

U.S. DEPARTMENT OF ENERGY

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**YUCCA MOUNTAIN
SITE CHARACTERIZATION
PROJECT**

**Yucca Mountain
Site Characterization Project**

**GENISES
GEOGRAPHIC INFORMATION SYSTEM
(GIS)**

DATA CATALOG



SEPTEMBER 30 1993

UNITED STATES DEPARTMENT OF ENERGY

**Yucca Mountain
Site Characterization Project
GENISES**

**GEOGRAPHIC INFORMATION SYSTEM
(GIS)**

DATA CATALOG

SEPTEMBER 30, 1993

Prepared by

***EG&G ENERGY MEASUREMENTS, INC*
Remote Sensing Laboratory
P. O. Box 1912
Las Vegas, NV 89125**

This catalog replaces Appendix D of the YMP Technical Data Catalog and describes spatial or geographic information system data sets that are available from the Yucca Mountain Site Characterization Project's (YMP) database.

The GENISES database uses two software packages, ARC/INFO and INGRES, to operate the database. ARC/INFO, a Geographic Information System (GIS) is the product of Environment Systems Research Institute(ESRI) and is the spatial-indexing software used for the database. All GIS data sets are provided in one of the following formats: ARC/INFO export, ARC/INFO file format (ArcView only), DXF, and ASCII tabular format.

GENISES uses an x,y (Cartesian) coordinate system to reference geographic locations. GIS technology is considered relatively new and national standards are currently under development. Geographic (latitude and longitude) is the standard spherical reference grid used by GENISES. ArcView, also a product of ESRI, is supported with spatial data sets from GENISES. The current version of ArcView does not provide conversion utilities to project data from geographic to other map projections. Requests for ArcView data sets will be satisfied with Universal Transfer Mercator (UTM). All other spatial data sets are provided in geographic decimal degrees.

This document describes the data sets available, but does not provide the data (e.g. geologic map units are not labeled). The document is divided into sections. Each section provides a description of the spatial data sets for a theme. As new data themes are identified, new sections will be added to this catalog. This document contains the following sections.

Administration	State and federal boundaries, survey points.
Climate	Temperature and precipitation monitoring sites.
Ecology	Ecological study areas, radiological monitoring sites, predator monitoring sites, deer forage areas, reclamation sites, and vegetation.
Geology	Geologic contact for the state of Nevada, magnetotelluric survey, Southern Great Basin Seismic Monitoring Network, seismic shot and recorder locations, faults, alluvium contact.
Hydrology	Streams, stream flow monitoring sites, springs, spring flow monitoring
Socioeconomic	Mines, oil and gas wells
Structures	Ramps, Facility footprints
Topography	Elevation contours.
Transportation	Roads
Planned and Existing Pits, Trenches, Pavements, and Boreholes	

The GIS data sets are listed within each section in alphabetical order by file name. Each file is listed with a short description and a graphic representing the extent and complexity of the data.

The GENISES staff is currently validating source information and verifying all spatial data sets held in the YMP database. As data sets are verified they will be added to this catalog on a quarterly basis. The spatial data sets listed in this document have been verified and are current as of 9/24/93.

YMP participants may request spatial data sets directly from EG&G/EM by filling out an EG&G/EM Work Request (Appendix A). Please fill out the request in entirety. Other interested parties should request this information in writing to Ace Robison, Special Assistant for Institutional Office with attention to Ardyth M. Simmons, Technical Data Manager. The GENISES data dictionary entry, code definitions, and lineage for each file will be transmitted with the requested file.

ADMINISTRATION

NAME: Nevada Test Site

Theme: The geographic boundary of the Nevada Test Site.

Aliases: NTS

Source: Processed by EG&G/EM from Homes and Narver Inc drawing 090-094-C7.2.

Geographic Extent: Southern Nye County, Nevada

Last Edited: 9/24/93

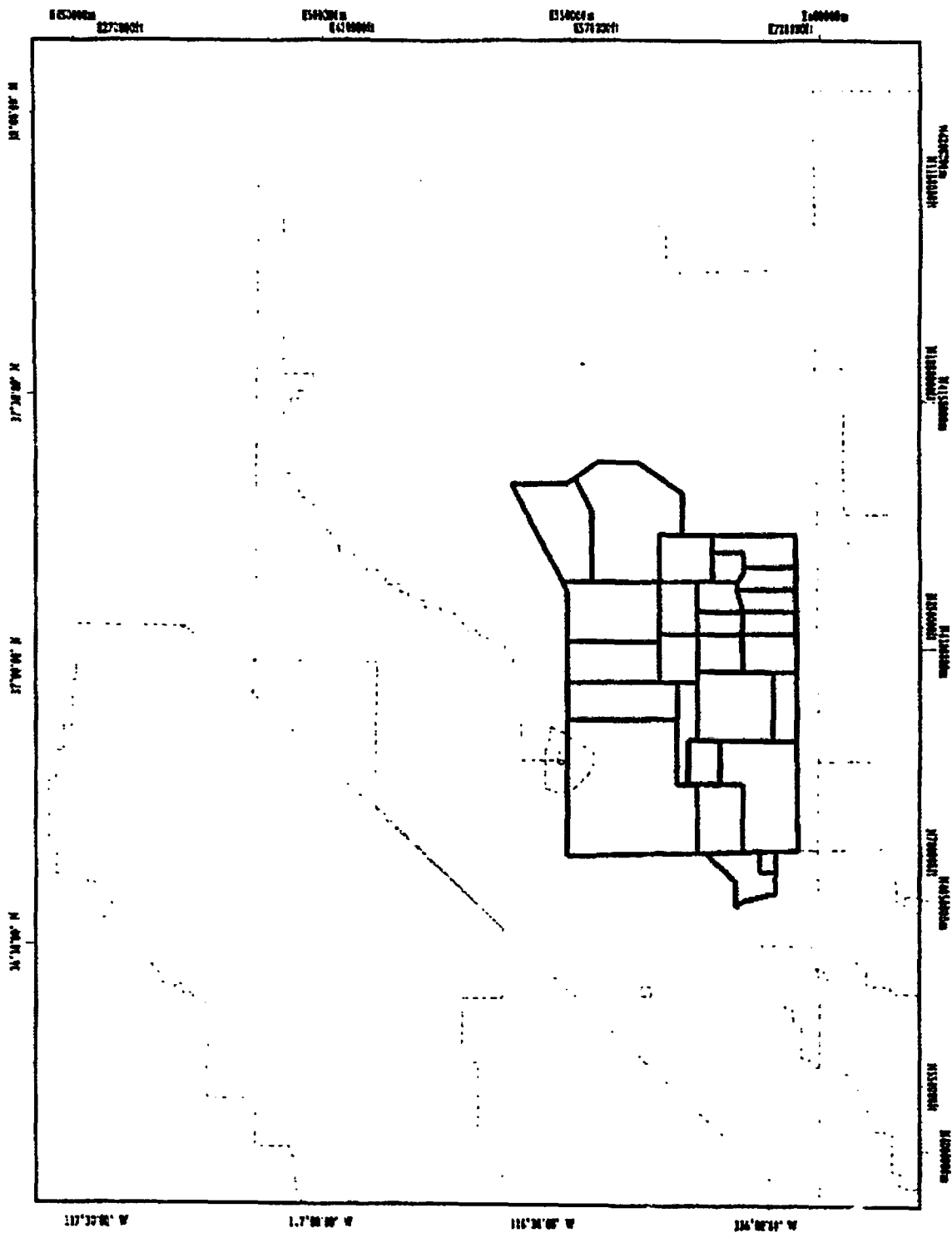
Maintenance Schedule: As data are made available.

Original Source Scale: 1:20,000

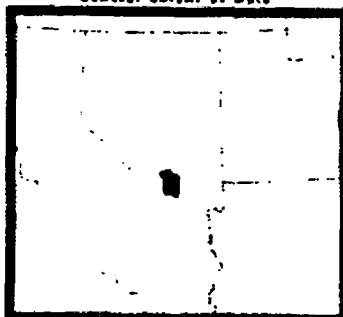
Resolution: Not provided by source

Accuracy: Not provided by source.

Contact(s): William C. Kopatich
Raytheon Services Nevada
Phase II, Suite P-230
101 Convention Center Dr.
Las Vegas, NV 89109
702-794-7014



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

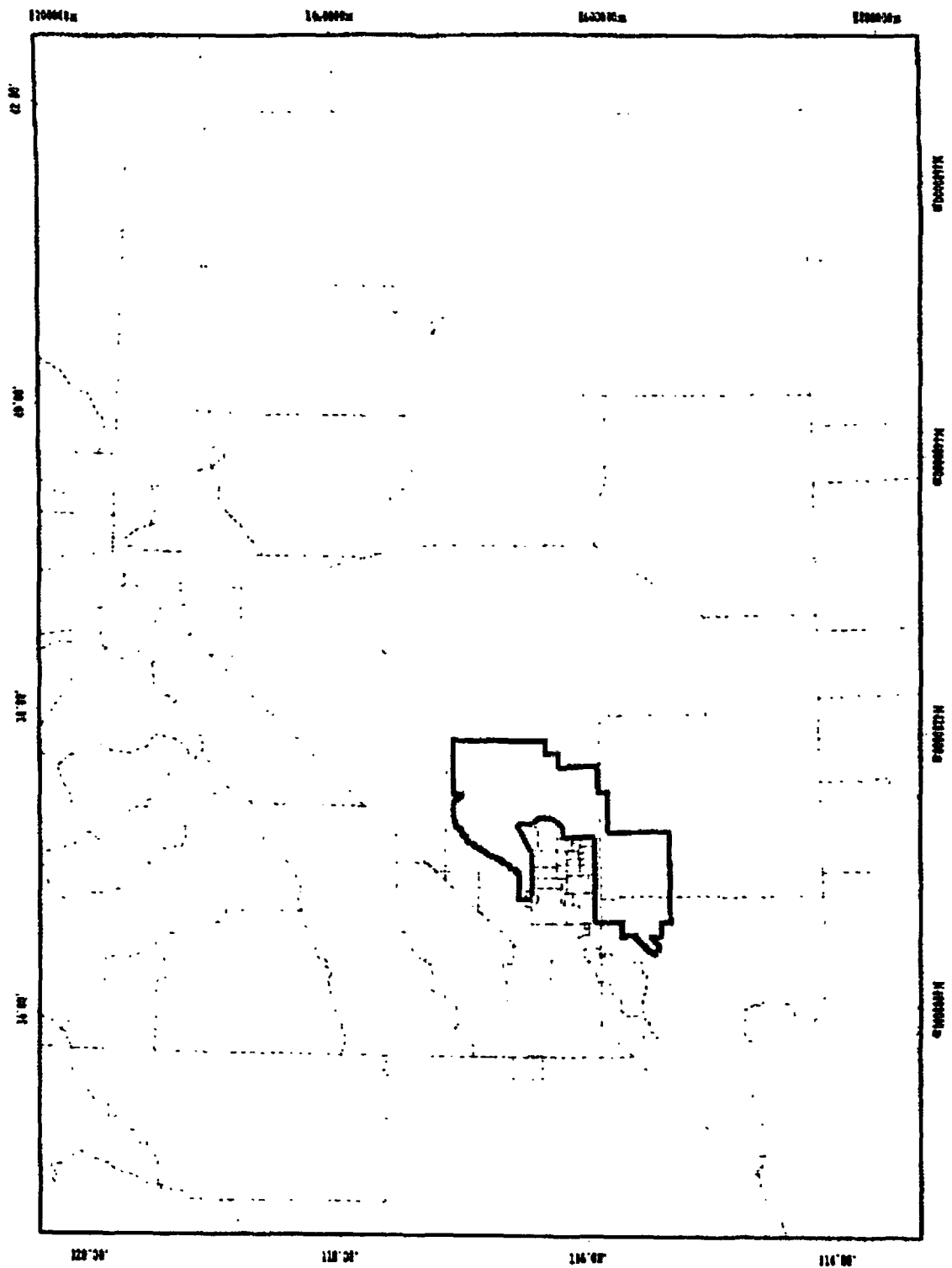
Source: U.S. Geological Survey

File: bond1

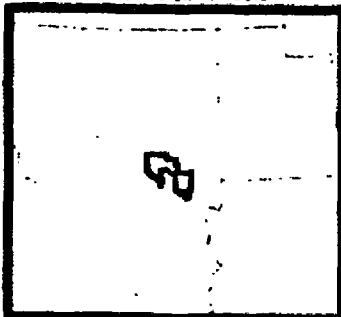
Description: Geographic boundary of the Nevada Test Site.



NAME:	Nellis Air Force Range
Theme:	The geographic boundary of the Nellis Air Force Range.
Aliases:	None
Source:	Processed by EG&G/EM from USGS National Mapping Program 1:100,000 Digital Line Graphs.
Geographic Extent:	Southern Nye County, Nevada
Last Edited:	9/24/93
Maintenance Schedule:	As data are made available.
Original Source Scale:	1:100,000
Resolution:	Ground length of the smallest data collection unit = 2.54 meters
Accuracy:	Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.
Contact(s):	Earth Science Information Center U.S. Geological Survey 507 National Center Reston, Virginia 22092 703-860-6045



General Extent of Data



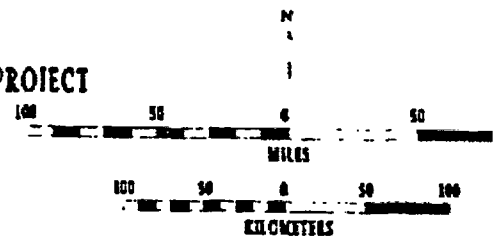
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

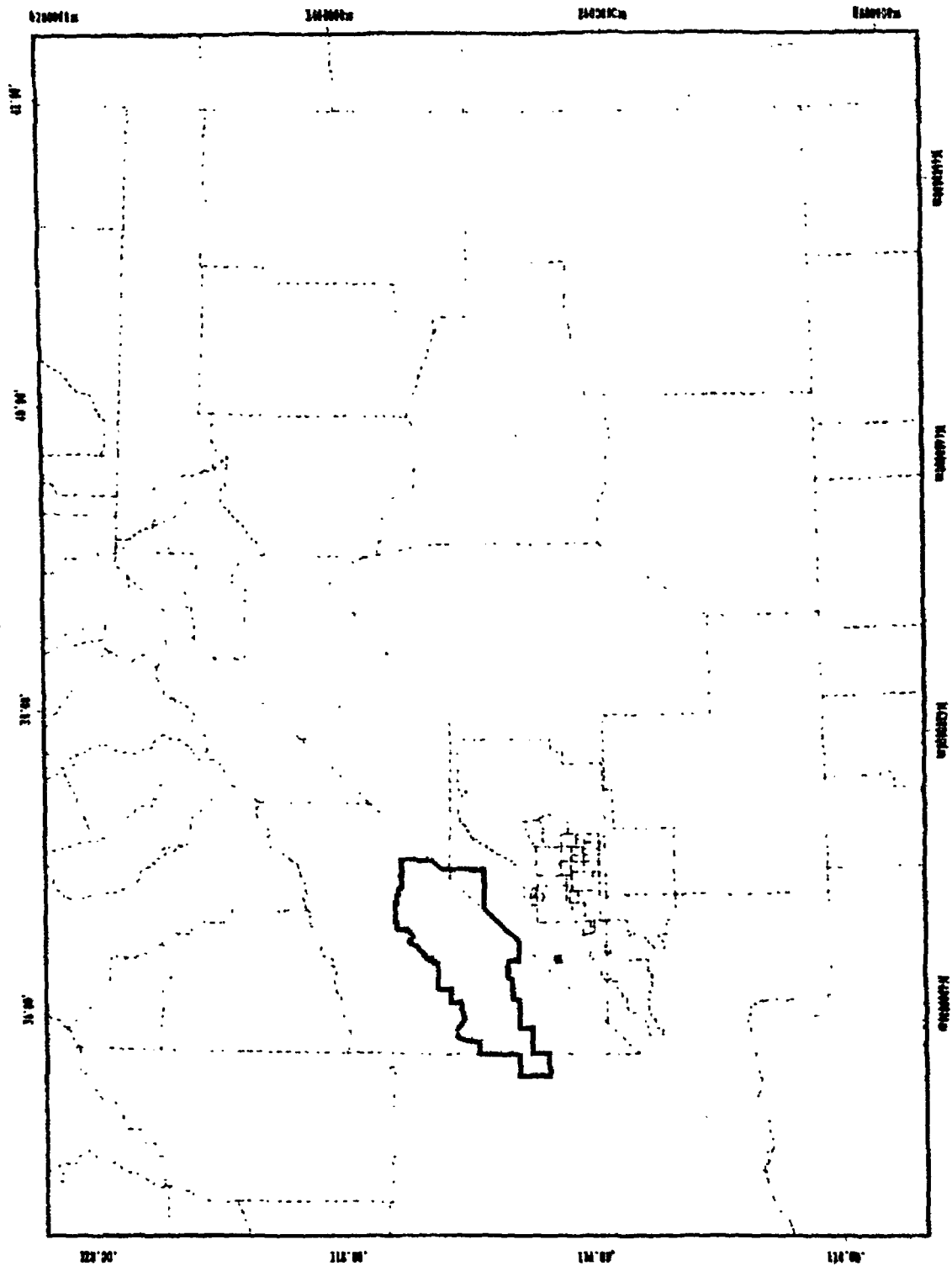
Source: U.S. Geological Survey

File: bon02

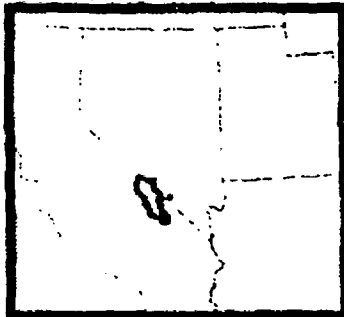
Description: Geographic boundary of the Nellis Air Force Range.



NAME:	Death Valley
Theme:	The geographic boundary of Death Valley National Monument.
Aliases:	Death Valley
Source:	Processed by EG&G/EM from USGS National Mapping Program 1:100,000 Digital Line Graphs
Geographic Extent:	Southern Nye County, Nevada
Last Edited:	9/24/93
Maintenance Schedule:	As data are made available.
Original Source Scale:	1:100,000
Resolution:	Ground length of the smallest data collection unit = 2.54 meters
Accuracy:	Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.
Contact(s):	Earth Science Information Center U.S. Geological Survey 507 National Center Reston, Virginia 22092 703-860-6045



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey

File: bon06

Description: Geographic boundary of the Death Valley National Monument.



NAME: Toiyabe National Forest

Theme: The geographic boundary of the Toiyabe National Forest.

Aliases: None

Source: Processed by EG&G/EM from data provided by the National Forestry Service.

Geographic Extent: Western Clark County, Nevada

Last Edited: 9/24/93

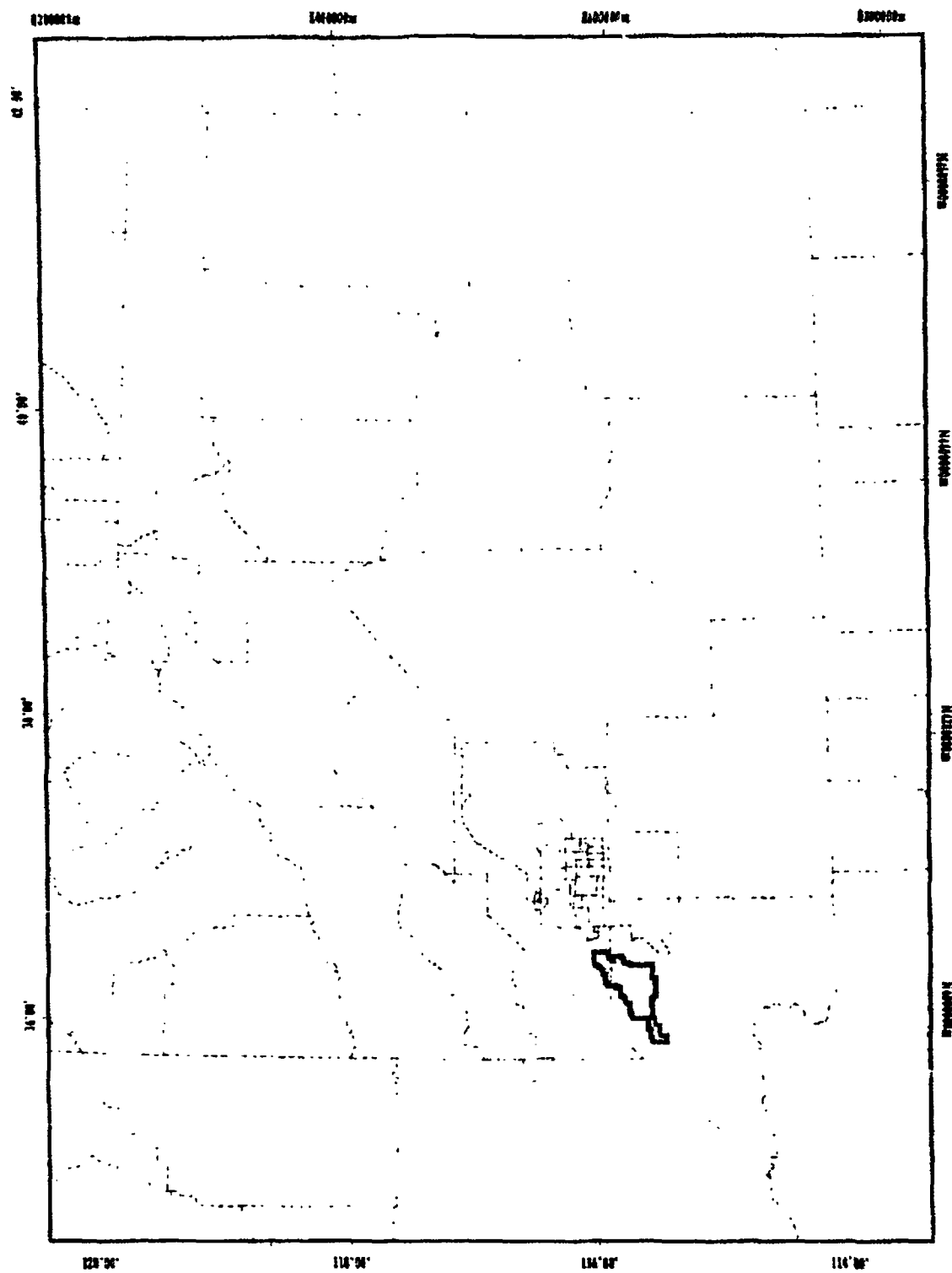
Maintenance Schedule: As data are made available.

Original Source Scale: 1:100,000

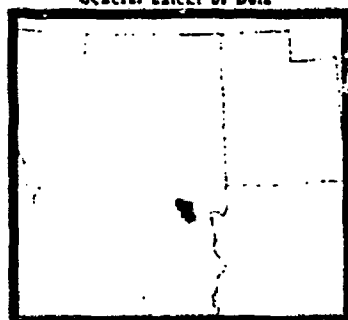
Resolution: Ground length of the smallest data collection unit = 2.54 meters

Accuracy: Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.

