



Department of Energy

Washington, DC 20585

MAR 10 1993

Mr. Joseph J. Holonich, Director
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Holonich:

The enclosed Yucca Mountain Site Characterization Project participant monthly status reports are forwarded for your information. If you have any questions on the enclosed reports, please contact Priscilla Bunton at (202) 586-8365.

Linda J. Desell, Chief
Regulatory Integration Branch
Office of Civilian Radioactive
Waste Management

Enclosures:

- MLM shuf*
- (1) EG&G/EM Remote Sensing Laboratory Support to the Yucca Mountain Site Characterization Project, January 1993
 - (2) Lawrence Livermore National Laboratory Yucca Mountain Project Status Report, January 1993
 - (3) Los Alamos National Laboratory Monthly Activity Report Highlights, January 1993
 - (4) USGS Yucca Mountain Project Monthly Summary, January 1993

120059

9303170078 930310
PDR WASTE
WM-11 PDR

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WM-11
NH03*

cc: (w/out encl.)
C. Gertz, YMPO
(w/encl.)
Ken Hooks, NRC
T. J. Hickey, Nevada Legislative Committee
R. Loux, State of Nevada
D. Bechtel, Las Vegas, NV
Eureka County, NV
Lander County, Battle Mountain, NV
P. Niedzielski-Eichner, Nye County, NV
W. Offutt, Nye County, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
J. Pitts, Lincoln County, NV
J. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, CA

*rec'd with memo
dtd 3/10/93*

Submitted to
Project Office
Liaison **9.2**



EG&G ENERGY MEASUREMENTS

Las Vegas Area Operations

EG&G ENERGY MEASUREMENTS, INC., P. O. BOX 1912, LAS VEGAS, NEVADA 89125

TEL (702)

WBS 1.2.5.3.6
QA: NA

February 19, 1993
NV-93-123

I-33776830

Mr. Carl P. Gertz, Project Manager
U.S. Department of Energy
Yucca Mountain Site Characterization Project Office
101 Convention Center Drive
Las Vegas, NV 89109

JANUARY 1 - JANUARY 31, 1993 PROGRESS REPORT - EG&G/ENERGY MEASUREMENTS REMOTE SENSING LABORATORY SUPPORT TO THE YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Enclosed is a progress report on the EG&G Energy Measurements (EG&G/EM) Remote Sensing Laboratory (RSL) support to the Yucca Mountain Site Characterization Project (YMP) for January 1, 1993 through January 31, 1993.

The progress report for EG&G/EM RSL support to YMP includes the following sections:

- o Work Accomplished
- o Expenditures
- o Status of Deliverables

If you have any questions, please contact Elaine Ezra at (702) 794-7449.

James Michael

James Michael, Manager
NV Program

CE:ns

Enclosures

DIVISION _____

RECORD SOURCE *Dyer*

cc *Dixon/Ryder*

cc *Brodsky/Gandi*

cc *Hampton-Ray / s. Jones*

cc *Schneppcast/Simmons*

cc *Loell/Morris*

cc *Gertz/OCB Oel/Robison*

cc *Williams/Grassmeier*

REC'D IN YMP *Blanchard*
2/19/93 102.8

w/c

*Lorenz
Newbury
SAIC [McCann
Sommer*

~~9303170083~~ 930310

Carl P. Gertz

**JANUARY 1 - JANUARY 31, 1993 PROGRESS REPORT - EG&G/ENERGY
MEASUREMENTS REMOTE SENSING LABORATORY SUPPORT TO THE
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT**

February 19, 1993

Page 2

cc: S. Ronshaugen, DOE/NV EMD (w/o encl)
M. Blanchard, DOE/YMP (w/o encl)
S. Bodnar, M&O (w/o encl)
W. Dixon, DOE/YMP (w/o encl)
M. Dockter, DOE/NV (w/o encl)
R. Dyer, DOE/NV (w/o encl)
K. Grassmeier, DOE/YMP (w/o encl)
J. Lorenz, REECo/YMP
C. Newbury, DOE/YMP
A. Robison, DOE/YMP (w/o encl)
M. Ryder, DOE/YMP (w/o encl)
A. Simmons, DOE/YMP
D. Williams, DOE/YMP (w/o encl)
W. Wilson, DOE/YMP

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.3 **SITE INVESTIGATIONS**

WBS 1.2.3.1 **SITE INVESTIGATIONS COORDINATION AND PLANNING**

REPORT PERIOD: **January 1, 1993 - January 31, 1993**

REPORT DATE: **February 19, 1993**

RESPONSIBLE INDIVIDUAL: **D.W. Brickey**

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. David Brickey attended the January 11 meeting in Denver, hosted by the USGS, to view the Lynx Geosystems 3-D visualization software demonstration.
2. A Silicon Graphics Inc. (SGI) R4000 Indigo was installed at the YMPSO for evaluation. IRIS Explorer software (SGI's 3-D modeling software) is resident on the system, and is under evaluation along with SGI's video and audio tools.
3. A follow-up meeting for continued planning will be conducted.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Jim Nelson (SAIC-Golden) will send an ASCII formatted cross-section file generated using the Lynx Geosystems software and Garth Kirkham (Lynx) will send a WaveFront formatted 3D model export file so that the Dynamic Graphics conversion effort can be initiated.
2. David Brickey will attend a meeting to discuss UNLV visualization capabilities and possible support to the YMP.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

