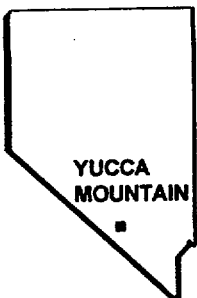


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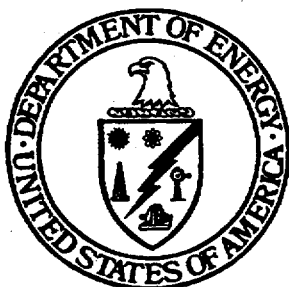
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**YUCCA MOUNTAIN
SITE CHARACTERIZATION
PROJECT**

**YUCCA MOUNTAIN
SITE CHARACTERIZATION PROJECT**

**TECHNICAL DATA
CATALOG
(QUARTERLY SUPPLEMENT)**



107.8

DECEMBER 31, 1993

UNITED STATES DEPARTMENT OF ENERGY

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PDR WASTE
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**YUCCA MOUNTAIN
SITE CHARACTERIZATION PROJECT**

**TECHNICAL DATA CATALOG
(QUARTERLY SUPPLEMENT)**

DECEMBER 31, 1993

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INTRODUCTION

The March 21, 1993, Department of Energy (DOE)/Nuclear Regulatory Commission (NRC) Site-Specific Procedural Agreement for Geologic Repository Site Investigation and Characterization Program requires the DOE to develop and maintain a catalog of data which will be updated and provided to the NRC at least quarterly. This catalog is to include a description of the data; the time (date), place, and method of acquisition; and where it may be examined. The Yucca Mountain Site Characterization Project (YMP) Technical Data Catalog is published and distributed in accordance with the requirements of the Site-Specific Agreement.

The YMP Technical Data Catalog is a report based on reference information contained in the YMP Automated Technical Data Tracking System (ATDT). The reference information is provided by Participants for data acquired or developed in support of the YMP. The Technical Data Catalog is updated quarterly and published in the month following the end of each quarter. A complete revision to the Catalog is published at the end of each fiscal year. Supplements to the end-of-year edition are published each quarter. These supplements provide information related to new data items not included in previous quarterly updates and data items affected by changes to previously published reference information. The Technical Data Catalog, dated September 30, 1993, should be retained as the baseline document for the supplements until the end-of-year revision is published and distributed in October 1994.

Requests for technical data referenced in the Data Catalog must be submitted in writing to the YMP Project Manager, Robert M. Nelson, Jr., at the following address:

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

Requests should reference the Data Tracking Number (DTN) used to identify each data item included in the Data Catalog and should include the following information: the requester's name, organization, address, and telephone number; the scope of the data requested; a description of the intended use of the data; and any special format preferences. In response to specific requests, the YMP will provide the solicited technical data or information regarding where the data may be examined.

The information contained in the Technical Data Catalog is organized by the governing plan under which the referenced technical data were acquired or developed. The applicable governing plans are identified in the Table of Contents. Site Characterization Program Baseline (SCPB) data items referenced in the Catalog are further grouped by SCPB Activity Number.

The Technical Data Catalog format includes the following information for each referenced data item:

- (1) Data Tracking Number - Unique identifier for the referenced data item.
- (2) Data Title/Description - A brief description of the referenced data item.
- (3) Acquisition/Development Period - The date or range of dates during which the referenced data item was acquired or developed.
- (4) Acquisition/Development Location - The field or laboratory location where the referenced data item was acquired or developed.

(NOTE: Locations are identified by unique names/identifiers or coordinates. Locations identified by coordinates may be expressed in geographic, Nevada state plane, or Universal Transverse Mercator (UTM). Nevada state plane coordinates are indicated by an "(N)" at the end of each coordinate; UTM coordinates are indicated by a "(U)".)

- (5) Acquisition/Development Method - A brief description of the method used and/or the procedure followed to acquire or develop the referenced data item.
- (6) Data Type - An "A" for acquired data or a "D" for developed data.
- (7) Qualified - A "Y" for Yes or an "N" for No indicating whether or not the referenced data item was acquired or developed in accordance with an NRC accepted quality assurance program or qualified in accordance with appropriate YMP procedures.

(NOTE: Developed data items derived from other data sources are not classified as "Qualified" unless the data sources are also qualified.)

- (8) Data Location - A "P" indicates that the data reside in, and may be examined only at, a Participant Data Archive. A "T" indicates that the data are in the Technical Data Base (TDB) and may be examined there or at the Central Records Facility (CRF). A "C" indicates that the data are in, and may be examined at, the CRF.

New data items, which were not included in a previous quarterly edition of the Technical Data Catalog, are identified by an asterisk (*) preceding the DTN. Changes to reference information published in a previous edition of the Catalog are identified by a double asterisk (**) preceding the DTN for each affected data item.

Appendix A of this document lists the activity numbers and titles of all SCPB related data items referenced in the Catalog. Appendix B outlines the types of data that are available in the Geologic and Engineering Materials Bibliography of Chemical Species (GEMBOCHS) component of the TDB. Appendix C identifies additions or modifications that were incorporated into the GEMBOCHS data base during the current quarter. Appendix D identifies additions or modifications that were incorporated into the Geographic Nodal Information Study and Evaluation System (GENISES)-data base during the current quarter.

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ENVIRONMENTAL MONITORING AND MITIGATION PLAN

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
**GS920300012548.001	DATA ON GROUND-WATER LEVELS AND SPRING FLOWS, INCLUDING WELL DEPTHS, CASING INFORMATION, DISCHARGE MEASUREMENTS, WELL AND SPRING LOCATIONS. ACQN/DEVL LOCATION : 36 00'00"N 117 00'00"W ; 37 00'00"N 116 00'00"W	02/01/90-05/09/91	DATA WERE COLLECTED USING STANDARD USGS PRACTICES.	A N P
**GS920500012548.002	DATA ON GROUND-WATER LEVELS AND SPRINGFLOWS, INCLUDING WELL DEPTHS, CASING INFORMATION, DISCHARGE MEASUREMENTS, AND WELL AND SPRING LOCATIONS. ACQN/DEVL LOCATION : 36 00'00"N 117 00'00"W ; 37 00'00"N 116 00'00"W	05/10/91-12/31/91	DATA WERE COLLECTED USING HP-54, HP-61, HP-99, AND HP-166.	A N P
**GS920500012548.003	QUARTERLY DATA COLLECTED FOR FIRST QUARTER OF 1992 FOR REPORT "DATA ON GROUND-WATER LEVELS AND SPRINGFLOWS IN THE YUCCA MOUNTAIN REGION OF SOUTHERN NEVADA AND CALIFORNIA, JANUARY - MARCH 1992. ACQN/DEVL LOCATION : USGS WRD, LAS VEGAS	03/21/92-04/30/92	USGS STANDARD METHODS	D N P
**GS920600012548.004	RAW DATA ON WATER-LEVEL MEASUREMENTS, QW AND SPRING DISCHARGES FOR JANUARY THRU MARCH 1992. ACQN/DEVL LOCATION : 36 00'N 117 00'W ; 37 00'N 116 00'W	01/01/92-03/31/92	DATA WERE COLLECTED USING HP-54,R0, WATER-FLOW MEASUREMENTS USING WEIRS, FLUMES, AND BARRELS; HP-61,R0, USE OF HAND-HELD STEEL TAPES (IN VERTICAL BOREHOLES); HP-99,R1, INSTRUCTION FOR OPERATION OF A WELL SOUNDER FOR MEASURING WATER LEVELS; AND HP-166,R0, STREAM DISCHARGE MEASUREMENTS USING A PYGMY METER.	A N P

ENVIRONMENTAL MONITORING AND MITIGATION PLAN

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931000121347.006	QUARTERLY DATA REPORT ON PRELIMINARY DATA OF GROUND-WATER LEVELS AND SPRING FLOWS IN THE YUCCA MOUNTAIN REGION FOR THE PERIOD JULY THROUGH SEPTEMBER, 1993 DATA COLLECTED IN COOPERATION WITH THE U.S. DEPT. OF ENERGY AND USGS WATER-RESOURCES MONITORING PROGRAM	07/01/93-10/21/93	FIELD DATA COLLECTED BETWEEN 7/1/93 TO 9/30/93 ACCORDING TO HP-26,R1, METHOD FOR CALIBRATING WATER-LEVEL MEASUREMENT EQUIPMENT USING THE REFERENCE STEEL TAPE; HP-54,R1, WATER-FLOW MEASUREMENTS USING 90 DEGREE V-NOTCH WEIRS, FLUMES AND BARRELS, HP-61,R0, USE OF HAND-HELD STEEL TAPES (IN VERTICAL BOREHOLES); HP-99,R1, INSTRUCTION FOR OPERATION OF A WELL SOUNDER FOR MEASURING WATER LEVELS; AND HP-166,R1, STREAM DISCHARGE MEASUREMENTS USING A PYGMY CURRENT METER	A Y P
ACQN/DEVL LOCATION :				
36 17'24"N 116 32'42"W				
36 18'17"N 116 24'47"W				
36 19'54"N 116 18'12"W				
36 20'14"N 116 13'39"W				
36 22'29"N 116 16'25"W				
36 22'30"N 116 39'29"W				
36 22'52"N 116 42'53"W				
36 24'11"N 116 16'33"W				
36 24'32"N 116 16'57"W				
36 25'13"N 116 19'27"W				
36 25'25"N 116 27'43"W				
36 25'29"N 116 17'11"W				
36 25'32"N 116 17'27"W				
36 25'55"N 116 20'53"W				
36 27'28"N 116 50'11"W				
36 27'55"N 116 19'04"W				
36 28'48"N 116 26'46"W				
36 28'58"N 116 19'53"W				
36 29'26"N 116 20'28"W				
36 29'29"N 116 08'57"W				
36 30'09"N 116 30'27"W				
36 32'13"N 116 13'38"W				
36 33'10"N 116 29'40"W				
36 34'28"N 116 23'47"W				
36 34'28"N 116 24'03"W				
36 34'56"N 116 35'25"W				
36 35'30"N 116 02'14"W				
36 38'15"N 116 17'59"W				
36 38'25"N 116 24'33"W				
36 38'35"N 116 23'40"W				

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ENVIRONMENTAL MONITORING AND MITIGATION PLAN

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
	36 41'30"N 116 41'12"W			
	36 45'28"N 116 23'22"W			
	36 54'45"N 116 38'39"W			
	36 55'20"N 116 37'03"W			
	J-11			
	J-12			
	J-13			
	UE-25 WT #13			
	UE-25 WT #15			
	UE-25P #1			
	USW VH-1			
*GS931100121347.007	SELECTED GROUND-WATER DATA FOR YUCCA MOUNTAIN REGION, SOUTHERN NEVADA AND EASTERN CALIFORNIA, THROUGH DECEMBER 1992, BY R.J. LACAMERA AND C.L. WESTENBURG.	06/01/93-09/30/93	DATA WAS CHECKED FOR ACCURACY AND REASONABLENESS AND DEVELOPED ACCORDING TO STANDARD USGS PROCEDURE.	D N P
	ACQN/DEVL LOCATION : USGS-WRD, LAS VEGAS, NV			