Contact(s): U.S. Forest Service
GEOMATICS
324 25th Street
Ogden, UT 84401
801-625-5237



General Extent of Data



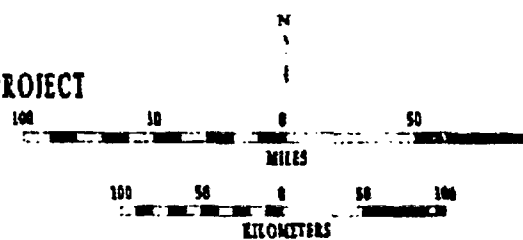
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Forestry Service.

File: bon07

Description: Geographic boundary of the Toiyabe National Forest



NAME: State and county boundaries for the western U.S.A.

Theme: The geographic state and county boundaries for Nevada, California, Oregon, Washington, Idaho, Western area of Montana, Utah, New Mexico and Arizona.

Aliases: 1:2 million state boundaries

Source: Processed by EG&G/EM from USGS National Mapping Program 1:2,000,000 Digital Line Graphs.

Geographic Extent: Western United States of America

Date Last Edited: 9/24/93

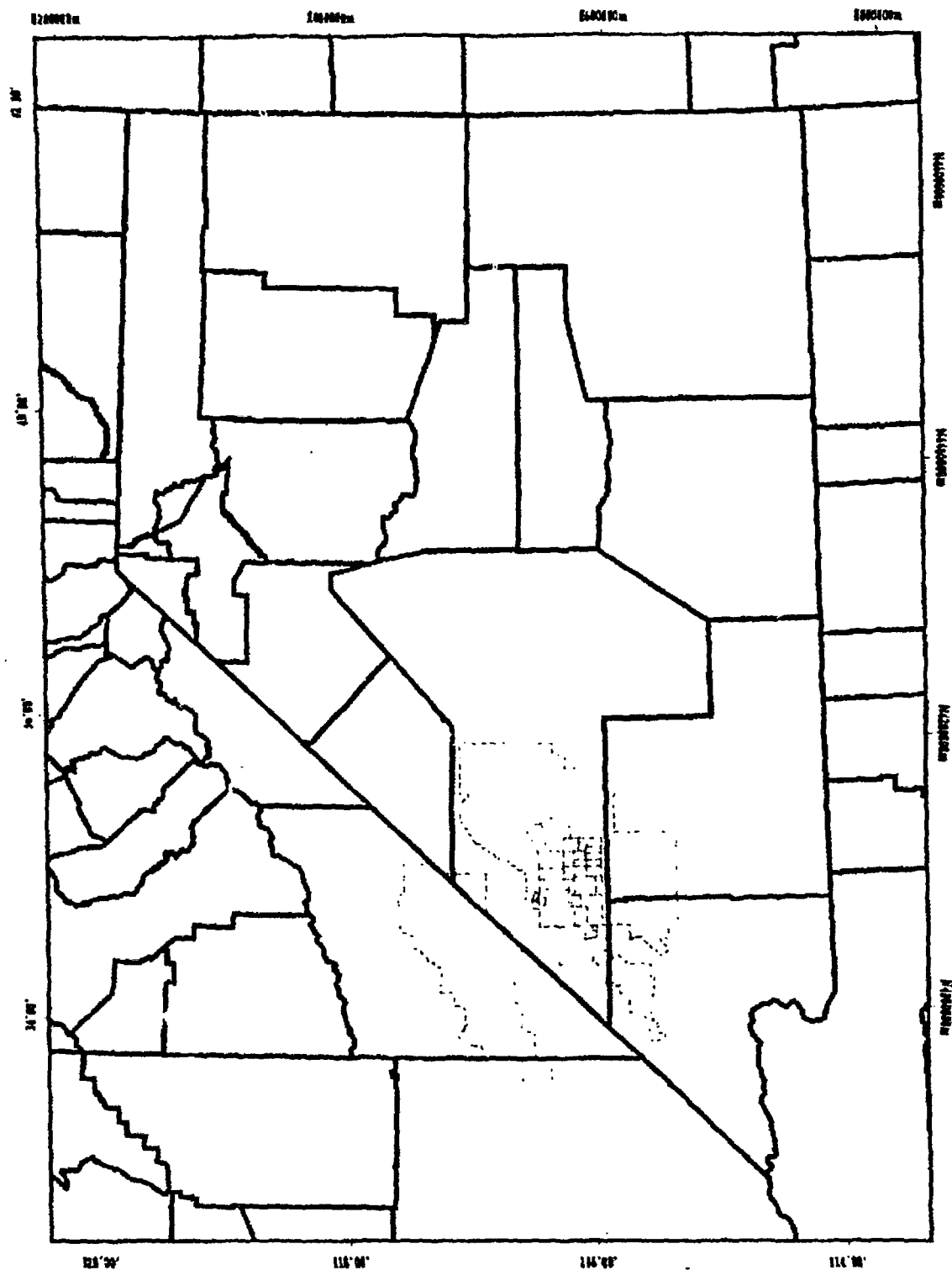
Maintenance Schedule: As data are made available.

Original Source Scale: 1:2,000,000

Resolution: The ground length in meters of the smallest data collection unit .001 inch is 50.8 meters.

Accuracy: Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.

Contact(s): Earth Science Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey

File: bon00

Description: State and county boundaries for the western United States of America.



NAME: Conceptual Controlled Area

Theme: The geographic boundary of the Yucca Mountain Project Conceptual Controlled Area.

Aliases: CAB

Source: Processed by EG&G/EM from Sandia National Laboratories Product Number CAL0166.

Geographic Extent: Southern Nye County, Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Original Source Scale: 1:2,500

Resolution: No resolution provided by originator

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

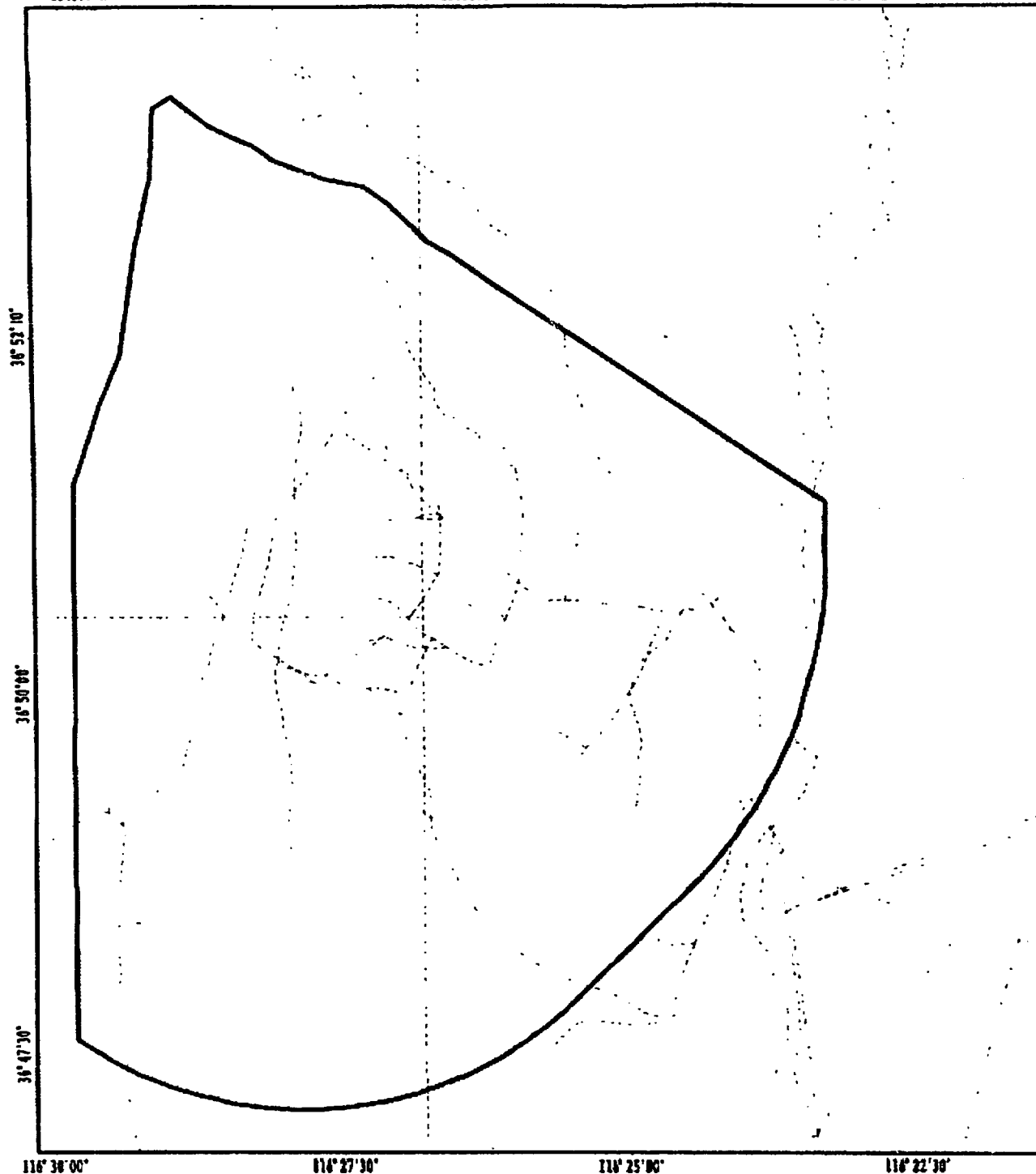
Contact(s): Les Shephard
Sandia National Laboratories
505-844-9160

David Eley
Sandia National Laboratories
P. O. Box 5800
Organization 6302
Albuquerque, NM 87185
505-844-7476

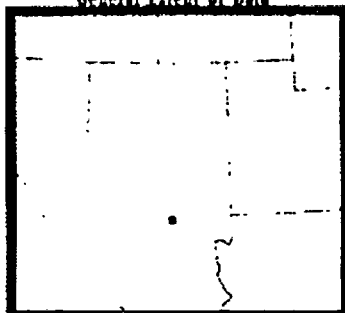
ES024511
ES450000

ES0444021
ES500000

ES0307511
ES550000



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Sandia National Laboratories

File: bon04

Description: Geographic boundary of the Conceptual Controlled Area.



Name: Potential repository outline.

Theme: The geographic boundary of the Yucca Mountain Project Potential Repository Outline.

Aliases: PDB

Source: Processed by EG&G/EM from Title I Design Summary Report for the Exploratory Studies Facility.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Original Source Scale: 1:500

Resolution: Not provided by source.

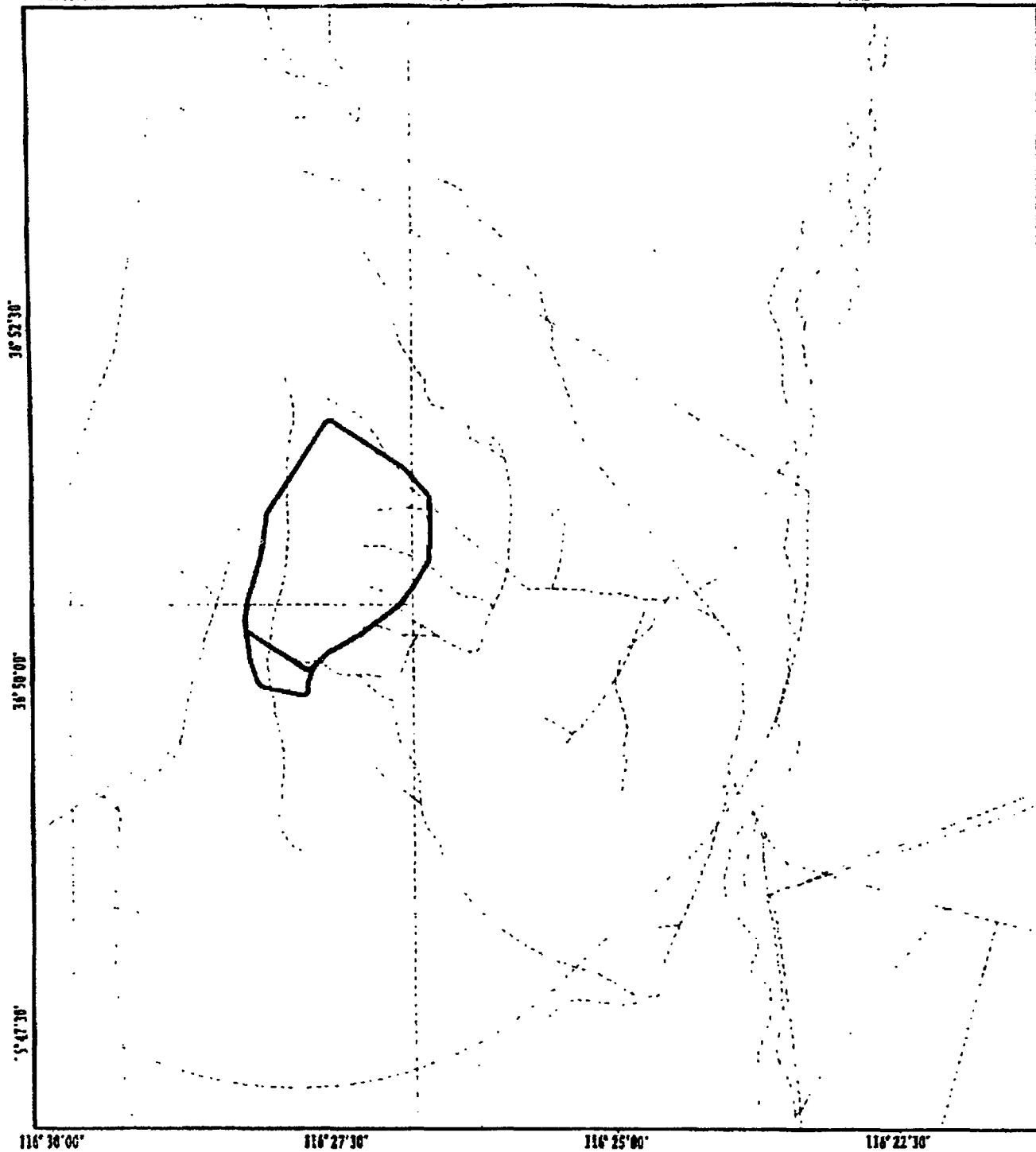
Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): William C. Kopatich
Raytheon Services Nevada
Phase II, Suite P-230
101 Convention Center Dr.
Las Vegas, NV 89109
702-794-7014

E5502451i
E543000m

E564440E1
E550000m

E5830751i
E550000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Title 1 Design Summary Report

File: bon05

Description: Geographic boundary of the potential repository outline and extension area.



NAME: Survey reference points.

Theme: Survey reference points for the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from Raytheon Services Nevada Master Control File of control points for Yucca Mountain Site Characterization Project, Raytheon Services Nevada Ground Control points, Raytheon Services Nevada Control Points Surveyed for NRDS, Coast&Geodetic Survey field sketches, Nev30,Nev31-1, and NEV12-11, UGDG Nevada Test Site Master, USGS Pahute Mesa Project Master, USGS Location of Bare Mountain benchmark, and USGS Big Dune Reprint Project.

Geographic Extent: Southern Nye County, Nevada

Date Last Edited: Sept 1993

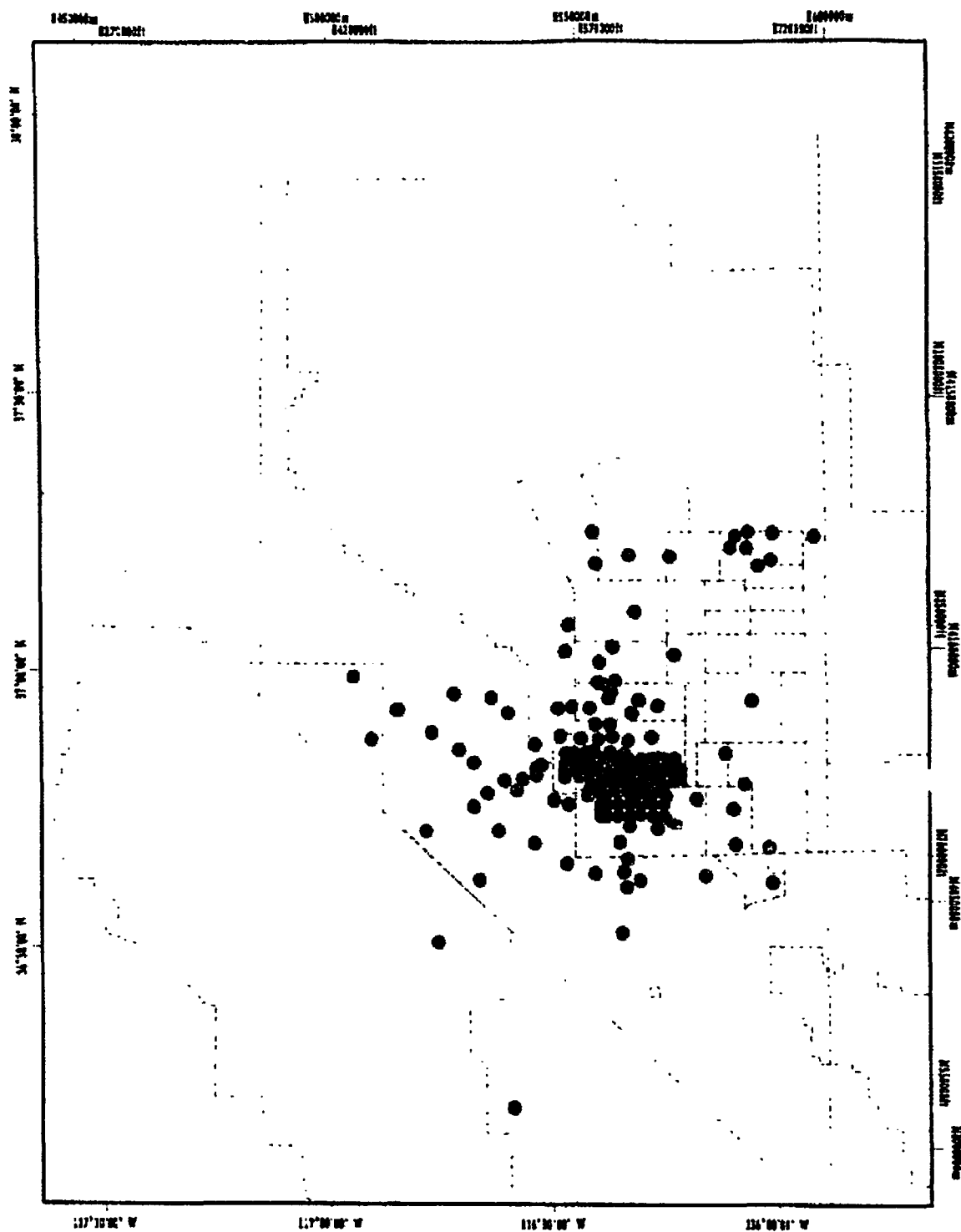
Maintenance Schedule: As data are made available.

Original Source Scale: Not Provided by source

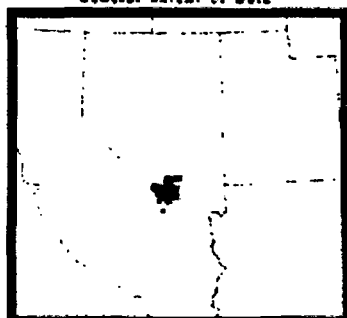
Resolution: Reported as third order position information.

Accuracy: Not provided by source.

Contact(s): William C. Kopatich
Raytheon Services Nevada
Phase II, Suite P-230
101 Convention Center Dr.
Las Vegas, NV 89109
702-794-7014



General Extent of Data



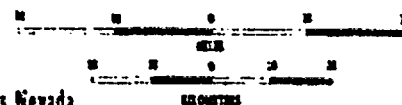
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey, Raytheon Services Nevada

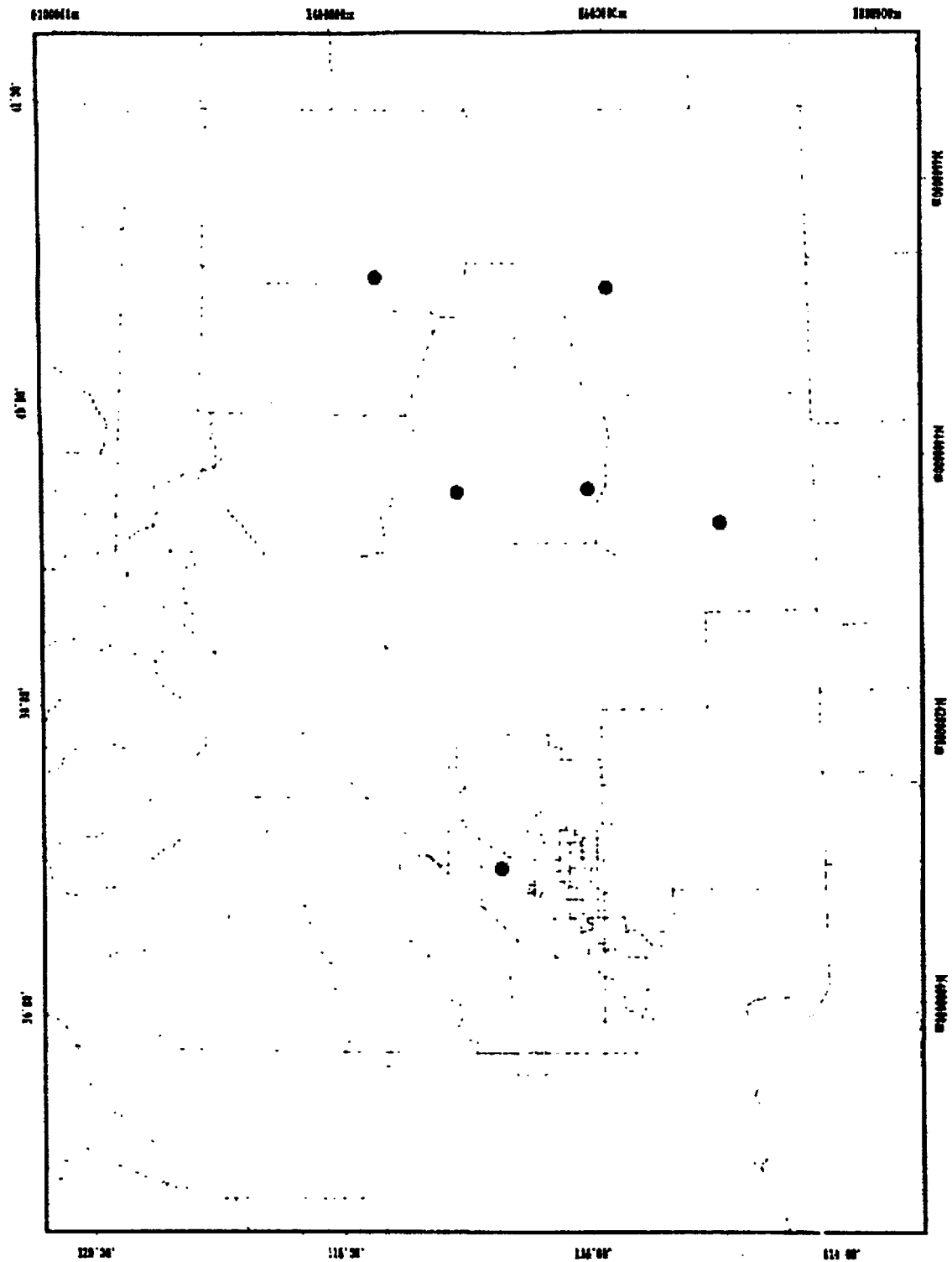
File: bon03

Description: Survey reference points for the Yucca Mountain area.



