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Geothermal Springs and Wells
in
Montana

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Geothermal Springs and Wells in Montana

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Disclaimer

Notice

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Abstract

Geothermal Sites in Montana

In 1994, the Montana Bureau of Mines and Geology updated its inventory of low- and moderate temperature resources for the state and assisted the Oregon Institute of Technology - GeoHeat Center and the University of Utah Research Institute in prioritizing and collocating important geothermal resource areas with population centers and transportation routes.

The database compiled for this assessment contains information on location, flow, water chemistry, and estimated reservoir temperatures for 267 geothermal wells and springs in Montana. For this assessment, the minimum temperature for low-temperature resource is defined as 10° C above the mean annual air temperature at the surface. The maximum temperature for a moderate-temperature resource is 50° C. Approximately 12% of the wells and springs in the database have temperatures above 50° C, 17% are between 30° and 50°C, 29% are between 20° and 30°C, and 42% are between 10° and 20° C. Low- and moderate-temperature wells and springs can be found in nearly all areas of Montana, but most are in the western third of the state. Information sources for the current database include the MBMG Ground Water Information Center, the USGS statewide database, the USGS GEOTHERM database, and new information collected as part of this program.

Five areas of Montana were identified for consideration in future investigations of geothermal development. The areas identified are those near Bozeman, Ennis, Butte, Boulder, and Camas Prairie. Those areas were chosen based on the potential of the resource and its proximity to population centers.

1.0 Introduction

Previous Geothermal Assessments

Two state-wide geothermal assessments have been conducted in the past. Allen (1980) identified collocated geothermal resources and cities for eight western states including Montana. Allen's study focused on resource temperatures greater than 50°C and did not include low-temperature resources. Sonderegger and others (1981) produced a 1:1,000,000-scale map and associated table of geothermal resource areas in Montana based on a compilation of various published reports and theses. Although the compilation included resources having temperatures below 50°C, these data were not stored in a digital format because electronic databases were not then available for retrieval or storage. These reports, however, provided a good basis for updating information which has now been stored in a digital format.

Overview of Program

The Montana Bureau of Mines and Geology (MBMG) entered into a cooperative agreement with the Oregon Institute of Technology GeoHeat Center (OIT-GHC) and the University of Utah Research Institute (UURI) to conduct several tasks related to Montana's geothermal resources. These tasks included:

- < preparation of a comprehensive digital geothermal-resources database containing temperature, location (latitude/longitude, Township/Range/section/tract, and county) and chemistry (pH, total dissolved solids, and selected constituents). The minimum temperature for a low-temperature resource was defined to be 10°C above the mean annual air temperature at the land surface.
- < preparation of a 1:1,000,000-scale map of geothermal occurrences within Montana. The map was compiled in a digital format.
- < collecting water samples from areas lacking information; analyses of the samples were conducted by UURI Earth Science Laboratory.

- < completing a final summary report describing all tasks and results.

- < assisting OIT-GHC and UURI to prioritize low- and moderate-temperature resource areas.

Funding for this program was provided by the Department of Energy through a task agreement with OIT GHC and UURI. The tasks performed under this agreement may be considered Phase I of the Low-Temperature Geothermal Resources and Technology Transfer Program. Phase II, which has not yet been funded, will include a detailed study of priority sites.

2.0 Data Sources

References Used and Selection Criteria

Ground Water Information Center

The criteria for selecting sites that were to be included in the database depended on the source of the data. For the initial search of the Montana Bureau of Mines Ground Water Information Center (GWIC) database, a minimum temperature of 13^o Celsius was used (10^o degrees above the lowest mean annual temperature officially reported anywhere in Montana) to ensure that all low-temperature sites were included. This query produced approximately 600 records. Each record included any information that was available on location, site name, well depth, flow, temperature, and chemistry. These records were then transferred to a PARADOX database where more restrictive queries could be made that would eliminate records but allow for a review of the eliminated records. For example, after sorting and separating the data into 5 geographic areas for which the mean annual air temperature was better defined and running a query based on that temperature, approximately 250 sites were eliminated, leaving approximately 350 sites to be considered further. Each of the remaining 350 sites was assigned a 3-digit identification number with a prefix of MGEOT. The rejected records were reviewed for other geothermal indicators such as high chloride, silica, and/or arsenic concentrations and proximity to known geothermal areas.

GEO THERM Database

A digital version of the GEO THERM database was obtained from the Department of Energy - Geothermal Division. These data had been compiled in an earlier, region-wide inventory (Reed and others, 1983). Although no new records were added to the MGEOT database, the GEO THERM records were compared to those in the MGEOT database for accuracy and completeness. Because there were few changes, it was not necessary to merge the databases; any necessary changes to the MGEOT database were made manually.

