



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

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TO: Joseph Holonich, Director, HLPD, M/S 4 H 3
FROM: Sr. On-Site Licensing Representatives' Office, Las Vegas
DATE: November 24, 1993
SUBJECT: OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE
WEEK ENDING OCTOBER 29, 1993

Please find enclosed the above-referenced information. There is nothing requiring specific management attention.

cc: w/enc.: Charlotte Abrams, M/S 4 H 3
Anne Garcia, M/S 4 H 3
Dean Kunihiro, Region 5

Enclosure as stated

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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

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

OFFICE OF GEOLOGIC DISPOSAL (OGD) WEEKLY HIGHLIGHTS FOR THE WEEK ENDING
OCTOBER 29, 1993 (SCP: N/A)

I. FORECAST SIGNIFICANT EVENTS

Site Characterization Activities

Exploratory Studies Facility (ESF)

Design activities will continue with resolution of comments from the U.S. Department of Energy (DOE) Acceptance Review on the Basis For Design (BFD) for Packages 1B and 2A. Design activities will continue for Packages 1C, 2B, and 2C.

Complete the drilling of Multiple Position Borehole Extensometer (MPBX) holes and installation of the MPBX in the starter tunnel. Excavation will resume on the test alcove.

Construction will continue on the 69kVA power distribution system with the installation of the underground conduit and grounding grid for the temporary transformer.

Surface-Based Testing

Coring and reaming will continue at NRG-7. Coring and reaming operations are expected to continue at UZ-14. Phased removal of casing and downhole video camera logging is tentatively scheduled for Boreholes NRG-2A and NRG-2B. Cleanup of the bedrock pavement along a portion of the Ghost Dance fault will continue. Borehole gas permeability testing will begin at UZ-16 following removal of the stuck packer. Test alcove excavation will continue. Additional hydrochemistry tests and MPBX installation are scheduled in the alcove. Excavation of a drill pad and access road for Borehole SD-12 will continue. Mobilization of equipment to support C-Well testing activities is expected to begin.

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

A. Site Characterization Activities

ESF

Construction

Excavation was temporarily suspended on the test alcove to allow the set-up, drilling of holes to support the installation of an MPBX in the starter tunnel. The face of the test alcove is at 11 meters (00+36 feet), measured from the starter tunnel wall, as of October 29, 1993.

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Continued construction planning for the water system. Completed grading of right-of-way for the water line and began excavating the trench for the water line.

The following milestone represents the near-term plan for ESF activities:

69kVA power available at December 22, 1993
the North Portal

Design

Design activities continued on Packages 1B and 2A. Both packages are being prepared for verification. The BFD document for Packages 1B and 2A was baselined by the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) Change Control Board and submitted for a DOE Acceptance Review. Continuing design activities for Packages 1C, 2B, and 2C.

Exploratory drilling operations progress is summarized as follows:

<u>Borehole</u>	<u>Current Core Depth 10/29/93</u>	<u>Current Ream Depth 10/29/93</u>	<u>Total Planned Depth</u>
UZ-14	1,422.14 feet	1,421.6 feet	2,000 feet
NRG-7	120.00 feet	95.00 feet	1,445 feet

Drilling of the NRG-7 borehole started on October 21, 1993, and had been cored to 16.96 feet when drilling problems necessitated moving the drilling rig approximately 40 feet and restarting the hole on October 26, 1993. The second borehole has advanced to a core depth of 120 feet and ream depth of 95 feet. Moist core was recovered from about 81 feet to 90.9 feet and 103.1 feet through 108.1 feet. The bottom of the borehole is reported to be in bedded Paintbrush Tuff. The NRG boreholes are being drilled to investigate the geology along the north ramp of the ESF.

On UZ-14, cement grout emplaced on October 21, 1993 was cored from about 1,305 feet to 1,327 feet. The grout seal was determined to be leaking and additional grouting is scheduled for October 29, 1993. The bottom of the hole is reported to be in Calico Hills tuffs. The primary purpose of the UZ-14 borehole is to develop baseline unsaturated zone hydrologic data.

