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CENTRAL AND EASTERN UNITED STATES:
Basic data for thermal springs and wells
as recorded in GEOTHERM

By
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Open-File Report 83-440

2751000

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has not been reviewed for conformity
with U.S. Geological Survey
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MASTER

Menlo Park, California

June 1983

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INTRODUCTION

GEO THERM, a computerized information system now off-line, was used to maintain data on the geology, geochemistry and hydrology of geothermal sites primarily within the United States. The system was proposed at the First Geothermal Implementation Conference in New Zealand in 1974 (Swanson, 1977) and was active until 1983. The primary mission was to provide a broad informational framework for the Geothermal Research Program (Duffield and Guffanti, 1981). GEO THERM was used to support national geothermal assessments--in 1978 (Muffler, 1979) and 1982 (Reed, 1983). It was however a public system and provided data to both public and private sectors. A detailed discussion on databases in GEO THERM and a general scheme of how the information system operated can be found in Bliss and Rapport (1983).

This report on central and eastern United States is one of a series intended to preserve the data collected for GEO THERM and make the data available to the public. States with significant geochemical data for geothermal fluids will be covered in individual reports such as this.

The data presented in this series is also available as a data file on the internationally-available General Electric Mark III service, a timeshare network. Those interested in accessing that system should contact the Energy Resource Center, University of Oklahoma, Norman, Oklahoma 73070. It is anticipated that a portion of the data will also be available on magnetic tape from the National Technical Information Service, U. S. Department of Commerce, Springfield, VA 22161. It will not be available until after the completion of the open-file series.

GEO THERM INDEX

The index gives one line summaries of each GEO THERM record describing the chemistry of geothermal springs and wells in the sample file for central and eastern United States. The index found in appendix A (p. 77-79) is sorted by state, county name and the name of the source. Records applicable to a given state will be grouped under that state name. Also given in each record are latitude, longitude (both use decimal minutes), township, range, section, GEO THERM record identifier, and temperature (°C). In conducting a search of Appendix A, site names are quite useful for locating springs or wells for which a specific name is commonly used, but sites which do not have specific names are more difficult to locate. It is suggested that site titles which begin with words such as warm, hot, unnamed, pumped, well, or spring be checked. Descriptive text found as part of the site name and the site coordinates should be used to assist in determining location.

GEOTERM SAMPLE FILE

GEOTERM sample file contains 119 records for central and eastern United States (Table 1). This includes the following states with the record count of each:

ARKANSAS	21	NORTH CAROLINA	5
GEORGIA	22	PENNSYLVANIA	3
MASSACHUSETTS	3	SOUTH DAKOTA	4
NEBRASKA	6	VIRGINIA	44
NEW YORK	2	WEST VIRGINIA	9

The table is sorted by state, county, and name of source. Records may be present which are duplicates for the same analyses. A record may contain data on location, sample description, analysis type (water, condensate, or gas), collection condition, flow rates, and the chemical and physical properties of the fluid. Stable and radioactive isotopic data are occasionally available. Some records may contain only location and temperature. When sufficient chemical data was available, the charge balance (percentage of difference in anion- and cation-milliequivalents) was computed and added to the record. Many of the numeric fields in the sample file can be directly qualified. The qualifier code precedes the number when appropriate. The codes and their meaning are given in Table 1.

Each thermal spring or well usually is represented by several records. This may document temporal changes in the geothermal fluids. Judgement on what constituted acceptable data was extremely complicated and the primary attempt was to insure that each GEOTERM record faithfully reproduced the published data. On occasion, glaring inconsistencies or data clearly of poor quality were excluded. Regrettably, no database can be constructed or supported without the introduction of errors. The user, therefore, is advised to check with the published literature whenever possible. Users should carefully and critically evaluate the records they use.

This compilation should contain all of the chemical data for geothermal fluids in central and eastern United States available as of December, 1981. However, no claim is made for completeness, and published sources have probably been missed. All records in this list contains information which was published at the time of data entry. A critically evaluated and corrected list of over 2000 records for the United States was extracted from the sample file and issued as a reference document for the national low-temperature geothermal resource assessment (Reed and others, 1983). This, along with a list of geothermal springs by Berry, and others, 1980, may be useful to some users.

GEOTERM BIBLIOGRAPHY

A bibliography is given in Appendix B (p. 80-82). The abbreviated form of the reference (called code) is identified as the record source in the full record list and is used to sort the

entries in this appendix. Codes with a leading "*" identify records based on information which was unpublished at the time the record was prepared.

ACKNOWLEDGMENTS

Contributions and support to GEOTHERM have been made by many in both federal and state agencies. This includes the U.S. Department of Energy (and associated contractors), and U.S. National Oceanic and Atmospheric Administration. Data-entry forms for most sites in central and eastern United States were prepared by the staff of the University of Nebraska, Gruy Federal Incorporated, and the U.S. Geological Survey.

REFERENCES CITED

- Berry, G. W., Grim, P. J., and Ikelman, J. A., 1980, Thermal springs list for the United States: National Oceanic and Atmospheric Administration, Key to Geophysical Records Document No. 12, 59 p.
- Bliss, J. D., and Rapport, Amy, 1983, GEOTHERM: the U.S. Geological Survey geothermal information system: Computers & Geosciences, v. 9, no. 1, p. 35-39.
- Duffield, W. A., and Guffanti, Marianne, 1981, The geothermal research program of the U.S. Geological Survey: U.S. Geological Survey Open-File Report 81-564, 108 p.
- Muffler, L. J. P., ed., 1979, Assessment of geothermal resources of the United States--1978: U.S. Geological Survey Circular 790, 163 p.
- Reed, M. J., ed., 1983, Assessment of low-temperature geothermal resources of the United States--1982: U.S. Geological Survey Circular 892.
- Reed, M. J., Mariner, R. H., Brook, C. A., and Sorey, M. L., 1983, Selected data for low-temperature (less than 90°C) geothermal systems in the United States; reference data for U.S. Geological Survey Circular 892: U.S. Geological Survey Open-File Report 83-250, 129 p.
- Swanson, J. R., 1977, GEOTHERM data file: Geothermal Resources Council Transactions, v. 1, p. 285.

TABLE 1

States of ARKANSAS, GEORGIA, MASSACHUSETTS, NEBRASKA, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, SOUTH DAKOTA, VIRGINIA, and WEST VIRGINIA: computer-generated listing of records describing geothermal-fluid samples. [A few records may be for cold springs or wells--this was to provide ground-water references for some studies.]

ORGANIZATION: Records are sorted by state, county and then by the name of the spring or well. Order is the same in Appendix A.

UTM: The UTM Easting label was omitted. However, if the UTM Easting figure is present in the record, it will be found directly below the UTM Northing label.

QUALIFICATION CODES: All numeric attributes may be qualified. The codes and their meaning:

L = less than

G = greater than

E = estimated

T = trace (no numeric value reported)

N = not detected (not followed by number)

Q = qualified (other data in qualification field)

R = midpoint of range (actual range in qualification field)

REFERENCE: An expanded citation of the reference is found in Appendix D. The abbreviated form used in this table is called "CODE" in the appendix. Unpublished sources are preceded with "*". Those which begin and end with a "*" are also found in Appendix B.

RECORD 00001

GEOTHERM FILE 101 0000306

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... BRINE WELL
 LOCATION
 COUNTRY..... UNITED STATES TOWNSHIP-RANGE
 STATE..... ARKANSAS 17S 021W 33

COORDINATES

LAT/LONG... 33-13. N 093-17. W

COUNTY..... COLUMBIA
 MAP REFERENCE..... MACEDONIA 1124000
 OTHER LOCALITY INFORMATION: KERLIN BRINE FIELD

SAMPLE DESCRIPTION AND CONDITIONS

SAMPLE NUMBER..... 141
 POINT OF COLLECTION.. WELL HEAD
 TEMPERATURE (C)..... 107.2 AT (M).. 2534.8
 WELL DEPTH (M)..... 2829.8

PERMIT LITHOLOGY..... SABINE UPLIFT
 OTHER SAMPLE INFORMATION.. ELEVATION 90.5M. PERFORATED INTERVAL 2534.8M TO 2829.8M. BOTTOM-HOLE PRESSURE 197 KG/CM2

WATER ANALYSIS

PH..... 6.0 AT (C) 25.
 SPECIFIC GRAVITY..... 1.230
 SPECIFIC CONDUCTANCE..... 25000.

ISOTOPIES (D/00)

ANALYSIS IN MG/L

AG....	CO3....	LI...	331.		
AL....	CH....	MG...	1860.		
AS....	CS....	MN...	40.		
AI....	CU....				
4....	F.....	NA...	70700.		
HA....					
HE....	FE(TOT)..	12.	NU...	504..	640.
HI....	GA.....		NH4..	220.	3440.
HR....					
CA....	HCO3....	224.			
CL....	I.....	11.			
CO....	K.....	5950.			
			ZN...		2.

OTHER ANALYTICAL DATA... ORGANIC ACID AS ACETIC = 85. MG/L

REFERENCE AND IDENTIFICATION

COMPILED BY..... REED, MARSHALL
 COMPILER AFFILIATION... USGS
 REFERENCE..... COLLINS, 1974

RECORD 00002

GEOTHERM FILE 101 0000305

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... BRINE WELL
 LOCATION
 COUNTRY..... UNITED STATES TOWNSHIP-RANGE
 STATE..... ARKANSAS 18S 020W 04

COORDINATES

LAT/LONG... 33-13. N 093-11. W

COUNTY..... COLUMBIA
 MAP REFERENCE..... CALHOUN 1124000
 OTHER LOCALITY INFORMATION: KERLIN BRINE FIELD

SAMPLE DESCRIPTION AND CONDITIONS

SAMPLE NUMBER..... 67
 POINT OF COLLECTION.. WELL HEAD
 TEMPERATURE (C)..... 107.2 AT (M).. 2508.
 WELL DEPTH (M)..... 2859.5

PERTINENT LITHOLOGY..... SABINE UPLIFT
 OTHER SAMPLE INFORMATION... ELEVATION 89.3M. PERFORATED INTERVAL 2568.2M TO 2659.5M. BOTTOM-HOLE PRESSURE 197 KG/CM2
 WATER ANALYSIS

PH..... 5.9 AT (C) 25.
 SPECIFIC GRAVITY..... 1.232
 SPECIFIC CONDUCTANCE..... 25000.

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....		CO3....		LI...	391.		
AL....		CR....		MG...	3840.		
AS....		CS....		MN...	46.		
AU....		CU....	1.				
B....	230.	F.....		NA...	71000.		
BA....	20.						
BE....		FE(TOT)...	10.	NB...		504..	532.
BI....		GA.....		NH4...	170.	SR...	2470.
BR....	5250.						
CA....	45000.	MCO3....	191.				
CL....	211000.	I.....	10.				
CO....		K.....	6380.				
				ZN...	2.		

OTHER ANALYTICAL DATA... ORGANIC ACID AS ACETIC = 80. MG/L

REFERENCE AND IDENTIFICATION

COMPILED BY..... REED, MARSHALL
 COMPILER AFFILIATION... USGS
 REFERENCE..... COLLINS, 1974

RECORD 00003

GEOCHEM SAMPLE FILE

GEOCHEM FILE 101 0000310

NAME OF SAMPLE SOURCE... RSW 17 WELL

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 33-13. N 093-12. W

COUNTRY..... UNITED STATES
 STATE..... ARKANSAS
 COUNTY..... COLUMBIA
 MAP REFERENCE..... CALHOUN 1124000

OTHER LOCALITY INFORMATION: KERLIN BRINE FIELD

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1974/01/09 TROUT, MICHAEL L.

SAMPLE NUMBER..... 8

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 100. AT (M).... 2560.

WELL DEPTH (M)..... 2560.

PERTINENT LITHOLOGY..... SABINE UPLIFT; UPPER JURASSIC SHACKOVER FORMATION

WATER ANALYSIS

SPECIFIC GRAVITY..... 1.229
 TOTAL DISSOLVED SOLIDS... 347600.

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....		CO3....		LI...	312.		
AL....		CR....		MG...	3490.		
AS....		CS....		MN...	37.		
B....		F.....		NA...	74600.		
BA....	38.						
BE....		FE(TOT)...	5.	NB...		504..	160.
BI....		GA.....		NH4...		SR...	2930.
BR....	6130.						
CA....	44200.						
CA+MG.		MG.....		PB...	L 0.5		

CO.... H2S..... 172.
 CL.... 210900. K..... 5000. ZN... 0.4
 CO....
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... REED, MARSHALL
 COMPILER AFFILIATION... USGS
 REFERENCE..... CARPENTER AND TROUT, 1978

RECORD 00004

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0000309

NAME OF SAMPLE SOURCE... LEWIS O1 WELL

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 33-17. N 093-04. W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... COLUMBIA

MAP REFERENCE..... VILLAGE 1124000

OTHER LOCALITY INFORMATION: VILLAGE OIL FIELD

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/01/08 TROUT, MICHAEL L.

SAMPLE NUMBER..... 27

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 91. AT (M).. 2245.

WELL DEPTH (M)..... 2245.

PERMANENT LITHOLOGY..... SABINE UPLIFT: UPPER JURASSIC SMACKOVER FORMATION

WATER ANALYSIS

SPECIFIC GRAVITY..... 1.196

TOTAL DISSOLVED SOLIDS... 286500.

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....	CO3....	LI...	64.
AL....	CR....	MG...	3700.
AS....	CS....	MN...	2.
H....	F....	NA...	65500.

HA.... L 20.

HE.... FE (TOT). 1.

HI.... GA....

RH.... 5030.

CA.... 32000.

CA+MG.

CO....

CL.... 176600.

CO....

K..... 1250.

ZN... L 1.

REFERENCE AND IDENTIFICATION

COMPILED BY..... REED, MARSHALL

COMPILER AFFILIATION... USGS

REFERENCE..... CARPENTER AND TROUT, 1978

RECORD 00005

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0001456

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 23)

SPRING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-30.88 N 093-03.18 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000
 OTHER LOCALITY INFORMATION: 45. M NORTH OF MAURICE HOT SPRING
 WATER ANALYSIS

PH..... 7.52
 SPECIFIC CONDUCTANCE..... 269.
 ALKALINITY..... 159. AS HCO3
 TOTAL DISSOLVED SOLIDS... 185.
 ANALYSIS IN MG/L

AG....	CO3.....	LI...	S....
AL.... N			
HA....	F..... 0.2	NA... 3.9	
HE....	FE+3....	NA+K.	SN...
HI....	FE(TOT).	NH...	S04.. 8.2
	GA.....	NH4..	SR... 0.11
CA....	HCO3... 159.	NO3.. 0.2	
CO....	H2S.....	PO4.. 0.09	
CL.... 1.9			
CO....	K..... 1.5		

ISOTOPES (0/001)

DEL D OF WATER..... -2d.
 DEL C(13) OF CO2..... -14.2
 TRITIUM (T.U.)..... 0.7 + OR - 0.8
 C(14) CONTENT OF CO2. 35.1% + OR -
 0.6% (% OF MODERN)

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY
 COMPILER AFFILIATION... US GEOLOGICAL SURVEY
 REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00006

GEOHEM SAMPLE FILE

GEOHEM FILE ID: 0001455

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 17)
 WARNING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-30.95 N 093-03.22 W

COUNTRY..... UNITED STATES
 STATE..... ARKANSAS
 COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: 50. M NORTH OF 80,000 GALLON RESERVOIR
 WATER ANALYSIS

PH..... 7.70
 SPECIFIC CONDUCTANCE..... 266.
 ALKALINITY..... 160. AS HCO3
 TOTAL DISSOLVED SOLIDS... 184.
 ANALYSIS IN MG/L

AG....	CO3.....	LI...	S....
AL.... N	CR.....	MG...	SB...
HA....	F..... 0.2	NA... 3.9	
HE....	FE+3....	NA+K.	SN...
HI....	FE(TOT).	NH...	S04.. 7.8
	GA.....	NH4..	SR... 0.11
CA....	HCO3... 160.	NO3.. N	
CO....	H2S.....	PO4.. N	
CL.... 1.8			
CO....	K..... 1.5		

ISOTOPES (0/001)

DEL D OF WATER..... -30.
 DEL O(18) OF WATER... -5.4
 DEL C(13) OF CO2..... -14.1
 TRITIUM (T.U.)..... 3.0 + OR - 0.5
 C(14) CONTENT OF CO2. 36.9% + OR -
 0.5% (% OF MODERN)

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY
 COMPILER AFFILIATION... US GEOLOGICAL SURVEY
 REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00007

GEO THERM SAMPLE FILE

GEOTHERM FILE 101 0001457

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 33)

WARNING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-30.85 N 093-03.15 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: 25. M NNE OF DISPLAY FOUNTAIN

WATER ANALYSIS

PH..... 7.13

SPECIFIC CONDUCTANCE..... 269.

ALKALINITY..... 164.

AS HCO3

TOTAL DISSOLVED SOLIDS... 188.

ANALYSIS IN MG/L

AG....	CO3....	LI....	S....
AL....	CR....	MG....	SB....
BA....	F....	NA....	4.0
HA....	FE+J....	NA+K....	SN....
HE....	FE(TOT)....	NH....	S04....
HI....	GA....	NH4....	SR....
CA....	HCO3....	NO3....	N
CO....	H2S....	PO4....	0.02
CL....	1.9		
CU....	K....		
	1.5		

ISOTOPES (0/00)

DEL D OF WATER..... -28.

DEL O(18) OF WATER... -5.4

DEL C(13) OF CO2..... -14.6

TRITIUM (T.U.)..... 0.9 + UR - 0.6

CD.... 1.9

CD.... K.... 1.5

REFERENCE AND IDENTIFICATION

COMPILED BY..... TIEH, MANDY

COMPILED AFFILIATION... US GEOLOGICAL SURVEY

REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00008

GEO THERM SAMPLE FILE

GEOTHERM FILE 101 0001459

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 48)

WARNING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-30.97 N 093-03.13 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: 85. M NE OF 80,000 GALLON RESERVOIR

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1972/01/25

TEMPERATURE (C)..... 60.

DISCHARGE..... 2400. L/MIN

WATER ANALYSIS

PH..... 7.27

SPECIFIC CONDUCTANCE..... 276.

ALKALINITY..... 165.

AS HCO3

TOTAL DISSOLVED SOLIDS... 189.

CHARGE IMBALANCE (% DIFF)... 3.5

ANALYSIS IN MG/L

AG....	CO3....	LI....	S....
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ISOTOPES (0/00)

DEL D OF WATER..... -28.

AL.... N	CR.....	MG.... 4.7	SB....
AS....	CS.....	MN.... 0.18	
U.....	F..... 0.2	NA.... 4.0	SI02. 42.
NA....	FE+3....	NA+K..	SN....
NE....	FE(TOT).. 0.02	NB....	S04... 8.6
NT....	GA.....	NH4...	SR.... 0.12
CA.... 45.	HCO3.... 165.	NO3... 0.1	
CO....	H2S.....	PO4... N	
CL.... 1.9			
CO....	K..... 1.5		
		ZN.... 0.06	

DEL O(18) OF WATER... -5.7

DEL C(13) OF CO2..... -14.3

TRITIUM (T.U.)..... 0.7 + OR - 0.4

C(14) CONTENT OF CO2. 38.7% + OR - 0.7% (% OF MODERN)

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY

COMPILER AFFILIATION... US GEOLOGICAL SURVEY

REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00009

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0001461

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 49)

WATER NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-30.58 N 093-03.17 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1:24000

OTHER LOCALITY INFORMATION: 30. M EAST OF 80,000 GALLON RESERVOIR

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1972/01/21

TEMPERATURE (C)..... 61.8

DISCHARGE..... 152. L/MIN

WATER ANALYSIS

P..... 6.95

SPECIFIC CONDUCTANCE..... 268.

ALKALINITY..... 155.

TOTAL DISSOLVED SOLIDS... 184.

CHARGE IMBALANCE (% DIFF)... 0.8

ANALYSIS IN MG/L

AS HCO3

AG.... CO3....

AL.... N CR.....

AS.... CS.....

U..... F..... 0.2

NA.... FE+3....

NE.... FE(TOT).. 0.06

NT.... GA.....

CA.... 44. HCO3.... 155.

CO.... H2S.....

CL.... 1.9

CO.... K..... 1.5

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY

COMPILER AFFILIATION... US GEOLOGICAL SURVEY

REFERENCE..... REDINGER AND OTHERS, 1979

ISOTOPES (0/001)

DEL D OF WATER..... -28.

DEL O(18) OF WATER... -5.6

DEL C(13) OF CO2..... -16.1

TRITIUM (T.U.)..... 9. + OR - 0.4

C(14) CONTENT OF CO2. 36.8% + OR -

0.9% (% OF MODERN)

RECORD 00010

GEOTHERM FILE 101 0001460

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 42)

WELLING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: IN SE PORTION OF QUAPAW BATHHOUSE

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1972/01/19

TEMPERATURE (C)..... 61.3

WATER ANALYSIS

PH..... 6.93

SPECIFIC CONDUCTANCE..... 272.

ALKALINITY..... 159.

TOTAL DISSOLVED SOLIDS... 188.

CHARGE IMBALANCE (% DIFF)... 0.2

ANALYSIS IN MG/L

AG..... CO3.....

AL..... N CH.....

AS..... CS.....

BA..... F..... 0.2

BE..... FE(TOT)... 0.01

BI..... GA.....

CA..... 45. HCO3... 159.

CD..... H2S.....

CE..... 1.9

CO..... K..... 1.5

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEH, RANDY

COMPILED AFFILIATION... US GEOLOGICAL SURVEY

REFERENCE..... REDINGER AND OTHERS, 1979

AS HCO3

LI...

S...

4.8

SB...

0.23

4.0

SI02... 42.

SO4... 8.6

SR... 0.11

NO3... N

PO4... 0.04

ZN... 0.02

ISOTOPES (0/00)

DEL D OF WATER..... -28.

DEL D(18) OF WATER... -5.4

TRITIUM (T.U.)..... 2.7 • UR - 0.3

RECORD 00011

GEOTHERM FILE 101 0001458

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 46)

WELLING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: IN SW PORTION OF FURUYCE BATHHOUSE

WATER ANALYSIS

PH..... 7.01

SPECIFIC CONDUCTANCE..... 269.