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METEOROLOGICAL MONITORING PLAN

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*TM000000000001.044	AMBIENT AIR MONITORING REPORT, APRIL - JUNE 1993 ACQN/DEVL LOCATION : YUCCA MOUNTAIN SITE AREA	04/01/93-06/30/93	REFORMATTING OF DATA ACQUIRED BY DATALOGGERS	D Y P
*TM000000000001.045	AMBIENT AIR MONITORING DATA, JANUARY - JUNE 1993 ACQN/DEVL LOCATION : YUCCA MOUNTAIN SITE AREA	01/01/93-06/30/93	DATA ACQUIRED BY DATALOGGERS	A Y P
*TM000000000001.046	AMBIENT AIR MONITORING DATA, JULY - SEPTEMBER 1993 ACQN/DEVL LOCATION : YUCCA MOUNTAIN SITE AREA	07/01/93-09/30/93	DATA ACQUIRED BY DATALOGGERS	A Y P
*TM000000000001.047	AMBIENT AIR MONITORING REPORT, JULY - SEPTEMBER 1993 ACQN/DEVL LOCATION : YUCCA MOUNTAIN SITE AREA	07/01/93-09/30/93	REFORMATTING OF DATA ACQUIRED BY DATALOGGERS	D Y P

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SITE CHARACTERIZATION PLAN BASELINE

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.2.1.2.1				
*GS921108312121.001	SURFACE WATER DISCHARGE DATA INCLUDING COPIES OF RECORDER CHARTS AND PRECIPITATION DATA COLLECTED DURING THE 1992 WATER YEAR FOR YUCCA MOUNTAIN AND VICINITY, NYE COUNTY, NV, AND INYO COUNTY CA.	10/01/91-09/30/92	THESE DATA WERE COLLECTED UNDER HP#'S HP-43,R1&R2, INSTALL., OPER., & INSPECT OF TWO TYPES OF NON-RECORDING RAIN GAGES, HP-54,R0&R1, WATER-FLOW MEAS USING 90 DEG V-NOTCH WEIRS, FLUMES, & BARRELS, HP-91, R3, COLLECT & FIELD ANALY OF SURFACE-WATER SAMPLES, HP-100,R0,R1, STREAM DISCHARGE MEAS USING A TYPE-AA PRICE CURRENT METER, HP-114,R0&R1, EST OF STREAMFLOW DISCHARGE, HP-115,R1, DETER OF PEAK STREAMFLOW DISCHARGE USING CULVERTS, HP-116,R0&R1, METHOD TO INSTALL, OPER, & EXAMINE A REC-STREAMFLOW GAGE THAT USES A STILL-WELL SYSTEM (WITH A CONT GRAPHIC RECORDER), HP-117,R0&R1, INSTALL, INSPECT & MAINT OF SCOUR CHAINS AT STREAMFLOW GAGING SITES, HP-166,R0&R1, STREAM DISCHARGE MEAS USING A PYGMY CURRENT METER, HP169,R1, DETER OF PEAK STREAMFLOW DISCHARGE BY THE SLOPE-AREA METHOD, & HP-219,R0, METHOD TO INSTALL, OPER & EXAM A RECORDING STREAMFLOW GAGE USING THE FLUID DATA G-II MANOMETER SYSTEM.	A Y P
ACQN/DEVL LOCATION : 34 50'55"N 117 00'00"W 37 30'00"N 116 13'45"W				
*GS930908312121.005	STREAMFLOW AND SELECTED PRECIPITATION DATA FOR YUCCA MOUNTAIN AND VICINITY, NYE COUNTY, NEVADA, WATER YEARS 1986-90, BY T.G. KANE, D.J. BAUER, AND C.M. MARTINEZ.	11/01/92-08/27/93	ACQUIRED DATA WERE COMPILED INTO AN OPEN FILE REPORT USING GENERAL USGS REPORT GUIDELINES.	D N P
ACQN/DEVL LOCATION : USGS, CARSON CITY, NV USGS, LAS VEGAS, NV				

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SITE CHARACTERIZATION PLAN BASELINE

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD
*GS931108312121.006	SURFACE-WATER DISCHARGE DATA INCLUDING COPIES OF RECORDER CHARTS, DISCHARGE MEASUREMENT NOTES, LEVEL NOTES, PRECIPITATION AND WATER SAMPLE ANALYSIS FOR THE YUCCA MTN. AREA, SOUTHERN NEVADA AND SOUTHEASTERN CALIFORNIA, 1993 WATER YEAR.	10/01/92-09/30/93	USGS TWRI'S: BOOK 3: CH.A1,A2,A3,A4,A5,A8; A Y P BOOK 5: CH.A1; BOOK 8: CH.A2; AND USGS-WSP 2175. ALSO HP-40,R2, EST. PEAK-STREAMFLOW DISCHARGE BY SLOPE-CONVEYANCE; HP-43,R2, INSTAL.,OPER.&INSPECT. 2 TYPES NON-RECORDING RAIN GAGES; HP-44,R3, INSTAL.,OPER.&EXAM. CREST-STAGE STRMFLOW GAGES; HP-45,R3, INSTAL.OPER.&EXAM. RECORDING STRMFLOW GAGE USING BUBBLE-GAGE STACOM MANOMETER SYSTEM; HP-91,R3, COLLECT.& FIELD ANALY. SURFACE-WATER SAMPLES; HP-100,R1, STREAM DISCHG. MEAS. USING TYPE-AA PRICE CURRENT METER; HP-114, R1, EST. STRMFLOW DISCHG.; HP-115,R1, DETER. PEAK STRMFLOW DISCHG. USING CULVERTS; HP-116,R1&R2, INSTAL., OPER.&EXAM. RECORDING STRMFLOW GAGE THAT USES STILLING-WELL SYSTEM WITH CONT. GRAPHIC RECORDER; HP-117,R2, INSTAL., INSPECT.&MAINT. SCOUR CHAINS AT STRMFLOW GAGING SITES; HP-166,R1, STREAM DISCHG. MEAS. USING PYGMY CURRENT METER; HP-169, R2, DETER. PEAK STRMFLOW DISCHG. BY SLOPE-AREA.

ACQN/DEVL LOCATION :

34	49'13"N	116	23'52"W
35	50'55"N	116	13'45"W
36	11'48"N	116	22'06"W
36	23'12"N	116	25'22"W
36	26'09"N	116	04'28"W
36	27'36"N	116	06'28"W
36	33'40"N	116	06'00"W
36	34'00"N	115	48'40"W
36	37'35"N	116	08'31"W
36	40'18"N	116	26'03"W
36	41'08"N	116	08'52"W
36	44'17"N	116	13'58"W
36	46'06"N	116	19'23"W
36	47'35"N	116	24'29"W
36	48'27"N	116	05'41"W
36	48'27"N	116	24'01"W
36	50'36"N	116	26'26"W
36	50'57"N	116	27'07"W

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SITE CHARACTERIZATION PLAN BASELINE

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
	36 51'06"N 116 25'44"W 36 51'16"N 116 27'07"W 36 51'39"N 116 26'08"W 36 51'58"N 116 23'38"W 36 52'06"N 116 45'04"W 36 52'06"N 116 45'34"W 36 53'13"N 116 22'50"W 36 57'37"N 116 43'09"W 37 04'12"N 116 20'23"W 37 04'19"N 116 20'50"W 37 04'21"N 116 20'50"W 37 09'51"N 116 12'11"W 37 10'57"N 116 15'19"W			
Activity - 8.3.1.2.1.3.2				
*GS930908312132.018	WATER LEVEL MEASUREMENTS IN WELLS OF AMARGOSA DESERT PERFORMED BETWEEN 3/22/92 & 9/30/93. THE FOLLOWING LIST IDENTIFIES THE WELL, NUMBER OF MEASUREMENTS IN 1992, & NUMBER OF MEASUREMENTS IN 1993: GS-1,1,3; GS-3 STEEL,0,4; GS-3 PVC,0,5; GS-3 (FLP),1,0; GS-4,1,0; GS-5,1,0; GS-6,1,0; GS-7,1,0; GS-9,1,0; GS-10,1,0; GS-12,1,1; GS-13,1,1; GS-14,1,1; GS-16,2,6; GS-17 PVC,2,6; GS-18,1,2; GS-20 (FLP),0,1; AM-1 STEEL,1,3; AM-1 PVC,1,2; AM-2 STEEL,1,4; AM-2 PVC,1,4; BJ,0,3; BT-4,1,1; N25 E5 15,3,3; JC-5,1,0; LC-262 PVC,1,3; LC-262 STEEL,1,3; NA-2,1,1; NA-4 (BGWM-2),0,2; NA-6 STEEL,0,2; NA-6 PVC,0,3; NA-7 STEEL,5,4; NA-7 PVC,5,4; N-8,0,2; NA-9 STEEL,1,3; NA-9 PVC,2,5; NA-10 STEEL,0,8; NA-10 PVC,0,8; S-1 STEEL,1,4; S-1 PVC,1,5; S-2,1,0; ST-1 STEEL,0,16; ST-2 STEEL,0,14; ST-2 PVC,0,25; WELL FL,0,8; WELL #5,0,2; WELL-13,1,0; CINDER LAKE B,0,1.	03/22/92-09/30/93	HP-99,R1, INSTRUCTION FOR OPERATION OF A WELL SOUNDER FOR MEASURING WATER LEVELS.	A Y P
	ACQN/DEVL LOCATION : 36 00'00"N 117 00'00"W ; 37 00'00"N 116 00'00"W			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931008312132.003	HYDROCHEMICAL DATA OF SAMPLES COLLECTED FROM SMALL DIAMETER WELLS	04/15/92-09/29/93	STANDARD NWQL METHODS AND HP-23,R2, COLLECTION AND FIELD ANALYSIS OF GROUND-WATER SAMPLES FROM SATURATED ZONE.	A Y P
	ACQN/DEVL LOCATION : USGS NWQL, DENVER, CO			
*GS931008312132.004	GROUND-WATER ALTITUDES AND WELL DATA, NYE COUNTY, NEVADA, AND INYO COUNTY, CALIFORNIA, COMPILED BY MAREK CIESNIK.	02/10/91-12/15/92	COMPILATION PRIMARILY FROM USGS NATIONAL WATER INFORMATION SYSTEM (NWIS) AND FROM OTHER PUBLISHED PAPERS.	D N P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
*GS931108312132.019	SPREADSHEETS OF HYDROCHEMICAL ANALYSES, BY JOHN B. CZARNECKI: DATA FROM WELLS USW UZ-14 AND NA-7, NEVADA.	08/21/93-11/15/93	PH AND SPECIFIC CONDUCTANCE DATA COMPILED, FORMATTED AS SPREADSHEET AND PRESENTED AS POSTER.	D Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
Activity - 8.3.1.2.1.3.3				
*GS931208312133.002	DEPTH-TO-WATER DATA FOR UE-29A #1 AND #2 COLLECTED IN WATER YEAR 1992	10/01/91-09/30/92	DATA COLLECTED ACCORDING TO HP-99,R1, INSTRUCTION FOR OPERATION OF A WELL SOUNDER FOR MEASURING WATER LEVELS, AND HP-61,R0, USE OF HAND-HELD STEEL TAPES (IN VERTICAL BOREHOLES).	A Y P
	ACQN/DEVL LOCATION : UE-29 UZN-91 UE-29A #1 UE-29A #2			