Published Data

The tables of geothermal wells and springs produced by Mariner and others (1976), Leonard and others (1978), and Sonderegger and others (1981), were also used to ensure the completeness and accuracy of the MGEOT database. Any additional sites or information from these reports were entered manually into the database. The same approach was taken with other published sources.

Twelve Master's theses were reviewed for additional information on geothermal resource areas. Many of the investigations focused on the geologic or geophysical aspects of a known geothermal area. Few chemistry data were gleaned from these reports; however, temperatures and locations of many sites were verified as a result of the review.

Error and Duplicate Records

The most common error encountered was high temperatures reported for wells and springs in areas where geothermal sources are known **not** to exist. The most probable cause for the high temperature is "warm-day" sampling or improper purging of shallow wells. These sites were eliminated based on the personal knowledge of the investigators or on data collected at that same site at another time. Another common error was in the units used for concentration data. Trace-metals such as boron, arsenic, and lithium were often in error as a result of converting between parts-per-billion (: g/L) and parts-per-million (mg/L). The original publication was used, if possible, to correct these. In other cases, a calculation of ionic balance was used to determine if a problem existed.

With some exceptions, duplicate records in the form of data for two or more samples from the same site were eliminated and the most recent, most complete data were used. The exceptions were the site that had been re-sampled as part of this inventory (Symes Hotel, MGEOT352) and sites where samples had been collected several years apart. The intent was to provide information on changes in temperature and chemistry over time. The other exceptions were those sites where chemistry data were limited; in these cases, two data sets provided more useful information on the site. There are a total of 24 duplicate sites.

Reference/Bibliography

A reference is given for each record in the database. The reports published by Mariner and others (1976), Leonard and others (1978), and Sonderegger and others (1981) provided most of the information for previously identified geothermal areas. The GWIC database provided more recent data for previously identified sites. GWIC also provided information for areas near to previously identified resource areas and for low-temperature sites in geothermal areas not previously identified.

The references/bibliography listed in Section 8.0 also includes the theses and other publications that pertain to geothermal resource areas in Montana. As noted in Section 2.0, some of these references provided confirmation of location and temperature. Rautio and Sonderegger (1980) also provided a bibliography of geothermal resources in Montana. This is reproduced in this report as a useful supplement to the bibliography.

3.0 Data Format

Organization of Tables

The data fields used in the database were recommended by program leaders at OIT-GHC and UURI, and agreed upon by state team members. The final version of the data was exported from the PARADOX database to a spreadsheet format which enabled an evaluation of the distribution of sites, the calculation of reservoir temperature, and provided a means of graphical output.

State Geothermal Resource Map

The locations (latitude/longitude), temperatures, resource types (well or spring), and ID numbers of all sites in the database were imported from the spreadsheet to an ARC/INFO-based Geographical Information System. The data were then plotted with county boundaries at 1:1,000,000 scale. Each data-point indicated the ID-number, the temperature range (by color), and resource type (well or spring, by symbol) and location. This initial plot was used to verify the accuracy of the locations, to give an indication of the density of sites in a given area, and to identify any sites that were plotted in areas where geothermal resources are known **not** to exist. The final map uses the same format and presents each of the individual sites listed in the database. A listing of selected fields for all sites is presented in Appendix I. The large number of sites in the Camas-Lonepine area made it impractical to plot the ID number for each site; these are repeated in a separate table in Appendix I.

Procedures for Using the Data

The database listing in Appendix I is sorted by location (ascending latitude). This format is also used in the listing of maximum temperatures based on selected geothermometers in Appendix II. The information for each site is listed with reference to the ID number on the 1:1,000,000-scale map.

In the repetitive process of adding and deleting sites based on a multitude of criteria, it was found that maintaining the database in a PARADOX (or similar) format was best. This format enables searches using the an ID-number or location from the map or general information, such as site name, and is contained in a single database table. This single table can be separated into several tables as the need arises.

4.0 Fluid Chemistry

Samples Collected in this Assessment

Water samples were collected from at 8 sites in 3 areas in Montana (figure 1); 7 of these sample sites had not been sampled previously or had only limited information prior to this investigation. The eighth site was selected to provide a comparison with data collected about 10 years earlier.