ALKALINITY..... 164.

TOTAL DISSOLVED SOLIDS... 187.

CHARGE IMBALANCE (% DIFF)... 2.0

ANALYSIS IN MG/L

AG..... CO3.....

LI...

S...

ISOTOPES (0/00)

DEL D OF WATER..... -29.

AL.... N	CH....	MG...	4.8	SB...	DEL O(18) OF WATER...	-5.5
AS....	CS....	MN...	0.25			
N....	F.... 0.2	NA...	4.0			
HA....	FE+3...	NA+K...		SN...	DEL C(13) OF CO2....	-14.8
HE....	FE(TOT) 0.33	NH...		S04...	INITIUM (T.U.).....	3.1 + OH - 0.6
HI....	GA....	NH4...		SR...	C(14) CONTENT OF CO2.	35.64 + OH -
						0.74 (% OF MODERN)
CA.... 45.	HCO3.... 164.	NO3.. N				
CD....	H2S....	PO4..	0.04			
CL.... 1.9						
CO....	K.... 1.5			ZN...		0.07

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY
 COMPILED AFFILIATION... US GEOLOGICAL SURVEY
 REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00012

GEOHEM SAMPLE FILE

GEOHEM FILE 101 0000079

NAME OF SAMPLE SOURCE... HOT SPRINGS NATIONAL PARK (MAURICE HOT SPRING)
 WARNING NUMBER..... 2

LOCATION

TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 34-30.85 N 093-03.18 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... GARLAND

MAP REFERENCE..... HOT SPRINGS NORTH 1124000

OTHER LOCALITY INFORMATION: NE CORNER OF MAURICE BATHHOUSE

WATER ANALYSIS

P..... 7.03

SPECIFIC CONDUCTANCE..... 269.

ALKALINITY..... 156.

TOTAL DISSOLVED SOLIDS... 189.

CHARGE IMBALANCE (% DIFF)... 0.5

ANALYSIS IN MG/L

AS HCO3

AG....

CO3....

LI....

S....

ISOTOPE (O/U)

DEL D OF WATER..... -27.

DEL O(18) OF WATER... -3.9

AL....

CR....

MG...

SB...

N....

F.... 0.2

NA...

4.0

SN...

DEL C(13) OF CO2.... -14.7

HA....

FE+3...

NA+K...

S04...

9.0

INITIUM (T.U.)..... 1.2 + OH - 0.3

HE....

FE(TOT)...

NH...

SR...

0.11

HI....

GA....

NH4...

CA....

HCO3....

156.

NO3.. N

CD....

H2S....

PO4..

0.04

CL.... 1.9

CO....

K....

1.5

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY
 COMPILED AFFILIATION... US GEOLOGICAL SURVEY
 REFERENCE..... REDINGER AND OTHERS, 1979

RECORD 00013

GEOHEM SAMPLE FILE

GEOHEM FILE 101 0000308

NAME OF SAMPLE SOURCE... MCKEAN DA WELL

LOCATION

TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 33-26. N 093-26. W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY..... LAFAYETTE
 MAP REFERENCE..... BUCKNER 1124000
 OTHER LOCALITY INFORMATION: BUCKNER OIL FIELD
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1973/01/09 TROUT, MICHAEL L.
 SAMPLE NUMBER..... 4
 POINT OF COLLECTION.. WELL HEAD
 TEMPERATURE (C)..... 90. AT (M).... 2200.
 WELL DEPTH (M)..... 2200.
 PERTINENT LITHOLOGY..... SABINE UPLIFT: UPPER JURASSIC SMACKOVER FORMATION

WATER ANALYSIS

SPECIFIC GRAVITY..... 1.212
 TOTAL DISSOLVED SOLIDS... 313700.

ANALYSIS IN MG/L

AG....	CO3....	LI...	95.
AL....	CR....	MG...	4030.
AS....	CS....	MN...	14.
B....	F....	NA...	64500.
BA.... L 20.			
BE....	FE(TOT). 34.		
BI....	GA....	NH4..	SR... 2030.
BR.... 6160.			
CA.... 44200.			
CA-MG.	MG....	PB...	2.
CD....	M2S.... L 2.		
CL.... 190000.			
CO....	K.... 1800.	ZN...	24.

ISOTOPIES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... REED, MARSHALL
 COMPILER AFFILIATION... USGS
 REFERENCE..... CARPENTER AND TROUT, 1978

RECORD 00014

GEOCHEM SAMPLE FILE

GEOCHEM FILE 101 0000J07

NAME OF SAMPLE SOURCE... OIL WELL

LOCATION

COUNTRY..... UNITED STATES TOWNSHIP-RANGE
 STATE..... ARKANSAS 15S 024W 11

COORDINATES

LAT/LONG... 33-28. N 093-34. W

COUNTY..... LAFAYETTE

MAP REFERENCE..... OLD TOWN 1124000

OTHER LOCALITY INFORMATION: LEWISVILLE OIL FIELD

SAMPLE DESCRIPTION AND CONDITIONS

SAMPLE NUMBER..... 197

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 89.4 AT (M).... 1889.

WELL DEPTH (M)..... 1924.2

PERTINENT LITHOLOGY..... SABINE UPLIFT

OTHER SAMPLE INFORMATION.. ELEVATION 80.2M, PERFORATED INTERVAL 1889.2M TO 1924.2M, BOTTOM-HOLE PRESSURE 19/ KG/CM2

WATER ANALYSIS

P.I..... 6.3
 SPECIFIC GRAVITY..... 1.174
 SPECIFIC CONDUCTANCE..... 22200.

ANALYSIS IN MG/L

AG....	CO3....	LI...	62.
AL....	CR....	MG...	4140.

ISOTOPIES (0/00)

RECORD 00015

GEUTHERM FILE 101 0000299

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 34-22.1 N 093-39.1 W

COUNTRY..... UNITED STATES

STATE..... ARKANSAS

COUNTY.....MONTGOMERY

MAP REFERENCE..... #GLENWOOD 1162500

OTHER LOCALITY INFORMATION: 1/4 TO 1/2 MILE SOUTH OF BARTONS HOT SPRING

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1978/67/18

SAMPLE NUMBER..... 921

TEMPERATURE (C)..... 30.

WATER ANALYSIS

6.4

SPECIFIC CONDUCTANCE.....	227.
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ALKALINITY.....130.

ANALYSIS IN PPM..... 150. AS CACOS

44-38861-100

AG....		CO3....		LI...	0.0046		
AL....		CM....		MG...	2.38	SB...	L 0.0005
AS....		CS....		MN...	0.004		
AT....		CU....	0.003				
B....		F....		NA...	3.83	SI02.	10.5
HA....	L 0.01						
HE....		FE(TOT)...	0.01	NB...		S04..	3.2
HI....		GA....		NH4..	0.01	SR...	0.1
HM....		GE....		NI...	0.01		
CA....	50.41	HC03...		NO3...	14.0		
CA+MG.		HG....	0.001	PD...	0.012		
CO....		H2S....		P04..	0.37		
CL....	2.5						
CO....	0.005	K....	1.1			ZN...	L 0.005

LSUJOPES 10/001

REFERENCE AND IDENTIFICATION

COMPILED BY..... J. I. H. H. ANDY

COMPILER AFFILIATION... USGS

REFERENCE..... WAGNER AND STEELE, 1940

RECORD 00016

GEOTHERM FILE 101 0015218

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... CADDU GAP (NORTH)

WARNING NUMBER..... 5

LOCATION

COUNTRY..... UNITED STATES TOWNSHIP-RANGE 04S 024W 19 NE
 STATE..... ARKANSAS B&M FIFTH PRINCIPAL
 COUNTY..... MONTGOMERY
 GEOLOGIC PROVINCE.. OUACHITA
 MAP REFERENCE..... GLENWOOD 1162500

COORDINATES

LAT/LONG... 34-23.04 N 093-36.42 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1915/00/00 MISER, H. D.

TEMPERATURE (C)..... 34.4

PERTINENT LITHOLOGY..... ARKANSAS NOVACULITE (WARING, 1965)

WATER ANALYSIS

ALKALINITY..... 0 112. AS CAC03

ANALYSIS

AL....	CH....	MG....	4.2		
H....	F....	NA....	3.4	SI02.	10.7
HE....	FE(TOT).	NH....		S04..	2.32
CA....	41.7				
CL....	7.1				
CO....	K.....	N			

ISOTOPES (0/001)

QUALIFICATION FIELD..... ALKALINITY ORIGINALLY REPORTED AS C03

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... MISER AND PURDUE, 1929, USGS BULL 808

RECORD 00017

GEOTHERM FILE 101 0015217

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... CADDU GAP (SOUTH)

WARNING NUMBER..... 5

LOCATION

COUNTRY..... UNITED STATES TOWNSHIP-RANGE 04S 024W 19 NE
 STATE..... ARKANSAS B&M FIFTH PRINCIPAL
 COUNTY..... MONTGOMERY
 GEOLOGIC PROVINCE.. OUACHITA
 MAP REFERENCE..... GLENWOOD 1162500

COORDINATES

LAT/LONG... 34-23.04 N 093-36.42 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1915/00/00 MISER, H. D.

TEMPERATURE (C)..... 36.

PERTINENT LITHOLOGY..... ARKANSAS NOVACULITE (WARING, 1965)

WATER ANALYSIS

ALKALINITY..... 0 114. AS CAC03

ANALYSIS

AL....	CH....	MG....	2.2		
H....	F....	NA....	7.5	SI02.	15.0
HE....	FE(TOT).	NH....		S04..	1.42
CA....	38.9				
CL....	4.8				
CO....	K.....	N			

ISOTOPES (0/001)

QUALIFICATION FIELD..... ALKALINITY ORIGINALLY REPORTED AS C03

GEUTHERM FILE 101 000149B

NAME OF SAMPLE SOURCE... REDLAND MTN SPRING

COORDINATES
LAT/LONG... 34-19.5 N 093-44.5 W

DATE/COLLECTOR..... 1979/03/04
SAMPLE NUMBER..... 924

TEMPERATURE (C)..... 25.0

PH.....	7.2
SPECIFIC CONDUCTANCE.....	210.
ALKALINITY.....	144.

AS CAC03

ISOLORES (0/00)

AG.....		CO ₃		LI....	0.007		
Al.....		CR.....		MG....	23.70		
AS.....		CS.....		MN....	0.345		
AU.....		CU.....	L 0.001				
H.....		F.....		NA....	2.5	SiO ₂ .	18.5
HA.....	0.02						
HE.....		Fe(TOT).	0.226	NB....		SO ₄ ..	9.7
HI.....		GA.....		NH ₄ ..	0.28	SR....	0.071
HR.....		GE.....		NI....	0.024		
CA.....	53.35	HCO ₃		NO ₃ ..	16.6		
CA+MG.		HG.....	L 0.0002	PB....	0.03		
CD.....		H ₂ S.....		PU ₄ ..	0.25		
CL.....	1.5						
CO.....	0.022	K.....	0.95			ZN....	0.009

COMPILED BY..... LIEB, RANDY
COMPILED AFFILIATION... USGS
REFERENCE..... WAGNER AND STEELE, 1980

GEUTHERM FILE ID: 0015216

NAME OF SAMPLE SOURCE... WARM SPRINGS (HICE'S WARM SPRING)

WAVING NUMBER..... 1
LOCATION.....
COUNTRY..... UNITED STATES
STATE..... ARKANSAS

TOWNSHIP-RANGE
21N 001W 11 SW OF NW SW
B&M FIFTH PRINCIPAL

LAT/LONG... 36-28.85 N 091-03.18 W

COUNTY..... HANCOCK
GEOLOGIC PROVINCE..... OUACHITA
MAP REFERENCE..... WARM SPRINGS 1124000
SAMPLE DESCRIPTION AND CONDITIONS
TEMPERATURE (C)..... 28.

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... PEALE, 1886

RECORD 00022

GEOTHERM FILE ID: 0016001

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... BARNES, B. JEWETT
 WELL/SPRING NUMBER..... 908

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-54.40 N 084-43.27 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 27 M.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/10

SAMPLE NUMBER..... 908

TEMPERATURE (C)..... 17.6

WELL DEPTH (M)..... 30

DISCHARGE..... 132. L/MIN

PERTINENT LITHOLOGY..... SNELSON GRANITE

OTHER SAMPLE INFORMATION.. HOUSEHOLD USE.

WATER ANALYSIS

SPECIFIC CONDUCTANCE..... L 50.

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00023

GEOTHERM FILE ID: 0016000

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... MAXLEY, ANDY

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-54.22 N 084-42.97 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 256 M.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/10

SAMPLE NUMBER..... 909

TEMPERATURE (C)..... 17.0

WELL DEPTH (M)..... 32.

PERTINENT LITHOLOGY..... CAROLINA GNEISS

WATER ANALYSIS

DATE/ANALYST..... 1975/12/10

P..... 7.02

SPECIFIC CONDUCTANCE..... 158.

ALKALINITY..... 94. AS MC03

CHARGE IMBALANCE (% DIFF)... 1.2

ANALYSIS IN MG/L

AG..... CO3.....

AL..... L 0.001 CH.....

LI... N

MG... 3.4

ISOTOPES (0/001)

AS....	0.0002	CS.....		MN...	0.07		
AlI....		CU.....	N	MO...		SE... L	0.001
B.....	0.02	F.....	0.3	NA...	10.	SI02.	31.
HE.....		FE(TOT).	0.1	NB...		SO4..	6.3
HI.....		GA.....		NH4..	0.08	SR...	0.1
HR....	0.017						
CA....	19.	HCO3....	94.	NO3..	0.1		
CO....		H2S.....	L 0.02	PO4..	0.13		
CL....	1.8						
CO....		K.....	3.5			ZN...	0.03

GAS ANALYSIS

ANALYSIS IN MG/L

ISOTOPES (100/0)

AR...	0.84		
CH4..	L 0.01		
C2H6.		N2...	25.
CO2..	17.		
H2...		RN...	0.4
HE...	L 0.0002		

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00024

GEO THERM SAMPLE FILE

GEO THERM FILE 101 0016059

NAME OF SAMPLE SOURCE... BROWN'S SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES
 STATE..... GEORGIA
 COUNTY..... MERIWETHER
 MAP REFERENCE..... WARM SPRINGS 1162500
 OTHER LOCALITY INFORMATION: 4 MILES ENE OF MANCHESTER, GA.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/06/14
 SAMPLE NUMBER..... 3

TEMPERATURE (C)..... 20.

DISCHARGE..... R 95. L/MIN

OTHER SAMPLE INFORMATION.. 3 SOURCES OF WATER. MAIN. SOURCE IS 5FT DIAMETER POOL.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 144.

CHARGE IMBALANCE (% DIFF)... 0.0

ANALYSIS IN PPM

ISOTOPES (10/00)

AL....		CR.....		MG...	11.		
B.....		F.....	N	NA...	3.1	SI02.	28.
BF....		FE(TOT).	0.03	NB...		SO4..	5.1
CA....	27.	HCO3....	143.	NO3..	0.06		
CL....	1.8						
CO....		K.....	4.4				

QUALIFICATION FIELD..... DISCHARGE RANGES FROM 15-30 GPM

REFERENCE AND IDENTIFICATION

COMPILED BY..... OWHS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HENETT AND CRICKMAY, 1937

RECORD 00025

GEOTERM SAMPLE FILE

GEOTERM FILE ID: 0016058

NAME OF SAMPLE SOURCE... BROWN'S SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1162500

OTHER LOCALITY INFORMATION: 4 MILES ENE OF MANCHESTER, GA.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1933/12/08

SAMPLE NUMBER..... 3

TEMPERATURE (C)..... 21.

DISCHARGE..... 45. L/MIN

OTHER SAMPLE INFORMATION.. 3 SOURCES OF WATER, MAIN SOURCE IS 5FT DIAMETER POOL.

WATER ANALYSIS

DATE/ANALYST.....

LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 144.

CHARGE IMBALANCE (3 DIFF)... 4.5

ANALYSIS IN PPM

AL.....

CH.....

MG... 10.

N.....

F..... N

NA... 2.8

SI02. 25.

HE.....

FE(TOT). 0.03

NB...

S04.. 4.9

CA... 27.

HCO3... 144.

NO3.. N

CL... 1.8

CO.....

K..... 4.3

QUALIFICATION FIELD..... DISCHARGE RANGES FROM 15-30 GPM.

REFERENCE AND IDENTIFICATION

COMPILED BY..... MORRIS, GRETA J

COMPILED AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00026

GEOTERM SAMPLE FILE

GEOTERM FILE ID: 0016002

NAME OF SAMPLE SOURCE... JAMES PHILLIPS WELL

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 288 M, SPRING ON HILLSIDE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/10

SAMPLE NUMBER..... 907

TEMPERATURE (C)..... 73.8

WELL DEPTH (M)..... 73.

DISCHARGE..... 779. L/MIN

PERTINENT LITHOLOGY..... MANCHESTER SCHIST (?)

OTHER SAMPLE INFORMATION.. HOUSEHOLD USE.

WATER ANALYSIS

P..... 6.42

SPECIFIC CONDUCTANCE..... 100.

ALKALINITY..... 64. AS HCO3

LAT/LONG... 32-53.13 N 084-43.12 W

CHARGE IMBALANCE (% DIFF)... 17.5

ANALYSIS IN MG/L

AG....	COJ....
AL.... L 0.001	CH....
AS.... L 0.0002	CS....
AU....	CU.... N
H.... N	F.... 0.1
HA....	FE+3....
HE....	FE(TOT). N
HI....	GA....
HR.... 0.013	
CA.... 12.	HCO3... 64.
CD....	H2S....
CL.... 1.2	
CO....	K.... 4.0

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.58
CH4... L 0.01
C2H6..
CO2... 14.
HE... L 0.0001

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

ISOTOPIES (O/U)

DEL O(18) OF WATER...	-4.3
DEL C(13) OF CO2.....	-16.4
TRITIUM (T.U.).....	-1.0 +/- 2.2

ISOTOPIES (O/U)

N2... 23.
O2... 7.0

RECORD 00027

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016057

NAME OF SAMPLE SOURCE... PARKMAN SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-51.7 N 084-39.0 W

COUNTRY.....	UNITED STATES
STATE.....	GEORGIA
COUNTY.....	MERIWETHER
MAP REFERENCE.....	SHILOH 1124000

OTHER LOCALITY INFORMATION: SPRING IS OFTEN FLOODED BY PARKMAN'S POND

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/12/10

TEMPERATURE (C)..... 25.

DISCHARGE..... R 284. 'L/MIN

PERTINENT LITHOLOGY..... SPARKS SCHIST

OTHER SAMPLE INFORMATION.. SAMPLE PROBABLY CONTAMINATED BY SURFACE WATER

WATER ANALYSIS

DATE/ANALYST.....

LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 114.

CHARGE IMBALANCE (% DIFF)... 2.4

ANALYSIS IN PPM

AL....	CH....	MG... 11.
H....	F.... N	NA... 2.6
HE....	FE(TOT). 0.03	NH... 5.1
CA.... 19.	HCO3... 111.	NO3... 0.05
CL.... 2.0		
CO....	K.... 2.5	

ISOTOPIES (O/U)

QUALIFICATION FIELD..... DISCHARGE 50-100 GPM.
 REFERENCE AND IDENTIFICATION

COUNTRY..... UNITED STATES
 STATE..... GEORGIA
 COUNTY..... MERIWETHER
 MAP REFERENCE..... WARM SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 268 M.

LAT/LONG... 32-52.93 N 084-40.38 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/05/05
 TEMPERATURE (C)..... 17.8
 DISCHARGE..... 927. L/MIN

PERTINENT LITHOLOGY..... MOLLIS QUARTZITE
 WATER ANALYSIS

PH..... 4.9
 SPECIFIC CONDUCTANCE..... L 50.
 ALKALINITY..... 2. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 20.2

ANALYSIS IN MG/L

AG....	CO3....	LI... N
AL.... 0.008	CR....	MG... 0.1
AS.... L 0.0002	CS....	MN... N
AU....	CU....	MO... 0.8
H.... N	F.... N	NA... 0.4
HA....	FE+3...	NA+K...
HE....	FE(TOT)... N	NH...
HI....	GA....	NH4...
CA.... 0.2	HCO3.... 2.	NO3... 0.3
CD....	H2S....	PO4... 0.01
CL.... 1.4		
CO....	K..... 0.5	

ISOTOPES (0/00)

SB...	DEL O(18) OF WATER...	-5.2
SE... L 0.001		
S102... 6.5		
SN...	DEL C(13) OF CO2.....	-24.3
S04... 0.4	TRITIUM (T.U.).....	30.
SR... N		
ZN... N		

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.44	N2... 21.
CH4... L 0.02	O2... 9.2
C2H6...	
CO2... 34.	
HE... L 0.0001	

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHHA AND OTHERS, 1977

RECORD 00030

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016004

NAME OF SAMPLE SOURCE... WARM SPRINGS

LOCATION

TOWNSHIP-RANGE

COUNTRY..... UNITED STATES
 STATE..... GEORGIA
 COUNTY..... MERIWETHER
 MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/05/05
 SAMPLE NUMBER..... 901

TEMPERATURE (C)..... 31.6
 DISCHARGE..... 3348. L/MIN

PERTINENT LITHOLOGY..... MOLLIS QUARTZITE
 WATER ANALYSIS

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

P.I.....	6.95	
SPECIFIC CONDUCTANCE.....	210.	
ALKALINITY.....	118.	AS HCO3
CHANGE IMBALANCE (% DIFF)...	3.6	

ANALYSIS IN MG/L		ANALYSIS IN MG/L		ANALYSIS IN MG/L		ANALYSIS IN MG/L	
AG....		CO3....		LI...	N		
AL....	0.003	CR....		MG...		11.	SH...
AS....	0.0002	CS....		MN...	N		
AIJ....		CU....		MO...			SE... L 0.001
H....	N	F....	0.1	NA...		1.2	SI02... 18.
HA....		FE+3...		NA+K...			SN...
HE....		FE(TOT)...	0.01	NB...			S04... 6.7
HI....		GA....		NH4...			SR... 0.1
CA....	20.	HCO3....	118.	NO3...		0.3	
CD....		H2S....		PO4...		0.05	
CL....	1.7						
CO....		K....	3.7				ZN... 0.03

LSU LOSES (0/00)

DEL 0(18) OF WATER... -5.0

ISOLOPES 100/01

QUALIFICATION FIELD, ... FLOW MEASUREMENT TOO HIGH BECAUSE OF STORED WATER DRAINING FROM RESERVOIR.

