



Department of Energy

Washington, DC 20585 0CT 6 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:

(1) EG&G/EM Progress Report, August 1993

- (2) EG&G/EM Remote Sensing Laboratory Progress Report, July 1-August 31, 1993
- (3) REECo Yucca Mountain Project Status Report, August 1993
- (4) Sandia National Laboratories Monthly Highlights and Status Report, July 1993

(5) USGS Yucca Mountain Project Monthly Summary, August 1993

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0/4003.4

9310150171 931006 PDR WASTE WM-11 PDR cc:(w/out encl.)

C. Gertz, YMPO

(w/encl.)

Alice Cortinas, CNWRA

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
- L. Bradshaw, 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

EG&G ENERGY MEASUREMENTS

Santa Barbara Operations

EG&G ENERGY MEASUREMENTS, INC., 101 CONVENTION CENTER DRIVE, LAS VEGAS, NEVADA 89109

TEL: (702)794-7463

WBS 1.2.13.4 NOA

September 7, 1993 LV93-RAG-050

Wendy Dixon, Director Project and Operations Control Division Yucca Mountain Project Office DOE Field Office, Nevada P. O. Box 98518 Las Vegas, NV 89193-8518

AUGUST 1993 PROGRESS REPORT

Attached is the August 1993 progress report on biological studies and support activities conducted by EG&G/EM for the Yucca Mountain Site Characterization Project. Please contact Tom O'Farrell (293-7762) or me (794-7474) if you have questions regarding this report.

W. Kent Ostler, Manager

Environmental Science Department

RG:vk

Attachment

cc:

G. Ryder, DOE/YMP

D. Sorensen, SAIC

P. Schilling, SAIC

RECORD DIXON

RECORD DIXON

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CO.

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YUCCA MOUNTAIN PROJECT BIOLOGICAL RESOURCES PROGRAM MONTHLY PROGRESS REPORT AUGUST 1993

Summary of Work Accomplished During Report Period

EG&G Energy Measurements (EG&G/EM) conducted work for the Biological Resources task (WBS 1.2.13.4.11) for the Project Office. Activities included conducting preactivity surveys; continuing site characterization effects studies, support studies for the radiological monitoring program, desert tortoise studies, and habitat reclamation studies; development of work instructions and study designs for new studies; and responding to requests for biological support by Project Office.

KEY ISSUES and CONCERNS

Through a cooperative effort with the Centers for Disease Control (CDC) in Atlanta, Georgia, blood samples were collected from 600 rodents at three sites near Yucca Mountain. Blood samples also were drawn from EG&G/EM staff scientists who wished to have their blood tested. CDC will test the blood samples for the presence of hantavirus antibodies. These tests will provide evidence whether the hantavirus is present in the Yucca Mountain region and help guide future decisions on safety precautions. Test results likely will not be available until late September or October.

MAJOR ACCOMPLISHMENTS

- EG&G/EM scientists presented two papers at the annual meeting of the Society for the Study of Amphibians and Reptiles based on data collected on desert tortoises at Yucca Mountain.
- Two EG&G/EM staff scientists presented a public talk on Desert Tortoise Ecology and Conservation at the Yucca Mountain information offices in Las Vegas and Beatty.

PLANNED WORK NOT ACCOMPLISHED

• The August monitoring session for small mammal populations for the Site Characterization Effects Studies was not conducted because of concern over the hantavirus. Instead, trapping was conducted at three sites to collect rodent blood samples to test for hantavirus antibodies. The scheduled September monitoring session for small mammals will be conducted with appropriate safety precautions. EG&G Energy Measurements Monthly Progress Report August 1993

MAJOR WORK IN PROGRESS

- EG&G/EM conducted two preactivity surveys for proposed activities to assess potential impacts on biological resources. One biological resource survey and two reclamation inventory reports were submitted to Project Office. A tortoise resurvey was conducted at one site. Casual access was requested and received for three sites.
- EG&G/EM continued monitoring radiomarked tortoises. Eggs in tortoise nests started hatching in August. Eight hatchlings have been radiomarked. One of these eight died. Ant bites appear to have been the cause of death. Surveys were conducted to monitor raven abundance.
- Topsoil samples were collected from the borrow pit stockpile to test for microbial activity.



Submitted to Project Office Liaison 123

WBS 1.2.5.3.6

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

SEP 15 9 59 M 100 QA: NA

September 14, 1993 NV-93-702

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

JULY 1 - AUGUST 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 July 1, 1993, through August 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, Manager NV Program

CE:ns

Enclosures

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JULY 1 - AUGUST 31, 1993 PROGRESS REPORT - EG&G/ENERGY
MEASUREMENTS REMOTE SENSING LABORATORY SUPPORT TO THE
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
September 14, 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/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

WBS 1.2.3

SITE INVESTIGATIONS

WBS 1.2.3.1

SITE INVESTIGATIONS COORDINATION AND PLANNING

REPORT PERIOD:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL: D.W. Brickey

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Dave Brickey and Bill Demas attended Dynamic Graphics EarthVision training during July 27 - 29. New EarthVision capabilities include: geological structure builder (which has geological intelligence), formula processor which allows extensive grid mathematics, the ability to view 2-D surfaces and 3-D scattered data in the 3-D viewer, image drape, ARC/INFO interface, DXF interface, and the ability to handle larger grids.

The next release of EarthVision (EV2.0 scheduled for 1/94), will allow partial discontinuity handling, 2-D plotting from the 3-D viewer, kriging, and output of map plots from the 3-D viewer. Future enhancements include simulation modeling and the ability to grid with up to 4 x 10° grid nodes.

- 2. Dave Brickey met with Ardyth Simmons, Mark Tynan and John Gauthier on August 2 to discuss the YMP 3-D modeling activities.
- 3. As requested by Ardyth Simmons (DOE/YMPO), Dave Brickey travelled to Sandia National Laboratories on August 6 to attend a series of meetings. One of the topics of discussion included the possible transfer of the CALMA 3-D model to the YMPSO EarthVision system.
- 4. An informal site visit by the NRC was conducted on August 10 - 11. The topic of the meetings was YMPO 3-D modeling activities. The areas for discussion identified by the NRC included: a demonstration of capabilities; a demonstration of current applications; a discussion of the strong and weak points of Lynx and Dynamic Graphics software; and, a discussion of how YMPO intends to use the systems and the types of anticipated applications.

Dave Brickey traveled to Denver on August 10 to attend the meetings conducted at the USGS facility. These meetings provided the USGS and SNL the opportunity to demonstrate the Lynx system and the work they have conducted.

On August 11, meetings were held at the YMPSO office. In attendance for the Dynamic Graphics demonstration were Ardyth Simmons, Mark Tynan and Tom Bjerstedt (DOE/YMPO), Stephan McDuffie and Don Chery (NRC), Gerry Stirewalt (CNWRA) and Tracey Felger (SAIC/USGS).

- 5. Dick Thompson and Dave Kessel (SNL) visited YMPSO on August 23 to view the EarthVision demo.
- 6. A subcontract with Lynx Geosystems for professional services was initiated. Beginning September 7, Jennifer Geddes will work with the YMP for a three-month period to support the YMP 3-D modeling efforts. Her tasking during this period includes the following:
 - Install Lynx software on the YMPSO 3-D modeling SGI system

• Provide Lynx training

- Install and evaluate the completeness of the USGS model on the YMPSO 3-D modeling system
- Acquire supplementary data from the USGS to support their model and its installation
- Acquire and install other YMP data to support YMP modeling efforts
- Assist in the evaluation of Lynx software capabilities to import/export data and models (especially as related to EarthVision).

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

- 1. Transfer the test case 3-D surfaces into EarthVision from Calma/IGIS. Evaluate resource requirements to transfer the model and its maintenance on the YMPSO 3-D system.
- 2. Install Lynx on YMPSO 3-D modeling system.
- 3. Install USGS preliminary model on YMPSO 3-D modeling system.
- 4. Initiate training of YMPSO and Project staff on Lynx software.

WBS 1.2.5

REGULATORY

WBS 1.2.5.3.5

TECHNICAL DATABASE INPUT

REPORT PERIOD:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL: C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD: None.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

Funding for this task element was reallocated to another participant. No further 1. progress is expected this fiscal year.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL: J. Beckett

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

A meeting with Ardyth Simmons and Tim Sullivan (DOE/YMPO), Steve Smith 1. and Charlie Schlinger (SAIC), and Elaine Ezra was held on June 30 to discuss a process for SAIC to provide coordinate information from job package and test planning packages to EG&G/EM YMPSO on a routine basis. As testing activities are proposed, initiated and completed, the coordinates and status of the activities will be forwarded to the GENISES Technical Database Administrator.

A follow-up meeting was held on July 1 with Steve Smith, Elaine Ezra and Jim Beckett to define a recommended format for the information SAIC will provide EG&G/EM. This recommended format was provided to DOE/YMPO, and tasking was given to SAIC in a letter from Dyer to Voegele, dated July 14, 1993.

- Input for the Technical Data Catalog Quarterly Report was provided to Bob 2. Lewis (M&O/TRW) on July 7.
- On July 8, Pat McKinley (USGS) requested a report listing of all USGS 3. submittals to GENISES. He wanted a tally of how many submittals had been accepted into GENISES, how many are being processed, how many total submittals are there from all the participant groups, and the percentage of total submittals to GENISES are from the USGS.

The following information was provided to McKinley on July 12:

184 total backlog items have been submitted by all participant groups

125 of the backlog submittals were from the USGS

34 backlogged USGS items have been accepted

49 new submittals by all participants

3 new submittals by USGS (3 new items accepted)

233 total submittals

128 total USGS submittals 54.9%

- 4. A meeting was held with John Gauthier (M&O/WCFS) on July 22 to discuss the Global Information on Test Interference Model (GITIM) development.
- 5. Three reports were prepared for data that had been submitted to GENISES as a check to see how accurately the data were entered. The reports were prepared for Pat McKinley (USGS) on July 23 for the following submittals:

GS921208315122.001 - data include site locations, physical and chemical properties, major and some minor ions, and ostracode species presence and absence for 106 springs and wetlands sites from the western part of the United States.

GS921008312211.008 - Geohydrologic data form test holes UE-25 UZ#4 and UE#5, Yucca Mountain Area, Nye County, Nevada

GS910983116214.001 - Simulated water-level declines caused by withdrawals from Wells J-13 and J-12 near Yucca Mountain, Nevada.

- 6. Geoffrey Roberts (IRG) met with Jim Beckett to discuss technical data flow on July 26.
- 7. A report was prepared for Ardyth Simmons (DOE/YMPO) for DTN
 LA00000000011.001 "Rock Varnish Cation-Ratio Data" from the GENISES TDB
 on August 10. This report was part of a package requested by the state of
 Nevada.
- 8. Sample data tables from the SEPDB backlog were provided to EG&G/EM Records Management to scan digitize as a possible method to initiate the SEPDB backlog processing into GENISES.
- 9. ArcView thematic datasets were prepared and distributed to project ArcView users.

- 10. Copies of three backlog TDIFs were provided to Pat McKinley on August 25 for GS.91.A.200086, GR 87-8, and USGS-1543-4.
- 11. A meeting was held with Takazumi Asakura (M&O/TRW) on August 25 to request a digital version of a few of the parameter dictionary items. Carole Johnson provided an ASCII file containing the study plan, titles, parameters, categories and WBS data. This information will be used for the Site Atlas Map Supplement.
- 12. The following submittals to the GENISES Technical Database were received.
 - Diffusion of Sorbing and Non-sorbing Radionuclides (LA00000000034.002) was received from Los Alamos National Laboratories on July 21, 1993.
 - Actinide (IV) and Actinide (VI) Carbonate Speciation Studies by APS and NMR Spectroscopies (LA00000000053.001) as received from Los Alamos National Laboratories on August 30, 1993.
 - Mineralogy and Clinoptilolite K/Ar Results from Yucca Mountain, Nevada, USA; A Potential High-Level Radioactive Waste Repository Site (LA00000000023.002) was received from Los Alamos National Laboratories on August 30, 1993.
- 13. The following submittals to the GENISES Technical Database were processed into the GENISES TDB:
 - LA-12562-MS Measured Solubilities and Speciations of Neptunium, Plutonium, and Americium in Typical Ground Water (J-13) from Yucca Mountain Region (LA00000000012.002) was completed on July 28, 1993.
- 14. No backlogged submittals to the SEPDB were processed administratively into the GENISES Technical Database.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

- 1. A letter identifying drillhole designator discrepancies and a recommended approach for assigning designators and collecting coordinates for locations of planned activities will be completed.
- 2. A GIS Catolog will be prepared for distribution to project participants.

- 3. A GENISES Technical Database Design Report will be completed.
- 4. A status report for the links between the Parameter Dictionary and the GENISES TDB will be completed.
- 5. A status report on the contents and capabilities of GENISES will be prepared.
- 6. GENISES staff will attend the Technical Data Working Group meeting on September 22.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL: B. Kistler

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

A draft of the FY93 Site Atlas has been completed. Minor revisions and accuracy 1. checks are underway.

- Some sections of the Site Atlas have been provided to appropriate YMP 2. participants for review.
- The purchase request for the Site Atlas publication through Government Printing 3. Office was initiated.
- During the past two months, a significant effort has been dedicated to processing 4. the Scott and Bonk geology map for inclusion in the Site Atlas, and to make generally available to project participants. Thousands of edits and corrections have been made (over and undershoots, add intersections, code faults and contacts, interpret hanging contacts, add missing arcs, etc.).

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: The FY93 Site Atlas is approximately one month behind schedule. Additional management assistance has been provided to better coordinate the Site Atlas. Extra staff resources have been directed to provide support. The Scott and Bonk geologic map, considered an important addition to the FY93 version of the Site Atlas, has taken considerable time (in excess of 12-person weeks) and resources to process.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

Scott and Bonk processing will be completed. 1.

- 2. The Site Atlas will be completed and sent to GPO for publication.
- 3. A draft of the Site Atlas Map Supplement will be completed.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL:

C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

- 1. A subcontract was initiated with Johnson Controls World Service TGS/GIS Division to digitize the 1:12,000 scale interpreted surface disturbances from the 1990 orthophotos, and to scan digitize the 1:12,000 scale orthophotos.
- 2. GIS map products were generated to support project participants and are detailed in the "Deliverables" statement.
- 3. Other "non-map" products include the following:
 - An INGRES report was prepared for Robert Elayer (M&O/MK) on July 2 for the following: existing and planned boreholes, activity ID, Nevada State Plane Easting and Northings, elevation and total depth.
 - One 40" x 40" color duraflex print of the following EG&G/EM negatives were provided to Jim Brune (UNR) on July 2:

PERF	<u>FRAME</u>
7242	019
7161	092 - 100, 102, 104, 106
7246	56
6301	38, 47, 48, 103-108

• One 40" x 40" color duraflex print of EGG 93A-010L was provided to Jerry Lorenz (REECo/YMP) on July 6.

- One contact B&W print of each of the 1:6,000 scale orthophotos, sheets 1-30, were provided to Howard Oliver (USGS) on July 6.
- Twelve 8" x 11" color transparencies of EGG #888-181 were provided to Carma Hernandez (SAIC) on July 6.
- One contact color print of each Perf# 6770, frames 8575-8579, were provided to Chris Fridrich (USGS) on July 8.
- One blackline set of the 1:6,000 scale orthophotos, sheets 1-30, were provided to Ron Nance (SAIC) on July 9.
- Two 8" x 10" color prints of seven 35mm slides were prepared for Jerry Lorenz (REECo/YMP) on July 9.
- One tape with 20 elevation contour hypsography data reformatted in Lynx format, was prepared for Jim Nelson (SAIC) on July 13. Contours for 1:12,000 orthophoto sheets 20-22 and 26-28 were provided.
- Two 48" x 48" color duraflex prints each of Perf #7287, frames 35, 36 37 and 38 were provided to Jerry Lorenz (REECo/YMP) on July 13.
- One 3.5" disk containing the Nevada State Plane x,y coordinate defining the Conceptual Perimeter Drift Boundary was provided to Jim Houseworth (M&O/TRW) on July 13.
- Two 30" x 40" color duraflex prints of YM-4590 and YM-2470 and two 36" x 48" color duraflex prints of YM-2179 and YM-2033 were provided to Jerry Lorenz (REECo/YMP) on July 15.
- One viewgraph each of the following were provided to Carma Hernandez (SAIC) on July 15: Perf #7287 frame 14 and Perf #6301 frame #75.
- One ARC/INFO export coverage of physiographic features for southern Nevada was provided to Lori Peltz-Lewis (USGS/WRD) on July 16.
- Two blackline and two mylar copies of the 1:6,000 scale orthophoto sheets # 11 and 12 were provided to Robert Dickerson (SAIC) on July 16.
- An INGRES report was provided to Jerry Lorenz (REECo/YMP) on July 19 of rock properties for USW G-4, including: thermal expansion, thermal conductivity, grain density, bulk density, conductivity, transmissivity, and thermal mechanical data.

- ArcView basemap datasets were installed on Russ Dyer's (DOE/YMPO) personal computer on July 21.
- One mylar copy each of 1:12,000 scale orthophoto sheets # 11, 12, 17 and 18 were provided to Chris Fridrich (USGS) on July 21.
- Four contact color print sets of Perf #5826, frames 15-33, were provided to Bruce Crowe (LANL) on July 21.
- One blueline copy of the 1:12,000 scale orthophoto sheet #2 was provided to Shaine Bodnar on July 22.
- An INGRES report was prepared for Tom Reynolds (M&O/WCFS) on July 22 listing the Nevada State Plane coordinates for trenches SCF-T1, SCF-T2, SCF-T4, and SCF-E1.
- Four viewgraphs were prepared for Claudia Newbury (DOE/YMPO) on July 26 for Existing Hydrologic Boreholes and Planned Hydrologic Boreholes.
- Ardyth Simmon's and Claudia Newbury's (DOE/YMPO) ArcView systems were updated for planned and existing boreholes on July 27.
- An INGRES report was prepared for Sue Braumiller (M&O/INTERA) on July 28 which listed existing boreholes, activity ID, type, elevation and depth.
- ArcView datasets were installed on John Gauthier's (M&O/WCFS) personal computer on July 29.
- A listing of ArcView coverages was provided to David von Seggern (UNR) on July 29.
- Two 24" x 30" 1:24,000 scale orthophoto mosaics and two 8.5" x 11" orthophoto mosaics were provided to Art Braun (SAIC) on July 29.
- An INGRES report for planned boreholes was prepared for Norma Biggar (M&O/WCFS) on July 30 with the following attributes: activity ID, Nevada State Plane Northings and Eastings, and Universal Transverse Mercator Northings and Eastings.
- One mylar copy of 1:12,000 scale B&W orthophotos sheets 10, 11, 16 and 17, were provided to Emily Taylor (USGS) on August 4.

• One contact color infrared print of the following EG&G aerial photographs were provided to Bruce Crowe (LANL) on August 4:

<u>PERF</u>	<u>FRAME</u>
6770	8486-8495, 8532-8541, 8566-8572
6771	8755-8768
6773	9240-9259, 9270-9288

- One contact color infrared print of the following EG&G aerial photographs were provided to Shaine Bodnar (M&O) on August 4: Perf # 6771, frames 8720-8724, 8691-8694, 8638-8641.
- An INGRES report was prepared for Norma Biggar (M&O/WCFS) on August 6 listing borehole depths in meters.
- An INGRES report was prepared for Kathy Mrotek (M&O/WCFS) for borehole data on August 9.
- One 9" x 9" color infrared prints of the following frames were provided to Ron Nance (SAIC) on August 10:

<u>PERF</u>	FRAME
6771	8807-8825
6772	8871-8890; 8929-8947, 8973-8991,9024-9035
6773	9109-9119
6766	7441-7445

- An INGRES report was provided to Robin St. Clair on August 13 for all the existing monitoring, trench, pavement, pit and boreholes initiated during the period from 6/1/91 to 6/1/93.
- Two copies of an INGRES report containing Nevada State Plane and UTM coordinates for the Systematic Drillholes from product #YMP-93-173.1 were provided to Norma Biggar and Shaine Bodnar (M&O) on August 13.
- Two INGRES reports were generated for Kathy Mrotek (M&O/WCFS) on August 13:

All valid record numbers with site name, latitude and longitude for MRDS data.

Records containing incomplete data for site name, latitude and/or longitude for MRDS data.

- One 36" x 36" color duraflex print of EGG Perf #7287, frame 32, was provided to Art Braun (SAIC) on August 19.
- Two 8" x 10" color duraflex prints of oblique aerial photos, EGG Perf #7246, frame 41, were provided to Don Unglesbee (SAIC/FOC) on August 19.
- Ten color duraflex prints (18" x 18") of EGG 93E171L and EGG 92B0038L, were provided to Jerry Lorenz (REECo/YMP) on August 19.
- One duraflex print copy each of the 1:12,000 scale B&W orthophotos, sheets 1-36, were provided to Paul Buck (DRI) on August 20.
- One duraflex print copy each of the 1:12,000 scale B&W orthophotos, sheets 1-36, were provided to Audrey Hughes on August 20.
- ARC/INFO export coverages for existing and planned pits, trenches, boreholes, conceptual perimeter drift boundary, conceptual controlled area boundary and ecological study plots were provided to Craig Matthews (SAIC/FOC) on August 24.
- Eight copies each of the following EG&G negatives as 35mm slides were prepared for Carma Hernandez on August 26: 89H1367L, 6677-20, 6301-33, 89L-1569,89L-1578, 5105-14, 89L1590, 7246-73, 87J729, 7246-09, 7248-019, 7247-048, 5105-38, 7247-057, 7246-28, 6301-69, and 7246-58.
- Ten 30" x 40" color duraflex prints of EGG 6677-21 and EGG 6301-74 were provided to Jerry Lorenz (REECo/YMP) on August 30.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Continued level-of-effort.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL:

C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Bruce Crowe (LANL) orthophoto mission status:

- Ground control field panel layout was completed by RSN and the field survey was initiated.
- The aerial photography was flown on July 24, 1993.
- The orthophoto subcontract was initiated with the Orthoshop-Tucson
- A funding transfer from LANL to EG&G/EM and RSN was initiated, but has not yet been completed.
- 2. Color infrared (1:12,000 scale) aerial photographs for the Bare Mountain area, requested by Chris Fridrich (USGS) were acquired on July 24.
- 3. High altitude natural color aerial photographs requested by Marilyn Kamna (M&O/TRW) and Jerry Lorenz (REECo/YMP) were acquired on July 24-25.
- 4. Natural color and color infrared aerial photographs at a scale of 1:12,000 were acquired for an area covering the Conceptual Controlled Area Boundary on July 24-25.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

- 1. Proofs of the July aerial photo missions will be distributed.
- 2. Results from the remote sensing survey will be compiled.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL: E. Ezta

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

- A meeting was held between YMPSO technical staff and Sun Microsystems 1. representatives to discuss SUN fileserver options and specifications.
- 2. INGRES INGdba and INGRES Windows 4GL (3-8 node license) were installed on the YMPSO system.
- DOE-licensed "Data Physician" virus protection software was installed on all 3. YMPSO personal computers.
- 4. EarthVision 1.2 was installed on the YMPSO Silicon Graphics workstation.
- 5. Continued progress on development of YMPSO Computer System Configuration Plan.
- 6. Continued progress on the network plan was made. A meeting between John Gandi (DOE/YMPO), Ed Jorgensen and Todd Radermacher was held on July 28 to discuss the YMPSO inter-network configuration.
- 7. Todd Radermacher met with EG&G/EM Information Services Department to discuss the YMPSO network connect with EMNET for access to the Remote Sensing Laboratory.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

1. Hardware and software installation and checkout as capital equipment and software items are received.

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:

July 1, 1993 - August 31, 1993

REPORT DATE:

September 10, 1993

RESPONSIBLE INDIVIDUAL:

E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. A significant effort was dedicated to developing purchase requests and justifications for the FY93 hardware and software acquisitions, as follows:

Sparc10 workstation

37" color monitor

(5) X-terminals

Electrostatic Plotter

Image Processing System

Fileserver

Document imaging system

INGRES Windows 4GL for SPARC10

INGRES Unlimited License for YMPSO fileserver

INGRES INGdba

INGRES license for SPARC10

EASI/PACE image processing software

ERDAS image processing software

Zeh Graphics software

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN:

\$185.2K of WBS 1.2.5.3 operating dollars have not yet been reprogrammed to capital dollars. The FY93 approved capital equipment items that would be purchased with these funds include a computer workstation, five X-terminals, an image processing system and communications equipment. All required purchase requisitions and justifications for these equipment items have been submitted to the EG&G/EM Procurement Division.

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

- 1. Delivery of ERDAS software.
- 2. Delivery of Zeh Graphics plotting software

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: July 1, 1993 - August 31, 1993

REPORT DATE: September 10, 1993

RESPONSIBLE INDIVIDUAL: C.E. Ezra

SUMMARY OF WORK ACCOMPLISHED DURING REPORT PERIOD:

1. Reporting/Tracking/Planning

- EG&G/EM RSL June Progress report was compiled and submitted to DOE/YMPO.
- June and July PACS input was compiled and submitted to John Slocum (M&O).
- Ardyth Simmons and Elaine Ezra met on July 8 to discuss performance criteria for the second half of CY93 (July through December).
- Elaine Ezra provided Ardyth Simmons input to the "Data Call on Departmental Investments in Geographic Data."

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 July 12, July 19, August 9, August 16, and August 23.
- David Walrath attended the YMP Orientation on July 14.
- Chris Berlien attended INGRES Report Writer training in Denver on July 16.

• Chris Berlien attended Managing INGRES Databases class in Alameda, California during the week of August 30 - September 3.

3. Employee Actions:

 Beginning August 1 through October 1, two EG&G/EM Environmental Sciences Department temporary summer hires were added to the YMPSO to assist with the Site Atlas and GIS map product tracking system.

4. Records Management:

- Joanna Wiggins attended the Records Management Meetings on July 20 and 21.
- A response to the YMP Program Records Media Survey was provided to John Gandi (DOE/YMPO) on August 30.

5. Quality Assurance:

- A meeting was held on July 7 with EG&G/EM QA staff to discuss the QA Technical Directive and develop an approach.
- A meeting was held on July 28 with Dan Klimas (YMP QA), Elaine Ezra, Joanna Wiggins and Debbie Mogar to discuss progress on the Technical Directive. The following actions were identified: 1) A list of EG&G/EM personnel requiring training will be provided to Dan Klimas, 2) Controlled copies of all procedures/documents identified in the Technical Directive will be requested from Document Control, 3) a list of additional YMP APs and QAPs that appear to be applicable to EG&G/EM activities will be compiled for Dan Klimas.
- A meeting was held with Dan Klimas, Elaine Ezra, Joanna Wiggins and Debbie Mogar to discuss which YMP Administrative Procedures and Quality Assurance Procedures would be applicable to EG&G/EM support, in addition to those identified under the Technical Directive.
- A meeting was held with Dan Klimas (YMP QA), Sue Zimmerman (state of Nevada), Elaine Ezra, Jim Beckett, and Joanna Wiggins to provide required input to the Project Office QA Audit.
- Training assignments were made for EG&G/EM GENISES staff, and the self study assignments were completed.
- Qualification evaluations were compiled for all GENISES staff.

- Controlled copies of all YMP procedures and documents identified under the QA Technical Directive were requested from Document Control and received.
- A draft of the GENISES Technical Database line procedure was completed and provided for internal review.
- An internal review of EG&G/EM held SAIC controlled documents was performed.

MAJOR PROBLEMS AND CORRECTIVE ACTION UNDERTAKEN: None

ANTICIPATED SIGNIFICANT EVENTS PLANNED DURING NEXT REPORT PERIOD:

- 1. A FY94 EG&G/EM RSL Support to YMP Plan will be completed.
- 2. EG&G/EM YMP non-quality affecting procedures will be reviewed and revised to be integrated into the EG&G/EM QA program.
- 3. EG&G/EM quality and non-quality records will begin to be transferred to the YMP Central Records Facility.

Expenditures from June 28, 1993 to August 29, 1993 (Dollars in thousands)

<u>Task</u>	<u>Budget</u>	July/August <u>Cost</u>	Total Costs To Date	Remaining
WBS 1.2.3 Site Investigations	\$ 50.0	\$ 41.2	\$ 48.8	\$ 1.2
WBS 1.2.5 Regulatory	\$2,285.0	\$ 406.5	\$1,682.7	\$ 602.3
WBS 1.2.11 QA Support	\$ 140.0	\$ 0.0	\$ 0.0	\$ 140.0
WBS 1.2.15 Support Services	<u>\$ 203.0</u>	<u>\$ 26.5</u>	<u>\$ 122.0</u>	<u>\$ 81.0</u>
TOTALS	\$2,678.0	\$474.2	\$1,853.5	\$ 824.5

ESTIMATED SEPTEMBER EXPENSES:

Capital Equipment Procurements:

	Sparc10 Workstation 5 X-terminals	\$ 33K \$ 31K
	Image Processing system	\$ 64K
	Fileserver Imaging System	\$146K \$ 15K
	Router	<u>\$ 30K</u> \$319K
System Software		
·	INGRES licenses	\$ 32K
	Image Processing	\$ 13 K
	Plotter Software	<u>\$ 15K</u>
		\$ 60K
Labor and M&S		\$223K
		\$602K

^{(*} Capital equipment costs may carry-over to October if reprogramming of operating to capital dollars is not accomplished in early September).

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

GIS MAP SUPPORT

<u>Description</u>	Requested by/ Organization	Date Sent	<u>Size</u>	No. of Copies
YMP-93-190.0 Existing Boreholes	Simmons/YMPO	7/6/93	Full	1
YMP-93-191.0 Proposed Boreholes	Simmons/YMPO	7/6/93	Full	1
YMP-93-185.0 Existing Boreholes (with Depth) and Highest Point of Elevation	Simmons/YMPO	7/6/93	Full	2
YMP-93-186.0 Proposed Boreholes (with Depth) and Highest Point of Elevation	Simmons/YMPO	7/6/93	Full	2
YMP-92-273.0 Field Verification, Map Sheet 16	Savino/SAIC	7/6/93	Full	1
YMP-93-137.0 Stream & Rain Gage	Ritcey/M&O	7/6/93	Page	1
YMP-93-136.0 Stream Gage	Ritcey/M&O	7/6/93	Page	1
YMP-93-172.0 Existing & Proposed Boreholes with Geologic Structure	Biggar/M&O	7/6/93	Full	2
YMP-93-023.0 YMP, Trenches	Springer/SAIC	7/8/93	Page	1
YMP-93-013.1 Selected Soil Pits & Trenches	Springer/SAIC	7/8/93	Page	1
YMP-93-014.0 Existing & Proposed Trenches	Lundstrom/USGS	7/8/93	Page Full	1 1

YMP-93-017.0 Existing & Proposed Test Pits	Lundstrom/USGS	7/8/93	Page Full	1 1
YMP-93-190.0 Existing Boreholes	Lundstrom/USGS	7/8/93	Page Full	1 1
YMP-93-023.1 Trenches	Lundstrom/USGS	7/8/93	Page	1
YMP-92-252.0 Flood Prone Areas	Lundstrom/USGS	7/8/93	Page	1
YMP-92-252.0 Flood Prone Areas	Houseworth/TRW	7/9/93	Full	2
YMP-93-190.0 Existing Boreholes	Houseworth/TRW	7/9/93	Full	2
YMP-93-194.0 Alluvium Contacts	Kersch/SAIC	7/8/93	Page Full	1
YMP-93-191.0 Proposed Boreholes	Houseworth/TRW	7/9/93	Full	2
YMP-93-037.1 YMP, Figure 5.2 - Planned Test Pits in Midway Valley (Proposed Locations)	Reynolds/M&O	7/12/93	Page	2
YMP-93-030.3 YMP, Figure 5.3 - Planned Trenches in the Site Area (Proposed Locations)	Reynolds/M&O	7/12/93	Page	2
YMP-93-029.3 Figure 5.4 Planned Trenches & Test Pits in Regional Investiga- tions (Proposed Locations)	Reynolds/M&O	7/12/93	Page	2
YMP-93-165.3 Meteoro- logical and Ambient Monitoring Sites	Powers/SAIC	7/13/93	Page	100

YMP-92-003.4 Regional Water Level and Spring- Discharge Monitoring Sites	Powers/SAIC	7/13/93	Page	100
YMP-93-196.0 Figure 5.1a Planned FY94 Boreholes, Assuming Original ESF Design	Reynolds/M&O	7/13/93	Page	2
YMP-93-195.0 Figure 5.1b Planned FY94 Boreholes, Assuming Modified ESF Design	Reynolds/M&O	7/13/93	Page	2
YMP-93-021.1 YMP, Existing & Proposed Boreholes within 2KM of UZ-16	Springer/SAIC	7/13/93	Full	1
YMP-92-240.0 Location Map 1 and 2, Cross Section Sheet 3 and 4	Heaney/SAIC	7/13/93	Full	1
YMP-91-008.2 Orthophoto Index Sheet	Nance/SAIC	7/13/93	Full	1
YMP-93-196.1 Figure 5.1a Planned FY94 Boreholes, Assuming Original ESF Design	Reynolds/M&O	7/14/93	Page	2
YMP-93-195.1 Figure 5.1b Planned FY94 Boreholes, Assuming Modified ESF Design	Reynolds/M&O	7/14/93	Page	2
YMP-92-240.0 Location Map 1 and 2, Cross Section Sheet 3 and 4	Inglett/SAIC	7/14/93	Full	1

YMP-93-029.4 Figure 5.4 Planned Trenches & Test Pits in Regional Investiga- tions (Proposed Locations)	Reynolds/M&O	7/14/93	Page	2
YMP-93-012.3 YMP, Borehole Summary (As of 7/15/93)	Weeks/SAIC	7/15/93	Page	2
YMP-93-189.0 Existing Boreholes	Simmons/YMPO	7/15/93	Full	1
YMP-93-134.0 YMP, Meteorological Monitoring Sites	Prowell/SAIC	7/19/93	Page	1
YMP-92-094.4 YMPs Proposed Boreholes	Dlugosz/YMPO	7/19/93	Full	1
YMP-92-093.3 YMPs Existing Boreholes	Dlugosz/YMPO	7/19/93	Full	1
YMP-93-131.0 YMP RSN Facilities Site Planning	Dlugosz/YMPO	7/19/93	Full	1
YMP-93-052.0 Near-Field Meteorological Monitoring Sites	Dlugosz/YMPO	7/19/93	Full	1
YMP-93-004.0 YMP Participants Tour Map (Near Field)	Inglett/SAIC	7/20/93	Page	1
YMP-93-005.0 YMP Participants Tour Map (Far Field)	Ingeltt/SAIC	7/20/93	Page	1
YMP-93-004.1 YMP Participants Tour Map (Near Field)	Inglett/SAIC	7/21/93	Page	2
YMP-93-005.1 YMP Participants Tour Map (Far Field)	Inglett/SAIC	7/21/93	Page	2
YMP-93-204.0 Lateral Extent of Natural Barriers on Q-List	Morissette/SAIC	7/21/93	Page	6