WBS 1.2.5.3.5 TECHNICAL DATABASE INPUT

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Digitizing of the 1:6,000 scale disturbance features that were mapped by EG&G/EM from the 1990 orthophotographs continued.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Digitizing of the EG&G/EM generated data will continue and preparation of data records packages will continue.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

**WBS 1.2.5.3.6 GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536A GENISES TECHNICAL DATABASE

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: J. Beckett

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. A meeting with Jim Beckett and Gillian Hall (LANL) was held on January 6 at the YMPSO to discuss the Tracers, Fluids and Materials database.
2. A meeting was held with John Gauthier (M&O) on January 7 at the YMPSO to discuss a Global Test Interference Database. This database will be used to depict and evaluate the possible interference between existing and planned tests at any location.
3. A meeting was held with Pat McKinley (USGS) on January 13 at the YMPSO to discuss USGS backlog of submittals to the GENISES Technical Database and possible impacts of the Parameter Dictionary on TDIFs previously entered in the ATDT.
4. A meeting was held with Jerry Lorenz (REECo) on January 14 at the YMPSO to discuss seismic data and map products for a seismic technical display. Jerry asked that we track down geodetic quadrilateration and regional faults site locations.
5. A meeting was held with Bruce Stanley, John Hill, Bill Kennedy and Edward Fitch (RSN) on January 21 at the YMPSO to discuss how to bring drawings and survey data into the GENISES Technical Database. The Technical Data Management System was discussed, including the requirement for participants to submit data to the TDB with a TDIF. GENISES staff will review Title I and II drawings and arrange a follow-up meeting with RSN staff.

6. A meeting was held with Ralph Schneider (SAIC/FOC), Ardyth Simmons, Steve Bodnar, Elaine Ezra and Jim Beckett on January 26 at the YMPSO to discuss FOC data requirements and applications for GIS. Initial applications include the need for basemap layers such as roads, UTM grid, topography, geofeature annotations, and facilities. The FOC GIS system will be used to provide maps to field personnel. Technical Data Management System requirements and procedures were discussed.
7. A report identifying problems with the data submittals to the SEPDB that make up the backlog was prepared and submitted to Ardyth Simmons.
8. GENISES Technical Data Catalog Quarterly Input for October 1992 through December 1992 was prepared and submitted to Bob Lewis (M&O).
9. Processing of EG&G/EM generated data into the GENISES Technical Database continued. A data record package for the EG&G/EM data generated in support of the Site Atlas was initiated.
10. Processing of seismic data for California and Nevada (1872 to 1990) was completed.
11. Automation of preliminary borehole stratigraphy data into a database continued for the Sample Management Facility.
12. An inventory of all products (maps, aerial photographs and image processing) generated by EG&G/EM for the YMP since January 1989 was completed.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Jim Beckett and Robert Lewis (M&O) will travel to USGS (Denver) during the week of February 1 - 3 to discuss the technical data backlog, and impacts of the Parameter Dictionary on previously submitted TDIFs.
2. A GENISES TDB staff representative will attend the Parameter Dictionary meeting scheduled for February 9.
3. David Von Seggern (University of Nevada at Reno Seismological Laboratory) will tour the YMPSO on February 10 to discuss the GENISES TDB and have a demonstration of the ArcView software.

4. A meeting is scheduled with Norma Bigger (M&O) and Ardyth Simmons on February 10 to discussed planned surface-based testing activities and a process for submitting information about these activities to the YMP Technical Database.
5. Carl Johnson (State of Nevada) is scheduled to visit the YMPSO on February 12 to view map and image product catalogs.
6. Table of Contents for the SEPDB backlogged data record packages will be prepared.
7. The GENISES TDB design report will be completed.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

**WBS 1.2.5.3.6 GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536B SITE ATLAS

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: B. Kistler

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Planning for the FY93 Site Atlas continued. The FY92 Site Atlas was internally reviewed and some format changes were recommended, including: change the size of the Site Atlas from a non-standard 14" x 22" to a standard 11"x 17" to reduce printing costs, allow xerox copies without reduction and generate additional color copies on the YMPSO color printer; change the binding from screws to spiral binding so that it can be laid flat; add a tabular report volume with additional descriptive information for existing and planned activities. A survey requesting input for improvements was prepared for the Participants who received the 1992 Site Atlas and provided to DOE/YMPO for approval and distribution.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Responses to the Site Atlas survey will be reviewed and comments incorporated into the planning for the 1993 Site Atlas.
2. A meeting with the Site Investigations group (M&O) will be conducted to explore cooperative activities associated with identifying and tracking planned surface-based investigations.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