CLIMATE

NAME:	Temperature and precipitation monitoring sites.
Theme:	The geographic location of temperature and precipitation monitoring sites for Nevada.
Aliases:	None
Source:	Processed by EG&G/EM from USGS Open-File Report 82-701.
Geographic Extent:	State of Nevada
Date Last Edited:	3/21/92
Maintenance Schedule:	As data are made available.
Original Source Scale:	Not provided by source.
Resolution:	Not provided by source
Accuracy:	Does not carry an accuracy statement for positional accuracy or topological accuracy.
Contact(s):	Larry Hayes U.S. Geological Survey P. O. Box 25046 M/S 425 Denver, CO 80225 303-236-0516



General Extent of Data



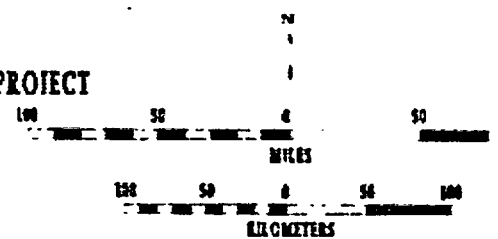
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: USGS OFR 82-701

File: 21191

Description: Geographic location of the temperature and precipitation monitoring sites for Nevada



ECOLOGY

NAME: Ecological study plots.

Theme: The geographic location of ecological study plots in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from document EGG 10617-2195 Annual Report.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 2/10/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source.

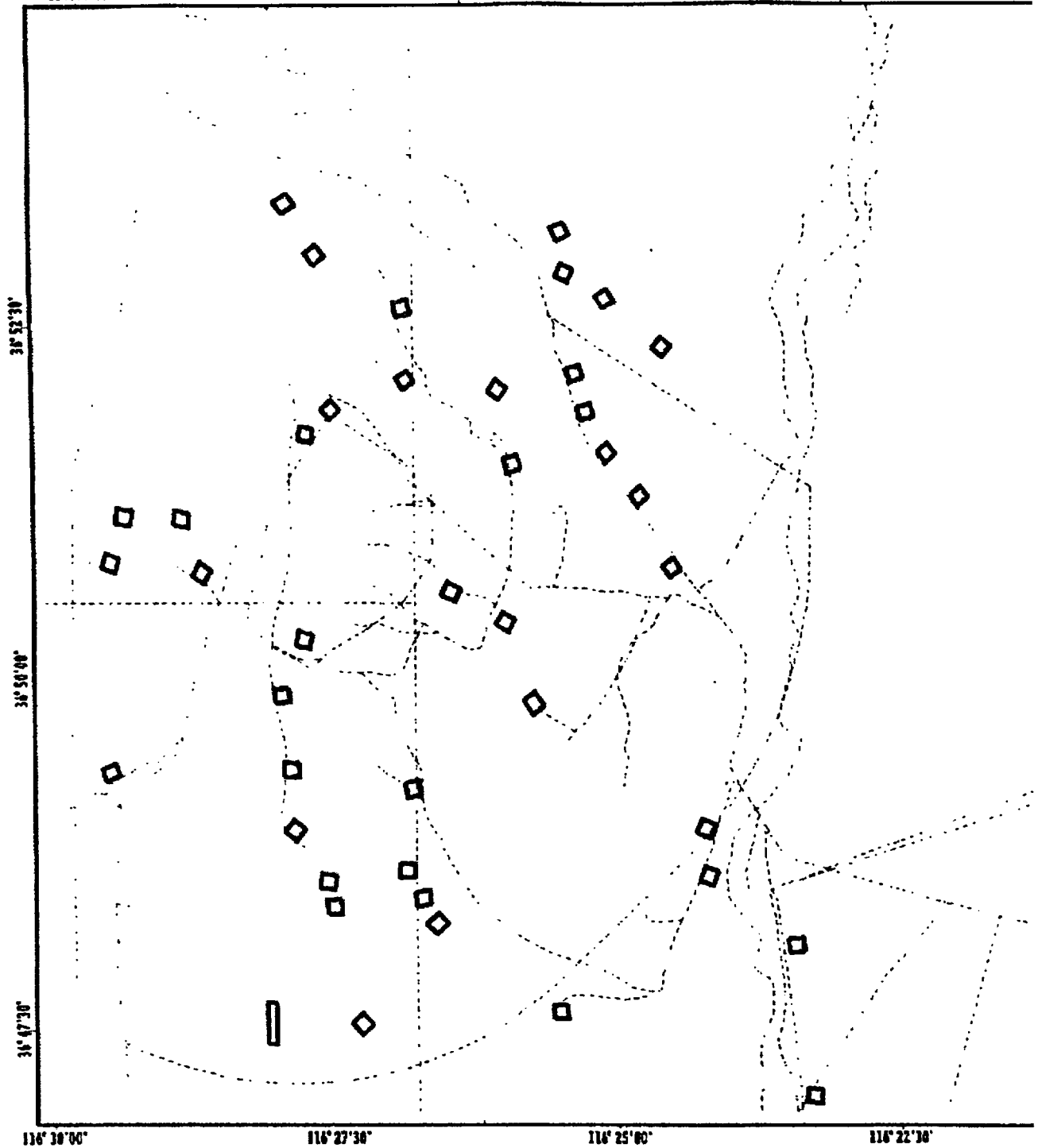
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

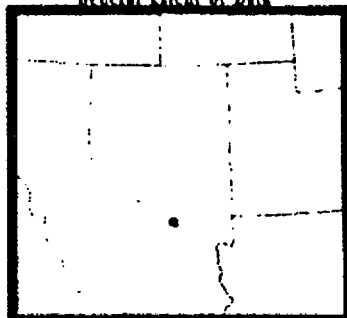
ES5024511
ES55004m

ES4444071
ES55004m

ES0307511
ES55004m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EGC 10417-2195 1992 Annual Report.

File: eco01

Description: Geographic location of ecological study plots in the Yucca Mountain area.



NAME: Radiological monitoring sites.

Theme: The geographic location of radiological monitoring sites in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from document YMP/91-41.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 2/10/93

Maintenance Schedule: As data are made available.

Original Source Scale: Had annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source

Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

E53024511
E5430000m

E56644081
E5500000m

E58307511
E5550000m

36° 52' 30"

36° 50' 00"

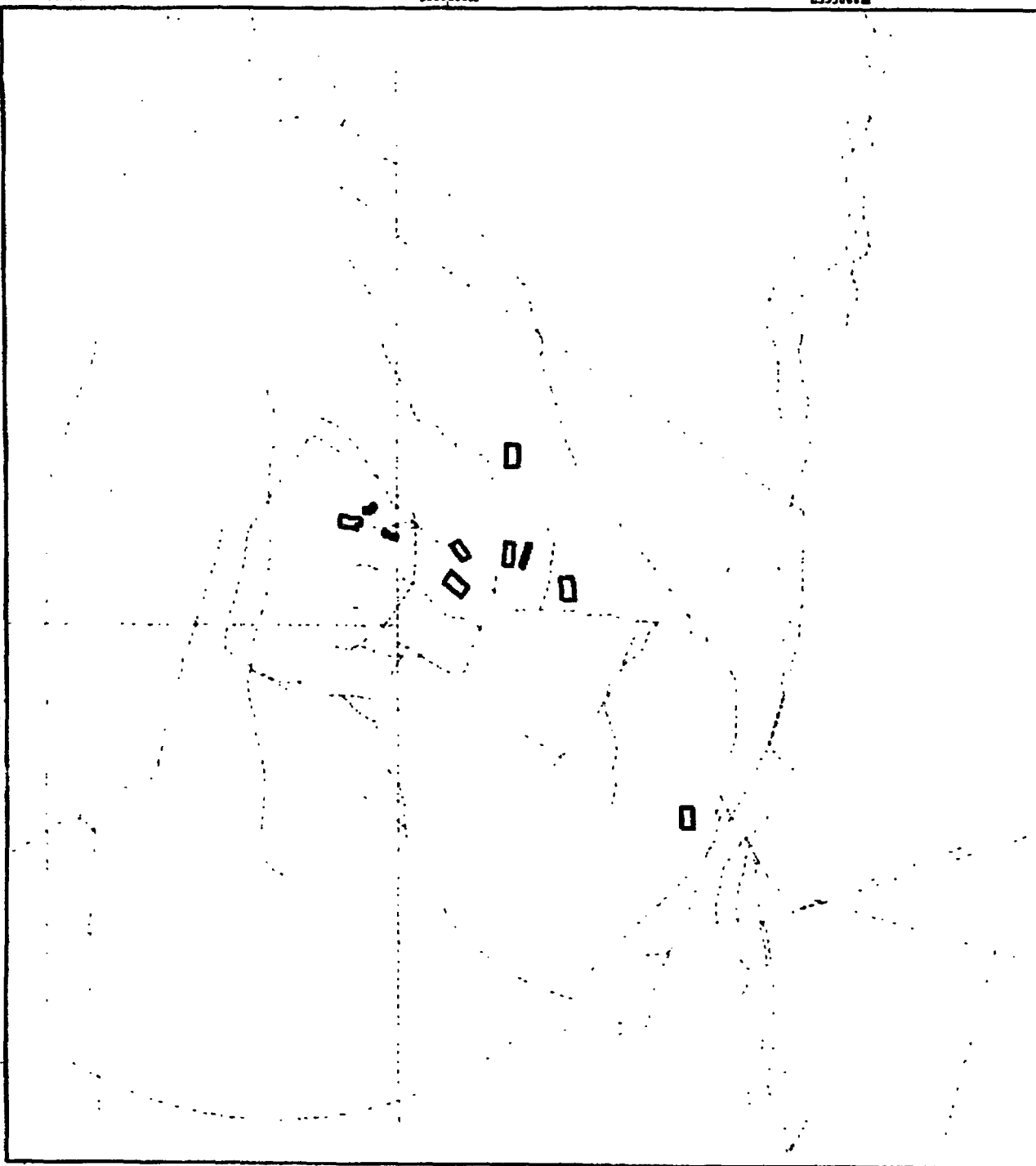
36° 47' 30"

116° 30' 00"

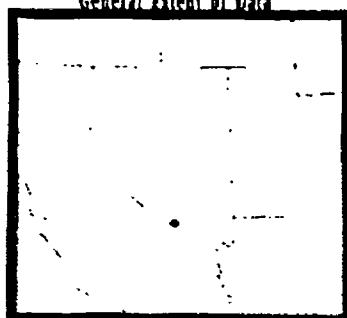
116° 27' 30"

116° 25' 00"

116° 22' 30"



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: YMP/91-41

File: eco02

Description: Geographic location of radiological monitoring study plots in the Yucca Mountain area.



NAME: Predator monitoring study plots.

Theme: The geographic location of predator monitoring study plots in the Yucca Mountain Project area.

Aliases: None

Source: Processed by EG&G/EM from document EGG 10617-2195 Annual Report FY92.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source.

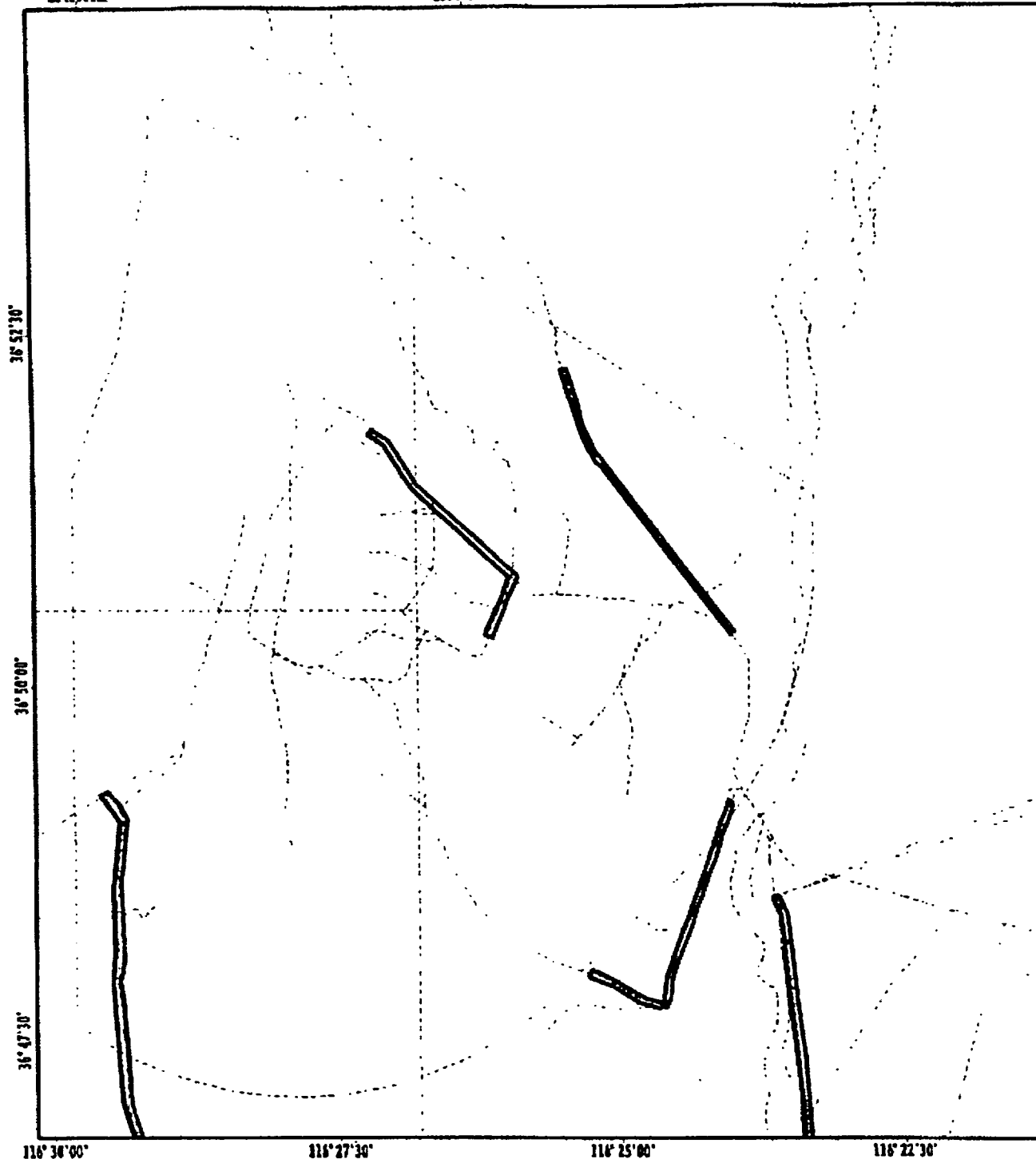
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

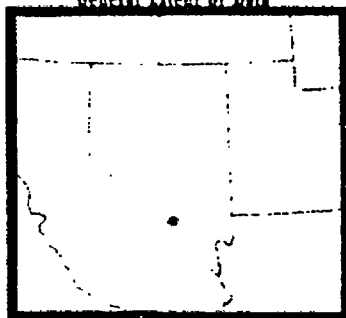
ES5024511
ES45004m

ES4444011
ES30004m

ES5307311
ES55004m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EGG 10417-2195 1992 Annual Report

File: ec083

Description: Geographic location of predator survey routes in the Yucca Mountain area.



NAME: Deer forage study plots.

Theme: The geographic location of deer forage study plots in the Yucca Mountain Project area.

Aliases: None

Source: Processed by EG&G/EM from document EGG 10617-2195 Annual Report FY92.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source.

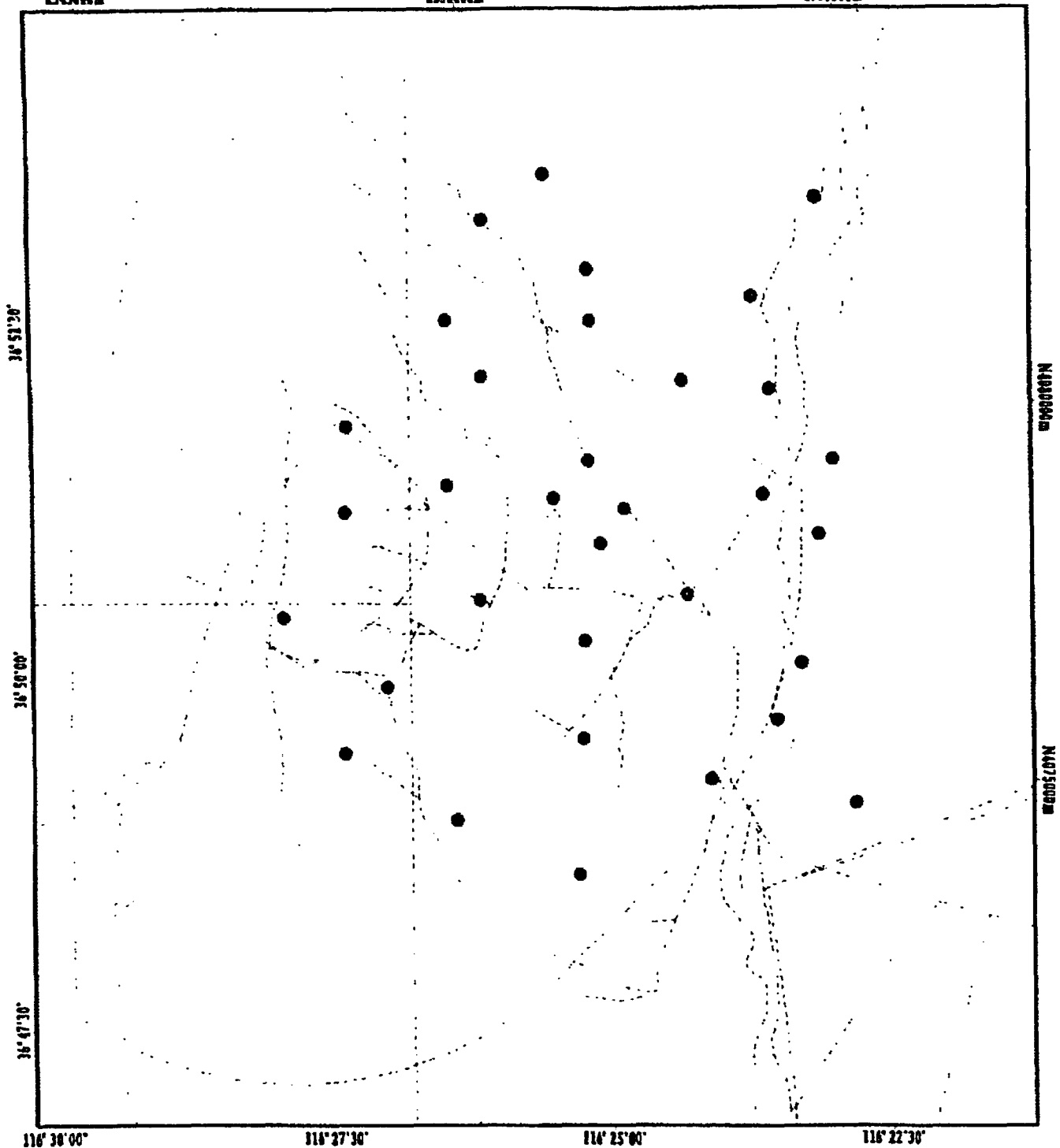
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

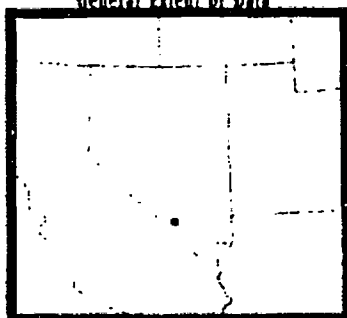
ES024511
ES43000m

ES444021
ES38000m

ES0307511
ES55000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EG&G/EM Environmental Sciences Department.

File: eco84

Description: Geographic location of deer forage areas Yucca Mountain area.



NAME: Trial reclamation sites

Theme: The geographic location of trial reclamation sites in the Yucca Mountain Project area.

Aliases: rec sites

Source: Processed by EG&G/EM from data provided by EG&G/EM Environmental Sciences Department.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 4/10/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source

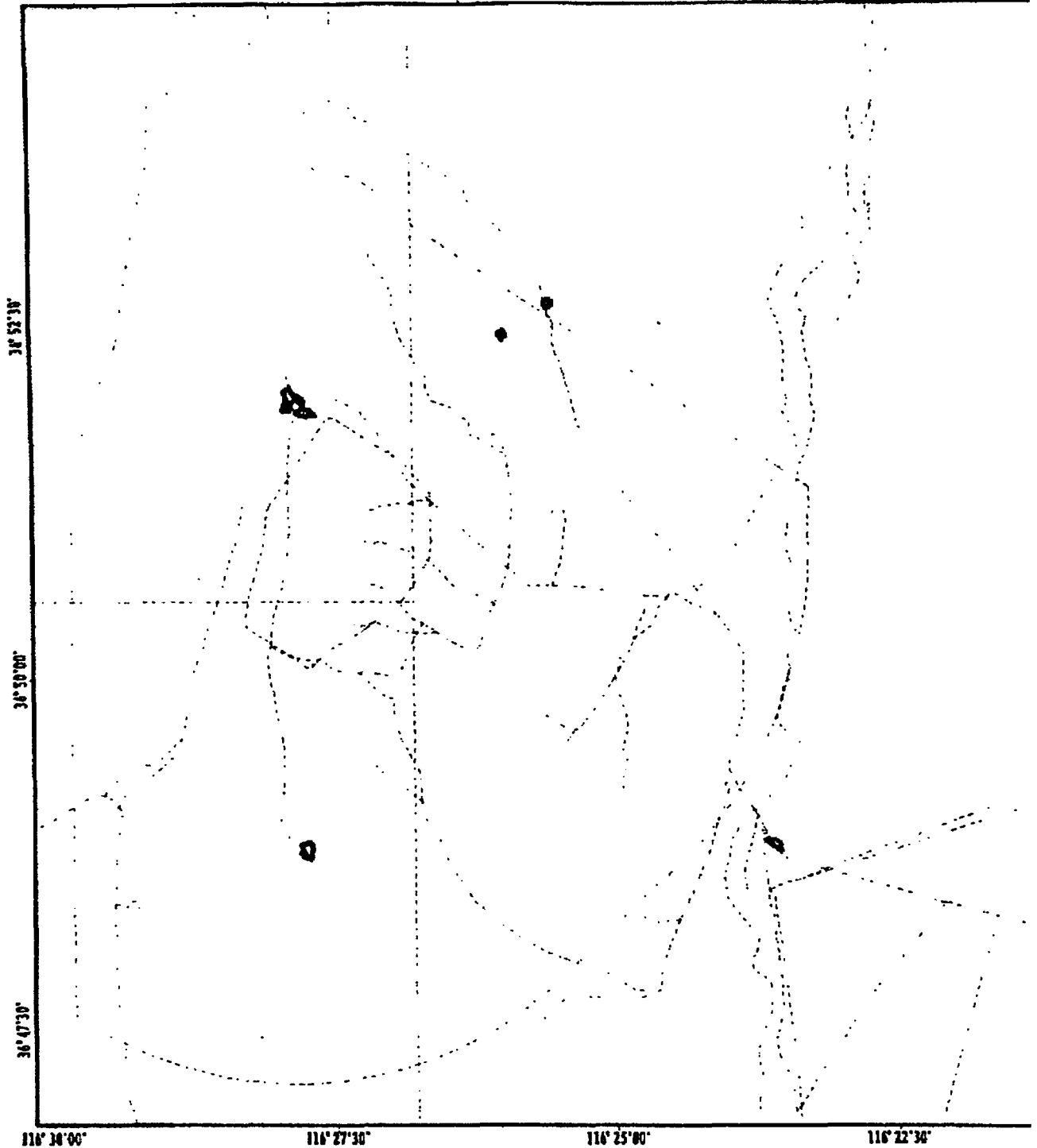
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

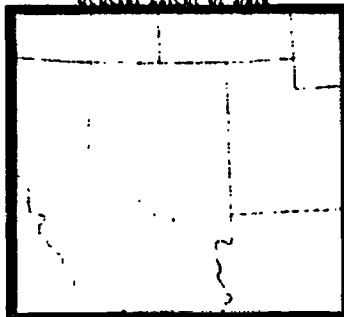
833024511
8543004m

854444061
8550004m

858307911
8555004m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EG&G-EM Operations Report 198282-2004.