The U.S. Geological Survey (USGS) began moving equipment for air permeability testing onto the UE-25 UZ-16 location and testing is expected to start on November 1, 1993. A packer lodged at the bottom of the hole following completion of gas-phase testing is not expected to impact air permeability testing.

On Job Package (JP) 93-13, SD-12 Access Road and Drill Pad, construction of the access road and drill pad continues.

Maintenance of Area 25 roads is in progress.

On JP 93-12, Ghost Dance Fault Roadcuts, cleaning of the east pavement is underway. Direction was received to clean the entire pavement area.

The Bare Mountain Trench (BMT)-1 trench was geologically logged across the Bare Mountain Fault at Tarantula Canyon in Crater Flat this week.

On C-Well Complex Soil Remediation (Diesel Contaminated Soil), pits dug for soil remediation were backfilled. Preparation of the pad to support testing activities is in progress.

Seismic reflection lines were completed by Lawrence Berkeley Laboratory (LBL) investigators across the Ghost Dance fault near borehole on Yucca Crest.

On UE-25 NRG-2A and UE-25 NRG-2B, neutron geophysical logging was completed this week. Density logs are to be run in these holes next week.

Supported multiple shifts drilling efforts for USW NRG-7 and USW NRG-7/7A. Drilling support staff sampled and collected core and cuttings from 0.0 feet to 81.1 feet, as of October 28, 1993.

Created approximately 68 specimens from core samples for analysis by various Principal Investigators (PI).

Conducted four core examinations at the Sample Management Facility by USGS PIs.

Revising procedures and developing a procedure to address ESF sample collecting activities.

Continued to provide monitoring and oversight of prototype drilling tool development activities currently being conducted at Colorado School of Mines (CSM). The CSM is analyzing data collected from EXLOG vibration sub studies and is continuing work on development of the Core Rod Deviation Simulator.

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

SCP ACTIVITY	TITLE	COMMENTS
8.3.1.3.2.1	Mineralogy, Petrology & Rock Chemistry of Transport Pathways	Outcrop sampling
8.3.1.3.2.2	Mineralogic & Geochemical Alteration	Outcrop sampling
8.3.1.4.2.2	Structural Features within Site Area	Surface mapping, ESF mapping
8.3.1.8.5.1	Characterization of Volcanic Features	Test pits, trenching
8.3.1.14.2	Soil & Rock Properties of Potential Location of Surface Facilities	Test pits, trenching, ramp exploration holes
8.3.1.17.4.2	Location & Recency of Faulting Near Prospective Surface Facilities	Trench mapping
8.3.1.17.4.3	Quaternary Faulting within 100 km of Yucca Mountain (YM), Nevada	Surface mapping
8.3.1.17.4.4	Quaternary Faulting in NE-Trending Fault Zones	Surface mapping

SCP ACTIVITY	TITLE	COMMENTS
8.3.1.17.4.6	Quaternary Faulting within Site Area	Trench mapping
8.3.1.2.1.1	Precipitation & Meteorological Monitoring for Regional Hydrology	Ongoing measurements
8.3.1.2.1.2	Runoff & Streamflow	Ongoing measurements
8.3.1.2.2.1	Unsaturated Zone Infiltration	Drilling/logging of neutron-access holes; ponding tests
8.3.1.2.2.2	Water Movement Tracer Tests	C1-36 measurements
8.3.1.2.2.3	Percolation in Unsaturated Zone	UZ drilling/testing Perched water testing
8.3.1.2.2.4	Characterization of YM Percolation in UZ-ESF Investigation	Perched water
8.3.1.2.2.6	Gaseous Phase Movement in Unsaturated Zone	UZ drilling/testing
8.3.1.2.2.7	Unsaturated Zone Hydrochemistry	UZ drilling/testing
8.3.1.2.3.1	Site Saturated Zone Groundwater Flow System	Ongoing monitoring
8.3.1.2.3.2	Saturated Zone Hydrochemistry	Ongoing sampling
8.3.1.15.1.8	In Situ Design Verification	Construction monitoring/testing

Environmental Safety and Health Programs

Eight environmental compliance surveillances were conducted at the Yucca Mountain (YM), Nevada, site ensuring compliance with permit and programmatic requirements.