YMP-93-132.1	McKinley/USGS	7/22/93	Page	1
YMP-93-133.2	McKinley/USGS	7/22/93	Page	1
YMP-93-173.1	McKinley/USGS	7/22/93	Page	1
YMP-93-177.0	McKinley/USGS	7/22/93	Page	1
YMP-93-178.0	McKinley/USGS	7/22/93	Page	1
YMP-93-179.0	McKinley/USGS	7/22/93	Page	1
YMP-93-181.0			_	1
	McKinley/USGS	7/22/93	Page	
YMP-93-182.0	McKinley/USGS	7/22/93	Page	1
YMP-93-183.0	McKinley/USGS	7/22/93	Page	1
YMP-93-183.1	McKinley/USGS	7/22/93	Page	1
YMP-93-184.0	McKinley/USGS	7/22/93	Page	1
YMP-93-184.1	McKinley/USGS	7/22/93	Page	1
YMP-93-194.0	McKinley/USGS	7/22/93	Page	1
YMP-93-190.1 Existing	Mrotek/M&O	7/23/93	Full	2
Boreholes	·			
YMP-93-205.0 Existing	Linden/SAIC	7/23/93	Full	5
Boreholes		.,,		
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YMP-93-192.0 Basemap	Morris/YMPO	7/23/93	Full	1
for Selected Area			Page	1
YMP-93-190.1 Existing	Dlugosz/YMPO	7/23/93	Full	1
Boreholes	Diagood, Thin O	1/25/55	I WII	•
YMP-93-191.1 Proposed	Dlugosz/YMPO	7/23/93	Full	1
Boreholes	,	• •		
YMP-92-116.0 Hydrologic	Dlugosz/YMPO	7/23/93	Full	1
Monitoring Stations &				
Other Existing Activities				
YMP-92-114.0 Radiologic	Dlugosz/YMPO	7/23/93	Full	1
Monitoring Stations &	Diugosz/ Tivii O	1/25/95	I uii	1
Other Existing Activities				
Other Existing Activities				
YMP-92-112.0 Radiologic,	Dlugosz/YMPO	7/23/93	Full	1
Biologic and Hydrologic	<u> </u>	· •		
Monitoring Stations & Other				
Existing Activities				
<u> </u>				
YMP-93-199.0 Proposed	Distel/M&O	7/23/93	Full	4
Drillholes				

YMP-93-198.0 Proposed Drillholes	Distel/M&O	7/23/93	Full	4
YMP-93-138.0 NRC Tour Map	Schlinger/SAIC	7/23/93	Full	1
YMP-92-093.3 Existing Drillholes	Schlinger/SAIC	7/23/93	Full	1
YMP-93-087.1 Test Interference Sheet 16	Olson/RSN	7/23/93	Full Page	4 1
YMP-93-086.1 Test Interference Sheet 15	Olson/RSN	7/23/93	Full Page	4 1
YMP-93-207.0 YMP, Existing Hydrologic Boreholes	Newbury/YMPO	7/26/93	Vugraph	1
YMP-93-208.0 YMP, Planned Hydrologic Boreholes	Newbury/YMPO	7/26/93	Vugraph	1
YMP-93-209.0 YMP, Existing Hydrologic Boreholes (Far Field)	Newbury/YMPO	7/26/93	Vugraph	1
YMP-93-210.0 YMP, Planned Hydrologic Boreholes (Far Field)	Newbury/YMPO	7/26/93	Vugraph	1
YMP-93-074.1 Test Interference Map Sheet 3	Simmons/YMPO	7/26/93	Full Page	1 6
YMP-93-080.1 Test Interference Map Sheet 9	Simmons/YMPO	7/26/93	Full Page	1 6
YMP-93-192.0 Basemap for Selected Area	Simmons/YMPO	7/26/93	Full Page	1 6
YMP-93-147.1 Design Support Boreholes	Tynan/YMPO	7/26/93	Full	3
YMP-93-204.1 Lateral Extend of Natural Barriers on the Q-List	Morissette/SAIC	7/27/93	Page	6

YMP-93-105.0 Proposed Seismic Reflection Line Locations & Selected Existing Seismic Shothole and RF Borehole Locations	Agnew/M&O	7/28/93	Page	2
YMP-93-166.0 Yucca Mountain and Vicinity	Agnew/M&O	7/28/93	Page	2
YMP-92-289.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Northeast Area	Agnew/M&O	7/28/93	Full	2
YMP-92-290.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Southeast Area	Agnew/M&O	7/28/93	Full	2
YMP-92-291.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Southwest Area	Agnew/M&O	7/28/93	Full	2
YMP-93-188.0 Existing Boreholes	Braumiller/M&O	7/28/93	Full	1
YMP-92-292.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Northwest Area	Agnew/M&O	7/28/93	Full	2
YMP-93-212.0 North Ramp Geologic (NRG) Boreholes	Peters/USGS	7/29/93	Full	2
YMP-93-190.1 Existing Boreholes	Soeder/USGS	7/30/93	Full	3
YMP-93-191.1 Planned Boreholes	Soeder/USGS	7/30/93	Full	1

YMP-92-302.0 Test & Waste Isolation Evaluation Zone	Newbury/YMPO	8/2/93	Page	1.
YMP-92-289.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Northeast Area	Tynan/YMPO	8/4/93	Full	3
YMP-92-290.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Southeast Area	Tynan/YMPO	8/4/93	Full	3
YMP-92-291.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Southwest Area	Tynan/YMPO	8/4/93	Full	3
YMP-92-292.1 Proposed Seismic Reflection Line Locations and Proposed Deep Seismic Shothole Locations Northwest Area	Tynan/YMPO	8/4/93	Full	3
YMP-92-240.0 Location Map 1 & 2, Cross Section Sheet 3 and 4	Houseworth/M&O	8/6/93	Full	1
YMP-93-243.0 Plant Successional Study Plots	Gabbert/EG&G	8/6/93	Full	2
YMP-93-014.0 Existing & Proposed Trenches	Menges/USGS	8/10/93	Full	1
YMP-93-028.0 Conceptual Drift Boundary and Conceptual Controlled Area	Menges/USGS	8/10/93	Full	1
YMP-93-030.0 Planned Trenches in Site Area	Menges/USGS	8/10/93	Page	1

YMP-93-029.0 Planned Trenches and Test Pits in Regional Investigations	Menges/USGS	8/10/93	Page	1
YMP-93-023.0 Trenches (Existing)	Menges/USGS	8/10/93	Page	1
YMP-93-022.1 Proposed Locations of Seismic Reflection Profiles	Menges/USGS	8/10/93	Page	1
YMP-93-020.2 Location Map (Regional)	Menges/USGS	8/10/93	Page	1
YMP-93-019.1 Detailed Location Map	Menges/USGS	8/10/93	Page	1
YMP-93-013.0 Midway Valley Soil Test Pits and Trenches	Menges/USGS	8/10/93	Page	1
YMP-93-246.0 YMP Study Area Location Map	Gabbert/EG&G	8/10/93	Full	2
YMP-93-249.0 Activities from 6/1/91-6/1/93	StClair/M&O	8/13/93	Page	1
YMP-93-250.0 Activities from 6/1/91-6/1/93	StClair/M&O	8/13/93	Page	1
YMP-93-072.1 Test Interference Map Sheet 1	Mrotek/WCFS	8/16/93	Full	1
YMP-93-073.1 Test Interference Map Sheet 2	Mrotek/WCFS	8/16/93	Full	1
YMP-93-074.1 Test Interference Map Sheet 3	Mrotek/WCFS	8/16/93	Full	1
YMP-93-075.1 Test Interference Map Sheet 4	Mrotek/WCFS	8/16/93	Full	1
YMP-93-076.1 Test Interference Map Sheet 5	Mrotek/WCFS	8/16/93	Full	1

YMP-93-077.1 Test Interference Map Sheet 6	Mrotek/WCFS	8/16/93	Full	1
YMP-93-078.1 Test Interference Map Sheet 7	Mrotek/WCFS	8/16/93	Full	1
YMP-93-079.1 Test Interference Map Sheet 8	Mrotek/WCFS	8/16/93	Full	1
YMP-93-080.1 Test Interference Map Sheet 9	Mrotek/WCFS	8/16/93	Full	1
YMP-93-081.1 Test Interference Map Sheet 10	Mrotek/WCFS	8/16/93	Full	1
YMP-93-082.1 Test Interference Map Sheet 11	Mrotek/WCFS	8/16/93	Full	1
YMP-93-083.1 Test Interference Map Sheet 12	Mrotek/WCFS	8/16/93	Full	1
YMP-93-084.1 Test Interference Map Sheet 13	Mrotek/WCFS	8/16/93	Full	1
YMP-93-085.1 Test Interference Map Sheet 14	Mrotek/WCFS	8/16/93	Full	1
YMP-93-086.1 Test Interference Map Sheet 15	Mrotek/WCFS	8/16/93	Full	1
YMP-93-087.2 Test Interference Map Sheet 16	Mrotek/WCFS	8/16/93	Full	1
YMP-93-088.1 Test Interference Map Sheet 17	Mrotek/WCFS	8/16/93	Full	1
YMP-93-089.1 Test Interference Map Sheet 18	Mrotek/WCFS	8/16/93	Full	1
YMP-93-090.1 Test Interference Map Sheet 19	Mrotek/WCFS	8/16/93	Full	1
YMP-93-091.1 Test Interference Map Sheet 20	Mrotek/WCFS	8/16/93	Full	1

YMP-93-092.1 Test Interference Map Sheet 21	Mrotek/WCFS	8/16/93	Full	1
YMP-93-093.1 Test Interference Map Sheet 22	Mrotek/WCFS	8/16/93	Full	1
YMP-93-094.1 Test Interference Map Sheet 23	Mrotek/WCFS	8/16/93	Full	1
YMP-93-095.1 Test Interference Map Sheet 24	Mrotek/WCFS	8/16/93	Full	1
YMP-93-096.1 Test Interference Map Sheet 25	Mrotek/WCFS	8/16/93	Full	1
YMP-93-097.1 Test Interference Map Sheet 26	Mrotek/WCFS	8/16/93	Full	1
YMP-93-098.1 Test Interference Map Sheet 27	Mrotek/WCFS	8/16/93	Full	1
YMP-93-099.1 Test Interference Map Sheet 28	Mrotek/WCFS	8/16/93	Full	1
YMP-93-100.1 Test Interference Map Sheet 29	Mrotek/WCFS	8/16/93	Full	1
YMP-93-101.1 Test Interference Map Sheet 30	Mrotek/WCFS	8/16/93	Full	1
YMP-93-244.0 Existing and Planned Boreholes	Newbury/YMPO	8/17/93	Full	1
YMP-93-029.5 Planned FY94 Trenches & Test Pits in Regional Investigations (Proposed Locations)	Reynolds/M&O	8/18/93	Page	1
YMP-93-030.4 Planned FY94 Trenches in the Site	Reynolds/M&O	8/18/93	Page	1
Area (Proposed Locations) YMP-93-037.2 Planned FY94 Test Pits in Midway Valley (Proposed Locations)	Reynolds/M&O	8/18/93	Page	1

YMP-93-256.0 Proposed FY94 Seismic Reflection Line Locations and Associated Shotholes	Reynolds/M&O	8/18/93	Page	1
YMP-93-190.2 Existing Boreholes	Mrotek/M&O	8/19/93	Full	1
YMP-93-244.0 Existing & Planned Boreholes	Skipper/DOE	8/19/93	Full	2
YMP-93-245.0 Existing Boreholes	Skipper/DOE	8/19/93	Full	5
YMP-93-190.2 Existing Boreholes	Zesiger/USGS	8/20/93	Full	2
YMP-93-258.0 Existing & Planned Boreholes	Crawford/YMPO	8/20/93	Full	2
YMP-93-258.0 Existing & Planned Boreholes	Robinson/SAIC	8/20/93	Full	2
YMP-93-260.0 Selected Boreholes	Myers/SAIC	8/23/93	Page	5
YMP-93-261.0 Basemap of Conceptual Perimeter Drift Boundary Area	Peck/SAIC	8/24/93	Full	1
YMP-93-203.0 Repository Base Map Sheet A	Elayer/M&O	8/25/93	Full	3
YMP-93-202.0 Repository Base Map Sheet B	Elayer/M&O	8/25/93	Full	3
YMP-93-201.0 South Ramp Base Map	Elayer/M&O	8/25/93	Full	3
YMP-93-200.0 North Ramp Base Map	Elayer/M&O	8/25/93	Full	3

YMP-93-261.1 Base Map of Conceptual Perimeter Drift Boundary Area	Peck/SAIC	8/25/93	Full	1
YMP-93-257.0 USW H-5	Blink/LLNL	8/25/93	Full	2
YMP-93-255.0 Streamflow and Precipitation Stations	Dlugosz/YMPO	8/26/93	Full	2
YMP-93-244.0 Existing & Planned Boreholes	Bousema/SAIC	8/26/93	Full	1
YMP-93-247.0 Floodprone & Geologic Features in the Repository Block Area	Einarson/M&O	8/30/93	Full Page	1 2
YMP-93-248.0 Floodprone & Geologic Features in the Repository Block Area (without PDB, Ramps & Drifts)	Einarson/M&O	8/30/93	Full Page	1 2
YMP-93-262.0 Generic Preliminary Shaft Site Examples	Einarson/M&O	8/30/93	Page	2
YMP-93-262.0 Generic Preliminary Shaft Site Examples	Einarson/M&O	8/31/93	Full	1

TOTAL NEW MAPS <u>88</u>
TOTAL MAPS <u>480</u>

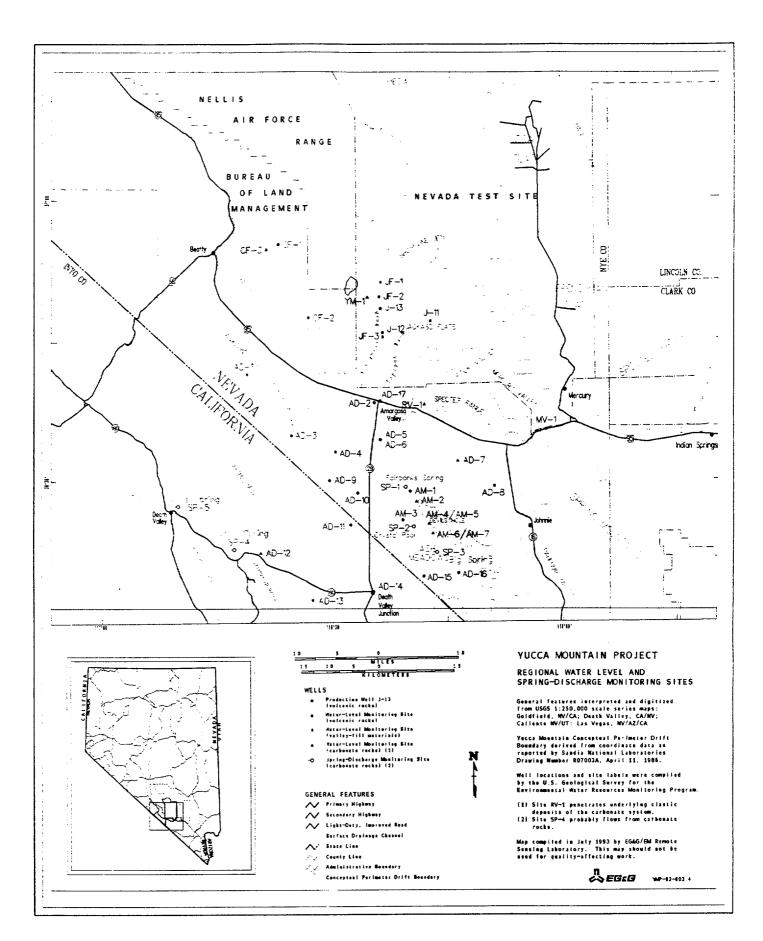
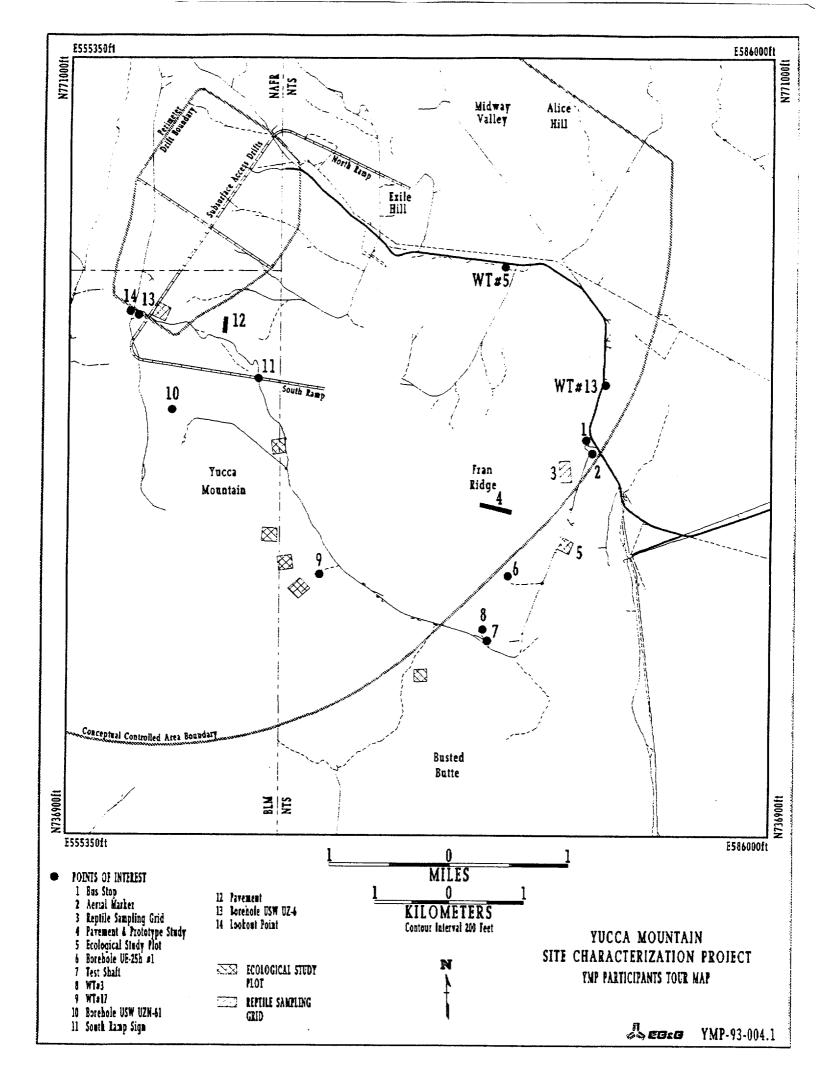
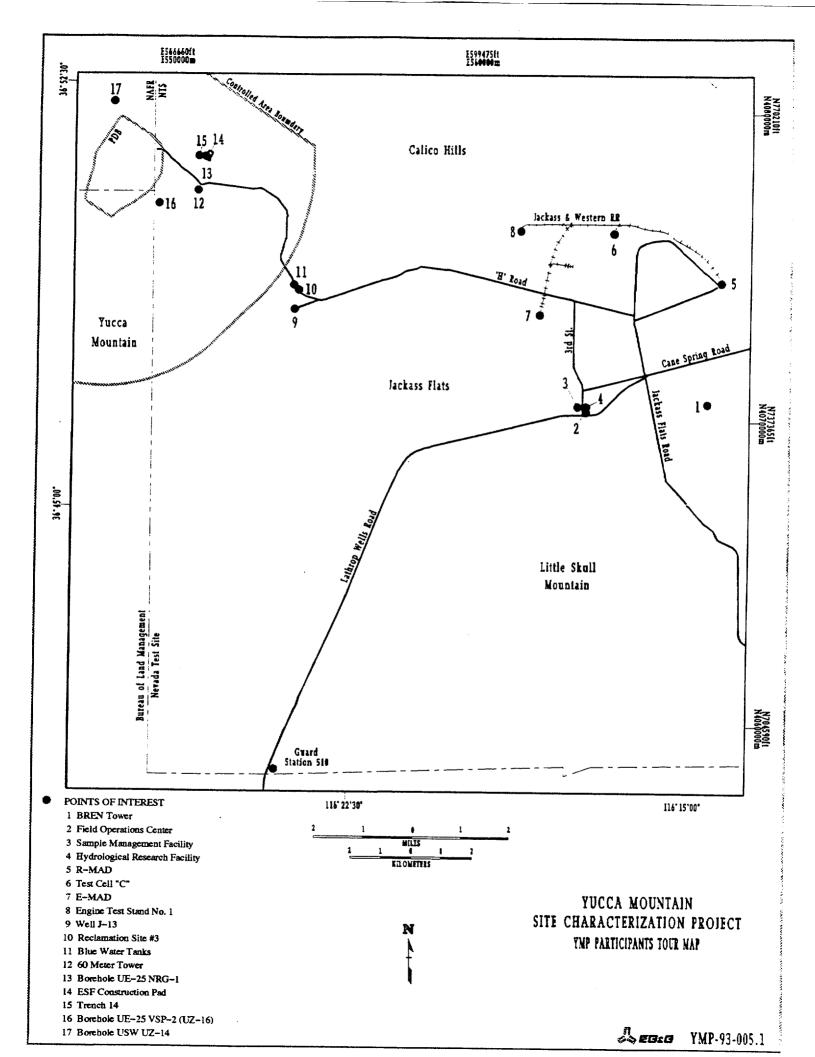
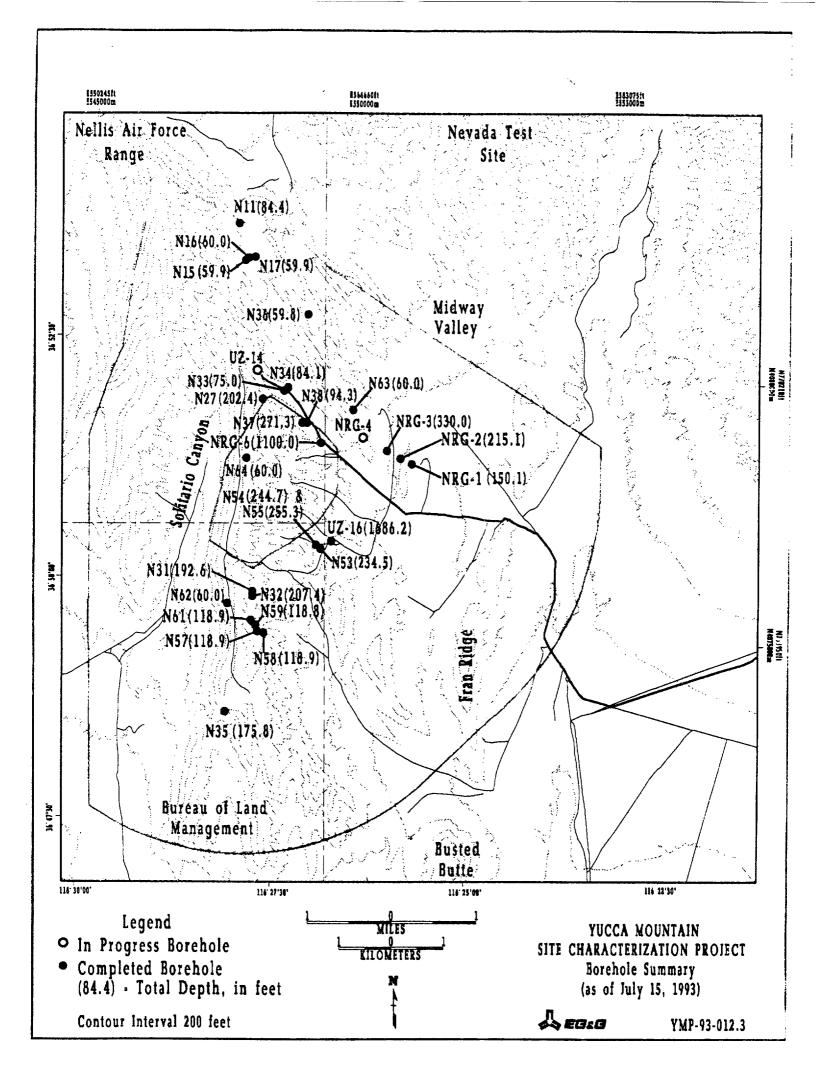
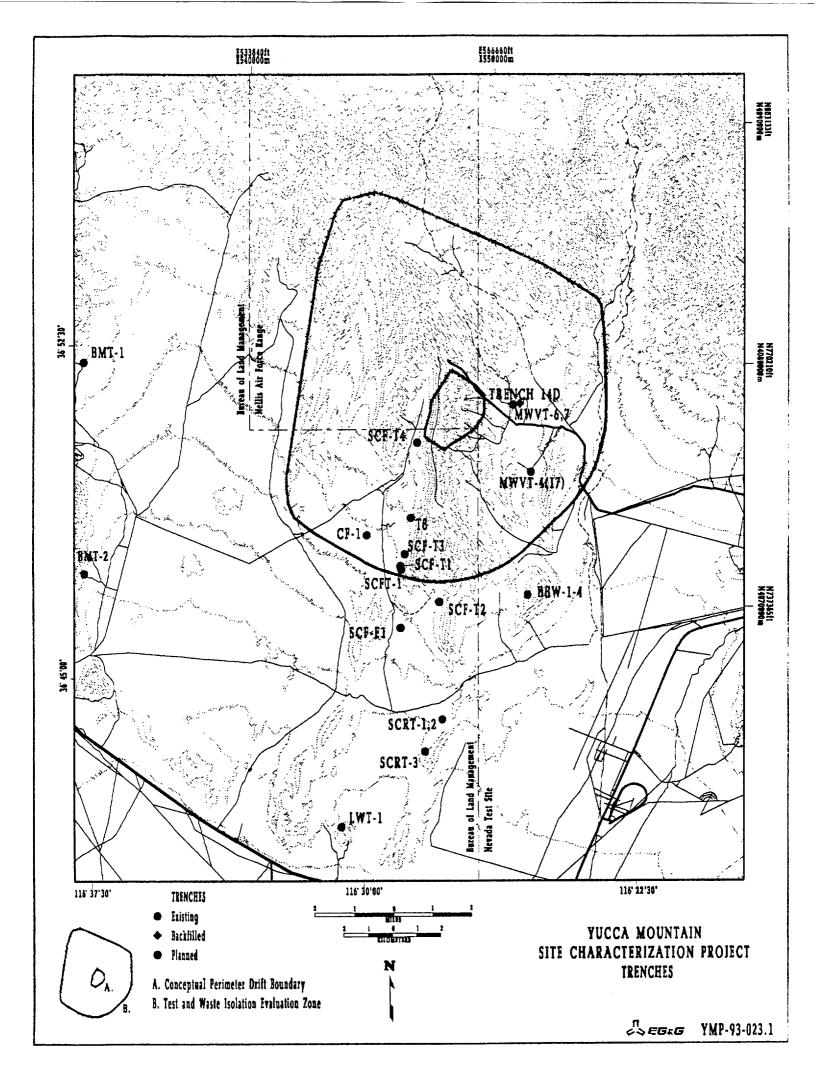


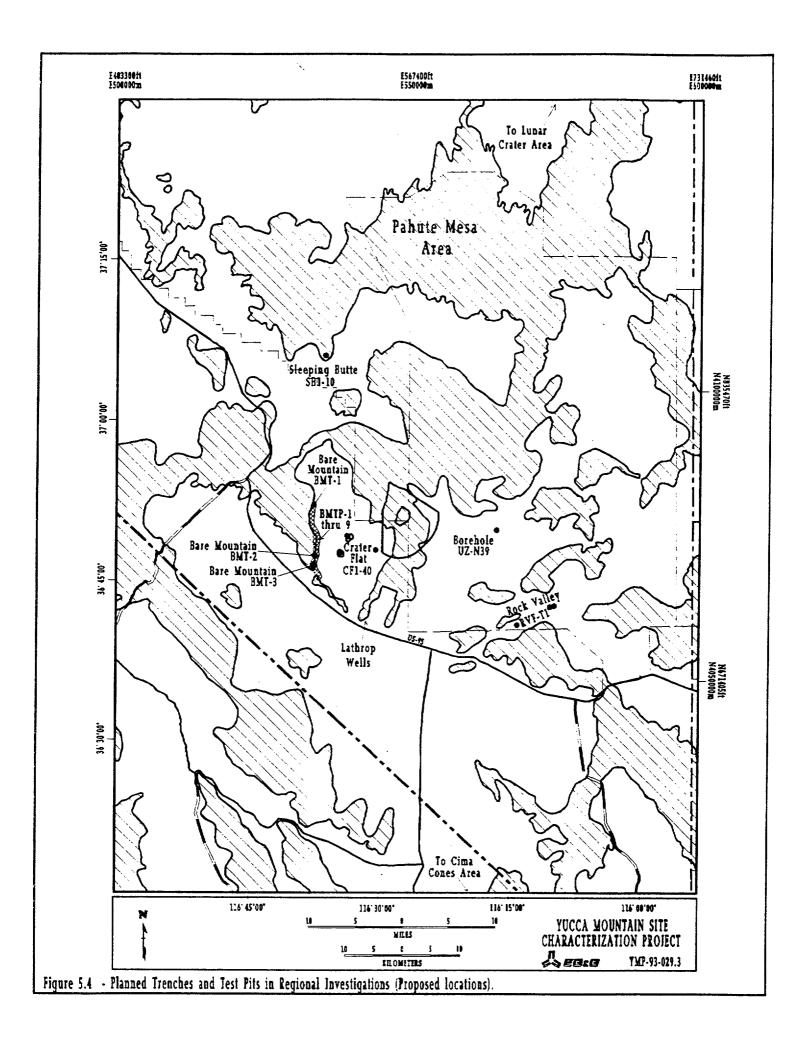
Figure 6-5. Regional Water Level and Spring-Discharge Monitoring Sites

