavation of Trench MWV-T7 at Exile Hill was completed this week as part of the evaluation of the potential for surface faulting near prospective surface facilities.

Regulatory Interactions

Site Characterization Progress Report (PR)

PR 6 is in the Secretary of Energy's office for concurrence and approval. The expected distribution date for PR 6 is the end of November 1992. Input for PR 7 was received from all participants and is being compiled and edited by the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O). The draft PR 7 will be distributed for review on November 9, 1992.

Mined Geologic Disposal System Annotated Outline

The next meeting of the Issues Resolution Steering Group is scheduled for November 17, 1992. Discussion will include a briefing on the Office of General Council's review of the Working Group's Action Plans. The Steering Group will consider the identification, prioritization, and development of schedules to address potential new issues and the effect of funding levels based on the fiscal year (FY) 1993 budget on issue resolution activities.

Technical Analysis

The Regulatory & Site Evaluation Division staff attended the Geological Society of America's national convention in Cincinnati, Ohio. They also attended the Seismic Hazards of the Northern Basin and Range Field Trip in Idaho and Nevada and reviewed project-level requirements documents.

Exploratory Studies Facility (ESF) Task Force Activities

Regarding the Independent Technical Review of the 90 percent complete ESF Design Package 1A, the verification process is continuing with some unresolved comments.

Site Characterization Plan (SCP) Study Plan (SP) Status

One SP was submitted to the Yucca Mountain Site Characterization Project Office (YMPO) this week: SP 8.3.1.3.4.1, "Batch Sorption Studies and the Development of Sorption Models." A different version of this SP was submitted to YMPO in 1989 and part of the review process had been completed. Because of extensive changes in the YMP and the approach to the study suggested by Los Alamos National Laboratory (Los Alamos), the SP was completely rewritten. Consequently, this submission will be treated as a new SP submittal.

STUDY PLAN BREAKDOWN

In Screening Review	1
In YMPO and U.S. Department of Energy (DOE)/Headquarters (HQ) Review	3
Awaiting Comment Resolution	11
Awaiting Author Revision	5
In YMPO/HQ Verification Audit	3
Preparing to Submit or Awaiting YMPO Approval	7
Awaiting Submission to the U.S. Nuclear Regulatory Commission (NRC)	0
NRC Phase 1 Review	15
NRC Acceptance	28
Total	73

SCP/SP Status:

Total SPs Assigned to Cover 106 Studies	103
SPs Not Yet Submitted for Review	35
SPs Submitted for Initial Review	68
Revised SPs Submitted for Review	5
Total SPs Submitted for Review	73

State of Nevada Comments Status:

Received Comments from the State of Nevada	10
Responses Transmitted to the State of Nevada	9

NRC Comments Status:

Received Comments from NRC	18
Responses Transmitted from OGD to DOE/HQ	11

B. Project Planning and Control

A presentation on Planning and Control System (PACS) operations procedures, provided by Vincent Iorii, YMPO, to DOE/HQ PR-25 staff, was supported.

Support was provided to participants for the new Version 3.0 software installed on the PACS Participant Work Stations (PWS).

The development of Version 3.1 software for the PACS PWS is being tested. The software would allow for greater sorting capabilities on manager and element fields, and additional options to select reports by status, type of effort, Work Breakdown Structure (WBS)/Planning and Scheduling/Summary Account, and manager fields. It would also enable participants to produce cost plans.

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Technical bulletins regarding the PACS FWS operations were prepared and distributed to participants.

An organization breakdown structure in the project-level data base was constructed based on the new WBS.

The FY 1993 planning data for minor participants were reviewed and updated.

C. Quality Assurance (QA) Implementation

Determination of Importance and Grading Enhancement (DIGE)

Quality (Q) List and Q-List Procedure Development

The Assessment Team (AT) has completed reviews of the Items Important to Waste Isolation report submitted by Sandia National Laboratories (SNL). A response is being drafted and the report will be considered for the AT Controlled List for use by the AT in classification assessments.

SNL stated that the delivery date for the advanced copy of the Items Important to Safety report has slipped from October 28, 1992, to November 4, 1992.

Implementation

The AT has responded to YMPO on their review of the Raytheon Services Nevada (RSN) ESF classification reports. Resolution of identified issues is being worked between RSN, SNL, and the AT.

D. Public Outreach and Institutional Activities

Richard Arnold, a consultant, gave an educational presentation on American Indian Culture to the Girl Scouts of America in Las Vegas, Nevada, on October 24, 1992. Approximately 250 Girl Scouts attended the presentation.

A tour to Yucca Mountain, Nevada, was conducted on October 27, 1992, for 40 guests of Quail Estates West. Tours were also conducted on October 28, 1992, for 25 guests of the Southern Nevada Retired Teachers Association and on October 30, 1992, for 20 guests of The Utah Good Sam Club.

The Yucca Mountain Lecture Series, "Will Earthquakes Awaken Sleeping Giants?" was presented by Bruce Crowe, Los Alamos, on October 27, 1992, at the Las Vegas Yucca Mountain Information Office and on October 29, 1992, in Pahrump, Nevada. Approximately 60 people attended the lectures.

On October 29, 1992, Richard Arnold gave an educational presentation to students at Mendoza Elementary School in Las Vegas; and Gregory Fasano, Technical and Management Support Services (T&MSS), gave a general project overview presentation to students at Tonopah High School in Tonopah, Nevada.

Carl Gertz, Project Manager, provided a technical presentation to approximately 100 people at the Colorado School of Mines in Golden, Colorado, on October 30, 1992. Carl Gertz also participated as a panelist in a discussion on nuclear waste at KNPB-TV, Channel 5, in Reno, Nevada, on October 30, 1992.

Effie Harle, T&MSS, attended a JASON meeting at Cheyenne High School in Las Vegas on October 26, 1992. Fund raising and other logistics are continuing for the March 1993 JASON telepresence broadcast.

II. ANALYSIS & VERIFICATION DIVISION

No significant items to report.

III. GENERAL INFORMATION ITEMS

Los Alamos

Radionuclide sorption experiments were completed determining the variation of sorption coefficients as a function of crushed-tuff particle size. Preliminary indications are that there is little variation and the batch sorption method is adequate.

RSN

A combined management and technical review of the remainder of the ESF Design Package 1A began.

CRWMS M&O

The Integrated Resources Group effort for FY 1993 was initiated in support of the Technical Data Management Parameter Dictionary update.

Lawrence Livermore National Laboratory

A new option to the EXTOOL postprocessor for V-TOUGH tracks variable changes in a Lagrangian reference frame. This feature allows the user to specify a moving reference frame with a specified velocity and averaging volume to obtain the temperature history of moving packets of fluid. These data permit scoping calculations of geochemical changes which occur due to temperature changes.

YMP

The following ESF activities in preparation for Site Preparation and Tunnel Boring Machine (TBM) procurement were completed:

1. All comments from the final design review have been approved and incorporated into the drawings; incorporation was verified by the reviewers.
2. All technical comments from the DOE acceptance review have been approved and incorporated into the drawings; incorporation was verified by the reviewers.
3. All comments from the DOE acceptance review on the TBM specification have been resolved and incorporated into the document; incorporation was verified by the reviewers.
4. The JP for Site Preparation has been approved by the YMPO. The JP includes a hold requiring Energy System Acquisition Advisory Board approval prior to work start.

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 coordinated by the Speakers Bureau; contact Linda Artis at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are coordinated by Kevin Rohrer at (702) 794-7769, Public Update Meetings are coordinated by Joanna Magruder at (702) 794-7056, and tours are coordinated by Carleen Hill at (702) 794-7375.

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
<u>A. DOE/HQ Meetings</u>			
Monday, November 16	ESAAB Presentation	Washington, DC	G. Gertz
<u>B. CRWMS M&O/DOE Meetings</u>			
Tuesday, November 10	Performance Management Meeting	Las Vegas,	C. Gertz

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
<u>C. Internal and DOE/NV Meetings</u>			
Friday, November 20	State of the Project	Las Vegas, NV	C. Gertz
Monday, December 7	State of the Project	Denver, CO	C. Gertz
<u>D. NRC Interactions</u>			
TBD	Interaction Planning Meeting (P)	Rockville, MD	T. Bjerstedt
Monday- Tuesday, December 14-15	Technical Exchange - Total System Performance Assessment (P)	Rockville, MD	T. Bjerstedt
TBD 1993	Technical Exchange - Volcanism (P)	Albuquerque, NM	T. Bjerstedt
<u>E. Nuclear Waste Technical Review Board (NWTRB) Interactions</u>			
Wednesday- Friday, November 4-6	NWTRB SG&G Panel Workshop (P)	Las Vegas, NV	J. Cooper
Wednesday- Friday, November 18-20	Workshop on Expert Judgment (P)	Albuquerque, NM	A. Simmons
Tuesday- Wednesday, January 5-6, 1993	NWTRB Full Board Meeting (P)	Arlington, VA	J. Cooper
February or March 1993 TBD	NWTRB HG&G Panel Meeting (P)	TBD	J. Cooper
Tuesday- Friday, April 20-23, 1993	NWTRB Full Board Meeting (P)	Reno, NV	J. Cooper
Tuesday, June 1, 1993	NWTRB International Trip	TBD	J. Cooper