A Native American Tribal Update site visit to the YM area was sponsored. The Forty Mile Wash in Area 25 and Ash Meadows were visited. Approximately 20 Native American tribal representatives attended the two-day tour.

Remediation of the oil spills at the C-well complex was completed. The soil was tested, all contaminated soil was removed, and following discussions with the State of Nevada, the holes were backfilled.

Large Block Test

Drilling of blast holes to excavate the large block of Topopah Spring welded tuff was completed and blasting occurred on October 28, 1993. Mucking of blast materials is in progress. This activity is preparatory work for the Large Block Experiment - Phase I, to be conducted at the Fran Ridge site.

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Regulatory InteractionsSite Characterization Progress Report (PR)

Work continues on PR 9, which is now about 80 percent complete. Because late-arriving participant input postponed the start of CRWMS M&O technical review, the draft review has been delayed one week until November 12, 1993. This delay will be offset by a shortened comment incorporation period, and the December 3, 1993, date will be maintained for delivery of the revised PR to Headquarters (HQ) for concurrence. A new process has been developed in consultation with Ginger King, designated HQ contact, and is being implemented to monitor and expedite RW and DOE HQ concurrence on PRs.

Technical Analysis

The Technical Analysis Branch (TAB) Chief and one member of staff attended the Geological Society of America 1993 annual meeting in Boston, Massachusetts, October 25-28, 1993. The TAB Chief presented a paper entitled, "Chemical Stratigraphy and Diversity of Metasedimentary and Metavolcanic Rocks from the 3.8 GA Isua Supracrustal Belt, West Greenland: Implications for Early Archaean Crustal Evolution." The TAB staff member chaired a session titled, "Geologic Disposal of Nuclear Waste and the Risks to Public Health and Safety."

Performance Assessment (PA) staff provided a revised summary concerning the potential waste isolation impact of diesel exhaust emissions in the ESF. The original analysis had been presented at the recent DOE/U.S. Nuclear Regulatory Commission (NRC) Technical Exchange on ESF Title II Design. The revision included the benefits of using an emission control system. Although the emission control system greatly reduced some exhaust constituents, others were not impacted. Overall, the conclusions still indicate that full underground diesel operations may have an adverse impact for waste isolation.

The PA staff has developed a waste isolation limit for point source discharge of water at the surface of the YM site. Currently water use is limited to 9 mm/day (2 gal/yd²/day) for distributed surface discharge. A bounding calculation was performed to establish a waste isolation limit using an analytical solution for a steady point discharge into an infinite, homogeneous, unsaturated, three-dimensional domain. The solution to the calculations result in a limiting discharge of 3.3 mm/day (870 gal/day) for point discharges.

The PA staff is working with the hydrology technical staffs at USGS, LBL, and Los Alamos National Laboratory (Los Alamos) to review and coordinate the discrete fracture and continuum representations evaluation for fracture porous materials, the 8.3.1.2.2.9 - Unsaturated Zone Modeling and Synthesis work, and flow modeling progress made under Study Plan (SP) 8.3.1.3.7.1 - Retardation Sensitivity Analysis. The latter two studies provide three-dimensional multiphase flow modeling capability to PA.

Site Characterization Plan/SP Status

No new SPs were approved by the Yucca Mountain Site Characterization Project Office (YMPO) this week.