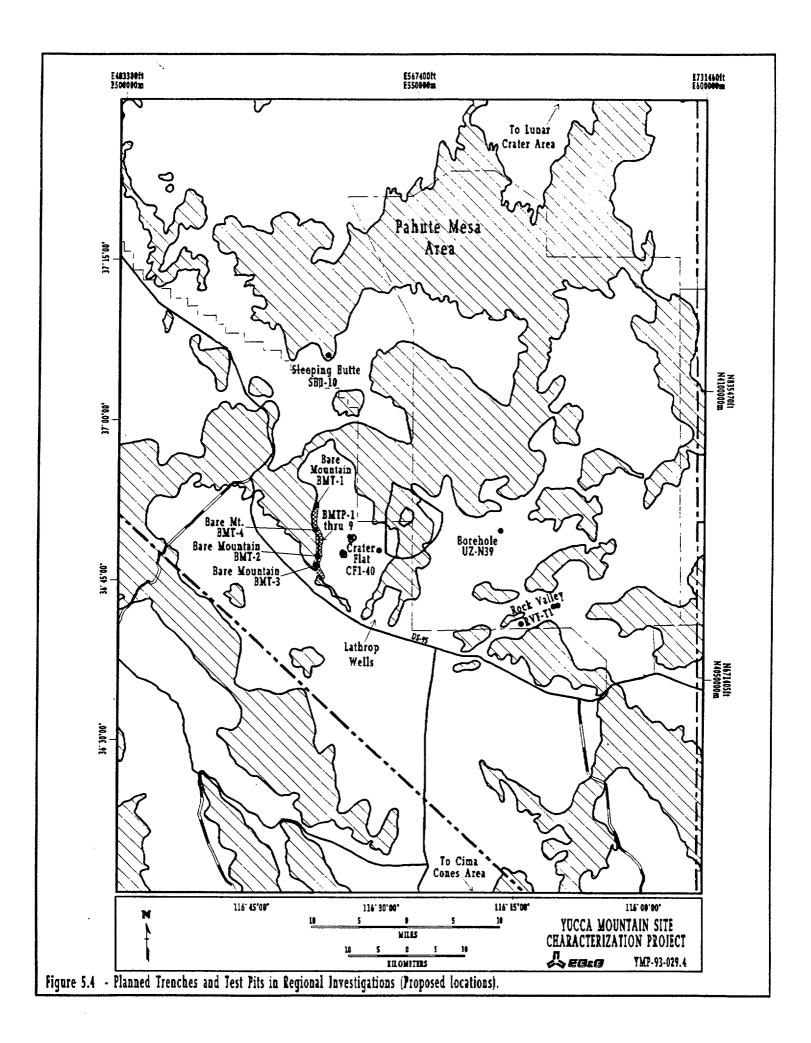


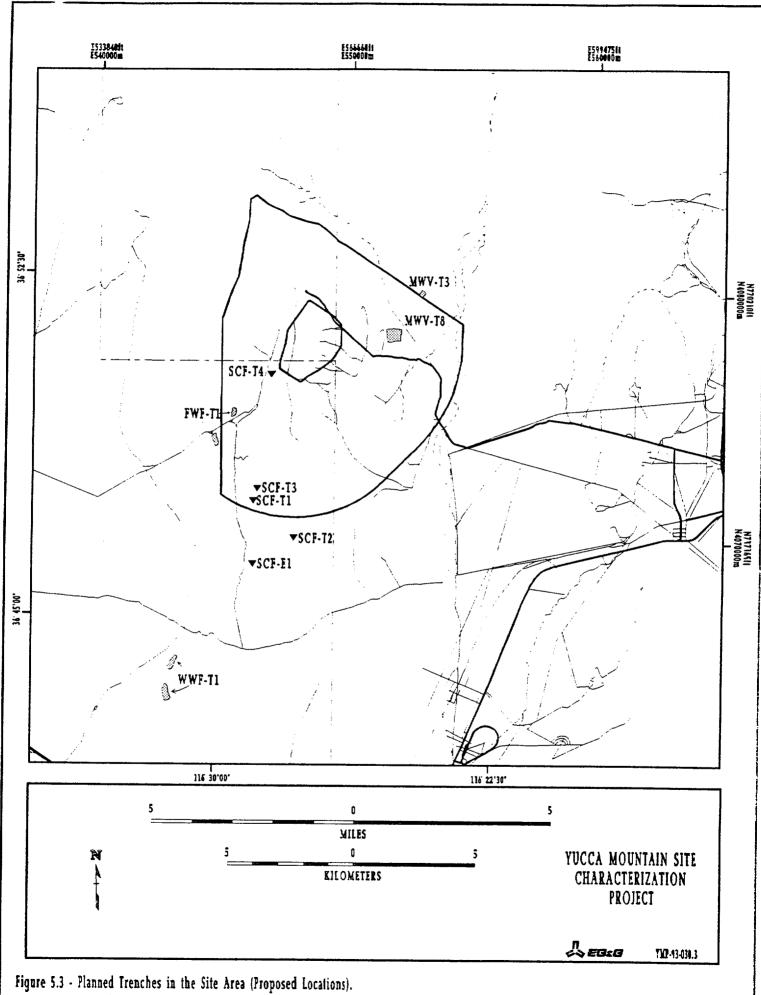




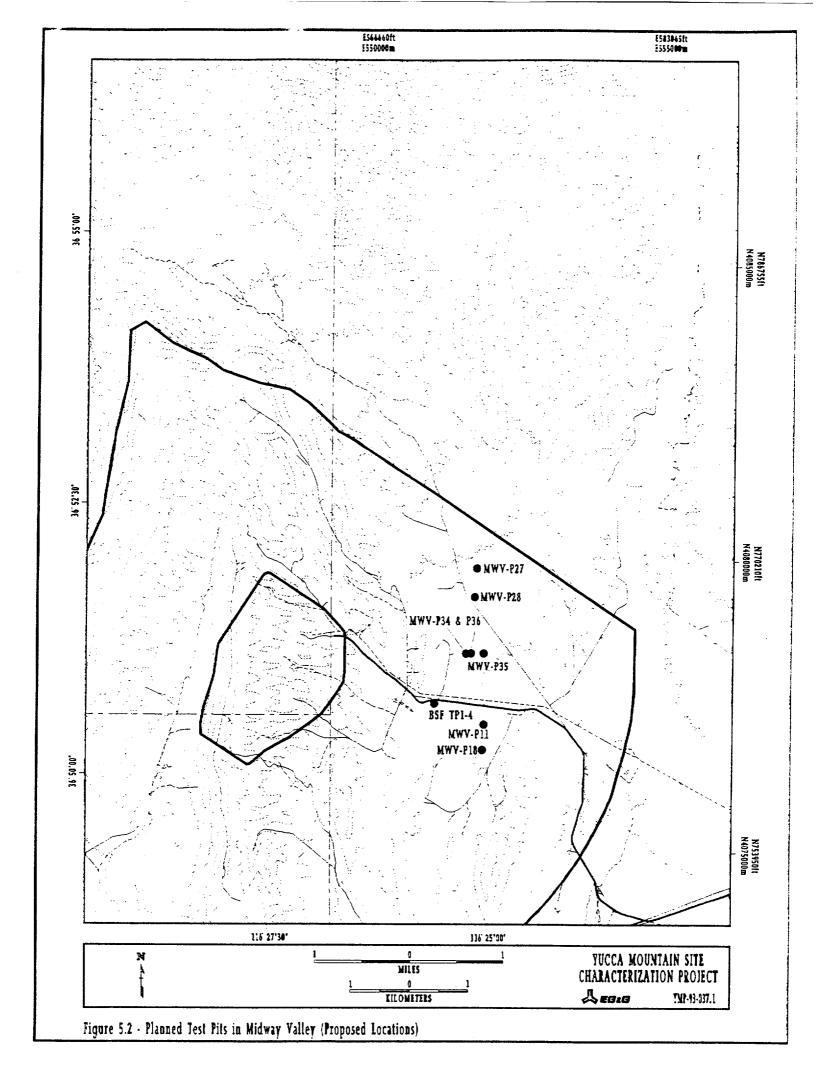


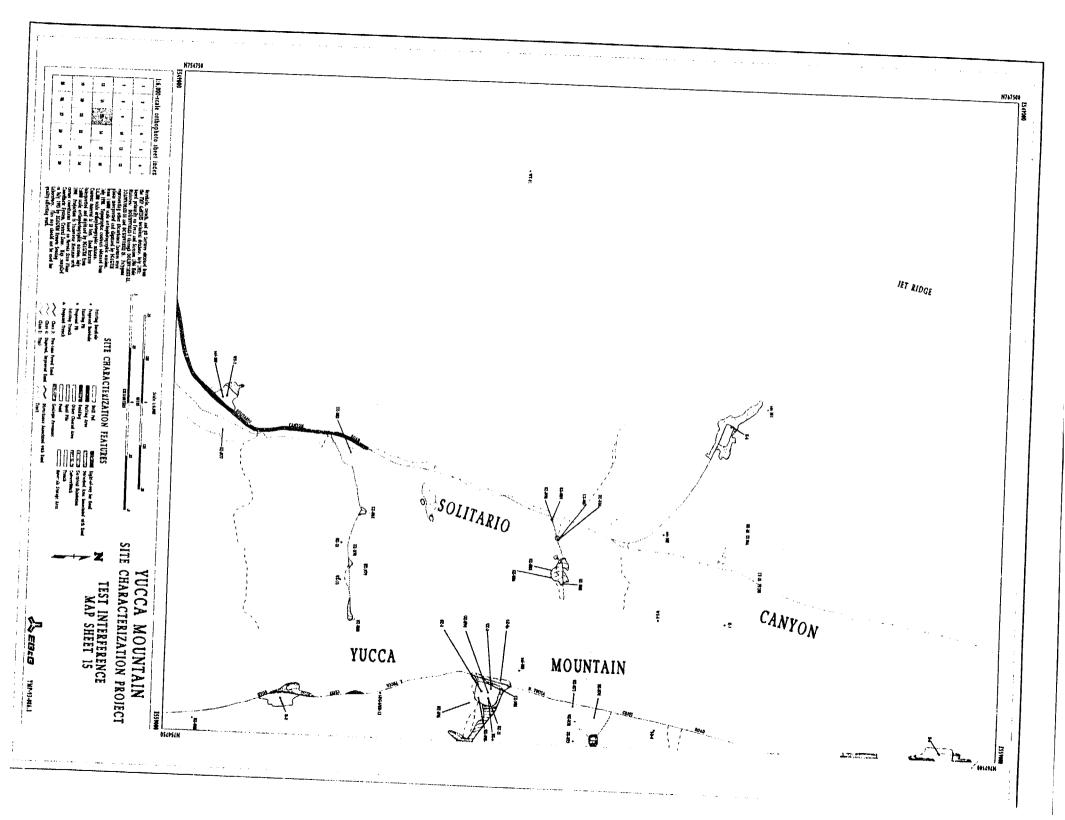


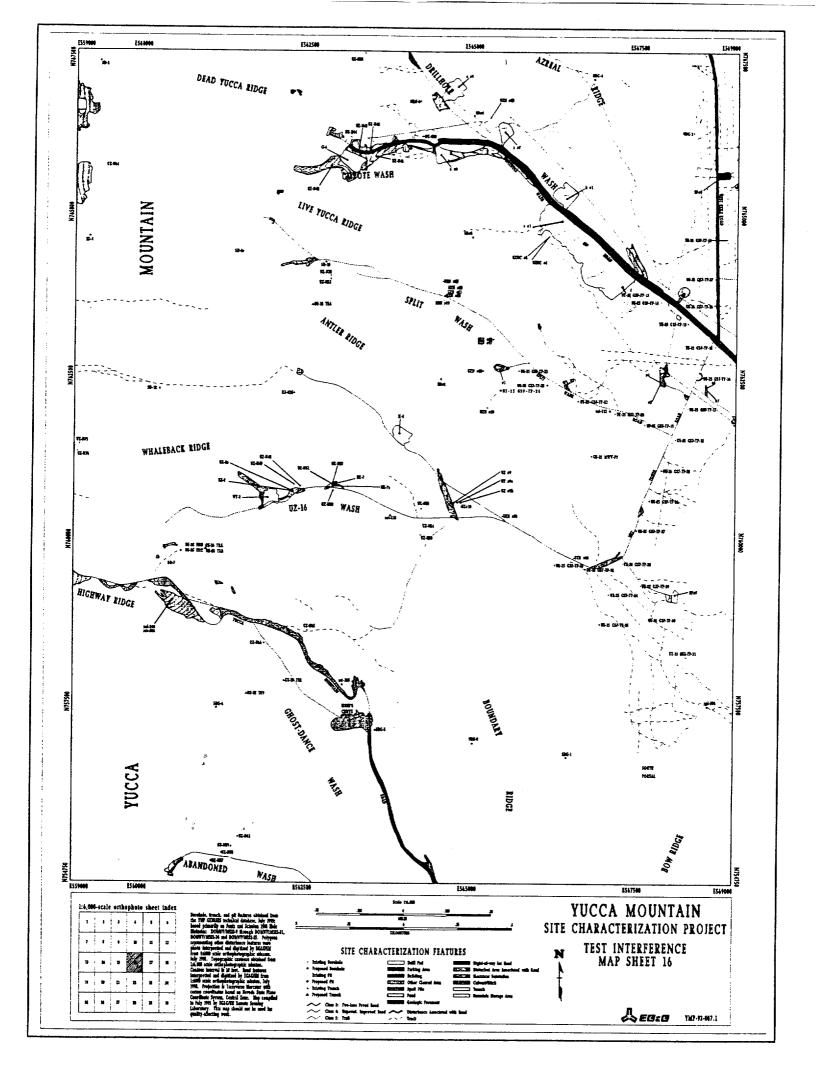


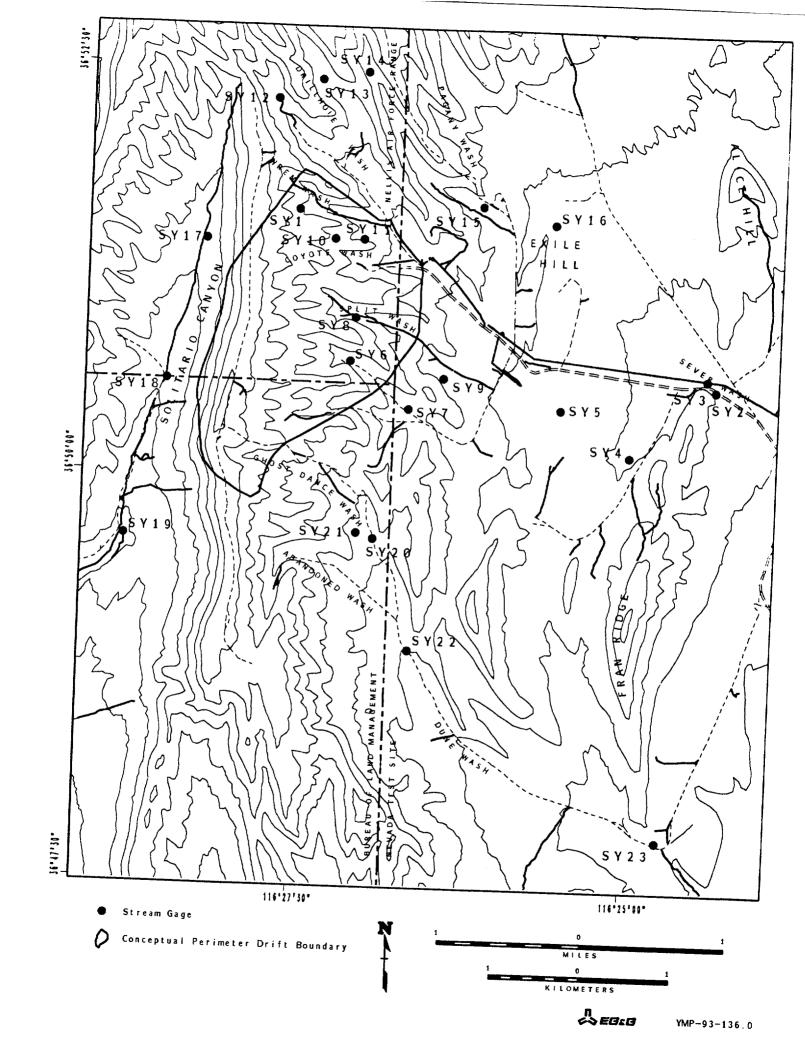


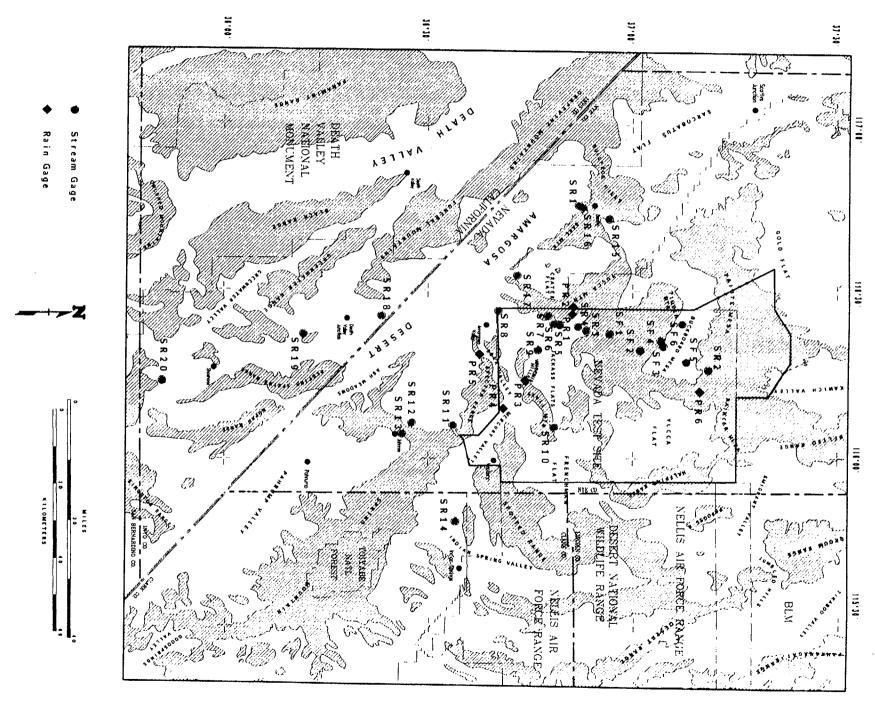
Note: locations shown on figure are approximate. Do not use for calculations.











N EG2G YMP-93-137.0

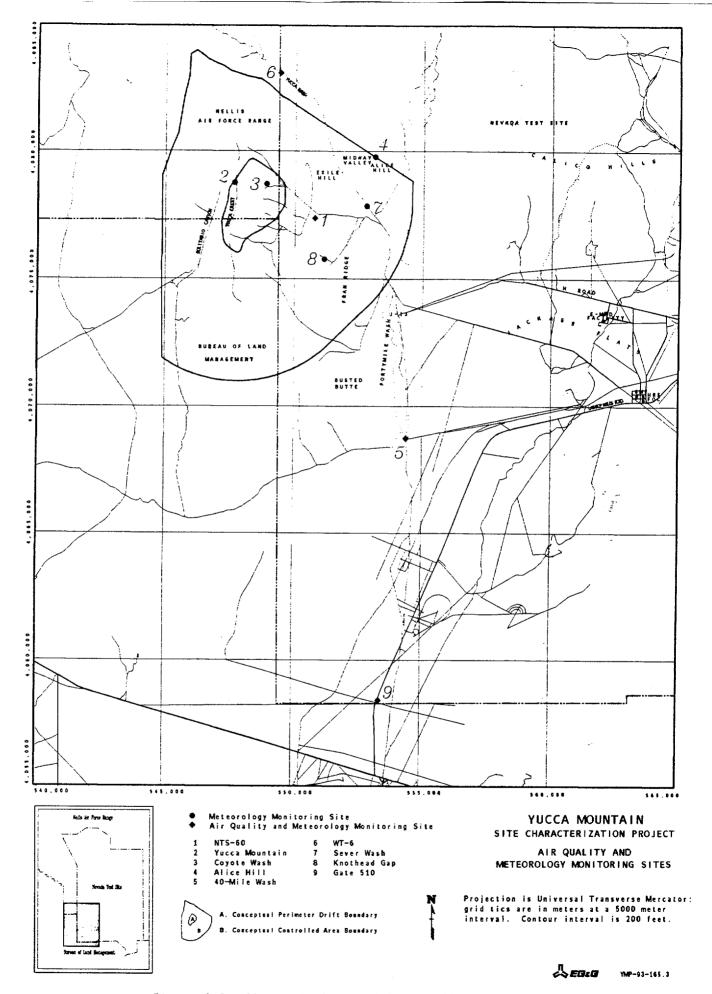
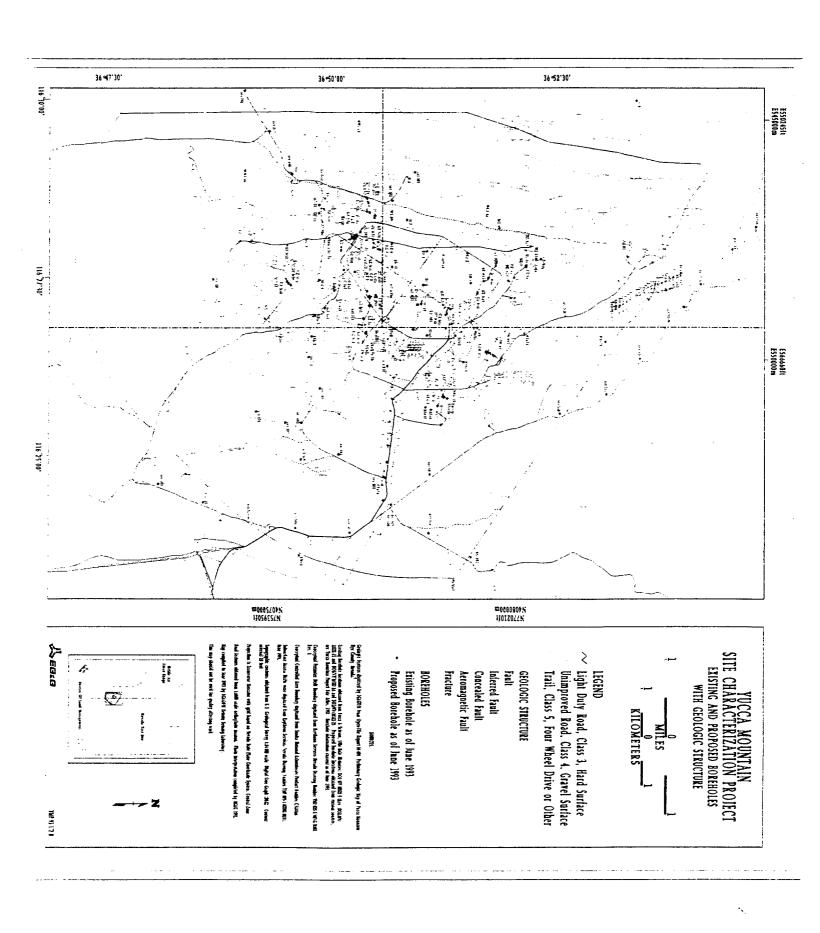
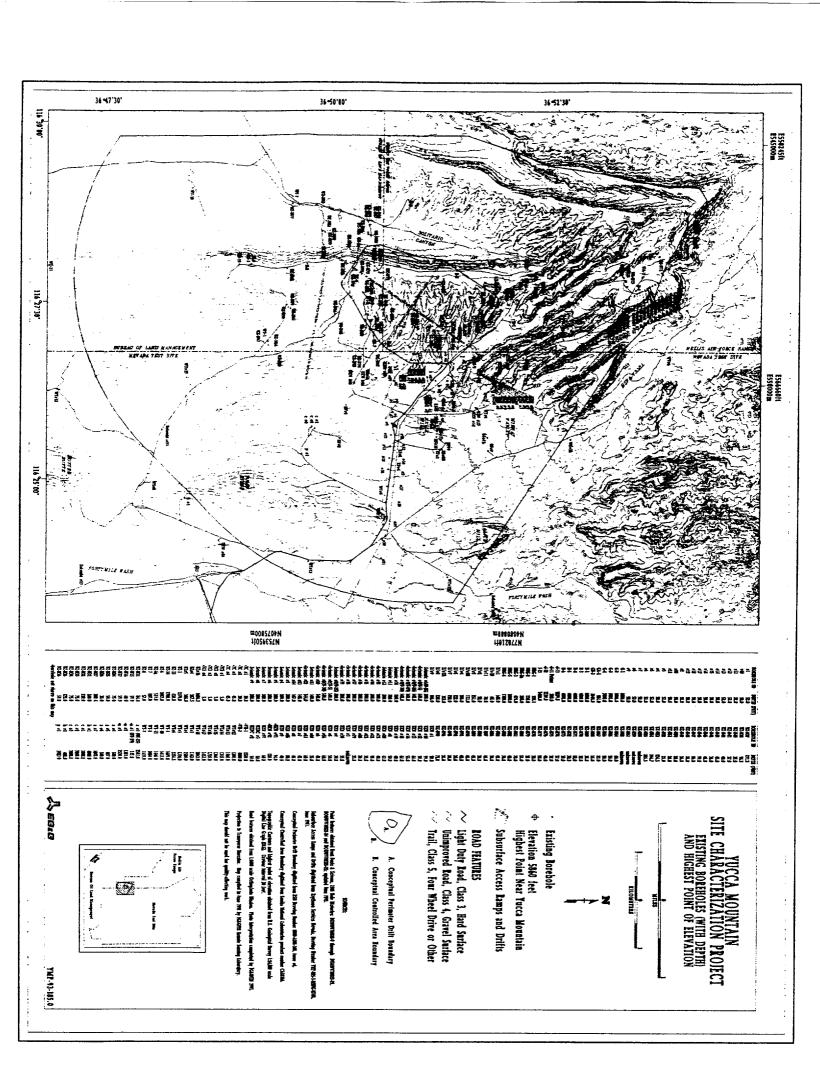
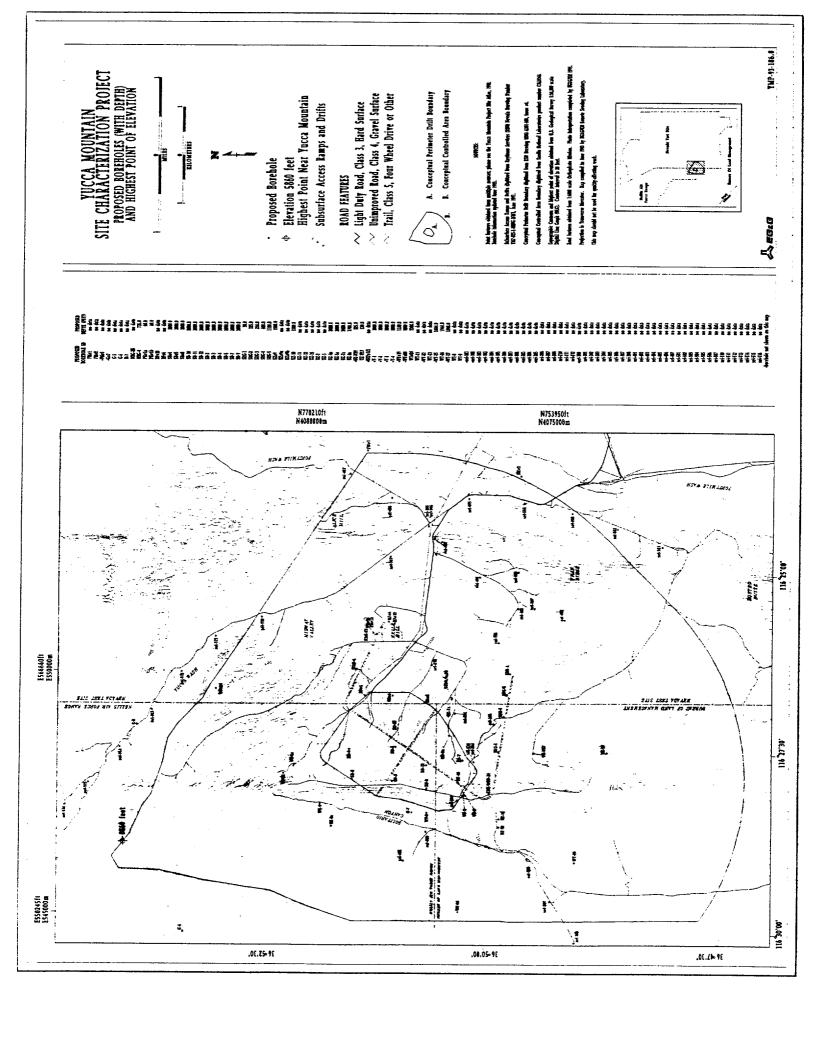
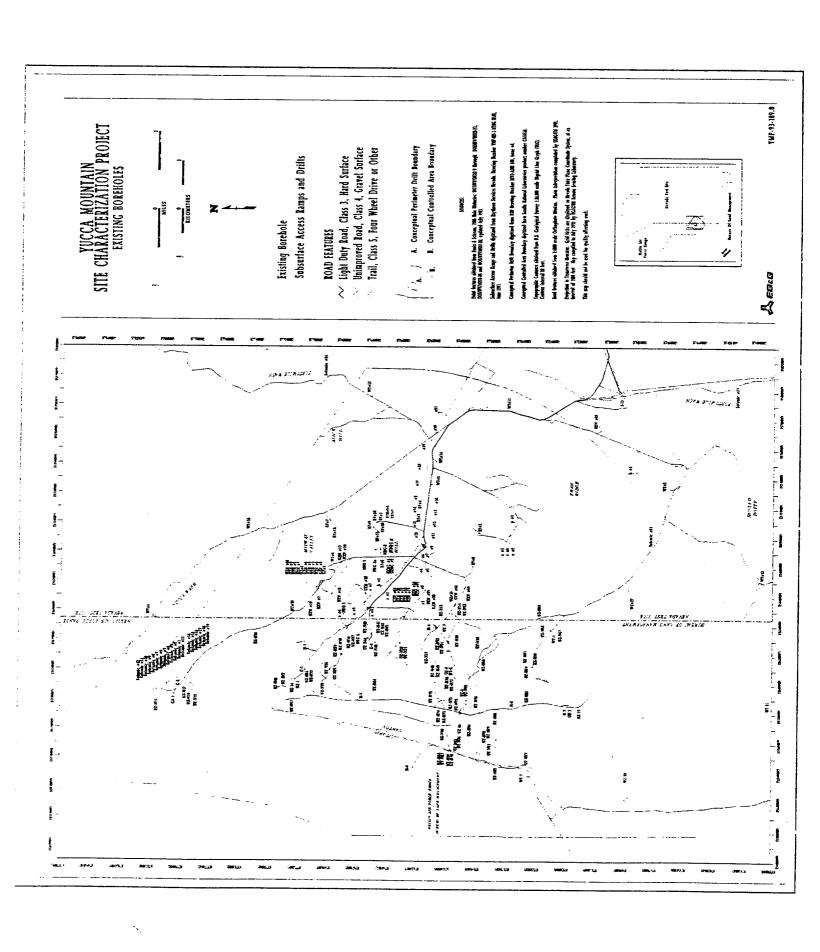


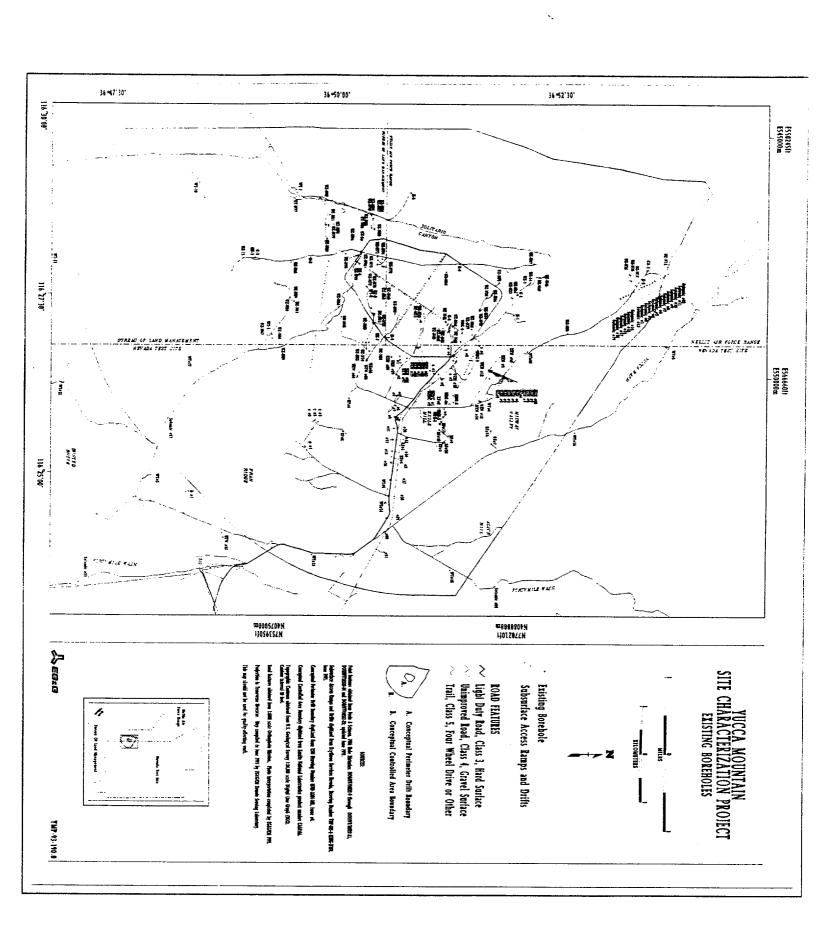
Figure 6-3. Meteorological and Ambient Monitoring Sites