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SITE CHARACTERIZATION PLAN BASELINE

DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931208312133.003	DEPTH-TO-WATER DATA FOR UE-29A #1 AND #2 AND UE-29 UZN #91 COLLECTED IN WATER YEAR 1993	10/01/92-09/30/93	DATA COLLECTED ACCORDING TO HP-99,R1, INSTRUCTION FOR OPERATION OF A WELL SOUNDER FOR MEASURING WATER LEVELS, AND HP-61,R0, USE OF HAND-HELD STEEL TAPES (IN VERTICAL BOREHOLES).	A Y P
	ACQN/DEVL LOCATION : UE-29 UZN #91 UE-29A #1 UE-29A #2			
Activity - 8.3.1.2.2.3.1				
*GS930808312231.005	SPATIAL VARIABILITY IN HYDROLOGIC PROPERTIES OF A VOLCANIC TUFF, BY J.D. ISTOK, C.A. RAUTMAN, L.E. FLINT, AND A.L. FLINT.	09/01/92-12/01/92	STANDARD LAB DATA (POROSITY, BULK DENSITY, PARTICLE DENSITY, SATURATED HYDRAULIC CONDUCTIVITY AND SORPTIVITY) WERE USED WITH STANDARD STATISTICAL AND GEOSTATISTICAL METHODS TO EVALUATE SPATIAL VARIABILITY AND CORRELATIONS OF PROPERTIES TO OBSERVED LITHOLOGY.	D N P
	ACQN/DEVL LOCATION : HYDROLOGIC RESEARCH FACILITY, AREA 25, MERCURY, NV			
Activity - 8.3.1.2.2.7.1				
*GS930908312271.022	TRACER INJECTION DATA FROM UE-25 UZ#16, UE-25 NRG#1, UE-25 NRG#3, UE-25 NRG#2, USW NRG-6, AND CORE SEALING DATA FROM UE-25 UZ#16, UE-25 NRG#1, AND USW NRG-6.	05/27/92-03/29/93	DATA WERE COLLECTED IN ACCORDANCE WITH METHODS DESCRIBED IN HP-07,R1 & R1-M1, USE OF A TRACE GAS FOR DETERMINING ATMOSPHERIC CONTAMINATION IN A DRY-DRILLED BOREHOLE; HP-160,R1 & R1-M1, METHODS FOR ANALYSIS OF SAMPLES FOR GAS COMPOSITION BY GAS CHROMOTOGRAPHY; HP-237T,R0, (SN-0030), METHODS FOR SEALING UNSATURATED ZONE BOREHOLE CORE SAMPLES TO PRESERVE MOISTURE CONTENT; AND HP-238T,R0, (SN-0031), INJECTION OF A TRACE GAS FOR DETERMINING ATMOSPHERIC CONTAMINATION IN A DRY-DRILLED BOREHOLE.	A Y P
	ACQN/DEVL LOCATION : UE-25 NRG#1 UE-25 NRG#2 UE-25 NRG#3 UE-25 UZ#16			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
	USW NRG-6			
Activity - 8.3.1.2.2.9.1				
*GS930908312291.005	ESTIMATION OF UNSATURATED ZONE LIQUID WATER FLUX AT BOREHOLES UE-25 UZ#4, UE-25 UZ#5, USW UZ-7, AND USW UZ-13, YUCCA MOUNTAIN, NEVADA, FROM SATURATION AND WATER POTENTIAL PROFILES BY EDWARD M. KWICKLIS, ALAN L. FLINT, AND R.W. HEALY.	09/01/92-05/30/93	ESTIMATES WERE MADE OF LIQUID FLUX AT 4 BOREHOLE LOCATIONS USING MEASURED WATER POTENTIALS AND CONSTRUCTED SATURATION PROFILES AND ESTIMATES OF EFFECTIVE HYDRAULIC CONDUCTIVITY PROVIDED BY THE VAN GENUCHTEN HYDRAULIC FUNCTIONS. SATURATION AND FLUX CALCULATIONS PERFORMED USING LOTUS 1-2-3.	D N P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
Activity - 8.3.1.2.3.1.2				
**GS930208312312.004	1992 CONTINUOUS NETWORK TRANSDUCER AND RELATED DATA. DATA IN THE FORM OF LOGBOOKS, STRIPCHARTS, AND ELECTRONIC DATA (AS STORED ON THE NWIS/ADAPS SYSTEM).	01/01/92-12/31/92	TRANSDUCER AND RELATED DATA COLLECTED USING TRANSDUCERS/21X SYSTEMS OR TRANSDUCER/DCP SYSTEMS. REFERENCE HP-196, R1, METHOD FOR COLLECTING WATER LEVEL DATA USING DATA COLLECTION PLATFORMS; HP-60, R2 METHOD FOR MONITORING WATER LEVEL CHANGES USING PRESSURE TRANSDUCERS AND PRESSURE TRANSMITTERS; HP-71, R0, METHOD FOR MONITORING WATER-LEVEL CHANGES USING A CAMPBELL SCIENTIFIC 21X MICROLOGGER.	A Y P
	ACQN/DEVL LOCATION : UE-25 WT #13 UE-25 WT #16 UE-25 WT #3 UE-25 WT #6 UE-25B #1 UE-25P #1 USW G-3 USW H-1 USW H-3 USW H-4 USW H-5 USW H-6 USW WT-11 USW WT-2			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931008312312.022	WATER-LEVEL DATA FROM THE PERIODIC NETWORK, 3RD QUARTER 1993 ONLY.	07/01/93-10/01/93	DATA COLLECTED ACCORDING TO HP-75,R1, METHOD FOR MEASURING WATER-LEVELS IN WELLS USING REELED (2600 FT AND 2800 FT) STEEL TAPES.	A Y P
	ACQN/DEVL LOCATION : UE-25 WT #3 UE-25C #1 UE-25C #2 UE-25C #3 USW H-3 USW H-4 USW H-5 USW E-6 USW UZ-14 USW VH-1 USW WT-10 USW WT-2 USW WT-7			
*GS931008312312.023	RAW TRANSDUCER CALIBRATION DATA, WELLS UE-25P #1 AND UE-25 WT #13, 3RD QUARTER 1993 ONLY.	07/01/93-10/01/93	DATA COLLECTED ACCORDING TO HP-60,R3, METHOD FOR MONITORING WATER LEVEL CHANGES USING PRESSURE TRANSDUCERS AND PRESSURE TRANSMITTERS, AND HP-196,R1, METHOD FOR COLLECTING WATER LEVEL DATA USING DATA COLLECTION PLATFORMS.	A Y P
	ACQN/DEVL LOCATION : UE-25 WT #13 UE-25P #1			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931008312312.024	DEVELOPED WATER LEVEL DATA CONSISTING OF WATER-LEVEL WORKSHEETS AND CALIBRATION REGRESSIONS FOR DATA COLLECTED AT SELECTED WELLS IN THE YUCCA MOUNTAIN AREA, NEVADA. THIRD QUARTER ONLY, 1993. ACQN/DEVL LOCATION : USGS, DENVER, CO	10/01/93-10/07/93	WATER LEVEL DATA DEVELOPED USING STANDARD STATISTICAL TECHNIQUES.	D Y P
*GS931108312312.026	SCIENTIFIC NOTEBOOK SN-0049, SPECIFIC CAPACITY TESTS AT WELL USW UZ-14. THE SCIENTIFIC NOTEBOOK CONTAINS RAW CHEMICAL ANALYSIS DATA AND WATER-LEVEL DATA. ACQN/DEVL LOCATION : USW UZ-14	08/09/93-08/20/93	DATA COLLECTED ACCORDING TO THE PROCEDURES OUTLINED IN THE SCIENTIFIC NOTEBOOK: SN-0049,R0, SPECIFIC CAPACITY TESTS AT WELL UZ-14.	A Y P
Activity - 8.3.1.2.3.2.3				
*GS930908312323.003	HYDROCHEMICAL DATA FROM ANALYSES OF 23 WATER SAMPLES COLLECTED AT FIELD STATIONS: J-13/20, J-13/40, J-13/60, ARMY1/4.7, ARMY1/5.5, J-12/20, J-12/40, J-12/60, VH-1, VIRGIN SPRING 8/19/92, NEVARES SPRING 8/20/92, UZN#91, JF-3, NEVAREZ SPRING 3/15/93, MCLEAN SPRING (SALT CREEK), WOODCAMP SPRING, STAININGER SPRING, VIRGIN SPRING 3/17/93, SARATOGA SPRING, GRAPEVINE RANCH SPRING #1, GRAPEVINE RANCH SPRING #3, KLARE SPRING, AND UZ-14-1282. ACQN/DEVL LOCATION : USGS NWQL, DENVER, CO	12/17/91-08/25/93	STANDARD USGS NWQL PROCEDURE	A Y P