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
E. <u>NWIRB Interactions (Continued)</u>			
Monday- Thursday, July 12-15, 1993	NWIRB Full Board Meeting (P)	Denver, CO	J. Cooper
Tuesday- Friday, October 19-22, 1993	NWIRB Full Board Meeting (P)	Las Vegas, NV	J. Cooper
F. <u>Advisory Committee on Nuclear Waste (ACNW) Interactions</u>			
Monday- Tuesday, November 16-17	ACNW 48th Meeting (P)	Bethesda, MD	A. Gil
Wednesday, November 18	ACNW WG Climate (P)	Bethesda, MD	A. Gil
Wednesday, December 16	ACNW WG on PA - Phase 2 HLW Inter- active PA by NRC (P)	Bethesda, MD	A. Gil
Thursday- Friday, December 17-18	ACNW 49th Meeting (P)	Bethesda, MD	A. Gil
G. <u>State and Public Interactions</u>			
Tuesday, November 3	Kermit Booker Sixth Grade Center	Las Vegas, NV	J. Blink
Tuesday, November 3	Southern Nevada Vocational Technical School	Las Vegas, NV	M. Foley
Tuesday, November 3	CVT Gilbert 6th Grade Center	Las Vegas, NV	M. Pitterle
Tuesday, November 3	Lee Antonello Elementary School	Las Vegas, NV	M. Pitterle
Thursday, November 5	Las Vegas Success Network	Las Vegas, NV	B. Reilly
Thursday, November 5	University of Waterloo, Department of Earth Sciences	Ontario, Canada	D. Tepper

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
G. <u>State and Public Interactions (Continued)</u>			
Friday, November 6	Michigan State University	East Lansing, MI	J. Younker
Saturday, November 7	Nevada State Science Teachers' Conference	Las Vegas, NV	M. Pitterle J. Hartley
Monday, November 9	Public Update Meeting (P)	Amargosa Valley, NV	C. Gertz
Tuesday, November 10	Public Update Meeting(P)	Las Vegas, NV	C. Gertz
Tuesday, November 10	Cornell University, Department of Geological Sciences	Ithaca, NY	D. Tepper
Tuesday, November 10	Robert Taylor Elementary School	Henderson, NV	J. Blink S. Wheeler
Thursday, November 12	Kermit Booker Sixth Grade Center	Las Vegas, NV	L. Linden
Thursday, November 12	Public Update Meeting (P)	Reno, NV	C. Gertz
Tuesday, November 17	Yucca Mountain Lecture Series (P)	Beatty, NV	R. Saunders
Tuesday, November 17	Lake Mead National Park Service	Henderson, NV	R. Arnold
Wednesday, November 18	American Association of University Women	Las Vegas, NV	TBD
Thursday, November 19	Yucca Mountain Lecture Series (P)	Las Vegas, NV	R. Saunders
Thursday, November 19	Archael Nevada	Las Vegas, NV	R. Arnold
Friday, November 20	Madison 6th Grade Center	Las Vegas, NV	R. Arnold
Thursday, December 3	Court Continuation School	Las Vegas, NV	R. Arnold

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
G. <u>State and Public Interactions</u> (Continued)			
Thursday, December 10	Savannah Chapter of the American Nuclear Society (ANS)	Aiken, SC	TBD
Wednesday, January 13, 1993	ANS	Schenectady, NY	C. Gertz
Thursday, January 14, 1993	ANS	Parsippany, NJ	C. Gertz
<u>Date</u>	<u>Event</u>	<u>Location</u>	
H. <u>Exhibits Scheduled</u>			
Friday- Saturday, November 6-7	Nevada State Science Conference	Las Vegas, NV	
Monday, November 9	Public Update Meeting (P)	Amargosa Valley, NV	
Tuesday, November 10	Public Update Meeting (P)	Las Vegas, NV	
Thursday, November 12	Public Update Meeting (P)	Reno, NV	
Tuesday- Thursday, November 17-19	ANS Winter Meeting	Chicago, IL	
Wednesday, November 18	Public Open House (P)	Las Vegas, NV	
Thursday- Saturday, November 19-21	Nevada Association of Counties	Fallon, NV	
Friday, November 20	State of the Project Meeting	Las Vegas, NV	

<u>Date</u>	<u>Event</u>	<u>Location</u>
H. <u>Exhibits Scheduled</u> (Continued)		
Monday- Friday, December 7-11	American Geophysical Union	San Francisco, CA
Saturday, December 12	Public Open House (P)	Las Vegas, NV
<u>Date</u>	<u>Event</u>	<u>Escorts</u>
I. <u>Tours Scheduled</u>		
Tuesday, November 3	Thurman White Middle School	TBD
Thursday, November 5	Thurman White Middle School	TBD
Thursday, November 5	NRC Commissioner DePlanque	C. Gertz
Saturday, November 7	Republican Senators Nevada	D. Bradford
Tuesday, November 10	Thurman White Middle School	TBD
Thursday, November 12	Thurman White Middle School	TBD
Wednesday, November 18	Public Open House (P)	Various Escorts
Thursday, November 19	Pahrump Middle School	TBD
Friday, November 20	National Association of Regulatory Utility Commissioners	A. Robison
Monday, November 23	Palo Verde Nuclear Power Station	TBD
Tuesday, December 1	Paradise Christian Academy	TBD

<u>Date</u>	<u>Event</u>	<u>Escorts</u>
I. <u>Tours Scheduled</u> (Continued)		
Thursday, December 3	Pahrump Middle School	TBD
Thursday, December 3	TRB/State of Nevada Environmental	W. Dixon
Monday, December 7	UNLV Cooperative Agreement Group	M. Powell
Tuesday, December 8	Bonanza/Cheyenne LV Rotary Club	TBD
Saturday, December 12	Public Open House (P)	Various Escorts
Saturday, January 16, 1993	Public Open House (P)	Various Escorts
Wednesday, January 20, 1993	Tonopah Middle School	TBD
Saturday, February 20, 1993	Public Open House (P)	Various Escorts
Wednesday, February 24, 1993	Tonopah Middle School	TBD
Thursday, March 11, 1993	Meadows School	TBD
Thursday, March 18, 1993	Gabs School	TBD
Tuesday, April 20, 1993	Round Mountain High School	TBD

YMP:VFI-742


 Carl P. Gertz
 Project Manager



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

WBS 1.2.7.3
QA: N/A

NOV 17 1992

Carl P. Gertz, Project Manager, YMP, NV

YUCCA MOUNTAIN SITE OFFICE (YMSO) FIELD ACTIVITY REPORT

The following are the significant field activities for the weeks ending October 30, 1992 and November 6, 1992:

1. Field Operations Center, (YMSO)

A. Management and Administration

- a. The Site Manager and FOC staff participated in and provided operational and logistical support to several tours conducted during this period. These were: Quail Estates West; Southern NV Retired Teachers Association; Utah Good Sam Club; M&O Employees; NRC Commissioner DePlanque and Republican Senators-NV.
- b. The Site Manager prepared the Job Package Authorization Letter for two activities. Job Package 92-11, NRG-6 Drilling Activities and Job Package 92-20, ESF North Portal Pad and Facilities.
- c. Provided operations support for field site characterization activities.
- d. Issued vehicles, first aid kits, fire extinguishers, and other necessary equipment to personnel performing field duty.
- e. Continued providing operations and administrative support to the Yucca Mountain Site Manager and his DOE staff.
- f. Emergency Management Plan submitted to Site Manager.
- g. Continued installing cruise control in YMP assigned GSA vans.
- h. Dispatched two engineers to attend DOE Computer Planning Acquisition and Security Class Training.
- i. Received initial EG&G tape of YMP test data for CIS system. Extracting data by means of Tape Archive Retrieval Utility.
- j. Processed 17 Work Order requests and 1 Technical Field Work Request.
- k. Using the ORPS reporting system, transmitted two Occurrence Reports to SSDC, Idaho Falls.

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- l. Commenced work on accumulating input required for development and production of ESF video.
- m. The Bullfrog Planning commission continuing with development of data base for Facilities Management Program.
- n. Review Industrial Hygiene reports on asbestos containment on building 740 of the "Chevron" modular units to be brought down for use on YMP in support of field activities.
- o. Met with FOC Manager in order to gather information on vehicle usage and assignments for decision paper concerning YMP/YMSO vehicles.
- p. The Planning Commission also worked up 5 alternatives on 1.2.7 facilities based upon further budget cuts.
- q. Sent instructions, to Tim Sullivan, Winn, Wilson, and Ralph Schneider, on photography of test pits and trenches for comment; prior to attaching to FOI 4002, "Photographic Services."
- r. Commenced work on the logistics of photographing construction progress, this will also include videotaping on a regular basis. Discussed with Ken Skipper possible locations for setting up photographic parameters/vantage points. This activity is set to begin 11/30.
- s. Received initial GIS system and produced sample maps. With the Site Manager, determined key participants and point of contact for GIS output products. Provided EG&G with hardware configuration to correct a problem with GIS Information transfer.
- t. Updated 3 occurrence reports previously submitted through ORPS reporting system. Provided training to personnel required to operate the ORPS system.
- u. Continued accumulating input required for development and production of ESF video. Provided special assistance to institutional by meeting with animation vendor.
- v. Set up meeting with USBR to discuss Photogrammetric and Pavement study photography.
- w. Initiated coordination with REECo Field Operations to get clearance on equipment required for ESF operations.
- x. Held discussions with Colorado Memory Systems, VERSA, and ESRI on tape-to-tape transfer from UNIX system to DOS system.