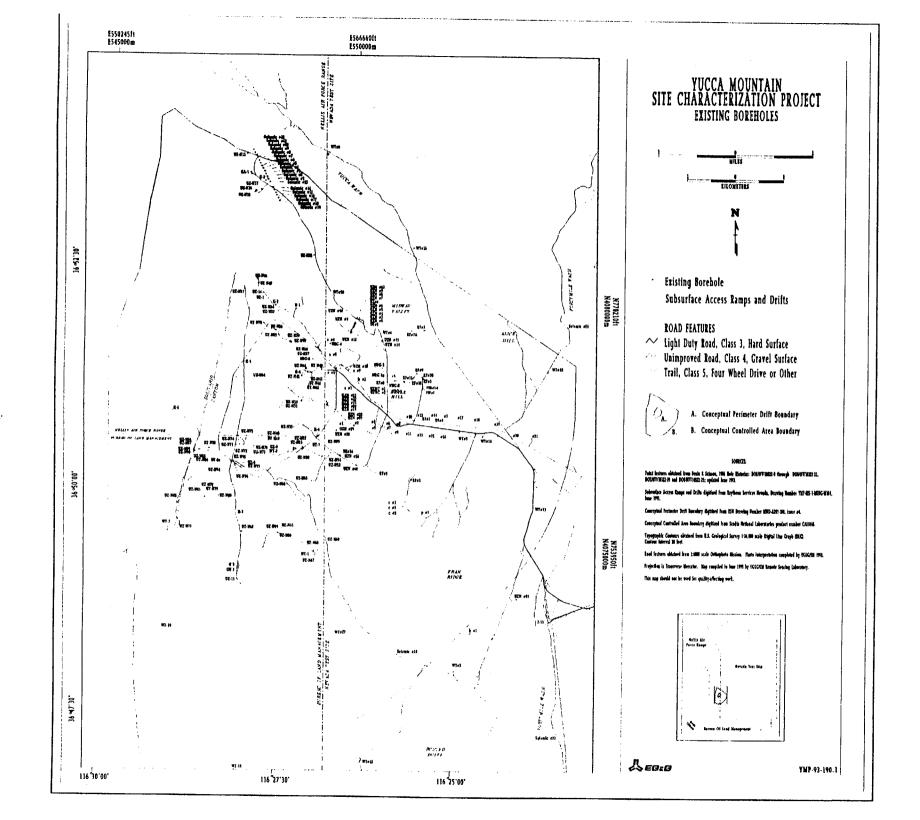


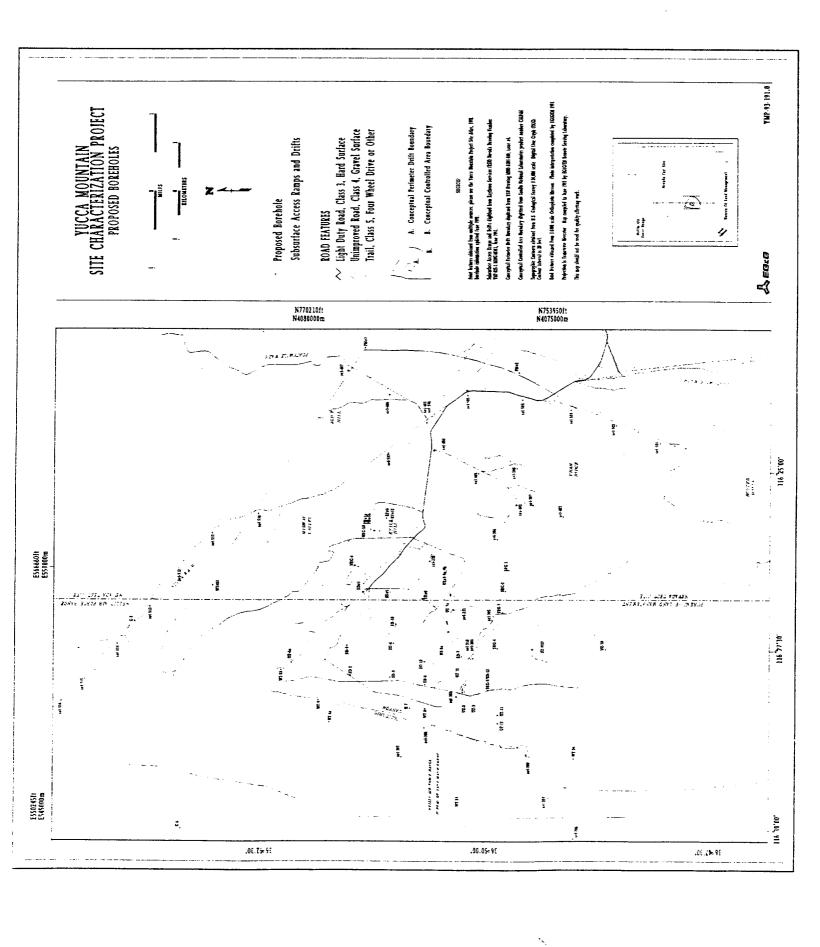


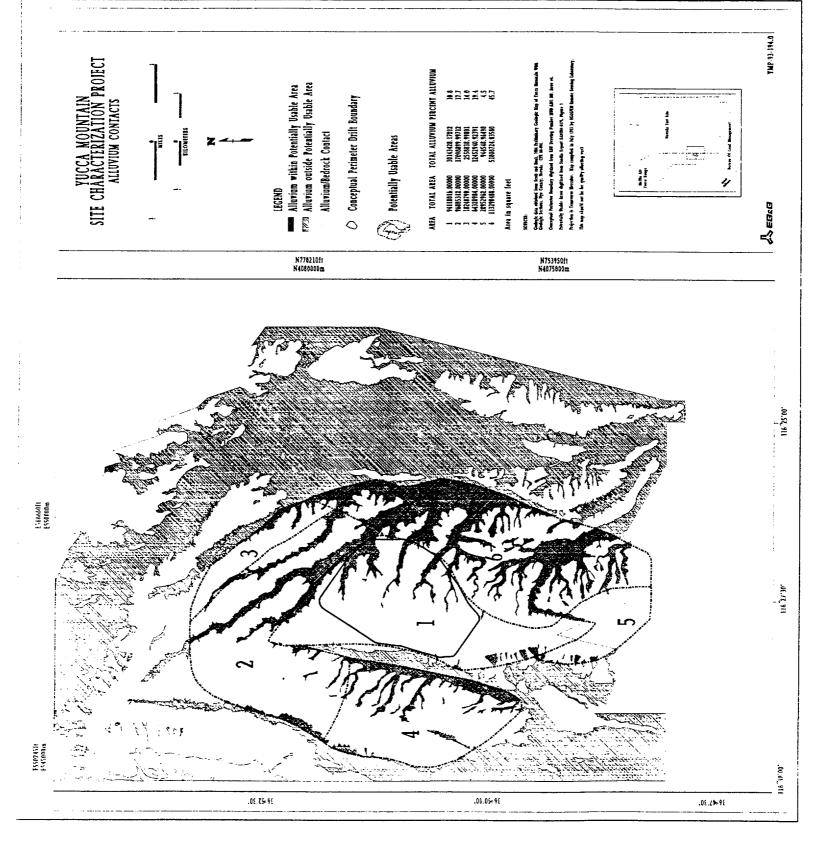


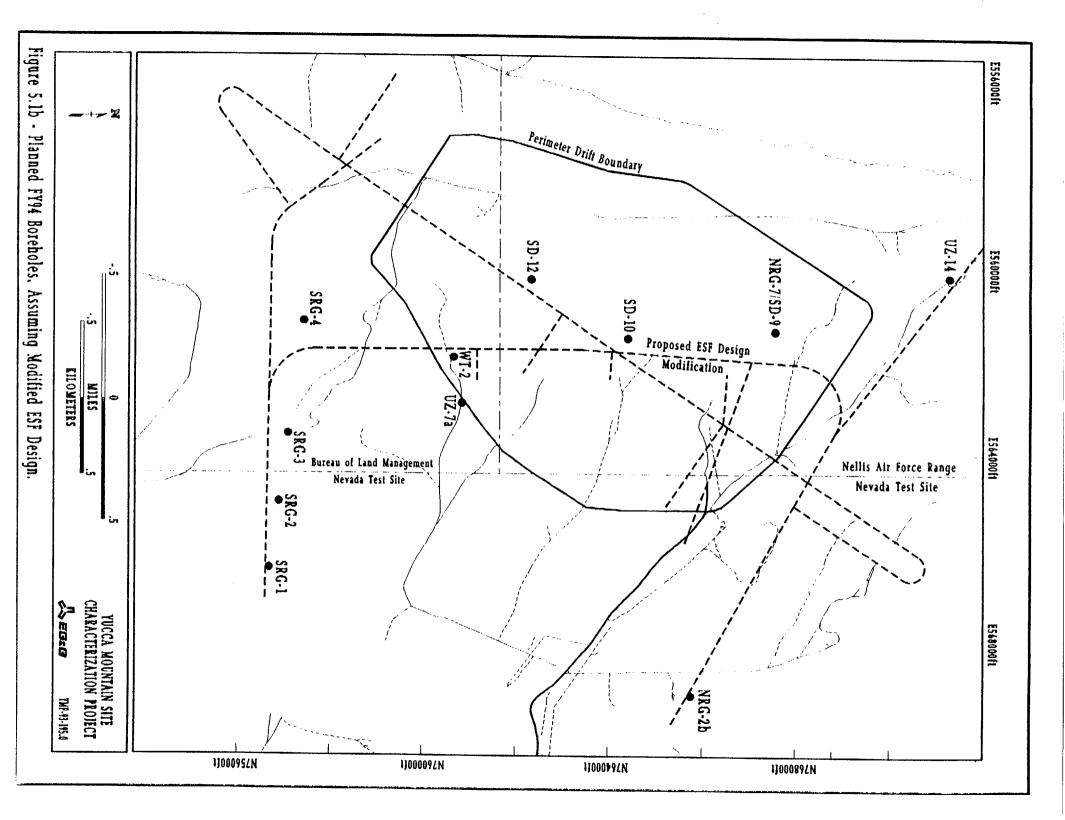












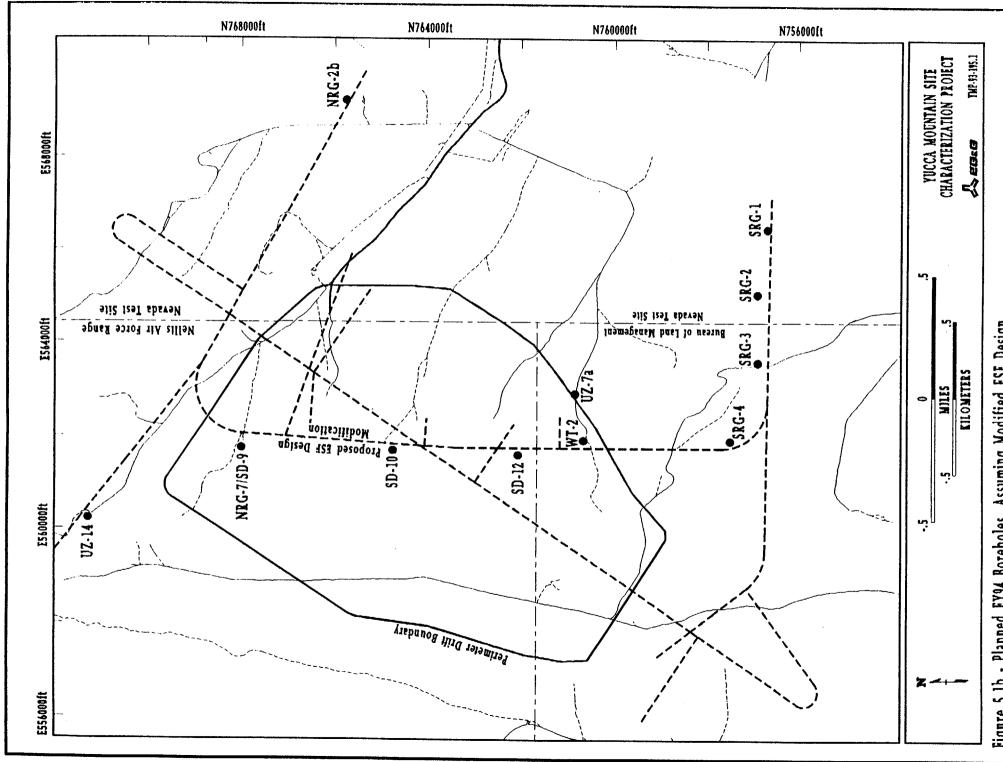
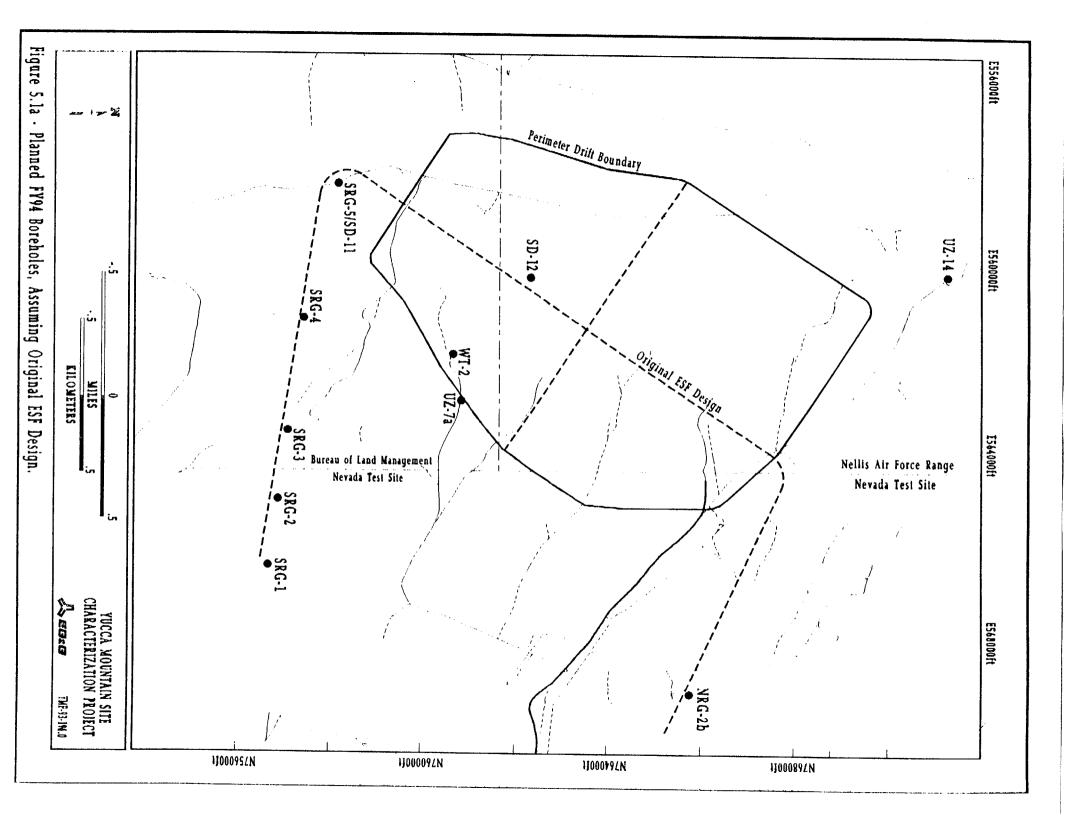
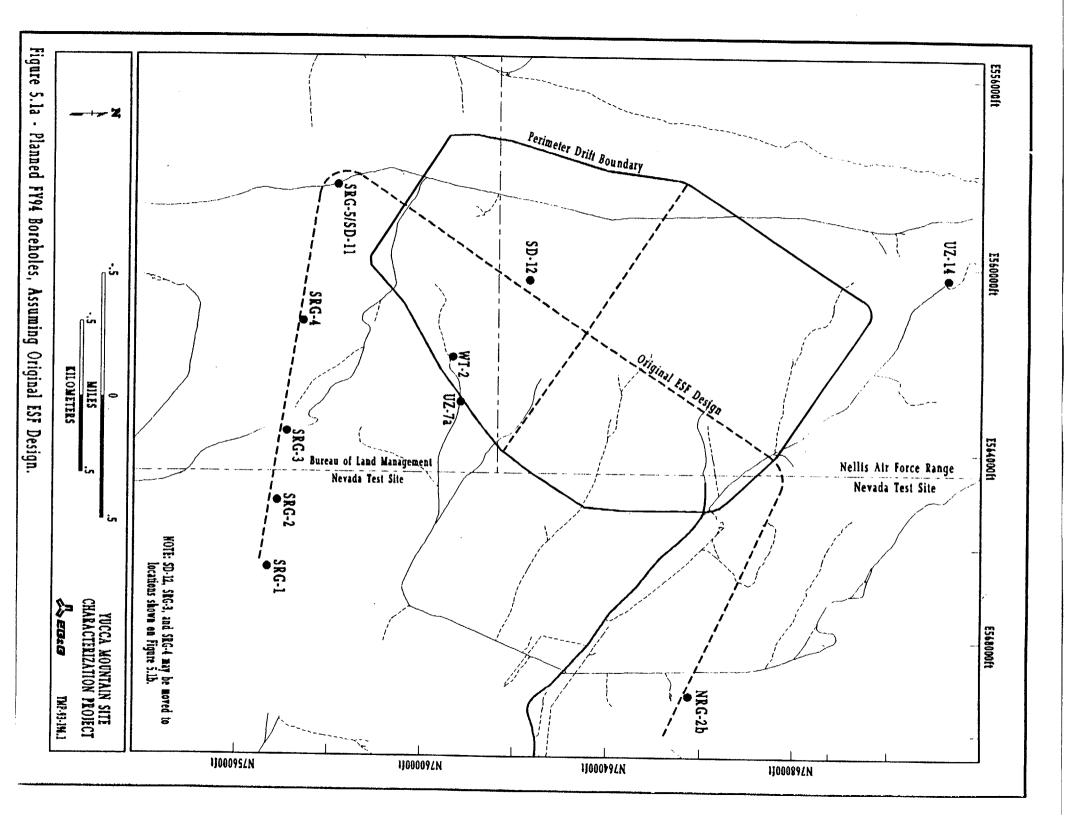
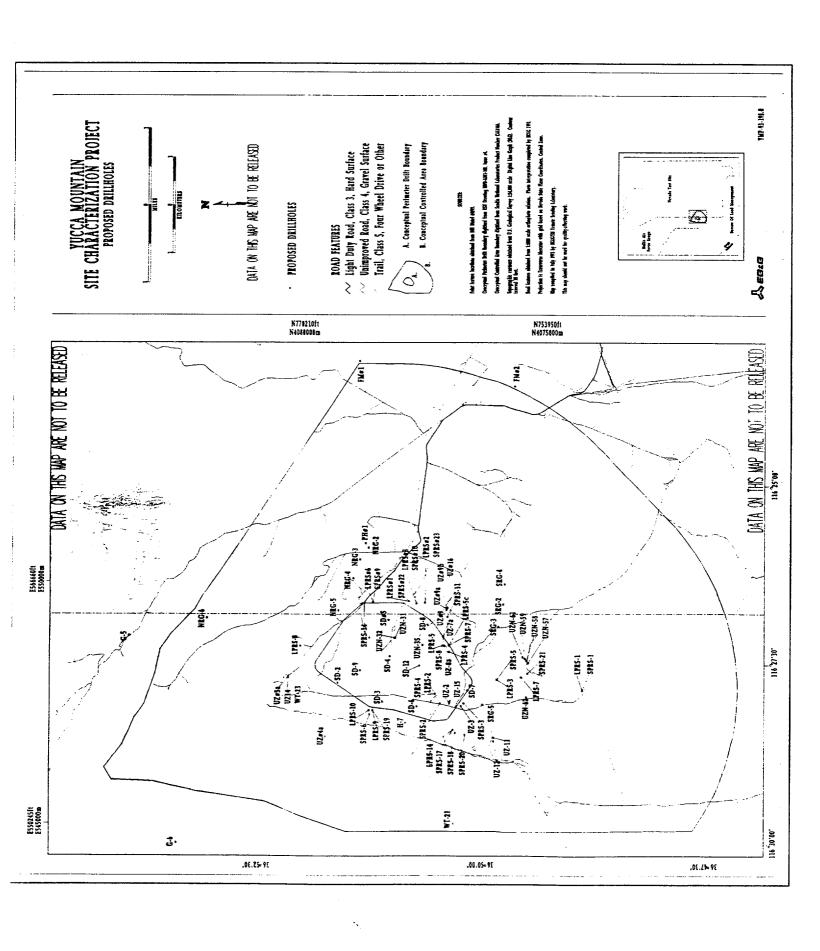
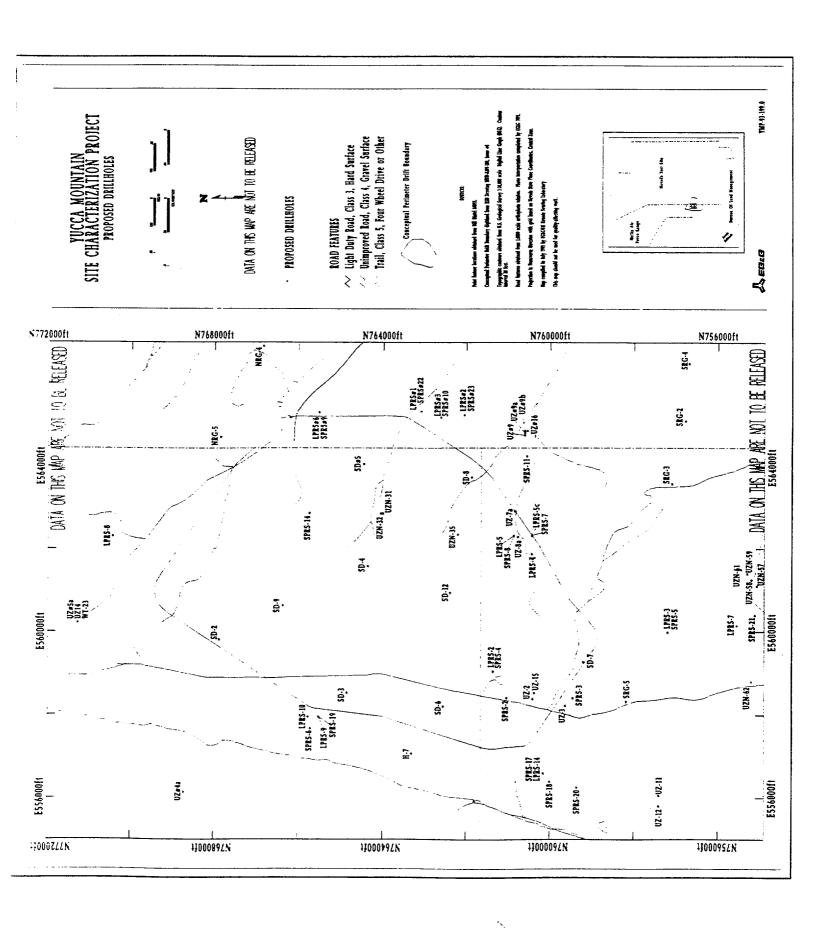


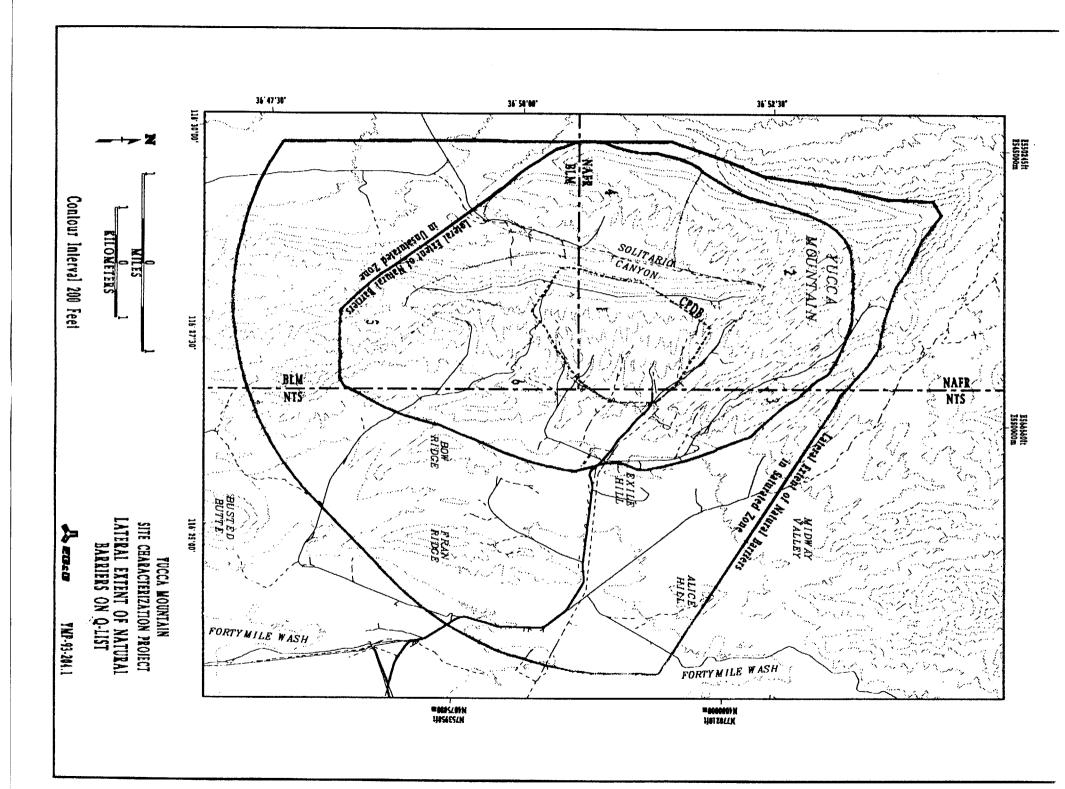
Figure 5.1b - Planned FY94 Boreholes, Assuming Modified ESF Design.

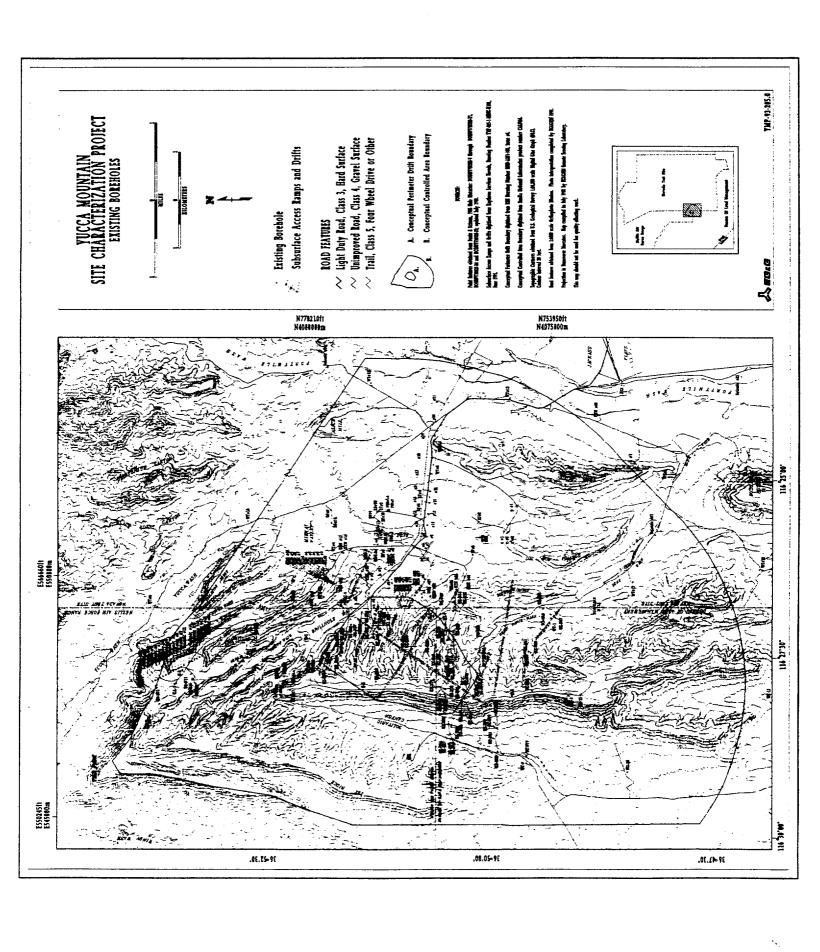


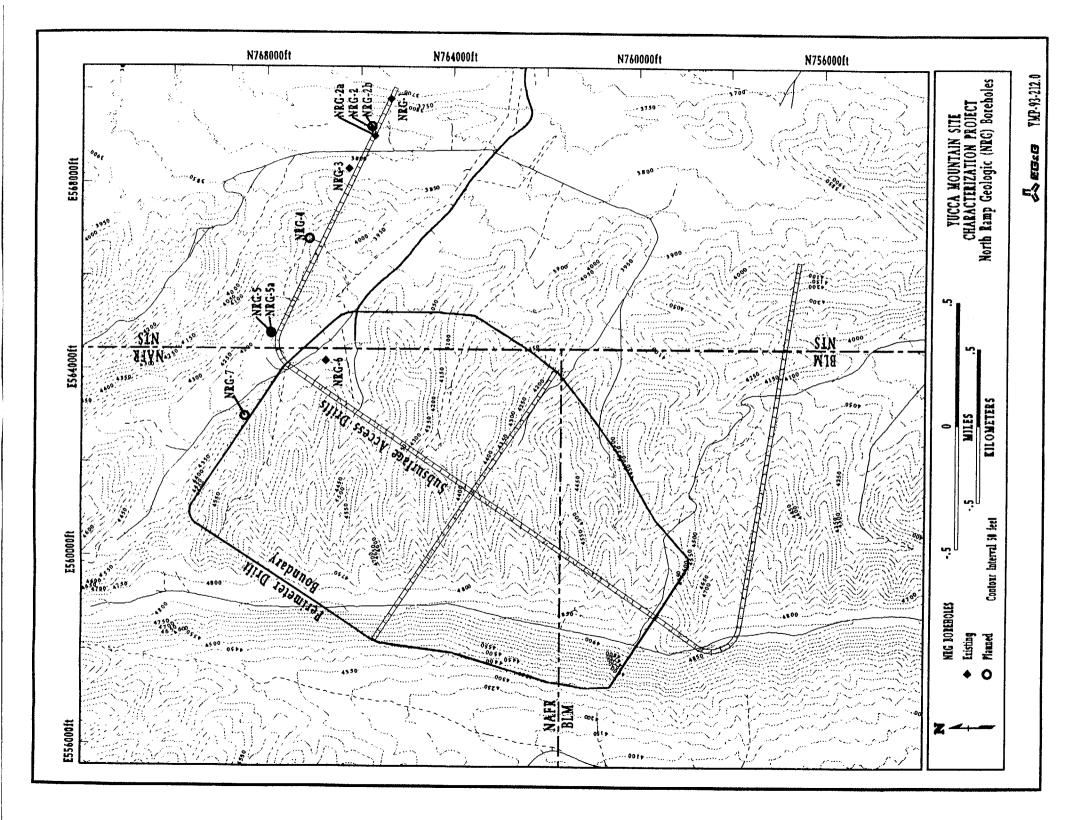


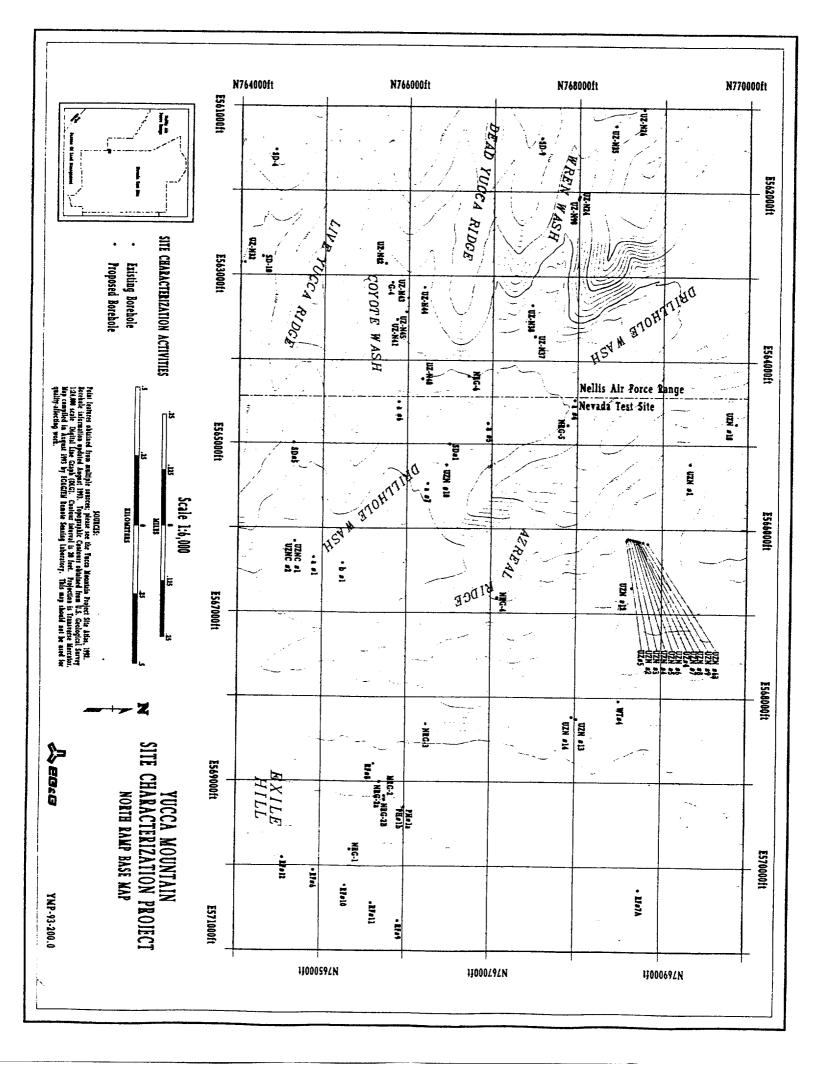












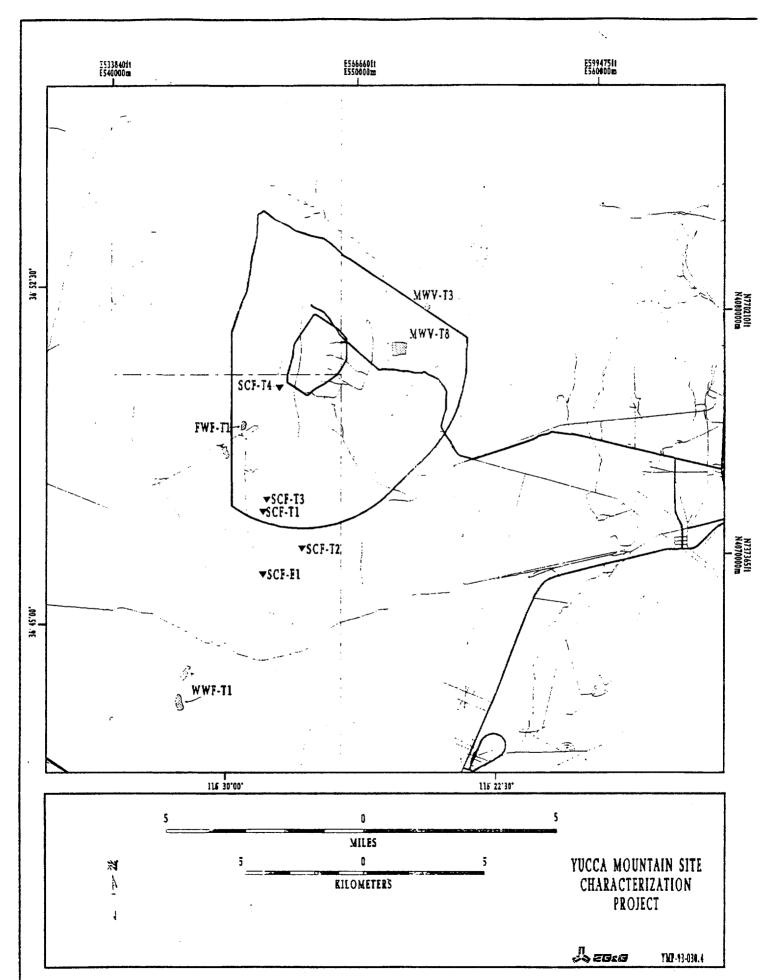
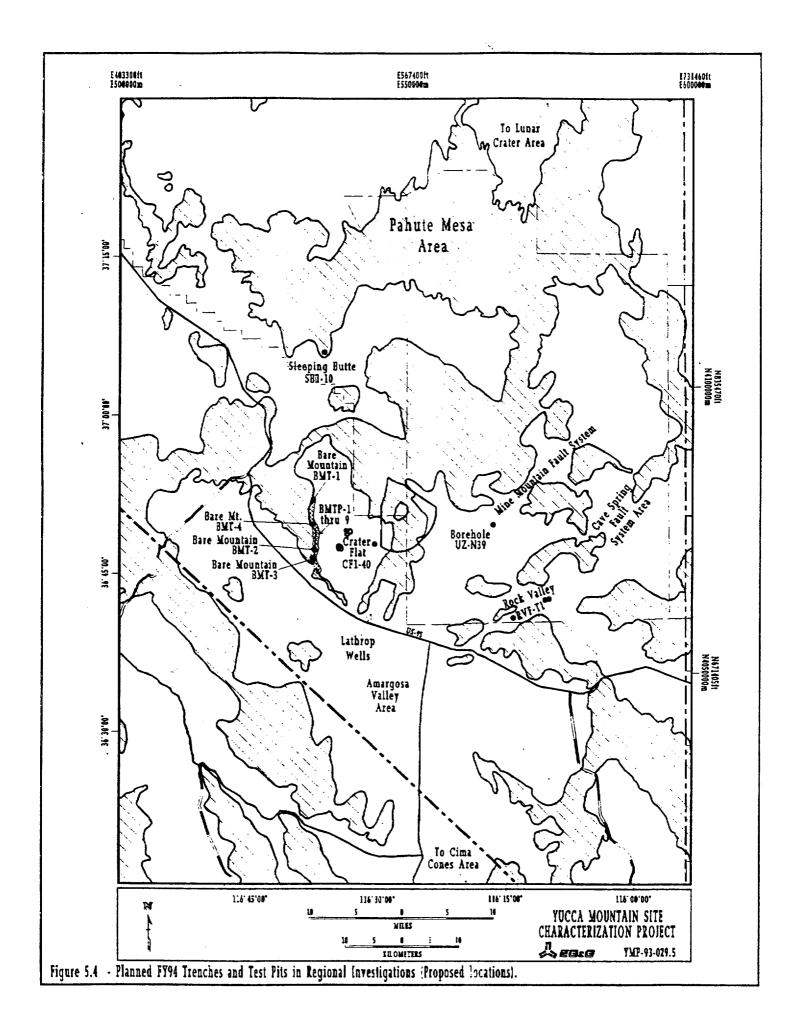
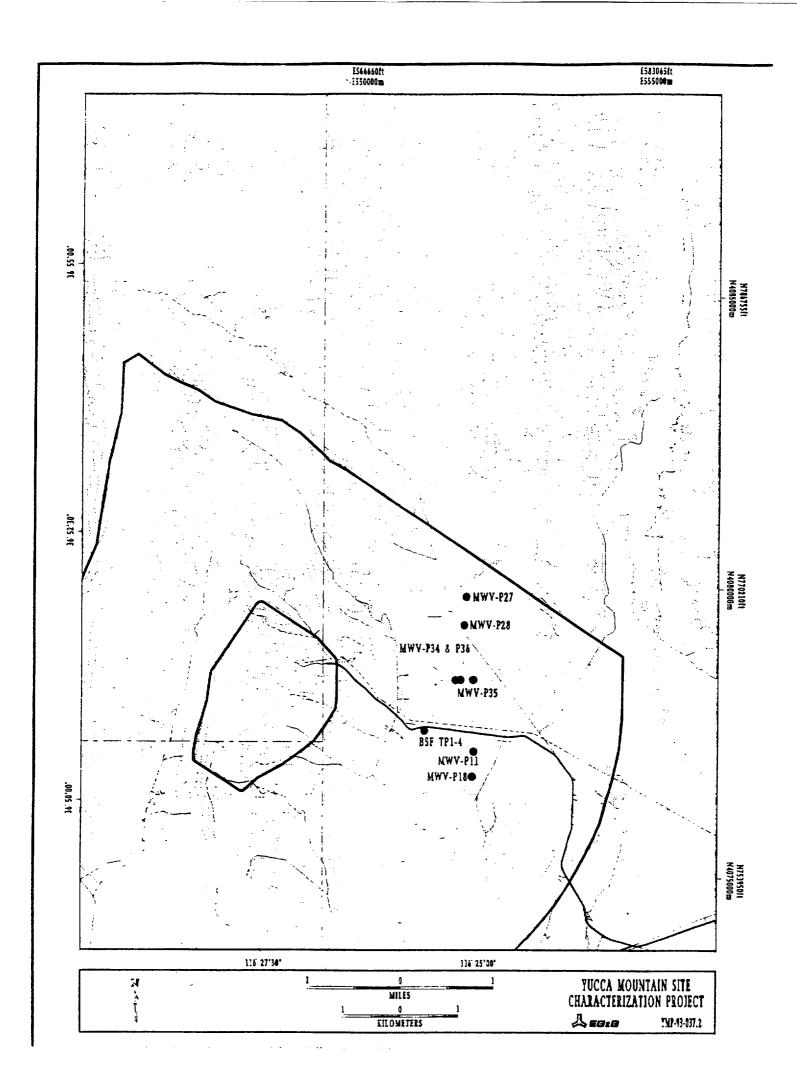
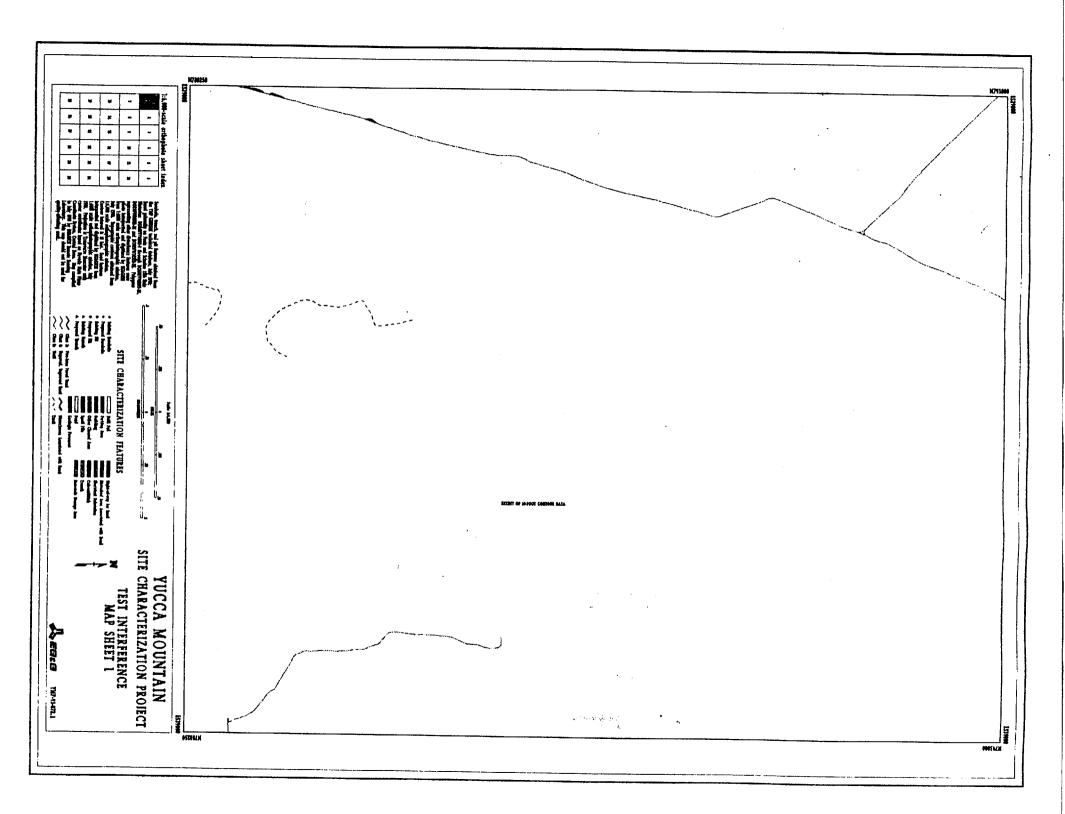
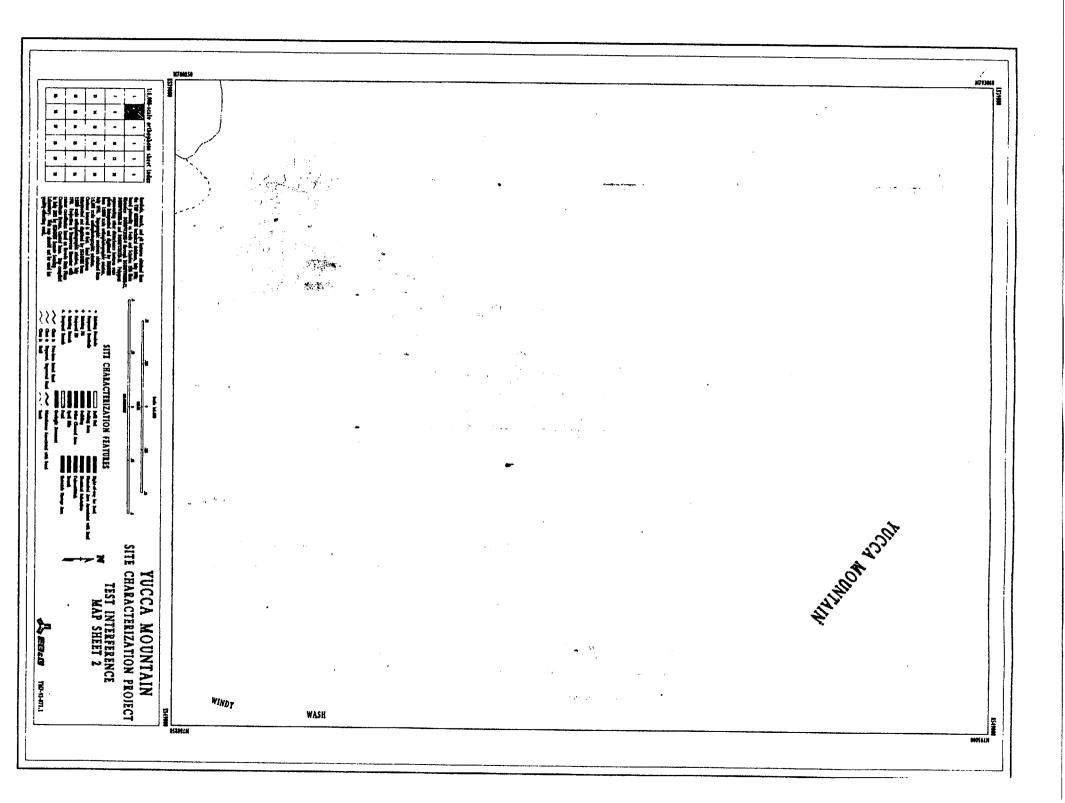