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.2.3.3.1				
*GS921108312331.001	REVISED PRELIMINARY POTENTIOMETRIC SURFACE MAP OF YUCCA MOUNTAIN AND VICINITY, NEVADA, BY E.M. ERVIN, R.R. LUCKEY & D.J. BURKHARDT	09/01/91-08/31/92	WATER-LEVEL DATA WERE ANALYZED TO DETERMINE POSSIBLE TRENDS IN THE POTENTIOMETRIC SURFACE. MAP WAS PLOTTED FROM WATER LEVEL DATA AND TREND ANALYSIS.	D N P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
*GS931008312331.001	SUMMARY OF REVISED POTENTIOMETRIC SURFACE MAP, YUCCA MOUNTAIN AND VICINITY, NEVADA, BY E.M. ERVIN, R.R. LUCKEY AND D.J. BURKHARDT	08/31/92-11/30/92	SUMMARY OF SOURCE DATA.	D N P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
Activity - 8.3.1.2.3.3.2				
*GS930808312332.003	POROSITIES OF CORE SAMPLES FROM BULLFROG MEMBER FORMATION (EAST OF LITTLE SKULL MOUNTAIN)	07/22/93-07/27/93	HP-229,R1, DETERMINATION OF WATER CONTENT AND PHYSICAL PROPERTIES FOR LABORATORY ROCK SAMPLES	A Y P
	ACQN/DEVL LOCATION : HRF, AREA 25, NTS			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	T D I F Y P E	Q U A L I T Y P E D
Activity - 8.3.1.3.2.1.2					
*LA000000000071.001	CHEMISTRY OF DIAGENETICALLY ALTERED TUFFS AT YUCCA MOUNTAIN ACQN/DEVL LOCATION : LANL	01/01/82-08/30/86	X-RAY FLUORESCENCE, ELECTRON MICROPROBE, AND ATOMIC ABSORPTION SPECTROPHOTOMETRY	A	N P
*LA000000000071.002	CHEMISTRY OF DIAGENETICALLY ALTERED TUFFS AT A POTENTIAL NUCLEAR WASTE REPOSITORY, YUCCA MOUNTAIN, NYE COUNTY, NEVADA ACQN/DEVL LOCATION : LANL	01/01/86-09/30/86	WHOLE ROCK MAJOR ELEMENT CHEMISTRY AND ELECTRON MICROPROBE DATA ON AUTHIGENIC MINERALS	D	N P
Activity - 8.3.1.3.2.2.1					
**LA000000000023.002	MINERALOGY AND CLINOPTILOLITE K/AR RESULTS FROM YUCCA MOUNTAIN, NEVADA, USA; A POTENTIAL HIGH-LEVEL RADIOACTIVE WASTE REPOSITORY SITE ACQN/DEVL LOCATION : CASE WESTERN RESERVE UNIVERSITY LANL	11/01/91-12/10/92	SECONDARY MINERALS SEPARATED BY SEDIMENTATION AND HEAVY LIQUIDS AND IDENTIFIED BY X-RAY DIFFRACTION AND SCANNING ELECTRON MICROSCOPY. POTASSIUM AND ARGON CONTENTS OF CLINOPTILOLITES DETERMINED BY FLAME PHOTOMETER AND MASS SPECTROMETER, RESPECTIVELY (TWS-EES-1-10-91-4). APPARENT AGES CALCULATED FROM POTASSIUM AND ARGON DATA.	D	Y T

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.3.2.2.2				
**LA000000000017.002	DEHYDRATION AND REHYDRATION OF A TUFF VITROPHYRE	05/01/92-03/19/93	HEATING, WEIGHING, X-RAY DIFFRACTION THERMOGRAVIMETRIC ANALYSIS, FOURIER-TRANSFORM INFRARED SPECTROGRAPHY, MOISTURE-EVOLUTION AND ATOMIC ABSORPTION.	D N T
ACQN/DEVL LOCATION : LANL				
*LA000000000060.001	THERMAL BEHAVIOR OF NATURAL ZEOLITES	11/01/92-06/30/93	A REVIEW OF THE LITERATURE ON THE STABILITY OF NATURAL ZEOLITES WAS MADE, AND RESULTS OBTAINED BY THE LANL YMP EFFORT WERE INCLUDED. THESE YMP RESULTS WERE EITHER PREVIOUSLY PUBLISHED OR ARE IN PREPARATION FOR PUBLICATION.	D N P
ACQN/DEVL LOCATION : LANL				
*LA000000000060.002	X-RAY POWDER DIFFRACTION DATA ON NATURAL ZEOLITES	07/01/86-01/30/90	X-RAY DIFFRACTION DATA	A N P
ACQN/DEVL LOCATION : LANL				
*LA000000000068.001	ZEOLITE STABILITY CONSTRAINTS ON RADIOACTIVE WASTE ISOLATION IN ZEOLITE-BEARING VOLCANIC ROCKS	04/15/80-04/15/81	A REVIEW OF THE LITERATURE OF THE STABILITY OF ZEOLITES WAS MADE AND CONCLUSIONS WERE REACHED ON POSSIBLE CONSTRAINTS FOR RADIOACTIVE WASTE ISOLATION.	D N P
ACQN/DEVL LOCATION : LANL				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*LA000000000074.001	EFFECTS OF EXCHANGEABLE CATION COMPOSITION ON THE THERMAL EXPANSION/CONTRACTION OF CLINOPTILOLITE	08/01/83-01/30/84	THE LATTICE PARAMETERS OF NATURAL AND CATION-EXCHANGED CLINOPTILOLITES WERE STUDIED AS A FUNCTION OF TEMPERATURE USING A HIGH-TEMPERATURE X-RAY POWDER DIFFRACTOMETER.	D N P
ACQN/DEVL LOCATION : LANL				
Activity - 8.3.1.3.5.1.1				
**LA000000000053.001	ACTINIDE (IV) AND ACTINIDE (VI) CARBONATE SPECIATION STUDIES BY PAS AND NMR SPECTROSCOPIES.	07/09/90-01/07/93	PULSED-LASER PHOTOACOUSTIC SPECTROSCOPY (PAS) AND FOURIER-TRANSFORM NUCLEARMAGNETIC RESONANCE (NMR) SPECTROSCOPY HAVE BEEN EMPLOYED TO STUDY THE SPECIATION OF ACTINIDE (IV) AND (VI) IONS.	D Y T
ACQN/DEVL LOCATION : LANL				
Activity - 8.3.1.3.6.2.1				
**LA000000000034.002	DIFFUSION OF SORBING AND NON-SORBING RADIONUCLIDES.	11/25/91-03/25/92	DIFFUSION MEASUREMENTS IN ROCK BEAKERS.	D Y T
ACQN/DEVL LOCATION : LANL				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.4.2.1.1				
**GS930708314211.040	BEDROCK GEOLOGIC MAP OF THE LONE MOUNTAIN PLUTON AREA, ESMERALDA COUNTY, NEVADA, BY FLORIAN MALDONADO.	01/01/83-01/01/84	MAP IS A COMPILATION OF FIELD DATA AND AERIAL PHOTO ANALYSIS INTEGRATED WITH PREVIOUSLY PUBLISHED DATA. CHARACTERIZATION OF MAJOR STRUCTURAL FEATURES INCLUDE HOMOGENEITY, JOINT FREQUENCY, JOINT AND BEDDING ATTITUDES, DIKE TRENDS, AND AEROMAGNETICS. FOLIATION DIRECTIONS, JOINT STRIKES, AND JOINT DIPS CHARACTERIZED BY MODAL ANALYSES AND ROSE DIAGRAMS.	D N P
ACQN/DEVL LOCATION : USGS, DENVER, CO				
*GS931008314211.034	PRELIMINARY LITHOLOGY WELL REPORT FOR UE-25WT#14	02/01/84-04/23/88	ANALYSIS OF CORE DRILLED PRIOR TO FEBRUARY 1984. GEOPHYSICAL LOGS WERE MADE FROM SCIENTIFIC OBSERVATIONS OF BIT CUTTING SAMPLES.	A N P
ACQN/DEVL LOCATION : USGS, DENVER, CO				
*GS931008314211.035	GRAPHICAL LITHOLOGIC LOG OF DRILL HOLE RF-8 (UE-25 RF #8), VERSION 1.0	08/01/93-09/02/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931008314211.036	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE RF-3 (UE-25 RF #3), VERSION 1.0	08/01/93-09/06/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931008314211.037	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-3 (UE-25 NRG#3), VERSION 1.0	08/01/93-09/17/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931008314211.038	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-2A (UE-25 NRG#2A), VERSION 1.0	08/01/93-09/06/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931008314211.039	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-2 (UE-25 NRG#2), YUCCA MOUNTAIN, NEVADA: VERSION 1.0	08/01/93-09/24/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931008314211.045	GRAPHICAL LITHOLOGIC LOG OF BORE HOLE USW NRG-6, VERSION 1.0.	08/01/93-09/02/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931108314211.041	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-2B (UE-25 NRG#2B), YUCCA MOUNTAIN, NEVADA: VERSION 1.0	08/01/93-10/01/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931108314211.042	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-4 (UE-25 NRG#4), VERSION 1.0	08/01/93-09/30/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				
*GS931108314211.043	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE NRG-5 (UE-25 NRG#5), VERSION 1.0	08/01/93-09/30/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A Y P
ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	T D I F I Y P E D	Q U L A O L C A T F T I I O N N
*GS931108314211.044	SUMMARY LITHOLOGIC DESCRIPTION OF THE UPPER TIVA CANYON FORMATION AND TUFF UNIT "X" IN THE NORTH RAMP AREA, BY THOMAS MOYER, JEFFREY GESLIN AND DAVID BUESCH ACQN/DEVL LOCATION : USGS, LAS VEGAS, NV	08/01/93-09/17/93	EXAMINATION OF GEOLOGIC DESCRIPTION OF CORE INFORMATION COLLECTED IN FY'93 TO SUMMARIZE AND PROVIDE EXPLANATIONS TO ACCOMPANY SOURCE DATA.	D	Y P
*GS931208314211.046	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE UE-25 NRG#1, VERSION 1.0 ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS	01/01/93-11/18/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A	Y P
*GS931208314211.047	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE USW UZ-16, VERSION 1.0 ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS	01/01/93-11/18/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A	Y P
*GS931208314211.048	GRAPHICAL LITHOLOGIC LOG OF BOREHOLE USW UZ-14, VERSION 1.0 ACQN/DEVL LOCATION : SAMPLE MANAGEMENT FACILITY, NTS	01/01/93-11/18/93	THESE DATA WERE ACQUIRED FROM ANALYSES OF CORE USING SN-0001, STRATIGRAPHIC STUDIES FROM GEOLOGIC DESCRIPTION OF CORE, BIT CUTTINGS, AND OUTCROP.	A	Y P