B. Project Safety and Health, (DOE/SAIC)

- a. Conducted meeting of the Roads and Traffic Enhancement Committee to discuss H-Road.
- b. Drafted letters for Site Manager to ESF group on ESF Safety Plan and to certain TPO;s concerning replies on their S&H Plans.
- c. Reviewed Safety Plan of Technology and Resources Assessment Corporation. They are coming on site for the Nevada Nuclear Waste Project Office.
- d. Continued to support Budget resolution efforts.
- e. Wrote requirements to clarify how the site "Buddy" system works.
- f. FOI 5404, "Job Safety Analysis" approved.
- g. Continued work requirements documents.
- h. Conducted 4 surveillances; UZN-57=1; SMF Trailer=1; Dozer trench=1; and NRG-6=1.
- i. Performed field work portion of functional appraisal on REECO's Hazard Communication Program.
- j. Staff members attended course on Hazmat (2 people), and training on use of Port-A-Count Respirator Fit Testing and High Efficiency Particulate Apparatus equipment (1 person).
- k. Continuing research to resolve excessive visible emission during filter cleaning at Area 25 Subdock.
- l. IH surveys conducted at: Midway Valley Trench 7 (Preliminary); UZN-57 (Preliminary); and X-Tunnel (Tour Support) and UZ-16 Drill Site.
- m. Supported ongoing tours.
- n. OCCURRENCE REPORTS - none awaiting FR signature, 2 new reports submitted.
 1. REECO - 5 outstanding: 2 waiting PM signature; 2 rejected (by FR, both on 06/02/92); and 1-10 day notification (10/20/92).
 2. SAIC - 4 outstanding: 1 rejected (by FR, 07/27/92); 2-10 day notification (07/13/92 and 11/03/92); and 1 notification (10/29/92).

- o. Resolved MGSD-RD comments with M&O in Virginia via Phone Conference.
- p. Obtained Site Managers approval of "Buddy Systems" requirements, will be incorporated in FOI 5301.
- q. Staff member attended meeting of advisory committee to Fire Protection and Safety Engineering College at Oklahoma State University.
- r. Drafted letter to LLNL requesting Safety Analysis on proposed quarry activity.
- s. Wrote functional appraisal for REECo Hazard Communication Program.
- t. Completed air velocity measurements at BOA Phase II Complex.
- u. Began preliminary dialogue with SMF to perform air sampling tests.
- v. Completed Safety Video Directory. Sent directory to Safety Advisory Committee members.
- w. Drafted comments on Technology and Resource Assessment's Safety and Health Plan.
- x. Reviewed wording for REECo Subcontractors, Special Conditions (SC-08) "Hazardous Communications Program."

2. Raytheon Services Nevada, (RSN)

A. Field Support

- a. Survey crew continued work on Area 25 control net, on going.
- b. The Field Engineering Group checks the trench walls on a daily basis in order to determine suitability for continued operations.
- c. Survey of the geophysical lines is complete, Phases I & II. Calculations remain.
- d. N-63, N-33 and N-34 Drill Holes survey completed. N-31 and N-32 are ready for survey.
- e. Survey provided a plot of Neutron Bore Holes locations.
- f. Issued ten (10) work initiations (WI's) in support of ongoing and upcoming job packages.

- g. Field Engineering providing support to JP 91-9/REV 3, JP 92-12, JP 92-7, JP 92-8 and JP 92-10.
 - h. Current status of JP 92-2, "Test Pits" submitted. JP 92-5, "Test Pits" is in progress.
 - i. Electrical as-built of FOC, Building 4015 is complete. Drawing(s) change(s) is ongoing.
 - j. GSF Test Pits survey complete. Calculations and plotting remain.
 - k. Busted Butte, Stagecoach, Crater Flats Survey complete. Calculations and plotting remain.
 - l. Fran Ridge pit and pavement ready for survey except for Pit Mapping by USGS. Calculations complete.
 - m. N-63, N-33 and N-34 Drill Holes survey complete. Calculations and plotting remain. N-31, N-32, and N-35 survey complete. Calculation and plotting remain.
 - n. Survey verified depth of MWV-7 excavation.
 - o. Verified vertical alignment, LM300, UZ-16.
 - p. Survey environmentally staked the drainage areas around proposed ESF construction area.
- B. Quality Control
- a. Continued verification of activities on UZ-16 borehole utilizing the LM-300 Drill Rig.
 - b. Completed verification activities at UZN-35 utilizing the CME-850 Rig. Sent borehole package to Records coordinator for DRC.
 - c. Continued verification activities on NRG-6 Pad and Access Road.
 - d. Visited trenches SCR-T1, T2, and T3, Trench 7 and SCF-T1, and checked trench and fence condition.
 - e. Verified moving of CME-850 Rig and equipment to UZN-57. Verification of activities on UZN-57 borehole utilizing the CME-850 Drill Rig.
 - f. Performed verification on condition of fences and trenches SCR-T1, T2, and T3, and SCF-T1.

- g. Verified moving of CME-850 Rig to UZN-58.
- h. Performed verification activities on Midway Valley Trench #7 up to a depth of 20 feet.
- i. Closed field verification plan packages on NRSF-TP-7 and 8 and sent to RSN Records Coordinator.

3. Sample Management Facility, (SMF/SAIC)

- a. Continued recovery and processing core and cuttings from UZ-16.
- b. Completed drilling on UZN-57.
- c. Laid out 32 core boxes from UZ-16 for examination by USGS.
- d. Laid out 241 core boxes from UE25 A1, USW G1, USW G2 for examination by LANL.
- e. Laid out 45 core boxes from UZ-16 for Core Party.
- f. Laid out 35 core boxes from Neutron Holes for USGS.

4. YMP Hydrologic Research Facility, (USGS)

- a. Saturated Zone - no report.
- b. Jack Kume and Rufus Getzen, in field to supervise set up of instrument shelter for IDAS program outside HRF.
- c. Meteorological Project collecting satellite data, precipitation data and synoptic scale weather chart information. Maintained collection gaged network and staff in field reading Rain Wedges.
- d. Dorothy Tepper at NTS for monitoring tracer gas injection at UZ-16 and observe core collection for hydrochemical studies.
- e. Bill Simonds and Giovanni Naverro at NTS in Calico Hills area to complete mapping Quaternary faults on Yucca Mountain.
- f. Mike Angel and Andy Thomas investigating origin of bedrock step exposed in Trench MWV-T5, east side of Exile Hill, continuing investigation of MWV-T6 and NRSF-TP32.
- g. Bill Gertal, Artificial Infiltration Program, no field activities.
- h. USBR, no field activities.

- i. Larry Martin and Russ Buckhorn, SAIC-Golden, finishing mapping in Ghost Dance fault and Yucca Mountain.
- j. Lorrie Flint, UZN-35 completed, work began on UZN-57.
- k. Scott Lundstrom, sampled marsh deposit in Las Vegas Valley. At NTS checking sites and air photo mapping.
- l. John Perry, UNR, collecting seismic data.
- m. Water level measurements made in 6 wells and data collected from automated logging equipment at 9 additional wells.
- n. Denver staff at NTS to monitor tracer gas injection at UZ-16 and to observe core collection for Hydrochemical studies.
- o. Staff in Amargosa Desert conducting ground-water sampling.
- p. IDAS Program staff continued to set up new instrument shelter behind HRF.
- q. Staff finished current mapping in Ghost Dance Fault and Yucca Mountain Areas.
- r. UNR Staff collecting seismic data in Yucca Mountain area.

5. Reynolds Electrical and Engineering Co., Inc. (REECO)

Activities conducted during week ending October 30, 1992:

A. Drilling

- a. JP 92-3, UZ-16, LM-300, cored to 919.21 feet, reamed to 899.12 feet. Control reaming to reduce and/or stabilize drift angle of borehole.
- b. JP 91-9, CME-850, UZN-35, cored to 175.81 feet and reamed to 175.81 feet, total depth. Rigged down, moved rig and equipment to UZN-57, set up rig. Cored to 19.48 feet.

B. Logistics

- a. Continued requisitioning supplies, materials, and services for YMP Field Operations Center.
- b. Supported 3 tours during the week.

c. Construction

- a. JP 92-10, "NRG-6 Drill Pad/Road"... REECO continuing to excavate rock and material from the pad area. Two bulldozers now working the pad to meet elevation specifications.

Activities conducted during week ending November 6, 1992:

A. Drilling

- a. JP 92-3, UZ-16, LM-300, cored to 956.59 feet, reamed to 939.15 feet. Survey at 899 feet-2 degrees, 9 minutes. Survey at 939 feet-2 degrees, 03 minutes.
- b. JP 91-9, CME-850, UZN-57, cored to 118.87 feet and reamed to 118.87 feet, total depth. Rigged down, moved rig and equipment to UZN-58.