**WBS 1.2.5.3.6 GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536C GIS, MAPPING AND ANALYSIS

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Miscellaneous GIS map products were generated to support project participants and are detailed in the "Deliverables" statement.
2. Other "non-map" products include the following:
 - A tabular listing of Nevada State Plane coordinates for proposed deep seismic shothole locations was prepared for on January 5 for Jim Agnew (M&O).
 - One copy each of sheets 33-36 of the B&W 1:12,000 scale orthophotos was provided to Dennis O'Leary (USGS) on January 6.
 - A tabular listing of UTM coordinates for UZ13, UZ14, UZ7, UZ5 and UZ4 was provided to Merrick Whitfield on January 6.
 - A tabular listing for UE-25c boreholes, including borehole ID, depth, and holesize was prepared for Evan Paleologos (INTERA) on January 7.
 - A tabular listing and digital copy of proposed and existing boreholes with borehole ID, position, elevation, depth and date completed was prepared for Gillian Hall (LANL) on January 15 as input to the Tracers, Fluids and Materials Database.

- Digital versions of Arc/Info coverages were provided to Jaime Gonzales (DOE/YMP) on January 19 in DXF file format for input to PC Autosketch software, including: political boundaries, buildings, conceptual controlled area boundary, ESF layout, faults, conceptual perimeter drift boundary, proposed boreholes, ramps, transportation, and trenches.
- One color viewgraph of boreholes was prepared and provided to Richard Weeks (SAIC) on January 21 for an NRC presentation.
- A tabular report listing of surface-based tests by date was prepared for John Gauthier (M&O) on January 25 for preliminary planning for the Global Test Interference database.
- One color viewgraph of trenches was prepared and provided to Ron Nance (SAIC) on January 28 for a TPO meeting presentation.
- One 16 x 20" print of an aerial view of Yucca Mountain Study Area was provided to Allison Inglett (SAIC) for Carl Gertz on January 28.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Continued level-of-effort.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

**WBS 1.2.5.3.6 GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536D REMOTE SENSING

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. A preliminary meeting was held with Bruce Crowe (LANL) regarding his need for orthophotographs to be generated for an area covering Sleeping Butte, and Red and Black Cones, with digital elevation contours at a 10 foot contour interval.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. A letter to YMP Participants will be generated requesting input on any FY93 aerial photography acquisition requirements.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 **REGULATORY**

WBS 1.2.5.3.6 **GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536E **COMPUTER SUPPORT**

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: C.W. Logan

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Continued progress was made on the hardware/software configuration plan.
2. Input to the Fiscal Year 1995 Information Resources Management Long Range Plan was prepared and submitted to YMPO.
3. Software support for the 3-8 node INGRES upgrade at the RSL YMP Support Office and the 1-2 node INGRES system at RSL Nellis was ordered.
4. Two 1.3 gigabyte harddisks were ordered for the YMPSO GENISES TDB system.
5. Updates to Dynamic Graphics, Inc. software (Directed Well Display 3.0 and Display File Output 2.0) were received.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Dynamic Graphics, Inc. updates to Directed Well Display 3.0 and Display File Output 2.0 software modules will be installed on the SGI 3-D modeling workstation at the YMPSO. EarthVision 1.0, a new major integrated software release from Dynamic Graphics, Inc. is expected. It will replace all previous Dynamic Graphics software by the end of CY93.
2. Input to the FY94 IRM Short Range Plan will be initiated.

3. Two additional ArcView licenses will be installed on the YMPSO GENISES system.
4. SUN OS 4.1.2 and an evaluation copy of Arc/Info and ArcView will be installed on the SUN 4/110 system for John Gauthier (M&O).

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 REGULATORY

**WBS 1.2.5.3.6 GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536F CAPITAL EQUIPMENT

REPORT PERIOD: January 1, 1993 - January 31, 1993

REPORT DATE: February 19, 1993

RESPONSIBLE INDIVIDUAL: C.W. Logan

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD: None.

1. Research on FY93 capital equipment items have been initiated.
2. As per Wayne Kozai, EG&G/EM FY93 capital equipment funds should be available in the April FIN plan.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Research on FY93 capital equipment items will continue.