File: eco85

Description: Geographic location of trial reclamation sites in the Yucca Mountain area.



NAME: Vegetation

Theme: The geographic location of major vegetation association in the Yucca Mountain Project area.

Aliases: rec sites

Source: Processed by EG&G/EM from data provided by EG&G/EM Environmental Sciences Department Report 108282-2004.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 4/10/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source

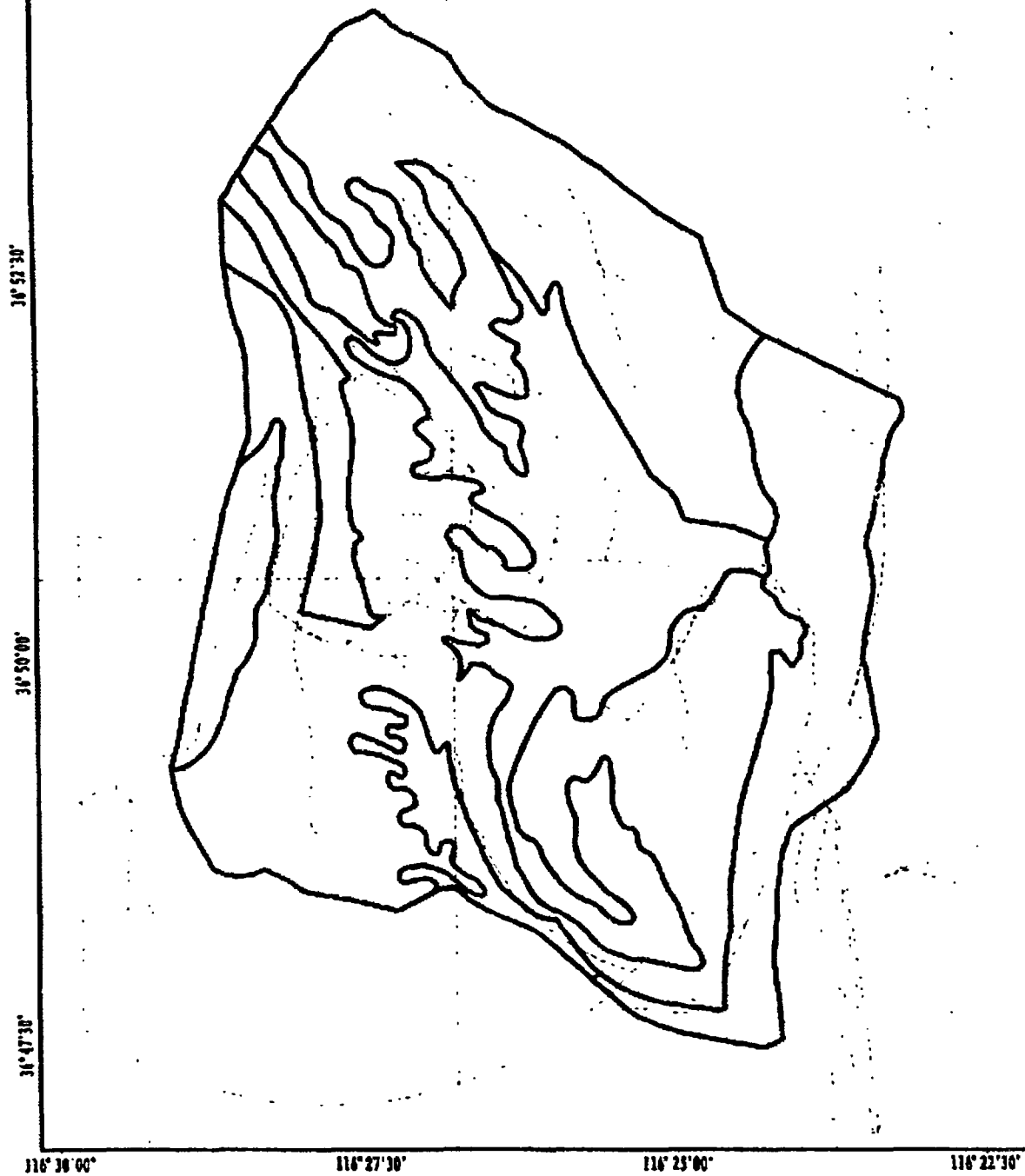
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

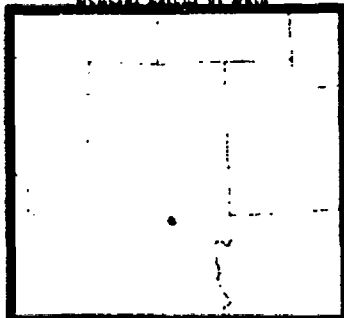
E35024511
E345000m

E34444011
E350000m

E34307511
E355000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EC&G-EM Operations Report 148282-2004

File: eco86

Description: Geographic location of major vegetation in the Yucca Mountain area.



NAME: Lagomorph monitoring study plots.

Theme: The geographic location of lagomorph monitoring study plots in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from EG&G/EM document EGG 10617-2195 Annual Report

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Original Source Scale: Hand annotated on USGS 7.5 minute series topographic maps.

Resolution: Not provided by source.

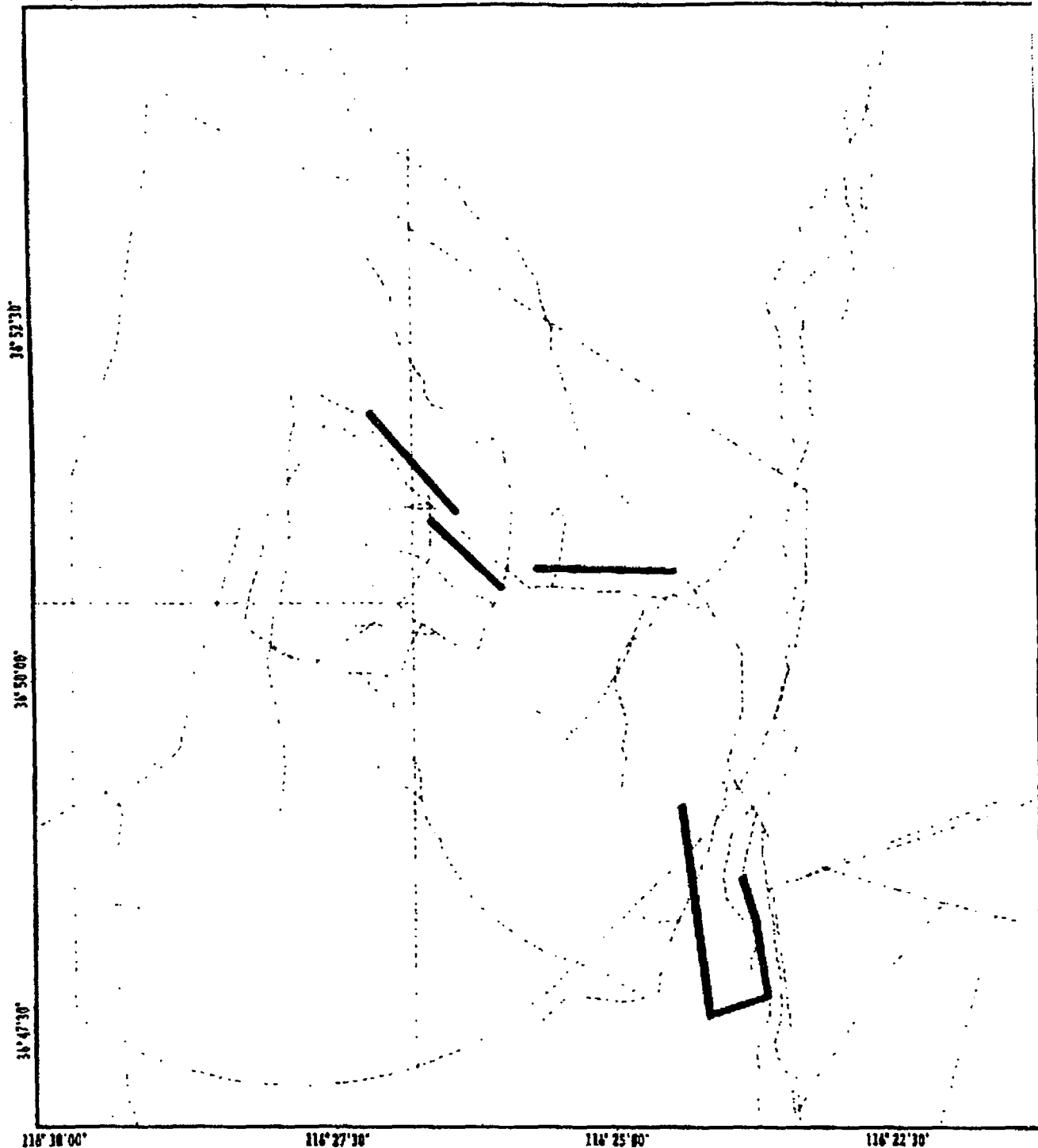
Accuracy: Approximate.

Contact(s): Kent Ostler
EG&G/EM
P. O. Box 1912
M/S V-01
Las Vegas, NV 89125
702-794-7474

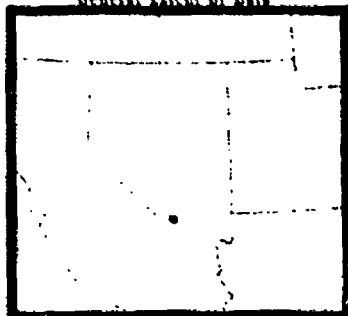
E5502451t
E545000m

E566601t
E530000m

E5830751t
E555000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: EG&G/EM 10617-2195 Annual Report

File: eco87

Description: Geographic location of lagomorph monitoring study plots in the Yucca Mountain area.



GEOLOGY

NAME: State of Nevada geology (south)

Theme: Geographic location of the geology in the southern half of Nevada.

Aliases: DDS-2

Source: Processed by EG&G/EM from USGS Digital Data Series DDS-2.

Geographic Extent: Southern half of the state of Nevada

Date Last Edited: 9/24/93

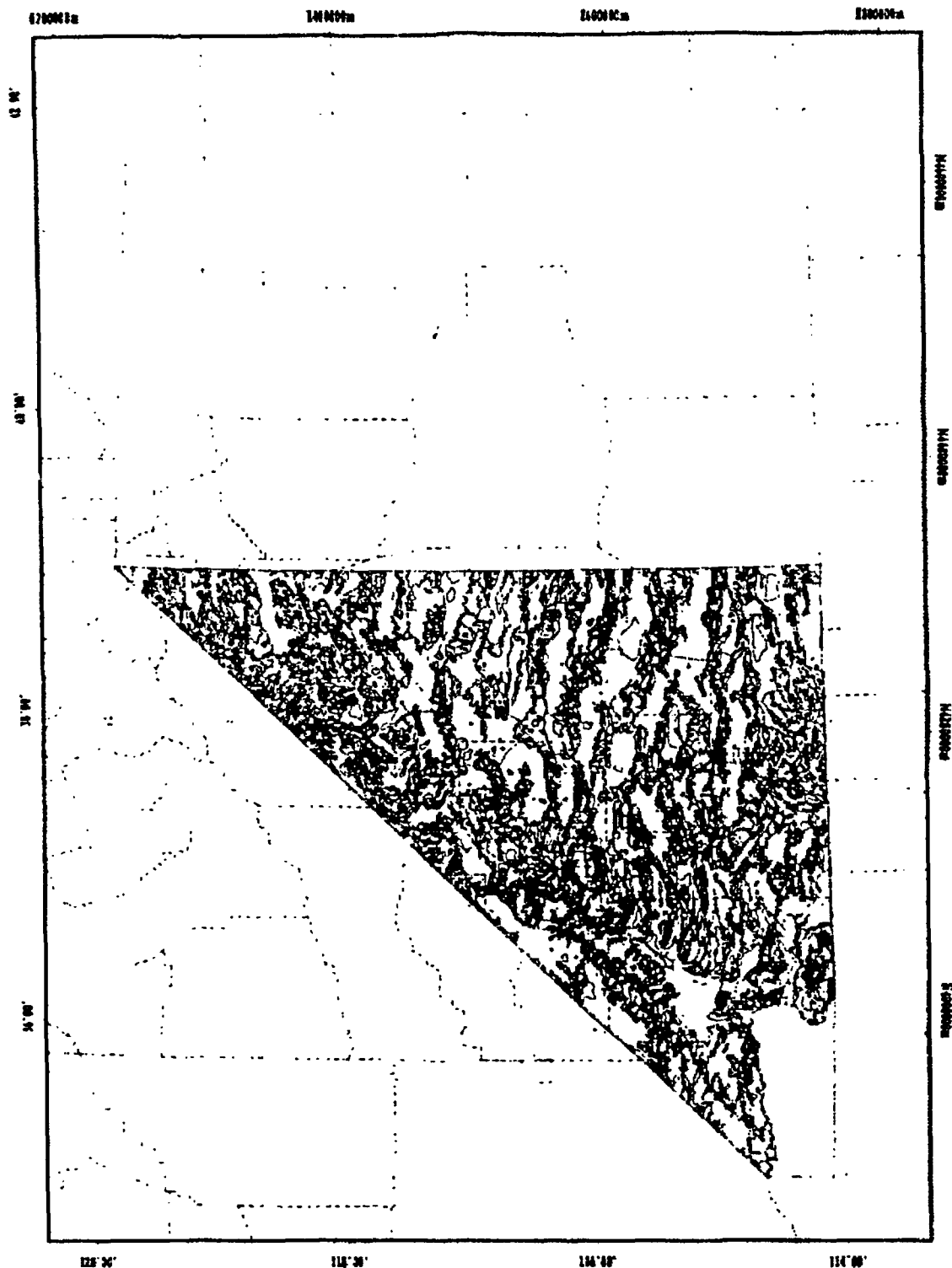
Maintenance Schedule: As data are made available.

Original Source Scale: 1:500,000

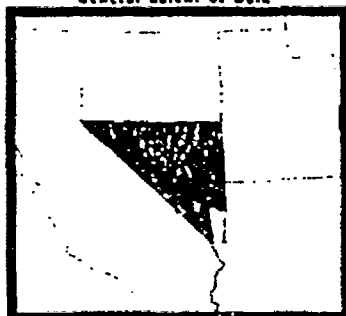
Resolution: Ground length of the smallest data collection unit = 2.54 meters

Accuracy: Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.

Contact(s): Earth Science Information Center
U.S.Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045



General Extent of Data



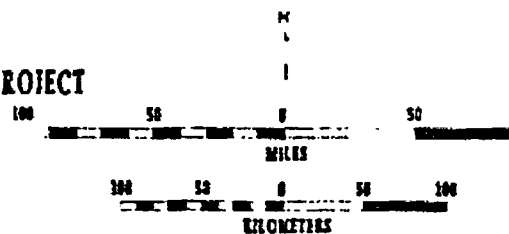
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey

File: ge001

Description: Geographic location of the geology for the southern half of Nevada.



NAME: State of Nevada geology (north)

Theme: Geographic location of the geology in the northern half of Nevada.

Aliases: DDS-2

Source: Processed by EG&G/EM from USGS Digital Data Series DDS-2.

Geographic Extent: Southern half of the state of Nevada

Date Last Edited: 9/24/93

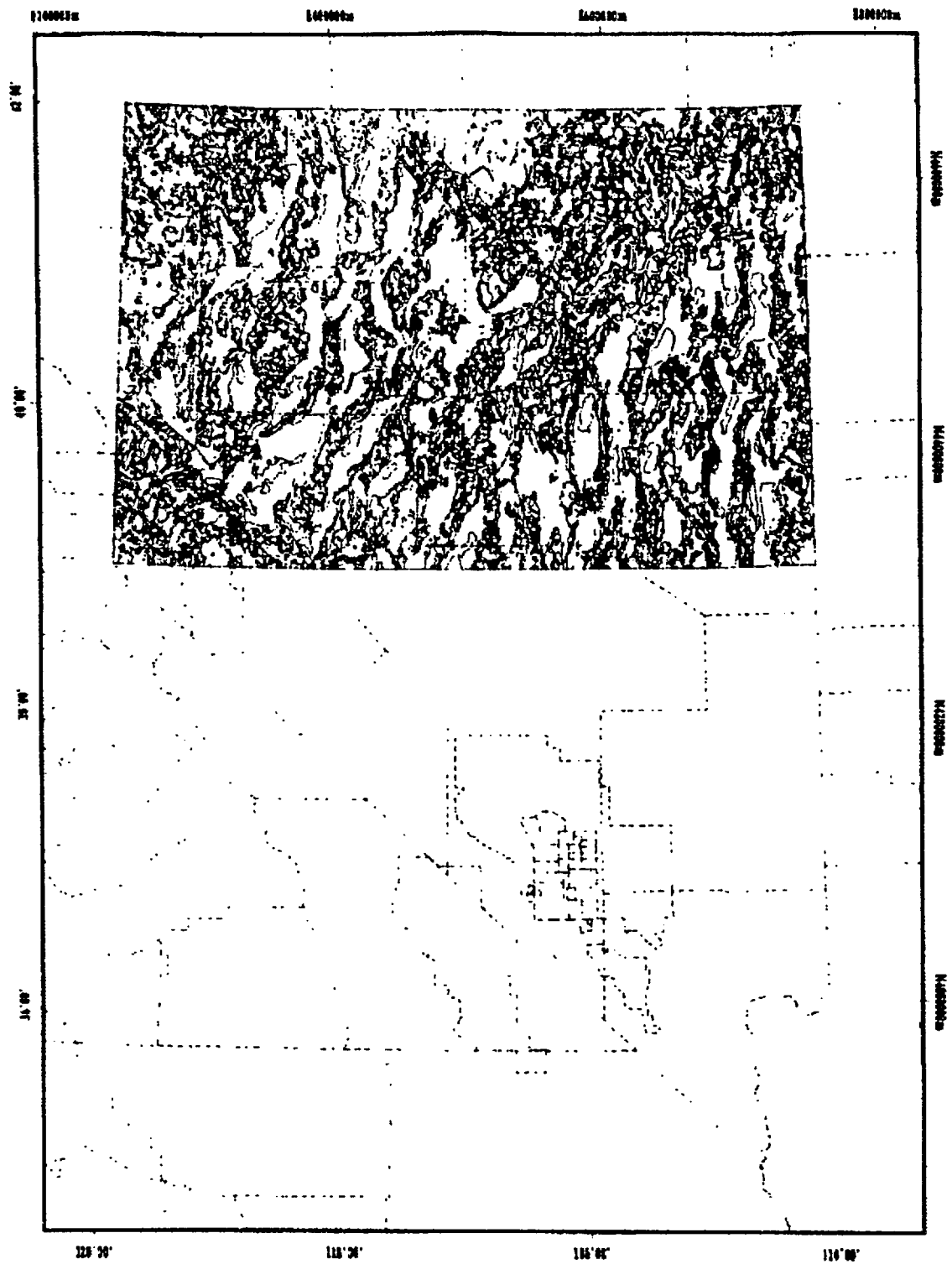
Maintenance Schedule: As data are made available.

Original Source Scale: 1:500,000

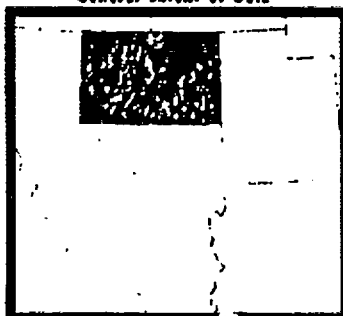
Resolution: Ground length of the smallest data collection unit = 2.54 meters

Accuracy: Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.

Contact(s): Earth Science Information Center
U.S.Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045



General Extent of Data



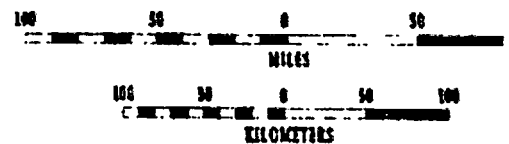
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey

File: geo02

Description: Geographic location of the geology for the northern half of Nevada.