B. Logistics

- a. Continued requisitioning supplies, materials, and services for YMP Field Operations Center.
- b. JP 92-10, "NRG-6 Drill Pad/Road"...REECO continued to excavate rock and material from the NRG-6 area.
- c. JP 92-5, "Midway Valley Trench 7"...REECO completed the excavation of Trench-7 on 11/4/92. REECO removed the loose rock in the bottom of the trench.

6. Los Alamos National Laboratory, (LANL)

- a. Pavement studies mapping continues at Fran Ridge Pit sites on a time available basis. Pit Mapping using the prototype shaft platform tentatively scheduled for November 16-18.
- b. ESF test support Job Packages initiated for Geologic Mapping (JP 92-20A) and Perched Water (JP 92-20B) to support current start of North Portal Starter Tunnel construction target date.
- c. Initiated the combined Management and Independent technical review of Design Package 1A (redesign).

7. Document and Records Center, (M&O/TRW)

Activities during week ending October 30, 1992:

a. Received and Issued to following controlled documents:

Job Packages N/A
Test Planning N/A
Specifications N/A
Drawings N/A

FCRs: FCR 93/034, Rev. 0, "NRG-6 Drill Pad and Access Road
Modifications."

FCR 93/036, Rev. 0, "Additional Approval of Land Access and
Environmental Compliance for Neutron Access Holes N-57, N-58,
N-59, and N-61."

Work Programs N/A

b. Reproduction: 4418 pages copied.
129 drawing copied.

c. Documents Issued: 137 controlled documents.
21 uncontrolled documents.

d. DTAR logoffs: 56.

e. Attended weekly FOC staff meeting.

Activities during week ending November 6, 1992:

a. Received and Issued to following Controlled Documents:

Job Packages: YMP/JP 92-11, Rev. 0, "Drilling of Borehole USW NRG-6."
YMP/JP 92-20, Rev. 0, "ESF North Portal Pad and
Facilities."

Test Planning N/A
Drawings N/A
FCRs N/A
Work Programs N/A

b. Reproduction: 7479 pages copied.
83 drawing copied.

c. Documents Issued: 102 Controlled documents.
20 Uncontrolled documents.

Carl P. Gertz

-10-

NOV 17 1992

- d. DTAR logoffs: 40.
- e. Attended weekly FOC staff meeting.

8. Field Training, (SAIC)

- a. Training conducted for GET 1.2, 1.3, and 1.4, two people attended.
- b. 11 GET 1.5 exams were administered, all passed.
- c. First Aid training class scheduled for 11/11.

Winfred A. Wilson

Winfred A. Wilson
Site Manager

YMP:WAW-415

cc:

R. M. Cameron, CRWMS M&O/YMSO, M/S 717
R. R. Schneider, SAIC/YMSO, M/S 717
G. K. Beall, SAIC, Las Vegas, NV
J. H. Peck, SAIC, Mercury, NV
C. J. Cotten, SAIC, Las Vegas, NV
I. R. Cottle, SAIC, Las Vegas, NV
G. D. Milligan, SAIC, Mercury, NV
M. B. Blanchard, YMP, Las Vegas, NV
R. V. Barton, YMP, Las Vegas, NV
J. R. Dyer, YMP, Las Vegas, NV
S. B. Jones, YMP, Las Vegas, NV
J. T. Sullivan, YMP, Las Vegas, NV
R. B. Baumeister, YMP/YMSO, M/S 717
R. J. White, YMP/YMSO, M/S 717
W. R. Tunnell, YMP/YMSO, M/S 717
~~Phil Justus, NRC, Las Vegas, NV~~

bcc:

A. C. Bonk, REECO, Las Vegas, NV



Reynolds Electrical & Engineering Co., Inc.

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

IN REPLY REFER TO:

580-01-089

WBS 1.2.9.1

QA: N/A

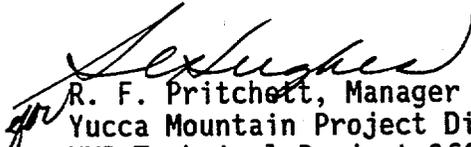
November 10, 1992

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

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP) STATUS REPORT (SCP: N/A)

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

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


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

RFP:SLH:mab

Enclosure
Status Report (3 pages)

cy: See page 2



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

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

OCTOBER 1992 - STATUS REPORT

Reeco has no reportable Level 0 or Level 1 Milestones.

SITE (1.2.3)

WBS 1.2.3.2

Task: USGS Integrated Data Acquisition System (IDAS)

Continued support of IDAS to include technical support, equipment testing, maintenance and repairs. At USGS request, purchased Gemlink replacement equipment after successful performance testing.

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

Provided one day of photographic support.

WBS 1.2.3.5

Task: Capital Equipment to support Drilling Programs

Procurement is in progress for the following drilling support equipment: Cuttings/handling system, hydraulic casing jacks and bag house, data recorder and monitors, and Class XIII drill rig. Delivery date for the drill rig is December 16, 1992. A Letter of Protest was received from Longyear Co. and has been submitted for legal review and determination.

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

Completed site preparation for borehole N-35. Began site preparation for neutron boreholes N-57, N-58, N-59 and N-61. Completed drilling/coring of UZ-N32 at a total depth of 207 feet. Completed drilling/coring UZ-N35 at a total depth of 175 feet. Currently drilling/coring on UZ-N57 at 45 feet. UZ-N57 is the seventh of twelve boreholes to be drilled in Phase II of the Neutron Access Borehole Program.

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

The CME-550 drill rig and associated equipment remains on the NRG-1 borehole awaiting geophysical logging. It is anticipated that the borehole will need to be cleaned out prior to logging.

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

Drilling/coring operations continue. Present depth of the core hole and the 12 1/4-inch reamed hole is 919 feet. Progress has been slowed somewhat due to an attempt to control the borehole deviation. The deviation at 759 feet was 2 degrees - 10 minutes. Utilizing the deviation control reaming method,

deviation surveys indicate the borehole angle has stabilized and/or has been slightly reduced. Coring will continue to be limited to 20 feet ahead of the reamed hole. Reaming will now be accomplished with the 12 1/4-inch open-centered bit, thus eliminating tripping of the dual-wall drill pipe. Progress should improve.

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

Began work on Trench 7 at Midway Valley.

Task: Soil & Rock Properties Test Pits Phase II (Job Package 92-8)

Completed roping of test pits.

Task: Quaternary Faulting (Job Package 92-12)

No activity during this period.

Task: Lathrop Wells Trenching

Completed trench excavation of the Lathrop Wells cinder cone.

Task: Borehole Security Program

Completed Program #1 consisting of capping and locking 30 boreholes.

EXPLORATORY STUDIES (1.2.6)

WBS 1.2.6.1

Task: Exploratory Studies Facility (ESF)

Source Evaluation Board conducted meetings with potential subcontractors on Request for Proposal 1-DH-92, Technical Support and Underground Excavation for the ESF. Any amended proposals are due on or before 4 p.m., November 18, 1992.

Continued administrative support for ESF activities to include; planning, scheduling, management and Title II design review. Participated in Raytheon Services Nevada Management (RSN) and Technical Review of the ESF Ramp and Main Drift Sizing Analysis, verified comments made on the ESF Title II Design Package 1A for North Ramp Area; conducted a site visit to inspect the 19' Robbins Tunnel Boring Machine for potential use on the ESF.

FIELD OPERATIONS (1.2.7.4)

Task: Administrative & Maintenance Support

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

Provided support for the Yucca Mountain Site Office open house and public tours. Thirteen tours were held during this period with 673 people attending. Support included but was not limited to; arrangements for buses, registration of guests, coordination of lunches/beverages, medical service, furniture, mechanical service. Continued preparations for upcoming tours.

PROJECT MANAGEMENT (1.2.9)

WBS 1.2.9.1

Task: Management and Administrative Support

Continued coordination and staffing of YMP displays at meetings, exhibits, conferences and tours including the 1992 Jaycee State Fair and the Geological Society of America Conference; staffed and supported the Public Reading Room of the Research and Study Center.

Task: Site Characterization Plan (SCP) Distribution

Four SCP sets and seventeen copies each of Progress Reports 2, 3, 4 and 5 were distributed during this period.

Task: Long Range Planning (LRP)

Continued status and update of Planning and Control System (PACS) in support of FY 1993 planning; supported Title II Design Package 1A schedules and completed cost estimates as required.

WBS 1.2.9.3

Task: Quality Assurance (QA)

Arranged for personnel to attend initial training for Soils and Concrete inspection personnel arranged by CRWMS/M&O.

Identified personnel requirements to support near term first line inspections. Initiated and approved work orders to obtain field and material testing services from RSN or other acceptable suppliers.



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

NOV 17 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
~~Phillip S. Justus, NRC, Las Vegas, NV~~

DAILY OPERATIONS REPORTS AND WEEKLY INTERACTIONS CALENDAR

Enclosed for your information are copies of the Daily Operations Reports for Yucca Mountain Site Characterization Project drill holes UE-25 UZ16, USW UZ N58, and USW UZ N57 (enclosure 1). These reports were prepared by Raytheon Services Nevada and cover November 2-6, 1992.

A copy of the Weekly Interactions Calendar (enclosure 2) is enclosed for your information. It includes a section providing the status of boreholes, trenches, and test pits.