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MORBA AND OTHERS, 1977

RECORD 00031

GEOHERM_SAMPLE_FILE

GEOTHEM FILE ID: 0016005

NAME OF SAMPLE SOURCE... WARM SPRINGS

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

COUNTRY..... UNITED STATES

STATF.....GEORGIA

COUNTY.....MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/10

SAMPLE NUMBER..... 901

TEMPERATURE (C) 30.9

DISCHARGE..... 3350. L/MIN

PERTINENT LITHOLOGY..... HOLLIS QUANTIZITE

WATER ANALYSIS

PH.....	7.40	
SPECIFIC CONDUCTANCE.....	182.	
ALKALINITY.....	122.	AS HCO3
CHARGE IMBALANCE (% DIFF)...	5.1	

ANALYSIS IN MG/L		ANALYSIS IN MG/L		ANALYSIS IN MG/L	
AG....		CO3....		LI... N	
AL.... L 0.001		CR....		MG... 13.	SH...
AS.... 0.0002		CS....		MN... N	
AU....		CU.... N		MO...	SE... L 0.001
H.... 0.02		F.... 0.1		NA... 1.2	SI02. 20.
HA....		FE3...		NA+K.	SN...
HE....		FE(TOT) N		NH...	SO4... 7.1
HI....		GA....		NH4.. 0.04	SR... 0.1
HR.... 0.004					

ISOLOPES (0/00)

DEL U(18) OF WATER... -4.5

CA.... 22. MC03.... 122. NO3.. 0.3
 CO.... M2S..... PU4.. 0.08
 CL.... 1.9 K..... 3.8 ZN... N

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.81

CH4... L 0.005

C2H6.

CO2.. 11.

HF... L 0.0001

N2... 20.

O2... 7.0

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00032

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... WARM SPRINGS-EAST SOURCE

GEOTHERM FILE 101 0016054

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/06/13

POINT OF COLLECTION.. OPEN FISSURE IN 7.3 M LONG COVERED CHAMBER JUST SOUTH OF THE ROW OF SIX CISTERNS

TEMPERATURE (C)..... 31.

DISCHARGE..... 757. L/MIN

PERTINENT LITHOLOGY..... SPARKS SCHIST

WATER ANALYSIS

DATE/ANALYST.....

LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 123.

CHARGE IMBALANCE (% DIFF)... 2.8

ANALYSIS IN PPM

AL....

CR.....

MG... 12.

H....

F.....

NA... 2.1

SI02.

25.

HE....

FE(TOT)...

NB... 0.01

S04..

7.9

CA.... 21.

MC03....

NO3.. 118.

0.15

CL.... 1.8

K.....

3.5

CO....

ISOTOPES (02/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00033

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... WARM SPRINGS-EAST SOURCE

GEOTHERM FILE 101 0016053

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1913/12/11
 POINT OF COLLECTION.. OPEN FISSURE IN 7.3 M LONG COVERED CHAMBER JUST SOUTH OF THE ROW OF SIX CISTERNS
 TEMPERATURE (C)..... 31.
 DISCHARGE..... 757. L/MIN
 PERTINENT LITHOLOGY..... SPARKS SCHIST

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 121.

CHARGE IMBALANCE (% DIFF)... 2.5

ANALYSIS IN PPM

AL....	CR....	MG....	12.		
H....	F....	NA....	1.6'	SI02.	23.
HE....	FE(TOT)...	NH....		SO4..	7.3
CA.... 21.	HCO3....	NO3..	0.1		
CL.... 1.8					
CO....	K....		3.6		

ISOIOPES 10/001

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00034

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0016055

NAME OF SAMPLE SOURCE... WARM SPRINGS-WEST SOURCE
 LOCATION..... TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... MERIWETHER

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1913/12/11
 POINT OF COLLECTION.. HOLE IN WALL OF THE WESTERN MOST OF THE SIX CISTERNS
 TEMPERATURE (C)..... 31.
 DISCHARGE..... 284. L/MIN
 PERTINENT LITHOLOGY..... SPARKS SCHIST

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 117.

CHARGE IMBALANCE (% DIFF)... 0.2

ANALYSIS IN PPM

AL....	CR....	MG....	11.		
H....	F....	NA....	1.7	SI02.	21.
HE....	FE(TOT)...	NH....		SO4..	7.0
CA.... 20.	HCO3....	NO3..	0.15		
CL.... 1.8					
CO....	K....		3.5		

ISOIOPES 10/001

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00035

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0016056

NAME OF SAMPLE SOURCE... WARM SPRINGS-WEST SOURCE
LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 32-53.55 N 084-41.40 W

COUNTRY..... UNITED STATES
STATE..... GEORGIA
COUNTY..... MERIWETHER
MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/06/13
POINT OF COLLECTION.. HOLE IN WALL OF THE WESTERN MOST OF THE SIX CISTERN-
TEMPERATURE (C)..... 31.
DISCHARGE..... 284. L/MIN
PERTINENT LITHOLOGY..... SPARKS SCHIST

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 120.

CHARGE IMBALANCE (% DIFF)... 0.7

ANALYSIS IN PPM

ISOTOPIES (0/00)

AL....	CR....	MG...	11.		
H....	F....	NA...	2.1	SI02.	24.
HE....	FE(TOT)...	NB...		SO4..	7.4
CA.... 20.	HC03....	NO3..	0.15		
CL.... 1.8					

CO.... K.... 3.4

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00036

GEO THERM SAMPLE FILE

GEOTHERM FILE ID: 0015215

NAME OF SAMPLE SOURCE... LIFSEY WARM SPRING
WARPING NUMBER..... 1

LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 33-02.22 N 084-22.44 W

COUNTRY..... UNITED STATES
STATE..... GEORGIA
COUNTY..... PIKE
GEOLOGIC PROVINCE.. PIEDMONT
MAP REFERENCE..... ZEBALON 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/06/12
POINT OF COLLECTION.. CONCRETE POOL
TEMPERATURE (C)..... 26.
DISCHARGE..... 314. L/MIN

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W. L.

TOTAL DISSOLVED SOLIDS... 141.

CHARGE IMBALANCE (% DIFF)... 1.6

ANALYSIS IN PPM

ISOTOPIES (0/00)

AL....	CR....	MG...	11.		
H....	F....	NA...	7.4	SI02.	30.
HE....	FE(TOT)...	NB...		SO4..	5.6
CA.... 23.	HC03....	NO3..	0.15		
CL.... 1.8					

CO.... K.... 3.2

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILED AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HEWETT AND CRICKWAY, 1937

RECORD 00037

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0015214

NAME OF SAMPLE SOURCE... TAYLOR
 WARPING NUMBER..... 2

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 33-01.08 N 084-19.62 W

COUNTRY..... UNITED STATES
 STATE..... GEORGIA
 COUNTY..... PIKE
 GEOLOGIC PROVINCE.. PIEDMONT
 MAP REFERENCE..... ZEBALON 1124000
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1935/06/15
 SAMPLE NUMBER..... 7

TEMPERATURE (C)..... 24.
 DISCHARGE..... 1457. L/MIN

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W. L.
 AS MC03

ALKALINITY..... 111.

TOTAL DISSOLVED SOLIDS... 105.

CHARGE IMBALANCE (% DIFF)... 2.8

ANALYSIS IN PPM

AL....	CR.....	MG...	10.		
N....	F..... N	NA...	2.9	SI02.	20.
ME....	FE(TOT)...	NB...		S04..	4.1
CA.... 18.	MC03.... 111.	NO3.. N			
CL.... 1.6					
CO....	K..... 1.9				

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILED AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HEWETT AND CRICKWAY, 1937

RECORD 00038

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016064

NAME OF SAMPLE SOURCE... RANKEE SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 32-55.2 N 084-26.0 W

COUNTRY..... UNITED STATES
 STATE..... GEORGIA
 COUNTY..... UPSON
 MAP REFERENCE..... SUNSET VILLAGE 1124000

OTHER LOCALITY INFORMATION: ON STATE HWY 74, 7 MILES WNW OF THOMASTON, GA.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1934/03/23

SAMPLE NUMBER..... 5

TEMPERATURE (C)..... 23.

OTHER SAMPLE INFORMATION.. SPRING ISSUES IN A SWIMMING POOL.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 107.

CHARGE IMBALANCE (% DIFF)... 2.1

ANALYSIS IN PPM

AL....	CR.....	MG...	11.		
H.....	F..... N	NA...	2.4	SI02.	16.
HE.....	FE(TOT)...	NB...		SO4..	4.4
CA..... 19.	HC03.... 114.	NO3.. N			
CL..... 1.5					
CO.....	K..... 3.4				

ISOTOPES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... MORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00039

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID# 0016065

NAME OF SAMPLE SOURCE... BARKER SPRING

LOCATION

TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 32-26.0 N 084-26.0 W

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... UPSON

OTHER LOCALITY INFORMATION: SUNSET VILLAGE 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/06/12

SAMPLE NUMBER..... 5

TEMPERATURE (C)..... 23.

OTHER SAMPLE INFORMATION.. SPRING ISSUES IN A SWIMMING POOL.

WATER ANALYSIS

DATE/ANALYST.....

LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 112.

CHARGE IMBALANCE (% DIFF)... 0.1

ANALYSIS IN PPM

AL....	CR.....	MG...	11.		
H.....	F..... N	NA...	2.8	SI02.	23.
HE.....	FE(TOT)...	NB...		SO4..	4.9
CA..... 19.	HC03.... 116.	NO3.. N			
CL..... 1.6					
CO.....	K..... 3.0				

ISOTOPES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... MORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00040

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID# 0016060

NAME OF SAMPLE SOURCE... THUNDERING SPRING

LOCATION

TOWNSHIP=RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... UPSON

OTHER LOCALITY INFORMATION: 5.1 MILES ESE OF WOODBURY, GA.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1974/04/02

SAMPLE NUMBER..... 4

TEMPERATURE (C)..... 23.

OTHER SAMPLE INFORMATION.. SAMPLE FROM SMALL POND ALSO FED BY CREEK. MULTIPLE SPRINGS.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 66.

CHARGE IMBALANCE (% DIFF)... 0.7

ANALYSIS IN PPM

AL....	CR.....	MG...	5.7	ISOTOPIES (0/001)	
H.....	F..... N	NA...	2.1	SI02..	14.
HE....	FE(TOT)..	NU...		SO4..	3.0
CA.... 9.9	HCO3....	NO3.. N			
CL.... 1.8					
CO....	K.....		2.0		

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HEWETT AND CRICKHAY, 1937

RECORD 00041

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016061

NAME OF SAMPLE SOURCE... THUNDERING SPRING

LOCATION TOWNSHIP=RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... UPSON

OTHER LOCALITY INFORMATION: 5.1 MILES ESE OF WOODHURRY, GA.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTION..... 1935/06/12

SAMPLE NUMBER..... 4

TEMPERATURE (C)..... 23.

DISCHARGE..... 0 1438. L/MIN

OTHER SAMPLE INFORMATION.. SAMPLE FROM SMALL POND ALSO FED BY CREEK. MULTIPLE SPRINGS.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 67.

CHARGE IMBALANCE (% DIFF)... 1.4

ANALYSIS IN PPM

AL....	CR.....	MG...	5.9	ISOTOPIES (0/001)	
H.....	F..... N	NA...	2.3	SI02..	16.
HE....	FE(TOT)..	NU...		SO4..	3.0
CA.... 10.	HCO3....	NO3..	0.05		
CL.... 1.8					
CO....	K.....		1.8		

QUALIFICATION FIELD..... DISCHARGE IS TOTAL FOR GROUP OF SPRINGS.

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORRIS, GRETA J

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HEWETT AND CRICKHAY, 1937

RECORD 00042

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016063

NAME OF SAMPLE SOURCE... TRIBUTARY SPRING TO THUNDERING SPRING

LOCATION TOWNSHIP=RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... UPSON

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/06/12
 SAMPLE NUMBER..... 4A
 TEMPERATURE (C)..... 22.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

TOTAL DISSOLVED SOLIDS... 83.

CHARGE IMBALANCE (% DIFF)... 0.8

ANALYSIS IN PPM

AL....	CR....	MG...	7.6		
BA....	F..... N	NA...	2.4	SI02..	18.
CA....	FE(TOT)..	NH...		SO4..	4.0
CL....	HCO3....	NO3..	0.05		
CO....	K.....				

ISOTOPES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... MORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00043

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... TRIBUTARY SPRING TO THUNDERING SPRING

GEOTHERM FILE 101 0016062

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... GEORGIA

COUNTY..... UPSON

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1974/04/02

SAMPLE NUMBER..... 4A

TEMPERATURE (C)..... 23.

WATER ANALYSIS

DATE/ANALYST..... LAMAR, W.L.

ANALYSIS IN PPM

HE....	FE(TOT)..	NH...		SO4..	3.
CA....	HCO3....	NO3..	N		
CL....					

ISOTOPES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... MORRIS, GRETA J
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HEWETT AND CRICKMAY, 1937

RECORD 00044

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... FREDERICK GEORGE

GEOTHERM FILE 101 0015222

WATER NUMBER..... 1

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES

STATE..... MASSACHUSETTS

COUNTY..... BERKSHIRE

GEOLOGIC PROVINCE.. NORTHERN APPALACHIANS

MAP REFERENCE..... WILLIAMSTOWN 1:24000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1949/08/12

LAT/LONG... 42-44.12 N 073-12.05 W

SAMPLE NUMBER..... WILLIAMSTOWN S-7
 TEMPERATURE (C)..... 22.
 DISCHARGE..... R 46. L/MIN
 WATER ANALYSIS

PH..... 8.1
 SPECIFIC CONDUCTANCE..... 199.
 ALKALINITY..... 114. AS HCO3
 TOTAL DISSOLVED SOLIDS... 114.
 CHARGE IMBALANCE (% DIFF)... 0.5

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG.....	CO3.....	N			
AL.....	CR.....		MG...	8.9	
AS.....	CS.....		MN...	N	
H.....	F.....	0.1	NA...	2.0	
HE.....	FE(TOT)...	0.02	NB...		
CA.....	HCO3.....	114.	NO3...	0.4	
CL.....					
CO.....	K.....	0.9			

SI02. 12.
 S04.. 8.1

QUALIFICATION FIELD..... RANGE IS 57. - 76. L/MIN

REFERENCE AND IDENTIFICATION

COMPILED BY..... PENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HANSEN AND OTHERS, 1974

RECORD 00045

GEOGRAPHIC SAMPLE FILE

GEOGRAPHIC FILE ID: 0015221

NAME OF SAMPLE SOURCE... SAND SPRING

WELLING NUMBER..... 1

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 42-44.13 N 073-12.02 W

COUNTRY..... UNITED STATES
 STATE..... MASSACHUSETTS
 COUNTY..... BERKSHIRE
 GEOLOGIC PROVINCE.. NORTHERN APPALACHIANS
 MAP REFERENCE..... WILLIAMSTOWN 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1969/08/12
 SAMPLE NUMBER..... WILLIAMSTOWN S-2
 TEMPERATURE (C)..... 22.
 DISCHARGE..... 15. L/MIN

WATER ANALYSIS

PH..... 7.8
 SPECIFIC CONDUCTANCE..... 199.
 ALKALINITY..... 118. AS HCO3
 TOTAL DISSOLVED SOLIDS... 116.
 CHARGE IMBALANCE (% DIFF)... 7.5

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG.....	CO3.....	N			
AL.....	CR.....		MG...	8.8	
AS.....	CS.....		MN...	N	
H.....	F.....	0.1	NA...	2.0	
HE.....	FE(TOT)...	0.02	NB...		
CA.....	HCO3.....	118.	NO3...	1.0	
CL.....					
CO.....	K.....	0.9			

SI02. 12.
 S04.. 8.1

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HANSEN AND OTHERS, 1974

RECORD 00046

GEOThERM SAMPLE FILE

GEOThERM FILE ID: 0015220

NAME OF SAMPLE SOURCE... SAND SPRING
 WELLS NUMBER..... 1

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 42-44.13 N 073-12.02 W

COUNTRY..... UNITED STATES
 STATE..... MASSACHUSETTS
 COUNTY..... HERKSHIRE
 GEOLOGIC PROVINCE.. NORTHERN APPALACHIANS
 MAP REFERENCE..... WILLIAMSTOWN 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1963/10/24
 SAMPLE NUMBER..... WILLIAMSTOWN S-2
 TEMPERATURE (C)..... 21.0

WATER ANALYSIS

PH..... 8.2
 SPECIFIC CONDUCTANCE..... 197.
 ALKALINITY..... 116. AS HCO3
 TOTAL DISSOLVED SOLIDS... 110.
 CHARGE IMBALANCE (% DIFF)... 0.6

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....	CO3.... N				
AL....	CH....	MG...	11.		
AS....	CS....	MM... N			
H....	F.... 0.1	NA... 3.3	SI02.	13.	
HE....	FE(TOT)... 0.02	NB...	SO4..	8.6	
CA.... 21.	HCO3.... 116.	NO3.. 0.4			
CL.... 2.					
CO....	K.... 1.3				

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HANSEN AND OTHERS, 1974

RECORD 00047

GEOThERM SAMPLE FILE

GEOThERM FILE ID: 0004005

NAME OF SAMPLE SOURCE... UNKNOWN STOCK WELL
 WELL/SRING NUMBER..... 35N-13W-29-AC

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 42-59.00 N 098-52.33 W

COUNTRY..... UNITED STATES
 STATE..... NEBRASKA
 COUNTY..... BOYD

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1971/01/30
 POINT OF COLLECTION.. AT WELL DISCHARGE
 TEMPERATURE (C)..... 21.
 AMBIENT TEMP (C)..... 10.
 WELL DEPTH (M)..... 370.
 DISCHARGE..... 19. L/MIN

WATER ANALYSIS

P1..... 7.6 AT(C) 25.
 SPECIFIC CONDUCTANCE..... 1583.
 TOTAL DISSOLVED SOLIDS... 1177.
 CHARGE IMBALANCE (% DIFF)... 0.3

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....		CO3..... N		MG...	46.		
AL....		CH.....		MN...	0.23		
AS....		CS.....		NA...	70.	SI02.	10.
H.....	0.15	F.....	1.9	NB...		S04..	655.
HE....		FE(TOT).	7.4	NH4..		SR...	5.0
HI....		GA.....					
CA....	214.	HCO3....	98.				
CL....	97.						
CO....		K.....	20.				

REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.
 COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY
 REFERENCE..... SOUTHERS, VERNON L. N.W.S.P. #42 - 1976

RECORD 00048

GEOCHEM SAMPLE FILE

GEOCHEM FILE 101 0004004

NAME OF SAMPLE SOURCE... UNKNOWN STOCK WELL
 WELL/SPRING NUMBER..... 35N-10W-32-HA

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES 35N 010W 32 NE OF NW
 STATE..... NEBRASKA
 COUNTY..... BOYD

LAT/LONG... 42-57.79 N 098-31.00 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1970/02/14
 POINT OF COLLECTION.. WELL HEAD
 TEMPERATURE (C)..... 28.
 AMBIENT TEMP (C)..... 10.
 WELL DEPTH (M)..... 309.
 DISCHARGE..... 19. L/MIN

WATER ANALYSIS

P1..... 7.5 AT(C) 25.
 SPECIFIC CONDUCTANCE..... 1627.
 TOTAL DISSOLVED SOLIDS... 1237.
 CHARGE IMBALANCE (% DIFF)... 0.6

ANALYSIS IN MG/L

ISOTOPES (0/001)

AG....		CO3..... N		MG...	45.		
AL....		CH.....		MN...	0.21		
AS....		CS.....		NA...	69.	SI02.	14.
H.....	0.09	F.....	2.0	NB...		S04..	675.
HE....		FE(TOT).	1.2	NH4..		SR...	4.8
HI....		GA.....					
CA....	240.	HCO3....	143.				
CL....	95.						
CO....		K.....	20.				

REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.
 COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY
 REFERENCE..... SOUTHERS, VERNON L. N.W.S.P. #42 - 1976

RECORD 00049

GEOHEM SAMPLE FILE

GEOHEM FILE ID: 0004003

NAME OF SAMPLE SOURCE... UNNAMED STOCK WELL

WELL/SPRING NUMBER..... 33N-11W-30-AD

LOCATION

COUNTRY..... UNITED STATES 33N 011W 30 SE OF NE

STATE..... NEBRASKA

COUNTY..... BOYD

COORDINATES

LAT/LONG... 42-48.95 N 098-38.55 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1970/01/31

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 28.

AMBIENT TEMP (C)..... 10.

WELL DEPTH (M)..... 294.

DISCHARGE..... 19. L/MIN

WATER ANALYSIS

PH..... 7.7 AT(C) 25.

SPECIFIC CONDUCTANCE..... 1456.

TOTAL DISSOLVED SOLIDS... 1081.

CHANGE IMBALANCE (8 DIFF)... 0.6

ANALYSIS IN MG/L

AG.... CO3.... N

AL.... CR....

AS.... CS....

H.... 0.43 F.... 2.1

HE.... FE(TOT)... 3.8

HI.... GA....

CA.... 185. HCO3.... 153.

CL.... 45.

CO.... K.... 21.

MG... 39.

MN... 0.25

NA... 83.

NH... 5102.

NH4... 504..

SR... 610.

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.

COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY

REFERENCE..... SOUDERS, VERNON L. N.W.S.P. #42 - 1976

RECORD 00050

GEOHEM SAMPLE FILE

GEOHEM FILE ID: 0004002

NAME OF SAMPLE SOURCE... UNNAMED STOCK WELL

WELL/SPRING NUMBER..... 33N-11W-15-DD

LOCATION

COUNTRY..... UNITED STATES 33N 011W 15 SE OF SE

STATE..... NEBRASKA

COUNTY..... BOYD

COORDINATES

LAT/LONG... 42-49.79 N 098-35.50 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1970/02/14 SOUDERS, VERNON L.