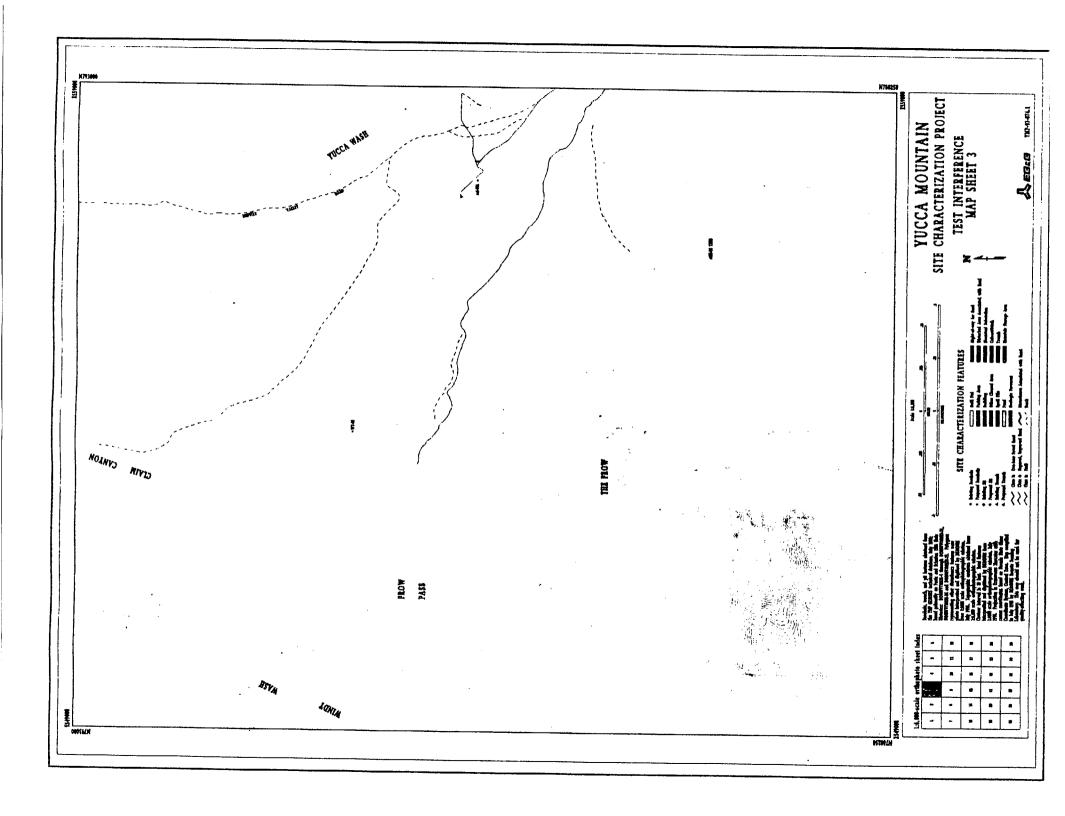
Figure 5.3 - Planned FY94 Trenches in the Site Area (Proposed Locations).