STUDY PLAN BREAKDOWN

	Initial Plans	Major Revisions
Not Submitted to YMPO.....	38	0
In Screening Review	0	0
In YMPO Review	0	0
Awaiting Comment Resolution	5	3
In Verification Audit	4	1
Awaiting YMPO Approval	0	0
Awaiting Submission to NRC	0	0
Awaiting NRC Phase 1 Review	11	5
Accepted by NRC	46	5
Totals	<u>104</u>	<u>14</u>
Total Submitted to NRC	57	10

State of Nevada Comments Status:

Received Comments from the State of Nevada..... 19
 Responses Transmitted to the State of Nevada 19

NRC Comments Status:

Received Comments from NRC 26
 Responses Transmitted from DOE to NRC 24

B. Project Planning and Control

Loaded Monitored Retrievable Storage cost and schedule test data.

Scheduled a meeting of the Working Integration Team (WIT) to review Planning and Control System fiscal year (FY) 1994 schedules and identify inter-participant and inter-Work Breakdown Structure (WBS) relationships. The meeting is planned for November 3-5, 1993.

Developed methods and documentation to update, status, and maintain the FY 1994 integrated schedule. This will be briefed and distributed at the next WIT meeting.

C. Quality Assurance ImplementationQuality (Q)-List Procedure Development

An Interim Change Notice on Administrative Procedure 6.17Q to resolve a Corrective Action Report was submitted to DOE for approval.

Q-List and Management Control (MC)-List Implementation

Revisions to the Q-List and the MC-List to incorporate the natural barriers was submitted to DOE for approval.

The Assessment Team Controlled List, Revision 18, was submitted to the Assessment Team Manager for approval.

Cancellation of the Quality Activities List and the Project Requirements List completed Quality Assurance Procedure 6.2 review. These were submitted to DOE for approval.

III. GENERAL INFORMATION ITEMS

Regarding WBS 1.2.5.4.2 (Waste Package Performance Assessment), Lawrence Livermore National Laboratory (LLNL) provided the Sandia National Laboratories (SNL) performance assessment team with time histories of spent fuel rod temperatures for the 114 and 57 kW/acre areal power densities and for locations at the center and edge of the repository. These temperature-time histories were determined by blending results of SNL and LLNL thermal calculations at various spatial scales.

David Vaniman of Los Alamos reports that a large block of laminated calcite from the north wall of Trench 14 was dissected to prepare a series of thin sections representing the varieties of laminae in the main splay of the Bow Ridge fault. The block will be mapped following petrographic analysis of the thin sections. This map completes the set that will be included in the Los Alamos report on calcite-silica deposits in Trench 14. This report is an important basis document for the analysis of INAA chemical data listed in YMP/93-11-R ("Report on the Origin of Calcite-Silica Deposits at Trench 14 and Busted Butte and Methodologies Used to Determine Their Origin").

The following Los Alamos papers were submitted to YMPO for approval this week:

- Milestone 3342, "Progress Report on Analyses of Core, Cuttings, and ESF samples for Alteration History," by Schon Levy.
- Abstract to be submitted to fall meeting of the Materials Research Society, "Surface Reactions of Goethite Observed by AFM," by Marilyn Hawley and Pamela Rogers.
- Los Alamos report, "Transport of Synthetic Colloids through Single Saturated Fractures: A Literature Review," by Paul Reimus.

The SNL staff continued design verification activities in the ESF north ramp starter tunnel. These activities are being conducted under SP 8.3.1.15.1.8, "In Situ Design Verification." This week, the holes for the MPBX were drilled in preparation for installation of the extensometers. Installation of the rockbolt load cells in the main starter tunnel was completed. These load cells (and the MPBX gages) will be read manually until the data acquisition system (DAS) is installed and functioning. Next week, SNL field crews will begin installation of the MPBXs. Installation of junction boxes and conduit for instrumentation cables and the DAS will also be started. There is a serious question as to whether the DAS can be operated until permanent power is installed at the ESF portal. This is not expected until June 1994. Until then, 24 hour-per-day, 7 days-per-week generator power would be required to operate the DAS.