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 28.

AMBIENT TEMP (C)..... 10.

WELL DEPTH (M)..... 132.

DISCHARGE..... 19. L/MIN

WATER ANALYSIS

PH..... 7.5 AT(C) 25.

SPECIFIC CONDUCTANCE..... 1525.

TOTAL DISSOLVED SOLIDS... 1138.
 CHARGE IMBALANCE (% DIFF)... 2.1
 ANALYSIS IN MG/L

AG....		CO3....	N				
AL....		CR....		MG...	43.		
AS....		CS....		MN...	0.24		
H....	0.28	F....	2.0	NA...	73.	SI02.	14.
HE....		FE(TOT)...	2.8	NB...		SO4..	635.
HI....		GA....		NH4..		SR...	4.4
CA....	210.	HCO3....	139.				
CL....	65.						
CO....		K....	20.				

ISOTOPES (0/00)REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.
 COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY
 REFERENCE..... SOUDERS, VERNON L. - N.W.S.P. #42 - 1976

RECORD 00051

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0004001

NAME OF SAMPLE SOURCE... INNAMED STOCK WELL

WELL/SPRING NUMBER..... 33N-10W-31-CCO

LOCATIONTOWNSHIP-RANGECOORDINATES

COUNTRY..... UNITED STATES 33N 010W 31 SE OF SE SW LAT/LONG... 42-47.30 N 098-31.96 W
 STATE..... NEBRASKA
 COUNTY..... BOYD
 MAP REFERENCE..... BRISTOW 1:24,000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1953/12/01 SOUDERS, VERNON L.

POINT OF COLLECTION.. WELL HEAD

TEMPERATURE (C)..... 27.

AMBIENT TEMP (C)..... 10.

WELL DEPTH (M)..... 270.

DISCHARGE..... 19. L/MIN

WATER ANALYSIS

PH..... 7.2 AT (C) 25.

SPECIFIC CONDUCTANCE..... 1570.

TOTAL DISSOLVED SOLIDS... 1120.

CHARGE IMBALANCE (% DIFF)... 2.5

ANALYSIS IN MG/L

AG....		CO3....	N				
AL....		CR....		MG...	42.		
H....	0.79	F....	2.4	NA...	135.	SI02.	12.
HE....		FE(TOT)...	3.3	NB...		SO4..	575.
CA....	161.	HCO3....	224.				
CL....	66.						
CO....		K....	21.				

ISOTOPES (0/00)REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.
 COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY
 REFERENCE..... SOUDERS, VERNON L. - N.W.S.P. #42 - 1976

RECORD 00052

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0004000

NAME OF SAMPLE SOURCE... INNAMED WATER WELL

WELL/SPRING NUMBER..... 73N-10W-14-CC

LOCATION

COUNTRY..... UNITED STATES TOWNSHIP-RANGE 33N 010W 14 SW OF SW

STATE..... NEBRASKA

COUNTY..... HOUD

MAP REFERENCE..... LYNCH 1124-000

COORDINATES

LAT/LONG... 42-49.75 N 098-27.95 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1970/01/31 SOUDERS, VERNON L.

POINT OF COLLECTION.. AT WELL HEAD

TEMPERATURE (C)..... 28.

AMBIENT TEMP (C)..... 10.

WELL DEPTH (M)..... 292.

DISCHARGE..... 57. L/MIN

WATER ANALYSIS

PH..... 7.8

SPECIFIC CONDUCTANCE..... 1592.

ALKALINITY..... 162. AS HCO3

TOTAL DISSOLVED SOLIDS... 1194.

CHARGE IMBALANCE (% DIFF)... 0.7

ANALYSIS IN MG/L

ISOTOPES (0/00)

AG..... CO3..... N

AL..... CR.....

MG... 42.

AS..... CS.....

MN... 0.16

B..... 0.19 F..... 1.4

NA... 75.

SI02. 14.

HE..... FE(TOT). 1.4

NB... 504.. 650.

HI..... GA.....

NM4... SR... 4.3

CA..... 228. HCO3..... 162.

CL..... 80.

CO..... K..... 18.

REFERENCE AND IDENTIFICATION

COMPILED BY..... EVERSOLL, DUANE A.

COMPILER AFFILIATION... NEBRASKA GEOLOGICAL SURVEY

REFERENCE..... SOUDERS, VERNON L., N.W.S.P. #42 - 1976

RECORD 00053

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0015224

NAME OF SAMPLE SOURCE... LEBANON SPRING

WELLING NUMBER..... 1

LOCATION

TOWNSHIP-RANGE

COUNTRY..... UNITED STATES

STATE..... NEW YORK

COUNTY..... COLUMBIA

GEOLOGIC PROVINCE.. NORTHERN APPALACHIANS

MAP REFERENCE..... PITTSFIELD WEST 1124000

COORDINATES

LAT/LONG... 42-28.83 N 073-22.20 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/05/20

TEMPERATURE (C)..... 18.7

DISCHARGE..... 549. L/MIN

PERTINENT LITHOLOGY..... STOCKBRIDGE LIMESTONE

WATER ANALYSIS

PH..... 7.72

SPECIFIC CONDUCTANCE..... 290.

ALKALINITY..... 170. AS HCO3

CHARGE IMBALANCE (% DIFF)... 1.7

ANALYSIS IN MG/L

ISOTOPES (0/00)

AG....		CO3....		LI... 0.01			
AL.... L 0.001		CH....		MG... 14.	SB...	DEL O(18) OF WATER...	-10.7
AS.... 0.0002		CS....		MN... N			
AU....		CU.... N		MO... 5.5	SE... L 0.001		
H.... 0.01		F.... 0.2		NA... 5.5	SI02. 9.0		
HA....		FE+3....		NA+K.	SN...	DEL C(13) OF CO2.....	-11.9
HE....		FE(TOT). N		NB...	S04... 20.	TRITIUM (T.O.).....	19.9 + OR - 1.3
HI....		GA....		NH4...	SR... 0.2		
CA.... 40.		HCO3.... 170.		NO3... 1.2			
CD....		H2S....		P04... 0.04			
CL.... 5.2		K..... 1.0					
CO....							
GAS ANALYSIS							
ANALYSIS IN MG/L						ISOTOPES (00/01)	
AR... 1.04				N2... 27.			
C2H6. L 0.03				O2... 5.2			
CO2... 7.1							
HE... 0.001							

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... MORRA AND OTHERS, 1977

RECORD 00054

GEOHERM SAMPLE FILE

GEOHERM FILE 101 0015223

NAME OF SAMPLE SOURCE... LEBANON SPRING
 WARING NUMBER..... 1

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 42-28.83 N 073-22.20 W

COUNTRY..... UNITED STATES
 STATE..... NEW YORK
 COUNTY..... COLUMBIA
 GEOLOGIC PROVINCE... NORTHERN APPALACHIANS
 MAP REFERENCE..... PITTSFIELD WEST 1:24000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/10/04
 TEMPERATURE (C)..... 21.9
 DISCHARGE..... 397. L/MIN

WATER ANALYSIS

PH..... 7.6
 SPECIFIC CONDUCTANCE..... 260.
 ALKALINITY..... 166. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 1.0
 ANALYSIS IN MG/L

AG....		CO3....		LI... N			
AL.... 0.014		CR....		MG... 16.	SB...	DEL O(18) OF WATER...	-9.9
AS.... 0.0002		CS....		MN... N			
AU....		CU.... N		MO... 6.9	SE... L 0.001		
H.... 0.02		F.... 0.3		NA... 6.9	SI02. 12.		
HA....		FE+3....		NA+K.	SN...	DEL C(13) OF CO2.....	-11.9
HE....		FE(TOT). N		NB...	S04... 25.	TRITIUM (T.O.).....	11.6 + OR - 1.0
HI....		GA....		NH4... 0.05	SR... 0.4		
HR.... 0.056							
CA.... 35.		HCO3.... 166.		NO3... 1.1			
CD....		H2S....		P04... 0.03			
CL.... 6.5							

CO... 1.2 ZN... N

GAS ANALYSIS
ANALYSIS IN MG/L

AR...	0.96		
C2H6...	0.01	N2...	24.
CO2...	6.4	O2...	4.5
HE...	0.002		

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
COMPILER AFFILIATION... GRUY FEDERAL, INC
REFERENCE..... MOWBA AND OTHERS, 1977

ISOTOPES (00/01)

RECORD 00055

GEOTHERM SAMPLE FILE GEOTHERM FILE ID: 0016008

NAME OF SAMPLE SOURCE... CITY WELL LOCATION TOWNSHIP=RANGE COORDINATES

COUNTRY..... UNITED STATES LAT/LONG... 35-53.28 N 082-49.80 W

STATE..... NORTH CAROLINA

COUNTY..... MADISON

MAP REFERENCE..... HOT SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 421 M, SPRING ON TERRACE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/06

SAMPLE NUMBER..... 803

TEMPERATURE (C)..... 15.2

WELL DEPTH (M)..... 117.

DISCHARGE..... 189. L/MIN

PERTINENT LITHOLOGY..... MURRAY SHALE

OTHER SAMPLE INFORMATION.. PUBLIC WATER SUPPLY.

WATER ANALYSIS

DATE/ANALYST..... 1975/12/06

PH..... 6.7

SPECIFIC CONDUCTANCE..... 200.

ALKALINITY..... 114. AS HCO3

CHARGE IMBALANCE (% DIFF)... 17.2

ANALYSIS IN MG/L

AG....		CO3....		LI...	0.02		
AL.... L 0.001		CR....		MG...	10.	SB...	
AS.... L 0.0002		CS....		MN...	0.62		
AU....		CU.... N		MO...		SE... L 0.001	
B.... 0.01		F.... 0.2		NA...	6.6	SI02...	25.
BA....		FE+3....		NA+K...		SN...	
BF....		FE(TOT)...	12.	NH...		SO4... 9.3	
BI....		GA....		NH4...	0.1	SR... 0.1	
BR.... 0.047							
CA.... 13.		HCO3....	114.	NO3...	0.1		
CI....		H2S....		PO4...	0.38		
CL.... 5.9							
CO....		K....	4.5	ZN...	0.25		

ISOTOPES (0/00)

DEL O(18) OF WATER... -6.2

DEL C(13) OF CO2..... -19.3
TRITIUM (T.U.)..... 41.

CO... 1.2 ZN... N

GAS ANALYSIS
ANALYSIS IN MG/L

AR...	0.84		
CH4...	0.06		
C2H6...		N2...	25.
CO2...	38.	O2...	1.4

ISOTOPES (00/01)

HF... L 0.0001
 REFERENCE AND IDENTIFICATION
 COMPILED BY... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE... MORRA AND OTHERS, 1977

RECORD 00056

GEOTERM FILE 101 0016007

GEOTERM SAMPLE FILE

NAME OF SAMPLE SOURCE... CITY WELL
 LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 35-53.28 N 082-49.80 W

COUNTRY... UNITED STATES
 STATE... NORTH CAROLINA
 COUNTY... MADISON

MAP REFERENCE... HOT SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR... 1976/05/03

SAMPLE NUMBER... 803

TEMPERATURE (C)... 15.2

WELL DEPTH (M)... 117.

PERTINENT LITHOLOGY... MURRAY SHALE

WATER ANALYSIS

PH... 6.88

SPECIFIC CONDUCTANCE... 220.

ALKALINITY... 109.

CHARGE IMBALANCE (B DIFF)... 25.1

AS HCO3

ANALYSIS IN MG/L

AG...	CO3...	LI...	0.01
AL... L 0.001	CR...	MG...	8.8
AS... L 0.0002	CS...	MN...	0.61
AI...	CU... N	MO...	
H...	F... 0.1	NA...	6.6
HA...	FE...	NA+K...	
HE...	FE(TOT)... 11.	NB...	
HI...	GA...	NH4...	
CA... 11.	HCO3... 109.	NO3... N	
CD...	H2S... L 0.02	PO4...	0.31
CL... 6.1			
CO...	K... 4.3		

ISOTOPES 10/001

DEL O(18) OF WATER... -7.0

SE... L 0.001
S102... 27.

DEL C(13) OF CO2... -19.2

SN...
S04... 9.1
SR... 0.1

TRITIUM (T.U.)... 33.

ZN... 0.54

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.96	
CH4... 0.06	
C2H6...	N2... 28.
CO2... 41.	O2... L 0.1
HE... 0.0001	

ISOTOPES 100/01

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE... MORRA AND OTHERS, 1977

RECORD 00057

GEOTERM FILE 101 0016010

GEOTERM SAMPLE FILE

NAME OF SAMPLE SOURCE... HOT SPRING
 LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES
 STATE..... NORTH CAROLINA
 COUNTY..... MADISON
 MAP REFERENCE..... HOT SPRINGS 1124000
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1976/05/03
 TEMPERATURE (C)..... 41.4
 DISCHARGE..... 26. L/MIN
 PERTINENT LITHOLOGY..... SHADY DOLOMITE

LAT/LONG... 35-53.83 N 082-49.55 W

WATER ANALYSIS

PH..... 7.50
 SPECIFIC CONDUCTANCE..... 830.
 ALKALINITY..... 119. AS HCO3
 CHARGE IMBALANCE (% DIFF).... 2.0
 ANALYSIS IN MG/L

AG....		CO3....		LI....	0.06		
AL.... L 0.001		CR....		MG....	25.	SB....	
AS.... 0.0005		CS....		MN....	N		
AU....		CU.... 0.01		MO....		SE.... L 0.001	
R.... 0.05		F.... 1.3		NA....	9.6	SI02..	33.
RA....		FE+3....		NA+K..		SN....	
HE....		FE(TQT). N		NB....		S04....	369.
HI....		GA....		NH4....		SR....	3.9
CA.... 144.		HCO3.... 119.		NO3....	N		
CD....		H2S....		PO4....	0.04		
CL.... 3.9							
CO....		K..... 9.8					

ISOTOPIES (0/00)

DEL O(18) OF WATER... -6.4

DEL C(13) OF CO2..... -9.2
 TRITIUM (T.U.)..... -0.5 +/- 0.7

GAS ANALYSIS

ANALYSIS IN MG/L
 AR... 0.86
 CH4.. L 0.02
 C2H6.. 4.5
 CO2.. 4.5
 HE... 0.0004

N2... 32.
 O2... 3.5

ZN... N

ISOTOPIES (00/0)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00058

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016009

NAME OF SAMPLE SOURCE... HOT SPRING
 LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 35-53.83 N 082-49.55 W

COUNTRY..... UNITED STATES
 STATE..... NORTH CAROLINA
 COUNTY..... MADISON
 MAP REFERENCE..... HOT SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 401 M. SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/06
 TEMPERATURE (C)..... 39.3
 DISCHARGE..... 32. L/MIN
 PERTINENT LITHOLOGY..... SHADY DOLOMITE

OTHER SAMPLE INFORMATION.. UNUSED.
 WATER ANALYSIS

ANALYSIS IN MG/L

AG....		COJ....		LI....	0.07		
AL....	0.023	CR....		MG....	29.	SB...	
AS....	0.0002	CS....		MN....	N		
AU....		CU....	N	MO....		SE....	L 0.001
H....	0.02	F....	1.4	NA....	10.	SI02..	31.
HA....		FE+3...		NA+K..		SN....	
HF....		FE(TOT)..	N	NB....		SO4...	369.
HI....		GA.....		NH4..	0.07	SR....	3.8
HR....	0.049						
CA....	135.	HCO3....	126.	NO3..	0.1		
CO....		H2S.....		PO4..	0.03		
CL....	3.8						
CO....		K.....	10.			ZN....	0.05

DEL 0(18) OF WATER... -6.3

DEL C(13) OF CO2.....	-9.5
TRITIUM (T.U.).....	-0.2 +/- 2.0

DATE/ANALYST..... 1975/12/06

ANALYSIS IN MG/L

ISOLOPES (00/0)

AN...	0.01		
CH4...	L 0.005		
C2H6...			
C12...	7.9	N2...	15.
HF...	0.0007	O2...	3.2

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MOHHA AND OTHERS, 1977

GEOTHERM SAMPLE FILE

GEUTHERM FILE 101 0016006

NAME OF SAMPLE SOURCE... LOVIN, PAUL

LOCATION

TOWNSHIP-RANGE

COQUINALES

LAT/LONG... 35-53.95 N 082-51.77 W

COUNTRY..... UNITED STATES

STATE..... UNITED STATES
NORTH CAROLINA

COUNTY..... MADISON

MAP REFERENCE..... MOI SPRINGS 1124000

DJHER LOCALITY INFORMATION: ALTITUDE 497 M. SPRING ON HILLSIDE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTION..... 1976/05/03

SAMPLE NUMBER..... 810

TEMPERATURE (C)..... 15.0

DEPTH (M) 7

DISCHARGE..... 45. L/MIN

PARTINENT LITHOLOGY..... SHAUO DOLOMITE

OTHER SAMPLE INFORMATION. IRRIGATION USE.

WATER ANALYSIS

DATE/ANALYST..... 1976/05/03

P 1. 8.1

SPECIFIC CONDUCTANCE..... 245.

AI KAI JITY..... 136.

CHARGE IMBALANCE (A DIFF) ... 1.3

ANALYSIS IN MG/L

AS HCU3

ISOLATES 10/001

AG.....		CO3.....		LI....	N				
AL.....	0.002	CR.....		HG....	14.	S8...		DEL O(18) OF WATER...	-6.8
AS..... L	0.0002	CS.....		MN....	N				
AU.....		CU.....		MO....		SE... L	0.001		
H.....	0.06	F..... N		NA....	1.8	SI02..	5.2		
HA.....		FE+J..		NA+K..		SN....		DEL C(13) OF CO2.....	-12.4
HE.....		FE(TQT).. N		NH....		S04... 4.2		TRITIUM (T.U.).....	48.9
HT.....		GA.....		NH4....		SR... N			
CA.....	23.	HCO3.... 136.		NU3... 7.8					
CD.....		H2S.....		PO4.. N					
CL.....	2.2								
CO.....		K..... 1.3				ZN... 0.25			

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MORRA AND OTHERS, 1977

RECONU 00060

WENTHERM_SAMPLE_FILE

GEUTHERM FILE ID: 0016045

NAME OF SAMPLE SOURCE... KRETZING, MAX
LOCATION... TOWNSHIP=RANGE
COUNTRY..... UNITED STATES
STATE..... PENNSYLVANIA
COUNTY..... PERRY
MAP REFERENCE..... SHERMAN'S DALE 1124000
OTHER LOCALITY INFORMATION: ALTITUDE 140 M. SPRING IN VALLEY.

CONCLUSIONS

LAT/LONG... 40-19.50 N 077-15.13 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/09/11
SAMPLE NUMBER..... 203
TEMPERATURE (C)..... 15.1
WELL DEPTH (M)..... 17.
PERTINENT LITHOLOGY..... OHISKANY FORMATION
OTHER SAMPLE INFORMATION..... UNUSED.

WAFER ANALYSIS

DATE/ANALYST..... 1975/09/11
PH..... 6.2
SPECIFIC CONDUCTANCE..... 170.

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHEN L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00061

GEOMETRY SAMPLE FILE

GEUTHERM FILE 101 0016052

NAME OF SAMPLE SOURCE... PERRY COUNTY WARM SPRINGS
LOCATION... TOWNSHIP=RANGE
COUNTRY..... UNITED STATES
STATE..... PENNSYLVANIA
COUNTY..... PERRY
MAP REFERENCE..... SHERMAN'S DALE 1124000

CORRIGENDUM

LAT/LONG... 40-19.72 N 077-14.78 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/05/19
TEMPERATURE (C)..... 17.7
DISCHARGE..... 625. L/MIN

PERTINENT LITHOLOGY..... ORISKANY FORMATION
WATER ANALYSIS

PH.....	7.62	
SPECIFIC CONDUCTANCE.....	200.	
AI KAI INITY.....	133.	AS HCU3
CHARGE IMBALANCE (% DIFF)...	0.8	

ANALYSIS IN MG/L

AG....		CO ₃		LI... N			
AL.... L	0.001	CR....		MG... 2.8		Sb...	
AS....	0.0002	C ₅		MN... N			
AU....		CU.... M		MO... 1.8		SE... L	0.001
B.... N		F.... 0.1		NA... 1.8		SI02..	7.4
HA....		FE+3..		NA+K..		SN... 6.3	
HE....		FE(TOT).. N		NH... 0.1		S04..	0.2
HI....		GA....		NH4... 0.1		SR... 0.01	
CA.... 40.		HCO ₃ 133.		NO ₃ ..			
CD....		H ₂ S....		P04..			
CI.... 0.9		K.... 0.5					
CO....							

ISOLOPES (0/00)

DEL O(18) OF WATER...	-8.2
DEL C(13) OF CO2.....	-12.6
TRITIUM (T.U.).....	8.3 +/- 0.6

GAS ANALYSIS

ANALYSIS IN MG/L

CH4..	L 0.03		
CO2..	7.4	02...	4.0
HE...	L 0.0005		

ISULOPES 100/01

REFERENCE AND IDENTIFICATION

COMPILED BY..... ORWIS, GRETA J.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MORHA AND OTHERS, 1977

RECORD 00062

GEOGRAPHIC SAMPLE FILE

NAME OF PROJECT... PERRY COUNTY WARM SPRINGS
LOCATION... TOWNSHIP=RANGE
COUNTRY..... UNITED STATES
STATE..... PENNSYLVANIA
COUNTY..... PERRY
MAP REFERENCE..... SHERMAN'S DALE 1:24000

GEUTHERM FILE 101 0016044

COORDINATES

LAT/LONG... 40-19.72 N 077-14.78 W

OTHER LOCALITY INFORMATION: SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS
DATE/COLLECTOR..... 1975/10/06
TEMPERATURE (C)..... 17.8

PERTINENT LITHOLOGY..... ORISKANY FORMATION

OTHER SAMPLE INFORMATION. COMMERCIAL USE.

WATER ANALYSIS

P.H.....	7.2	
SPECIFIC CONDUCTANCE.....	190.	
ALKALINITY.....	135.	AS MC03
CHARGE IMBALANCE (% DIFF)...	6.5	

ANALYSIS IN MU/L

AG....		C93.....		LI....	N				
AL....	L 0.001	CH....		MG....		J.3	SB....		
AS....	0.0002	CS....		MN....	N				
AU....		CU....	N	MO....			SE....	L 0.001	
"....	"	F....	0.1	NA....		1.6	S102.	9.0	
HA....		FE+3....		NA+K..			SN....		