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931208314211.049	REVISED STRATIGRAPHIC NOMENCLATURE AND MACROSCOPIC IDENTIFICATION OF LITHOSTRATIGRAPHIC UNITS EXPOSED AT YUCCA MOUNTAIN, NEVADA, BY D.C. BUESCH, R.W. SPENGLER, T. MOYER, AND J. GESLIN.	07/30/93-09/30/93	MACROSCOPIC AND MICROSCOPIC OBSERVATIONS INCLUDING PHENOCRYST ASSEMBLAGES, DEPOSITION TEXTURES AND STRUCTURES, ZONES OF WELDING, ZONES OF CRYSTALLIZATION, AND SURFACE ROUGHNESS AND ORIENTATION OF FRACTURES	D Y P
	ACQN/DEVL LOCATION : USGS, LAS VEGAS, NV			
*GS931208314211.050	INTEGRATED GEOLOGY ALONG THE NORTH RAMP EXPLORATORY STUDIES FACILITY, YUCCA MOUNTAIN, NEVADA, BY D.C. BUESCH, R.P. DICKERSON, R.M. DRAKE, AND R.W. SPENGLER	09/15/93-12/20/93	ANALYSIS AND INTEGRATION OF SURFACE MAPPING RELATIONSHIPS, LITHOLOGIC LOGS OF CORE FROM DRILL HOLES, AND SURFACE AND DOWN HOLE GEOPHYSICS.	D N P
	ACQN/DEVL LOCATION : USGS, LAS VEGAS, NV			
*GS931208314211.051	X-RAY FLUORESCENCE ELEMENTAL COMPOSITIONS, 3/9/93 - 3/14/93	03/09/93-03/14/93	USGS TECHNICAL PROCEDURE GCP-25,R0, DETERMINATION OF CHEMICAL COMPOSITION BY ENERGY DISPERSIVE X-RAY FLUORESCENCE SPECTROMETRY	A Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.4.2.1.2				
*GS930808314212.010	GRAVITY AND MAGNETIC DATA OF MIDWAY VALLEY, SOUTHWEST NEVADA, BY D.A. PONCE, V.E. LANGENHEIM, AND R.F. SIKORA ACQN/DEVL LOCATION : USGS, MENLO PARK, CA	09/30/92-08/30/93	COMPILATION AND ANALYSIS OF THE SOURCE DATA	D Y P
*GS930808314212.011	GRAVITY AND MAGNETIC STUDY OF YUCCA WASH, SOUTHWEST NEVADA, BY V.E. LANGENHEIM, D.A. PONCE, H.W. OLIVER, AND R.F. SIKORA ACQN/DEVL LOCATION : USGS, MENLO PARK, CA	09/30/92-08/30/93	COMPILATION AND ANALYSIS OF THE SOURCE DATA	D Y P
Activity - 8.3.1.4.2.1.3				
**GS930708314213.009	MAGNETIC SUSCEPTIBILITY (MS_SI) AND MAGNETIC FIELD (TOTAL FIELD TM, HORIZONTAL FIELD HM, VERTICAL FIELD ZD) LOGS. SUSCEPTIBILITY REPORTED IN MICRO-SI UNITS, MAGNETIC FIELD COMPONENTS IN MICROTESLAS. ACQN/DEVL LOCATION : NRG-6 USW UZ-16	04/14/93-06/26/93	USGS TECHNICAL PROCEDURES GPP-15,R1 AND GPP-17,R1; MAGNETIC SUSCEPTIBILITY BOREHOLE LOGGING OPERATIONS AND MAGNETOMETER BOREHOLE LOGGING OPERATIONS.	A Y P
*GS931108314213.010	WATER PERMEABILITY AND SELECTED PROPERTIES MEASURED ON CORE SAMPLES FROM THE YUCCA MOUNTAIN USW GU-3/G-3 AND USW G-4 BOREHOLES, NEVADA TEST SITE, BY L.A. ANDERSON. ACQN/DEVL LOCATION : USGS, DENVER, CO	01/01/91-10/15/93	CORE SAMPLES FROM THE YM-USW GU-3/USW G-3 AND USW G-4 BOREHOLES WERE MEASURED FOR BULK DENSITY, GRAIN DENSITY, POROSITY, RESISTIVITY, AND WATER PERMEABILITY TO DETERMINE RELATIVE LEVELS OF FLUID CONDUCTIVITY ATTRIBUTABLE TO THE MATRIX OF THE TUFFS ENCOUNTERED WITHIN THE RESPECTIVE BOREHOLES.	D N P

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*GS931208314213.011	SATURATION LEVELS AND TRENDS IN THE UNSATURATED ZONE, YUCCA MOUNTAIN, NEVADA, BY P. NELSON.	08/01/93-12/15/93	CALIPER, DENSITY, AND EPITHERMAL NEUTRON LOGS WERE EXAMINED; WATER CONTENT AND POROSITY WERE COMPUTED TO ANALYZE TRENDS. LOGS FROM 15 "WT" BOREHOLES DRILLED TO THE DEPTH OF THE STATIC WATER LEVEL ARE PRESENTED.	D N P
ACQN/DEVL LOCATION : USGS, DENVER, CO				
Activity - 8.3.1.4.2.2				
*SNSAND877081A0.000	SAND87-7081A: "STYLES OF EXTENSION IN THE NEVADA TEST SITE REGION, SOUTHERN WALKER LANE BELT; AN INTEGRATION OF VOLCANO-TECTONIC AND DETACHMENT FAULT MODELS"	01/01/87-12/01/87	DETAILED GEOLOGICAL INFORMATION, SUPPORTED BY GEOPHYSICAL DATA AND DRILL HOLES, INDICATES THAT SEVERAL DEFORMATIONAL STYLES CHARACTERIZE THE WALKER LANE BELT OF THE SOUTH-CENTRAL GREAT BASIN AND NEVADA TEST SITE REGION. (SEE SAND87-7081A FOR A DETAILED DESCRIPTION).	D N C
ACQN/DEVL LOCATION : SNL				
Activity - 8.3.1.4.2.2.1				
*GS931008314221.011	STRUCTURAL CHARACTER OF THE NORTHERN SEGMENT OF THE PAINTBRUSH CANYON FAULT, YUCCA MOUNTAIN, NEVADA, BY R.P. DICKERSON AND R.W. SPENGLER	05/01/93-09/30/93	TECHNICAL PROCEDURE GP-01,R2 GEOLOGIC MAPPING.	D N P
ACQN/DEVL LOCATION : USGS, DENVER, CO				

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931208314221.012	FAULT ATTITUDE DATA OF THE PAINTBRUSH CANYON FAULT SYSTEM. ACQN/DEVL LOCATION : N770270(N) E570900(N) ;N793000(N) E579000(N)	05/01/92-11/05/93	NWM-USGS GP-01,R2, GEOLOGIC MAPPING.	A Y P
*GS931208314221.013	FIELD DATA AND PETROGRAPHIC DATA FOR WELDED TUFF IN THE RHYOLITE OF CALICO HILLS, IN FORTY MILE WASH. ACQN/DEVL LOCATION : USGS, DENVER, CO	04/01/93-12/03/93	TECHNICAL PROCEDURE GP-01,R2, GEOLOGIC MAPPING, AND GP-18,R1, PETROGRAPHIC ANALYSIS OF VOLCANIC ROCKS.	A Y P
*GS931208314221.014	PETROGRAPHIC EVIDENCE FOR A WELDED TUFF IN THE RYHOLITE OF CALICO HILLS, BY DICKERSON, R P AND HUNTER C W. ACQN/DEVL LOCATION : USGS, DENVER, CO	09/01/93-12/31/93	REPORT WAS DEVELOPED BY ANALYZING AND INTERPRETING FIELD MAPPING AND PETROGRAPHIC ANALYSIS OF THIN SECTIONS DATA.	D Y P
*GS931208314221.015	PHOTOMICROGRAPHS OF THIN SECTIONS FROM ANTLER RIDGE ACQN/DEVL LOCATION : USGS, DENVER, CO	05/01/93-12/06/93	GP-18,R1, PETROGRAPHIC ANALYSIS OF VOLCANIC ROCKS	A Y P
*GS931208314221.016	PETROGRAPHIC AND GEOCHEMICAL CHARACTERISTICS OF TIVA CANYON TUFF, ANTLER RIDGE, YUCCA MOUNTAIN, NEVADA, BY F. SINGER, F.J. BYERS, JR., B.L. WIDMAN AND R.P. DICKERSON ACQN/DEVL LOCATION : USGS, DENVER, CO	10/01/93-12/06/93	DETAILED PETROGRAPHIC EXAMINATION OF AN ANTLER RIDGE THIN SECTION SUITE DESCRIBING POST DEPOSITIONAL MINERAL CHANGES RELATED TO COOLING OF TIVA CANYON TUFF WELDED ASH-FLOW UNITS (E.G. DEVITRIFICATION AND VAPOR PHASE MINERALOGY) AIDED BY CHEMICAL ANALYSIS	D Y P

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
*GS931283117452.005	GEOLOGIC MAPPING IN CRATER FLAT, IN AND AROUND FOUR 7.5 MINUTE QUADRANGLES: 1) EAST OF BEATTY MOUNTAIN, 2) BEATTY MOUNTAIN, 3) CRATER FLAT, 4) BIG DUNE. ACQN/DEVL LOCATION : 36 52'30"N 116 37'30"W ; 37 00'00"N 116 30'00"W	03/14/93-05/15/93	TECHNICAL PROCEDURE GP-01,R2, GEOLOGIC MAPPING.	A Y P
Activity - 8.3.1.4.2.2.2				
*GS931008314222.006	FRACTURE DATA FOR P2001 PAVEMENT AT FRAN RIDGE, DATED 02/09/93, 3/16-17/93, AND 4/9/93. ACQN/DEVL LOCATION : P2001 PAVEMENT	02/09/93-04/09/93	TECHNICAL PROCEDURE NWM-USGS GP-12,R1, MAPPING FRACTURES ON PAVEMENTS, OUTCROPS, AND ALONG TRAVERSES.	A Y P
Activity - 8.3.1.4.2.2.4				
*GS931008314224.006	GEOLOGIC FIELD MAPPING NOTEBOOKS AND LINE SURVEY COMPILATIONS FOR EXPLORATORY STUDIES FACILITY. ACQN/DEVL LOCATION : NORTH RAMP OF ESF, AREA 25, NTS	04/14/93-09/10/93	SN-0041,R0, UNDERGROUND MAPPING OF THE NORTH RAMP STARTER TUNNEL AND APPURTENANCES	A Y P
*GS931008314224.007	FULL-PERIPHERY MAPS, NORTH RAMP OF THE EXPLORATORY STUDIES FACILITY, THROUGH OCTOBER, 1993. ACQN/DEVL LOCATION : NORTH RAMP OF ESF, AREA 25, NTS	04/14/93-09/10/93	SN-0041,R0, UNDERGROUND MAPPING OF THE NORTH RAMP STARTER TUNNEL AND APPURTENANCES	A Y P

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.4.2.2.5				
*GS931208314225.001	VSP DATA FROM USW NRG-6 AND USW WT-2	01/01/93-12/09/93	SP-13,R1, VSP AND CROSSHOLE TOMOGRAPHIC SURVEYS	A Y P

ACQN/DEVL LOCATION :