As part of a separate construction monitoring effort, SNL has been monitoring the closure of the tunnel at key locations. Monitoring continued at two stations on the girders in the first 30 feet of tunnel, the three load cells on the high wall, and the load cells installed in the starter tunnel. The intent of this activity is to provide data to the constructor so that they can make continuous evaluations of safety conditions as construction proceeds.

The draft program activities for rodent population control in Area 25 was submitted to the Site Manager.

Researched and reported Mine Safety Appliances and Filter Self Rescuer directives on shelf life, service life, and inspection.

The USGS had seismic lines run of YM across the Ghost Dance fault near Borehole USW WT-2, in Drillhole Wash west of the subdock, and on Yucca Crest north of Borehole USW UZ-6. Mapping of geologic structures related to the Paintbrush Canyon Fault was performed in Paintbrush Canyon.

The USGS completed preliminary logging of the new BMT-1 trench across the Bare Mountain Fault at Tarantula Canyon in Crater Flat this week.

IV. PUBLIC OUTREACH AND INSTITUTIONAL ACTIVITIES

A Public Open House tour of YM was coordinated and conducted on October 23, 1993, for approximately 344 people. Tour participants visited the Yucca Mountain Science Centers (YMSC), the Field Operations Center, two laboratories, the LM-300 drill rig, the top of YM, and the ESF north portal construction area.

Tours to YM were conducted on October 26, 1993, for five guests of the National Association of Regulatory Utility Commissioners (NARUC); on October 27, 1993, for 30 guests of Daedalians; and on October 28-29, 1993, for a Native American Program update. Gave a pretour briefing to NARUC at the Las Vegas, Nevada, YMSC.

Two educational presentations were given on October 26, 1993, on careers to 300 students at J. S. Park Elementary School in Las Vegas, and on rocks to 25 students at McMillan Elementary School in Las Vegas. An educational presentation was also given, as Yucca Mountain Johnny, to 125 students at Pahrump Intermediate School in Pahrump, Nevada, on October 28, 1993.

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Ace Robison, YMPO, spoke at the final session of the YMP Critical Thinking Workshop at the YMSC in Las Vegas, on October 25, 1993.

Gave a presentation on Native American Indian culture to 27 students at Paradise Elementary School in Las Vegas, on October 27, 1993.

Gave a general YMP overview to 30 women at the National Organization for Women meeting in Las Vegas, on October 23, 1993. General YMP overviews were also given to 15 guests of the Las Vegas Breakfasters Lions Club in Las Vegas, on October 28, 1993, and to 50 people at the Remediation Opportunities Conference in McLean, Virginia, on October 28, 1993, and the Public Service Electric and Gas Company in Salem, New Jersey, for 50 attendees on October 29, 1993.

The YM Speakers Series presentation, "Water: How to Go with the Flow," was presented at the Las Vegas YMSC on October 26, 1993, and at the Beatty, Nevada, YMSC on October 28, 1993. Total attendance for these presentations was approximately 30 people.

Institutional and External Affairs (IEA) staffed a YMP exhibit for the Geological Society of America conference in Boston, Massachusetts, October 25-28, 1993. Approximately 400 people visited the displays.

The IEA staff attended the White Pine County Commission meeting in Ely, Nevada, on October 29, 1993.

The monthly New Work Update video was distributed by IEA staff on October 29, 1993.

The IEA staff completed production of a five-minute video tour of the Hydrologic Research Facility (HRF). The video is narrated by HRF Director, Dr. Alan Flint. More than 100 VHS copies have been distributed to YMP participants and DOE offices. The video was also used for the first time on the October 25, 1993, Open House tour.

The IEA staff attended the JASON Committee meeting at the Clark County School District (CCSD) School and Community Partnership Office in Las Vegas, on October 25, 1993. They also attended a fund raiser committee meeting on October 28, 1993.