ISOLOPES LO/001

DEL O(18) OF WATER...	-7.7
DEL C(13) OF CO2.....	-13.4

HE....	FE(TOT)...	0.01	NH...	SO4...	8.3	TRITIUM (T.U.).....	6.0 +/- 1.0
HI....	GA.....		NH4...	SR...	0.3		
HR....							
CA....	0.012						
CD....	38.	HC03....	135.	NO3...	0.1		
CL....	0.8	H2S.....		PO4...	0.1		
CO....		K.....	0.5	ZN...	N		

GAS ANALYSIS
ANALYSIS IN MG/L
AR... 0.91
CH4... L 0.01
C2H6...
CO2... 9.0
HF... L 0.002

REFERENCE AND IDENTIFICATION
COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILED AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MOHBA AND OTHERS, 1977

ISOTOPES (00/01)

RECORD 00063

GEOTHERM FILE ID: 0001465

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... CASCADE SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES 08S 00SE 20 SE OF SW
STATE..... SOUTH DAKOTA
COUNTY..... FALL RIVER

LAT/LONG... 43-20.1 N 103-33.05 W

MAP REFERENCE..... CASCADE SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1957/11/01 WOLCOTT, D. E. AND C. E. PRICE
SAMPLE NUMBER..... 2250
TEMPERATURE (C)..... 22.
DISCHARGE..... 42500. L/MIN

WATER ANALYSIS

DATE/ANALYST..... ROBINSON, B. P.
PH..... 7.0
SPECIFIC CONDUCTANCE..... 2700.
ALKALINITY..... 235.
TOTAL DISSOLVED SOLIDS... 2530.

AS HC03

ANALYSIS IN PPMISOTOPES (0/001)

AG....	CO3....	N	LI....	N		
AL....	CH....		MG....	92.		
AS....	CS....		MN....	N		
H....	0.19	FE(TOT)...	0.9	NA....	54.	SI02. 22.
HE....		FE(TOT)...	0.03	NB....		SO4.. 1540.
CA....	568.	HC03....	235.	NO3...	0.6	
CA-MG.		HG....		PH....		U.... 5.7
CD....		H2S.....		PO4...	N	
CL....	62.	K.....	6.2			

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY
COMPILED AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... POST, 1967

RECORD 00064

GEOTHERM FILE 101 0001464

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... EVANS PLUNGE

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES 075 005E 13 SW OF SW SW NW LAT/LONG... 43-26.51 N 103-28.82 W

STATE..... SOUTH DAKOTA

COUNTY..... FALL RIVER

MAP REFERENCE..... HOT SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1957/11

SAMPLE NUMBER..... 2247

TEMPERATURE (C)..... 32.

WATER ANALYSIS

PH..... 7.0

ALKALINITY..... 232.

AS HCO3

CHARGE IMBALANCE (% DIFF).... 2.2

ANALYSIS IN PPM

AG....		CO3..... N		LI....	0.05		
AL....	0.1	CR.....		MG....	51.		
AS....		CS.....		MN....	N		
H....	0.24	F.....	0.8	NA....	86.	SI02.	27.
HE....		FE(TOT)..... N		NB....		S04..	639.
CA....	252.	HCO3.....	232.	NO3..	1.		
CA+MG.		HG.....		PB....		U....	0.0075
CO....		H2S.....		P04..	N		
CL....	112.						
CU....		K.....	9.8				

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... LIEB, RANDY

COMPILED AFFILIATION... US GEOLOGICAL SURVEY

REFERENCE..... GOTT AND SCHNAHEL, 1963

RECORD 00065

GEOTHERM FILE 101 0001463

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... EVANS PLUNGE

LOCATION

TOWNSHIP-RANGE

COORDINATES

COUNTRY..... UNITED STATES 075 005E 13 SW OF SW SW NW LAT/LONG... 43-26.51 N 103-28.82 W

STATE..... SOUTH DAKOTA

COUNTY..... FALL RIVER

MAP REFERENCE..... HOT SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

TEMPERATURE (C)..... 30.

WATER ANALYSIS

TOTAL DISSOLVED SOLIDS... 1553.

ANALYSIS IN PPM

AG....		CO3.....	123.				
AL....		CR.....		MG....	49.		
H....		F.....		NA....	99.	SI02.	16.
HA....		FE+3.....	1.1				
HE....		FE(TOT).....		NB....		S04..	736.
CA....	295.						
CL....	120.						

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY.....
 US GEOLOGICAL SURVEY
 RAHN AND GRIES, 1973
 REFERENCE.....

RECORD 00066

GEOHEM FILE IDI 0001462

COORDINATES

LAT/LONG... 43-27.12 N 103-30.48 W

LOCATION
 NAME OF SAMPLE SOURCE... HOT HOOK CANYON HOT SPRING
 TOWNSHIP=RANGE

UNITED STATES 075 005E 14

SOUTH DAKOTA

COUNTY.....

MAP REFERENCE.....

OTHER LOCALITY INFORMATION: 8700, FT ABOVE ROUTE 87

SAMPLE DESCRIPTION AND CONDITIONS

TEMPERATURE (C).....

REFERENCE AND IDENTIFICATION

COMPILED BY.....

US GEOLOGICAL SURVEY

RAHN AND GRIES, 1973

REFERENCE.....

RECORD 00067

GEOHEM FILE IDI 0016012

COORDINATES

LAT/LONG... 37-52.15 N 079-56.00 W

LOCATION
 NAME OF SAMPLE SOURCE... FALLING SPRING
 TOWNSHIP=RANGE

UNITED STATES

COUNTY.....

MAP REFERENCE.....

COVINGTON 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTION.....

TEMPERATURE (C).....

DISCHARGE.....

PERMIT LITHOLOGY.....

WATER ANALYSIS

7.32

SPECIFIC CONDUCTANCE.....

250

ALKALINITY.....

CHARGE BALANCE (3 DIFF).....

ANALYSIS IN MG/L

CO₃.....

CH.....

AS.....

0.002

CU.....

FE.....

FE.....

GA.....

NO₃.....

PO₄.....

CO.....

DATE/ANALYST.....

1976/06/11

ANALYSIS

GAS ANALYSIS

CO.....

2.4

117

250

10

ZN.....

0.01

ISOTOPES (U/W)

DEL C(13) OF CO₂.....

-8.4

DEL C(13) OF CO₂.....

32.6 +/- 1.9

DEL C(13) OF CO₂.....

DEL C(13) OF CO₂.....

DEL C(13) OF CO₂.....

1.7

SR.....

12

DEL C(13) OF CO₂.....

-7.8

DEL C(13) OF CO₂.....

DEL C(13) OF CO₂.....

DEL C(13) OF CO₂.....

DEL C(13) OF CO₂.....

AR... 0.7
 CH4... L 0.015
 C2H6...
 CO2... 30.
 HE... L 0.0003
 N2... 18.
 O2... 8.0

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE... MORHA AND OTHERS, 1977

RECORD 00068

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015237

NAME OF SAMPLE SOURCE... FALLING SPRING

WATER NUMBER... 13

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-52.15 N 079-56.00 W

COUNTRY... UNITED STATES

STATE... VIRGINIA

COUNTY... ALLEGHANY

GEOLOGIC PROVINCE... FOLDED APPALACHIANS

MAP REFERENCE... COVINGTON 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR... 1973/07/00

SAMPLE NUMBER... 134

TEMPERATURE (C)... 22.2

DISCHARGE... 0.26500 L/MIN

PERMEABLE LITHOLOGY... LOWVILLE LIMESTONE

WATER ANALYSIS

PH... 7.00

SPECIFIC CONDUCTANCE... 823.

ALKALINITY... 274.

AS HCO3

CHARGE IMBALANCE (% DIFF)... 1.0

ANALYSIS IN MG/L

ISOTOPE (0/001)

AL... CH... MG... 26.6

AU... CU... 0.0019

H... F... NA... 3.5

HE... FE(TOT)... 0.0396

HI... GA... NH4...

CA... 134. HCO3... 274.

CD... 0.0004

CL... 5.0

CO... K... 10.3

ZN... 0.0074

QUALIFICATION FIELD... FROM MAKING, 1965

REFERENCE AND IDENTIFICATION

COMPILED BY... RENNEK, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE... WELZ AND SINEX, 1974

RECORD 00069

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016013

NAME OF SAMPLE SOURCE... FALLING SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-52.15 N 079-56.00 W

COUNTRY... UNITED STATES

STATE... VIRGINIA

COUNTY... ALLEGHANY

MAP REFERENCE..... COVINGTON 1:24000
 OTHER LOCALITY INFORMATION: ALTITUDE 669 M, SPRING IN STREAM CHANNEL.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/12/15
 TEMPERATURE (C)..... 25.0
 DISCHARGE..... 12264. L/MIN
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 OTHER SAMPLE INFORMATION.. UNUSED.

WATER ANALYSIS

PH..... 7.32
 SPECIFIC CONDUCTANCE..... 860.
 ALKALINITY..... 315. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 2.2

ANALYSIS IN MG/L

AG....		CO3....		LI....	0.17		
AL....	L 0.001	CR....		MG....	30.	SB...	
AS....	0.0002	CS....		MN....	N		
AI....		CU....	N	MO....			
H....	0.02	F....	1.2	NA....	3.8	SE....	L 0.001
HA....		FE+3....		NA+K..		SI02..	18.
HF....		FE(TOT)..	N	NB....		SN....	
HI....		GA....		NH4...	10.	S04...	289.
HR....	0.028					SR....	2.4
CA....	158.	HCO3....	315.	NO3...	1.3		
CD....		H2S....		PO4...	0.07		
CL....	2.5						
CO....		K....	16.				
				ZN...	N		

ISOTOPES (0/001)

DEL O(18) OF WATER... -7.7

DEL C(13) OF CO2..... -6.8
 TRITIUM (T.U.)..... 24.4 +/- 2.2

GAS ANALYSIS

ANALYSIS IN MG/L

AH...	0.66		
CH4..	L 0.005		
C2H6.		N2...	15.
CO2..	33.	O2...	7.0
HE....	L 0.0003		

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00070

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015234

NAME OF SAMPLE SOURCE... MRS. JENNIE LAYTON SPRING

WELLING NUMBER..... 12

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-51.85 N 079-59.40 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... ALLEGHANY

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... COVINGTON 1:24000

OTHER LOCALITY INFORMATION: EAST BANK OF JACKSON RIVER, 1/4 MILE BELOW MOUTH OF INDIAN DRAFT

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1978/03/29
 SAMPLE NUMBER..... 281
 TEMPERATURE (C)..... 21.6
 DISCHARGE..... 379. L/MIN

PERTINENT LITHOLOGY..... ORISKANY SANDSTONE
WATER ANALYSIS

ALKALINITY..... 190. AS HCO3
TOTAL DISSOLVED SOLIDS... 200.
ANALYSIS IN PPM

H..... F..... NA... 14.
HE..... FE(TQT)... NH... 504... 28.
CA.... 64. HCO3.... 190. NO3... 0.35
CL.... 1.3

ISOTOPES (0/00)

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
COMPILER AFFILIATION... GRUY FEDERAL, INC
REFERENCE..... COLLINS AND OTHERS, 1930

RECORD 00071

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015241

NAME OF SAMPLE SOURCE... SWEET CHALYBEATE
WATER NUMBER..... 15

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-38.53 N 080-14.32 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... ALLEGHANY
GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
MAP REFERENCE..... ALLEGHANY 1:24000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/07/00
SAMPLE NUMBER..... 177
TEMPERATURE (C)..... 22.5
DISCHARGE..... 0.3786 L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
WATER ANALYSIS

PH..... 6.33
SPECIFIC CONDUCTANCE..... 1580.
ALKALINITY..... 706. AS HCO3
CHARGE IMBALANCE (% DIFF)... 1.3

ANALYSIS IN MG/L

ISOTOPES (0/00)

AL.... CR..... MG... 57.7
AU.... CU..... 0.0018
H..... F..... NA... 17.9
HE..... FE(TQT)... NH... 504... 383.
HI.... GA..... NH4... SR... 3.7
CA.... 288. HCO3.... 706.
CO.... 0.0014
CL.... 24.4
K..... 24.5
ZN... 0.0081

QUALIFICATION FIELD..... FROM WAKING, 1965

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
COMPILER AFFILIATION... GRUY FEDERAL, INC
REFERENCE..... MELZ AND SINEX, 1974

RECORD 00072

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016011

NAME OF SAMPLE SOURCE... WEHN, H.D.

LOCATION

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... ALLEGHANY
MAP REFERENCE..... COVINGTON 1124000

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-52.48 N 079-55.65 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/26
TEMPERATURE (C)..... 27.2
WELL DEPTH (M)..... 51.

DISCHARGE..... 0
PERTINENT LITHOLOGY..... BECKMANTOWN GROUP

WATER ANALYSIS

P1..... 7.15
SPECIFIC CONDUCTANCE..... 1050.
ALKALINITY..... 423. AS HCO3
CHARGE IMBALANCE (% DIFF).... 6.1

ANALYSIS IN MG/L

AG....	CO3....	LI....	0.3		
AL.... L 0.001	CR....	MG....	55.	SB....	
AS.... 0.0002	CS....	MN....	0.02		
AU....	CU.... N	MU....		SE.... L 0.001	
B.... 0.04	F.... 2.4	NA....	6.6	SI02..	24.
HA....	FE+3....	NA+K..		SN....	
HE.... 0.044	FE(TOT) 0.16	NB....		SO4....	507.
HI....	GA....	NH4....	0.08	SR....	3.5
CA.... 234.	HCO3.... 423.	NO3....	0.1		
CD....	H2S..... L 0.02	PO4... N			
CL.... 4.3					
CO....	K..... 2.5				
		ZN....	0.3		

ISOTOPES (0/00)

DEL O(18) OF WATER... -7.9

DEL C(13) OF CO2..... -8.0
TRITIUM (T.U.)..... 10.9 +/- 1.0

GAS ANALYSIS

ANALYSIS IN MG/L

CH4.. L 0.03
CO2.. 140.
HE... 0.0020

ISOTOPES (00/01)

02... 0.1

QUALIFICATION FIELD..... DISCHARGE DESCRIBED AS "GOOD".

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... WOHHA AND OTHERS, 1977

RECORD 00073

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... COLD MAGNESIA SPRING
WELL/SPRING NUMBER..... 605

GEOTHERM FILE ID: 0016030

LOCATION

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... BATH
MAP REFERENCE..... HEALING SPRINGS 1124000

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.82 N 079-49.67 W

OTHER LOCALITY INFORMATION: ALTITUDE 703 M. SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/26
SAMPLE NUMBER..... 605
TEMPERATURE (C)..... 15.2
DISCHARGE..... 511. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

WATER ANALYSIS

DATE/ANALYST..... 1975/11/21

P.H..... 7.20

SPECIFIC CONDUCTANCE..... 330.

ALKALINITY..... 174. AS HCO3

ANALYSIS IN MG/L

AL.....	CR.....	MG...	9.7	SB...	
HA.....	F.....	NA...	1.7	SI02.	8.2
HA.....	FE+3.....	NA+K.		SN...	
HF.....	FE(TOT).....	NH...		SO4...	9.5
HI.....	GA.....	NH4...		SR...	0.3
CA..... 60.	HCO3..... 174.	NO3...	0.8		
CO.....	K..... 2.9				

ISOTOPIES (0/001)

DEL O(18) OF WATER... -7.9

DEL C(13) OF CO2..... -8.8

TRITIUM (T.U.)..... 41.

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.72		N2...	19.
CH4.. L 0.01		O2...	9.2
C2H6.			
CO2.. 14.			
HE... L 0.0001			

ISOTOPIES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00074

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016024

NAME OF SAMPLE SOURCE... DUNN, M.

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-01.25 N 079-48.72 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... BATH

MAP REFERENCE..... APPALACHIAN VALLEY 1:250000

OTHER LOCALITY INFORMATION: ALTITUDE 698 M, SPRING IN STREAM CHANNEL.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/24

SAMPLE NUMBER..... 619

TEMPERATURE (C)..... 15.8

DISCHARGE..... 3880. L/MIN

PERTINENT LITHOLOGY..... TRENTON AND BLACK RIVER GROUPS

OTHER SAMPLE INFORMATION.. HOUSEHOLD USE.

WATER ANALYSIS

DATE/ANALYST..... 1975/11/24

P.H..... 7.32

SPECIFIC CONDUCTANCE..... 410.

ALKALINITY..... 196. AS HCO3

CHARGE IMBALANCE (% DIFF)... 4.8

ANALYSIS IN MG/L

AG.....	CO3.....	LI...	0.02	SH...	
AL..... L 0.001	CR.....	MG...	14.		
AS..... L 0.0002	CS.....	MN... N		SE... L 1.0	
AU.....	CU..... N	MO...		SI02.	8.9
H..... 0.02	F..... 0.5	NA...	2.1	SN...	
HA.....	FE+3.....	NA+K.			

ISOTOPIES (0/001)

DEL O(18) OF WATER... -7.7

DEL C(13) OF CO2..... -10.4

HE....		FE(TOT). N	NB...	S04..	85.	TRITIUM (T.U.).....	J6.
H1....		GA.....	NH4..	SR...	0.5		
HR....	0.018						
CA....	80.	HCO3....	NO3..		2.4		
CO....		H2S.....	PO4..		0.04		
CL....	2.2						
CO....		K.....		ZN...	0.04		

GAS ANALYSIS

DATE/ANALYST..... 1975/11/24

ANALYSIS IN MU/L

AR... 0.74

CH4.. L 0.007

C2H6.

CO2.. 13.

HE... 0.0002

N2... 19.

O2... 8.0

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILED AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... MOHHA AND OTHERS, 1977

RECORD 00075

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016050

NAME OF SAMPLE SOURCE... DUNN, M.

LOCATION

TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 38-01.25 N 079-48.72 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... BATH

MAP REFERENCE..... APPALACHIAN VALLEY 11250000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

SAMPLE NUMBER..... 619

TEMPERATURE (C)..... 14.4

PERTINENT LITHOLOGY..... TRENTON AND BLACK RIVER GROUPS

WATER ANALYSIS

PH..... 7.4

SPECIFIC CONDUCTANCE..... 395.

ALKALINITY..... 179.

CHARGE IMBALANCE (% DIFF)... 4.4

AS HCO3

ANALYSIS

AG....

AL.... 0.003

AS....

B.... 0.02

HA....

HE....

H1....

CA.... 73.

CO....

CL.... 2.4

CO....

CO3....

CR....

CS....

F.... 0.4

FE+3....

FE(TOT). N

GA....

HCO3....

H2S.....

K.....

LI... 0.01

MG... 9.2

MN... N

NA... 1.8

NA+K.

NB...

NH4..

NO3.. 2.3

PO4.. N

ZN... 0.01

ISOTOPES (0/001)

DEL O(18) OF WATER... -8.3

DEL C(13) OF CO2..... -7.4

TRITIUM (T.U.)..... J6.

GAS ANALYSIS

ANALYSIS IN MU/L

AR... 0.63

CH4.. L 0.015

C2H6.

N2... 14.

ISOTOPES (100/01)

C07.. 12. 02... 6.0
 REF.. I. 0.0003
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... MORRIS, GRETA J.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00076

GEOTHERM SAMPLE FILE
 NAME OF SAMPLE SOURCE... GARDNER, G.
 LOCATION
 COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 MAP REFERENCE..... WARM SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 750 M, SPRING ON HILLSIDE.
 TOWNSHIP-RANGE
 COORDINATES
 LAT/LONG... 38-02.70 N 079-46.98 W
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1975/09/04
 SAMPLE NUMBER..... 629
 TEMPERATURE (C)..... 16.4
 DISCHARGE..... 49. L/MIN
 PERTINENT LITHOLOGY..... TRENTON AND BLACK RIVER GROUPS
 OTHER SAMPLE INFORMATION.. HOUSEHOLD USE.
 WATER ANALYSIS
 P..... 7.4
 SPECIFIC CONDUCTANCE..... 275.
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00077

GEOTHERM SAMPLE FILE
 NAME OF SAMPLE SOURCE... HEALING SPRINGS
 WORKING NUMBER..... 9
 LOCATION
 COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
 MAP REFERENCE..... HEALING SPRINGS 1124000
 TOWNSHIP-RANGE
 COORDINATES
 LAT/LONG... 37-57.78 N 079-51.66 W
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1973/07/00
 SAMPLE NUMBER..... 131
 TEMPERATURE (C)..... 27.5
 PERTINENT LITHOLOGY..... LOUUVILLE LIMESTONE
 OTHER SAMPLE INFORMATION.. SAMPLE PROBABLY CONTAMINATED BY IRON FROM WELLS AROUND SPRING
 WATER ANALYSIS
 P..... 6.84
 SPECIFIC CONDUCTANCE..... 435.
 ALKALINITY..... 460.
 CHARGE IMBALANCE (% DIFF)... 5.1
 ANALYSIS IN MU/L
 AL..... CR..... 46... 36.9
 AS HCO3
 ISOLATES 10/001

AN....		CU.....	0.0017	NA...	6.9		
H.....		F.....		NH...		SO4..	128.
HE.....		FE(TOT)	1.3	NH4..		SR...	1.2
HI.....		GA.....					
CA.....	123.	HC03....	460.				
CO....	0.0001						
CL....	6.						
CO....		K.....	13.9	ZN...		0.0083	

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HELZ AND SINEX, 1974

RECORD 00078

GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0016029

NAME OF SAMPLE SOURCE... HOMESTEAD HOT WELL

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.93 N 079-49.35 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... BATH

MAP REFERENCE..... HEALING SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 744 M, SPRING ON HILLSIDE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/20

SAMPLE NUMBER..... 607A

TEMPERATURE (C)..... 19.6

WELL DEPTH (M)..... 230.

DISCHARGE..... 0.033 L/MIN

PERTINENT LITHOLOGY..... BEEKMANTOWN GROUP

OTHER SAMPLE INFORMATION.. WATER UNUSED. SAMPLE COLLECTED AT 65.5 M DEPTH WITH SAMPLING TUBE ON LOGGER.