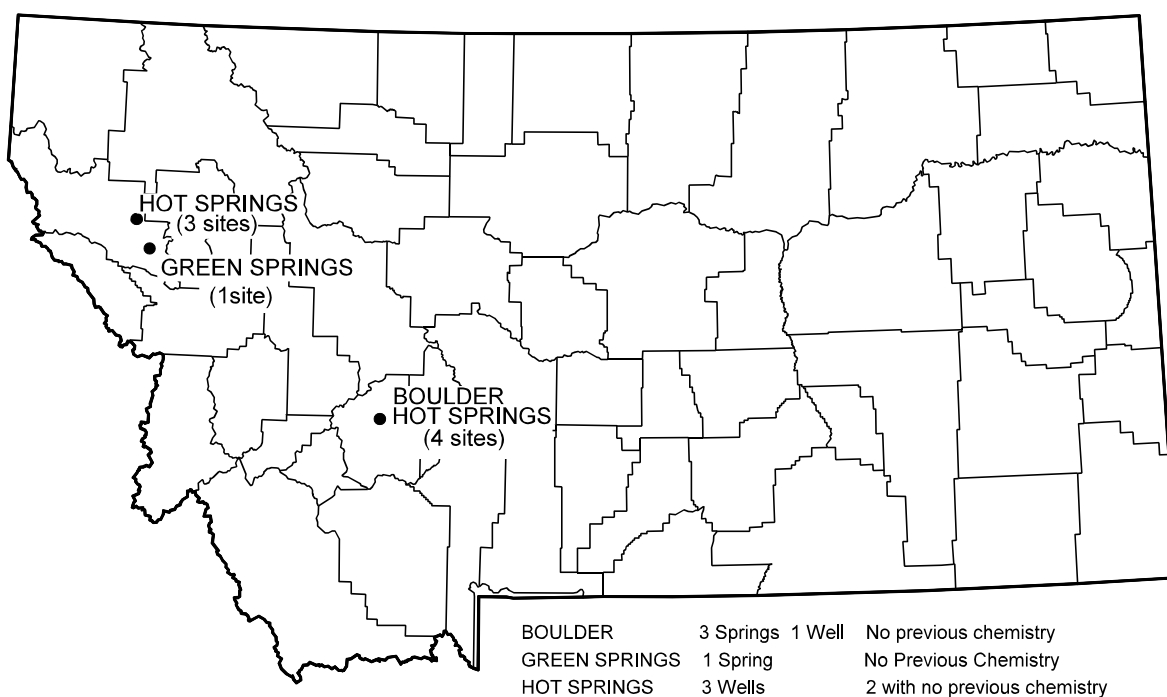


Figure 1 Water samples were collected at 8 sites three areas of Montana. There were little or no previous data for 7 of the sites.

Boulder Hot Springs, south of Boulder, MT

The Boulder Hot Springs resort is approximately 3 miles south of the town of Boulder within the Boulder Hot Springs Known Geothermal Resource Area. Previous owners of the resort would not grant access for sample collection during previous investigations. The current owners, however, kindly allowed access, and each of the three springs near the resort were

sampled (MGEOT349, MGEOT350, and MGEOT351). A fourth sample (MGEOT356) was collected from a well that had been intended as a drinking-water supply for the hotel, but produced "hot water" according to the owner.

Symes Hotel, Hot Springs, MT

The Symes Hotel uses a well for domestic water use. This well had been sampled in a previous investigation conducted in 1980. The area has since undergone a moderate amount of development, and several additional wells have been completed in the area. Thus, this site (MGEOT352) was chosen to provide a comparison.

Koepling Well (MGEOT355) and Ostranger Well (MGEOT 354) , north of Hot Springs, MT

These wells are in the Little Bitterroot Valley 3 to 5 miles northeast of Hot Springs. Although previously identified to be within a geothermal resource area, these wells had not been sampled in previous investigations.

Green Springs Area (MGEOT353), southwest of Camas Prairie, MT

Local residents identified 3 to 4 "hot" springs in the area south of the town of Camas Prairie. Nearby, Green Springs had been identified by Sonderegger and others (1981) as a geothermal area, but only limited data were available.

Sample collection/analytical methods

Water samples were collected from wells and springs in accordance with the Standard Operating Procedures provided by UURI (Kroneman, 1992). Each sample consisted of a 60-ml bottle filtered and preserved with 20% HNO₃, and a 250-ml bottle filtered and preserved with 1% HCL, and a 500-ml bottle filtered with no preservative. Upon collection of each sample, specific conductance, pH, water temperature and air temperature were obtained at the sample source. Spring samples were collected as close as possible to the source. Wells were sampled after pumping or bailing a minimum of three casing volumes and after field-parameters (pH, SC, Eh, and temperature) had stabilized to a range of less than 10%.