Six CCSD Middle and High School teachers who are members of the YMP Teacher Steering Committee met for the first time at the YMSC on October 27, 1993.

V. UPCOMING EVENTS CALENDAR

Please note that the usage of "(P)" in the calendar indicates that the event is open to the public. Educational presentations and State and Public Interactions are coordinated by the Speakers Bureau; contact Jacqueline Brandt at (702) 794-7896 or Theresa Hirsch at (702) 794-7759 for additional information. Exhibits are coordinated by Joanna Magruder at (702) 794-7056, Public Update Meetings are coordinated by Rick Moore at (702) 794-7769, and Tours are coordinated by Carleen Hill at (702) 794-7375 or Kelly Doyle at (702) 794-7133.

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
A. <u>Stakeholders Meetings</u>			
No significant meetings to report.			
B. <u>DOE/HQ Meetings</u>			
Tuesday, December 7	OCRWM Director's Program Review	Videoconf.	L. Smith
C. <u>CRWMS M&O/DOE Meetings</u>			
Thursday, November 4	CRWMS M&O Program Management Review	Las Vegas, NV	R. Dyer
D. <u>Internal and DOE/Nevada Operations Office (NV) Meetings</u>			
Friday, October 29	Technical Project Officers Meeting	Las Vegas, NV	R. Dyer
Friday, October 29	Planning and Budget Meeting	Las Vegas, NV	R. Dyer
Friday, October 29	YMPO Monthly Management Meeting	Las Vegas, NV	R. Dyer
Wednesday, November 17	NV Monthly Program Review	Las Vegas, NV	R. Dyer
E. <u>NRC Interactions</u>			
Wednesday, November 17	Seismic Hazards Assessment Technical Meeting (P)	Washington, DC	T. Bjerstedt
Thursday, November 18	Interactions Scheduling Manage- ment Meeting (P)	Washington, DC	T. Bjerstedt
F. <u>Nuclear Waste Technical Review Board (NWTRB) Interactions</u>			
Monday- Tuesday, November 1-2	NWTRB Joint T&S/ Engineered Barrier System Panel Workshop (P)	Dallas, TX	J. Nesbit
Monday, November 22	NWTRB Panel on Environmental & Public Health (P)	Washington, DC	J. Nesbit
Monday- Wednesday, January 10-12, 1994	NWTRB Full Board Meeting (P)	Arlington, VA	J. Nesbit

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>YMPO Contact</u>
F. <u>NWTRB Interactions (Continued)</u>			
January or February 1994 (Tentative)	NWTRB - SG&G Panel (P)	TBD	J. Nesbit
Monday- Wednesday, April 11-13, 1994	NWTRB Full Board Meeting (P)	Reno, NV	J. Nesbit
Monday- Wednesday, July 11-13, 1994	NWTRB Full Board Meeting (P) (Tentative)	Denver, CO	J. Nesbit
Wednesday- Friday, October 12-14, 1994	NWTRB Full Board Meeting (P) (Tentative)	Las Vegas, NV	J. Nesbit
G. <u>Advisory Committee on Nuclear Waste (ACNW) Interactions</u>			
Monday- Tuesday, November 15-16	ACNW 59th Meeting (P)	Bethesda, MD	A. Gil
Monday, December 13	ACNW 60th Meeting (P)	Las Vegas, NV	A. Gil
Tuesday, December 14	ACNW Working Group on Unsaturated Zone Hydrology (P)	Las Vegas, NV	A. Gil
Wednesday, December 15	ACNW Site Tour at YM (P)	Las Vegas, NV	A. Gil
H. <u>National Academy of Sciences (NAS) Interactions</u>			
Tuesday- Wednesday, November 9-10	NAS Committee on YM Standards (P)	Las Vegas, NV	S. Jones
Thursday- Friday, December 16-17	NAS Committee on YM Standards (P)	Washington, DC	S. Jones
Monday- Tuesday, February 7-8, 1994	NAS Committee on YM Standards (P)	TBD	S. Jones
Thursday- Friday, April 28-29, 1994	NAS Committee on YM Standards (P)	TBD	S. Jones