WATER ANALYSIS

PH..... 7.15

SPECIFIC CONDUCTANCE..... 420.

ALKALINITY..... 364. AS HC03

CHARGE IMBALANCE (% DIFF).... 3.5

ANALYSIS IN MG/L

AG.... CO3.... LI... 0.03

AL.... L 0.001 CR.... MG... 34. SH...

AS.... 0.0015 CS.... MN... 0.08

AU.... CU.... N' MO... SE... L 0.001

H..... F..... 0.6 NA... 15.

HA.... FE+3.... NA+K. SN...

HE.... FE(TOT) 0.16 NH... SO4.. 114.

HI.... GA..... NH4.. SR... 1.1

HR.... HC03.... NO3.. 0.1

CA.... H2S.... L 0.02 PO4.. 0.13

CO.... K..... 5.8 ZN... 0.39

CL....

GAS ANALYSIS

DATE/ANALYST..... 1975/11/20

ANALYSIS IN MG/L

AR... 0.96

CH4... L 0.01

C2H6.

N2... 25.

ISOTOPES (0/00)

DEL O(18) OF WATER... -7.8

DEL C(13) OF CO2..... -7.5

TRITIUM (T.U.)..... 2.4 +/- 2.3

ISOTOPES (00/01)

C02... 115.
 ME... 0.0010
 QUALIFICATION FIELD... PUMPED
 REFERENCE AND IDENTIFICATION
 COMPILED BY... SILVA, CHRISTOPHER L.
 REFERENCE... HUBBA AND OTHERS, 1977

RECORD 00079

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016028

NAME OF SAMPLE SOURCE... HOMESTEAD HOT WELL
 LOCATION
 COUNTRY... UNITED STATES
 STATE... VIRGINIA
 COUNTY... BATH
 MAP REFERENCE... HEALING SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 744 M, SPRING ON HILLSIDE.

COORDINATES

LAT/LONG... 37-59.93 N 079-49.35 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR... 1976/02
 SAMPLE NUMBER... 6078
 TEMPERATURE (C)... 17.9
 WELL DEPTH (M)... 230.
 DISCHARGE... 0.833 L/MIN

PERTINENT LITHOLOGY... BEEKMANTOWN GROUP

OTHER SAMPLE INFORMATION.. WATER UNUSED. SAMPLE COLLECTED AT 102 M DEPTH WITH SAMPLING TUBE ON LOGGER.

WATER ANALYSIS

PH... 7.6
 ALKALINITY... 192. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 7.4

ANALYSIS IN MG/L

AG...	CO3...	LI...	0.01		
AL...	CR...	MG...	18.		
AS...	CS...	MN...	0.14		
AU...	CU... N				
N... 0.04	F... 0.4	NA...	2.6	SI02..	7.2
RE...	FE(TOT)...	NH...		SO4..	37.
HI...	GA...	NH4..		SR...	0.4
HR... 0.024					
CA... 53.	HCO3... 192.	NO3..	0.4		
CO...	H2S...	PO4..	0.13		
CL... 2.8					
CO...	K... 3.6				
		ZN...	0.07		

ISOTOPES (0/00)

QUALIFICATION FIELD... PUMPED

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE... HUBBA AND OTHERS, 1977

RECORD 00080

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016027

NAME OF SAMPLE SOURCE... HOMESTEAD HOT WELL
 LOCATION
 COUNTRY... UNITED STATES
 STATE... VIRGINIA
 COUNTY... BATH

COORDINATES

LAT/LONG... 37-59.93 N 079-49.35 W

MAP REFERENCE..... HEALING SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 744 M. SPRING ON HILLSIDE.
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1976/02
 SAMPLE NUMBER..... 607C
 TEMPERATURE (C)..... 19.5
 WELL DEPTH (M)..... 230.
 DISCHARGE..... 0.833 L/MIN
 PERTINENT LITHOLOGY..... BEEKMANTOWN GROUP
 OTHER SAMPLE INFORMATION.. WATER UNUSED. SAMPLE COLLECTED AT 122 M DEPTH WITH SAMPLING TUBE ON LOGGER.
 WATER ANALYSIS

PH..... 6.9
 ALKALINITY..... 392. AS HCO₃
 CHARGE IMBALANCE (± DIFF).... 4.3
 ANALYSIS IN MG/L

ISOTOPE (0/00)

AG....		CO ₃		LI....	0.04		
AL....	0.018	CH....		MG....	35.		
AS....		CS....		MN....	0.27		
AU....		CU....	N				
B....	0.94	F....	0.9	NA....	4.9	SiO ₂ ..	14.
BE....		FE(TOT)...	0.34	NB....		SO ₄ ..	116.
BI....		GA....		NH ₄ ..		SR....	1.1
BR....	0.028						
CA....	119.	HCO ₃	392.	NO ₃ ..	0.1		
CD....		H ₂ S....		PO ₄ ..	0.11		
CL....	2.3						
CO....		K....	11.				
				ZN....	1.0		

QUALIFICATION FIELD..... PUMPED
 REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MONBA AND OTHERS, 1977

RECORD 00081

GEO THERM SAMPLE FILE

GEO THERM FILE 101 0016026

NAME OF SAMPLE SOURCE... HOMESTEAD HOT WELL
 LOCATION

COORDINATES

LAT/LONG... 37-59.93 N 079-49.35 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 MAP REFERENCE..... HEALING SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 744 M. SPRING ON HILLSIDE.
 SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/02
 SAMPLE NUMBER..... 607D
 TEMPERATURE (C)..... 32.2
 WELL DEPTH (M)..... 230.
 DISCHARGE..... 0.833 L/MIN

PERTINENT LITHOLOGY..... BEEKMANTOWN GROUP
 OTHER SAMPLE INFORMATION.. WATER UNUSED. SAMPLE COLLECTED AT 227 M DEPTH WITH SAMPLING TUBE ON LOGGER. WELL DRILLED

IN 1974,
 WATER ANALYSIS

ALKALINITY..... 400. AS HCO₃
 CHARGE IMBALANCE (± DIFF).... 3.9
 ANALYSIS IN MG/L

ISOTOPE (0/00)

AG....		CO3....		LI...	0.04		
AL....	0.029	CR....		MG...	37.		
AS....		CS....		MN...	0.14		
AU....		CU....	N				
B....	0.02	F....	1.0	NA...	5.6	SI02.	19.
HE....		FE(TOT)	0.04	NH...		SO4...	132.
HI....		GA....		NH4...		SR...	1.4
HR....	0.025						
CA....	123.	HCO3....	400.	NO3..	0.1		
CD....		H2S....		PO4..	0.13		
CL....	2.4						
CO....		K....	13.				
				ZN...	0.07		

QUALIFICATION FIELD..... PUMPED

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HUBBA AND OTHERS, 1977

RECORD 00082

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016036

NAME OF SAMPLE SOURCE... HOT SPRINGS (BOILER SPRING)
 LOCATION..... TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.87 N 079-49.80 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... BATH

MAP REFERENCE..... HEALING SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 693 M, SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/21

TEMPERATURE (C)..... 39.9

DISCHARGE..... 227. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

OTHER SAMPLE INFORMATION.. RECREATIONAL USE.

WATER ANALYSIS

P..... 6.65

SPECIFIC CONDUCTANCE..... 700.

ALKALINITY..... 454.

AS HCO3

CHARGE IMBALANCE (% DIFF).... 2.7

ANALYSIS IN MG/L

AG....		CO3....		LI...	0.05		
AL....	L 0.001	CH....		MG...	40.	SB...	
AS....	0.0005	CS....		MN...	N		
AU....		CU....	N	MO...		SE... L 1.	
B....	0.03	F....	1.1	NA...	7.0	SI02.	21.
HA....		FE+3....		NA+K.		SN...	
HE....		FE(TOT)	0.17	NH...		SO4...	130.
HI....		GA....		NH4...	0.09	SR...	1.3
HR....	0.029						
CA....	132.	HCO3....	454.	NO3..	0.1		
CD....		H2S....		PO4..	0.02		
CL....	2.6						
CO....		K....	13.				
				ZN...	0.05		

ISOTOPIES (0/00)

DEL O(18) OF WATER... -7.4

DEL C(13) OF CO2..... -5.6

TRITIUM (T.O.)..... -3.1 +/- 1.8

GAS ANALYSIS

ANALYSIS IN MU/L

AR.... 0.72

ISOTOPIES (00/01)

CH4.. L 0.006

C2H6..

N2... 17.

CO2.. 136.

O2... 2.0

HE... 0.0007

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00083

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... HOT SPRINGS (BOILER SPRING)

GEOTHERM FILE ID: 0015240

WATER NUMBER..... A

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.87 N 079-49.80 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... HATH

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... HEALING SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/07/00

SAMPLE NUMBER..... 123

TEMPERATURE (C)..... 39.0

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

WATER ANALYSIS

PH..... 6.6

SPECIFIC CONDUCTANCE..... 850.

ALKALINITY..... 446.

AS HCO3

CHARGE IMBALANCE (% DIFF)... 0.7

ANALYSIS IN MG/L

ISOTOPES (D/001)

AL.... CR.... MG... 36.4

AU.... CU.... 0.0028

H.... F.... NA... 7.0

HE.... FE (TOT)... 0.345 NB... 131.

HI.... GA.... NH4... 1.2

CA.... 129. HCO3.... 446. S04... 131.

CO.... 0.0004

CL.... 5.0

K.... 13.5 ZN... 0.0075

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... HELZ AND SINEX, 1974

RECORD 00084

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... HOT SPRINGS (BOILER SPRING)

GEOTHERM FILE ID: 0016035

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.87 N 079-49.80 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... HATH

MAP REFERENCE..... HEALING SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

TEMPERATURE (C)..... 40.0
 DISCHARGE..... 227. L/MIN
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 WATER ANALYSIS

PH..... 6.55
 SPECIFIC CONDUCTANCE..... 645.
 ALKALINITY..... 452. AS HCO3
 CHARGE IMBALANCE (% DIFF).... 3.4
 ANALYSIS IN MG/L

AG.....		CO3.....		LI....	0.04		
AL....	0.002	CR.....		MG....	35.	SB...	
AS....	0.0005	CS.....		MN....	N		
H....	0.04	F.....	1.1	NA....	6.9	SI02.	20.
HA....		FE+3....		NA+K..		SN...	
HE....		FE(TOT)..	0.17	NH....		SO4..	128.
HI....		GA.....		NH4..		SR...	1.4
CA....	126.	HCO3....	452.	NO3..	0.1		
CO....		H2S.....	L 0.02	PO4..	0.03		
CL....	2.7						
CU....		K.....	14.			ZN...	0.02

ISOTOPES (0/00)

DEL O(18) OF WATER... -8.3
 DEL C(13) OF CO2..... -5.8
 TRITIUM (T.U.)..... 0.7 +/- 0.5

GAS ANALYSIS

ANALYSIS IN MG/L

CH4.. L 0.03
 CO2.. 114.
 HE... 0.0003
 O2... 0.4

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00085

GEOTERM SAMPLE FILE

GEOTERM FILE 10: 0015239

NAME OF SAMPLE SOURCE... HOT SPRINGS (HOT SULPHUR SPRING)
 WELP NUMBER..... R

LOCATION

TOWNSHIP-RANGECOORDINATES

LAT/LONG... 37-59.87 N 079-49.78 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
 MAP REFERENCE..... HEALING SPRINGS 1:24000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/07/00
 SAMPLE NUMBER..... 124
 TEMPERATURE (C)..... 36.0

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 WATER ANALYSIS

PH..... 6.66
 SPECIFIC CONDUCTANCE..... 922.
 ALKALINITY..... 439. AS HCO3
 CHARGE IMBALANCE (% DIFF).... 1.2
 ANALYSIS IN MG/L

AL....		CR.....		MG...	36.4		
AI....		CU.....	0.0019				
H....		F.....		NA...	7.0		
HE....		FE(TOT)..	0.146	NH...		SO4..	132.

ISOTOPES 10/001

H1.... GA.... NH4... SR... 1.2
 CA.... 131. HCO3.... 439.
 CH.... 0.0003
 CL.... 5.0
 CO.... K.... 13.4 ZN... 0.0063

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... MELZ AND SINEX, 1974

RECORD 00086

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016034

NAME OF SAMPLE SOURCE... HOT SPRINGS (HOT SULPHUR SPRING)
 LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 37-59.87 N 079-49.78 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH

MAP REFERENCE..... HEALING SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 695 M. SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/21

SAMPLE NUMBER..... 601

TEMPERATURE (C)..... 36.5

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00087

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016033

NAME OF SAMPLE SOURCE... HOT SPRINGS (HOT SULPHUR SPRING)
 LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 37-59.87 N 079-49.78 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH

MAP REFERENCE..... HEALING SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

SAMPLE NUMBER..... 603

TEMPERATURE (C)..... 35.2

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00088

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0015238

NAME OF SAMPLE SOURCE... HOT SPRINGS (MAGNESIA SPRING)
 WAVING NUMBER..... A

LOCATION TOWNSHIP=RANGE
 COUNTRY..... UNITED STATES

COORDINATES

LAT/LONG... 37-59.83 N 079-49.72 W

PH.....	6.78	
SPECIFIC CONDUCTANCE.....	880	
ALKALINITY.....	436	AS HCU3
CHANGE IMBALANCE (% DIFF)...	0.9	

ANALYSIS IN MG/L

ISOLOPES (0/00)

AL....		CR.....		Mg...	36.4		
AII....		CU.....	0.0057				
H.....		F.....		NA...	6.5		
HF....		FE(TQT)...	0.0134	NB...		S04..	132.
HI....		GA.....		NH4..		SR...	1.2
CA....	127.	HCO3....	436.				
CH....	0.0015						
CL....	S./						
CO....		K.....	12.7			ZN...	0.0163

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPTROL AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HELZ AND SINEX, 1974

RECORD 00089

GÉOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016037

NAME OF SAMPLE SOURCE... HOT SPRINGS (OCTAGON SPRING)
LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-59.90 N 079-49.83 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... HATH

MAP REFERENCE..... HEALING SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 693 M. SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/UB/10

SAMPLE NUMBER..... 601

TEMPERATURE (C)..... 36.8

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHHA AND OTHERS, 1977

RECORD 00090

GEOGRAPHY SAMPLE FILE

GEUTHERM FILE ID: 0016038

NAME OF SAMPLE SOURCE... HOT SPRINGS (OCTAGON SPRING)
LOCATION... TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 37-59.90 N 119-49.83 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA

COUNTRY..... BATH
 MAP REFERENCE..... HEALING SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 686 M, SPRING IN VALLEY.
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1975/11/21
 SAMPLE NUMBER..... 601
 TEMPERATURE (C)..... 36.5
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 OTHER SAMPLE INFORMATION,, RECREATIONAL USE.
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHHA AND OTHERS, 1977

RECORD 00091

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015236

NAME OF SAMPLE SOURCE... HOT SPRINGS (OCTAGON)
 WAXING NUMBER..... A
 LOCATION

COORDINATES

LAT/LONG... 37-59.90 N 079-49.98 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
 MAP REFERENCE..... HEALING SPRINGS 1124000
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1973/07/00
 SAMPLE NUMBER..... 122
 TEMPERATURE (C)..... 37.0
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

WATER ANALYSIS

PH..... 6.72
 SPECIFIC CONDUCTANCE..... 837.
 ALKALINITY..... 439. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 2.4

ANALYSIS IN MG/L

AL....	CR.....	MG...	36.4
AIJ....	CU.....	0.0023	
H....	F.....	NA...	7.0
HE....	FE(TQT)...	NB...	
HI....	GA.....	NH4..	
CA.... 134.	HCO3....	439.	
CO.... 0.0002			
CL.... 5.7			

ISOTOPES (0/001)

S04.. 132.
 SR... 1.1

CO.... K..... 13.3

ZN... 0.0075

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... MELZ AND SINEX, 1974

RECORD 00092

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016032

NAME OF SAMPLE SOURCE... MAGNESIA SPRING
 LOCATION
 COUNTRY..... UNITED STATES

COORDINATES

LAT/LONG... 37-59.83 N 079-49.68 W

STATE..... VIRGINIA
 COUNTY..... BATH
 MAP REFERENCE..... HEALING SPRINGS 1124000
 OTHER LOCALITY INFORMATION: ALTITUDE 703 M. SPRING IN VALLEY.
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1975/11/21
 SAMPLE NUMBER..... 604
 TEMPERATURE (C)..... 16.2
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00093

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016031

NAME OF SAMPLE SOURCE... MAGNESIA SPRING
 LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 37-59.83 N 079-49.68 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 MAP REFERENCE..... HEALING SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10
 SAMPLE NUMBER..... 604
 TEMPERATURE (C)..... 28.4
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00094

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016019

NAME OF SAMPLE SOURCE... WARM SPRING (CHILDREN'S POOL)
 LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.87 W

COUNTRY..... UNITED STATES
 STATE..... VIRGINIA
 COUNTY..... BATH
 MAP REFERENCE..... WARM SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 709 M. SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/20
 TEMPERATURE (C)..... 15.3
 DISCHARGE..... 3102. L/MIN
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

OTHER SAMPLE INFORMATION.. MEDICINAL USE.

WATER ANALYSIS

PH..... 7.32
 SPECIFIC CONDUCTANCE..... 640.
 ALKALINITY..... 197. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 1.5
 ANALYSIS IN MG/L

AG..... CO3..... LI... 0.04

ISOTOPES (U/001)

AL.... L 0.001	CR....	MG...	28.	SB...	DEL O(18) OF WATER...	-7.9
AS.... L 0.0002	CS....	MN... N				
AU....	CU.... N	MO...		SE... L 0.001		
R.... 0.02	F.... 1.4	NA... 3.7		SI02. 21.		
HA....	FE+3....	NA+K.		SN...	DEL C(13) OF CO2....	-8.2
HE....	FE(TOT). N	NH...		S04.. 232.	TRITIUM (T.U.).....	0.9 +/- 0.9
HI....	GA....	NH4.. 0.08		SR... 1.9		
HR.... 0.016						
CA.... 112.	HCO3... 197.	NO3.. 0.1				
CH....	H2S.... 0.75	PO4.. 0.01				
CI.... 1.5						
CO....	K..... 7.4			ZN... 0.05		
GAS ANALYSIS						
ANALYSIS IN MG/L						
AR... 0.79						
CH4.. L 0.006						
C2H6.		N2... 16.				
CO2.. 21.		O2... 0.1				
HF... 0.0001						
					<u>ISOTOPIES (00201)</u>	

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00045

GENHEYM SAMPLE FILE

GEOTHERM FILE ID: 0016017

NAME OF SAMPLE SOURCE... WARM SPRING (CHILDREN'S POOL)

LOCATION

COORDINATES

LAT/LONG... 38-03.22 N 079-46.87 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY.....BATH

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

TEMPERATURE (C)..... 75.4

DISCHARGE..... 700. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

WATER ANALYSIS

PH..... 7.20

SPECIFIC CONDUCTANCE..... 580.

AL KAI INITY..... 194. AS HC03

CHARGE IMBALANCE (% DIFF) ... 4.3

ANALYSIS IN MG/L

AG.... CO3..... LI... 0.04

AL.... 0.010 CH..... MG.... 25.

AS... L 0.0002 CS..... MN... N

Al..... Cu..... 0.61

M..... 0.02 F..... 1.4 NA... 3.7

HA... FE+3... NA+K.

RE... FE(TOT). N NB...

HI..... GA..... NH4..

CA.... 119. HCUJ.... 194. NOJ.. N

Cl)....	H2S.....	0.75	PU4..	0.02
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CL.... 1.6

CO..... K..... 6.9

2N... 4.01

LSQLOPES 10/002

UEL 0(18) OF WATER... -8.5

DEL C(13) OF CO2.....	-8.8
TRITIUM (T.U.).....	1.0 +/- 0.6

GAS ANALYSIS

ANALYSIS IN MG/L

AR... 0.81

CH4... 1 0.03

C2H6...

CO2... 20.

HE... 1 0.0003

N2... 16.

O2... 0.2

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE... HOBBA AND OTHERS, 1977

RECORD 00096

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016023

NAME OF SAMPLE SOURCE... WARM SPRING (LADIES' POOL)

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.87 W

COUNTRY... UNITED STATES

STATE... VIRGINIA

COUNTY... BATH

MAP REFERENCE... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR... 1975/11/25

TEMPERATURE (C)... 34.8

DISCHARGE... 700. L/MIN

PERTINENT LITHOLOGY... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE... HOBBA AND OTHERS, 1977

RECORD 00097

GEOHERM SAMPLE FILE

GEOHERM FILE ID: 0016022

NAME OF SAMPLE SOURCE... WARM SPRING (LADIES' POOL)

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.87 W

COUNTRY... UNITED STATES

STATE... VIRGINIA

COUNTY... BATH

MAP REFERENCE... WARM SPRINGS 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 709 M, SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR... 1975/09/03

TEMPERATURE (C)... 34.9

PERTINENT LITHOLOGY... LOWVILLE LIMESTONE

OTHER SAMPLE INFORMATION.. MEDICINAL USE.

WATER ANALYSIS

PH... 7.1

SPECIFIC CONDUCTANCE... 600.

REFERENCE AND IDENTIFICATION

COMPILED BY... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE... HOBBA AND OTHERS, 1977

RECORD 00098

GEOTHERM FILE 101 0016020

GEOTHERM SAMPLE FILENAME OF SAMPLE SOURCE... WARM SPRING (LADIES' POOL)
LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.87 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... BATH

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

TEMPERATURE (C)..... 35.1

DISCHARGE..... 1552. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... MORBA AND OTHERS, 1977

RECORD 00099

GEOTHERM FILE 101 0016015

GEOTHERM SAMPLE FILENAME OF SAMPLE SOURCE... WARM SPRING (MEN'S POOL)
LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.85 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... BATH

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/25

TEMPERATURE (C)..... 35.0

DISCHARGE..... 1703. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... MORBA AND OTHERS, 1977

RECORD 00100

GEOTHERM FILE 101 0016014

GEOTHERM SAMPLE FILENAME OF SAMPLE SOURCE... WARM SPRING (MEN'S POOL)
LOCATION TOWNSHIP=RANGE

COORDINATES

LAT/LONG... 38-03.22 N 079-46.85 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... BATH

MAP REFERENCE..... WARM SPRINGS 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/10

TEMPERATURE (C)..... 35.4

DISCHARGE..... 1552. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

COMPILED BY..... RENNER, J. L.
 COMPILED AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HELZ AND SINEX, 1974

RECORD 00103

GEOTERM SAMPLE FILE

GEOTERM FILE ID: 0016025

NAME OF SAMPLE SOURCE... WESTERN AUTO STORE

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-00.77 N 079-48.68 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... BATH

MAP REFERENCE..... APPALACHIAN VALLEY 11250000

OTHER LOCALITY INFORMATION: ALTITUDE 747 M, SPRING ON HILLSIDE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/09/04

SAMPLE NUMBER..... 612

TEMPERATURE (C)..... 17.2

WELL DEPTH (M)..... 72.