PROGRESS REPORT FOR EG&G/EM RSL SUPPORT TO YMP
Work Accomplished

WBS 1.2.5 **REGULATORY**

WBS 1.2.5.3.6 **GEOGRAPHIC NODAL INFORMATION STUDY AND
EVALUATION SYSTEM (GENISES)**

SA OE536G **PROJECT MANAGEMENT**

REPORT PERIOD: **January 1, 1993 - January 31, 1993**

REPORT DATE: **February 19, 1993**

RESPONSIBLE INDIVIDUAL: **C.E. Ezra**

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Reporting/Tracking

- **EG&G/EM RSL December Progress report was compiled and submitted.**
- **December PACS input was compiled and submitted**

2. Meetings/Conferences/Training:

- **Technical Data Managers staff meetings were held with Ardyth Simmons (YMPO), Steve Bodnar and Bob Lewis (M&O) and Elaine Ezra and Jim Beckett on January 6, January 12, January 20 and January 25.**
- **Steve Kowalkowski attended "Customizing Arc/Info with AML" training at Environmental Systems Research Institute in Redlands, California during the week of January 18 - 22.**

3. Staff Actions:

- **Advertisements for a Scientist II GIS analyst position were prepared.**
- **Job requisitions and job analysis questionnaires were prepared for two positions; an INGRES relational database management specialist, and a computer support technician, and were posted early in January.**

4. **Records Management:**

- Joanna Wiggins attended IRM Council Meetings held on January 11 - 13.

5. **Quality Assurance:**

- The EG&G/EM Software Quality Assurance Plan and implementing procedures have been internally reviewed against the requirements of the revised Quality Assurance Requirements Document (QARD), Supplement I (Software). A letter to YMP QAD was drafted requesting confirmation of EG&G/EM's interpretation of Supplement I, which is that the requirements only apply to quality-affecting scientific and engineering software. If Supplement I is intended to place controls on quality-affecting scientific and engineering software, then EG&G/EM will need only modify existing draft implementing procedures for classifying software, software installation and checkout and configuration management.
- A meeting was held with Eddie Godfrey (EG&G/EM QA) on January 7 at the YMPSO to introduce him to YMPSO staff. Eddie has been added to the EG&G/EM YMP QA team.
- A meeting was held with Enos Baker and Eddie Godfrey (EG&G/EM QA) and Joanna Wiggins on January 19 to discuss the Conditions Adverse to Quality.
- Efforts to resolve the remaining Conditions Adverse to Quality will continue.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. David Brickey will attend the 9th Annual ERIM Thematic Conference on Geologic Remote Sensing during the week of February 8 - 11.
2. A Quality Specialist will join the EG&G/EM QA Office to provide full-time support to EG&G/EM YMP activities.
3. EG&G/EM RSL resource requirements through FY2001 will be prepared and submitted.
4. Interviews for the INGRES Technologist II and computer services Technologist II positions will be conducted for any qualified internal applicants.

Expenditures from December 27 to January 24, 1992
(Dollars in thousands)

<u>Task</u>	<u>Budget</u>	<u>January Cost</u>	<u>Total Costs To Date</u>	<u>Remaining</u>
WBS 1.2.3 Site Investigations	\$ 55.0	\$ 0.0	\$ 0.0	\$ 55.0
WBS 1.2.5 Regulatory	\$2,320.0	\$ 109.5	\$ 502.9	\$1,817.1
WBS 1.2.15 Support Services	<u>\$ 176.0</u>	<u>\$ 13.4</u>	<u>\$ 33.0</u>	<u>\$ 143.0</u>
TOTALS	\$2,551.0	\$ 122.9	\$ 535.9	\$2,015.1

STATUS OF DELIVERABLES FOR EG&G/EM RSL SUPPORT TO YMP
January 1, 1993 through January 31, 1993

GIS MAP SUPPORT

<u>Description</u>	<u>Requested by/ Organization</u>	<u>Date Sent</u>	<u>Size</u>	<u>No. of Copies</u>
YMP-92-192.0 General Reference	Moscatti/USGS	1/4/93	Full	2
YMP-92-193.0 Base Map 1:100,000 Scale Digital Line Graph Roads	Moscatti/USGS	1/4/93	Page	2
YMP-93-001.0 Reclamation Trial Sites	Walo/EG&G/EM	1/5/93	Page	1
YMP-92-146.2 Field Planning Map	Annear/EG&G/EM	1/6/93	Full	10
YMP-92-239.1 Potentially Useable Areas	Bruch/M&O	1/6/93	Full	2
YMP-92-093.3 YMSCP Existing Boreholes	Cooper/YMPO	1/6/93	Full	1
YMP-92-094.4 YMSCP Proposed Boreholes	Cooper/YMPO	1/6/93	Full	1
YMP-93-002.0 Potentially Useable Areas	Dyer/YMPO	1/7/93	Full	1
YMP-92-306.1 Quaternary Volcanic Centers	Crowe/LANL	1/7/93	Page	20
YMP-92-003.0 Tracers, Fluids, and Materials Area	Kalia/LANL	1/7/93	Page	2
YMP-91-062.1 Location of Proposed Volcanic Exploratory Drillholes	Bjerstedt/YMPO	1/8/93	Full	1