N760586.96610(N)	E562111.65543(N)
N760592.39532(N)	E562159.11495(N)
N760596.53374(N)	E562060.00276(N)
N760613.91922(N)	E562209.96883(N)
N760617.72844(N)	E562016.83945(N)
N760635.22251(N)	E561971.61496(N)
N760643.42035(N)	E562248.65178(N)
N760660.54000(N)	E561923.56000(N)
N760674.34866(N)	E562286.07975(N)
N760708.62988(N)	E562322.38096(N)
N760709.03529(N)	E561861.06022(N)
N760743.42170(N)	E562356.79929(N)
N760768.46645(N)	E562406.87925(N)
N760789.85461(N)	E562446.05127(N)
N760802.13060(N)	E562490.77385(N)
N760904.52429(N)	E562897.30774(N)
N760812.43019(N)	E562540.73690(N)
N760817.82754(N)	E562590.35809(N)
N760819.13400(N)	E562836.77942(N)
N760822.32512(N)	E562640.04954(N)
N760823.01716(N)	E562686.90466(N)
N760823.72724(N)	E562787.52201(N)
N760824.51338(N)	E562739.71504(N)
N766067.45545(N)	E564351.69944(N)
N766649.33809(N)	E564161.39669(N)
N766726.02468(N)	E564186.92569(N)
N766820.34544(N)	E564552.00920(N)

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD	
Activity - 8.3.1.4.3.1.1				
*TM0000000000CL.003	PRELIMINARY COMPOSITE BOREHOLE LOG AND SHIFT DRILLING SUMMARIES FOR UE-25NRG#4.	06/17/93-07/21/93	GRAPHICAL REPRESENTATION OF BOREHOLES LITHOLOGY AND RELATED DRILLING INFORMATION. CORE RUN INTERVALS PROVIDED ON THE SHIFT DRILLING SUMMARIES.	A N P
ACQN/DEVL LOCATION : N767080.2(N) E566820.0(N)				
Activity - 8.3.1.5.1.2.1				
*GS931208315121.002	STABLE ISOTOPE ANALYSES OF GASTROPODS, 10/93-11/93.	10/01/93-11/30/93	NWM-USGS GCP-16,R3, CARBONATE CARBON AND OXYGEN ISOTOPE ANALYSES.	A Y P
ACQN/DEVL LOCATION : USGS, DENVER, CO				
*GS931208315121.003	MOLLUSCS AS CLIMATE INDICATORS - PRELIMINARY RESULTS OF STABLE ISOTOPE AND SPECIES ANALYSIS, BY S.E. SHARPE, J.F. WHELAN, R.M. FORESTER, AND T. MC CONNAUGHEY	09/30/93-12/15/93	EVALUATION OF THE USE OF ISOTOPE SIGNATURE ANALYSIS OF MOLLUSCS WITHIN A SAMPLE TO DETERMINE THE CLIMATE VARIABILITY ASSOCIATED WITH THE SAMPLE'S TIMESPAN	D Y P
ACQN/DEVL LOCATION : DESERT RESEARCH INSTITUTE, RENO, NV				

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Activity - 8.3.1.5.1.2.2				
*GS931208315122.003	FOSSIL OSTRACODE SPECIMENS FROM MARSH DEPOSITS IN LAS VEGAS ALLEY	01/20/93-12/01/93	SAMPLE COLLECTION FOLLOWED GP-27,R2, TRENCH WALL AND NATURAL OUTCROP SAMPLING FOR COORDINATED STUDIES, SAMPLE PROCESSING FOLLOWED HP-78,R1, NONMARINE CALCEREUS MICROFOSSIL SAMPLE PREPARATION AND DATA ACQUISITION.	A Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
*GS931208315122.004	LEVELS AND STYLES OF PRECIPITATION DURING THE LATE GLACIAL IN SOUTHERN NEVADA RECONSTRUCTED FROM THE FOSSIL OSTRACODE RECORD, BY R.M. FORESTER AND A.J. SMITH.	09/30/93-11/30/93	THE OSTRACODE CONTENTS OF SEVERAL SAMPLES COLLECTED FROM NEAR THE TOP OF UNIT D AND NEAR THE BASE OF UNIT E (QUADE 1986, QUADE AND PRATT, 1989) WHERE THE UNIT D/E BOUNDARY IS ABOUT 13 TO 14 KA, WERE USED TO PROVIDE PRELIMINARY PALEOHYDROLOGICAL RECONSTRUCTIONS FROM OSTRACODES.	D Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
Activity - 8.3.1.5.1.4.1				
*GS931008315141.006	SEASONAL VARIATIONS OF CARBON DIOXIDE CONCENTRATIONS IN STONY, COARSE-TEXTURED DESERT SOILS OF SOUTHERN NEVADA, U.S.A., BY C.L. TERHUNE AND J.W. HARDEN	01/01/86-07/07/87	SAMPLES WERE ANALYZED BY GAS CHROMATOGRAPHY TO MEASURE CO2 CONCENTRATION. AVERAGE PEAK AREA OF FREE ATMOSPHERE SAMPLES SUBTRACTED FROM PEAK AREA OF A KNOWN STANDARD CONCENTRATION WAS USED TO OBTAIN THE CONSTANT BY WHICH THE PEAK AREAS WERE CONVERTED INTO PERCENTAGE OF CO2.	D N P
	ACQN/DEVL LOCATION : USGS, MENLO PARK, CA			

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Activity - 8.3.1.5.1.4.3				
*GS931108315143.001	THERMOLUMINESCENCE AGE DATING FOR MIDWAY VALLEY TRENCHES 4, 5A, AND 14D, STAGECOACH ROAD TRENCH 1, AND BUSTED BUTTE WALL 4	11/19/92-11/16/93	NWM-USGS GCP-29,R0, THERMOLUMINESCENCE DATING	A Y P
	ACQN/DEVL LOCATION : TL LAB, USGS, DENVER			
Activity - 8.3.1.5.2.1.3				
*GS930908315213.020	USGS NWQL WATER CHEMISTRIES DERIVED FROM SAMPLES COLLECTED 6-1-93 TO 6-8-93.	06/01/93-09/12/93	STANDARD USGS NATIONAL WATER QUALITY LAB METHODS AND PROCEDURES.	A Y P
	ACQN/DEVL LOCATION : USGS NWQL, ARVADA, CO			
*GS930908315213.021	PHYSICAL WATER PROPERTIES OBTAINED IN FIELD DURING SAMPLING TRIPS FROM 1988 THROUGH 5/2/89. DATA RECORDED ON SAMPLE COLLECTION FORMS.	01/01/88-05/02/89	YMP-USGS TECHNICAL PROCEDURES HP-59,R0, METHOD FOR CALIBRATING DIGITAL THERMOMETERS; HP-23,R0, COLLECTION AND FIELD ANALYSIS OF GROUND-WATER SAMPLES FROM SATURATED ZONE; AND HP-91,R0, COLLECTION AND FIELD ANALYSIS OF SURFACE-WATER SAMPLES	A N P
	ACQN/DEVL LOCATION : 35 00'00"N 118 00'00"W ; 38 00'00"N 115 00'00"W			

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DATA TRACKING NO.	TITLE/DESCRIPTION	ACQN/DEVL PERIOD	ACQN/DEVL METHOD
Activity - 8.3.1.5.2.1.4			
*GS930908315214.015	METEOROLOGICAL DATA FROM A STATION AT ORGAN PIPE CACTUS NAT'L MONUMENT, ARIZONA: BAROMETRIC PRESSURE, SOLAR RADIATION, AIR TEMPERATURE, WIND SPEED, WIND DIRECTION.	08/03/92-07/18/93	SCIENTIFIC NOTEBOOK PLAN NWM-USGS HP-211T, A N P R0, LONG TERM METEOROLOGICAL DATA COLLECTION. AFTER APPROVAL OF THE ACSR NO. YMP-USGS-ACS G1236221-1,R0 THE DATA COLLECTION HAS BEEN CONTINUED IN A SIMILAR MANNER BUT WITHOUT USING A CONTROLLED SNP.
ACQN/DEVL LOCATION : 32 05'24"N 112 44'21"W			
*GS930908315214.030	CHEMICAL ANALYSIS OF SURFACE-WATER, SPRING, AND PRECIPITATION SAMPLES COLLECTED FROM KAWICH AND STEWART CREEK BASINS FROM FEBRUARY, 1992, TO SEPTEMBER, 1992. SAMPLES ANALYZED FOR ANIONS, CATIONS, STABLE ISOTOPES, AND PHYSICAL PARAMETERS.	02/18/92-09/17/92	STANDARD USGS CENTRAL LABORATORY ANALYSIS A Y P PROCEDURES.
ACQN/DEVL LOCATION : USGS CENTRAL LAB, ARVADA, CO			
*GS931008315214.031	FIELD NOTES FOR THE ANALOG RECHARGE PROJECT FROM JUNE, 1992, TO SEPTEMBER, 1992.	06/09/92-09/30/92	DATA ACQUIRED USING THE FOLLOWING PROCEDURES: HP-16,R3, COLLECTION OF ATM PRECIP SAMPLES FOR H-2 AND O-18 ANALYSIS; HP-54,R1, WATER-FLOW MMT USING WEIRS, FLUMES, AND BARRELS; HP-57,R1, USING WATER-LEVEL RECORDERS; HP-91,R3, COLLECTION AND ANALYSIS OF SURFACE-WATER SAMPLES; HP-97,R1, MMT OF TEMP AND RH USING A CSI 207 PROBE; HP-165,R0, MEASURING SNOW WATER CONTENT; HP-166,R1, STREAM DISCHARGE MEASUREMENT USING A PYGMY CURRENT METER; HP-167,R0, PRECIP MMT USING A BELFORT WEIGHING RAIN GAGE; HP-168,R0, MMT OF ENERGY FLUX DENSITY BY A PYRANOMETER; HP-170,R1, MEASURING TEMP USING A CSI 107 PROBE; HP-171,R1, LOW TENSION VADOSE MOISTURE SAMPLING; HP-172, R0, WATER LEVEL MMT USING A TEN-TURN POT; HP-184,R1, COLLECTION OF ATM PRECIP SAMPLES FOR CHEMICAL ANALYSIS; AND HP-198, R1, MMT OF WIND SPEED AND DIRECTION USING