DISCHARGE..... 34. L/MIN

PERTINENT LITHOLOGY..... BECKMANTOWN GROUP

OTHER SAMPLE INFORMATION.. COMMERCIAL USE.

WATER ANALYSIS

PH..... 7.0

SPECIFIC CONDUCTANCE..... 640.

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILED AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HUBBA AND OTHERS, 1977

RECORD 00104

GEOTERM SAMPLE FILE

GEOTERM FILE ID: 0015233

NAME OF SAMPLE SOURCE... NEW RIVER WHITE SULPHUR SPRINGS

WELLING NUMBER..... 18

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-17.40 N 080-37.14 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... GILES

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... EGGLESTON 1124000

SAMPLE DESCRIPTION AND CONDITIONS

TEMPERATURE (C)..... 29.4

DISCHARGE..... 568. L/MIN

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILED AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... PEALE, 1986

RECORD 00105

GEOTERM SAMPLE FILE

GEOTERM FILE ID: 0016040

NAME OF SAMPLE SOURCE... HULAH SPRING

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-12.97 N 079-40.43 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

TEMPERATURE (C)..... 21.
 DISCHARGE..... 0 5678. L/MIN
 PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE
 WATER ANALYSIS

PH..... 7.3
 SPECIFIC CONDUCTANCE..... 359.
 ALKALINITY..... 191. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 5.9
 ANALYSIS IN MG/L

AL.....	CR.....	MG...	12.2
AIJ.....	CU..... 0.0035		
H.....	F.....	NA...	1.9
HE.....	FE(TOT)..... 0.0065	NH...	
HI.....	GA.....	NH4...	
CA..... 55.9	HCO3..... 191.		
CO..... 0.0009			
CL..... 2.1			
CO.....	K..... 2.2		

ISOTOPES (0/00)

S04.. 25.
 SR... 0.2

ZN... 0.0015

QUALIFICATION FIELD..... FROM WARING, 1965

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... HELZ AND SINEX, 1974

RECORD 00107

 GEOTHERM SAMPLE FILE

GEOTHERM FILE 101 0016039

NAME OF SAMPLE SOURCE... SOLAR SPRING

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-12.97 N 079-40.43 W

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... HIGHLAND

MAP REFERENCE..... BURNSVILLE 1124000

OTHER LOCALITY INFORMATION: ON COUNTY LINE BETWEEN BATH AND HIGHLAND

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/09

TEMPERATURE (C)..... 20.2

DISCHARGE..... 9842. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

WATER ANALYSIS

PH..... 7.42
 SPECIFIC CONDUCTANCE..... 335.
 ALKALINITY..... 185. AS HCO3
 CHARGE IMBALANCE (% DIFF)... 1.9
 ANALYSIS IN MG/L

AG.....	CO3.....	LI... N	
AL..... 0.004	CR.....	MG... 10.	
AS... L 0.0002	CS.....	MN... N	
H..... 0.01	F..... 0.3	NA... 1.6	
HA.....	FE+3.....	NA+K.	
HF.....	FE(TOT) N	NH...	
HI.....	GA.....	NH4...	
CA..... 54.	HCO3..... 185.	NO3... 1.1	
CO.....	H2S.....	PO4... 0.05	
CL..... 1.0			
CO.....	K..... 2.0		

ISOTOPES (0/00)

DEL O(18) OF WATER... -8.1

DEL C(13) OF CO2..... -10.1

TRITIUM (T.U.)..... 27.2 +/- 1.6

ZN... 0.02

GAS ANALYSIS

ANALYSIS IN MU/L

CH4... L 0.03

CO2... 11.

HE... L 0.0003

02... 6.0

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00108

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... BRAGG SPRING

GEOTHERM FILE ID: 0015242

WATER NUMBER..... 5

LOCATION

TOWNSHIP-RANGECOORDINATES

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... HIGH AND

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... BURNSVILLE 1:24000

LAT/LONG... 38-14.28 N 079-39.00 W

OTHER LOCALITY INFORMATION: UP CREEK FROM BOLAR POST OFFICE, 2.2 MILES NE OF BOLAR

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTION..... 1928/02/23

TEMPERATURE (C)..... 23.

DISCHARGE..... 227. L/MIN

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

OTHER SAMPLE INFORMATION.. REEVES, 1932 MEASURED 24. DEG C AND 113. L/MIN

WATER ANALYSIS

DATE/ANALYST.....

FOSTER, M. D.

ALKALINITY.....

AS HCO3

TOTAL DISSOLVED SOLIDS... 168.

ANALYSIS IN PPM

ISOTOPES (0/001)

H.....

F.....

NA... 10.

HE.....

FE(TOT)...

NH... 7.

CA... 48.

HCO3... 189.

NO3... 0.21

CL... 0.5

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... COLLINS AND OTHERS, 1930

RECORD 00109

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... ROCKBRIDGE BATHS (LITHIA SPRING)

GEOTHERM FILE ID: 0015230

WATER NUMBER..... 11

LOCATION

TOWNSHIP-RANGECOORDINATES

COUNTRY..... UNITED STATES

STATE..... VIRGINIA

COUNTY..... ROCKBRIDGE

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... GOSHEN 1:24000

LAT/LONG... 37-53.9 N 079-24.4 W

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTION..... 1928/02/25

SAMPLE NUMBER..... 421

TEMPERATURE (C)..... 22.
DISCHARGE..... 946. L/MIN
PERTINENT LITHOLOGY..... COPPER RIDGE DOLOMITE

WATER ANALYSIS

ALKALINITY..... 281. AS HCO3
TOTAL DISSOLVED SOLIDS... 263.

ANALYSIS IN PPM

H..... F..... NA... 16.
HE..... FE(TOT)... NB... 504.. 18.
CA.... 65. HCO3.... 281. NO3.. 1.2
CL.... 1.3

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
COMPILER AFFILIATION... GRUY FEDERAL, INC
REFERENCE..... COLLINS AND OTHERS, 1930

RECORD 00110

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015229

NAME OF SAMPLE SOURCE... ROCKBRIDGE BATHS (MAGNESIA SPRING)
WELLING NUMBER..... 11

LOCATION

TOWNSHIP-RANGECOORDINATES

LAT/LONG... 37-53.9 N 079-24.4 W

COUNTRY..... UNITED STATES
STATE..... VIRGINIA
COUNTY..... ROCKBRIDGE
GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
MAP REFERENCE..... GOSHEN 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1928/02/25

SAMPLE NUMBER..... 423

TEMPERATURE (C)..... 22.

DISCHARGE..... 2271. L/MIN

PERTINENT LITHOLOGY..... COPPER RIDGE DOLOMITE

WATER ANALYSIS

ALKALINITY..... 295. AS HCO3
TOTAL DISSOLVED SOLIDS... 289.

ANALYSIS IN PPM

H..... F..... NA... 13.
HE..... FE(TOT)... NB... 504.. 28.
CA.... 50. HCO3.... 295. NO3.. 1.5
CL.... 1.1

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
COMPILER AFFILIATION... GRUY FEDERAL, INC
REFERENCE..... COLLINS AND OTHERS, 1930

RECORD 00111

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015228

NAME OF SAMPLE SOURCE... SWAN POND SPRING

WELLING NUMBER..... 4

LOCATION

TOWNSHIP-RANGECOORDINATES

LAT/LONG... 39-28.17 N 077-52.62 W

COUNTRY..... UNITED STATES
STATE..... WEST VIRGINIA
COUNTY..... BERKELEY
GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... MARTINSBURG 1124000
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1945/07/21
 SAMPLE NUMBER..... 2-18
 TEMPERATURE (C)..... 22.
 AMBIENT TEMP (C)..... 11.
 DISCHARGE..... 379. L/MIN
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... ERSKINE, 1948

RECORD 00112

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015227

NAME OF SAMPLE SOURCE... OLD SWEET SPRING

WARNING NUMBER..... 27

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-37.79 N 080-14.44 W

COUNTRY..... UNITED STATES
 STATE..... WEST VIRGINIA
 COUNTY..... MONROE
 GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... ALLEGHANY 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1973/07/00

SAMPLE NUMBER..... 21

TEMPERATURE (C)..... 23.

PERTINENT LITHOLOGY..... LOWVILLE LIMESTONE

OTHER SAMPLE INFORMATION.. FLOW IS LARGE - WARNING, 1965

WATER ANALYSIS

PH..... 6.46

SPECIFIC CONDUCTANCE..... 1580.

ALKALINITY..... 691.

AS HCO3

CHARGE IMBALANCE (3 DIFF)... 1.0

ANALYSIS IN MG/L

ISOTOPES (0/001)

AL..... CR..... MG... 58.4

AU..... CU..... 0.0012

H..... F..... NA... 17.5

HE..... FE(TOT)... 0.0231

HI..... GA..... NH4...

CA..... 276. HCO3..... 691.

CD..... 0.0007

CL..... 29.5

CO..... K..... 23.

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... HELZ AND SINEX, 1974

ZN... 0.0077

S04.. 387.

SR... 3.6

RECORD 00113

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0015226

NAME OF SAMPLE SOURCE... OLD SWEET SPRING

WARNING NUMBER..... 27

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 37-37.79 N 080-14.44 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA
 COUNTY..... MONROE
 GEOLOGIC PROVINCE.. FOLDED APPALACHIANS
 MAP REFERENCE..... ALLEGHANY 1124000
 SAMPLE DESCRIPTION AND CONDITIONS
 DATE/COLLECTOR..... 1935/06/03
 SAMPLE NUMBER..... 52
 TEMPERATURE (C)..... 23.
 AMBIENT TEMP (C)..... 10.
 DISCHARGE..... 3.7 L/MIN
 PERTINENT LITHOLOGY..... STONES RIVER LIMESTONE
 OTHER SAMPLE INFORMATION.. WARING, 1965 REPORTS SPRING AS LARGE

WATER ANALYSIS

DATE/ANALYST..... HASKINS, H. A.
 ALKALINITY..... 715. AS HCO3
 TOTAL DISSOLVED SOLIDS... 813.

ANALYSIS IN PPM

AL.....	CR.....	HG...	58.		
AS.....	CS.....	MN...	N		
HA.....	FE.....	NA...		5102.	18.
HA.....	FE+3.....	NA+K.	36.		
HE.....	FE(TOT)...	NB...		504..	435.
CA..... 298.	HCO3.... 715.	NO3.. N			
CO.....	H2S..... N				
CL..... 27.					

ISOTOPES (0/001)

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.
 COMPILER AFFILIATION... GRUY FEDERAL, INC
 REFERENCE..... PRICE AND OTHERS, 1936

RECORD 00114

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016046

NAME OF SAMPLE SOURCE... BERKELEY SPRINGS

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 39-37.62 N 078-13.78 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... MORGAN

MAP REFERENCE..... HANCOCK 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 189 M, SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/10/02

TEMPERATURE (C)..... 22.2

DISCHARGE..... 6189. L/MIN

PERTINENT LITHOLOGY..... ORISKANY FORMATION

OTHER SAMPLE INFORMATION.. PUBLIC WATER SUPPLY.

WATER ANALYSIS

PH..... 6.99

SPECIFIC CONDUCTANCE..... 0 235.

ALKALINITY..... 168.

CHARGE IMBALANCE (% DIFF)... 11.9

ANALYSIS IN MG/L

AG.....	CO3.....	LI... N			
AL..... 0.024	CH.....	HG...	5.6	SB...	
AS..... 0.0002	CS.....	MN...	N		
AI.....	CU..... N	MO...		SE... L 0.001	

ISOTOPES (0/001)

DEL O(18) OF WATER... -8.7

H.....	0.02	F.....	0.1	NA...	4.1	SI02..	9.5
HA.....		FE+3...		NA+K..		SN...	
HE.....		FE(TOT)..	N	NB...		S04...	17.
HI.....		GA.....		NH4...	0.03	SR...	0.5
HR.....	0.023						
CA.....	45.	HCO3...	168.	NO3...	0.5		
CO.....		H2S.....		PO4...	0.13		
CL.....	6.4						
CO.....		K.....	1.0				
				ZN...	N		

DEL C(13) OF CO2..... -15.2
TRITIUM (T.U.)..... 2.7 +/- 0.8

GAS ANALYSIS

ANALYSIS IN MG/L

CH4.. L 0.01

C2H6..

CO2.. 25.

HE... L 0.002

N2... 22.
O2... 4.5

ISOTOPES (00/01)

QUALIFICATION FIELD..... SPECIFIC CONDUCTANCE QUERIED IN PUBLICATION
REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MOHBA AND OTHERS, 1977

RECORD 00115

GEOTHERM SAMPLE FILE

GEOTHERM FILE ID: 0016051

NAME OF SAMPLE SOURCE... BERKELEY SPRINGS

LOCATION

TOWNSHIP-RANGECOORDINATES

LAT/LONG... 39-37.62 N 078-13.78 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... MORGAN

MAP REFERENCE..... HANCOCK 1124000

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/05/18

TEMPERATURE (C)..... 21.9

DISCHARGE..... 6492. L/MIN

PERTINENT LITHOLOGY..... ORISKANY FORMATION

WATER ANALYSIS

P4..... 7.46

SPECIFIC CONDUCTANCE..... 250.

ALKALINITY..... 165.

CHARGE IMBALANCE (% DIFF)... 3.8

AS HCO3

ANALYSIS IN MG/L

AG.....

AL... L 0.001

AS... 0.0002

AU.....

H..... 0.02

HA.....

HE.....

HI.....

CA..... 47.

CO.....

CL..... 1.8

CO.....

GAS ANALYSIS

ANALYSIS IN MG/L

CH4.. L 0.03

CO3.....

CH.....

CS.....

CU..... N

F..... 0.1

FE+3...

FE(TOT)..
HI.....		GA.....		NH4...			
CA.....	47.	HCO3...	165.	NO3...	0.1		
CO.....		H2S.....		PO4...	0.14		
CL.....	1.8						
CO.....		K.....	0.9				
				ZN...	0.01		
ISOTOPES (0/00)

DEL O(18) OF WATER... -8.6

DEL C(13) OF CO2..... -13.9
TRITIUM (T.U.)..... 2.6 +/- 0.6

ISOTOPES (00/01)

CO2... 29.
 HF... L 0.0005
 REFERENCE AND IDENTIFICATION
 COMPILED BY..... MORRIS, GRETA J.
 COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
 REFERENCE..... MOHRA AND OTHERS, 1977

02... 5.0

RECORD 00116

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016043

NAME OF SAMPLE SOURCE... HUVERMALE, H.

LOCATION TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 39-36.38 N 078-14.82 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... MORGAN

MAP REFERENCE..... STOTTERS CROSS RDS. 1124000

OTHER LOCALITY INFORMATION: ALTITUDE 256 M, SPRING ON HILLSIDE.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/10/01

SAMPLE NUMBER..... 307

TEMPERATURE (C)..... 16.6

WELL DEPTH (M)..... 53.

DISCHARGE..... 15. L/MIN

PERTINENT LITHOLOGY..... TONOLOWAY FORMATION

OTHER SAMPLE INFORMATION.. HOUSEHOLD USE.

WATER ANALYSIS

DATE/ANALYST..... 1975/10/01

PH..... 6.97

SPECIFIC CONDUCTANCE..... 7500.

ALKALINITY..... 410.

AS HCO3

ANALYSIS IN MG/L

AG..... CO3.....

AL..... 0.007 CR.....

AS..... L 0.0002 CS.....

AR..... CU..... 0.05

H..... F..... 0.2

HA..... FE+3.....

HF..... FE(TOT).....

HI..... GA.....

HR..... 0.063

CA..... 106. HCO3..... 410.

CD..... H2S.....

CI..... 10. K..... 0.7

CO.....

GAS ANALYSIS

DATE/ANALYST..... 1975/10/01

ANALYSIS IN MG/L

CH4... L 0.01

CO2... 29.

HF... L 0.002

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... MOHRA AND OTHERS, 1977

ISOTOPES (0/001)

DEL O(18) OF WATER... -7.8

L 0.001

DEL C(13) OF CO2..... -15.2

TRITIUM (T.U.)..... 72.

ISOTOPES (00/01)

02... 6.2

RECORD 00117

GEOTHERM FILE 101 0015225

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... THORN SPRING

WATER NUMBER..... 16

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-36.30 N 079-21.18 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... PENDLETON

GEOLOGIC PROVINCE.. FOLDED APPALACHIANS

MAP REFERENCE..... SUGAR GROVE 1124000

OTHER LOCALITY INFORMATION: NEAR MOUTH OF THORN CREEK

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1935/05/18

SAMPLE NUMBER..... 32

TEMPERATURE (C)..... 22.

DISCHARGE..... 3785. L/MIN

PERTINENT LITHOLOGY..... LOWER HELDERBERG LIMESTONE

WATER ANALYSIS

DATE/ANALYST..... 1935/00/00 MCCUE, J. B.

ALKALINITY..... 124. AS HCO3

TOTAL DISSOLVED SOLIDS... 117.

CHARGE IMBALANCE (% DIFF)... 3.8

ANALYSIS IN PPM

ISOTOPES (0/00)

AL....	CR.....	MG...	3.6		
AS....	CS.....	MN... N			
BA....	F.....	NA... 0.95		SI02.	7.2
BE....	FE(TOT).	0.38		SO4..	5.8
CA.... 38.	HCO3...	124.			
CD....	H2S..... N				
CL.... 0.65					
CO....	K..... 0.88				

REFERENCE AND IDENTIFICATION

COMPILED BY..... RENNER, J. L.

COMPILER AFFILIATION... GRUY FEDERAL, INC

REFERENCE..... PRICE AND OTHERS, 1936

RECORD 00118

GEOTHERM FILE 101 0016042

GEOTHERM SAMPLE FILE

NAME OF SAMPLE SOURCE... MINNEHAHA SPRING

LOCATION

TOWNSHIP-RANGE

COORDINATES

LAT/LONG... 38-09.83 N 079-58.48 W

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... POCAHONTAS

MAP REFERENCE..... WARM SPRINGS 1162500

OTHER LOCALITY INFORMATION: ALTITUDE 704 M, SPRING IN VALLEY.

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1975/11/18

SAMPLE NUMBER..... 401

TEMPERATURE (C)..... 20.4

DISCHARGE..... 833. L/MIN

PERTINENT LITHOLOGY..... ORISKANY FORMATION

OTHER SAMPLE INFORMATION.. RECREATIONAL USE.

WATER ANALYSIS

DATE/ANALYST..... 1975/11/18

PH..... 7.88

SPECIFIC CONDUCTANCE..... 240.

ALKALINITY..... 116.

CHARGE IMBALANCE (% DIFF).... 6.0

AS HCO3

ANALYSIS IN MG/L

AG....		CO3....	
AL.... L 0.001		CR....	
AS.... 0.0002		CS....	
AU....		CU.... N	
H.... 0.01		F.... 0.2	
HA....		FE+3....	
HE....		FE(TQT). N	
HI....		GA....	
HR.... 0.006			
CA.... 39.		HCO3.... 116.	
CD....		H2S....	
CL.... 0.8			
CO....		K.... 0.8	

LI.... N		SB....	
MG.... 6.0			
MN.... N			
MO....		SE.... L 1.0	
NA.... 2.2		SI02.... 8.4	
NA+K....		SN....	
NB....		S04.... 38.	
NH4.... 0.04		SR.... 0.4	
NO3.... 0.1			
PO4.... 0.24			

ISOTOPES (0/001)

DEL O(18) OF WATER... -8.5

DEL C(13) OF CO2..... -11.4
TRITIUM (T.U.)..... 2.5

ZN... N

GAS ANALYSIS

DATE/ANALYST..... 1975/11/18

ANALYSIS IN MG/L

AR... 0.8

CH4... L 0.01

C2H6...

CO2... 2.7

HE... L 0.0001

N2....	19.
O2....	3.5

ISOTOPES (00/01)

REFERENCE AND IDENTIFICATION

COMPILED BY..... SILVA, CHRISTOPHER L.

COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY

REFERENCE..... HOBBA AND OTHERS, 1977

RECORD 00119

GEO THERM SAMPLE FILE

GEO THERM FILE ID: 0016041

NAME OF SAMPLE SOURCE... MINNEHAMA SPRING

LOCATION TOWNSHIP-RANGE

COUNTRY..... UNITED STATES

STATE..... WEST VIRGINIA

COUNTY..... POCAHONTAS

MAP REFERENCE..... WARM SPRINGS 1162500

SAMPLE DESCRIPTION AND CONDITIONS

DATE/COLLECTOR..... 1976/06/09

SAMPLE NUMBER..... 401

TEMPERATURE (C)..... 20.3

DISCHARGE..... 1817. L/MIN

PERTINENT LITHOLOGY..... ORISKANY FORMATION

WATER ANALYSIS

DATE/ANALYST..... 1976/06/09

PH..... 7.9

SPECIFIC CONDUCTANCE..... 285.

ALKALINITY..... 114.

CHARGE IMBALANCE (% DIFF).... 8.9

AS HCO3

ANALYSIS IN MG/L

AG....		CO3....		LI.... 0.01	
AL.... 0.017		CR....		MG.... 5.3	SB....

ISOTOPES (0/001)

DEL O(18) OF WATER... -8.1

DEL C(13) OF CO2.....	-14.4
TRITIUM (T.U.).....	41.