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<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u>			
Tuesday, November 2	Pahrump 5th & 6th Grade Center - Volcanoes	Pahrump, NV	D. Merritt
Tuesday, November 2	University of Nevada, Las Vegas, Natural Resources Class - General Overview and Geology	Las Vegas, NV	A. Gil
Tuesday, November 2	Paradise Elementary Native American Indian Culture	Las Vegas, NV	R. Arnold
Wednesday, November 3	Pahrump Intermediate School - Native American Indian Culture	Pahrump, NV	R. Arnold
Thursday, November 4	Las Vegas Breakfasters Lions Club - Earthquakes	Las Vegas, NV	J. Savino
Thursday, November 4	Discover Southern Nevada - General Overview	Las Vegas, NV	A. Robison
Friday, November 5	Fitzgerald Elementary School - Science	N. Las Vegas, NV	J. Blink
Friday, November 5	Pahrump Junior High School - Volcanoes and Earthquakes	Pahrump, NV	J. Nesbit
Friday, November 5	Clyde Cox Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Friday, November 5	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Saturday, November 6	Derfelt Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 8	Green Valley Kiwanis - Earthquakes	Henderson, NV	J. Savino

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Monday, November 8	Cannon Middle School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 8	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Tuesday, November 9	Clark High School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Tuesday, November 9	Pahrump 5th & 6th Grade School - Earth & Fossils	Pahrump, NV	A. Gil
Wednesday, November 10	Lowman Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Thursday, November 11	International Brotherhood of Electrical Workers - General Overview	Las Vegas, NV	D. Bradford J. Peck
Friday, November 12	Ruby Thomas Elementary School - "Gee Whiz Science"	Las Vegas, NV	J. Blink
Tuesday, November 16	Nevada Environmental Conference - Environment	Reno, NV	M. Blanchard
Tuesday, November 16	Society for Mining, Metallurgy, and Exploration - General Overview	Pomona, CA	D. McKenzie
Wednesday, November 17	Moapa Rotary Club - General Overview	Moapa Valley, NV	A. Robison
Wednesday, November 17	Republican Women - General Overview	Boulder City, NV	J. Younker
Wednesday, November 17	American Society of Civil Engineers - General Overview	Long Beach, CA	J. Replogle

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Thursday, November 18	American Nuclear Society (ANS) Results of In-Situ Testing at Geologic Disposal Sites	San Francisco, CA	R. Dyer
Sunday, November 21	YM Speakers Series - "Archaeology in Perspective" (P)	Pahrump, NV	W. Johnson
Monday, November 22	Pahrump 5th & 6th Grade Center - "Gee Whiz Science"	Pahrump, NV	J. Blink
Monday, November 22	George Harris Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Tuesday, November 23	Variety School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Tuesday, November 23	Pahrump 5th & 6th Grade Center - "Gee Whiz Science"	Pahrump, NV	J. Blink
Wednesday, November 24	Will Beckley Elementary School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Monday, November 29	Beatty Elementary School - Fossils	Beatty, NV	M. Pendleton
Tuesday, November 30	YM Speaker Series - "Archaeology in Perspective" (P)	Las Vegas, NV	W. Johnson
Thursday, December 2	YM Speaker Series - "Archaeology in Perspective" (P)	Pahrump, NV	W. Johnson
Friday, December 3	G. C. Wallace Engineers & Architects - General Overview	Las Vegas, NV	J. Peck
Monday, December 6	George Harris Elementary School - YM Johnny	Las Vegas, NV	J. Hartley