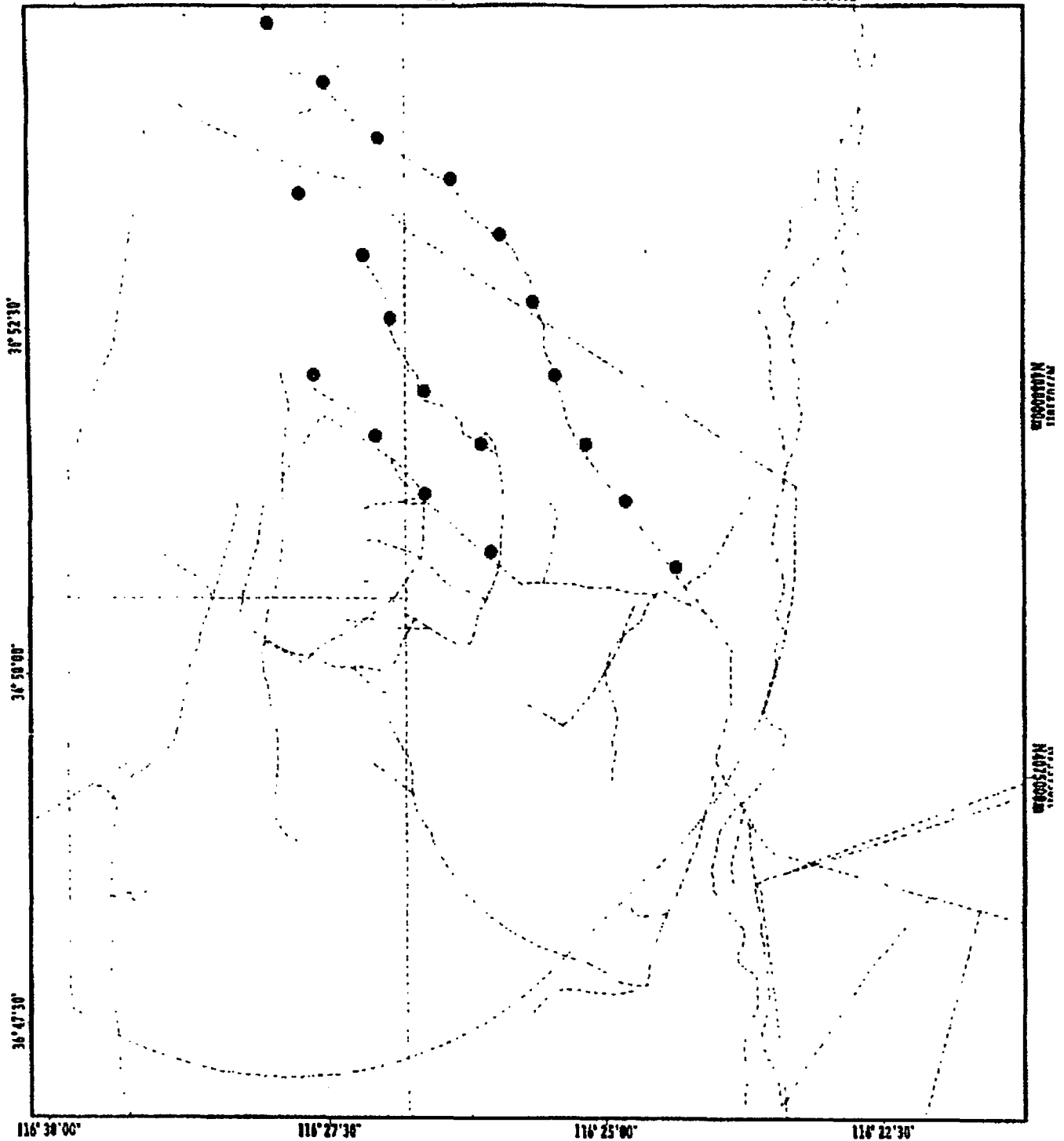


NAME:	Planned megnetotelluric survey sites.
Theme:	The geographic location of planned magnetotelluric survey sites in the Yucca Mountain area
Aliases:	None
Source:	Processed by EG&G/EM from DOE/RW-0199, Vol I-1x
Geographic Extent:	Yucca Mountain, Nevada
Date Last Edited:	2/21/92
Maintenance Schedule:	As data are made available.
Original Source Scale:	Not provided by source
Resolution:	Not provided by source
Accuracy:	Does not carry an accuracy statement for positional accuracy or topological accuracy.
Contact(s):	U.S. Department of Energy Yucca Mountain Site Characterization Project P.O Box 98608 Las Vegas, NV 89109 702-794-7920

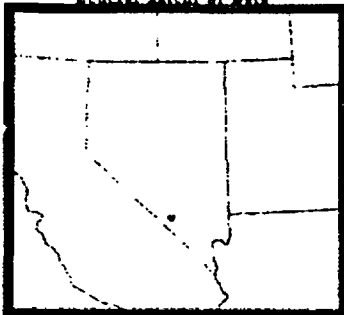
E5592451t
E545000m

E544440ft
E550000m

E5830751t
E555000m



General Extent of Data



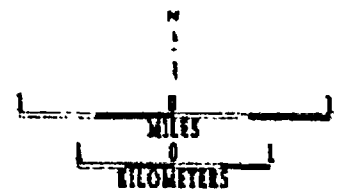
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: DOE/TW-0199, Vol I-II

File: geo03

Description: Geographic location planned Magnetotelluric surveys in the Yucca Mountain area.



NAME: Southern Great Basin Seismic Monitoring Network.

Theme: The geographic location of the Southern Great Basin Seismic Monitoring Network.

Aliases: None

Source: Processed by EG&G/EM from USGS Open File Report 91-572.

Geographic Extent: Southern Nevada

Date Last Edited: 3/21/93

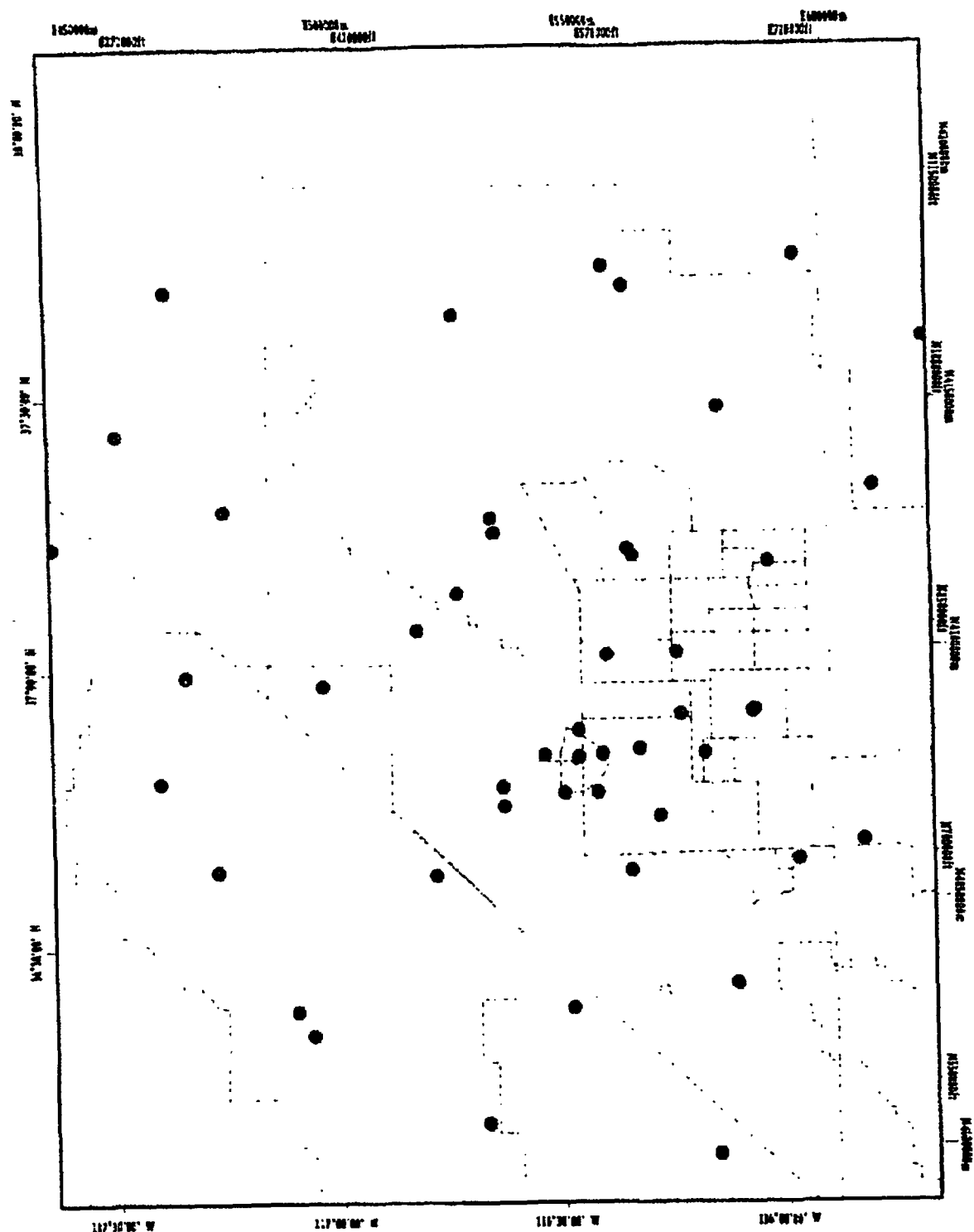
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516



General Extent of Data



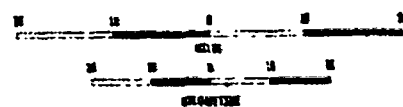
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: USGS Open-File Report 91-572.

File: geo04

Description: Geographic location of the Southern Great Basin Seismic Monitoring Network.



NAME: 1985 seismic refraction survey shot points.

Theme: The geographic location of the 1985 seismic refraction survey shot points.

Aliases: None

Source: Processed by EG&G/EM from USGS Open File Report 5-591.

Geographic Extent: Southern Nevada

Date Last Edited: 3/19/93

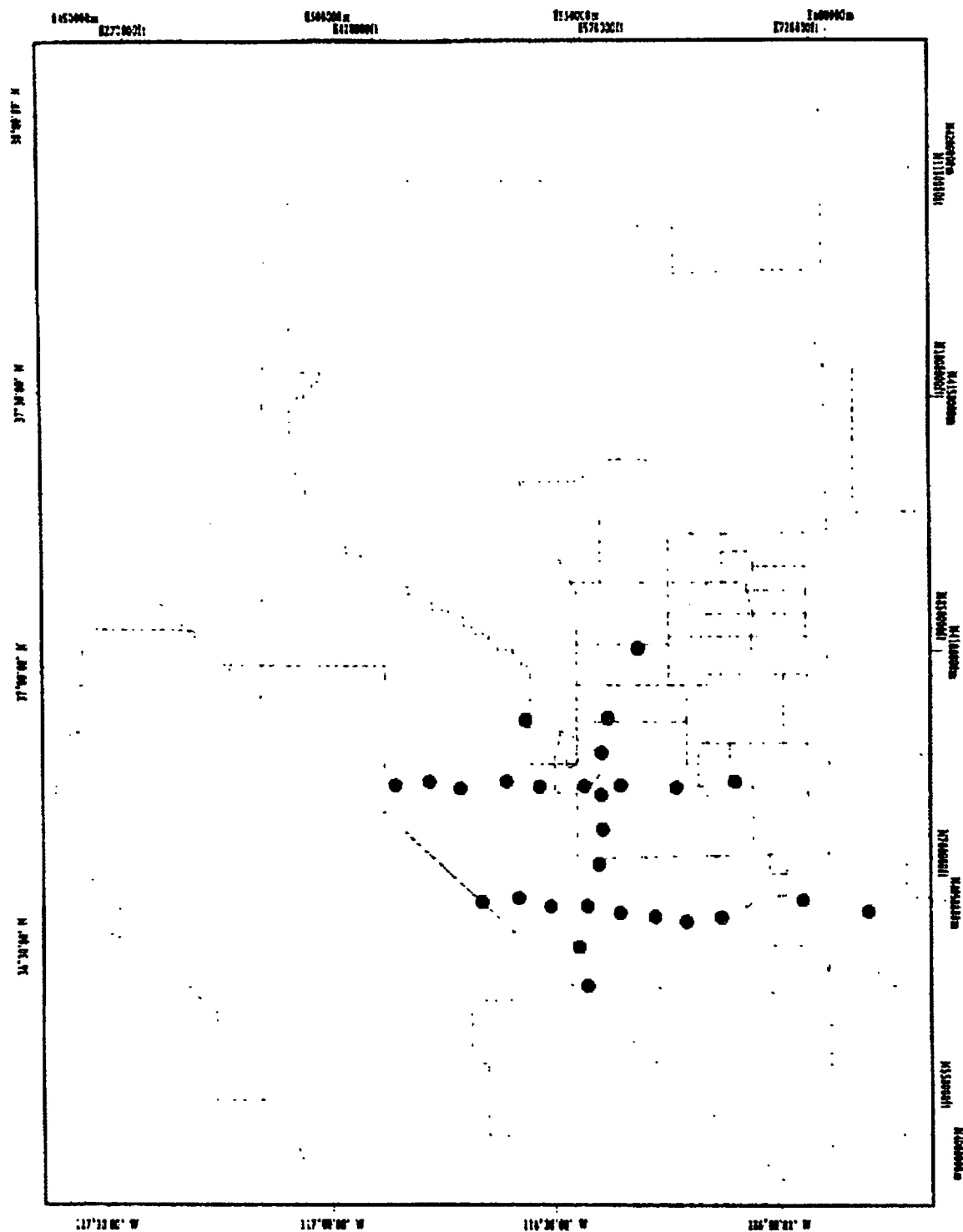
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516



General Extent of Data



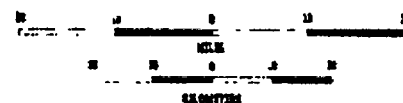
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source USGS OFR 85-191

File: geo05

Description. Geographic location of the 1985 seismic refraction survey shot points.



NAME: 1985 seismic survey recorder locations.

Theme: The geographic location of the 1985 seismic survey recorders.

Aliases: None

Source: Processed by EG&G/EM from USGS Open File Report 85-591.

Geographic Extent: Southern Nevada

Date Last Edited: 3/21/93

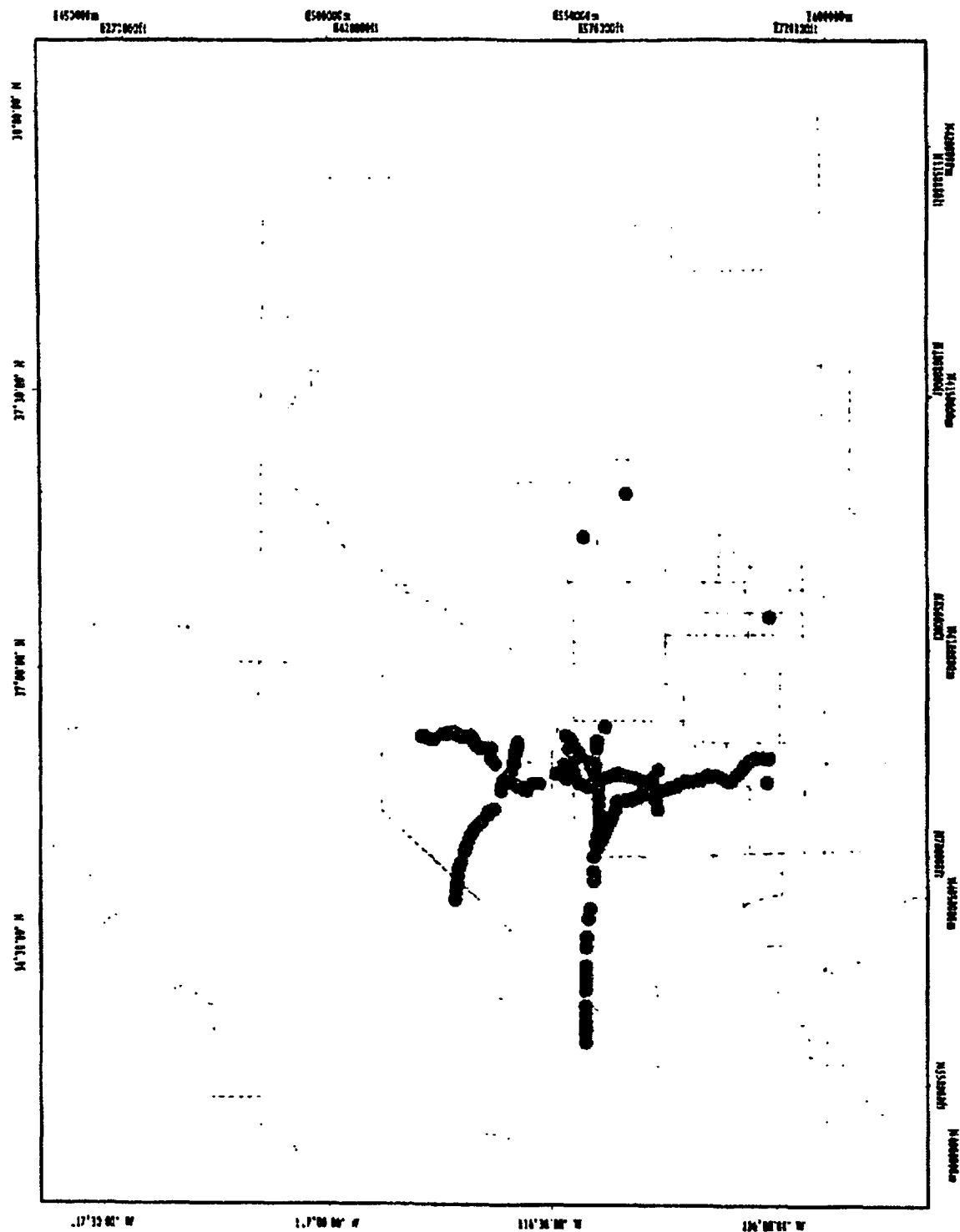
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

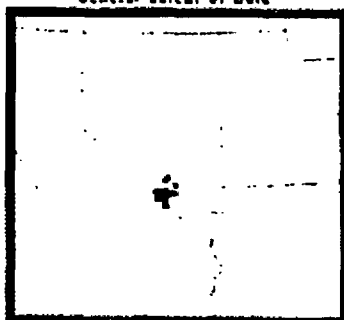
Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516



General Extent of Data



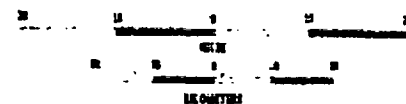
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source USGS OFR 85-591

File: geo04

Description: Geographic recorder location of the 1985 seismic surveys.



NAME: Yucca Mountain faults.

Theme: The geographic location of faults in the Yucca Mountain Project area.

Aliases: Faults

Source: Processed by EG&G/EM from USGS Open-File Report 84-494 Preliminary geologic map of Yucca Mountain with sections, Nye County, Nevada.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 3/21/93

Maintenance Schedule: As data are made available.

Original Source Scale: 1:12,000

Resolution: Not provided by source

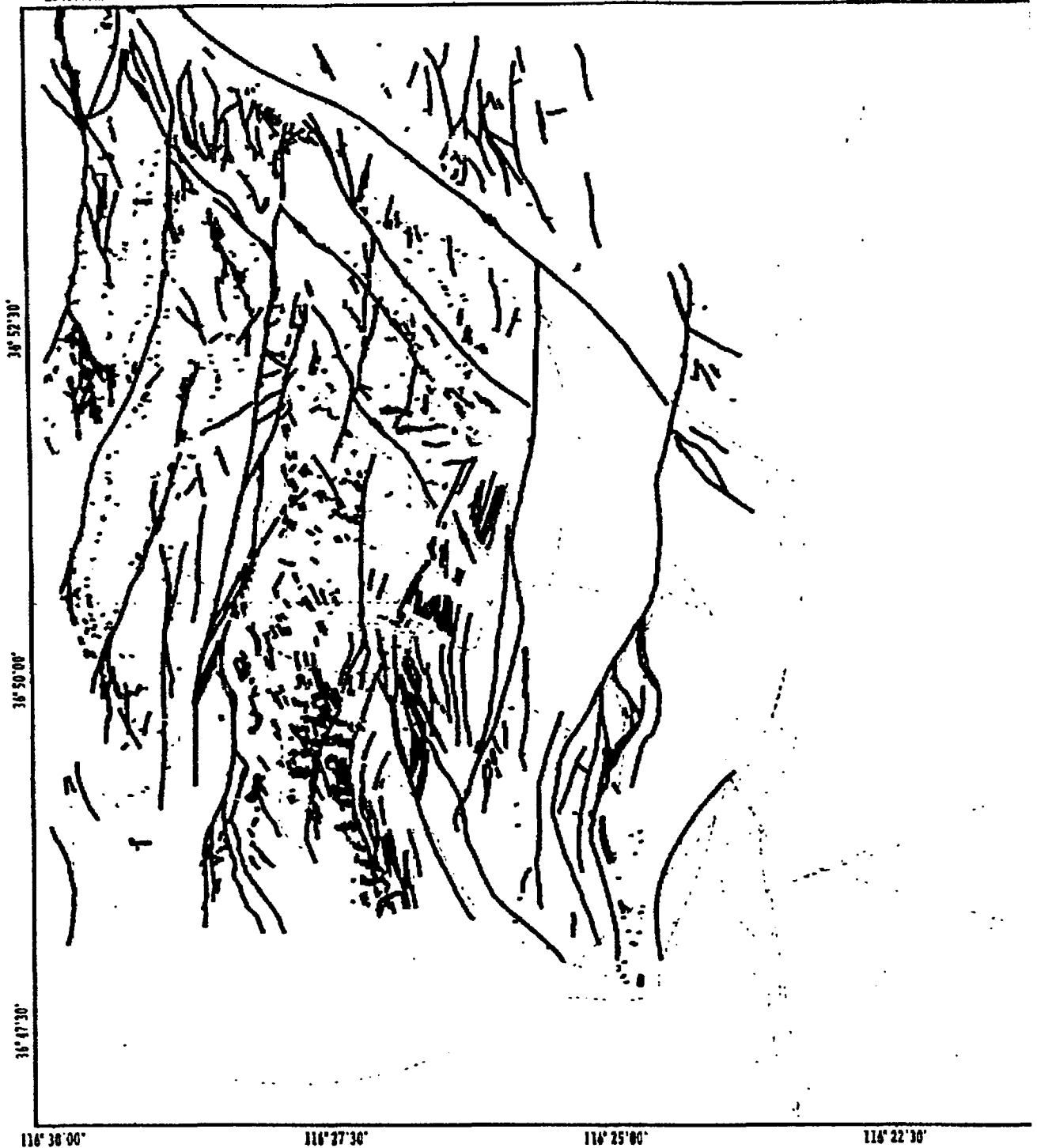
Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516

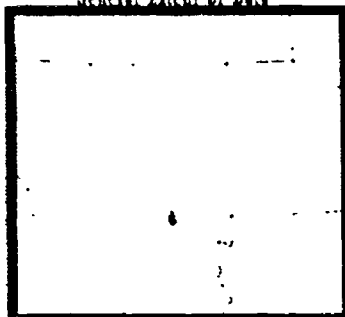
E53024511
E5450000m

E54666061
E5500000m

E58307511
E5550000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: USGS Open-File Report 84-414

File: geo07

Description: Geographic location of faults in the Yucca Mountain area.



NAME: Yucca Mountain alluvium/bedrock contact.

Theme: The geographic location of the alluvium bedrock contact in the Yucca Mountain area.

Aliases: alluvium

Source: Processed by EG&G/EM from USGS Open-File Report 84-494 Preliminary geologic map of Yucca Mountain with geologic sections, Nye County, Nevada.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 3/21/93

Maintenance Schedule: As data are made available.

Original Source Scale: 1:12,000

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516

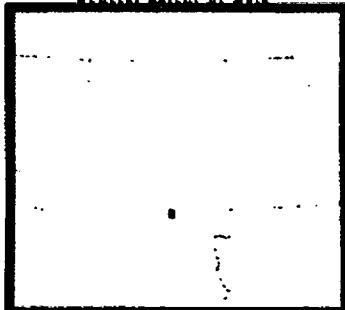
E5302451
E543000m

E5444401
E550000m

E5830751
E555000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: USGS Open-File Report 84-494

File: ge004

Description: Geographic location of the alluvium bedrock contact in the Yucca Mountain area

0
MILES
0
KILOMETERS

HYDROLOGY

NAME: Nye County streams.