YMP-90-034.1 General Features of YM and Vicinity	Bjerstedt/YMPO	1/8/93	Full	1
Unnumbered Map - General Features of YM and Vicinity	Bjerstedt/YMPO	1/8/93	Full	1
YMP-92-289.0 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations NE Area	Tynan/YMPO	1/8/93	Full	2
YMP-92-290.0 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations SE Area	Tynan/YMPO	1/8/93	Full	2
YMP-92-291.0 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations SW Area	Tynan/YMPO	1/8/93	Full	2
YMP-92-292.0 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations NW Area	Tynan/YMPO	1/8/93	Full	2
YMP-92-146.2 Field Planning Map	Annear/EG&G/EM	1/11/93	Full	4
YMP-92-093.3	McKinley/USGS	1/13/93	Page	1
YMP-92-094.4	McKinley/USGS	1/13/93	Page	1
YMP-92-224.0	McKinley/USGS	1/13/93	Page	1
YMP-92-225.0	McKinley/USGS	1/13/93	Page	1
YMP-92-249.1	McKinley/USGS	1/13/93	Page	1
YMP-92-250.1	McKinley/USGS	1/13/93	Page	1
YMP-92-255.0	McKinley/USGS	1/13/93	Page	1
YMP-92-258.0	McKinley/USGS	1/13/93	Page	1
YMP-92-288.0	McKinley/USGS	1/13/93	Page	1

YMP-92-297.0	McKinley/USGS	1/13/93	Page	1
YMP-92-298.0	McKinley/USGS	1/13/93	Page	1
YMP-92-299.0	McKinley/USGS	1/13/93	Page	1
YMP-92-300.0	McKinley/USGS	1/13/93	Page	1
YMP-92-302.0	McKinley/USGS	1/13/93	Page	1
YMP-92-303.0	McKinley/USGS	1/13/93	Page	1
YMP-92-304.0	McKinley/USGS	1/13/93	Page	1
YMP-92-306.0	McKinley/USGS	1/13/93	Page	1
SA1-3.0 Near-Field Study Area	Savino/SAIC	1/14/93	Page	1
YMP-92-165.0 Central Support Area Existing Site Plan	White/YMPO	1/14/93	Full	1
YMP-92-167.0 Central Support Area Existing Site Plan	White/YMPO	1/14/93	Full	1
YMP-93-005.0 YMP Participants Tour Map	Hill/SAIC	1/15/93	Page	2
YMP-93-004.0 Road to Crest Tour	Hill/SAIC	1/15/93	Page	2
YMP-92-240.0 Existing Drillholes, Repository Block Area, 1:12,000 scale	Linden/SAIC	1/15/93	Full	2
YMP-92-241.0 Existing Drillholes, North Half of Map YMP-92-240.0, 1:6,000 scale	Linden/SAIC	1/15/93	Full	2
YMP-92-242.0 Existing Drillholes, South Half of Map YMP-92-240.0, 1:6,000 scale	Linden/SAIC	1/15/93	Full	2
YMP-93-006.0 YM Area with NTS Emergency Response Grid	White/YMPO	1/19/93	Full	2

YMP-92-302.0 Test and Waste Isolation Evaluation Zone (Rev. 0)	Schlinger/SAIC	1/19/93	Page	3
YMP-92-148.0 Tracers, Fluids & Materials Area	Schlinger/SAIC	1/19/93	Full	1
YMP-92-255.0 Existing Drillholes and Selected Geologic Features	Schlinger/SAIC	1/19/93	Full	1
YMP-92-301.0 Basemap for Selected Area	Pysto/SAIC	1/19/93	Full	1
YMP-92-089.5 Flood Prone Areas	DeKlever/RSN	1/19/93	Full	1
YMP-91-005.1 Roads Approved for Use Based on Completed Desert Tortoise Surveys	Morris/YMPO	1/19/93	Page	50
YMP-93-009.0 YM and NTS Geographic Placenames	Bjerstedt/YMPO	1/19/93	Page	3
YMP-93-008.0 YM Geographic Placenames	Bjerstedt/YMPO	1/19/93	Page	3
YMP-92-259.0 Field Verification Map Sheet 1	White/YMPO	1/19/93	Full	4
YMP-92-260.0 Field Verification Map Sheet 2	White/YMPO	1/19/93	Full	4
YMP-92-261.0 Field Verification Map Sheet 3	White/YMPO	1/19/93	Full	4
YMP-92-262.0 Field Verification Map Sheet 4	White/YMPO	1/19/93	Full	4
YMP-92-256.0 Field Verification Map Sheet 5	White/YMPO	1/19/93	Full	4