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			AN RM YOUNG WIND MONITOR.	
			ACQN/DEVL LOCATION : 37 57'19"N 117 21'37"W ; 38 53'23"N 116 25'23"W	
*GS931008315214.032	METEOROLOGICAL, DISCHARGE, AND WATER-QUALITY DATA FOR 1992 FROM TWO BASINS IN CENTRAL NEVADA, BY P.W. MCKINLEY AND THOMAS OLIVER	12/01/92-10/08/93	DATA WERE DEVELOPED INTO DAILY VALUE TABLES USING THE NATIONAL WATER INFORMATION SYSTEM (NWIS) DATABASE. MISSING DATA WERE ESTIMATED BY REGRESSION TO OTHER METEOROLOGICAL DATA USING MINITAB RELEASE 7.2 OR WERE ESTIMATED BY INTERPOLATION.	D Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			
	Activity - 8.3.1.5.2.1.5			
**GS910608315215.010	TABLE OF STRONTIUM ISOTOPE DATA IN SUPPORT OF PUBLICATION.	12/01/90-12/31/90	USGS STANDARD COLLECTION METHODS.	D Y T
	ACQN/DEVL LOCATION : CRATER FLAT, NTS			
*GS930908315215.027	86SR/87SR MASS SPECTROMETER DATA FOR SAMPLES RUN 3/2/92 - 11/18/92.	03/02/92-11/18/92	GCP-12,R3, RB-SR ISOTOPE GEOCHEMISTRY.	A Y P
	ACQN/DEVL LOCATION : SOLID MASS SPECTROMETER BAY, USGS, DENVER, CO			
*GS931008315215.028	SPECIMEN DESCRIPTIONS WITH PHOTOS FOR CALCITE-SILICA STUDIES, APRIL - SEPT. 1993.	04/10/93-09/30/93	USGS TECH PROCEDURE GCP-02,R2, LABELING, IDENTIFICATION, AND CONTROL OF SAMPLES FOR GEOCHEMISTRY & ISOTOPE GEOLOGY.	A Y P
	ACQN/DEVL LOCATION : USGS, DENVER, CO			

APPENDIX A

SITE CHARACTERIZATION PROGRAM BASELINE ACTIVITY NUMBERS AND NAMES

ACTIVITY NO.	ACTIVITY NAME
8.3.1.2.1.1.1	Precipitation and meteorological monitoring
8.3.1.2.1.2.1	Surface-water runoff monitoring
8.3.1.2.1.2.2	Transport of debris by severe runoff
8.3.1.2.1.3.1	Assessment of the regional hydrogeologic data needs in the saturated zones
8.3.1.2.1.3.2	Regional potentiometric-level distribution and hydrogeologic framework studies
8.3.1.2.1.3.3	Fortymile Wash recharge study
8.3.1.2.1.3.4	Evapotranspiration studies
8.3.1.2.1.4.1	Conceptualization of regional hydrologic flow models
8.3.1.2.1.4.2	Subregional two-dimensional area hydrologic modeling
8.3.1.2.2.1.1	Characterization of hydrological properties of surficial materials
8.3.1.2.2.1.2	Evaluation of natural infiltration
8.3.1.2.2.2.1	Chloride and chlorine-36 measurements of percolation at Yucca Mountain
8.3.1.2.2.3.1	Matrix hydrologic properties testing
8.3.1.2.2.3.2	Site vertical borehole studies
8.3.1.2.2.4.2	Percolation tests in the Exploratory Studies Facility
8.3.1.2.2.4.8	Hydrochemistry tests in the Exploratory Studies Facility
8.3.1.2.2.4.9	Multipurpose-borehole testing
8.3.1.2.2.6.1	Gaseous-phase circulation study

ACTIVITY NO.	ACTIVITY NAME
8.3.1.2.2.7.1	Gaseous - phase chemical investigations
8.3.1.2.2.7.2	Aqueous-phase chemical investigations
8.3.1.2.2.8.1	Development of conceptual and numerical models of fluid flow in unsaturated, fractured rock
8.3.1.2.2.9.1	Conceptualization of the unsaturated-zone hydrogeologic system
8.3.1.2.2.9.3	Simulation of the natural hydrogeologic system
8.3.1.2.3.1.2	Site potentiometric-level evaluation
8.3.1.2.3.1.3	Analysis of single- and multiple-well hydraulic-stress tests
8.3.1.2.3.1.4	Multiple-well interference testing
8.3.1.2.3.1.6	Well testing with conservative tracers throughout the site
8.3.1.2.3.1.7	Testing of the C-hole sites with conservative tracers
8.3.1.2.3.2.1	Assessment of saturated-zone hydrochemical data availability and needs
8.3.1.2.3.2.2	Hydrochemical characterization of water in the upper part of the saturated zone
8.3.1.2.3.2.3	Regional hydrochemical tests and analyses
8.3.1.2.3.3.1	Conceptualization of saturated-zone flow models within the boundaries of the accessible environment
8.3.1.2.3.3.2	Development of fracture network model
8.3.1.3.1.1	Ground-water chemistry model
8.3.1.3.2.1	Mineralogy, petrology, and chemistry of transport pathways
8.3.1.3.2.1.1	Petrologic stratigraphy of the Topopah Spring Member

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.3.2.1.2	Mineral distributions between the host rock and the accessible environment
8.3.1.3.2.1.3	Fracture mineralogy
8.3.1.3.2.2.1	History of mineralogic and geochemical alteration of Yucca Mountain
8.3.1.3.2.2.2	Smectite, zeolite, manganese minerals, glass dehydration, and transformation
8.3.1.3.4.1	Batch sorption studies
8.3.1.3.4.1.1	Batch sorption measurements as a function of solid phase composition
8.3.1.3.4.2	Biological sorption and transport
8.3.1.3.5.1.1	Solubility measurements
8.3.1.3.6.1.1	Crushed tuff column experiments
8.3.1.3.6.2.1	Uptake of radionuclides on rock beakers in a saturated system
8.3.1.3.6.2.2	Diffusion through a saturated tuff slab
8.3.1.4.1.2	Integration of geophysical activities
8.3.1.4.2.1.1	Surface and subsurface stratigraphic studies of the host rock and surrounding units
8.3.1.4.2.1.2	Surface-based geophysical surveys
8.3.1.4.2.1.3	Borehole geophysical surveys
8.3.1.4.2.1.4	Petrophysical properties testing
8.3.1.4.2.1.5	Magnetic properties and stratigraphic correlations
8.3.1.4.2.1.6	Integration of geophysical activities
8.3.1.4.2.2	Characterization of the structural features within the site area
8.3.1.4.2.2.1	Geologic mapping of zonal features in the Paintbrush Tuff

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.4.2.2.2	Surface-fracture network studies
8.3.1.4.2.2.3	Borehole evaluation of faults and fractures
8.3.1.4.2.2.4	Geologic mapping of the Exploratory Studies Facility
8.3.1.4.2.2.5	Seismic tomography/vertical seismic profiling
8.3.1.4.2.3.1	Development of a three-dimensional geologic model of the site area
8.3.1.4.3.1	Systematic acquisition of site-specific subsurface information
8.3.1.4.3.1.1	Systematic drilling program
8.3.1.5.1.1.1	Synoptic characterization of regional climate
8.3.1.5.1.2.1	Paleontologic analyses
8.3.1.5.1.2.2	Analysis of the stratigraphy-sedimentology of marsh lacustrine, and playa deposits
8.3.1.5.1.3.1	Analysis of pack rat middens
8.3.1.5.1.3.3	Determination of vegetation-climate relationships
8.3.1.5.1.4.1	Modeling of soil properties in the Yucca Mountain region
8.3.1.5.1.4.2	Surficial deposits mapping of the Yucca Mountain area
8.3.1.5.1.4.3	Eolian history of the Yucca Mountain region
8.3.1.5.1.5.1	Paleoclimate-paleoenvironmental synthesis
8.3.1.5.2.1.1	Regional paleoflood evaluation
8.3.1.5.2.1.2	Quaternary unsaturated zone hydrochemical analysis
8.3.1.5.2.1.3	Evaluation of past discharge areas
8.3.1.5.2.1.4	Analog recharge studies

ACTIVITY NO.	ACTIVITY NAME
8.3.1.5.2.1.5	Studies of calcite and opaline silica vein deposits
8.3.1.6.1.1.1	Development of a geomorphic map of Yucca Mountain
8.3.1.6.1.1.2	Analysis of the downcutting history of Fortymile Wash and its tributaries
8.3.1.6.1.1.3	An analysis of hillslope erosion at Yucca Mountain
8.3.1.6.2.1.1	Synthesis and data evaluation of impact of future climatic conditions on locations and rates of erosion
8.3.1.6.3.1.1	Synthesis and data evaluation of the impact of future uplift or subsidence and faulting on erosion at Yucca Mountain and vicinity
8.3.1.8.1.1.3	Presence of magma bodies in the vicinity of the site
8.3.1.8.1.2.1	Eruptive effects
8.3.1.8.3.2.2	Assessment of the effects of igneous intrusions on water-table elevations
8.3.1.8.3.2.5	Effects of faulting on water-table elevation
8.3.1.8.5.1.2	Geochronology studies
8.3.1.8.5.1.3	Field geologic studies
8.3.1.8.5.1.4	Geochemistry of scoria sequences
8.3.1.8.5.1.5	Geochemical cycles of basaltic volcanic fields
8.3.1.8.5.2.1	Evaluation of depth of curie temperature isotherm
8.3.1.8.5.2.3	Heat flow at Yucca Mountain and evaluation of regional ambient heat flow and local heat flow anomalies
8.3.1.9.2.1.1	Geochemical assessment of Yucca Mountain in relation to the potential for mineralization
8.3.1.9.2.1.4	Assessment of hydrocarbon resources at and near the site

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.9.2.2.1	Projected trends in local and regional ground-water development, and estimated withdrawal rates in southern Nevada, proximal to Yucca Mountain
8.3.1.12.2.1.1	Site meteorological monitoring program
8.3.1.14.2.1.1	Site reconnaissance
8.3.1.14.2.1.2	Preliminary and detailed exploration
8.3.1.14.2.2.1	Physical property and index laboratory tests
8.3.1.14.2.2.2	Mechanical and dynamic laboratory property tests
8.3.1.14.2.3	Field tests and characterization measurements
8.3.1.14.2.3.1	Physical property field tests and characterization measurements
8.3.1.14.2.3.2	Mechanical property field tests
8.3.1.14.2.3.3	Geophysical field measurements
8.3.1.15.1.1.1	Density and porosity characterization
8.3.1.15.1.1.3	Thermal conductivity characterization
8.3.1.15.1.2.1	Thermal expansion characterization
8.3.1.15.1.3	Laboratory determination of mechanical properties of intact rock
8.3.1.15.1.3.1	Compressive mechanical properties of intact rock at baseline experiment conditions
8.3.1.15.1.3.2	Effects of variable environmental conditions on mechanical properties
8.3.1.15.1.4	Laboratory determination of the mechanical properties of fractures
8.3.1.15.1.7.1	Plate loading tests
8.3.1.15.1.8.1	Evaluation of mining methods
8.3.1.15.2.1.2	Overcore stress experiments in the exploratory studies facility