A copy of the field test coordinator's report (enclosure 3) summarizing activities of the previous week and forecasting the activities planned for the current week is also included for your information.

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

J. Timothy Sullivan for
J. Russell Dyer, Director
Regulatory & Site Evaluation Division

RSED:USC-1028

Enclosures:

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

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

Report Time: 7:30
Date: November 9, 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: November 6, 1992 (Rig Day 108)

**HOURS
FROM - TO**

OPERATIONS DESCRIPTION

0800 - 0828	Service and warm up equipment.
0828 - 1047	Core run #211 from 959.18' - 968.18' (113 min.), 6.7' Rec.
1047 - 1123	Core run #212 from 968.18' - 969.41' (12 min.), 1.2' Rec.
1123 - 1248	Core run #213 from 969.41' - 975.76' (68 min.), 5.5' Rec.
1248 - 1415	Core run #214 from 975.76' - 979.18' (29 min.), 3.0' Rec.
1415 - 1545	Pull out of the hole with coring assembly.
1545 - 1615	Work on Haz-Vac.
1615 - 1630	Shut down and secure rig.

CORING: Average air rate 545 SCFM
Average vacuum rate 1210 SCFM

REAMING: Average air rate N/A SCFM
Average vacuum rate N/A SCFM

Ending Depth:	Cored 979.18'	Reamed 959.12'	Drilled 0
Daily Footage:	Cored 20.00'	Reamed 00.00'	Drilled 0

Drilling Rep: Dick Sowards, REECO
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 8-REECO; 1-USGS; 3-SMF
Visitors On Site: RSN - Ricks; SAIC - Martin, Roesner, Donaldson; USNRC - Gilray, Boyle, Justus

Field Report Prepared By: David Putnam
Office Report Prepared By: David Putnam and Richard W. Wright

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

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

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N58

Drill Rig: CME-850

Activity: Drive sampling

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 6, 1992 (Rig Day 2)

**HOURS
FROM - TO**

OPERATIONS DESCRIPTION

0800 - 0830	Service and warm equipment.
0830 - 0924	Check and straighten casing to vertical.
0924 - 0930	Drive sample #4 from 6.21' - 7.82' (2 min) 1.6' Rec.
0930 - 0940	Pull drive sampler. Trip in the hole with the Odex hammer.
0940 - 1005	Ream cycle #2 from 6.21' - 7.22' (7 mins).
1005 - 1017	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1017 - 1028	Drive sample #5 from 7.82' - 8.07' (2 min) 0.3' Rec.
1028 - 1050	Pull drive sampler. Trip in the hole with the Odex hammer.
1050 - 1056	Ream cycle #3 from 7.22' - 8.07' (6 mins).
1056 - 1103	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1103 - 1125	Drive sample #6 from 8.07' - 8.92' (2 min) 0.8' Rec.
1125 - 1139	Pull drive sampler. Trip in the hole with the Coring assembly.
1139 - 1208	Core run #1 from 8.92' - 10.14' (11 min.), Rec. 1.2'.
1208 - 1238	Lunch.

Continued on Second Page

Average Air Rates: Coring 255 SCFM
Reaming 366 SCFM

Ending Depth:	Cored 17.26'	Reamed 15.61'	Drilled 0'
Daily Footage:	Cored 11.05'	Reamed 9.40'	Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 1-DOE; 8-Visitors

Visitors On Site: RSN - Cunningham, Ricks; REECo - Wonderly, McDaniel; SAIC - Martin, ; NRC - Gilray, Boyle, Justus

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony

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

Report Time: 7:30 hrs
Date: November 9, 1992
Page: 2 of 2

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N58

Drill Rig: CME-850

Activity: Drive sampling

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 6, 1992 (Rig Day 2)

HOURS FROM - TO	OPERATIONS DESCRIPTION
1238 - 1308	Pull coring assembly. Trip in the hole with the Odex hammer.
1308 - 1313	Ream cycle #4 from 8.07' - 10.14' (5 mins).
1313 - 1320	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1320 - 1328	Drive sample #7 from 10.14' - 12.24' (1 min) 2.1' Rec.
1328 - 1333	Pull drive sampler. Trip in the hole with the Odex hammer.
1333 - 1336	Ream cycle #5 from 10.14' - 12.06' (3 mins).
1336 - 1342	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1342 - 1357	Drive sample #8 from 12.24' - 13.61' (2 min) 1.4' Rec.
1357 - 1405	Pull drive sampler. Trip in the hole with the Odex hammer.
1405 - 1413	Ream cycle #6 from 12.06' - 13.61' (8 mins).
1413 - 1434	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1434 - 1446	Drive sample #9 from 13.61' - 15.61' (2 min) 2.0' Rec.
1446 - 1500	Pull drive sampler. Trip in the hole with the Odex hammer.
1500 - 1503	Ream cycle #7 from 13.61' - 15.61' (8 mins).
1503 - 1526	Pull out of the hole with the Odex hammer. Trip in the hole with the drive sampler.
1526 - 1540	Drive sample #10 from 15.61' - 17.26' (4 min) 1.7' Rec.
1540 - 1600	Work on air leak in swivel and drilling head.
1600 - 1630	Shut down and secure rig.

Average Air Rates: Coring 255 SCFM
 Reaming 366 SCFM

Ending Depth: Cored 17.26' Reamed 15.61' Drilled 0'
Daily Footage: Cored 11.05' Reamed 9.40' Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 8-Visitors

Visitors On Site: RSN - Cunningham, Ricks; REECo - Wonderly, McDaniel; SAIC - Martin, ; NRC - Gilray, Boyle, Justus

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony

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

Report Time: 7:30
Date: November 6, 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: November 5, 1992 (Rig Day 107)

**HOURS
FROM - TO**

OPERATIONS DESCRIPTION

0800 - 0826	Service and warm up equipment.
0826 - 0912	Core-run #210 from 956.59' - 959.18' (34 min.), 3.8' Rec.
0912 - 1015	Pull out of the hole with coring assembly.
1015 - 1442	Ream cycle #67 from 939.15' - 959.12' using one Sullair H900/350 compressor.
1442 - 1506	Rig up and run deviation survey at 959', found deviation to be 2 degrees 3 minutes from vertical with a 7 degree tool.
1506 - 1615	Trip in the hole with coring assembly and new bit RSN #17, a Longyear surface set Carbonado, no airways.
1615 - 1630	Shut down and secure rig.

CORING:	Average air rate	599 SCFM
	Average vacuum rate	1325 SCFM
REAMING:	Average air rate	732 SCFM
	Average vacuum rate	1292 SCFM

Ending Depth:	Cored 959.18'	Reamed 959.12'	Drilled 0
Daily Footage:	Cored 2.59'	Reamed 19.97'	Drilled 0

Drilling Rep: Dick Sowards, REECO
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 8-REECO; 1-USGS; 3-SMF
Visitors On Site: RSN - Lindquist, Wright, Wright; DOEYMQAD - Williams; DOE - Long

Field Report Prepared By: David Putnam
Office Report Prepared By: David Putnam and Richard W. Wright

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

Report Time: 7:30 hrs
Date: November 6, 1992
Page: 1 of 1

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N58

Drill Rig: CME-850

Activity: Drive sampling

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 5, 1992 (Rig Day 1)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 1150	Move in and rig up equipment.
1150 - 1200	Drive sample #1 from 0' - 2.69' (1 min) 2.0' Rec.
1200 - 1230	Lunch.
1230 - 1250	Rig up dust collector plate and rubber seal. Pick up drive sampler.
1250 - 1306	Drive sample #2 from 2.69' - 3.42' (2 min) 1.6' Rec.
1306 - 1337	Wait on 1.70' drive sampler.
1337 - 1450	Made 8 attempts with drive sampler, hole continuing to cave in. Pick up 5.46' drive sampler.
1450 - 1500	Drive sample #3 from 3.42' - 6.21' (2 min) 2.8' Rec.
1500 - 1527	Remove shoe from drive sampler. Drive shoe was badly damaged.
1527 - 1547	Rig up to ream.
1547 - 1600	Ream cycle #1 from 0' - 6.21' (13 mins).
1600 - 1630	Shut down and secure rig.

Average Air Rates: Coring N/A SCFM
 Reaming 319 SCFM

Ending Depth:	Cored 6.21'	Reamed 6.21'	Drilled 0'
Daily Footage:	Cored 6.21'	Reamed 6.21'	Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 1-DOE; 5-Visitors

Visitors On Site: RSN - Lindquist; REECo - Joyce; SAIC - Moyer, McCarthy; DOE/YMQAD - Williams

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony

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

Report Time: 7:30
Date: November 5, 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: November 4, 1992 (Rig Day 106)

HOURS FROM TO	OPERATIONS DESCRIPTION
0800 - 0833	Service and warm up equipment.
0833 - 1002	Complete ream cycle #66 from 934.33' - 939.15'.
1002 - 1035	Rig up and run deviation survey at 939', found deviation to be 2 degrees 3 minutes from vertical with a 7 degree tool.
1035 - 1250	Safety inspection of wire lines on rig.
1250 - 1407	Trip in hole with core assembly and new bit RSN #16, a Christensen Strata Pac with 18 5/16" cutters and 12 airways.
1407 - 1518	Core run #208 from 939.26' - 950.60' (44 min.), 10.2' Rec.
1518 - 1615	Core run #209 from 950.60' - 956.59' (41 min.), 4.6' Rec.
1615 - 1630	Shut down and secure rig.