YMP-92-263.0 Field Verification Map Sheet 6	White/YMPO	1/19/93	Full	4
YMP-92-264.0 Field Verification Map Sheet 7	White/YMPO	1/19/93	Full	4
YMP-92-265.0 Field Verification Map Sheet 8	White/YMPO	1/19/93	Full	4
YMP-92-266.0 Field Verification Map Sheet 9	White/YMPO	1/19/93	Full	4
YMP-92-267.0 Field Verification Map Sheet 10	White/YMPO	1/19/93	Full	4
YMP-92-268.0 Field Verification Map Sheet 11	White/YMPO	1/19/93	Full	4
YMP-92-269.0 Field Verification Map Sheet 12	White/YMPO	1/19/93	Full	4
YMP-92-270.0 Field Verification Map Sheet 13	White/YMPO	1/19/93	Full	4
YMP-92-271.0 Field Verification Map Sheet 14	White/YMPO	1/19/93	Full	4
YMP-92-272.0 Field Verification Map Sheet 15	White/YMPO	1/19/93	Full	4
YMP-92-273.0 Field Verification Map Sheet 16	White/YMPO	1/19/93	Full	4
YMP-92-274.0 Field Verification Map Sheet 17	White/YMPO	1/19/93	Full	4
YMP-92-275.0 Field Verification Map Sheet 18	White/YMPO	1/19/93	Full	4
YMP-92-276.0 Field Verification Map Sheet 19	White/YMPO	1/19/93	Full	4
YMP-92-277.0 Field Verification Map Sheet 20	White/YMPO	1/19/93	Full	4

YMP-92-278.0 Field Verification Map Sheet 21	White/YMPO	1/19/93	Full	4
YMP-92-279.0 Field Verification Map Sheet 22	White/YMPO	1/19/93	Full	4
YMP-92-280.0 Field Verification Map Sheet 23	White/YMPO	1/19/93	Full	4
YMP-92-281.0 Field Verification Map Sheet 24	White/YMPO	1/19/93	Full	4
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YMP-92-283.0 Field Verification Map Sheet 26	White/YMPO	1/19/93	Full	4
YMP-92-284.0 Field Verification Map Sheet 27	White/YMPO	1/19/93	Full	4
YMP-92-285.0 Field Verification Map Sheet 28	White/YMPO	1/19/93	Full	4
YMP-92-286.0 Field Verification Map Sheet 29	White/YMPO	1/19/93	Full	4
YMP-92-287.0 Field Verification Map Sheet 30	White/YMPO	1/19/93	Full	4
YMP-93-012.0 Borehole Summary	Weeks/SAIC	1/20/93	Page	1
YMP-93-007.0 Near-Field Radiological Monitoring Sites	Tappen/T&MSS	1/20/93	Full	3
YMP-93-018.0 Existing Drillholes and Excavations	Nance/SAIC	1/26/93	Page	1
YMP-93-013.0 Figure 13	Walo/EG&G/EM	1/26/93	Page	8
YMP-92-259.0 Field Verification Map Sheet 1	Pysto/SAIC	1/26/93	Full	1

YMP-92-260.0 Field Verification Map Sheet 2	Pysto/SAIC	1/26/93	Full	1
YMP-92-261.0 Field Verification Map Sheet 3	Pysto/SAIC	1/26/93	Full	1
YMP-92-262.0 Field Verification Map Sheet 4	Pysto/SAIC	1/26/93	Full	1
YMP-92-256.0 Field Verification Map Sheet 5	Pysto/SAIC	1/26/93	Full	1
YMP-92-263.0 Field Verification Map Sheet 6	Pysto/SAIC	1/26/93	Full	1
YMP-92-264.0 Field Verification Map Sheet 7	Pysto/SAIC	1/26/93	Full	1
YMP-92-265.0 Field Verification Map Sheet 8	Pysto/SAIC	1/26/93	Full	1
YMP-92-266.0 Field Verification Map Sheet 9	Pysto/SAIC	1/26/93	Full	1
YMP-92-267.0 Field Verification Map Sheet 10	Pysto/SAIC	1/26/93	Full	1
YMP-92-268.0 Field Verification Map Sheet 11	Pysto/SAIC	1/26/93	Full	1
YMP-92-269.0 Field Verification Map Sheet 12	Pysto/SAIC	1/26/93	Full	1
YMP-92-270.0 Field Verification Map Sheet 13	Pysto/SAIC	1/26/93	Full	1
YMP-92-271.0 Field Verification Map Sheet 14	Pysto/SAIC	1/26/93	Full	1
YMP-92-272.0 Field Verification Map Sheet 15	Pysto/SAIC	1/26/93	Full	1
YMP-92-273.0 Field Verification Map Sheet 16	Pysto/SAIC	1/26/93	Full	1

YMP-92-274.0 Field Verification Map Sheet 17	Pysto/SAIC	1/26/93	Full	1
YMP-92-275.0 Field Verification Map Sheet 18	Pysto/SAIC	1/26/93	Full	1
YMP-92-276.0 Field Verification Map Sheet 19	Pysto/SAIC	1/26/93	Full	1
YMP-92-277.0 Field Verification Map Sheet 20	Pysto/SAIC	1/26/93	Full	1
YMP-92-278.0 Field Verification Map Sheet 21	Pysto/SAIC	1/26/93	Full	1
YMP-92-279.0 Field Verification Map Sheet 22	Pysto/SAIC	1/26/93	Full	1
YMP-92-280.0 Field Verification Map Sheet 23	Pysto/SAIC	1/26/93	Full	1
YMP-92-281.0 Field Verification Map Sheet 24	Pysto/SAIC	1/26/93	Full	1
YMP-92-282.0 Field Verification Map Sheet 25	Pysto/SAIC	1/26/93	Full	1
YMP-92-283.0 Field Verification Map Sheet 26	Pysto/SAIC	1/26/93	Full	1
YMP-92-284.0 Field Verification Map Sheet 27	Pysto/SAIC	1/26/93	Full	1
YMP-92-285.0 Field Verification Map Sheet 28	Pysto/SAIC	1/26/93	Full	1
YMP-92-286.0 Field Verification Map Sheet 29	Pysto/SAIC	1/26/93	Full	1
YMP-92-287.0 Field Verification Map Sheet 30	Pysto/SAIC	1/26/93	Full	1