Theme: Geographic location of streams and rivers in Nye County, Nevada

Aliases: Streams

Source: Processed by EG&G/EM from the U. S. Bureau of Census Tiger files.

Geographic Extent: Nye County, Nevada

Date Last Edited: 2/10/93

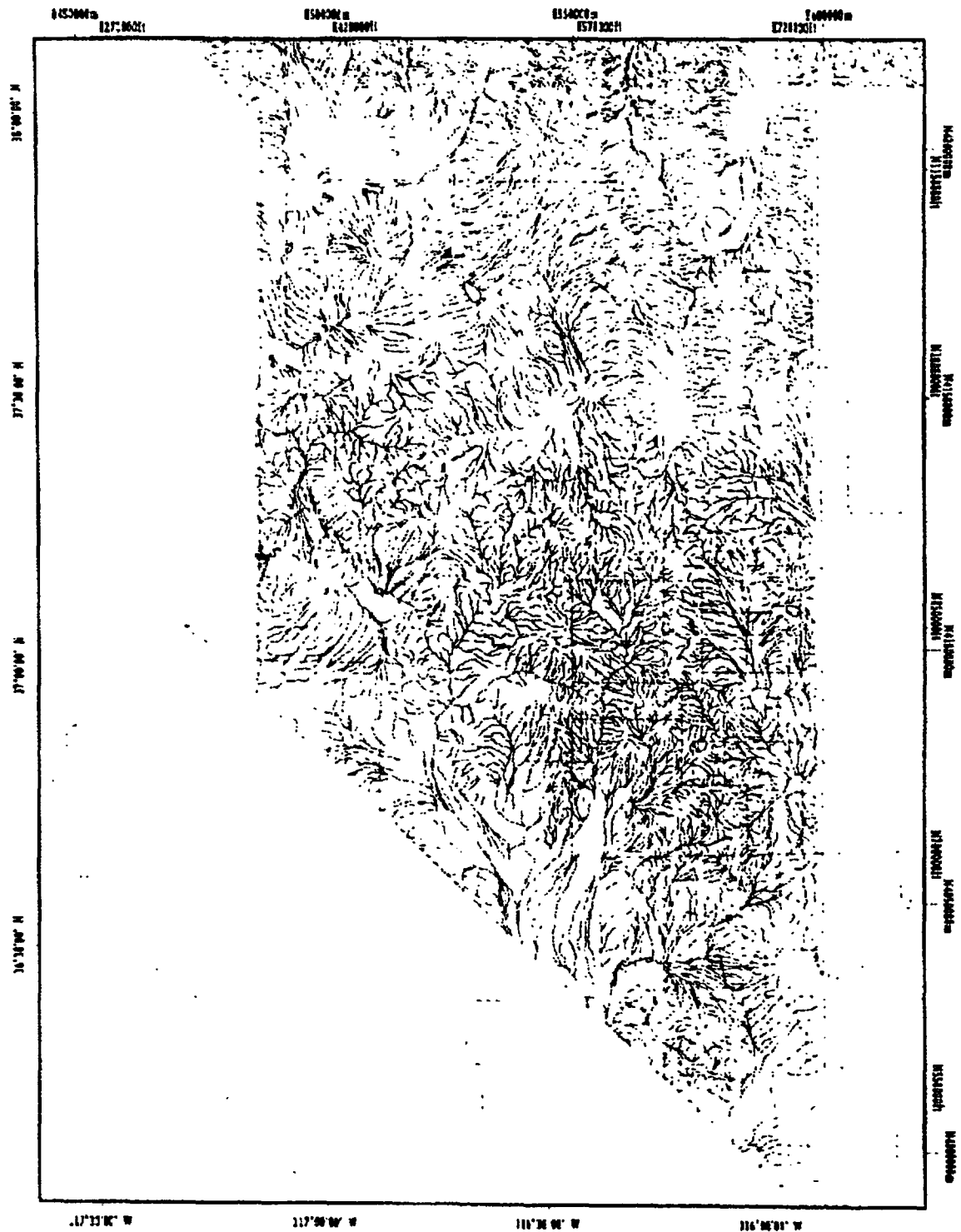
Maintenance Schedule: As data are made available.

Original Source Scale: 1:100,000

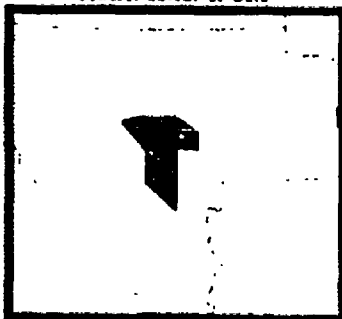
Resolution: Ground length of the smallest data collection unit = 2.54 meters

Accuracy: Data was digitized using equipment with a resolution of 0.001 inch. Absolute accuracy of from 0.003 to 0.005 inch.

Contact(s): National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045



General Extent of Data



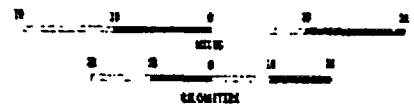
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

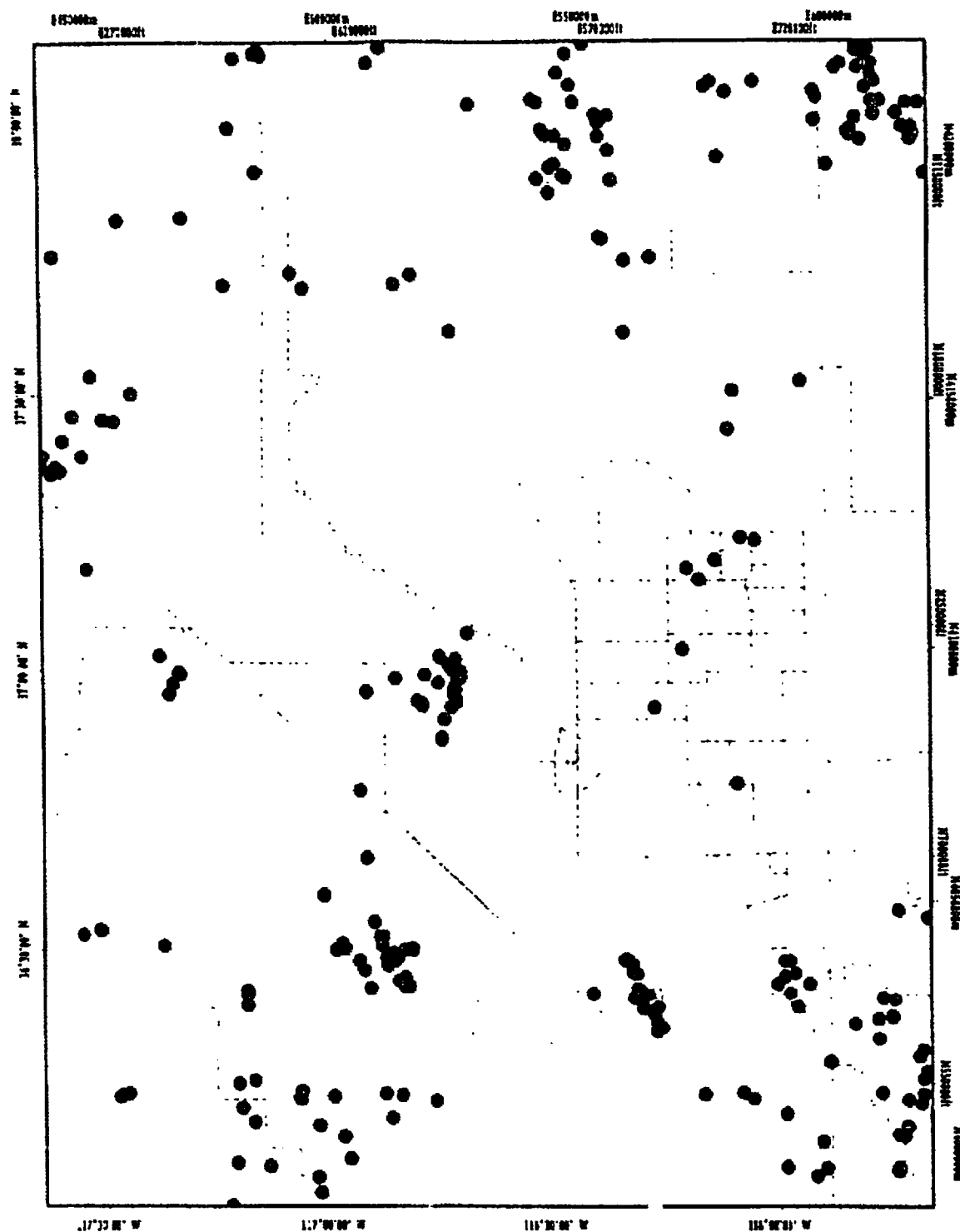
Source: Bureau of Census (Tiger files)

File: hyd01

Description: Geographic location of streams and rivers in Nye county, Nevada.



NAME:	Springs within 100 miles of Yucca Mountain.
Theme:	The geographic location of springs within 100 miles of Yucca Mountain.
Aliases:	Springs
Source:	Processed by EG&G/EM from data provided by USGS-474-85.
Geographic Extent:	Area within 100 miles of Yucca Mountain, Nevada
Date Last Edited:	3/12/93
Maintenance Schedule:	As data are made available.
Original Source Scale:	Not provided by source
Resolution:	Not provided by source
Accuracy:	Does not carry an accuracy statement for positional accuracy or topological accuracy.
Contact(s):	Larry Hayes U.S. Geological Survey P.O. Box 25046 M/S 425 Denver, Co 80225 303-236-0516



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: USGS-474-85

File: hyd03

Description: Geographic location of the springs within 100 miles of Yucca Mountain.



NAME: Ground water geochemistry stations.

Theme: Geographic location of ground water geochemistry stations.

Aliases: None

Source: Processed by EG&G/EM from NWPO-TR-006-87.

Geographic Extent: State of Nevada

Date Last Edited: 4/1/92

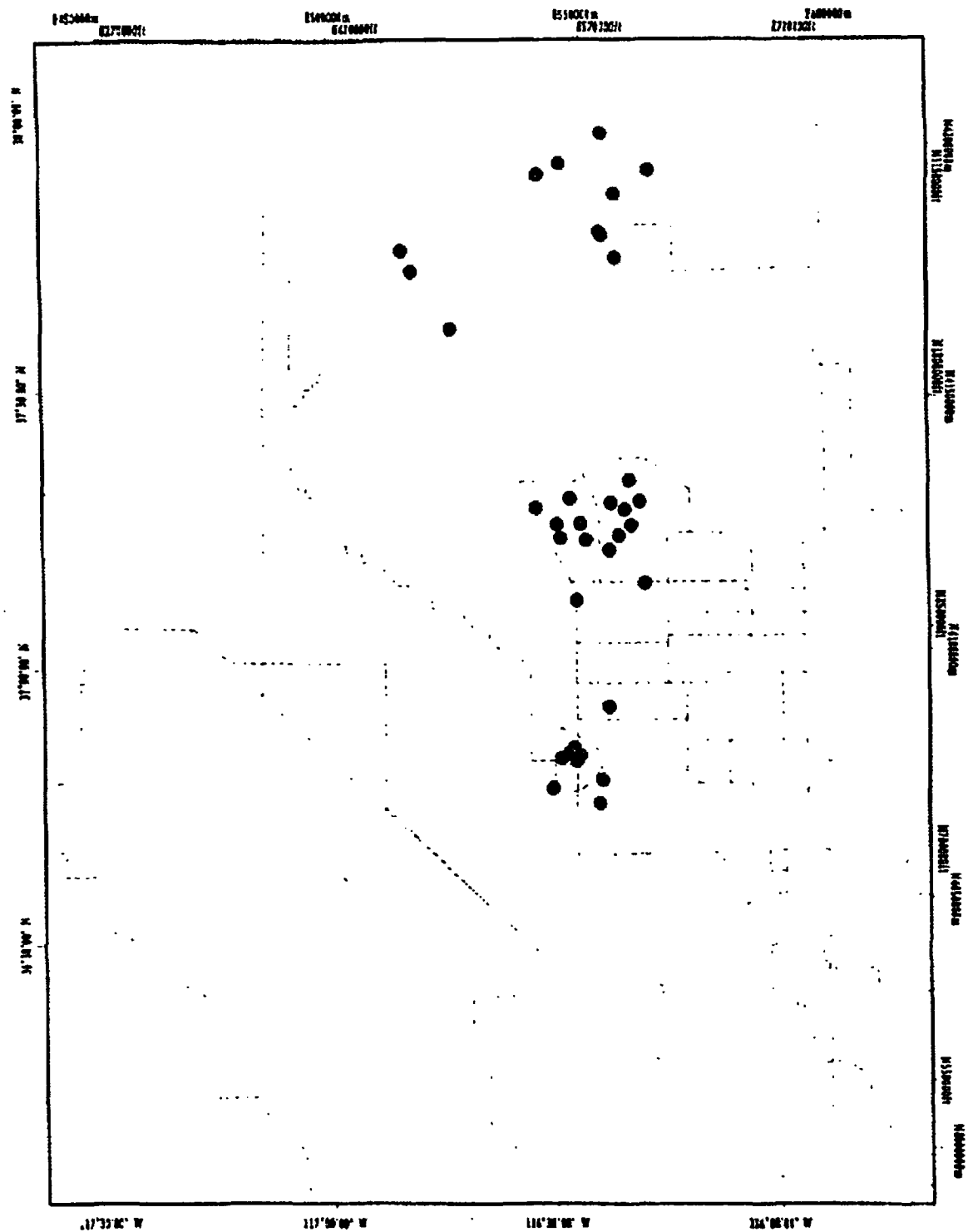
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Roger Jacobson
Desert Research Institute
P.O. Box 19040
Las Vegas, NV 89132



General Extent of Data



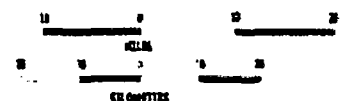
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: NWFO-TR-004-87

File: hyd05

Description: Geographic location of ground-water geochemistry stations for Nevada.



NAME: Precipitation and streamflow monitoring sites.

Theme: The geographic location of precipitation and streamflow monitoring sites in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from USGS Open-File Report 87-463, T.G. Kane (in review), J. Johnson 1992

Geographic Extent: Southern Nevada

Date Last Edited: 7/1/92

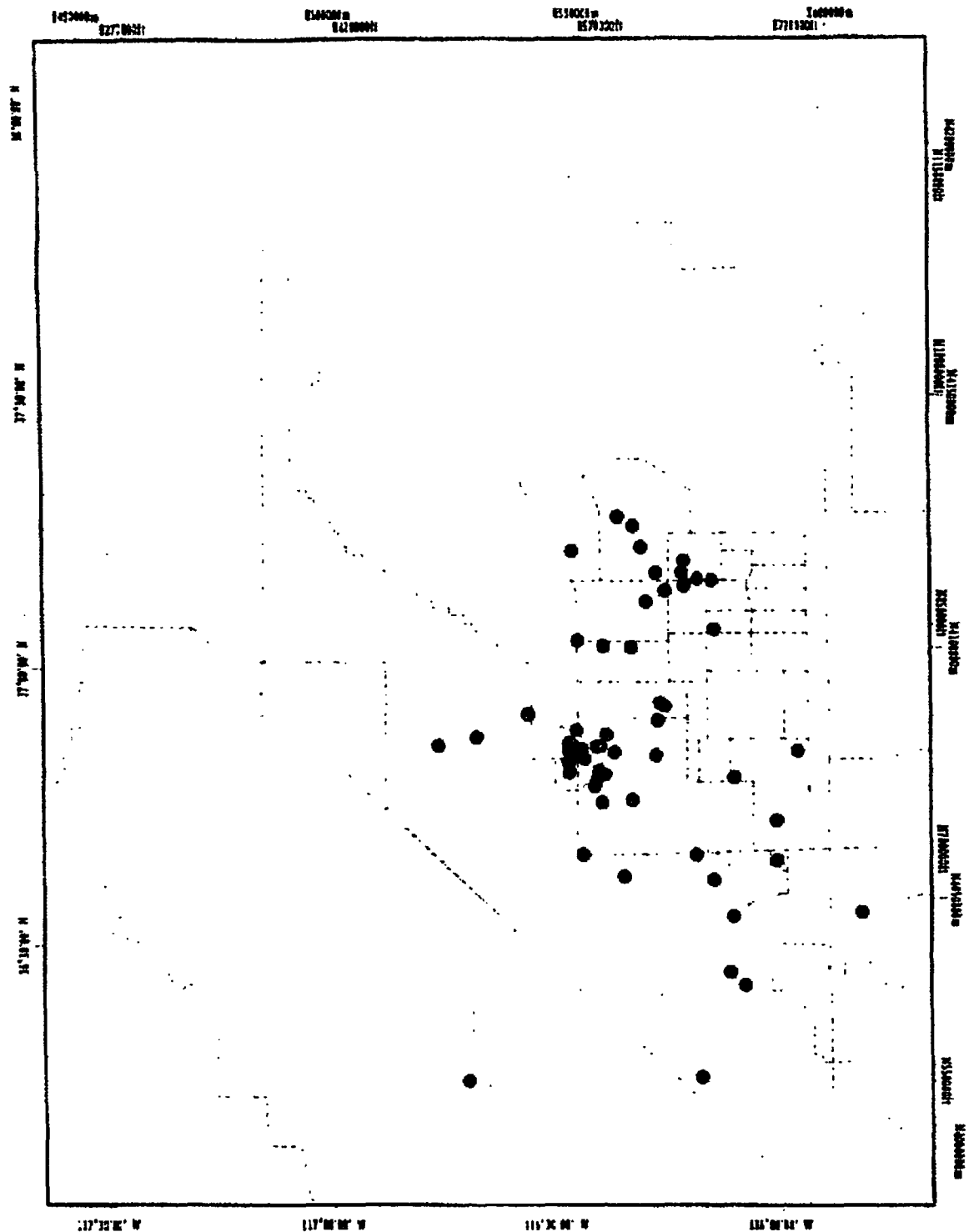
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Larry Hayes
U.S. Geological Survey
P.O. Box 25046 M/S 425
Denver, Co 80225
303-236-0516



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source USGS OFR87-463, T.G. Kane, I. Johnson

File: hyd06

Description: Geographic location of precipitation and streamflow monitoring sites for the Yucca Mountain area.



SOCIOECONOMIC

NAME: Nevada active mines.

Theme: Geographic location of active mines in Nevada.

Aliases: None

Source: Processed by EG&G/EM from data provided by the Nevada Bureau of Mines and Geology.

Geographic Extent: State of Nevada

Date Last Edited: 4/9/93

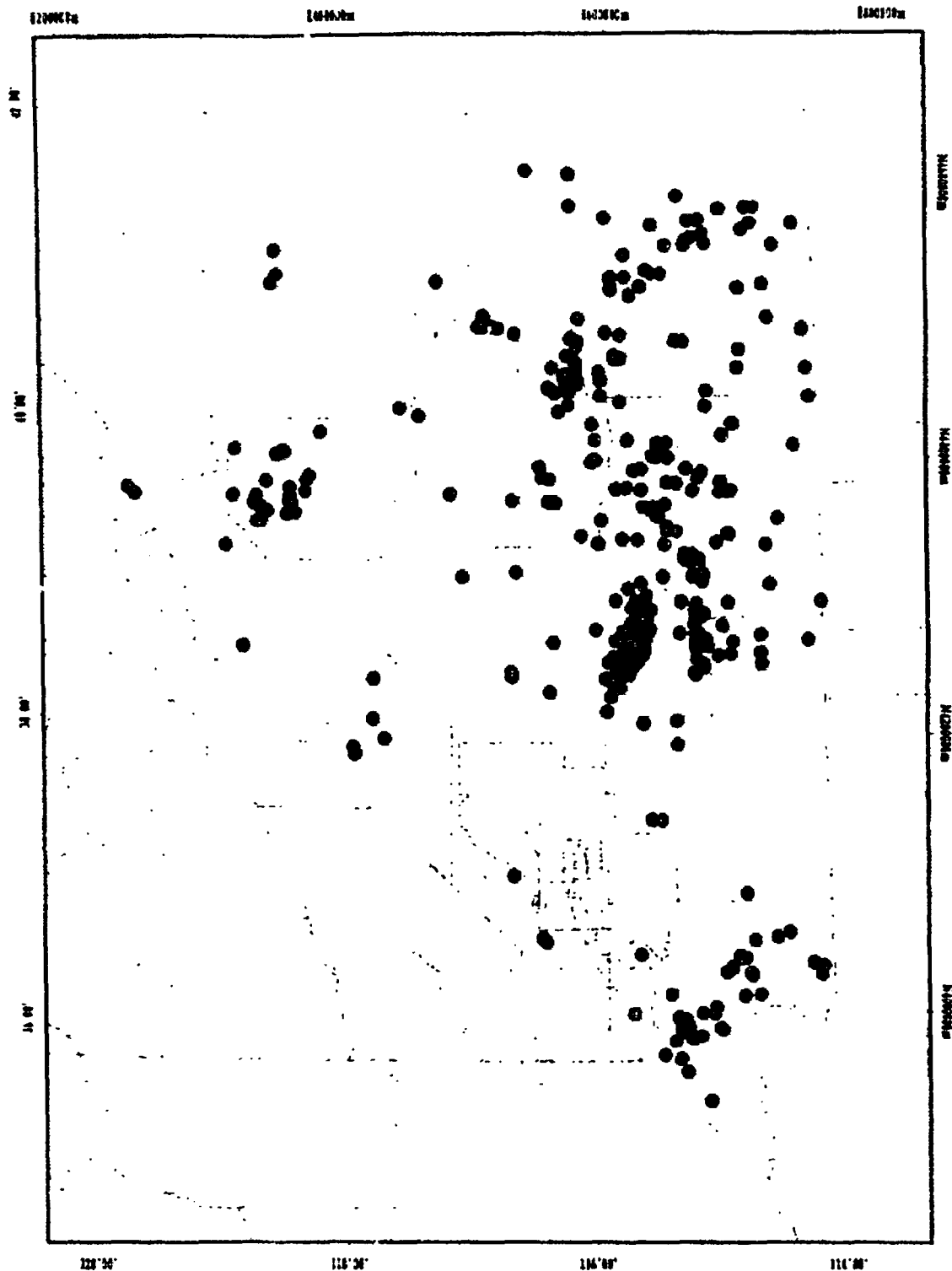
Maintenance Schedule: As data are made available.

Original Source Scale: Not provided by source

Resolution: Not provided by source

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Ron Hess
Nevada Bureau of Mines and Geology
University of Nevada, Reno
M/S 178
Reno, Nevada 89557-0088
702-784-6691



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Nevada Bureau of Mines and Geology

File: soe02

Description: Geographic location of oil and gas wells in Nevada.



NAME: Nevada oil and gas wells.

Theme: Geographic location of oil and gas wells of Nevada.