NOTE: Changed out survey tool from Sperry Sun to Totco.
Moved in 2 Atlas-Copco air compressors, not hooked up.

CORING: Average air rate 576 SCFM
Average vacuum rate 1066 SCFM

REAMING: Average air rate 1140 SCFM
Average vacuum rate 1540 SCFM

Ending Depth: Cored 956.59' Reamed 939.15' Drilled 0
Daily Footage: Cored 17.33' Reamed 4.82' Drilled 0

Drilling Rep: Dick Sowards, REECO
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 9-REECO; 1-USGS; 3-SMF
Visitors On Site: RSN - Lindquist; Reeco - Pochowski, Berry, Booze, McDaniel, Mason, Henze, Taylor

Field Report Prepared By: David Putnam
Office Report Prepared By: David Putnam and Richard W. Wright

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

Report Time: 7:30 hrs
Date: November 5, 1992
Page: 1 of 1

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N57

Drill Rig: CME-850

Activity: Rigging down and moving to new location.

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 4, 1992 (Rig Day 6)

HOURS FROM TO	OPERATIONS DESCRIPTION
0800 - 0830	Service and start up rig and equipment.
0830 - 0850	Prepare to pull out of hole. Decided to core. Rig up to core.
0850 - 1003	Core run #23 from 108.99' - 114.14' (63 mins) 4.2' Rec.
1003 - 1105	Core run #24 from 114.14' - 118.87' (52 mins) 4.6' Rec.
1105 - 1130	Pull out of hole with coring assembly, laying down core rods.
1130 - 1143	Trip in hole with Odex hammer. Rig up to ream.
1143 - 1200	Start ream cycle #5.
1200 - 1230	Lunch.
1230 - 1330	Ream cycle #5 from 94.51' - 118.87' (77 mins).
1330 - 1430	Pull out of hole with Odex hammer, laying down drill rods.
1430 - 1630	Rigging down and moving to new location.

NOTE: USW UZ N57 reach total depth at 118.87' at the direction of Bill Davies, USGS.

NOTE: FINAL REPORT

Average Air Rates: Coring 272 SCFM
 Reaming 377 SCFM

Ending Depth:	Cored 118.87'	Reamed 118.87'	Drilled 0'
Daily Footage:	Cored 9.88'	Reamed 24.36'	Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 1-Visitors

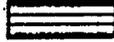
Visitors On Site: RSN - Lindquist

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
PRELIMINARY FIELD COMPOSITE BOREHOLE LOG**

BOREHOLE ID: USW UZN-57
 STUDY PLAN NO: 8.3.1.2.2.1
 CORE SIZE: HQ 2.4"
 DRILL DATES: 10/28/92-
 GROUND ELEV: 4200'
 COORDINATES: N: 755,075'
 E: 561,100'
 TOTAL DEPTH: 118.9'
 ANGLE FROM VERT: NA BEARING: NA

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

Logging by Drilling Support Division, Drilling Support and Sample Management Dept

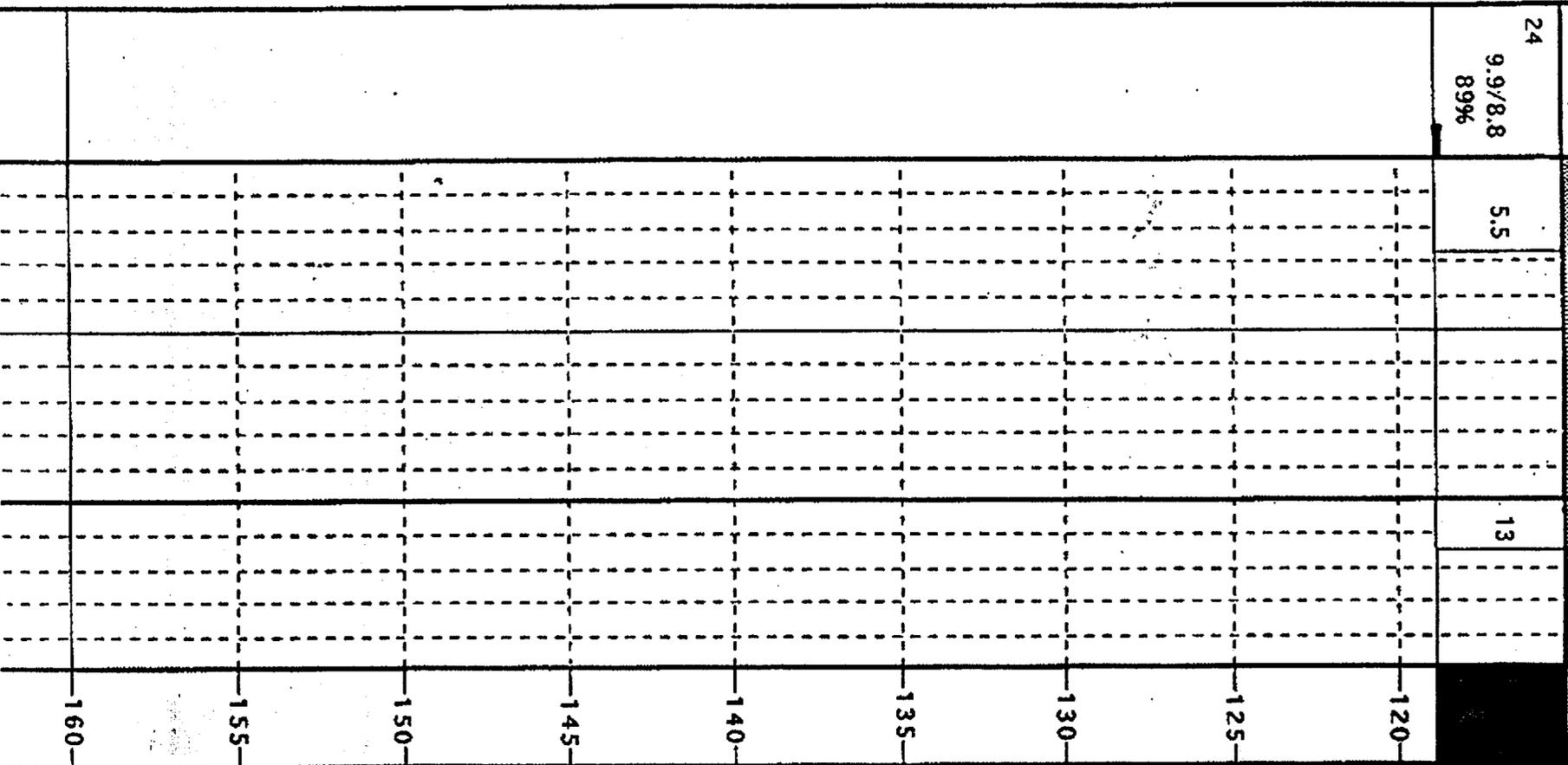
RUNS DATES BITS	CORE LOSS	DRILLING RATE (ft/hr)			FRAC FREQ (/ 5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/ REMARKS
		0	10	20	0	50		
		0	10	20	0	50		
		20	70	120	50	100		
DC-1		71.4			NO DATA			Alluvium: silt>sand>cobbles>pebbles, no apparent boulders, occasional organics, no clay horizon.
DC-2		1.8						No progress made on DC-2.
1 10/28/92		14.0			37		5	1.2-14.5 Ashflow tuff: grayish red, densely welded, devitrified; 30% phenocrysts of feldspar and biotite, calcite on fracture surfaces.
2		12.0			28		10	
3		12.0			17		15	
4 19.5/19.9 102%		13.6			16		20	14.5- 118.9 Topopah Spring member, ash-flow tuff; pale red, moderately welded, devitrified, 15% phenocrysts of sanidine, minor plagioclase and rare biotite.
5 10/29/92		6.1			11		25	
6		6.8			14			

CORE LOG RUNS DATES BITS	PUMPING RATE (ft/hr)				PUMPING RATE (/ 5 ft)				DEPTH GRAPHIC LOG	LITHOLOGY/ REMARK
	0	10	20	30	50	75	100	150		
6		6.8		14					30	
7		13.6		14					30	
8		13.0		8					35	
9		15.0		10					40	
10	10/30/92	13.0		16					45	
11		6.1		15					50	
12		14.3		8					55	
13		11.5		12					60	
14		8.1		12					65	
15	25.0/25.0 100% 11/2/92	7.7		10					70	

RUNS DATES BITS	CORE LOSS	DRILLING RATE (ft/hr)		TRAVEL TIME (/ 5 ft)		DEPTH GRAFTIN LOG	LITHOLOGY/ REMARK
		0-20	20-70	0-50	50-100		
15		7.7		11		75	
16		13.6		18		80	
17		12.5		17		85	
18		10.7		26		90	
19		8.6		28		95	
20 24/25 96%		8.8		41		100	
20 11/3/92		34.2		47		105	
21		6.1		47		110	
22 14.5/12.5 86%		4.9		29		115	
23 11/4/92		5.5					
24							

@ 99.5, 5-10% Lithophysae.