YMP-93-019.0 Yucca Mountain Site Characterization Project (Faults)	Bjerstedt/YMPO	1/27/93	Page	1
YMP-93-020.0 Yucca Mountain Site Characterization Project (River and Wash)	Bjerstedt/YMPO	1/27/93	Page	1
YMP-93-013.1 Yucca Mountain Site Characterization Project Figure 13	Walo/EG&G/EM	1/27/93	Page	5
YMP-92-224.0 Existing and Proposed Pits	Springer/SAIC	1/27/93	Full	1
YMP-92-225.0 Existing and Proposed Trenches	Springer/SAIC	1/27/93	Full	1
YMP-92-011.0 YMP Digital Line Graph Data	Ennis/RSN	1/27/93	Full	1
YMP-93-023.0 YM Site Characterization Project Trenches	Nance/SAIC	1/28/93	Page	1
YMP-93-027.0 Planned FY93 Boreholes and Trenches	Gauthier/M&O	1/29/93	Page	1
YMP-93-027.1 Figure 5.1 Planned FY93 Boreholes	Reynolds/M&O	1/29/93	Page	1
YMP-93-022.0 YMSCP Proposed Locations of Seismic Reflection Profiles, 1993	Tynan/YMPO	1/29/93	Page	1
YMP-93-028.0 YMSCP Test & Waste Isolation Evaluation Zone	Savino/SAIC	1/29/93	Full	2
YMP-93-027.2 Figure 5.1 Planned FY93 Boreholes	Reynolds/M&O	1/29/93	Page	1

YMP-93-029.0 Planned Trenches and Test Pits in Regional Investigations	Reynolds/M&O	1/29/93	Page	1
YMP-93-030.0 Planned Trenches in the Site Area	Reynolds/M&O	1/29/93	Page	1
YMP-93-037.0 Planned Test Pits in Midway Valley	Reynolds/M&O	1/29/93	Page	1

Total Maps 335

Total New Maps 63

TRANSMITTAL

RSL YMP Support Office
EG&G Energy Measurements, Inc.
P.O. Box 1912, M/S: V-02
Las Vegas, Nevada 89125
Telephone: 702-794-7852 FAX: 702-794-7469

Date Sent: 2/18/93

NAME: Carl Gertz TELEPHONE: 794-7920

ORGANIZATION: U.S. DOE

ADDRESS: BOA, 101 Convention Center Drive, Las Vegas, NV 89109

Fed-X <input type="checkbox"/>	Certified <input type="checkbox"/>	Company Mail <input checked="" type="checkbox"/>	Hand Carry <input type="checkbox"/>	Pick Up by Customer <input type="checkbox"/>
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| YMP-92-089.5 | YMP-92-273.0 | YMP-92-292.0 | YMP-93-020.0 |
| YMP-92-236.0 | YMP-92-274.0 | YMP-92-301.0 | YMP-93-022.0 |
| YMP-92-239.1 | YMP-92-275.0 | YMP-92-306.1 | YMP-93-023.0 |
| YMP-92-256.0 | YMP-92-276.0 | YMP-93-001.0 | YMP-93-027.0 |
| YMP-92-259.0 | YMP-92-277.0 | YMP-93-002.0 | YMP-93-027.1 |
| YMP-92-260.0 | YMP-92-278.0 | YMP-93-003.0 | YMP-93-027.2 |
| YMP-92-261.0 | YMP-92-279.0 | YMP-93-004.0 | YMP-93-028.0 |
| YMP-92-262.0 | YMP-92-280.0 | YMP-93-005.0 | YMP-93-029.0 |
| YMP-92-263.0 | YMP-92-281.0 | YMP-93-006.0 | YMP-93-030.0 |
| YMP-92-264.0 | YMP-92-282.0 | YMP-93-007.0 | YMP-93-037.0 |
| YMP-92-265.0 | YMP-92-283.0 | YMP-93-008.0 | |
| YMP-92-266.0 | YMP-92-284.0 | YMP-93-009.0 | |
| YMP-92-267.0 | YMP-92-285.0 | YMP-93-012.0 | |
| YMP-92-268.0 | YMP-92-286.0 | YMP-93-012.1 | |
| YMP-92-269.0 | YMP-92-287.0 | YMP-93-013.0 | |
| YMP-92-270.0 | YMP-92-289.0 | YMP-93-013.1 | |
| YMP-92-271.0 | YMP-92-290.0 | YMP-93-018.0 | |
| YMP-92-272.0 | YMP-92-291.0 | YMP-93-019.0 | |