Aliases: None

Source: Processed by EG&G/EM from data provided by the Nevada Bureau of Mines and Geology.

Geographic Extent: State of Nevada

Date Last Edited: 4/9/93

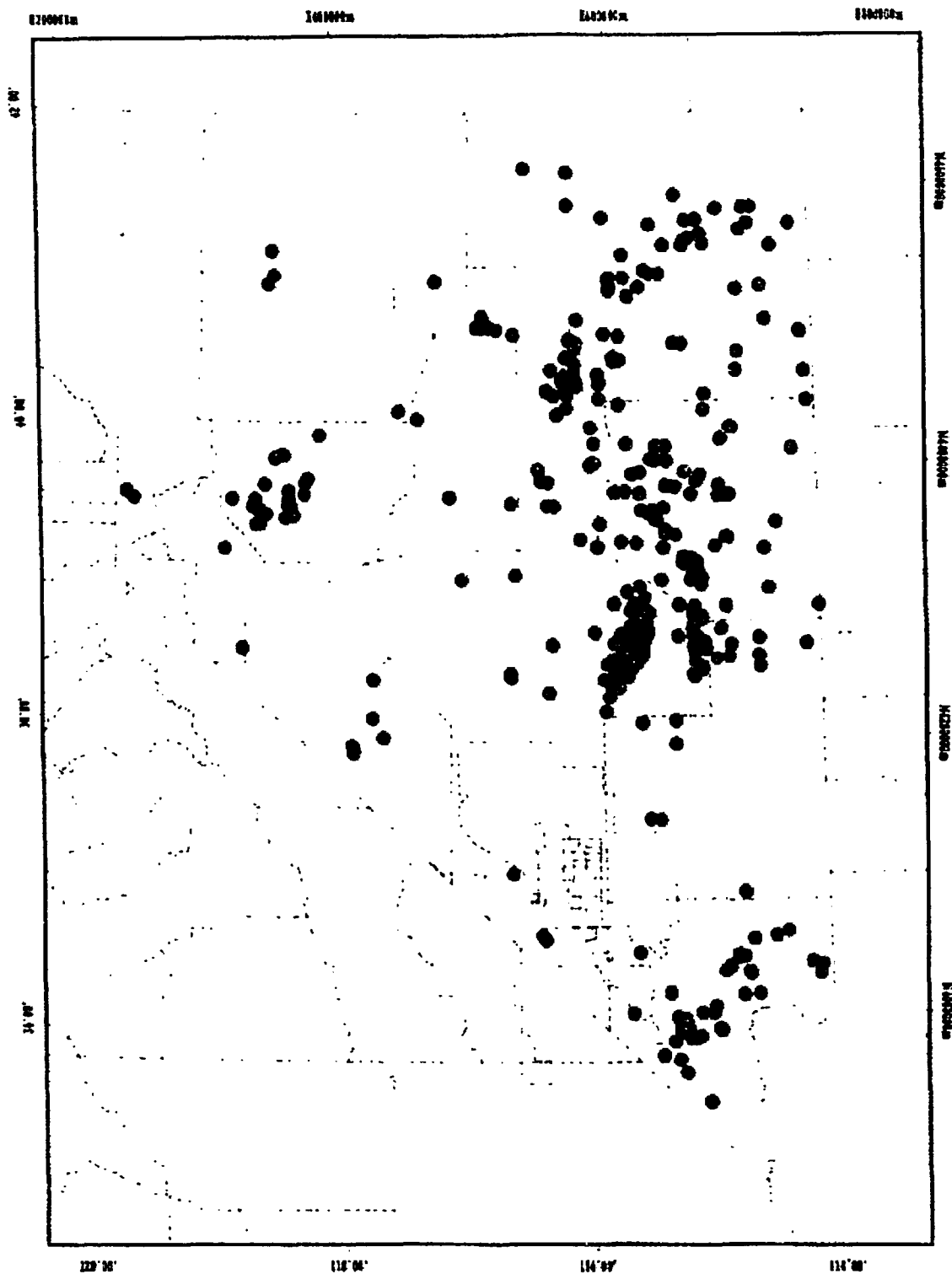
Maintenance Schedule: As data are made available.

Original Source Scale: 1:100,000

Resolution: Not provided by source.

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): Ron Hess
Nevada Bureau of Mines and Geology
University of Nevada, Reno
M/S. 178
Reno, Nevada 89557-0088.



General Extent of Data



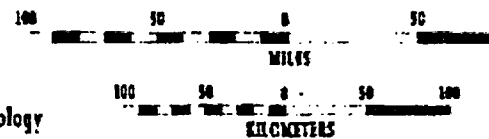
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Nevada Bureau of Mines and Geology

File: ssc02

Description: Geographic location of oil and gas wells in Nevada.



STRUCTURES

NAME: Exploratory Studies Facilities.

Theme: The geographic location of the Exploratory Studies Facilities General Arrangement.

Aliases: ESF

Source: Processed by EG&G/EM from data provided by Raytheon Services Nevada YMP-025-1-CIVL-PLOT, Revision 0, September 27 ,1991.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 3/1/92

Maintenance Schedule: As data are made available.

Original Source Scale: 1:1,000

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

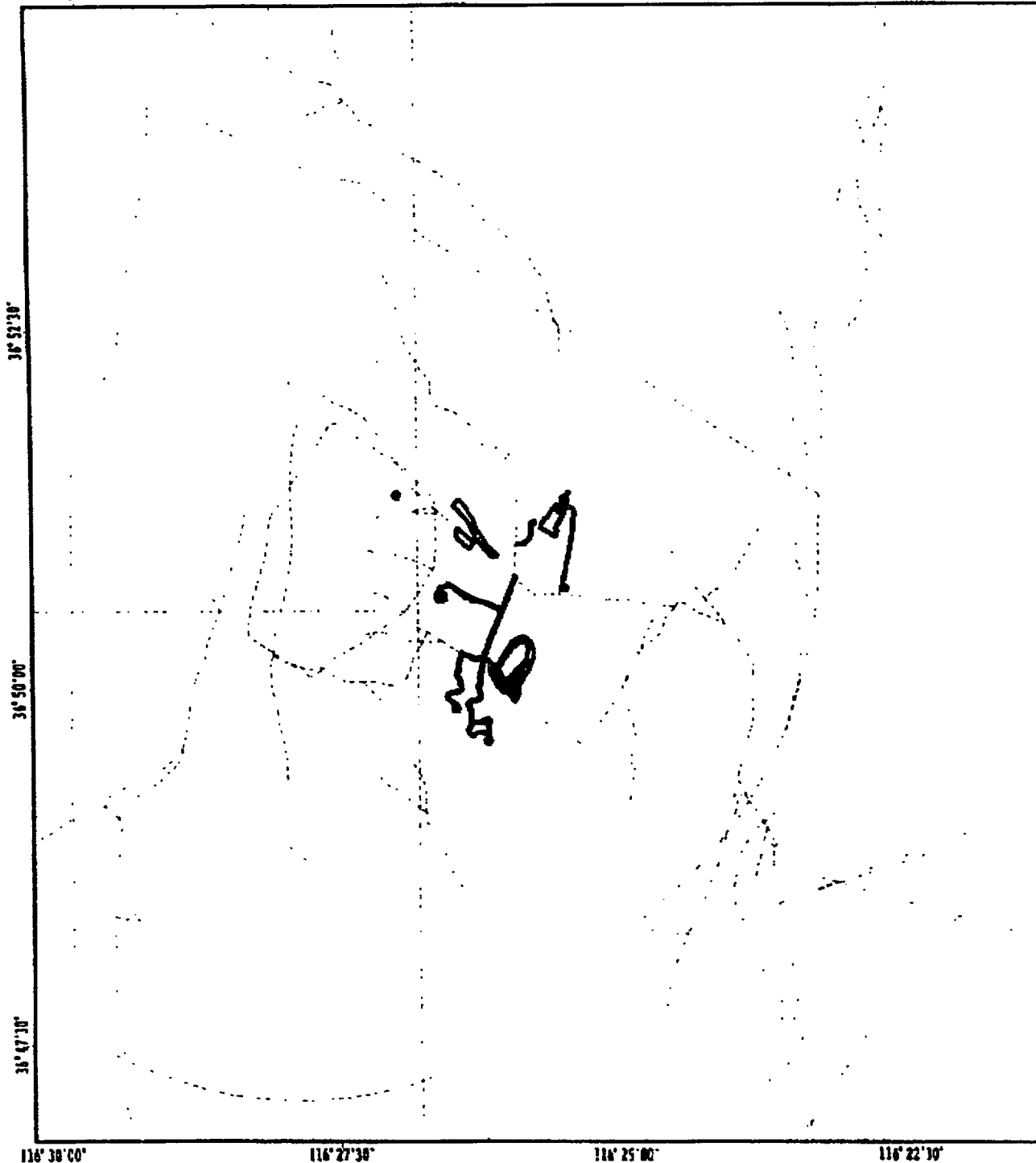
Resolution: Not provided by source document

Contact(s): William C. Kopatich
Raytheon Services Nevada
Phase II, Suite P-230
101 Convention Center Dr.
Las Vegas, NV 89109
702-794-7014

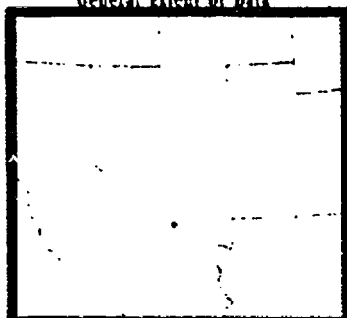
ES5024511
ES430000m

ES4444011
ES300000m

ES8307511
ES550000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Raytheon, Inc., Nevada

File: str01

Description: Proposed surface facilities in support of the Exploratory Studies
Facilities General Arrangement.



NAME: Repository ramps.

Theme: The geographic location of the Subsurface Access ramp configuration for the proposed YMP repository.

Aliases: RAMPS

Source: Processed by EG&G/EM from data provided by Raytheon Services Nevada YMP-025-1-MING-M101.

Geographic Extent: Yucca Mountain, Nevada

Date Last Edited: 6/1/1991

Maintenance Schedule: As data are made available.

Original Source Scale: 1:500

Resolution: Not provided by source.

Accuracy: Does not carry an accuracy statement for positional accuracy or topological accuracy.

Contact(s): William C. Kopatich
Raytheon Services Nevada
Phase II, Suite P-230
101 Convention Center Dr.
Las Vegas, NV 89109
702-794-7014

E55024511
E545000m

E54444011
E530000m

E58307511
E555000m

36° 52' 10"

36° 50' 00"

36° 47' 30"

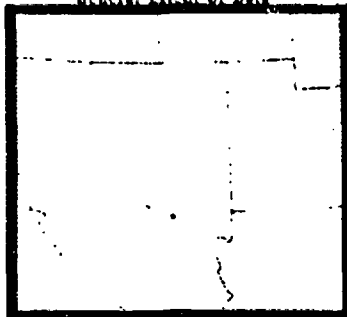
116° 38' 00"

116° 27' 30"

116° 25' 00"

116° 22' 30"

General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source Raytheon Services Nevada YMP-025-1-MING-M101

File: str02

Description: Proposed subsurface access drift configuration for the YMP proposed repository.



TOPOGRAPHY

NAME:	Twenty foot hypsography.
Theme:	Twenty foot hypsography in the Yucca Mountain Project area.
Aliases:	Twenty foot topo
Source:	Processed by EG&G/EM from USGS National Mapping Program 1:24,000 Digital Line Graphs.
Geographic Extent:	Yucca Mountain, Nevada
Date Last Edited:	5/21/93
Maintenance Schedule:	As data are made available.
Original Source Scale	1:100,000
Resolution:	Ground length of the smallest data collection unit = 2.54 meters
Accuracy:	Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.
Contact(s):	Earth Science Information Center U.S.Geological Survey 507 National Center Reston, Virginia 22092 703-860-6045

8502451
E545000m

8502451
E545000m

8502451
E545000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: U.S. Geological Survey

File: top01

Description: Twenty foot topography in the Yucca Mountain area.

1
0
1
MILES
1
0
1
KILOMETERS

TRANSPORTATION

NAME: Tiger roads.

Theme: The geographic location of roads southern Nevada and adjoining counties of California.

Aliases: Tiger Roads

Source: Processed by EG&G/EM from U.S. Bureau of Census Tiger files.

Geographic Extent: Nye county, Nevada

Date Last Edited: 8/1/92

Maintenance Schedule: As data are made available.

Original Source Scale: 1:100,000

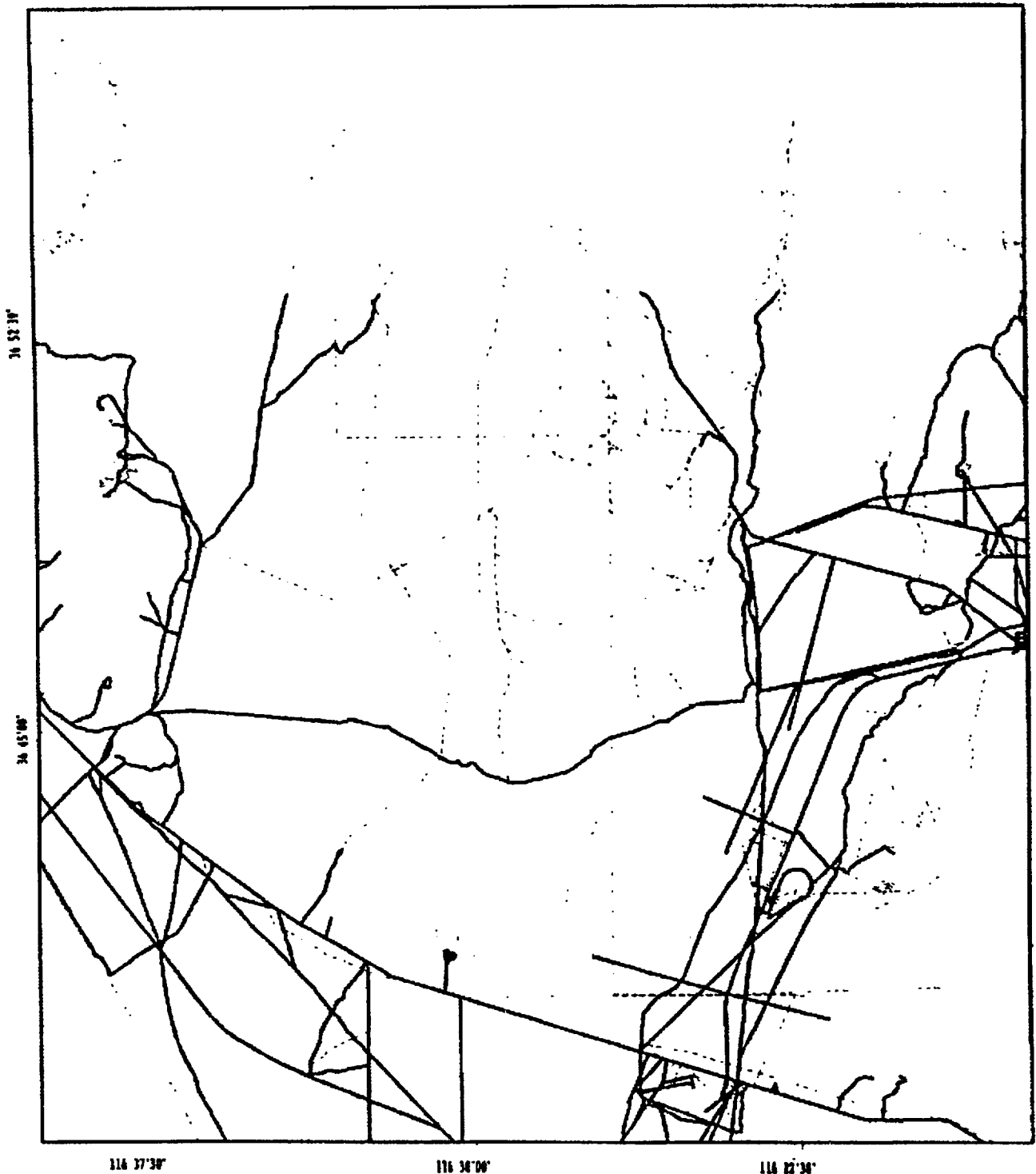
Resolution: Ground length of the smallest data collection unit = 2.54 meters

Accuracy: Data are manually digitized using equipment with a resolution of 0.001 inch and an absolute accuracy of from 0.003 to 0.005 inch.

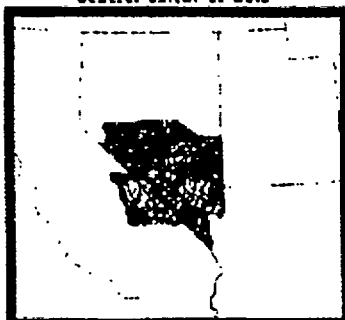
Contact(s): Earth Science Information Center
U.S. Geological Survey
507 National Center
Reston, Virginia 22092
703-860-6045

ES338401
ES40000m

ES915401
ES40000m



General Extent of Data



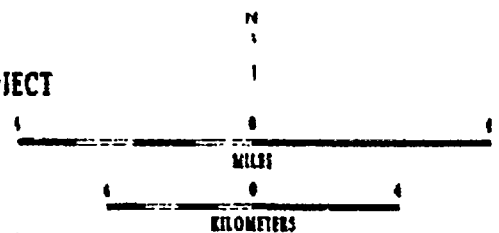
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: Tiger files by U.S. Bureau of Census

File: tru01

Description: Geographic location of roads in the Yucca Mountain Area.



**PLANNED and EXISTING
PITS, TRENCHES, PAVEMENTS,
and
BOREHOLES**

NAME: Existing pits.

Theme: The geographic location of existing pits in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

E55024511
E545000m

E544440f1
E530000m

E583075f1
E555000m

36° 52' 30"

36° 50' 00"

36° 47' 30"

116° 30' 00"

116° 27' 30"

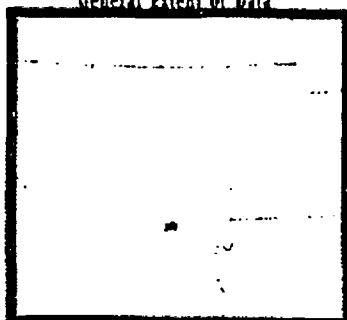
116° 25' 00"

116° 22' 30"

N420000m

N4075000m

General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: existpit

Description: Existing pit location information as reported by TMF participants.



NAME: Planned pits.

Theme: The geographic location of planned pits in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database.
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

E55024511
E545004m

E546660E1
E550000m

E58307531
E555000m

36° 52' 30"

36° 50' 00"

36° 47' 30"

116° 36' 00"

116° 27' 30"

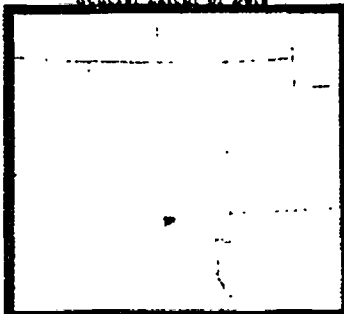
116° 25' 00"

116° 22' 30"

E54000000
E550000m

E54000000
E550000m

General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: plan1.t

Description: Planned pit location information as reported by YMP participants.

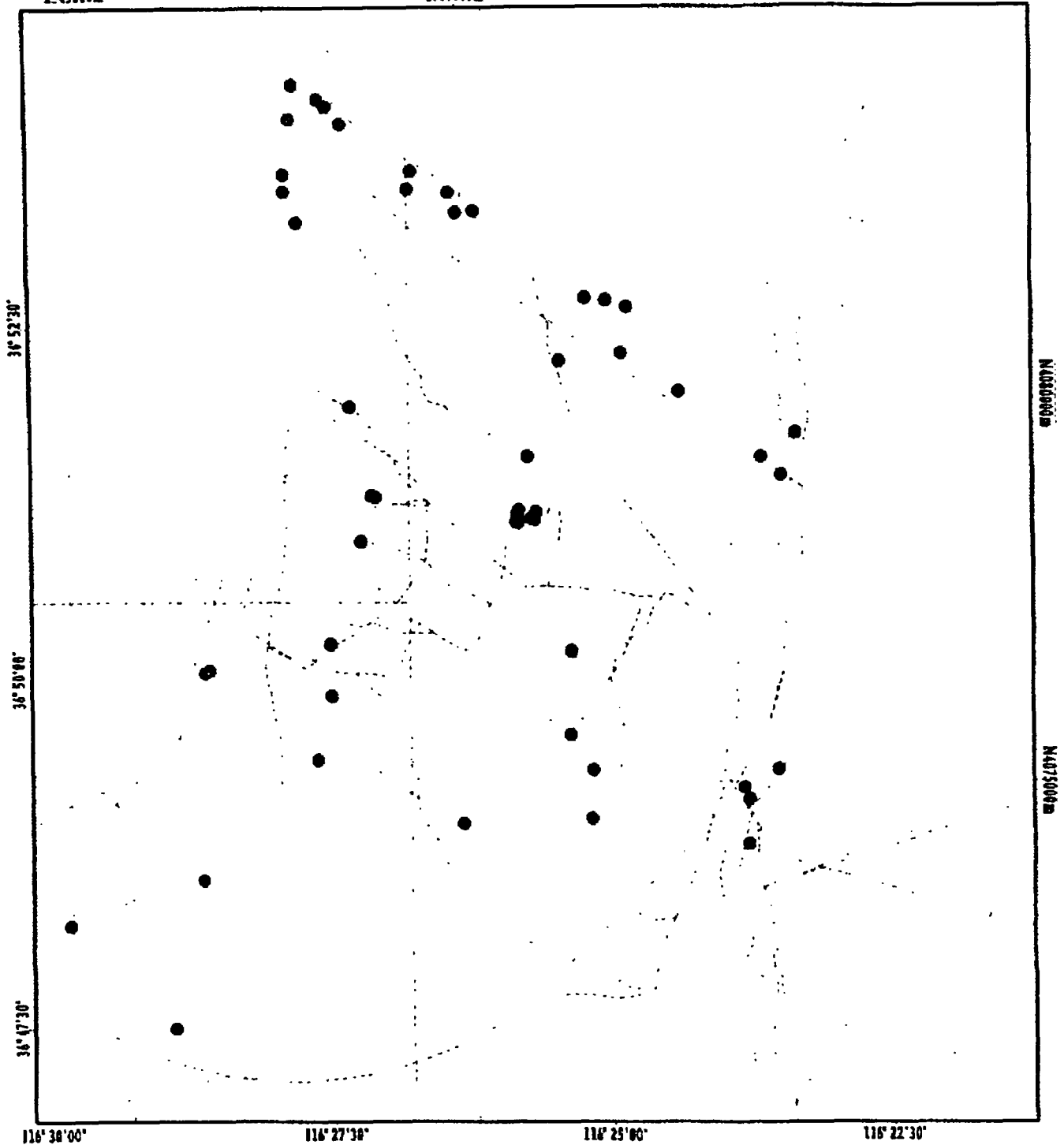


NAME:	Existing trenches.
Theme:	The geographic location of existing trenches in the Yucca Mountain area.
Aliases:	None
Source:	Processed by EG&G/EM from data provided by YMP participants.
Geographic Extent:	Southern Nevada
Date Last Edited:	9/24/93
Maintenance Schedule:	As data are made available.
Resolution:	Not provided
Accuracy:	Best case positional accuracy for survey reported data is .01 foot
Contact(s):	GENISES YMP database. EG&G/EM P.O. Box 1912, M/S V-02 Las Vegas, Nevada 89125 702-794-7852

E55024511
E545004m

E54444071
E530070m

E58307511
E555008m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: existtra

Description: Existing trench location information as reported by TMD participants.