RUNS DATES BITS	DRILLING RATE (ft/hr)				FLOW RATE (/ 5 ft)		DEPTH GRAPHIC LOG	LITHOLOGY/ REMARK
	0	10	20	0	50			
24 9.9/8.8 89%	20	70	120	50	100	13		



Total Depth@ 118.9
 Cumulative Totals: 118.9/114.7
 96%

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

Report Time: 7:30

Date: November 4, 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: November 3, 1992 (Rig Day 105)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0832	Service and warm up equipment.
0832 - 0929	Core run #207 from 937.15' - 939.26' (57 min.), Rec. 2.4'.
0929 - 0935	Pull and lay down core.
0935 - 1030	Pull out of the hole with the coring assembly.
1030 - 1045	Rig up to ream.
1045 - 1415	Ream cycle #66 from 919.08' - 934.33'.
1415 - 1430	Shut down and secure rig.
NOTE:	Rig shut down @ 1430 hrs. due to voting.
CORING:	Average air rate 754 SCFM Average vacuum rate 1264 SCFM
REAMING:	Average air rate 1323 SCFM Average vacuum rate 1404 SCFM

Ending Depth:	Cored 939.26'	Reamed 934.33'	Drilled 00.00'
Daily Footage:	Cored 2.11'	Reamed 15.25'	Drilled 00.00'

Drilling Rep: Dick Sowards, REECO
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 9-REECO; 1-USGS; 3-SMF
Visitors On Site: RSN - Lindquist; CLV - Douglas;

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

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

Report Time: 7:30 hrs
Date: November 4, 1992
Page: 1 of 1

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N57

Drill Rig: CME-850

Activity: Pull out of hole with coring assembly

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 3, 1992 (Rig Day 5)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0830	Service and start up rig and equipment.
0830 - 0852	Safety meeting.
0852 - 0900	Rig up to ream.
0900 - 1035	Ream cycle #3 from 74.51' - 94.51'.
1035 - 1110	Pull out of hole with Odex hammer. Trip in hole with coring assembly. Rerun RSN #33, a Christensen carbonado. Rig up to core.
1110 - 1152	Core run #20 from 94.51' - 99.51' (34 mins) 4.4' Rec.
1152 - 1201	Start core run #21.
1201 - 1231	Lunch.
1231 - 1316	Core run #21 from 99.51' - 104.51' (44 mins) 4.2' Rec.
1316 - 1406	Core run #22 from 104.51' - 108.99' (44 mins) 3.9' Rec.
1406 - 1430	Shut down and secure rig.

NOTE: Rig shut down @ 1430 hrs. due to voting.

Average Air Rates: Coring 398 SCFM
 Reaming 394 SCFM

Ending Depth: Cored 108.99 Reamed 94.51' Drilled 0'
Daily Footage: Cored 14.48' Reamed 20.00' Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 3-Visitors

Visitors On Site: RSN - Lindquist; REECo - Joyce; CLV/NV - Douglas

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony

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

Report Time: 7:30
Date: November 3, 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: November 2, 1992 (Rig Day 104)

HOURS FROM - TO	OPERATIONS DESCRIPTION
0800 - 0850	Service and warm up equipment.
0850 - 0946	Finish tripping the hole with core barrel and rods.
0946 - 1252	Core run #205 from 919.21' - 929.25' (186 min.), Rec. 9.9'.
1252 - 1325	Pull and lay down core.
1325 - 1559	Core run #206 from 929.25' - 937.15' (154 min.), Rec. 7.0'.
1559 - 1615	Pull and lay down core.
1615 - 1630	Shut down and secure rig.

NOTE: Installing dog house next to drillers station on rig.

CORING: Average air rate 708 SCFM
Average vacuum rate 1103 SCFM

REAMING: Average air rate N/A SCFM
Average vacuum rate N/A SCFM

Ending Depth:	Cored 937.15'	Reamed 919.08'	Drilled 00.00'
Daily Footage:	Cored 17.94'	Reamed 00.00'	Drilled 00.00'

Drilling Rep: Dick Sowards, REECO
A/E Rep: David Putnam, RSN
Personnel On Site: 1-RSN; 9-REECO; 1-USGS; 3-SMF
Visitors On Site: RSN - Lindquist; REECO - McDaniel;

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

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

Report Time: 7:30 hrs
Date: November 3, 1992
Page: 1 of 1

Job Package No.: 91-9, Phase 2 Revision 4

Station: USW UZ N57

Drill Rig: CME-850

Activity: Reaming

Objectives: 1) Mobilize drill rig & drilling system. 2) Continuous core with wire line coring system to a total depth of approximately $\pm 120'$. 3) Ream down core track while coring with 6-inch bit & 5.5-inch O.D. Odex steel casing. 4) Demobilize equipment. 5) Prepared final location and elevation survey.

REPORT FOR: November 2, 1992 (Rig Day 4)

HOURS FROM TO	OPERATIONS DESCRIPTION
0800 - 0830	Service and start up rig and equipment.
0830 - 0900	Safety meeting.
0900 - 0948	Work on rotating head.
0948 - 1037	Core run #15 from 69.51' - 74.51' (39 mins) 5.0' Rec.
1037 - 1056	Pull out of hole with coring assembly. Trip in hole with Odex hammer. Rig up to ream.
1056 - 1203	Ream cycle #3.
1203 - 1233	Lunch.
1233 - 1253	Ream cycle #3 from 54.48' - 74.51'.
1253 - 1322	Pull out of hole with Odex hammer. Trip in hole with coring assembly. Rerun RSN #33, a Christensen carbonado. Rig up to core.
1322 - 1353	Core run #16 from 74.51' - 79.51' (22 mins) 4.8' Rec.
1353 - 1426	Core run #17 from 79.51' - 84.51' (24 mins) 5.0' Rec.
1426 - 1503	Core run #18 from 84.51' - 89.51' (28 mins) 5.0' Rec.
1503 - 1545	Core run #19 from 89.51' - 94.51' (35 mins) 4.2' Rec.
1545 - 1600	Pull out of hole with coring assembly. Trip in hole with Odex hammer.
1600 - 1630	Shut down and secure rig.

Average Air Rates: Coring 266 SCFM
 Reaming 375 SCFM

Ending Depth:	Cored 94.51'	Reamed 74.51'	Drilled 0'
Daily Footage:	Cored 25.00'	Reamed 20.03'	Drilled 0'

Drilling Rep: Neal Walker, REECo

A/E Rep: James Anthony

Personnel On Site: 1-RSN; 4-REECo; 1-USGS; 3-SMF; 4-Visitors

Visitors On Site: REECo - Saxon, Roberts; SAIC - Linden; RSN - Lindquist

Field Report Prepared By: James Anthony

Office Report Prepared By: James Anthony and Richard Wright

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 11/6/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
11/4-6/92 Las Vegas, NV (Plaza Suite Hotel)	NWTRB SG&G Panel Workshop		Cooper (Hoffman-M&O)	M&O	Discuss ESF alternative design and construction strategies.
11/18/92 Bethesda, MD	ACNW WG Climate		Gil (LeRoy-M&O)		Discuss the potential for climate changes in Southern Basin and Range and the impact on natural processes affecting PA of potential repository at YM. Original scheduled 11/19/91, this has been rescheduled from 4/22/92.
Date and Location TBD	Interaction Planning Meeting	Bjerstedt (LeRoy-M&O)	Bjerstedt (LeRoy-M&O)	M&O	Discuss/plan DOE/NRC interactions for first half 1993. Previously scheduled 11/18/92.
11/18-20/92 Albuquerque, NM	DOE Workshop on Expert Judgment	Dyer/Boak (Yunker-M&O, Van Luik-M&O, Weaver-M&O)	Simmons (Hoffman-M&O)	M&O	Examine DOE's use of expert judgment for YMP, learn how other projects have used expert judgment, make recommendations for future use, fulfill NWTRB recommendation to hold workshop.

BOLD INDICATES REVISIONS AND NEW INFORMATION

**** = MEETINGS THAT ARE CLOSED TO THE PUBLIC**

WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 11/6/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
11/19-20/92 Bethesda, MD	ACNW 48th Meeting		Gil (LeRoy-M&O)		Review STP on fault avoidance. Consider potential impacts that different waste forms could have on repository performance. Discuss use of the collective dose concept in HLW repository licensing.
12/14-15/92 Rockville, MD	NRC TE: Total System Performance Assessment	Boak (Pahwa-M&O)	Bjerstedt (LeRoy-M&O)	M&O SNL PNL	
12/16/92 Bethesda, MD	ACNW WG on PA - Phase 2 HLW Interactive PA by NRC	Boak (Van Luik-M&O)	Gil (LeRoy-M&O)	M&O SNL	Will discuss progress of Phase 2 PA effort. Also will hear briefing from DOE on status of TSPA.
12/17-18/92 Bethesda, MD	ACNW 49th Meeting		Gil (LeRoy-M&O)		Agenda TBD.
1/27-28/92 Bethesda, MD	ACNW 50th Meeting		Gil (LeRoy-M&O)		Agenda TBD.
2/24-25/93 Bethesda, MD	ACNW 51st Meeting		Gil (LeRoy-M&O)		Agenda TBD.