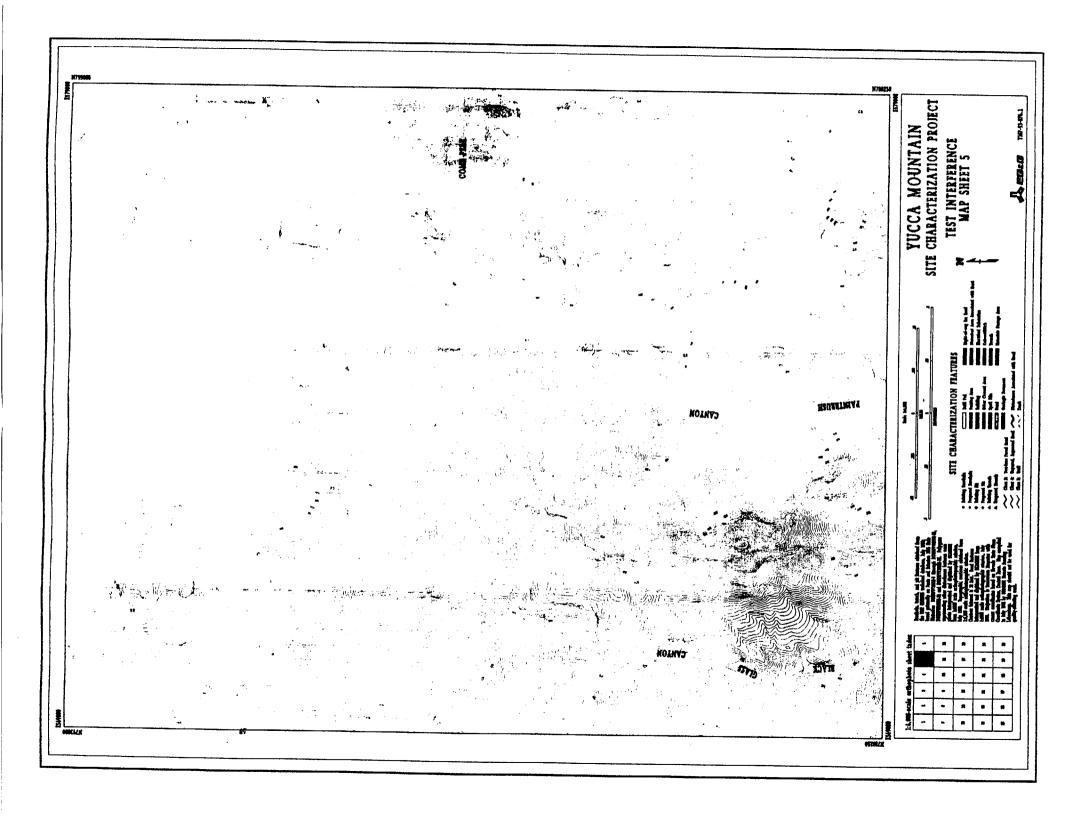


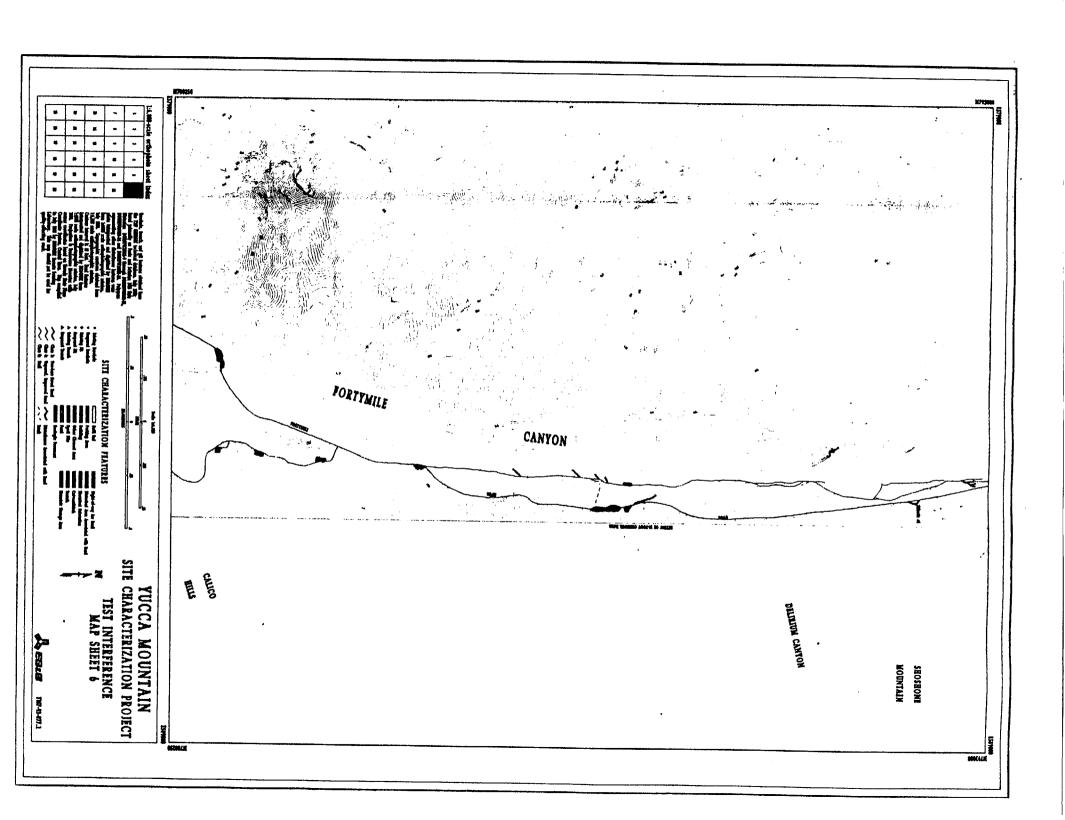


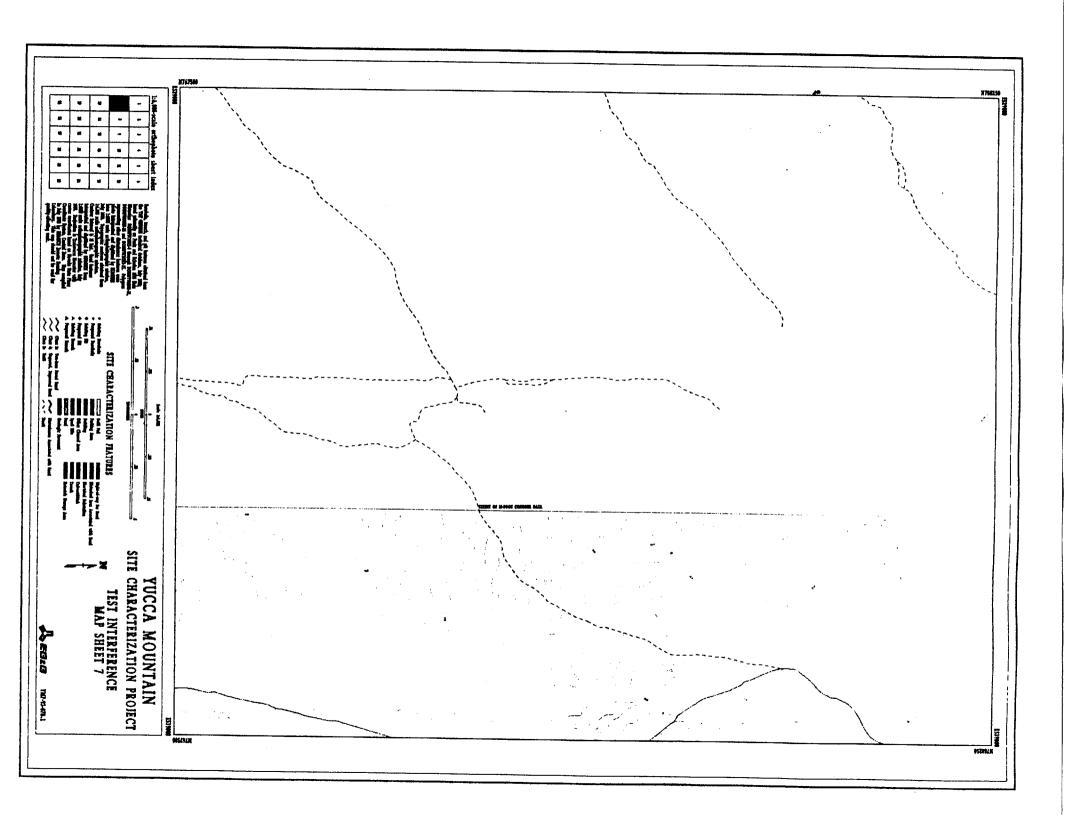


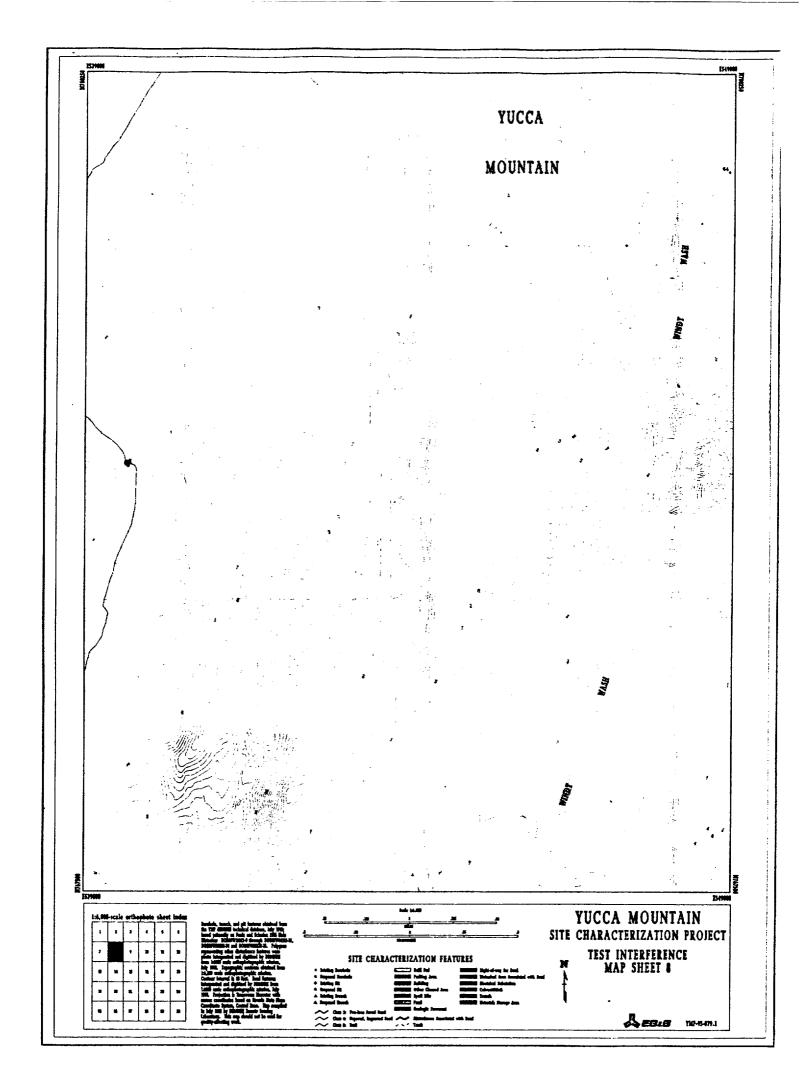


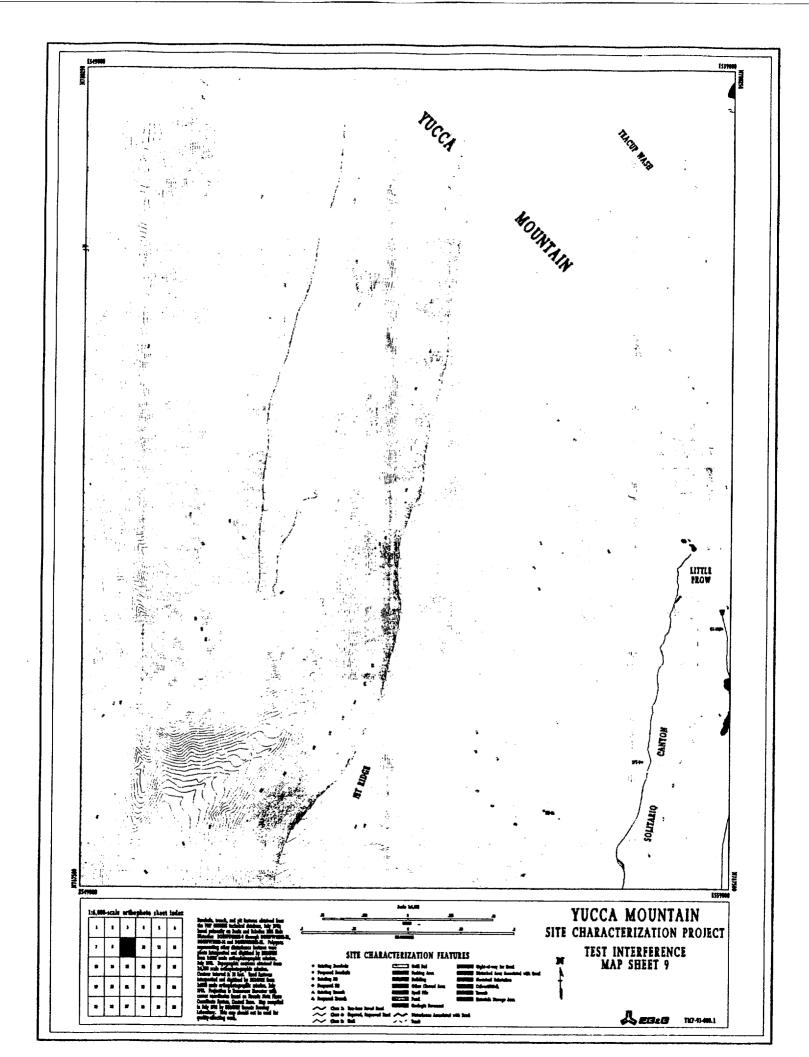


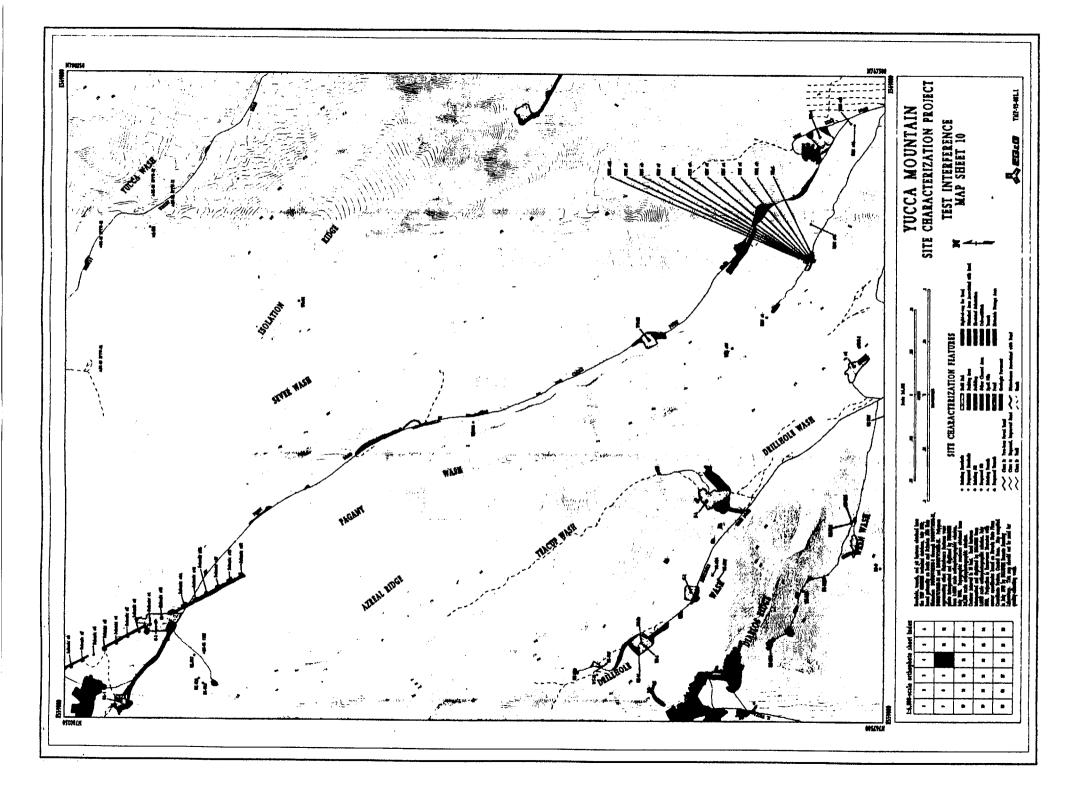


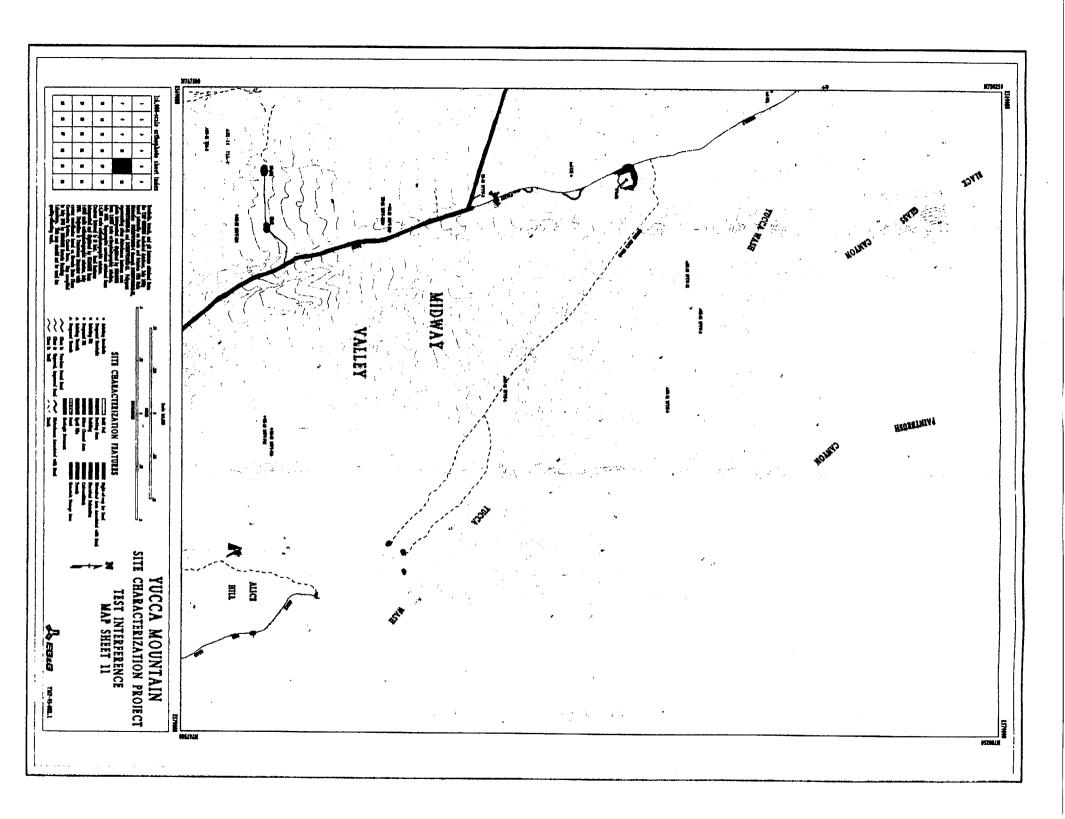


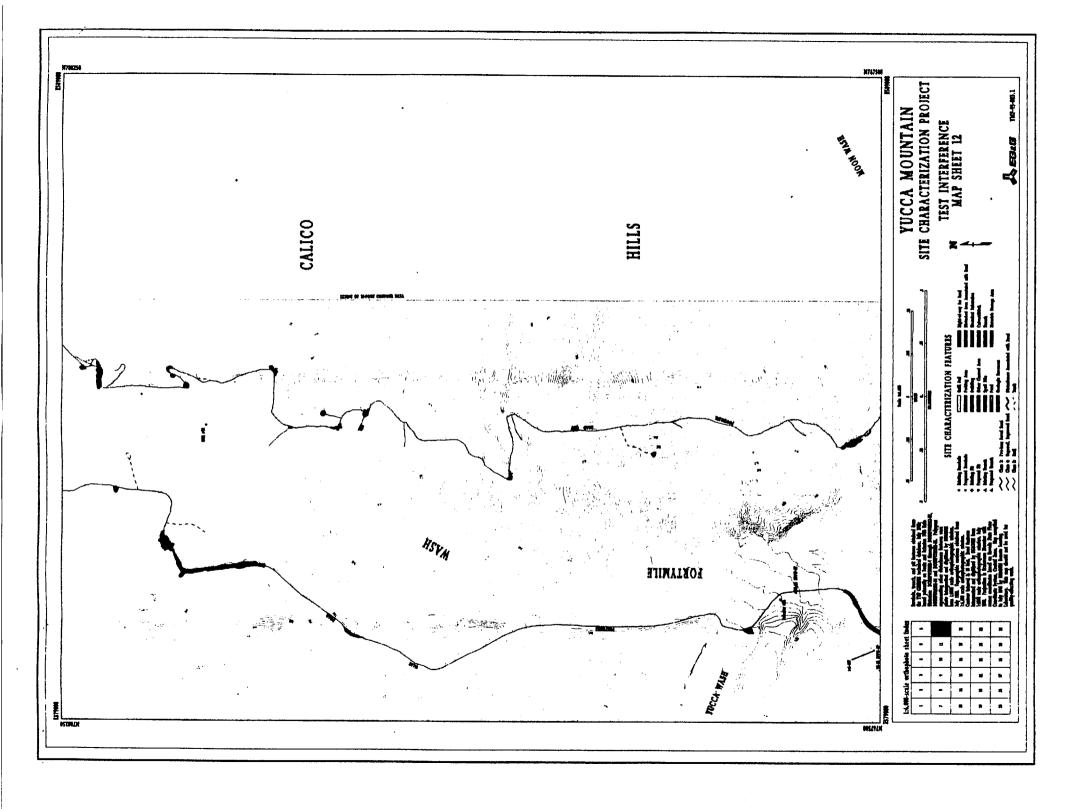


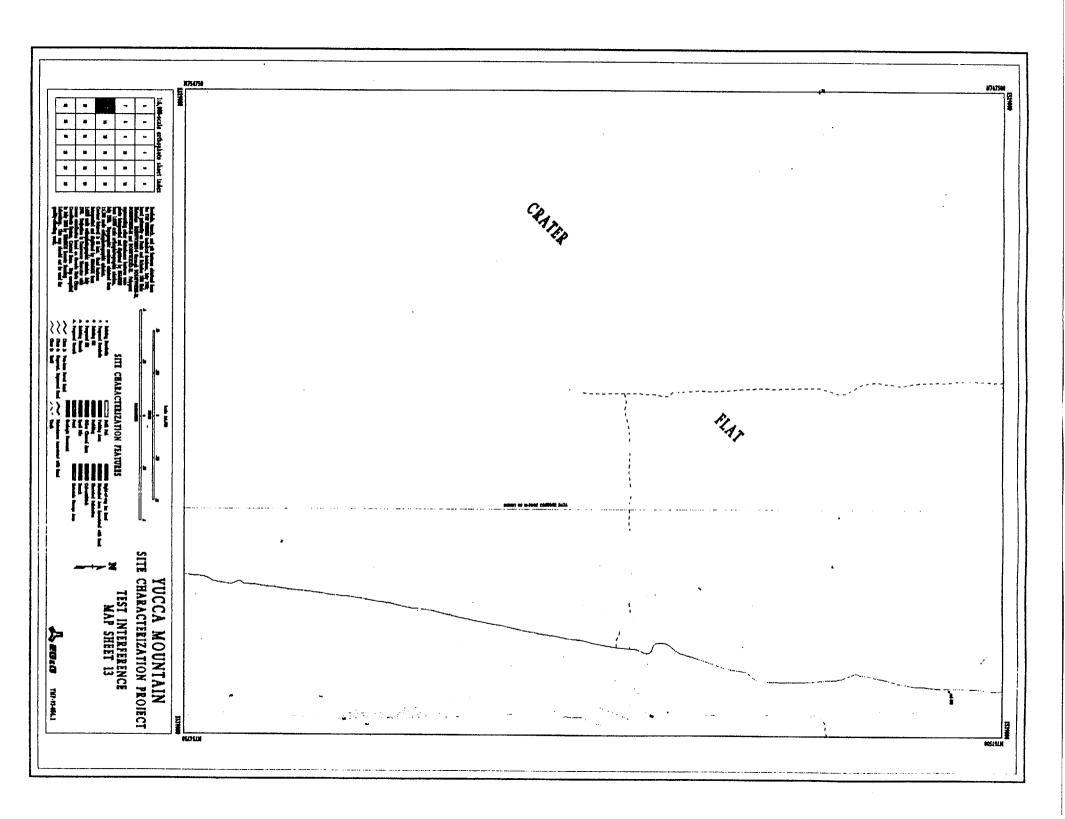


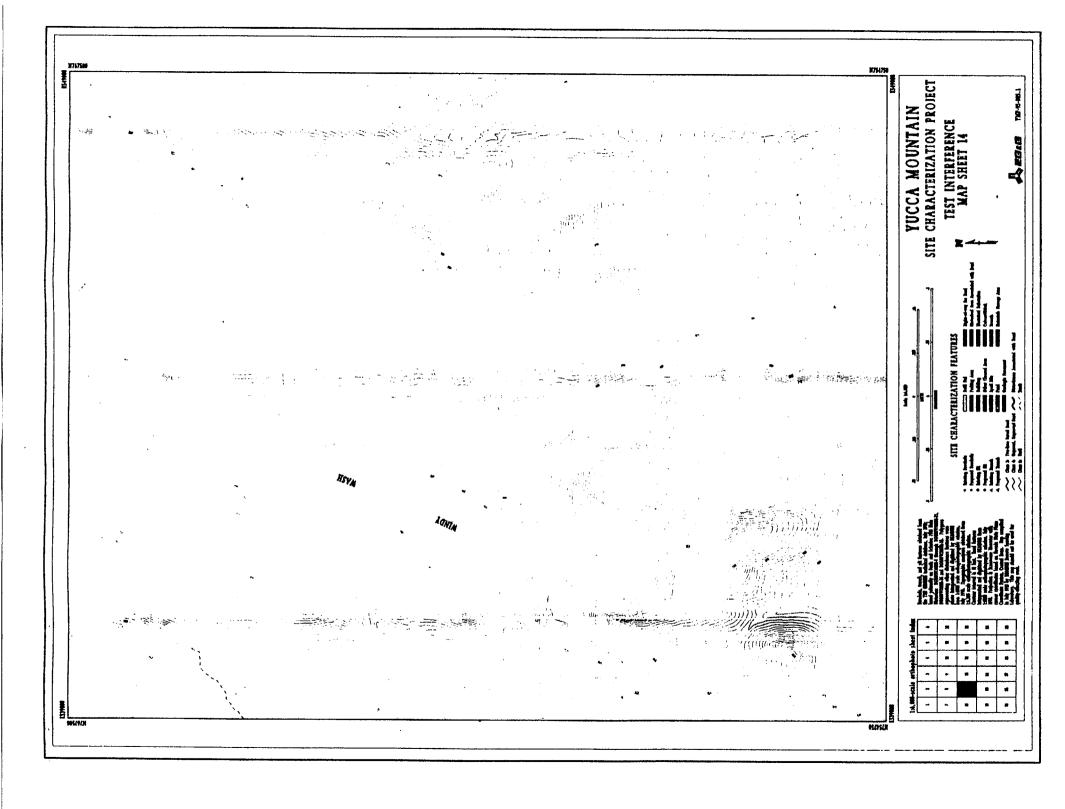


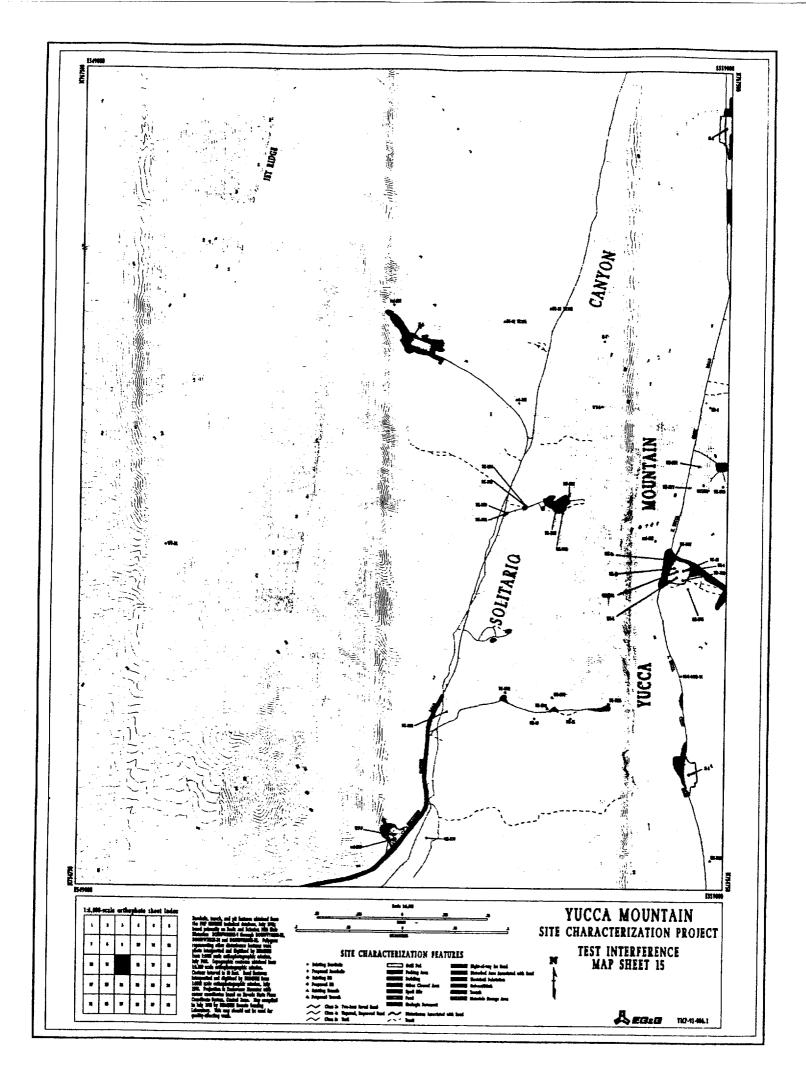


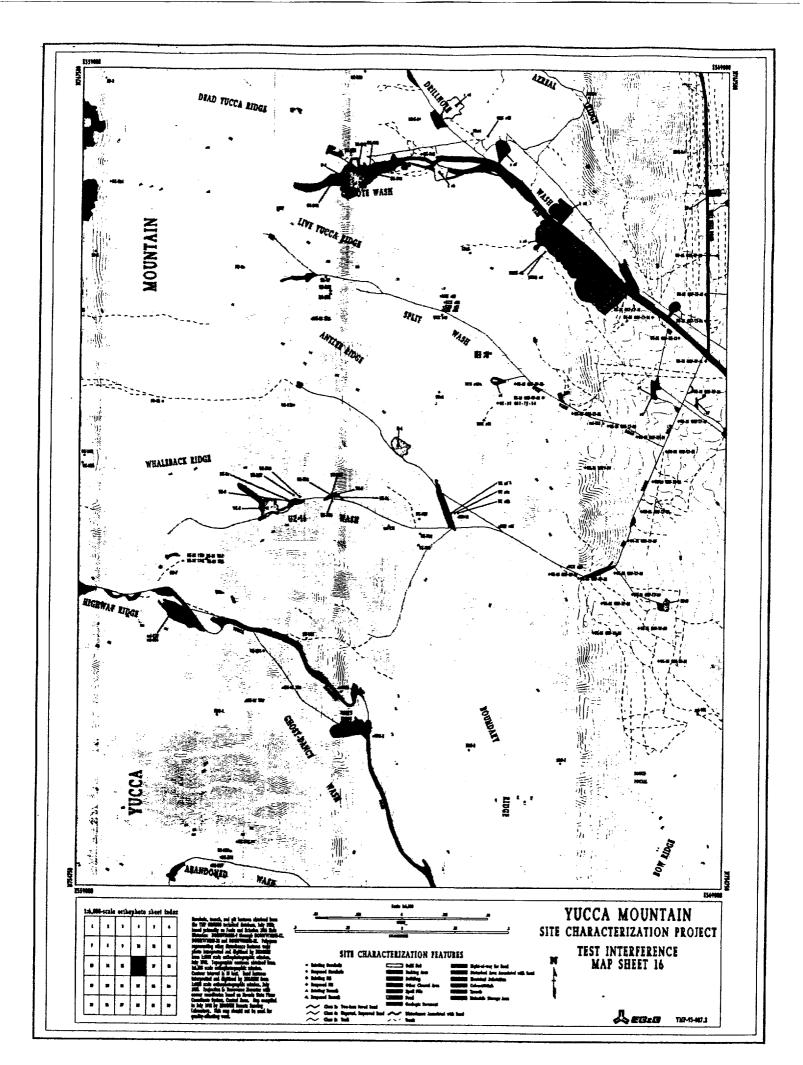


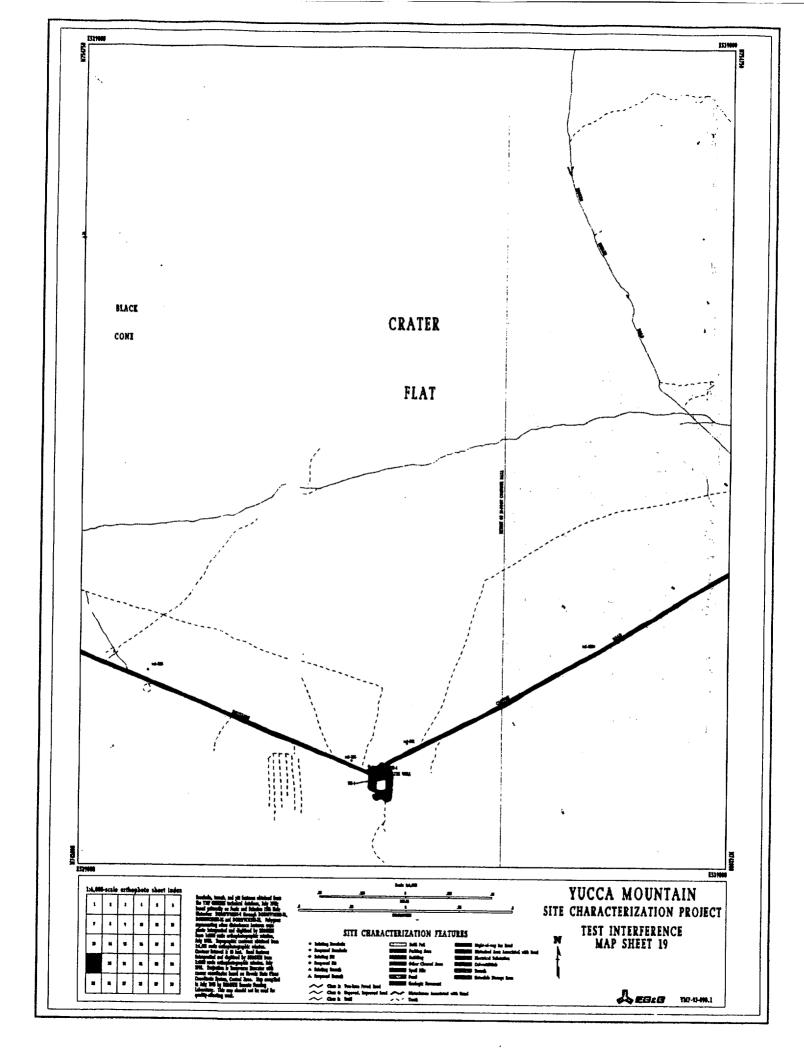


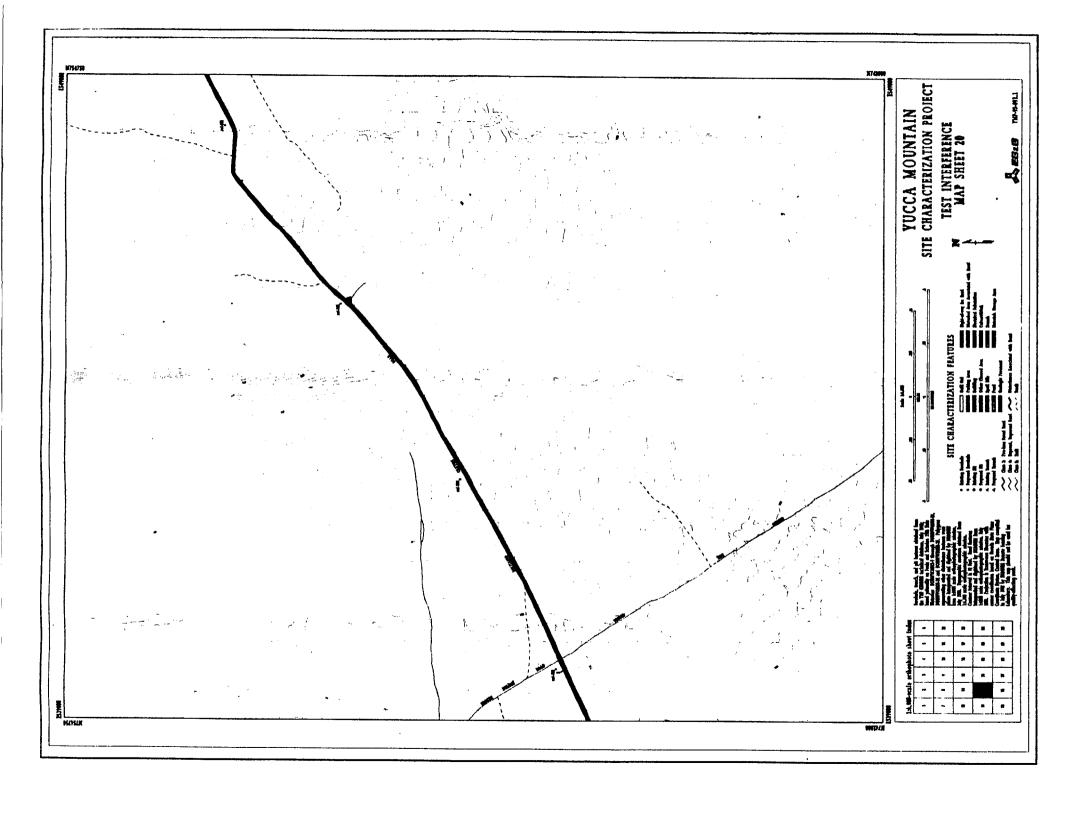


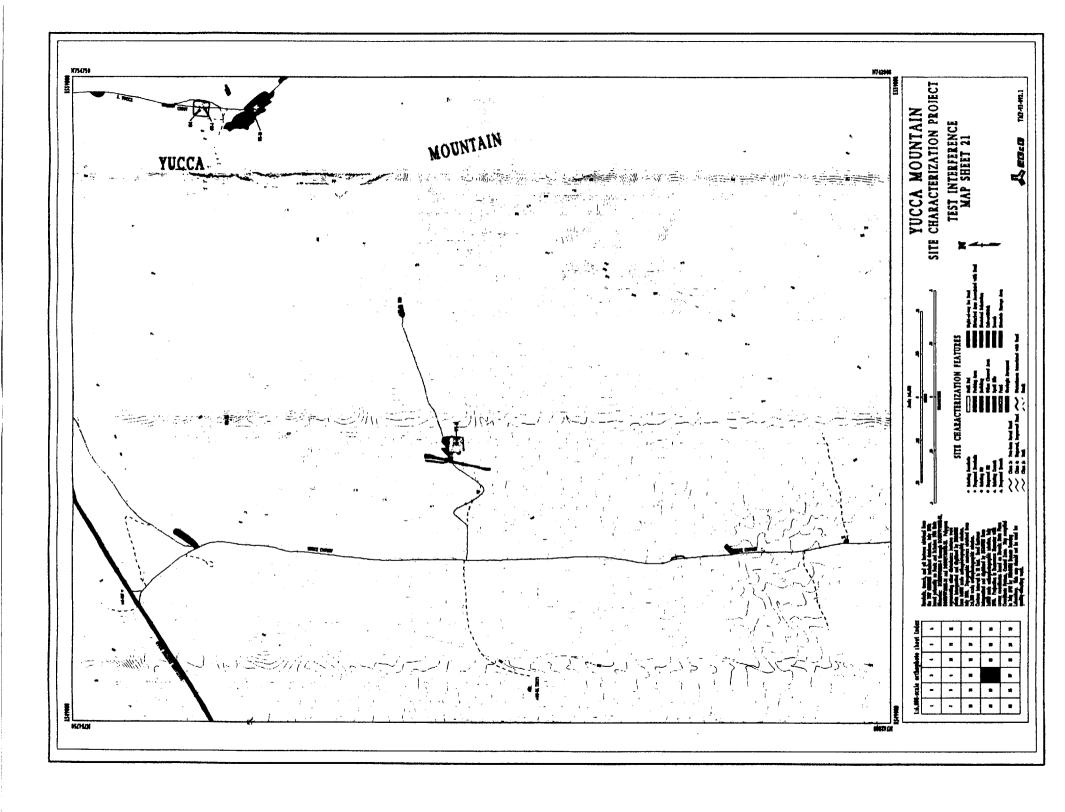


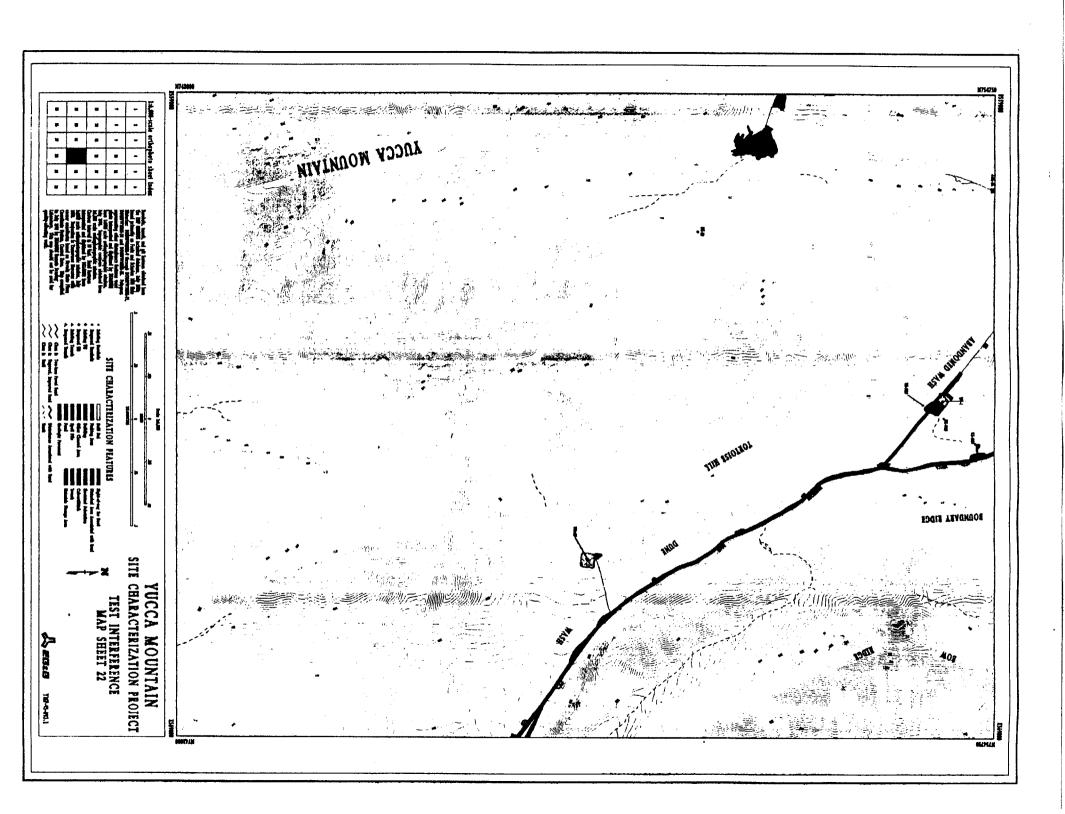


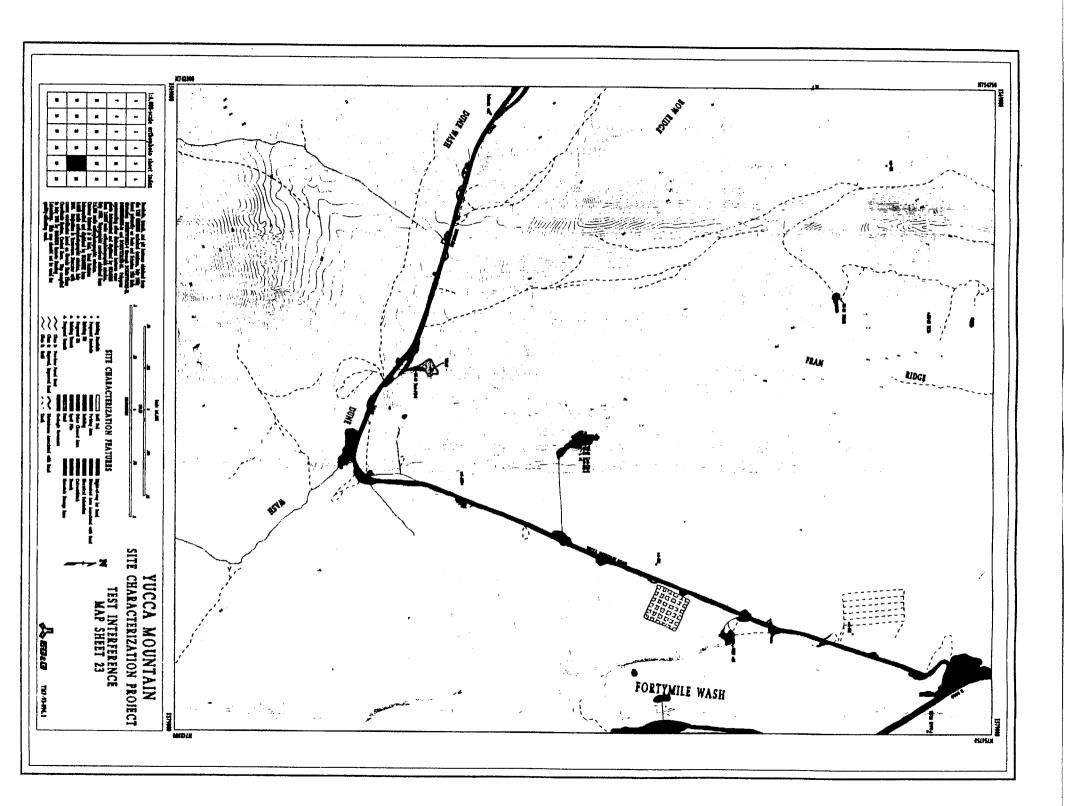


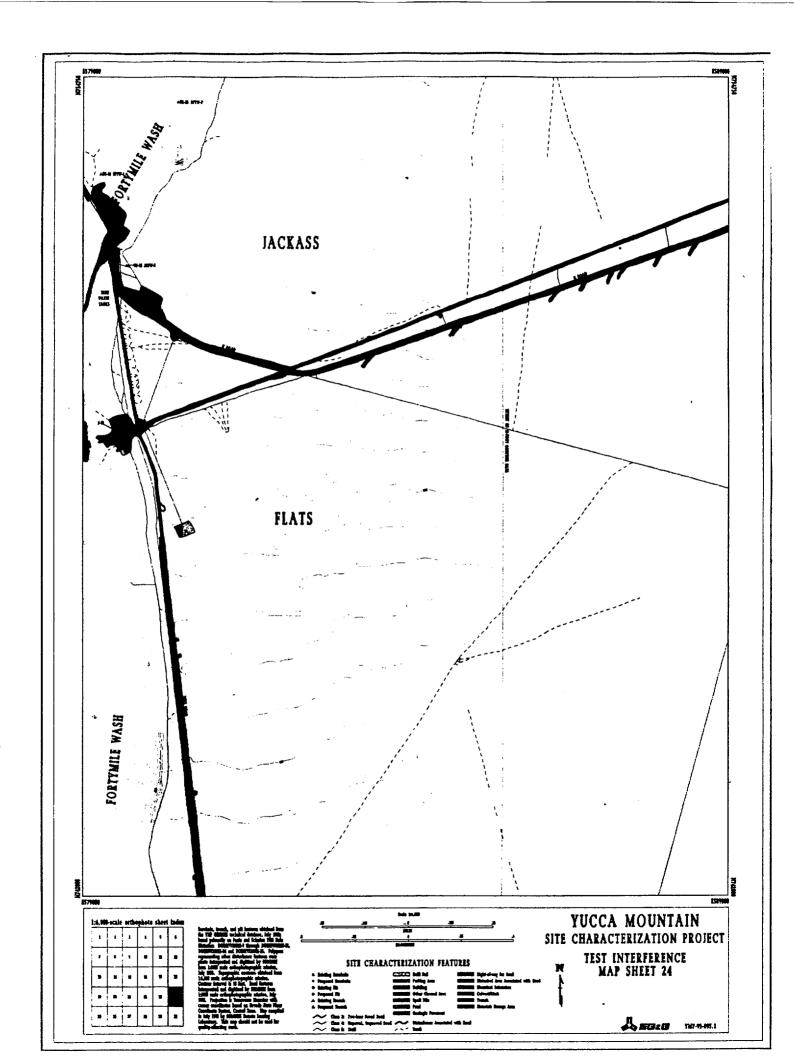


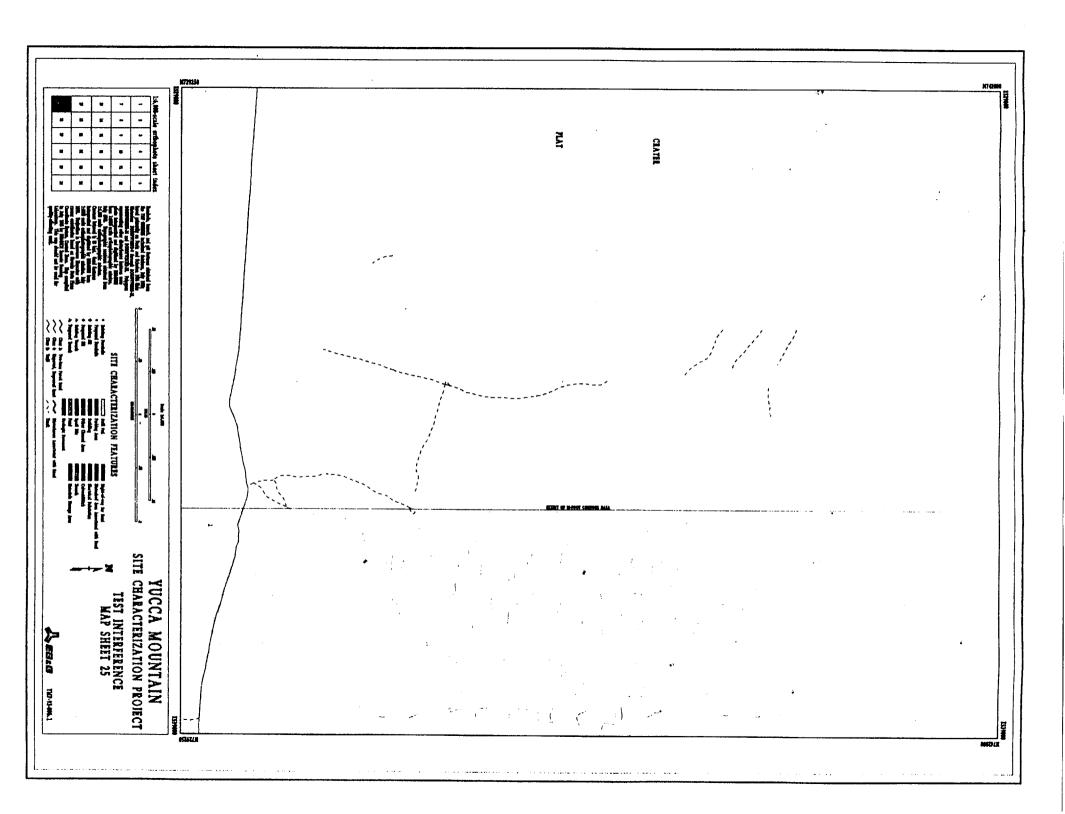


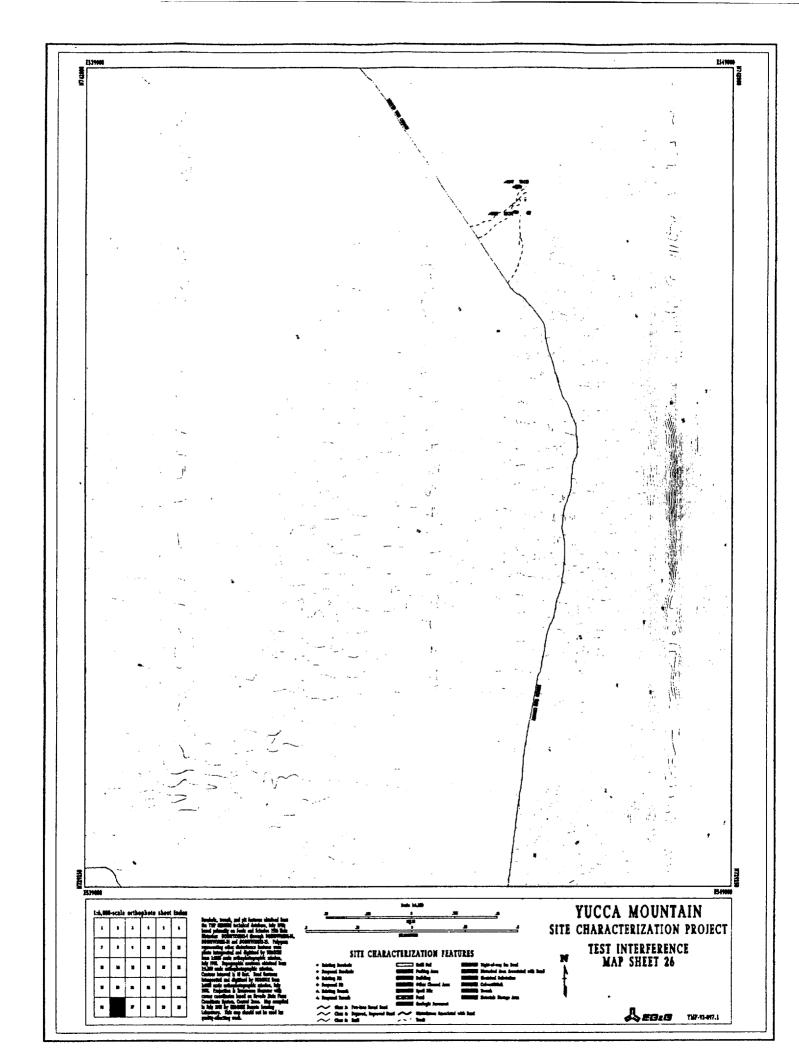


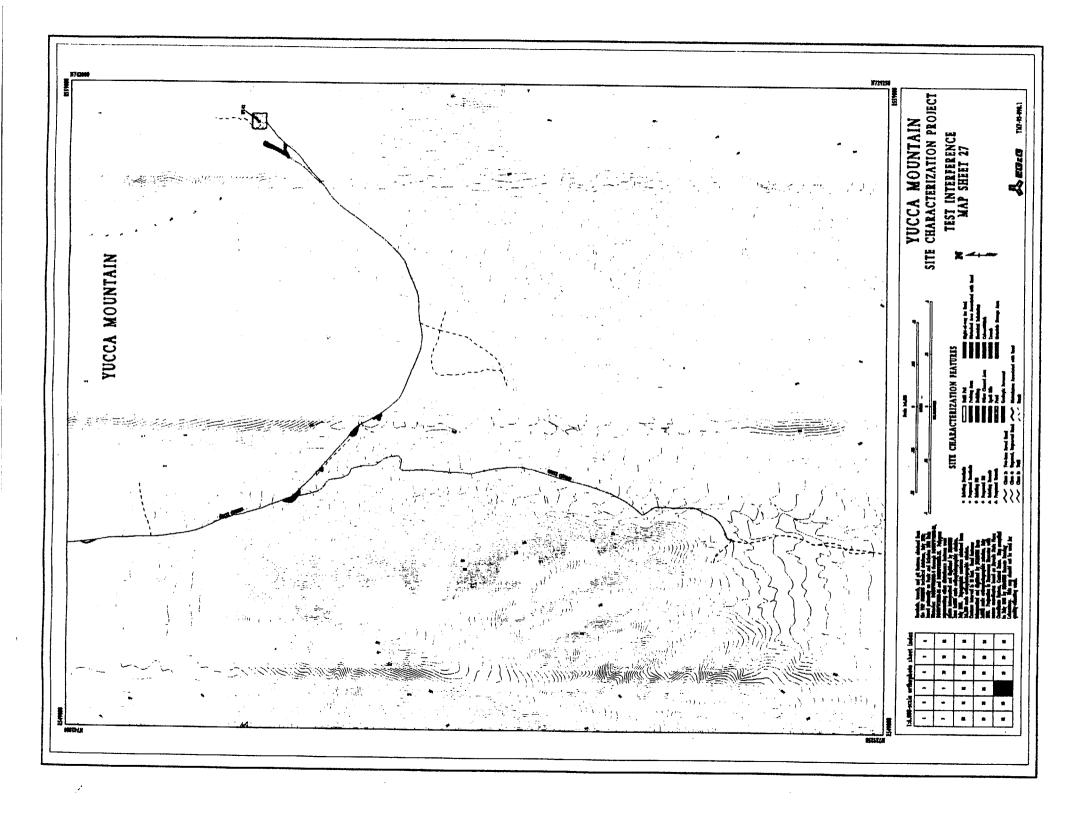


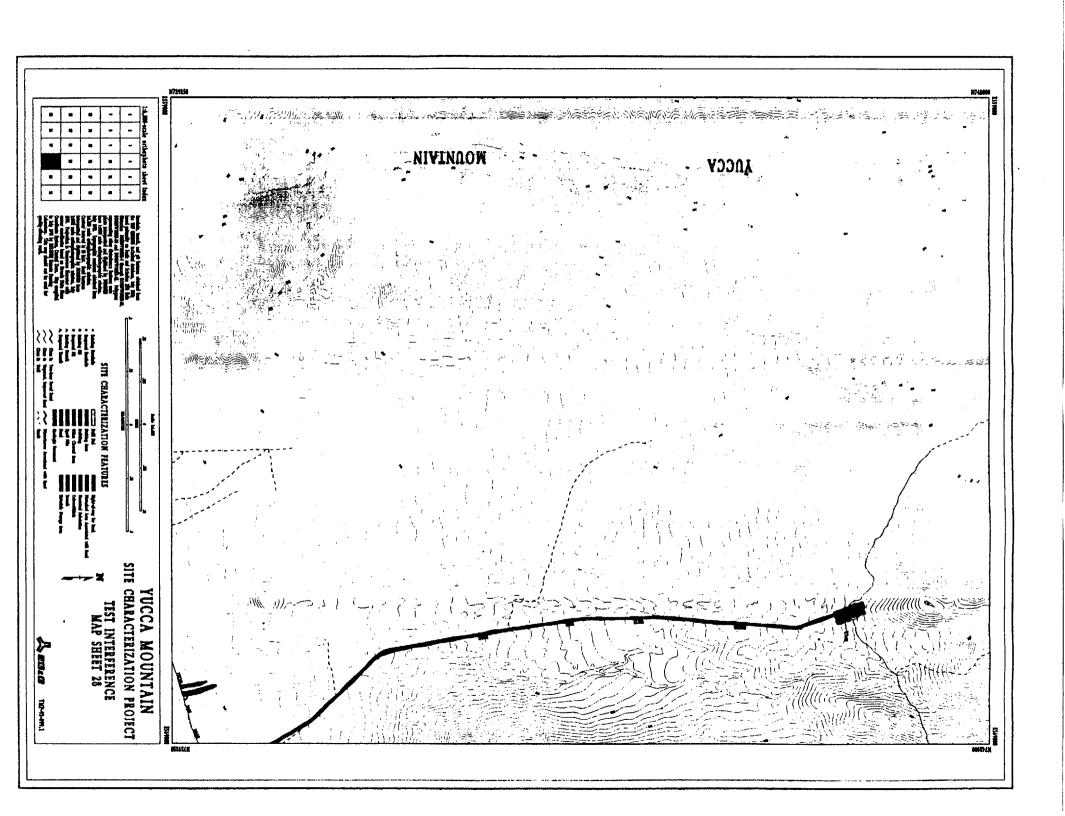


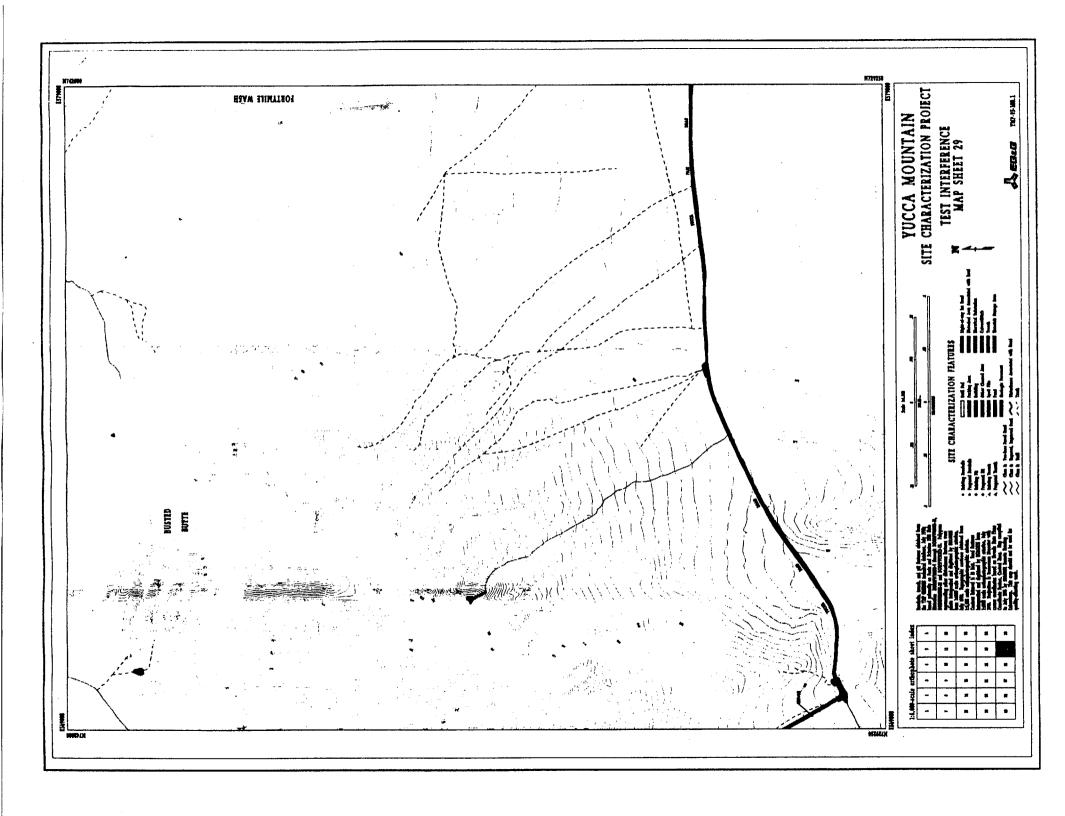


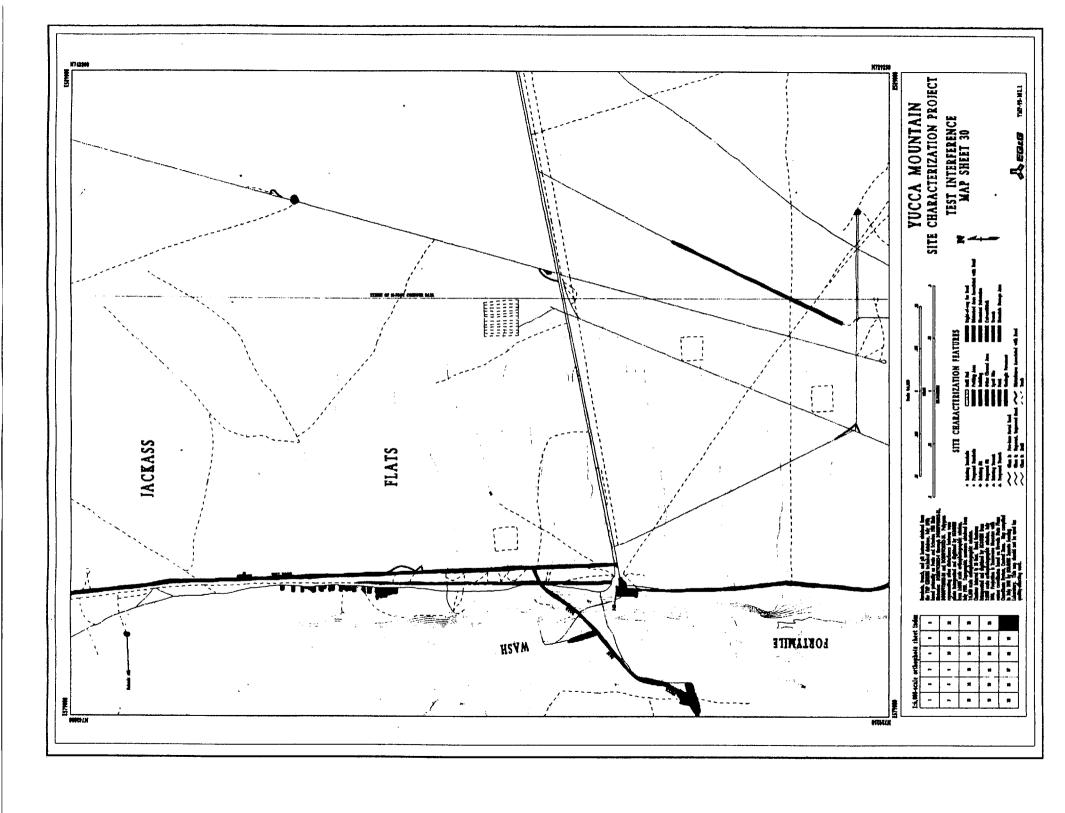


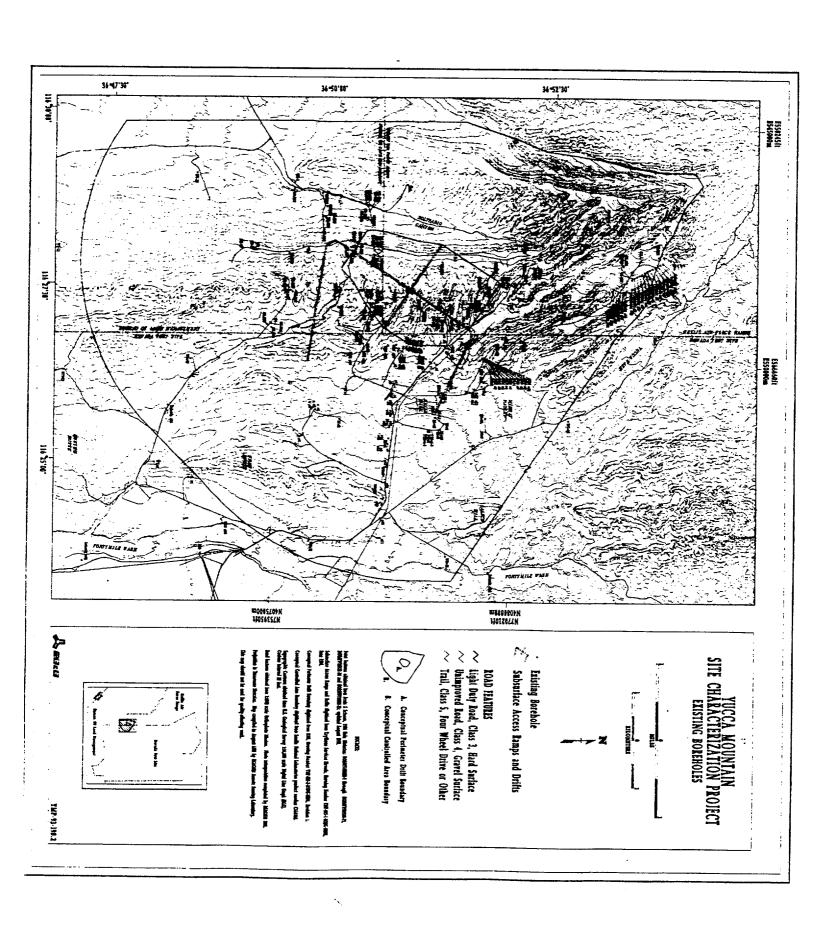