NAME: Planned trenches.

Theme: The geographic location of existing planned trenches in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

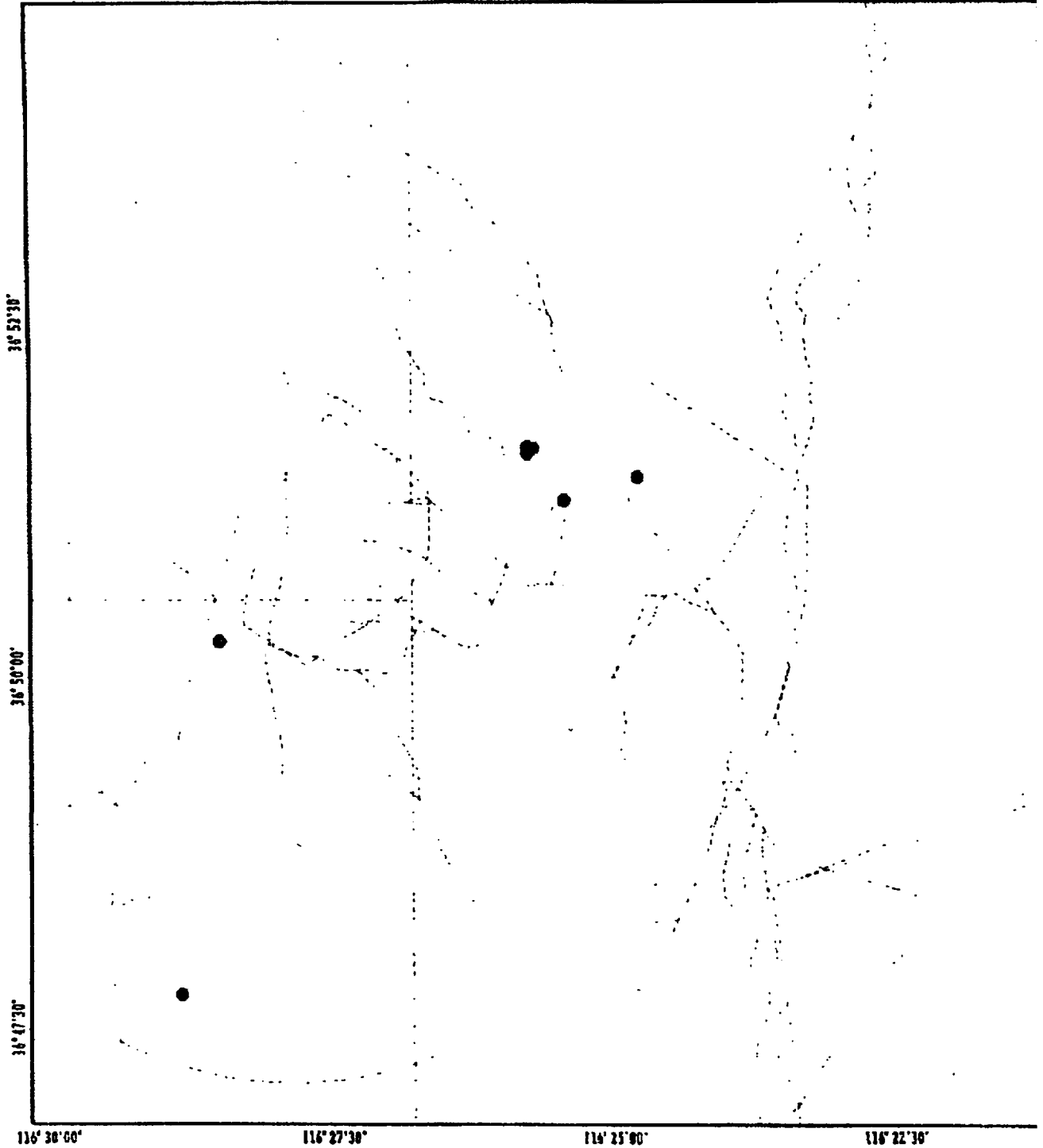
Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database.
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

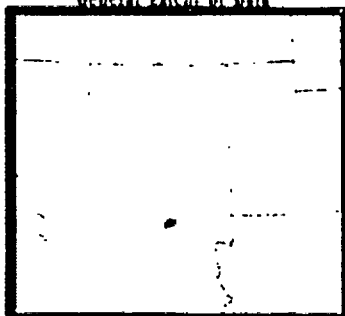
E5502451a
E550000m

E550660f
E550000m

E550751f
E550000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: plantm

Description: Planned trench location information as reported by YMP participants.



NAME: Existing pavements.

Theme: The geographic location of existing pavements in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

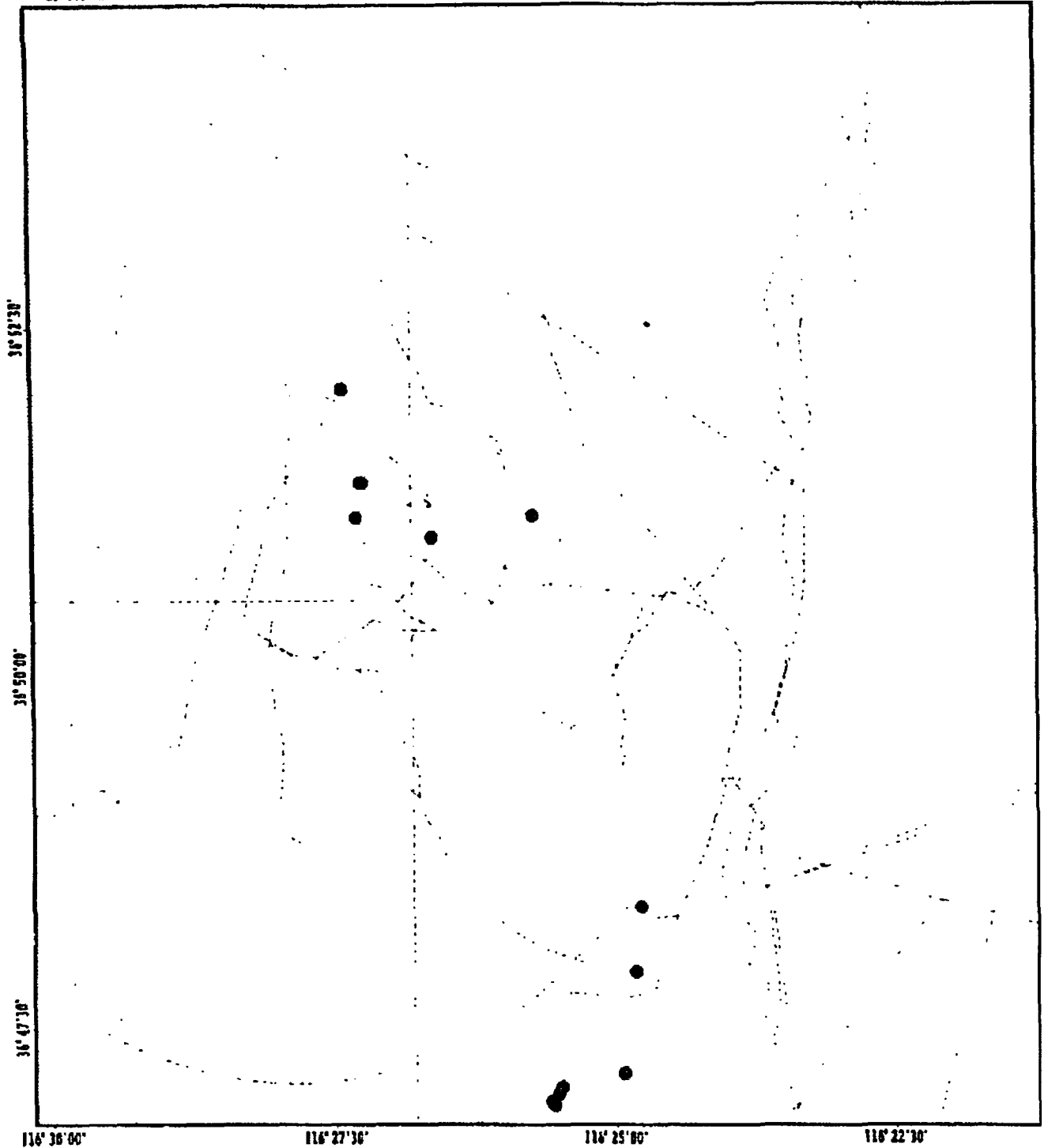
Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database.
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

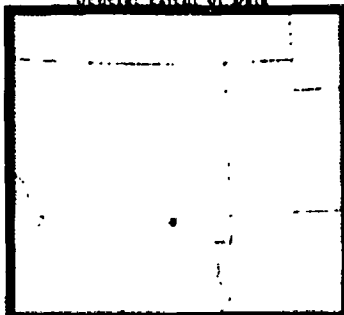
E5302451a
E545000m

E56444021
E550000m

E58302511
E555000m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: existpav

Description: Existing pavement location information as reported by TWP participants.



NAME: Existing boreholes.

Theme: The geographic location of existing boreholes in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

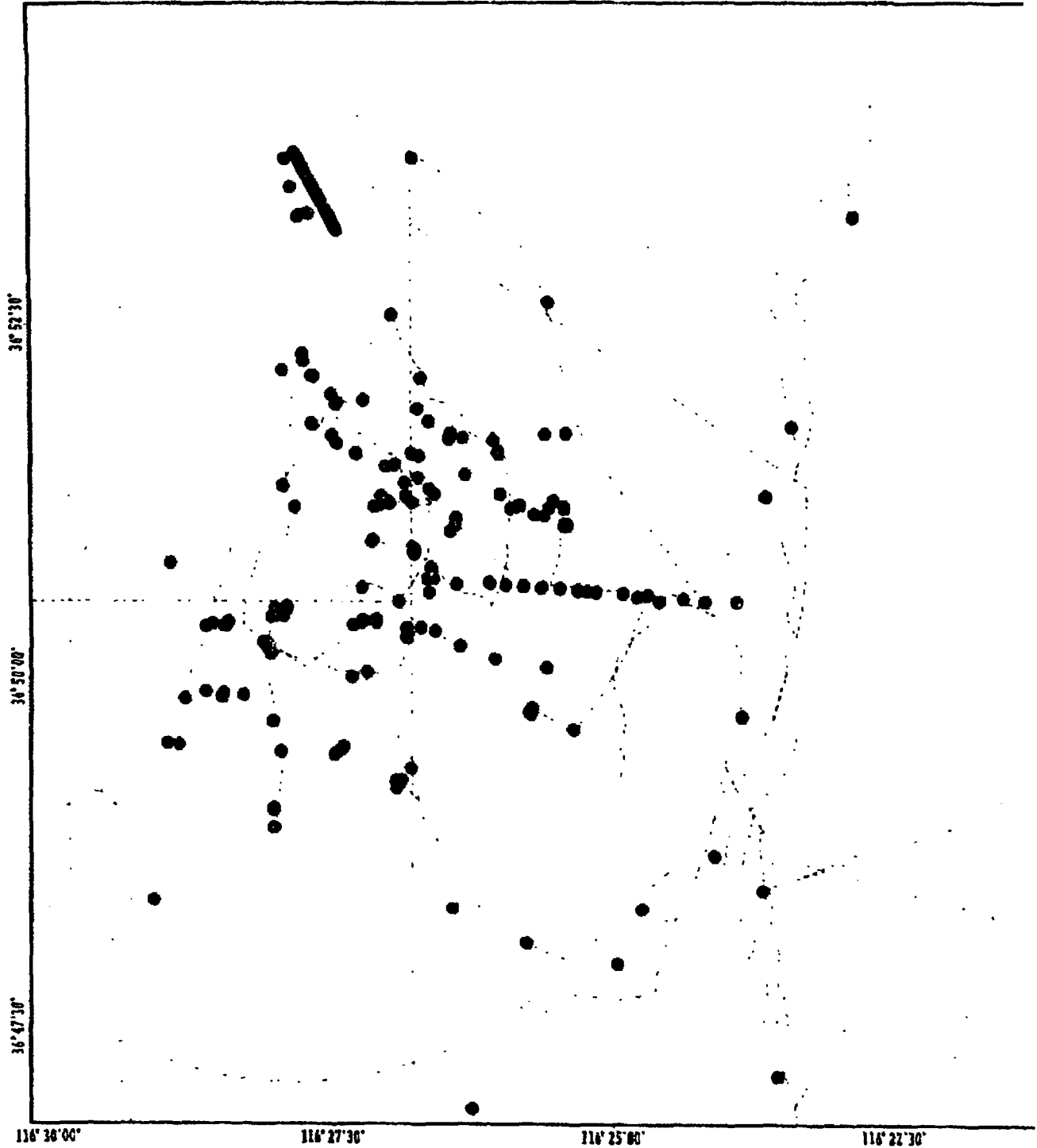
Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database.
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

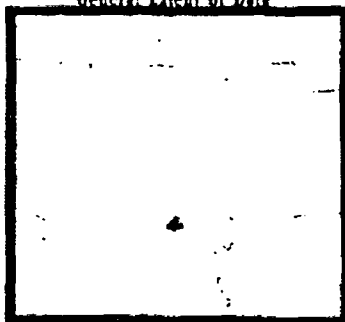
ES5024511
ES45004m

ES4664012
ES30004m

ES8107511
ES35004m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: existbh

Description: Existing borehole location information as reported by YMP participants.



NAME: Planned boreholes.

Theme: The geographic location of planned boreholes in the Yucca Mountain area.

Aliases: None

Source: Processed by EG&G/EM from data provided by YMP participants.

Geographic Extent: Southern Nevada

Date Last Edited: 9/24/93

Maintenance Schedule: As data are made available.

Resolution: Not provided

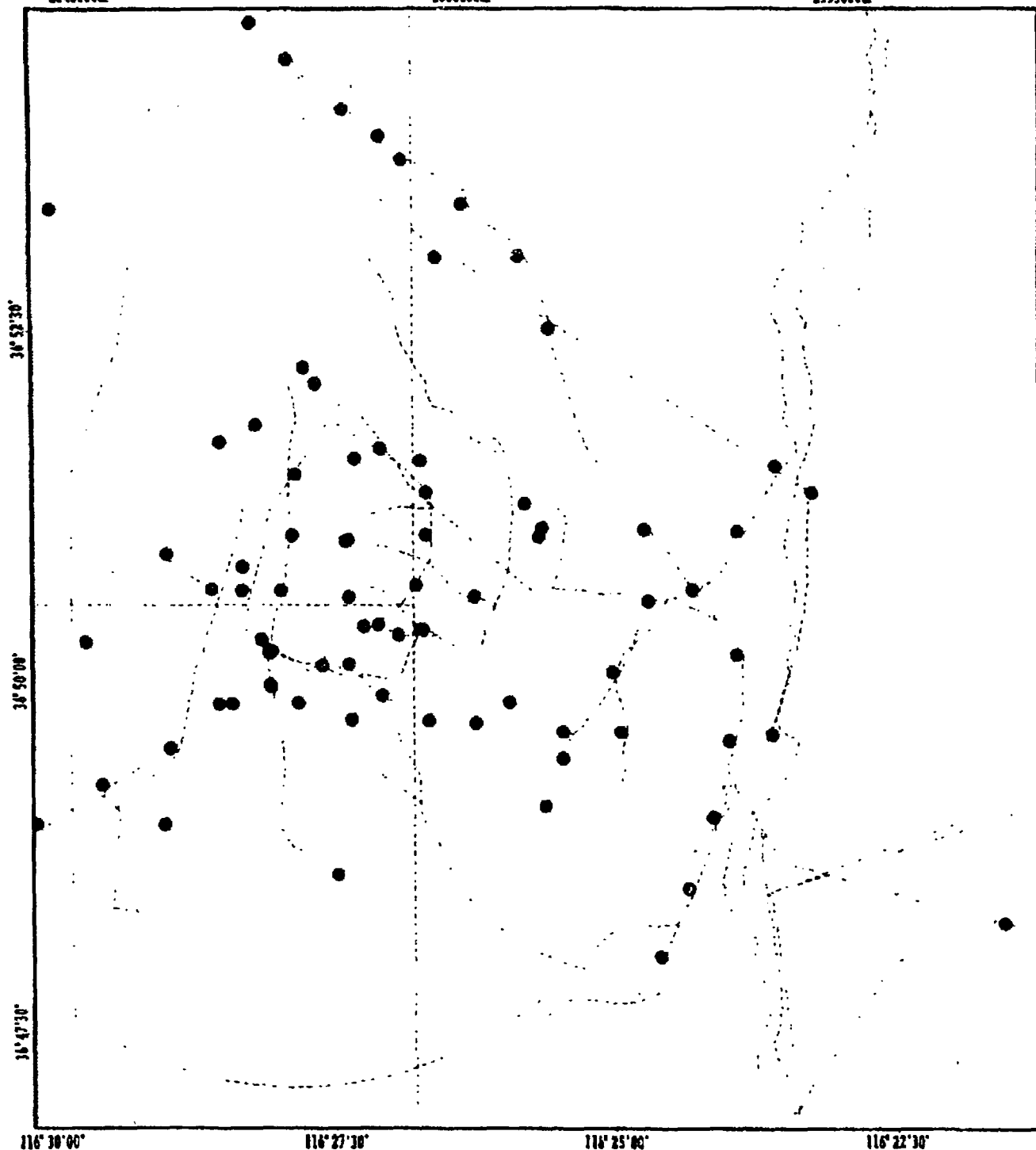
Accuracy: Best case positional accuracy for survey reported data is .01 foot

Contact(s): GENISES YMP database.
EG&G/EM
P.O. Box 1912, M/S V-02
Las Vegas, Nevada 89125
702-794-7852

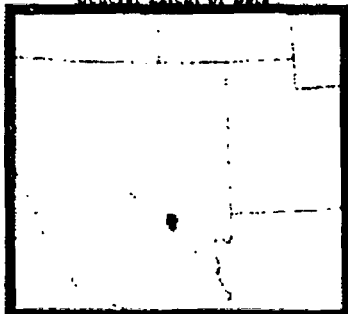
E55024511
E545004m

E56166061
E550008m

E58302511
E555088m



General Extent of Data



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

Data Description

Source: GENISES database

File: planbh

Description: Planned borehole location information as reported by TMP participants.



Appendix A

EG&G/EM WORK REQUEST

WORK REQUEST INSTRUCTIONS

The unshaded portion of the form should be completed by the Requestor or a GENISES staff member in consultation with the Requestor as follows:

Date: Today's date (mm/dd/yy)

YMP Participant: Is the Requestor from a YMP Participant Organization, Yes or No.

Name: Requestor's Name

Signature: Requestor's Signature (or Genises Staff Member's Initials).

Organization: Requestor's Organization (e.g. DOE/YMP, M&O, RSN, etc.).

Telephone: Requestor's Telephone Number (including area code).

Address: Address to which the Requestor wants the product sent.

Purpose of Product: A brief description of the use for the requested product (e.g. report figure, briefing, planning, etc)

Will the Product be Used in Quality-affecting Work? Is this product going to be used for quality-affecting work; Yes or No.

Request Delivery Date: Date on which the Requestor would like the product delivered.

Releasable Data: Is data provided releasable to other Participants; Yes or No.

Product Format: Fill in the appropriate spaces for the format of the requested product, as follows:

Hardcopy:	Check if the product is a map, photograph, graphic or tabular report.
Number of Copies:	The number of hardcopies needed.
Map Size or Scale:	The size of the map (e.g. E-size, page, or 30" x 30") or a map scale (1:1 1" = 100').
Other:	Other format considerations, such as mylar or Duraflex material.
Digital:	Check if the product is required in digital format.
OS:	Identify the Operating System (OS) the digital product will be used on (e.g. DOS, VMS, UNIX)
File Format:	Identify the file format needed (e.g. DLG, DXF, ASCII, Arc/INFO Export)
Media:	Identify the required media for digital file transfer (e.g. 1/4" cartndge, 8" cartndge, 3.5" disk, floppy disk, etc.)

Work Description: A description of the product being requested. If the product is an existing map or report, a new product request, the following types of information should be provided.

Copies of existing maps or reports: The Requestor should provide the EG&G/EM map number for the lower right corner of an existing map, or the product number for existing tabular and report data.
NOTE: Requesting an existing map product will not automatically include updates to any thematic information; the Requestor must specify that the most current available data is needed.

Modification to an existing product: The Requestor should provide the EG&G/EM map number and description of the modification, deletion, additions or updates to the previous product.

New or old products: The Requestor should provide a detailed description of the product, and indicate constraints, limitations, assumptions or general comments regarding the product. The following information should be identified, if known:

Basemap data:	What basemap features, symbology or labeling are needed on the map (e.g. Administrative boundaries, elevation contours, transportation)?
Thematic data:	What thematic features, symbology or labeling are needed on the map (e.g. trenches, pits, environmental sampling locations)?
Legend info:	What is the title of the map?

New data products: The Requestor should provide a description of the type of data requested (e.g. trenches, boreholes, etc.), any attributes (e.g. depth, activity identifier, coordinate locations, etc.)



ENERGY MEASUREMENTS

RSL YMP Support Office
EG&G Energy Measurements, Inc.
P.O. Box 1912, M/S: V-02
Las Vegas, Nevada 89125
Telephone: (702) 94-7852
FAX: (702) 794-7469

WBS: _____

QA: _____

TRACKING DESIGNATOR: _____

WORK REQUEST

Today's Date: _____

TO BE COMPLETED BY THE REQUESTOR:

YMP Participant (Y/N) _____

NAME: _____ SIGNATURE: _____

ORGANIZATION: _____ TELEPHONE: _____

ADDRESS: _____

PURPOSE OF PRODUCT: _____

WILL THE PRODUCT BE USED IN QUALITY-AFFECTING WORK? _____ DATE NEEDED: _____ RELEASABLE DATA (Y/N) _____

PRODUCT FORMAT

Hardcopy:

Number of Copies:

Map Size or Scale:

Other:

Digital:

OS:

File Format:

Media:

WORK DESCRIPTION:

TO BE COMPLETED BY GENESIS DATABASE PERSONNEL

Job Number: _____

Cost Estimate (Y/N): _____

Processing Plan (Y/N): _____

Scheduled Delivery Date: _____

Map	Data	Photo	Graphic	Image Process	GIS Analysis	DGI	Photo Acq.	Data Submit	Internal Request	Other
-----	------	-------	---------	---------------	--------------	-----	------------	-------------	------------------	-------

RECEIVED BY: _____ DATE: _____

(I have reviewed this form and all blanks are intentional)

APPROVED BY: _____ DATE: _____