APPROVED BY: James W. Beckwith

DATE: 2/18/93

WORK REQUEST

RSL YMP Support Office
 EG&G Energy Measurements, Inc.
 P.O. Box 1912, M/S: V-02
 Las Vegas, Nevada 89125
 Telephone: 702-794-7852 FAX: 702-794-7469

Today's Date: 2/17/93

TO BE COMPLETED BY THE REQUESTOR:

YMP Participant (Y/N): Y

NAME: Carl P. Gertz SIGNATURE: _____

ORGANIZATION: U.S. DOE TELEPHONE: 794-7920

ADDRESS: YMSCP, BOA, 101 Convention Center Drive, Las Vegas, NV 89109

PURPOSE OF PRODUCT: Monthly Progress Report

WILL THE PRODUCT BE USED IN QUALITY AFFECTING WORK? NO DATE NEEDED: 2/22/93

PRODUCT FORMAT	Hardcopy: <u>X</u>	Number of Copies: <u>1</u>	Map Size or Scale: <u>Page</u>	Media: <u>NA Paper</u>
	Digital: <u>NA</u>	OS: <u>NA</u>	File Format: <u>NA</u>	

WORK DESCRIPTION:
 Provide one page size copy of each of the following new map products generated during the month of January 1993:

YMP-92-089.5	YMP-92-273.0	YMP-92-292.0	YMP-93-020.0
YMP-92-236.0	YMP-92-274.0	YMP-92-301.0	YMP-93-022.0
YMP-92-239.1	YMP-92-275.0	YMP-92-306.1	YMP-93-023.0
YMP-92-256.0	YMP-92-276.0	YMP-93-001.0	YMP-93-027.0
YMP-92-259.0	YMP-92-277.0	YMP-93-002.0	YMP-93-027.1
YMP-92-260.0	YMP-92-278.0	YMP-93-003.0	YMP-93-027.2
YMP-92-261.0	YMP-92-279.0	YMP-93-004.0	YMP-93-028.0
YMP-92-262.0	YMP-92-280.0	YMP-93-005.0	YMP-93-029.0
YMP-92-263.0	YMP-92-281.0	YMP-93-006.0	YMP-93-030.0
YMP-92-264.0	YMP-92-282.0	YMP-93-007.0	YMP-93-037.0
YMP-92-265.0	YMP-92-283.0	YMP-93-008.0	
YMP-92-266.0	YMP-92-284.0	YMP-93-009.0	
YMP-92-267.0	YMP-92-285.0	YMP-93-012.0	
YMP-92-268.0	YMP-92-286.0	YMP-93-012.1	
YMP-92-269.0	YMP-92-287.0	YMP-93-013.0	
YMP-92-270.0	YMP-92-289.0	YMP-93-013.1	
YMP-92-271.0	YMP-92-290.0	YMP-93-018.0	
YMP-92-272.0	YMP-92-291.0	YMP-93-019.0	

TO BE COMPLETED BY GENISES DATABASE PERSONNEL Job No: N3PIP13Y

Cost Estimate (Y/N): N Processing Plan (Y/N): N Due Date: 2/22/93

Map <u>X</u>	Data	Photo	Graphic	Image Process	GIS Analysis	DGI	Photo Acq.	Data Submit	Other
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RECEIVED BY: [Signature] DATE: 2/17/93
 APPROVED BY: [Signature] DATE: 2/18/93



Lawrence Livermore National Laboratory

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LLYMP9302028
February 18, 1993

Carl Gertz, Project Manager
Department of Energy
Yucca Mountain Project Office
P.O. Box 98518
Las Vegas, Nevada 89193-8518

DIVISION: Gertz
 CC: Dyer
 CC: Linckea } w/o
 CC: Claw }
 CC: Brodsty
 CC: Jones, S.
 CC: Blanchard
 CC: Coak
 CC: Dym/Harrison

WBS 1.2.9
"QA: N/A"

I-337958
JFJ

REC'D YMP
2/24/93

SUBJECT: Yucca Mountain Project Status Report - January 1993
SCP: N/A

Attached is the January Project Status Report for LLNL's participation in the Yucca Mountain Project.

If further information is required, please contact Elizabeth Campbell of my staff at 510-422-7854 or Jim Blink in Las Vegas at 702-794-7157.

Sincerely,

W. L. Clarke
W. L. Clarke
LLNL Technical Project Officer
for YMP

WC/EC

cc:
Distribution

DISCLAIMER

The LLNL Yucca Mountain Project cautions that any information is preliminary and subject to change as further analyses are performed or as an enlarged and perhaps more representative data base is accumulated. These data and interpretations should be used accordingly.



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