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Delayed to early 1993 Albuquerque, NM	NRC TE: Volcanism	Cooper (Jerez-M&O)	Bjerstedt (LeRoy-M&O)	M&O LANL	Discuss DOE volcanism studies as detailed in LANL report.
Delayed to early 1993 (January) Albuquerque, NM	WIPP Roundtable discussion - NRC observation	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	M&O SNL PNL	NRC staff observe interaction between YMPO PA and WIPP PA. Previously scheduled 10/27/92.
Delayed to early 1993 (January) Carlsbad, NM	Tour of WIPP Site **	Boak (Van Luik-M&O)	Bjerstedt (LeRoy-M&O)	M&O	Previously scheduled 10/28/92.
1/5-6/93 Arlington, VA	NWTRB Full Board Meeting		Cooper (Hoffman-M&O)		M&O systems update and ESF and repository design follow-up.
2/93 or 3/93 TBD	NWTRB HG&G Panel Meeting		Cooper (Hoffman-M&O)		Agenda TBD.
4/20-23/93 Reno, NV	NWTRB Full Board Meeting		Cooper (Hoffman-M&O)		Agenda TBD.
6/1/93 TBD	NWTRB International Trip **		Cooper (Hoffman-M&O)		Agenda TBD.

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WEEKLY INTERACTIONS CALENDAR

STATUS OF DOE NWTRB, ACNW, AND NRC MEETINGS FOR WEEK ENDING 11/6/92

<u>DATE/LOC.</u>	<u>TOPIC</u>	<u>TECHNICAL LEAD (SUPPORT)</u>	<u>CONTACT (SUPPORT)</u>	<u>PARTICIPANT (SUPPORT)</u>	<u>COMMENTS</u>
7/12-15/93 Denver, CO	NWTRB Full Board Meeting		Cooper (Hoffman-M&O)		Agenda TBD.
10/19-22/93 Las Vegas, NV	NWTRB Full Board Meeting		Cooper (Hoffman-M&O)		Agenda TBD.

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WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES
10/30/92

<u>DESIGNATION</u>	<u>PLANNED START DATE</u>	<u>PLANNED END DATE</u>	<u>BACKFILL DATE</u>	<u>YMPO SITE CONTACT</u>	<u>COMMENTS</u>
Midway Valley Investigations	10/27/92	11/20/92	11/20/92	Sullivan	Trench MWV-T7 will be excavated within ESF North access site area.
Fran Ridge Test Pit No. 1	8/24/92	9/15/92	N/A	Girdley	Fracture network mapping underway.
Lathrop Wells Cinder Cone Volcanic Trenching	9/8/92	9/16/92	9/16/93	Cooper	Continuation of the volcanic studies.
Unsaturated Zone Borehole No. 16	5/27/92	3/24/93	N/A	Long	Unsaturated zone site characterization and vertical seismic profiling.
Neutron-Access Boreholes Phase II (12 boreholes)	8/3/92	TBD	N/A	Girdley	Core taken from these holes will be used by USGS for determination of moisture content and to construct tritium profiles.

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WEEKLY INTERACTIONS CALENDAR

DRILLING, TRENCHING, AND TEST PIT ACTIVITIES
10/30/92

<u>DESIGNATION</u>	<u>PLANNED START DATE</u>	<u>PLANNED END DATE</u>	<u>BACKFILL DATE</u>	<u>YMPO SITE CONTACT</u>	<u>COMMENTS</u>
North Ramp Geologic-6	11/16/92	2/12/93	N/A	Williams	Borehole to provide core to determine stratigraphic and engineering rock characteristics near planned ESF North Access Ramp. Estimated total depth 1100.

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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

NOV 13 1992

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

FIELD TEST COORDINATOR'S REPORT FOR THE WEEK ENDING NOVEMBER 6, 1992

UZ-16

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

Status as of November 6, 1992: Borehole UZ-16 continues to be drilled with the LM-300 drill rig. Coring continued from 919.21 feet to 979.18 feet and the borehole was reamed from 919.08 feet to 959.12 feet. On November 4, 1992, a deviation survey was run at a depth of 939 feet using a 7 degree tool. Deviation of the hole was found to be 2 degrees and 3 minutes off vertical. On November 5, 1992, a deviation survey was performed at a depth of 959 feet using a 7 degree tool. Deviation of the hole was found to be 2 degrees 7 minutes off vertical. Revised drilling procedures and use of a modified drill string assembly which had earlier been implemented in an attempt to return the borehole closer to vertical were discontinued during this reporting period. The deviation surveys have shown that no additional cumulative deviation of the borehole from vertical can be detected. Deviation surveys will continue to be conducted following reaming cycles to monitor this condition.

NEUTRON-ACCESS BOREHOLES

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

Status as of November 6, 1992: Drilling of borehole USW-UZN-57 with the CME-850 drill rig was completed on November 4, 1992. Total hole depth cored and reamed was 118.87 feet.

NRG-6

Scope of Activity: A borehole approximately 1100 feet in depth will be drilled using the Joy 225 drilling system. The primary purpose of this hole is to provide core for determination of stratigraphy and engineering characteristics of the rocks at or near the planned Exploratory Studies Facility North Access Ramp. Drilling is scheduled from November through December 1992.

Status as of November 6, 1992: NRG-6 drill and support equipment pad construction commenced on October 19, 1992. Drilling will begin in November 1992 following completion of the pad.

QUATERNARY FAULTING WITHIN THE SITE AREA INVESTIGATIONS

Scope of Activity: Pavements and trenches will be excavated to provide exposures of Quaternary deposits and faults for mapping by geologists from the USGS as described in Study Plan 8.3.1.17.4.6 Quaternary Faulting in the Site Area. Planned activities include excavation of new trenches and modification of existing trenches on the Windy Wash fault, Solitario Canyon fault, and Stagecoach Road fault, and modification of existing exposures of the Paintbrush Canyon fault west of Busted Butte in the sand ramps by developing pavements.

Status as of November 6, 1992: Geologic mapping, sampling, and interpretation continues on trench excavations completed during previous weeks in Midway Valley and Solitario Canyon.

MIDWAY VALLEY INVESTIGATIONS (JP 92-05)

Scope of Activity: Test pits and trenches are being excavated to provide exposures for mapping by geologists from the U.S. Geological Survey and Geomatrix Consultants, Inc., in the the Midway Valley area east of Yucca Mountain. The focus of this investigation is a determination of the location and recency of faulting near prospective surface facilities.

Status as of November 6, 1992: Excavation of Trench MWV-T7 continued through November 4, 1992. The trench is located in Midway Valley approximately 200 feet north of previously excavated trench MWV-T5A. The MWV-T7 excavation was dug by bulldozer to an initial depth of 20 feet. A determination whether or not to deepen the excavation is to be made next week to further investigate the bedrock structure, if deemed necessary. The primary objective of Trench MWV-T7 is to characterize the bedrock structures exposed in MWV-T5A.

SOIL AND ROCK PROPERTIES

Scope of Activity: Objectives of this investigation are to characterize the soil and rock conditions that will influence or be influenced by the construction of the Exploratory Studies Facility surface and subsurface access facilities. This activity is comprised of a total of 32 test pits and one drill hole (NRG-1). Ongoing Phase II activities include 41 additional test pits and pavement clearing at NRG-1.

Status as of November 6, 1992: No field activities were performed during this period.

CHARACTERIZATION OF STRUCTURAL FEATURES IN THE SITE AREA

Scope of Activity: Objectives of this investigation are to conduct prototype work for development of equipment and techniques for shaft mapping in the Exploratory Studies Facility. Developmental work is to be completed in an enlarged and deepened circular test pit on the east side of Fran Ridge. The area around the pit disturbed during the original excavation will be cleaned to the rock surface for use in pavement studies for Surface Fracture Network Studies.

Status as of November 6, 1992: No field activities were performed during this period.

VOLCANISM EXCAVATIONS

Scope of Activity: Test pits and trenches will be excavated at the Lathrop Wells Volcanic Center and at the Cima volcanic field in order to test alternative models of eruptive histories of cinder cone volcanic activity. The excavations will provide exposures of volcanic materials (lava flows, pyroclastic deposits) and soils for examination and collection of samples. Planned activities include collection of samples for age determinations by multiple methods, description and collection of samples for evaluation of soil development on volcanic units, exposure of contact relations to aid stratigraphic studies for mapping of volcanic centers, and collection of samples for petrologic analysis.

Status as of November 6, 1992: No field activities were performed during this period.

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BOREHOLE SECURITY

Scope of Activity: Objectives of this activity are the locking and securing of boreholes drilled during site characterization efforts and tracking of testing conducted in individual boreholes. Over 200 boreholes will be secured during the next several months.

Status as of November 6, 1992: A total of 30 boreholes to date have been secured with padlocks and caps completing Borehole Security Phase I activities.

If you have any questions, please contact Kenneth J. Skipper at 794-7944.

W. A. Girdley
for

Uel S. Clanton, Chief
Site Investigations Branch
Regulatory & Site Evaluation Division

~~SECRET~~ 1996

cc:

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- K. J. Skipper, USBR, YMP, NV
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