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Speaker</u>
I. <u>State and Public Interactions</u> (Continued)			
Wednesday, December 8	Court Continuation School - Native American Indian Culture	Las Vegas, NV	R. Arnold
Saturday, December 11	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Friday, December 31	Widowed Persons Group - General Overview	Las Vegas, NV	J. Peck
Wednesday, January 19, 1994	Roy Martin Junior High School Native American Indian Cultures	Las Vegas,	R. Arnold
Tuesday, January 25, 1994	YM Speaker Series - "Constructing a Tunnel to Study a Mountain" (P)	Las Vegas, NV	D. McKenzie J. Peck
Thursday, January 27, 1994	YM Speaker Series - "Constructing a Tunnel to Study a Mountain" (P)	Beatty, NV	D. McKenzie J. Peck
Saturday, February 12, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Sunday, February 27, 1994	Waste Management Symposia - TBD	Tucson, AZ	TBD
Sunday, March 20, 1994	Risk Management Quarterly Association - TBD	San Diego, CA	TBD
Saturday, April 2, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
Saturday, June 4, 1994	Girl Scouts - Geology Merit Badge Workshop	Las Vegas, NV	Various
<u>Date</u>	<u>Event</u>	<u>Location</u>	
J. <u>Exhibits Scheduled</u>			
Monday, November 8	Public Update Meeting	Pahrump, NV	

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<u>Date</u>	<u>Event</u>	<u>Location</u>
J. <u>Exhibits Scheduled</u> (Continued)		
Tuesday, November 9	Public Update Meeting	Las Vegas, NV
Wednesday, November 10	Public Update Meeting	Reno, NV
Thursday- Sunday, November 11-14	American Indian Science and Engineering Society	Spokane, WA
Saturday, November 13	Boy Scouts Expo '93	Las Vegas, NV
Sunday- Tuesday, November 14-16	Nevada Environmental Conference	Reno, NV
Sunday- Wednesday, November 14-17	ANS	San Francisco, CA
Saturday, November 17	Public Open House (P)	Yucca Mountain, NV
Saturday, December 4	Public Open House (P)	Yucca Mountain, NV
Monday- Friday, December 6-10	American Geophysical Union	San Francisco, CA
Monday- Friday, December 13-17	Migration '93	Charleston, SC

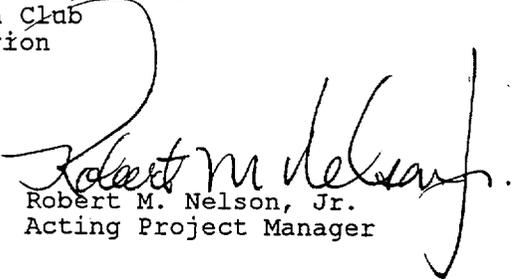
<u>Date</u>	<u>Event</u>	<u>Escorts</u>
K. <u>Tours Scheduled</u>		
Monday, November 1	Japanese Radioactive Waste Management	TBD
Wednesday, November 3	CRWMS M&O Headquarters	TBD
Wednesday, November 3	SNL	L. Shephard N. Elkins
Wednesday, November 17	Public Open House (P)	Various Escorts
Tuesday, November 23	Sun City B'nai Brith	TBD

Daniel A. Dreyfus

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<u>Date</u>	<u>Event</u>	<u>Escorts</u>
K. <u>Tours Scheduled</u> (Continued)		
Monday, November 29	NAS Tunnel Technology Committee	TBD
Saturday, December 4	Public Open House (P)	Various Escorts
Monday, December 6	Stoller Corporation	TBD
Wednesday, December 8	Clark High School	TBD
Wednesday, December 15	ACNW	A. Gil
Wednesday, November 15	YMP Orientation Tour	A. Stephenson
Saturday, January 22, 1994	Public Open House (P)	Various Escorts
Saturday, February 26, 1994	Public Open House (P)	Various Escorts
Thursday, March 31, 1994	National Council, State Garden Club Specific Region Convention	TBD

YMP:RVB-670



Robert M. Nelson, Jr.
Acting Project Manager