N2... 28.
O2... L 0.1

COMPILED BY..... SILVA, CHRISTOPHER L.
COMPILER AFFILIATION... U.S. GEOLOGICAL SURVEY
REFERENCE..... MOHHA AND OTHERS, 1977

APPENDIX A

Index to GEOTHERM'S sample file for the states in the central and eastern United States.
This computer generated appendix contains some truncated fields. The index is sorted by state, county,
and name of the source. I.D. - GEOTHERM record identifier, Temp. - temperature °C (see Table 1 for
explanation of alphabetic qualifiers preceding temperature.)

State	County	Name of Source	Latitude	Longitude	I.D.	Temp.
ARKANSAS	COLUMBIA	BRINE WELL	33-13.	N 093-17.	W 0000306	107.
ARKANSAS	COLUMBIA	BRINE WELL	33-13.	N 093-11.	W 0000305	107.
ARKANSAS	COLUMBIA	BSW 17 WELL	33-13.	N 093-12.	W 0000310	100.
ARKANSAS	COLUMBIA	LEWIS 01 WELL	33-17.	N 093-04.	W 0000309	91.
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 23)	34-30.88	N 093-03.18	W 0001456	
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 17)	34-30.95	N 093-03.22	W 0001455	
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 33)	34-30.85	N 093-03.15	W 0001457	
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 48)	34-30.97	N 093-03.13	W 0001459	60.
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 49)	34-30.58	N 093-03.17	W 0001461	61.8
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 42)			0001460	61.3
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (HOT SPRING NO. 46)	34-30.82	N 093-03.18	W 0001458	
ARKANSAS	GARLAND	HOT SPRINGS NATIONAL PARK (MAURICE HOT SPRING)	34-30.85	N 093-03.18	W 0000079	
ARKANSAS	LAFAYETTE	MCKEAN 06 WELL	33-26.	N 093-26.	W 0000308	90.
ARKANSAS	LAFAYETTE	OIL WELL	33-28.	N 093-34.	W 0000307	89.4
ARKANSAS	MONTGOMERY	BARTONS SPRING (SOUTH)	34-22.1	N 093-39.1	W 0000299	30.
ARKANSAS	MONTGOMERY	CADDO GAP (NORTH)	34-23.04	N 093-36.42	W 0015218	34.4
ARKANSAS	MONTGOMERY	CADDO GAP (SOUTH)	34-23.04	N 093-36.42	W 0015217	36.
ARKANSAS	MONTGOMERY	CADDO RIVER SPRING	34-23.1	N 093-36.4	W 0001497	35.0
ARKANSAS	PIKE	REDLAND MOUNTAIN	34-19.26	N 093-44.34	W 0015219	25.
ARKANSAS	PIKE	REDLAND MTN SPRING	34-19.5	N 093-44.5	W 0001498	25.0
ARKANSAS	RANDOLF	WARM SPRINGS (RICE'S WARM SPRING)	36-28.85	N 091-03.18	W 0015216	28.
GEORGIA	MERIWETHER	BARNES, B. JEWETT	32-54.40	N 084-43.27	W 0016001	17.6
GEORGIA	MERIWETHER	BAXLEY, ANDY	32-54.22	N 084-42.97	W 0016000	17.0
GEORGIA	MERIWETHER	BROWN'S SPRING			0016059	20.
GEORGIA	MERIWETHER	BROWN'S SPRING			0016058	21.
GEORGIA	MERIWETHER	JAMES PHILLIPS WELL	32-53.13	N 084-43.12	W 0016002	33.8
GEORGIA	MERIWETHER	PARKMAN SPRING	32-51.7	N 084-39.0	W 0016057	25.
GEORGIA	MERIWETHER	SOUTH SPRING	32-52.93	N 084-40.38	W 0016003	17.7
GEORGIA	MERIWETHER	SOUTH SPRING	32-52.93	N 084-40.38	W 0016049	17.8
GEORGIA	MERIWETHER	WARM SPRINGS	32-53.55	N 084-41.40	W 0016004	31.6
GEORGIA	MERIWETHER	WARM SPRINGS	32-53.55	N 084-41.40	W 0016005	30.9
GEORGIA	MERIWETHER	WARM SPRINGS-EAST SOURCE	32-53.55	N 084-41.40	W 0016054	31.
GEORGIA	MERIWETHER	WARM SPRINGS-EAST SOURCE	32-53.55	N 084-41.40	W 0016053	31.
GEORGIA	MERIWETHER	WARM SPRINGS-WEST SOURCE	32-53.55	N 084-41.40	W 0016055	31.
GEORGIA	MERIWETHER	WARM SPRINGS-WEST SOURCE	32-53.55	N 084-41.40	W 0016056	31.
GEORGIA	PIKE	LIFSEY WARM SPRING	33-02.22	N 084-22.44	W 0015215	26.
GEORGIA	PIKE	TAYLOR	33-01.08	N 084-19.62	W 0015214	24.
GEORGIA	UPSON	BARKER SPRING	32-55.2	N 084-26.0	W 0016064	23.
GEORGIA	UPSON	BARKER SPRING	32-26.0	N 084-26.0	W 0016065	23.
GEORGIA	UPSON	THUNDERING SPRING			0016060	23.
GEORGIA	UPSON	THUNDERING SPRING			0016061	23.
GEORGIA	UPSON	TRIBUTARY SPRING TO THUNDERING SPRING			0016063	22.

GEORGIA	UPSON	TRIBUTARY SPRING TO THUNDERING SPRING	0016062	23.
MASSACHUSETTS	BERKSHIRE	FREDERICK GEORGE	42-44.12 N 073-12.05 W 0015222	22.
MASSACHUSETTS	BERKSHIRE	SAND SPRING	42-44.13 N 073-12.02 W 0015221	22.
MASSACHUSETTS	BERKSHIRE	SAND SPRING	42-44.13 N 073-12.02 W 0015220	21.0
NEBRASKA	BOYD	UNNAMED STOCK WELL	42-59.00 N 098-52.33 W 0004005	21.
NEBRASKA	BOYD	UNNAMED STOCK WELL	42-57.79 N 098-31.00 W 0004004	28.
NEBRASKA	BOYD	UNNAMED STOCK WELL	42-48.95 N 098-38.55 W 0004003	28.
NEBRASKA	BOYD	UNNAMED STOCK WELL	42-49.79 N 098-35.50 W 0004002	28.
NEBRASKA	BOYD	UNNAMED STOCK WELL	42-47.30 N 098-31.96 W 0004001	27.
NEBRASKA	BOYD	UNNAMED WATER WELL	42-49.75 N 098-27.95 W 0004000	28.
NEW YORK	COLUMBIA	LEBANON SPRING	42-28.83 N 073-22.20 W 0015224	18.7
NEW YORK	COLUMBIA	LEBANON SPRING	42-28.83 N 073-22.20 W 0015223	21.9
NORTH CAROLINA	MADISON	CITY WELL	35-53.28 N 082-49.80 W 0016008	15.2
NORTH CAROLINA	MADISON	CITY WELL	35-53.28 N 082-49.80 W 0016007	15.2
NORTH CAROLINA	MADISON	HOT SPRING	35-53.83 N 082-49.55 W 0016010	41.4
NORTH CAROLINA	MADISON	HOT SPRING	35-53.83 N 082-49.55 W 0016009	39.3
NORTH CAROLINA	MADISON	LOVIN, PAUL	35-53.95 N 082-51.77 W 0016006	15.0
PENNSYLVANIA	PERRY	KRETZING, MAX	40-19.50 N 077-15.13 W 0016045	15.1
PENNSYLVANIA	PERRY	PERRY COUNTY WARM SPRINGS	40-19.72 N 077-14.78 W 0016052	17.7
PENNSYLVANIA	PERRY	PERRY COUNTY WARM SPRINGS	40-19.72 N 077-14.78 W 0016044	17.8
SOUTH DAKOTA	FALL RIVER	CASCADE SPRING	43-20.1 N 103-33.05 W 0001465	22.
SOUTH DAKOTA	FALL RIVER	EVANS PLUNGE	43-26.51 N 103-28.82 W 0001464	32.
SOUTH DAKOTA	FALL RIVER	EVANS PLUNGE	43-26.51 N 103-28.82 W 0001463	30.
SOUTH DAKOTA	FALL RIVER	HOT BROOK CANYON HOT SPRING	43-27.12 N 103-30.48 W 0001462	24.
VIRGINIA	ALLEGHANY	FALLING SPRING	37-52.15 N 079-56.00 W 0016012	20.8
VIRGINIA	ALLEGHANY	FALLING SPRING	37-52.15 N 079-56.00 W 0015237	22.2
VIRGINIA	ALLEGHANY	FALLING SPRING	37-52.15 N 079-56.00 W 0016013	25.0
VIRGINIA	ALLEGHANY	MRS. JENNIE LAYTON SPRING	37-51.85 N 079-59.40 W 0015234	21.6
VIRGINIA	ALLEGHANY	SWEET CHALYBEATE	37-38.53 N 080-14.32 W 0015241	22.5
VIRGINIA	ALLEGHANY	WEDB, H.D.	37-52.48 N 079-55.65 W 0016011	27.2
VIRGINIA	BATH	COLD MAGNESIA SPRING	37-59.82 N 079-49.67 W 0016030	15.2
VIRGINIA	BATH	DUNN, M.	38-01.25 N 079-48.72 W 0016024	15.8
VIRGINIA	BATH	DUNN, M.	38-01.25 N 079-48.72 W 0016050	14.4
VIRGINIA	BATH	GARDNER, G.	38-02.70 N 079-46.98 W 0016021	16.4
VIRGINIA	BATH	HEALING SPRINGS	37-57.78 N 079-51.66 W 0015231	27.5
VIRGINIA	BATH	HOMESTEAD HOT WELL	37-59.93 N 079-49.35 W 0016029	19.6
VIRGINIA	BATH	HOMESTEAD HOT WELL	37-59.93 N 079-49.35 W 0016028	17.9
VIRGINIA	BATH	HOMESTEAD HOT WELL	37-59.93 N 079-49.35 W 0016027	19.5
VIRGINIA	BATH	HOMESTEAD HOT WELL	37-59.93 N 079-49.35 W 0016026	32.2
VIRGINIA	BATH	HOT SPRINGS (BOILER SPRING)	37-59.87 N 079-49.80 W 0016036	39.9
VIRGINIA	BATH	HOT SPRINGS (BOILER SPRING)	37-59.87 N 079-49.80 W 0015240	39.0
VIRGINIA	BATH	HOT SPRINGS (BOILER SPRING)	37-59.87 N 079-49.80 W 0016035	40.0
VIRGINIA	BATH	HOT SPRINGS (HOT SULPHUR SPRING)	37-59.87 N 079-49.78 W 0015239	36.0
VIRGINIA	BATH	HOT SPRINGS (HOT SULPHUR SPRING)	37-59.87 N 079-49.78 W 0016034	36.5
VIRGINIA	BATH	HOT SPRINGS (HOT SULPHUR SPRING)	37-59.87 N 079-49.78 W 0016033	35.2
VIRGINIA	BATH	HOT SPRINGS (MAGNESIA SPRING)	37-59.83 N 079-49.72 W 0015238	30.2
VIRGINIA	BATH	HOT SPRINGS (OCTAGON SPRING)	37-59.90 N 079-49.83 W 0016037	36.8
VIRGINIA	BATH	HOT SPRINGS (OCTAGON SPRING)	37-59.90 N 079-49.83 W 0016038	36.5
VIRGINIA	BATH	HOT SPRINGS (OCTAGON)	37-59.90 N 079-49.98 W 0015236	37.0
VIRGINIA	BATH	MAGNESIA SPRING	37-59.83 N 079-49.68 W 0016032	16.2
VIRGINIA	BATH	MAGNESIA SPRING	37-59.83 N 079-49.68 W 0016031	28.4
VIRGINIA	BATH	WARM SPRING (CHILDREN'S POOL)	38-03.22 N 079-46.87 W 0016019	35.3
VIRGINIA	BATH	WARM SPRING (CHILDREN'S POOL)	38-03.22 N 079-46.87 W 0016017	35.4
VIRGINIA	BATH	WARM SPRING (LADIES' POOL)	38-03.22 N 079-46.87 W 0016023	34.8

VIRGINIA	BATH	WARM SPRING (LADIES' POOL)	38-03.22 N 079-46.87 W 0016022	34.9
VIRGINIA	BATH	WARM SPRING (LADIES' POOL)	38-03.22 N 079-46.87 W 0016020	35.1
VIRGINIA	BATH	WARM SPRING (MEN'S POOL)	38-03.22 N 079-46.85 W 0016015	35.0
VIRGINIA	BATH	WARM SPRING (MEN'S POOL)	38-03.22 N 079-46.85 W 0016014	35.4
VIRGINIA	BATH	WARM SPRING (MEN'S POOL)	38-03.22 N 079-46.85 W 0016016	35.2
VIRGINIA	BATH	WARM SPRINGS (GENTLEMANS POOL)	38-03.22 N 079-46.85 W 0015235	35.
VIRGINIA	BATH	WESTERN AUTO STORE	38-00.77 N 079-48.68 W 0016025	17.2
VIRGINIA	GILES	NEW RIVER WHITE SULPHUR SPRINGS	37-17.40 N 080-37.14 W 0015233	29.4
VIRGINIA	HIGHLAND	BOLAR SPRING	38-12.97 N 079-40.43 W 0016040	22.2
VIRGINIA	HIGHLAND	BOLAR SPRING	38-12.97 N 079-40.43 W 0015232	21.
VIRGINIA	HIGHLAND	BOLAR SPRING	38-12.97 N 079-40.43 W 0016039	20.2
VIRGINIA	HIGHLAND	BRAGG SPRING	38-14.28 N 079-39.00 W 0015242	23.
VIRGINIA	ROCKBRIDGE	ROCKBRIDGE BATHS (LITHIA SPRING)	37-53.9 N 079-24.4 W 0015230	22.
VIRGINIA	ROCKBRIDGE	ROCKBRIDGE BATHS (MAGNESIA SPRING)	37-53.9 N 079-24.4 W 0015229	22.
WEST VIRGINIA	BERKELEY	SWAN POND SPRING	39-28.17 N 077-52.62 W 0015228	22.
WEST VIRGINIA	MONROE	OLD SWEET SPRING	37-37.79 N 080-14.44 W 0015227	23.
WEST VIRGINIA	MONROE	OLD SWEET SPRING	37-37.79 N 080-14.44 W 0015226	23.
WEST VIRGINIA	MORGAN	BERKELEY SPRINGS	39-37.62 N 078-13.78 W 0016046	22.2
WEST VIRGINIA	MORGAN	BERKELEY SPRINGS	39-37.62 N 078-13.78 W 0016051	21.9
WEST VIRGINIA	MORGAN	HOVERMALE, H.	39-36.38 N 078-14.82 W 0016043	16.6
WEST VIRGINIA	PENDLETON	THORN SPRING	38-36.30 N 079-21.18 W 0015225	22.
WEST VIRGINIA	POCAHONTAS	MINNEHAHA SPRING	38-09.83 N 079-58.48 W 0016042	20.4
WEST VIRGINIA	POCAHONTAS	MINNEHAHA SPRING	38-09.83 N 079-58.48 W 0016041	20.3

APPENDIX B

Sources for the records in the GEOTHERM sample file for Arkansas, Georgia, Massachusetts, Nebraska, New York, North Carolina, Pennsylvania, South Dakota, Virginia, and West Virginia. Each reference is preceded by the abbreviated reference (called CODE) used in the sample file (Table 1). Entries in this computer-generated appendix are sorted by CODE.

CODE = BEDINGER AND OTHERS, 1979

BEDINGER, M. S., PEARSON, F. J., JR., REED, J. E., SNIEMOCKI, R. T., AND STONE, C. G., 1979, THE WATERS OF HOT SPRINGS NATIONAL PARK, ARKANSAS - THEIR NATURE AND ORIGIN: U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1044-C, 33 P.

CODE = BRYAN, 1922

BRYAN, K., 1922, THE HOT WATER SUPPLY OF THE HOT SPRINGS, ARKANSAS: JOURNAL OF GEOLOGY, V. 30, NO. 6, P. 425-449.

CODE = CARPENTER AND TROUT, 1978

CARPENTER, A. B., AND TROUT, M. L., 1978, GEOCHEMISTRY OF BROMIDE-RICH BRINES OF THE DEAD SEA AND SOUTHERN ARKANSAS, IN JOHNSON, N. K. A., AND RUSSELL, J. A., EDS., THIRTEENTH ANNUAL FORUM ON THE GEOLOGY OF INDUSTRIAL MINERALS: OKLAHOMA GEOLOGICAL SURVEY CIRCULAR 79, P. 78-88.

CODE = COLLINS AND OTHERS, 1930

COLLINS W. D., FOSTER, M. D., REEVES, F., AND MEACHAM, R. P., 1930, SPRINGS OF VIRGINIA - A REPORT ON THE DISCHARGE, TEMPERATURE, AND CHEMICAL CHARACTER OF SPRINGS IN THE SOUTHERN PART OF THE GREAT VALLEY: VIRGINIA DIVISION OF WATER RESOURCES AND POWER BULLETIN 1, 55 P.

CODE = COLLINS, 1974

COLLINS, A. G., 1974, GEOCHEMISTRY OF LIQUIDS, GASES, AND ROCKS FROM THE SMACKOVER FORMATION: U.S. BUREAU OF MINES REPORT OF INVESTIGATION 7897, 84 P.

CODE = ERSKINE, 1948

ERSKINE, H. M., 1948, PRINCIPAL SPRINGS OF WEST VIRGINIA: WEST VIRGINIA CONSERVATION COMMISSION, 50 P.

CODE = GOTT AND SCHNABEL, 1963

GOTT, G. B., AND SCHNABEL, R. W., 1963, GEOLOGY OF THE EDMONTON NE QUADRANGLE, FALL RIVER AND CUSTER COUNTIES, SOUTH DAKOTA: U.S. GEOLOGICAL SURVEY BULLETIN 1063-E, P. 127-188.

CODE = HANSEN AND OTHERS, 1974

HANSEN, B. P., GAY, F. B., AND TOLER, L. G., 1974, HYDROLOGIC DATA OF THE HOOSIC RIVER BASIN, MASSACHUSETTS: MASSACHUSETTS HYDROLOGIC DATA REPORT NO. 15; U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 74-368, 31 P.

CODE = HELZ AND SINEX, 1974

HELZ, G. R., AND SINEX, S. A., 1974, CHEMICAL EQUILIBRA IN THE THERMAL SPRING WATERS OF VIRGINIA: GEOCHIMICA ET COSMOCHIMICA ACTA, V. 38, P. 1807-1820.

CODE = HEWETT AND CRICKMAY, 1937

HEWETT, D. F., AND CRICKMAY, G. W., 1937, THE WARM SPRINGS OF GEORGIA - THEIR GEOLOGIC RELATIONS AND ORIGIN, A SUMMARY REPORT: U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER 819, 40 P.

CODE = HOBBA AND AOTHERS, 1979

HOBBA, W. A., JR., FISHER, D. W., PEARSON, F. J., JR., AND CHEMERYS, J. C., 1979, HYDROLOGY AND GEOCHEMISTRY OF THERMAL SPRINGS OF THE APPALACHIANS: U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1044-E, 36 P.

CODE = MISER AND PURDUE, 1929

MISER, H. D., AND PURDUE, A. H., 1929, GEOLOGY OF THE DE QUEEN AND CADDO GAP QUALDRANGLES, ARKANSAS: U.S. GEOLOGICAL SURVEY BULLETIN 808, 195 P.

CODE = PEALE, 1886

PEALE, A. C., 1886, LISTS & ANALYSES OF THE MINERAL SPRINGS OF THE UNITED STATES - PRELIMINARY STUDY: U.S. GEOLOGICAL SURVEY BULLETIN 32, 235 P.

CODE = POST, 1967

POST, E. V., 1967, GEOLOGY OF THE CASCADE SPRINGS QUADRANGLE, FALL RIVER COUNTY, SOUTH DAKOTA: U.S. GEOLOGICAL SURVEY BULLETIN 1063-L, P. 443-504.

CODE = RAHN AND GRIES, 1973

RAHN P. H., AND GRIES, J. P., 1973, LARGE SPRINGS IN THE BLACK HILLS, SOUTH DAKOTA AND WYOMING: SOUTH DAKOTA GEOLOGICAL SURVEY REPORT OF INVESTIGATION NO. 107, 46 P.

CODE = SAUDERS, 1976

SAUDERS, V. L., 1976, PHYSIOGRAPHY, GEOLOGY, AND WATER RESOURCES OF BOYD COUNTY, NEBRASKA: CONSERVATION AND SURVEY DIVISION, NEBRASKA WATER SUPPLY PAPER NUMBER 42, 113 P.

CODE = WAGNER AND STEELE, 1980

WAGNER, G. H., AND STEELE, L. F., 1980, CHEMISTRY OF THE SPRING WATERS
OF THE OUACHITA MOUNTAINS EXCLUDING HOT SPRINGS, ARKANSAS: ARKANSAS
WATER RESOURCES RESEARCH CENTER, UNIVERSITY OF ARKANSAS PUBLICATION
NO. 69.

EXPLANATION

SURVEY DATE	12/10/81
MAGNETOMETER	GEOMETRICAL 803
SAMPLING RATE	1 SEC
SENSITIVITY	0.25 GAMMAS
FLIGHT ELEVATION	1000 FEET
LINE DIRECTION	FLY LINES E-W; TIE LINES N-S
LINE SPACING	0.5 MILES
REGIONAL FIELD REMOVED	YES 1975 DATUM
CONTOUR INTERVAL	50 GAMMAS
GRID INTERVAL	600 METERS
DATA BITS	4000 GAMMAS
TOTAL INTENSITY MAG VALUE	32,44,053 116-05,49
LOCATION OF VALUE	11/15/81 0959
DATE AND TIME	

Plotted and compiled by:
High Life - QES, Inc.

AEROMAGNETIC MAP OF THE SALTON SEA AREA, CALIFORNIA

BY
U.S. GEOLOGICAL SURVEY
1983

SCALE 1:250,000
0 10 20 25 MILES
0 10 20 25 KILOMETERS

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INDEX MAP OF SOUTHERN CALIFORNIA
showing location of this study area