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.15.2.2.1	Surface-based evaluation of ambient thermal conditions
8.3.1.16.1.1.1	Site flood and debris hazards studies
8.3.1.16.2.1.4	Identification and evaluation of potential effects of repository related withdrawals on the local flow system at Yucca Mountain, Nevada
8.3.1.17.2.1.2	Assess the potential for displacement on faults that intersect underground facilities
8.3.1.17.3.3.2	Select or develop empirical models for ground motion from underground nuclear explosions
8.3.1.17.3.5.1	Identify controlling seismic events
8.3.1.17.3.5.2	Characterize ground motion from the controlling seismic events
8.3.1.17.3.6.2	Evaluate ground motion probabilities
8.3.1.17.4.1.1	Compile historical earthquake record
8.3.1.17.4.1.2	Monitor current seismicity
8.3.1.17.4.1.3	Evaluate potential for induced seismicity at the site
8.3.1.17.4.2	Location and recency of faulting near prospective surface facilities
8.3.1.17.4.2.1	Identify appropriate trench locations in Midway Valley
8.3.1.17.4.3.1	Conduct and evaluate deep geophysical surveys in an east-west transect crossing the Furnace Creek fault zone, Yucca Mountain, and the Walker Lane
8.3.1.17.4.3.2	Evaluate Quaternary faults within 100 km of Yucca Mountain
8.3.1.17.4.3.4	Evaluate the Bare Mountain fault zone
8.3.1.17.4.3.5	Evaluate structural domains and characterize the Yucca Mountain region with respect to regional patterns of faults and fractures

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.17.4.4.1	Evaluate the Rock Valley fault system
8.3.1.17.4.5.1	Evaluate the significance of the Miocene-Paleozoic contact in the Calico Hills area to detachment faulting within the site area
8.3.1.17.4.5.2	Evaluate postulated detachment faults in the Beatty-Bare Mountain area
8.3.1.17.4.6.1	Evaluate Quaternary geology and potential Quaternary faults at Yucca Mountain
8.3.1.17.4.6.2	Evaluate age and recurrence of movement on suspected and known Quaternary faults
8.3.1.17.4.7.1	Evaluate intermediate depth (2 to 3 km) reflection and refraction methods and plan potential application of these methods within the site area
8.3.1.17.4.7.2	Detailed gravity survey of the site area
8.3.1.17.4.7.3	Detailed aeromagnetic survey of the site area
8.3.1.17.4.7.4	Detailed ground magnetic survey of specific features within the site area
8.3.1.17.4.7.5	Evaluate surface geoelectric methods and plan potential application of these methods within the site area
8.3.1.17.4.7.8	Evaluate shallow seismic reflection (mini-sosie) methods and, if appropriate, conduct surveys of selected structures at and proximal to the site area
8.3.1.17.4.8.1	Evaluate present stress field within site area
8.3.1.17.4.8.2	Evaluate and test shallow borehole hydrofrac and triaxial strain recovery methods for the determination of in situ stress and, if appropriate, plan potential application of these methods within and proximal to the site
8.3.1.17.4.9.1	Evaluate age and extent of tectonically stable areas at and near Yucca Mountain
8.3.1.17.4.10.1	Relevel base-station network, Yucca Mountain and vicinity

<u>ACTIVITY NO.</u>	<u>ACTIVITY NAME</u>
8.3.1.17.4.10.2	Survey selected base stations, Yucca Mountain and vicinity, using global positioning satellite
8.3.1.17.4.10.3	Analyze existing releveled data, Yucca Mountain and vicinity
8.3.1.17.4.12.1	Evaluate tectonic processes and tectonic stability at the site
8.3.2.4.1.1	Design activity to verify access and drift usability
8.3.5.4.1.1	Refinement of site data parameters required for Issue 2.2
8.3.5.12.1.1	Application of results
8.3.5.10.2.1	Characterization of the spent fuel waste form
8.3.5.10.2.2	Characterization of the glass waste form
8.3.5.10.3.2	Develop geochemical speciation and reaction model
8.3.5.10.5.1	Determine radionuclide transport parameters
8.3.5.10.5.2	Radionuclide transport modeling in the near-field waste package environment
8.3.5.12.2.1	Model development
8.3.5.12.2.1.1	Development of a theoretical framework for calculational models
8.3.5.12.2.2	Verification and validation

APPENDIX B

GEOLOGIC AND ENGINEERING MATERIALS: BIBLIOGRAPHY OF CHEMICAL SPECIES (GEMBOCHS) SPECIES AND DATA TYPES

COMPOSITIONAL DATA FOR MINERALS, GASES, OR AQUEOUS SPECIES

Elemental Composition
Common Name

REACTION DATA FOR AQUEOUS DISSOCIATION OF MINERALS, GASES, OR AQUEOUS SPECIES

Reaction Stoichiometry
Equilibrium Constants
Pressure, Temperature Conditions
Standard Molal Gibbs Free Energies of Reaction
Standard Molal Enthalpies of Reaction
Standard Molal Entropies of Reaction
Standard Molal Volumes of Reaction
Standard Molal Heat Capacities of Reaction
Parameter Units
Literature References

THERMODYNAMIC DATA FOR MINERALS

Standard Molal Gibbs Free Energy of Formation
Standard Molal Enthalpy of Formation
Standard Molal Entropy at Reference Pressure (Pr) and Temperature (Tr)
Standard Molal Volume at Pr, Tr
Standard Molal Heat Capacity at Pr, Tr
Molecular Weight
Heat Capacity Coefficients
Temperature Limits on Heat Capacity Coefficients
Standard Molal Enthalpy of Transition
Standard Molal Entropy of Transition
Standard Molal Volume of Transition
Clapeyron Slope
Parameter Units
Literature References

THERMODYNAMIC DATA FOR GASES

Standard Molal Gibbs Free Energy of Formation
Standard Molal Enthalpy of Formation
Standard Molal Entropy at Pr, Tr
Standard Molal Volume at Pr, Tr
Standard Molal Heat Capacity at Pr, Tr
Molecular Weight
Heat Capacity Coefficients
Temperature Limits on Heat Capacity Coefficients
Parameter Units
Literature References

THERMODYNAMIC DATA FOR AQUEOUS SPECIES

Standard Molal Gibbs Free Energy of Formation
Standard Molal Enthalpy of Formation
Standard Molal Entropy at Pr, Tr
Standard Molal Volume at Pr, Tr
Standard Molal Heat Capacity at Pr, Tr
Molecular Weight
Equation-of-State Coefficients
Debye-Huckel Parameters
Ionic Charge
Electronic Entropy
Parameter Units
Literature References

APPENDIX C

GEMBOCHS MODIFICATIONS AND ADDITIONS: 1st QUARTER, FY 1994

During the first quarter of FY 1994, several important additions and modifications were made to the GEMBOCHS thermodynamic data base, and significant progress was realized in developing the next-generation GEMBOCHS software library.

Recent updates to the data base itself have focused on improving its flexibility with regard to representing organic systems, and enhancing its breadth to provide improved representation of actinide-bearing systems. These updates include:

- Complete revision of the set of basis and auxiliary-basis carbon, nitrogen, and sulfur species used to represent aqueous dissociation of organic compounds and aqueous species. This update has improved significantly the accuracy and flexibility of EQ3/6 speciation and mass transfer models of organic and inorganic/organic systems.
- Initiation of a reconnaissance and review of recently published thermodynamic data for Technetium, Neptunium, Plutonium, and Americium species. As needed and where appropriate, these data are being used to augment those already in GEMBOCHS until publication of the NEA-TDB critical reviews of the chemical thermodynamics of these species. (These reviews, which will appear as separate volumes in the series begun by the corresponding Uranium compilation [Grenthe et al., 1992], are in progress, but even the most advanced of these is unlikely to reach publication before 1996.) During the first quarter of FY 1994, an extensive literature search was initiated, and aqueous dissociation constants reported by Palmer, Silva, and Miller (1992) for approximately 300 aqueous Np, Pu, and Am complexes were incorporated.
- Incorporation of additional thermodynamic data for antimony compounds and aqueous species, reported from a variety of literature sources. This update improves considerably the ability to represent the thermodynamic behavior of antimony-bearing systems.

Recent work on the GEMBOCHS software library has focused on developing mouse-driven (Ingres Windows/4GL) application codes that will ultimately replace the existing function-key-driven (FORTRAN77-EQUEL) analogs, *facet* and *jewel*, which represent the two fundamental user interfaces with GEMBOCHS data. In addition, the entire GEMBOCHS system is currently being ported to an upgraded hardware platform. Specifically, this included:

- Continuing the development of a Windows/4GL version of *jewel*. In essence, this program interfaces user specifications, GEMBOCHS data, and various thermodynamic extrapolation algorithms to facilitate point-and-click generation of customized thermodynamic data files on the basis of pre-existing data sets, species subsets, or bulk composition of the chemical system to be modeled. During the first quarter of FY 1994, continued local use of and numerous refinements to the program rendered its predecessor (the function-key driven version) nearly obsolete. During the second quarter of FY 1994, the user's manual will be completed, and the mouse-driven *jewel* will be used exclusively.
- Initiating the development of a Window/4GL version of *facet*. This program facilitates point-and-click review, revision, deletion, and addition of GEMBOCHS data. During the first quarter of FY 1994, most top-level routines (and many primitives) were completed, as was a significant amount of testing.
- Initiating the transfer of the GEMBOCHS data base and software library from its dedicated Sun SPARCstation2 to a new dedicated SPARCstation10/41. This hardware upgrade will result in dramatically improved performance for each data base and software module of the GEMBOCHS system. During December 1993, the new SPARC10/41 was set-up and Ingres 6.4104, *jewel*, *facet*, and *cngbochs* were all ported to this platform.

APPENDIX D

GENISES ADDITIONS: 1st QUARTER, FY 1994

<u>DATA TRACKING NO.</u>	<u>DATA ITEM DESCRIPTION</u>
LA0000000000053.001	ACTINIDE (IV) AND ACTINIDE (VI) CARBONATE SPECIATION STUDIES BY PAS AND NMR SPECTROSCOPIES
LA0000000000023.002	MINERALOGY AND CLINOPTILOLITE K/AR RESULTS FROM YUCCA MOUNTAIN, NEVADA, USA: A POTENTIAL HIGH-LEVEL RADIOACTIVE WASTE REPOSITORY SITE
SNSAND80145300.000	ROCK MECHANICS PROPERTIES OF VOLCANIC TUFFS FROM THE NEVADA TEST SITE
LA0000000000017.002	DEHYDRATION AND REHYDRATION OF A TUFF VITROPHYRE
LA0000000000034.002	DIFFUSION OF SORBING AND NON-SORBING RADIONUCLIDES