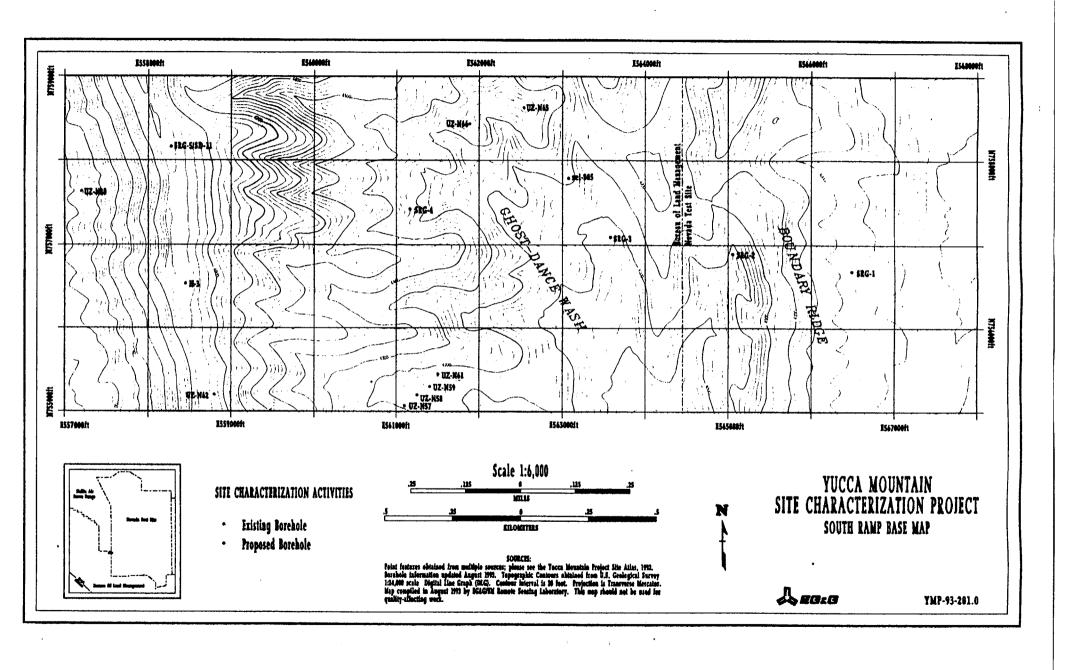


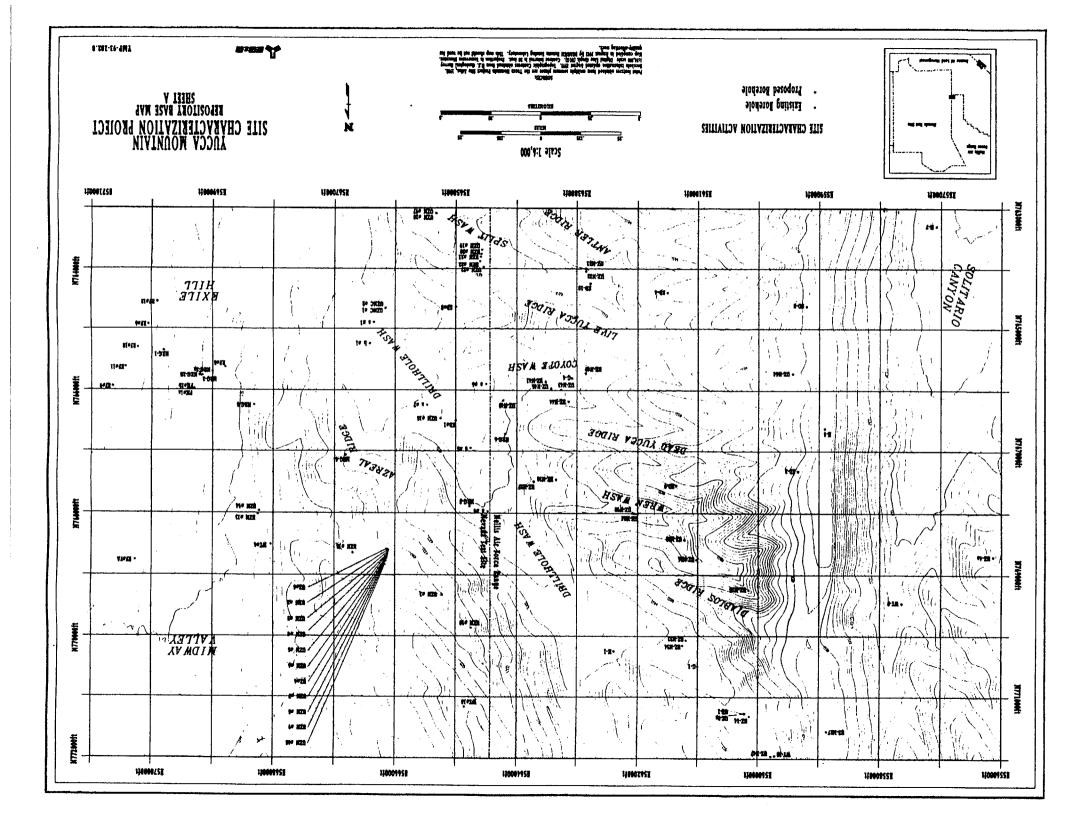


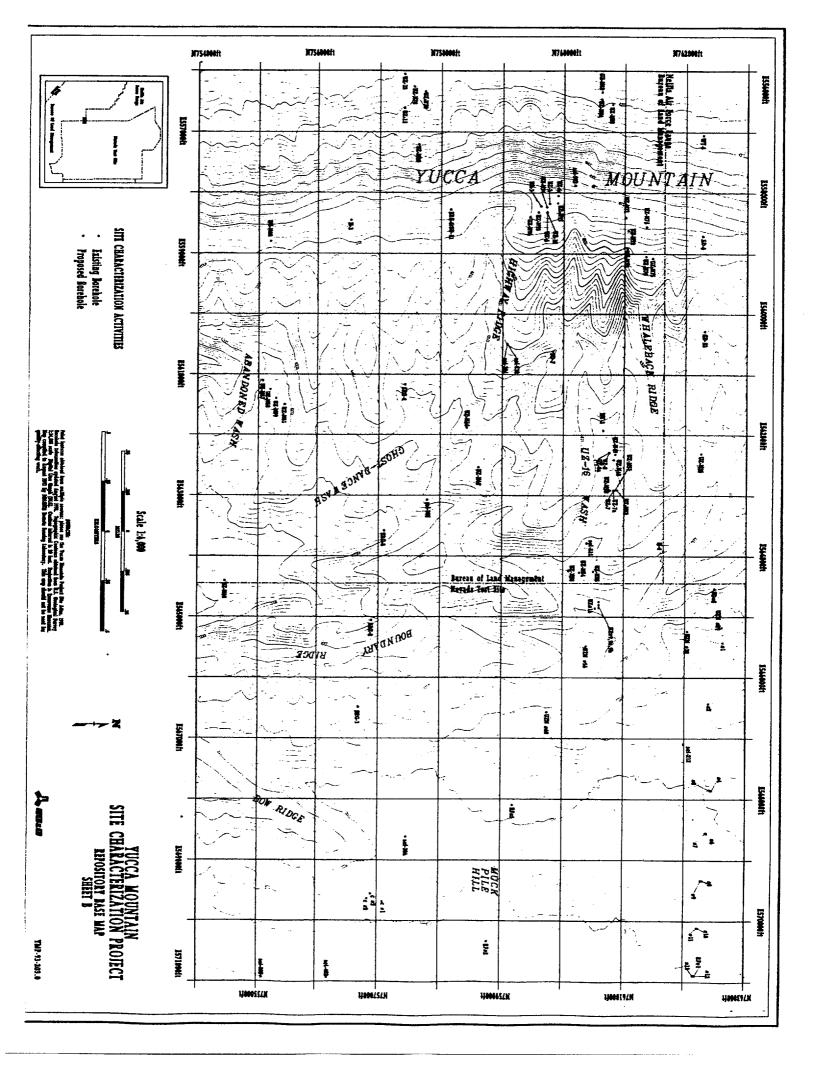


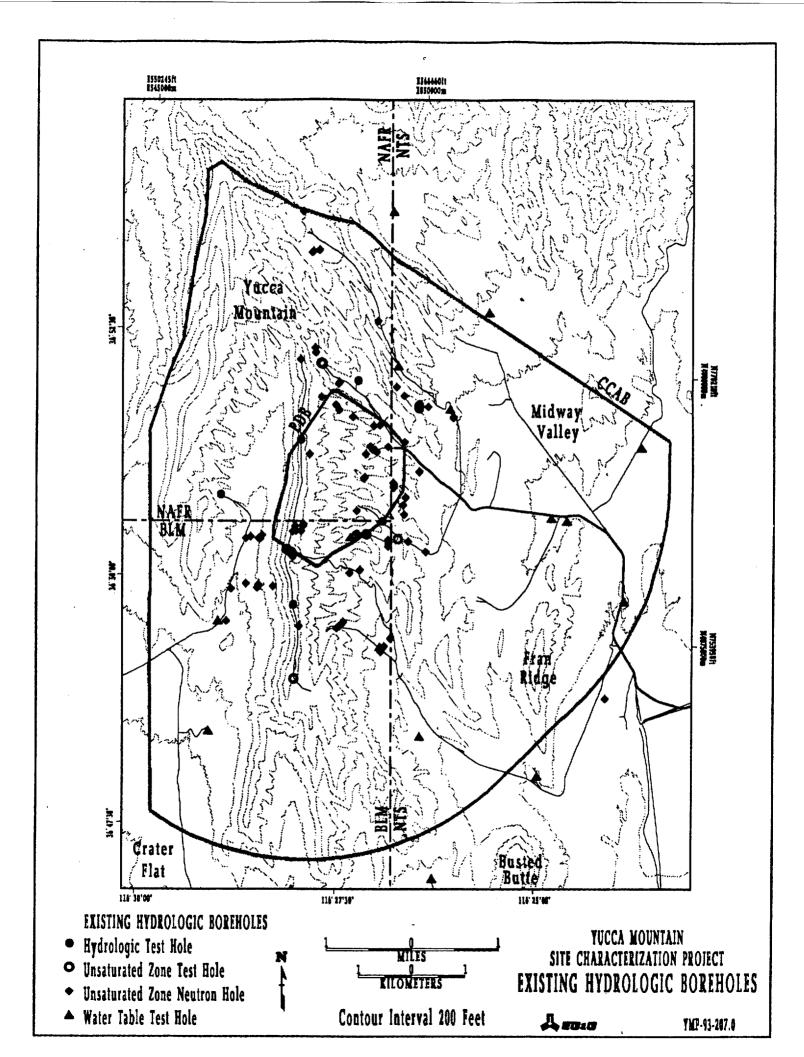


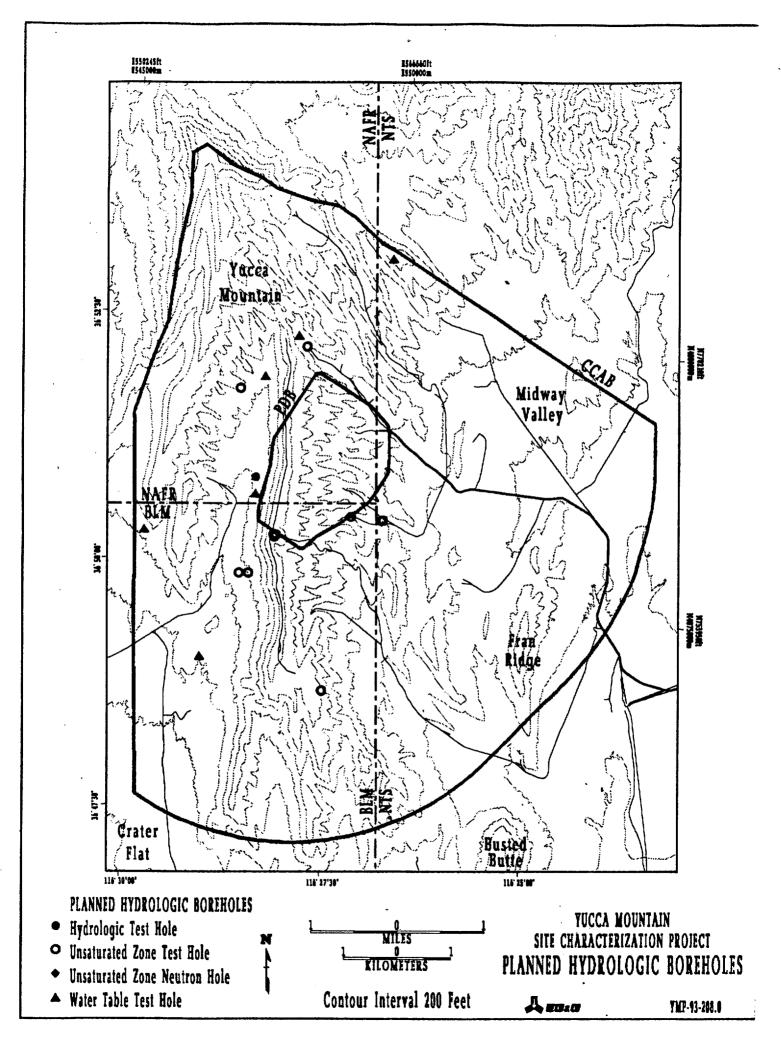


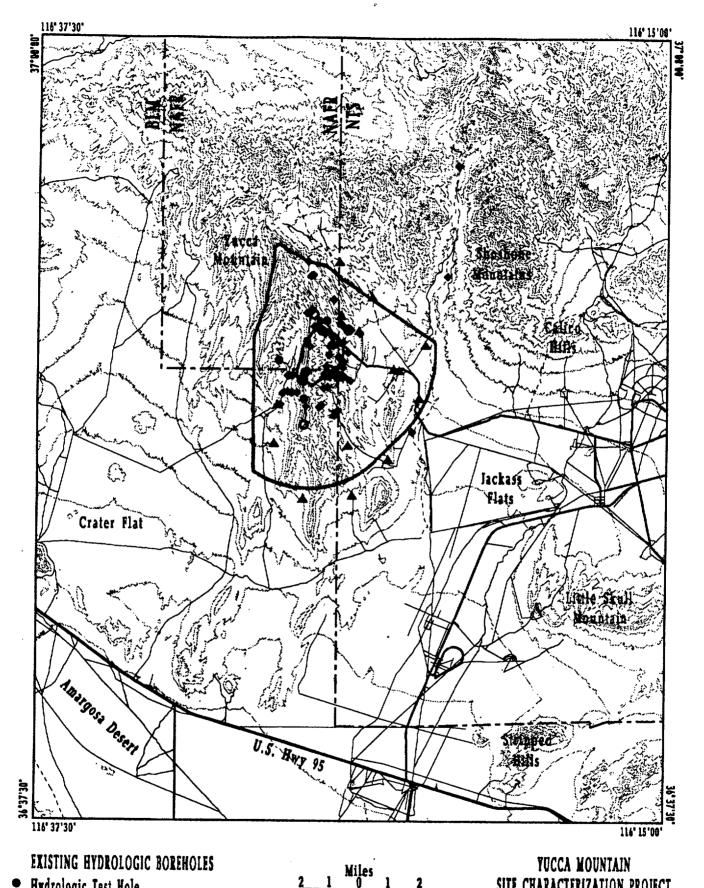




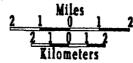








- Hydrologic Test Hole
- O Unsaturated Zone Test Hole
- Unsaturated Zone Neutron Hole
- ▲ Water Table Test Hole

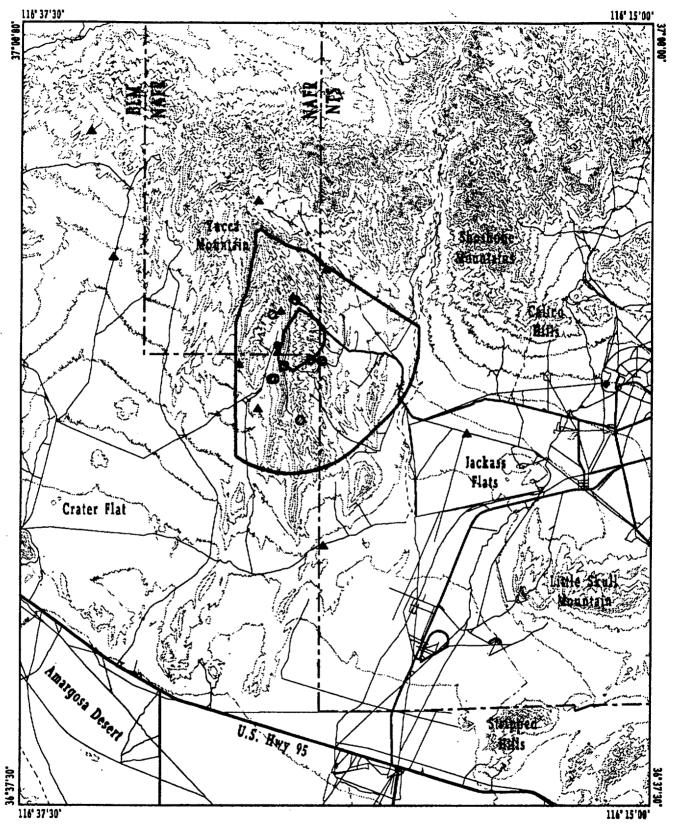


Contour Interval 200 Feet

SITE CHARACTERIZATION PROJECT EXISTING HYDROLOGIC BOREHOLES (far field)

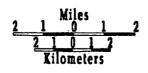
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YMP-93-209.0



PLANNED HYDROLOGIC BOREHOLES

- Hydrologic Test Hole
- O Unsaturated Zone Test Hole
- ◆ Unsaturated Zone Neutron Hole
- ▲ Water Table Test Hole

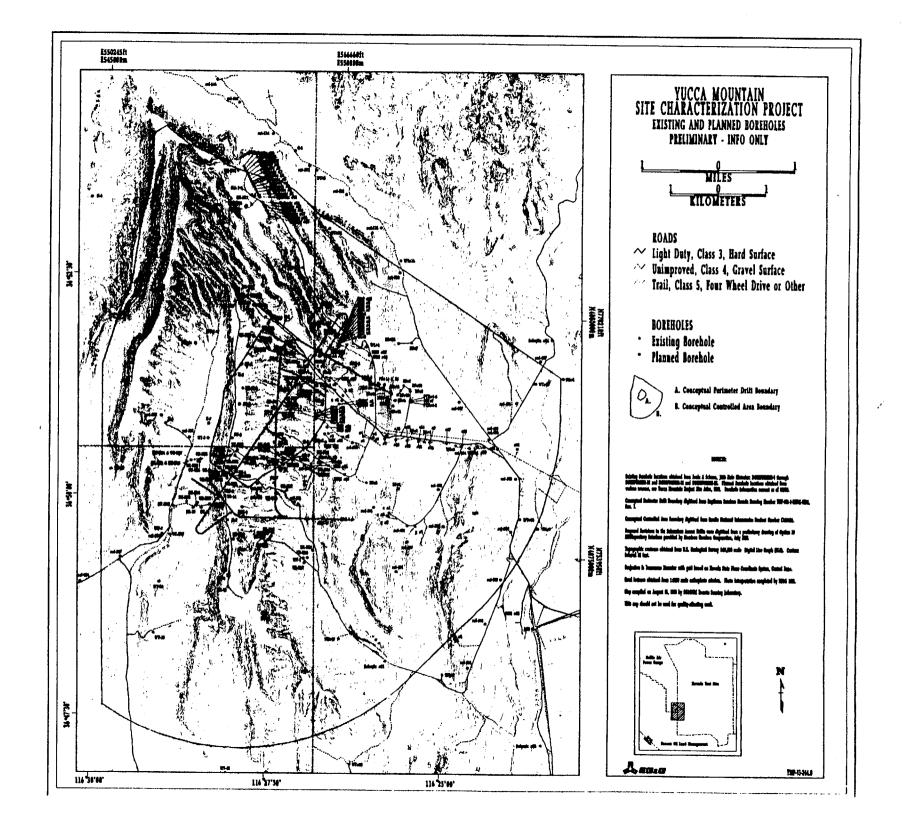


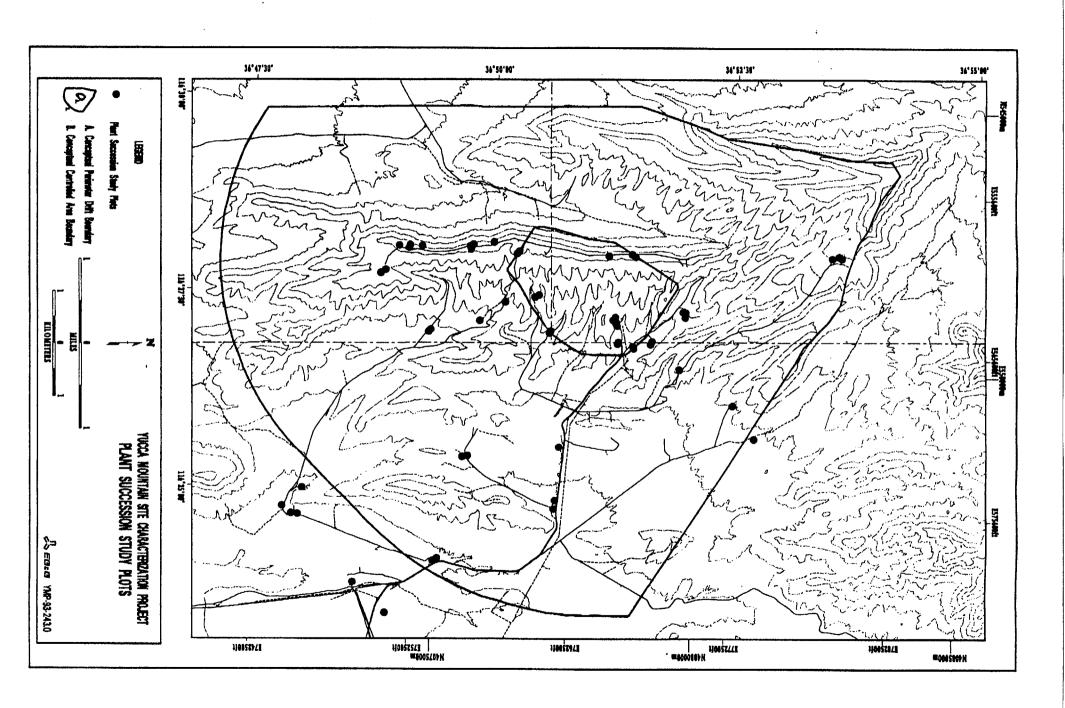
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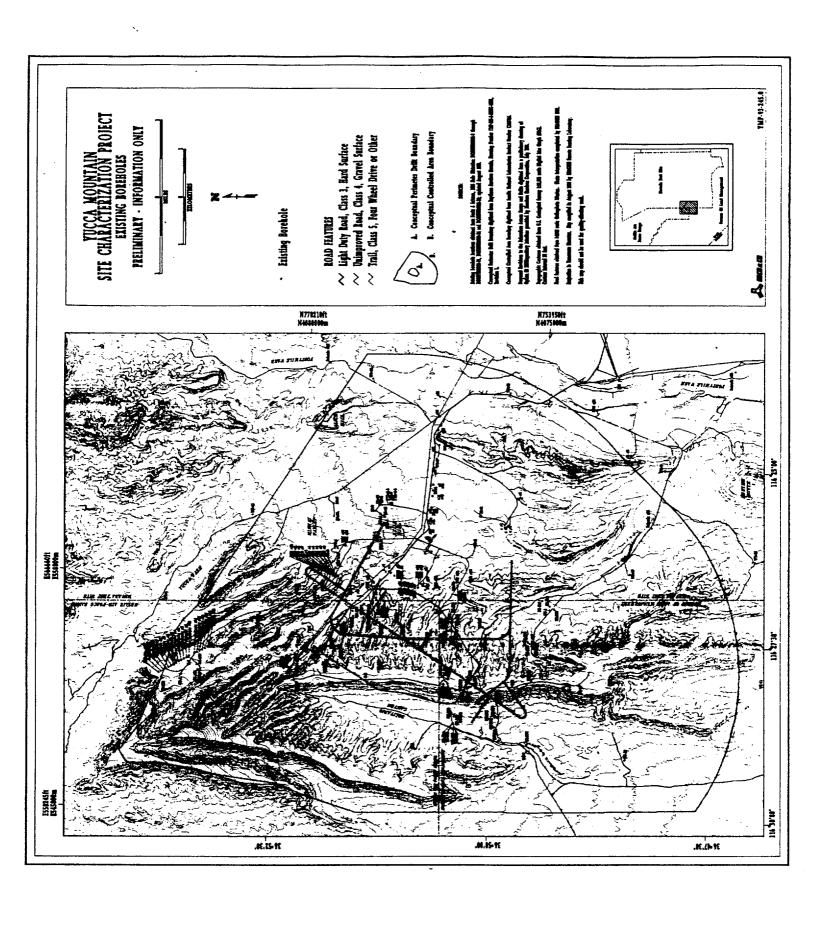
YUCCA MOUNTAIN
SITE CHARACTERIZATION PROJECT
PLANNED HYDROLOGIC BOREHOLES
(far field)

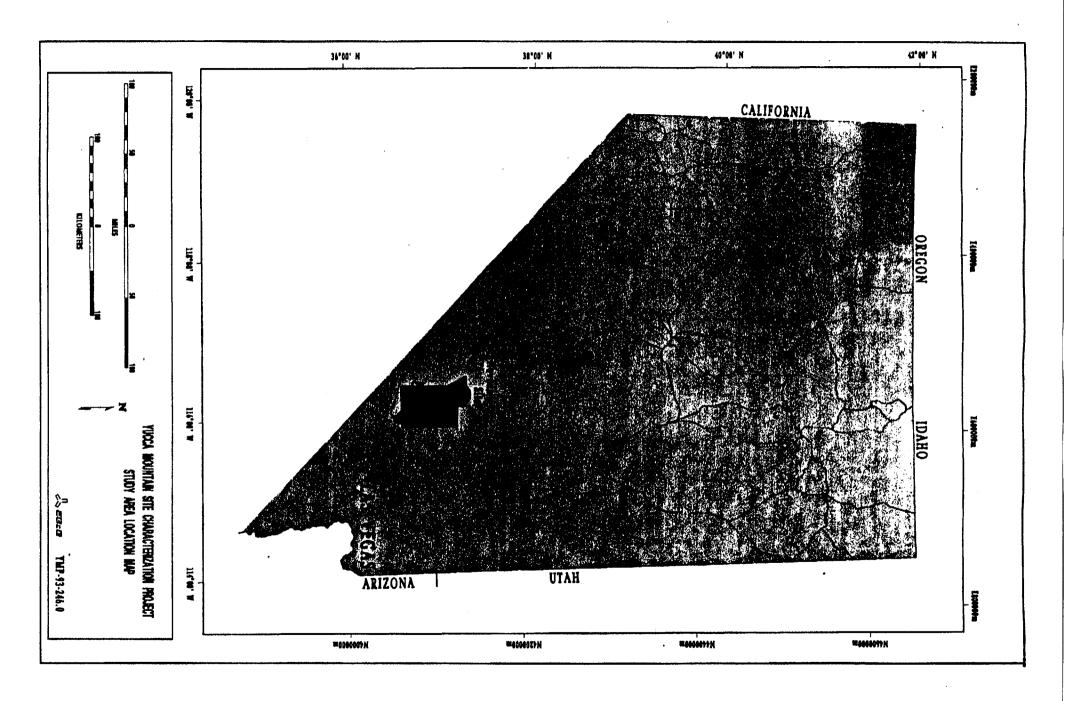
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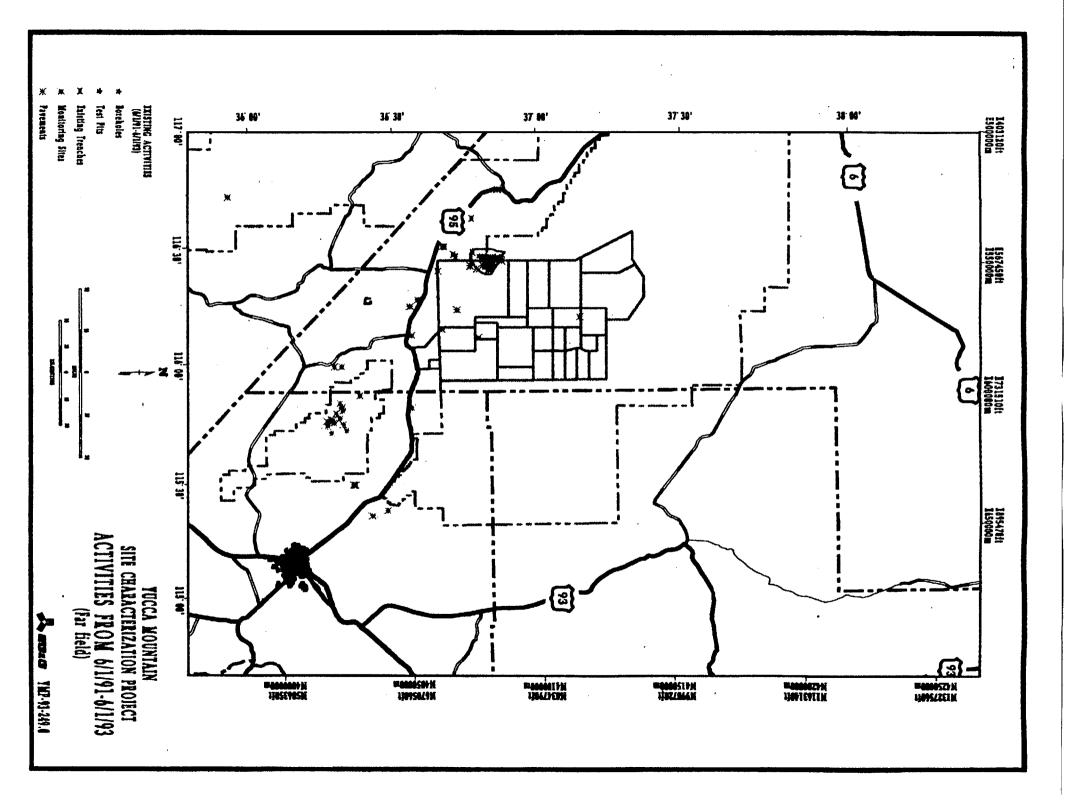
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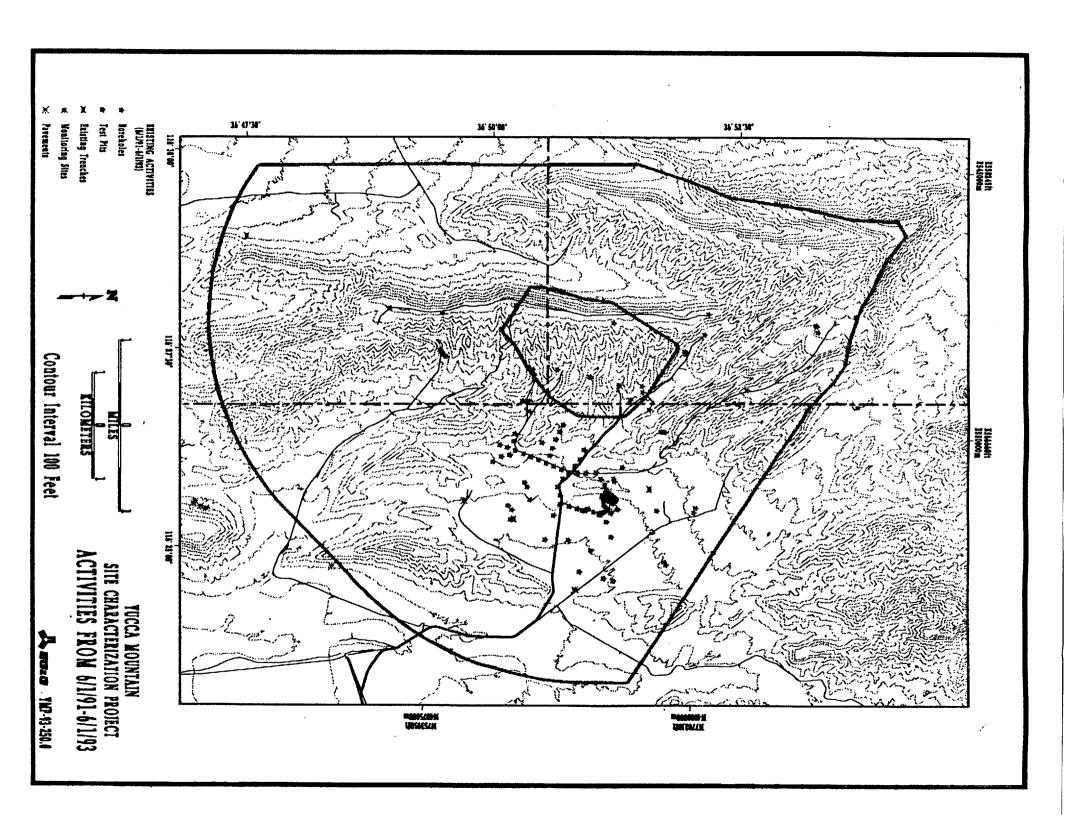


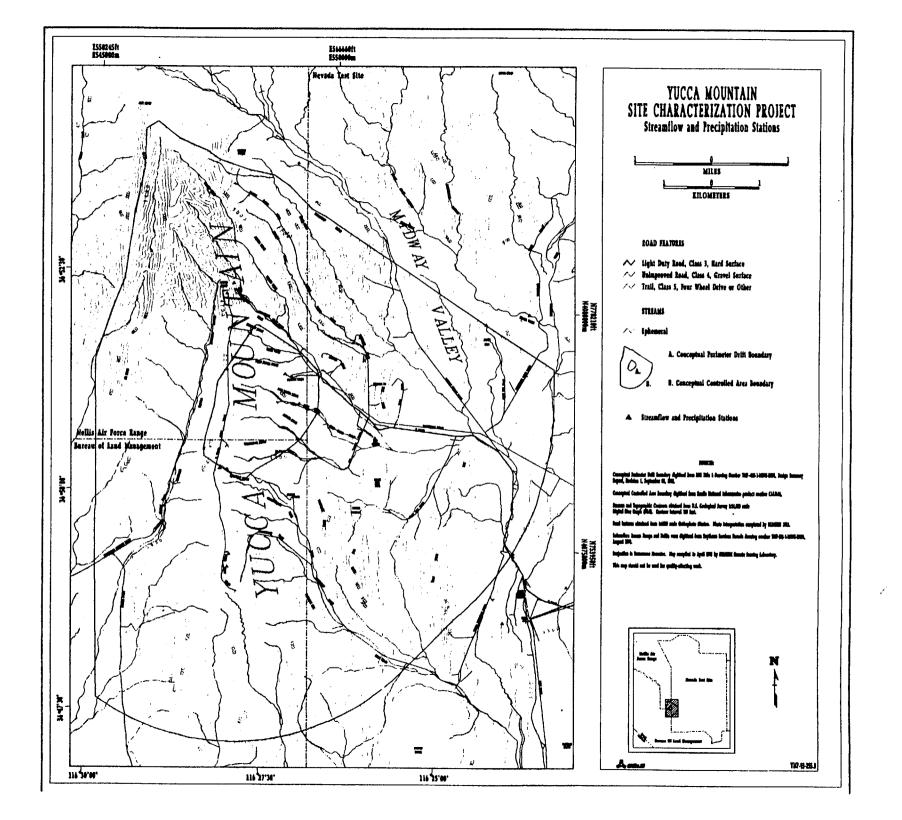


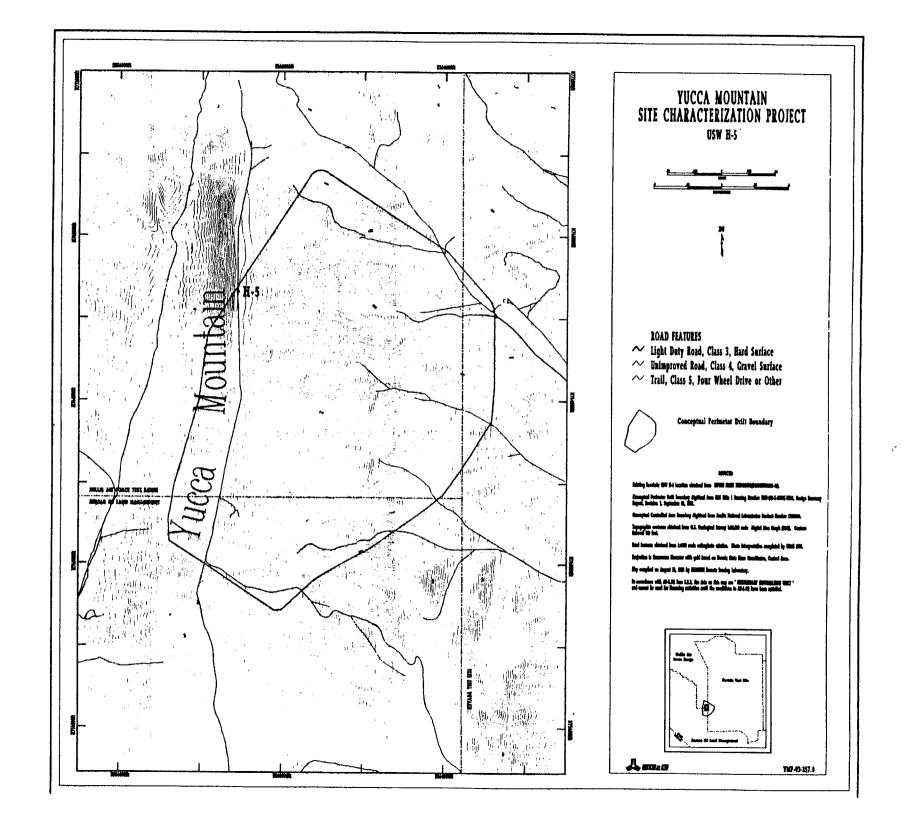


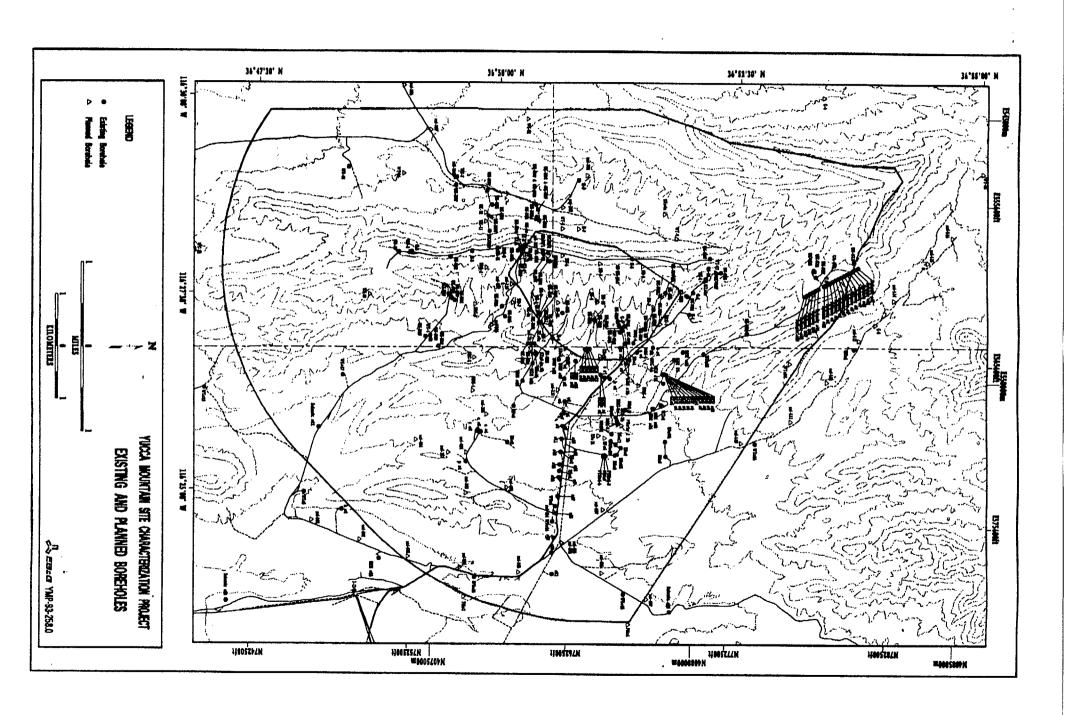


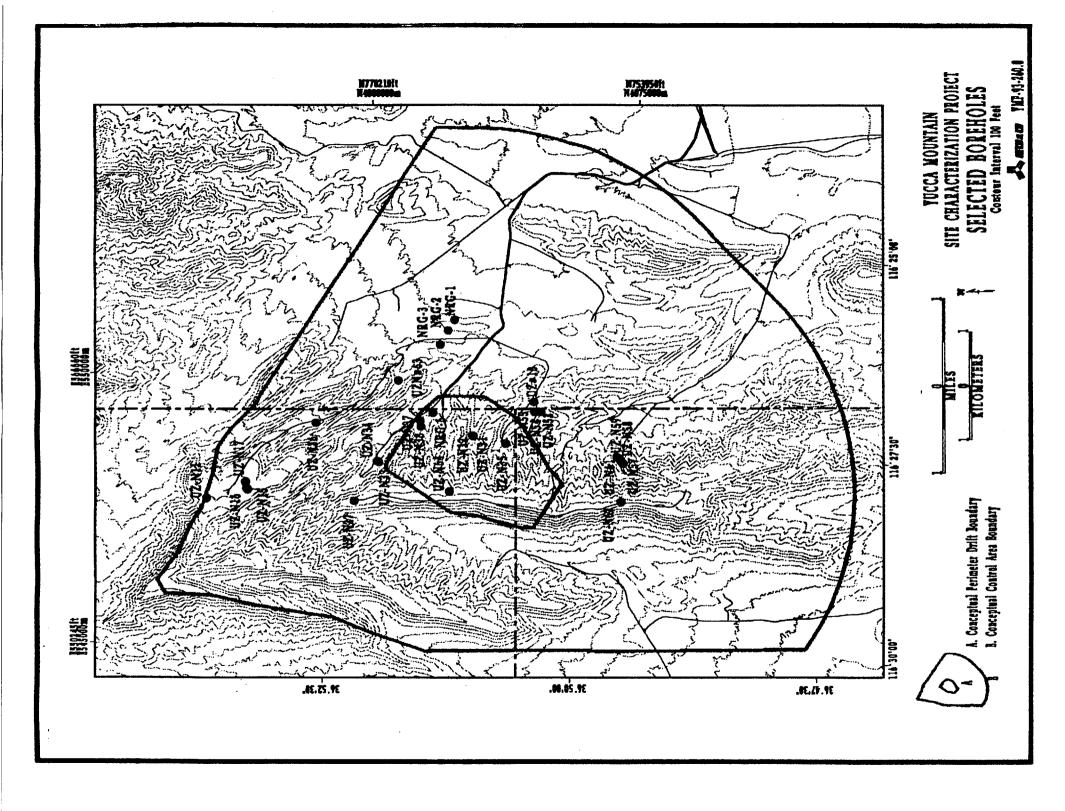


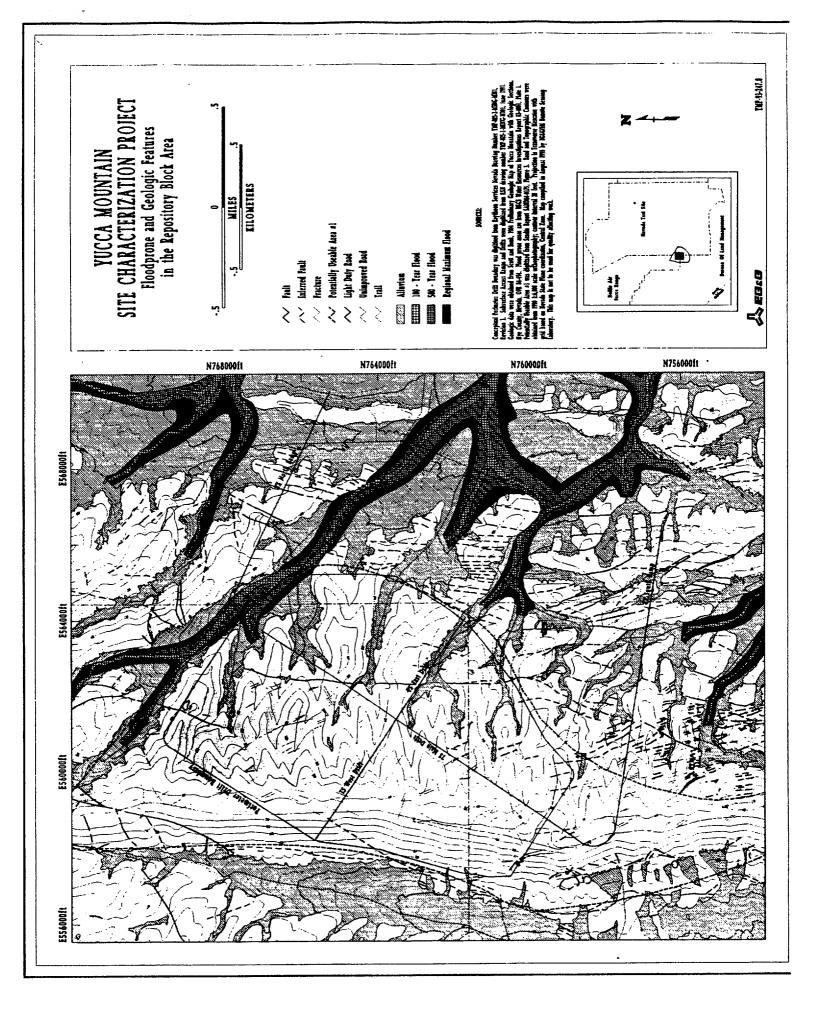


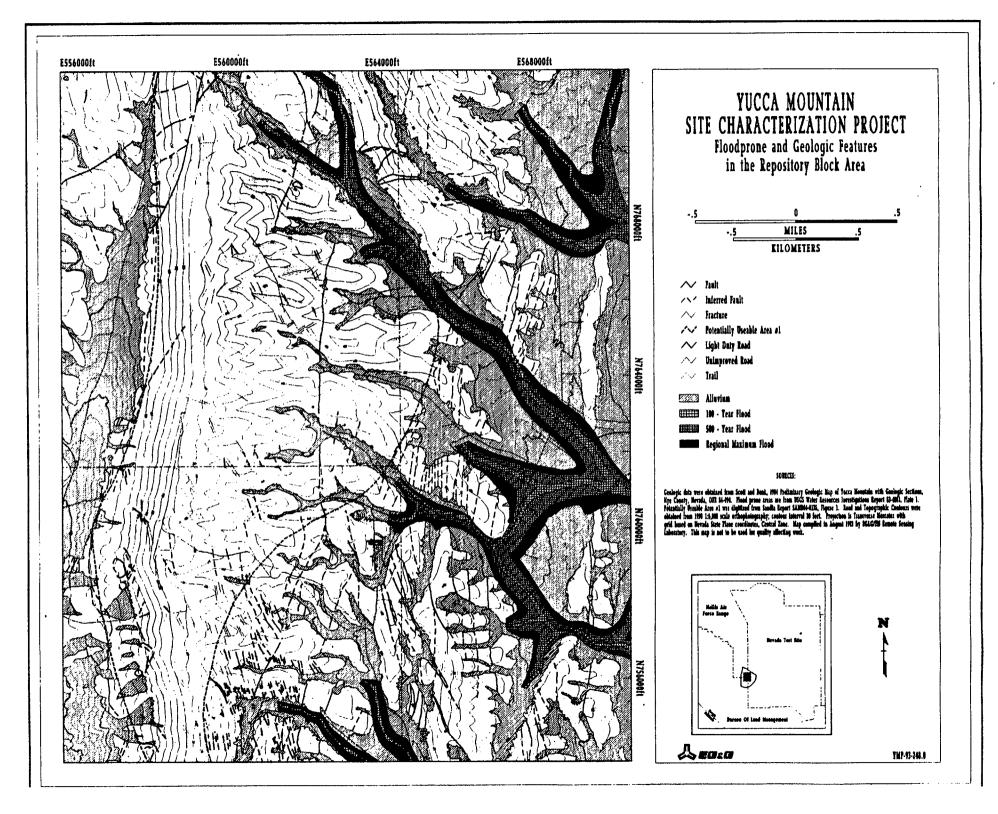


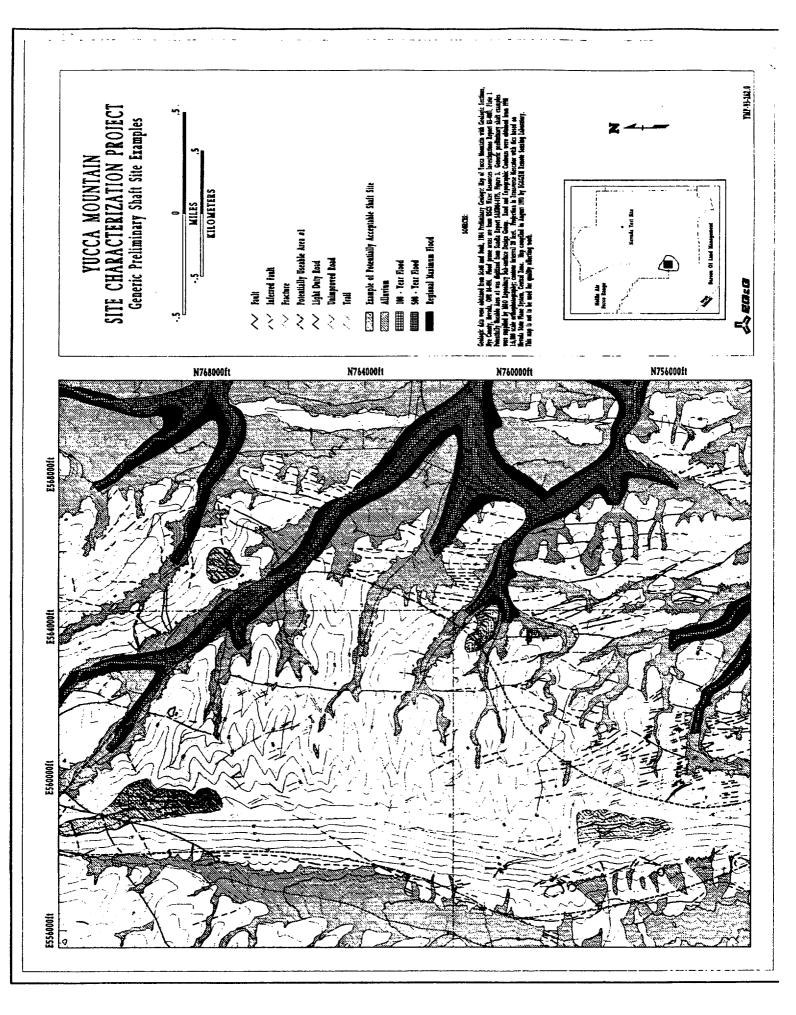














Reynolds Electrical & Engineering Co., Inc.

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

IN REPLY REFER TO: 580-01-664

WBS 1.2.9.1 QA: N/A

September 10, 1993

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

If further information is required, please contact Rene' R. Knott at 794-7193.

R. F. Pritchett, Manager

127 Pretines

Yucca Mountain Project Division YMP Technical Project Officer

RFP:RRK:mab

Enclosure Status Report (3 pages)

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Carl P. Gertz 580-01-664 Page 2 September 10, 1993

cy w/encl.

Information Services Center, M/S 408

K. W. Powers, DOE/NV, M/S 505

M. B. Blanchard, DOE/YMP, M/S 523

W. R. Dixon, DOE/YMP, M/S 523

J. R. Dyer, DOE/YMP, M/S 523

C. E. Hampton, DOE/YMP, M/S 523

D. J. Harrison, DOE/YMP, M/S 523

B. D. Hutchinson, DOE/YMP, M/S 523

V. F. Iorii, DOE/YMP, M/S 523

... S. B. Jones, DOE/YMP, M/S 523

E. H. Petrie, DOE/YMP, M/S 523

W. B. Simecka, DOE/YMP, M/S 523

D. R. Williams, DOE/YMP, M/S 523

W. A. Wilson, DOE/YMP, M/S 717

L. D. Foust, M&O, M/S 423

M. M. Martin, M&O, M/S 423

R. L. Robertson, M&O/Fairfax, VA

P. Justus, NRC/Las Vegas, NV

R. C. Furtek, REECo, M/S 235

B. R. Gardella, REECo, M/S 408

W. J. Glasser, REECo, M/S 408

J. L. Henze, REECo, M/S 751

S. L. Hughes, REECo, M/S 408

D. L. Knight, REECo, M/S 408

D. L. Koss, REECo, M/S 408

R. B. Land, REECo, M/S 585

T. M. Leonard, REECo, M/S 751

K. L. Limon, REECo, M/S 408

C. J. Mason, REECo, M/S 751

S. O. Straub, REECo, M/S 408

J. R. Trujillo, REECo, M/S 590

M. Brodeur, SAIC, M/S 517/T-23

J. J. Brogan, SAIC, M/S 517/T-12

R. D. Hutton, SAIC, M/S 517 S. C. Smith, SAIC, M/S 517/T-10

J. W. Teak, SAIC, M/S 517

J. E. Therien, SAIC, M/S 517



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

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (YMP)

AUGUST 1993 - STATUS REPORT

Reeco has no reportable Level 0 or Level 1 Milestones.

SITE (1.2.3)

WBS 1.2.3.5

Task: USW UZ-14 Drilling (Job Package 92-17)

Continued operations. Borehole was continuously cored and reamed to 12 1/4-inch diameter to 1282 feet. Progress to drill/core deeper has stopped due to water encountered at 1256 feet to 1272 feet. Several pump/recovery tests were conducted under the direction of USGS. A cementing program is currently being developed by RSN to attempt to stop the inflow of water into the borehole.

Task: UE-25 NRG-2B North Portal Ramp Borehole (Job Package 93-09)

Continued drilling/coring operations. Borehole depth at period end is 140 feet. Scheduled total depth is 315 feet. Operations were temporarily suspended on August 13, 1993, to acquire necessary equipment to perform standard penetration test. Operations resumed August 26, 1993. The drilling rig and crew were moved to UZ N-39 during this period.

Task: USW WT-2 Additional Work Activities (Work Program YMP/WP/93-17)

Moved the Failing 1500 Drill Rig and equipment to WT-2. Removed 2 7/8-inch tubing from hole. Tubing will be rerun in hole at a later date.

EXPLORATORY STUDIES (1.2.6)

WBS 1.2.6.1

Task: Exploratory Studies Facility (ESF)

Continued administrative support for ESF activities to include planning, scheduling, and management. Performed 90% Title II Design Review on Package 1B and submitted 58 comments. Participated in comment resolution for Package 1B and Package 2A.

Task: Procurement Actions

Request for Proposal (RFP) for rental of a batch plant required a pollution control system. Revised proposals were received, and the package is in DOE review.

Wulfenstein Construction Co. began delivery of aggregate to Area 25.

Purchase orders were awarded for procurement of Mine Rescue Equipment including breathing apparatuses, stretchers, first aid, measurement instruments, etc.

Capital equipment funding of \$250,000 was received during this period for items to support the ESF. Proposals for the Getman Scissor Lift are in review. Reprogramming approval will be requested as the low bid exceeds the estimate for this item.



Task: ESF North Portal Pad & Facilities (Job Package 92-20)

Drilled for and installed 131 permanent rockbolts. Advanced the lower heading to CS 0+90 and installed 183 split set bolts. Pumped 2,084 cubic feet of HLN(cc). Applied 168 bags of fibercrete. Grouted 18 highwall rockbolts with 154 cubic feet of HLN(cc). Continued shotcreting of water diversion channel and placed remaining rip-rap. Completed material control fencing. Continued preparation of batch plant by beginning installation of water line.

TEST FACILITIES (1.2.7)

Task: Field Operations Support

Continued logistical and tour support for DOE Yucca Mountain Site (YMSO) staff. Eleven tours and one Open House were held during this period. Support included but was not limited to arrangements for buses, registration of guests, coordination of lunches/beverages, medical service, furniture, and mechanical service. Continued preparations for upcoming tours.

Continued work on the chiller system in Building 4015, Field Operations Center. A pump has been priority-ordered to correct problems with the circulation of condenser water.

Continued support services to participants and maintenance of YMP utilized facilities, utilities, equipment, and roads in Area 25.

PROJECT MANAGEMENT (1.2.9)

WBS 1.2.9

Task: Technical Project Office Management/Project Control

Continued normal administrative level of effort support. Continued status and update of Planning and Control System (PACS); supported ESF Construction activities, drilling activities, and completed cost estimates as required.

QUALITY ASSURANCE (1.2.11)

WBS 1.2.11

Task: Quality Assurance (QA)

Continued normal administrative level of effort support. Responses to the seven DOE Corrective Action Requests (CARs) generated as a result of the DOE/YMP QA audit YMP- 93-12 of REECo/YMP activities were provided by the response due dates. One CAR, YM-93-056, has been subsequently verified and closed. The other CAR action plans have been accepted by DOE QA except for CAR YM-93-058 which requires further clarification.

A response to DOE CAR YM-93-084, generated as a result of the DOE/YMP QA audit YMP-93-13 of RSN, was provided by the response due date.

Conducted Audit REECo-009-93 of Control of Measuring and Test Equipment (M&TE) activities. The audit resulted in issuance of three Deficiency Notices (DNs) concerning two errors in the Drilling Department's and Quality Control (QC) Section's MT&E Tracking Log documentation and the lack of current YMP qualification of the Calibration Laboratory Supervisor to his current position description.



Closed REECo CAR CA-93-001 which documented that inspections were performed by QC personnel who were not certified. All actions were satisfactorily completed.

Issued REECo CAR CA-93-007 which documented that corrective actions for DN-93-008 were not completed as required. The CAR was issued to the next higher level of management for action.

Accepted an extension request for additional time to complete the procedure revisions for REECo CAR CA-93-004 dealing with material control deficiencies. New completion date is September 24, 1993.

ENVIRONMENT, SAFETY & HEALTH (1.2.13)

WBS 1.2.13

Task: Safety & Occupational Health

Provided medical, occupational safety, industrial hygiene, and fire protection support.

SUPPORT SERVICES (1.2.15)

WBS 1.2.15

Task: Administrative Support and Training

Continued to provide procurement, logistical, and information management administrative level of effort support; continued support services to various YMP participants.

Task: Site Characterization Plan (SCP) Reference Library and Database

Continued distribution and maintenance for the SCP and Progress Reports. One SCP set was distributed during this period.

Sandia National Laboratories

Albuquerque, New Mexico 87185

SEP 10 10 52 AH '00

SEP 0 7 1993 WBS:1.2.9 QA:NA

Carl P. Gertz, Project Manager Yucca Mountain Site Characterization Project Office U. S. Department of Energy Nevada Operations Office 101 Convention Center Drive Phase 2, Suite 200 Las Vegas, Nevada 89193-8518

Attn: V. F. Iorii

Subject: July 1993 Monthly Highlights and Status Report

Dear Carl:

Enclosed is the Monthly Highlights and Status Report for the month of July, 1993. If you have any questions, please call **Leigh Lechel** at (FTS) 844-4824. Thank you.

Sincerely,

L. E. Shephard

Technical Project Officer

YMP Project Management 6302

LES:6302:pe

Enclosure

CC See Dist

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9/9/92

ENCLOSURE 4

Copy to:	-D. Williams
	J. R. Dyer
	.W. R. Dixon
	E. B. Pietrie
YMPO	J. Robson
	⊌W. B. Simecka
YMPO	V.F. Iorii gyddo D . J. Harrison Stucker
NRC	P. S. Justus
M&O	S. J. Bodnar (2)
M&O	E. M. Fortsch (2)
M&O	R. K. St. Clair (2)
M&O	L. Wildman
M&O	L. D. Foust
ORNL	R. B. Pope
CCS	S. O'Connor
RSN	R. L. Bullock
LANL	J. A. Canepa
LLNL	W. L. Clark
USGS	L. R. Hayes
REECO	R. F. Pritchett
SAIC	M. D. Voegele
6300	D. E. Ellis
6302	L. E. Shephard
6302	D. Kessel
6302	F. J. Schelling
6312	F. W. Bingham
6313	L. S. Costin
6115	P. Davies
6319	R. R. Richards
6351	R. Thompson
6352	S. E. Sharpton
6352	B. J. Mathis
6352	31/12911/1.3/NQ

YMP CRF

6352