Samples were shipped within 48-hours of collection, via overnight delivery, to the UURI Analytical Laboratory in Salt Lake City, Utah. The samples were analyzed for major cations, major anions, and selected trace-metals.

Reservoir Temperatures

Several methods to estimate the reservoir temperature have been proposed; the most widely used are those using dissolved concentrations of silica (as SiO_2), Na-K-Ca, Na-K-Ca with a correction for Mg, and Na-K and are summarized by Fournier (1981). These methods represent empirical, equilibrium equations for which the water temperature at the reservoir is calculated. As noted by the authors of the methods, these calculations should be interpreted in consideration of the geologic and hydrogeologic setting.

Analytical Results

The analytical results for selected analytes are presented in table 1. These sites are also included in the listing in Appendix I, in the listing of temperatures from geothermometers in Appendix II, and in the MGEOT database.

Table 1. Analytical Results for 1993 Sampling

ID	Site Name	Temp (°C)	Flow (L/minute)	TDS (mg/L)	pH	Cl (mg/L)	SO ₄ (mg/L)
MGEOT349	BOULDER (UPPER)	54.0	340*	419.5	8.89	21.0	76.0
MGEOT351	BOULDER (LOWER)	64.5	75.7*	401.4	8.80	22.0	73.0
MGEOT350	BOULDER (MIDDLE)	74.0	75**	421.1	8.89	22.0	80.0
MGEOT356	BOULDER (WELL)	34.5		373.1	8.46	16.0	54.0
MGEOT352	SYMES HOTEL	33.3		297.2	9.66	11.0	30.0
MGEOT355	WELL 138	26.5		275.0	8.23	10.0	5.1
MGEOT354	WELL 56	17.2		290.9	8.05	14.0	3.8
MGEOT353	GREEN SPRINGS	23.7	2000**	208.4	9.86	12.0	17.0

* Flow measured with bucket/stopwatch **Flow estimated

ID	Site Name	F* (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	Fe** (mg/L)
MGEOT349	BOULDER (UPPER)	11.8	2.7	0.4	122.0	3.8	ND
MGEOT351	BOULDER (LOWER)	11.0	3.2	ND	111.4	6.1	0.31
MGEOT350	BOULDER (MIDDLE)	11.1	2.0	0.3	118.2	ND	0.08
MGEOT356	BOULDER (WELL)	5.7	4.09	ND	108.2	3.7	0.09
MGEOT352	SYMES HOTEL	5.6	0.6	0.7	89.4	2.2	ND
MGEOT355	WELL 138	3.4	4.5	ND	95.6	2.9	0.06
MGEOT354	WELL 56	5.4	5.5	2.5	109.3	ND	0.39
MGEOT353	GREEN SPRINGS	2.1	0.8	1.2	57.1	2.1	0.27

* The drinking water standard (primary) for fluoride is 4mg/L.

** The drinking water standard (secondary) for iron is 0.3 mg/L; the aquatic life standard (acute) is 1mg/L.
units: mg=milligrams; L=liters

Table 1 - Continued

ID	Site Name	SiO ₂ (mg/L)	As (mg/L)	B (mg/L)	Li (mg/L)
MGEOT349	BOULDER (UPPER)	93.2	0.7*	0.6	0.23
MGEOT351	BOULDER (LOWER)	90.0	ND	0.5	0.22
MGEOT350	BOULDER (MIDDLE)	98.5	ND	0.5	0.23
MGEOT356	BOULDER (WELL)	86.55	ND	0.49	0.21
MGEOT352	SYMES HOTEL	73.08	ND	0.2	0.04
MGEOT355	WELL 138	36.64	ND	0.4	0.04
MGEOT354	WELL 56	12.96	ND	0.3	ND
MGEOT353	GREEN SPRINGS	55.8	ND	0.1	ND

* Because of the high arsenic concentration, this spring was re-sampled and analyzed by MBMG. The second analysis indicated a concentration of 0.02 micrograms per Liter.

ND = Not Detected

Boulder Hot Springs

The Boulder Hot Springs area lies approximately 3 miles south of the town of Boulder near the Interstate 15 highway. The area lies within the Boulder Batholith about 4 miles from its eastern edge. Until this investigation, only limited chemistry data and field parameters were publicly available for this area (Robertson and others, 1976, published limited chemistry and a reservoir temperature, but the location of the sample was not made clear). Other hot-springs and warm-water wells are known to exist in the area around Boulder; however, access was not gained either because the owner denied access or could not be contacted.

The samples were collected from three springs that have been developed to supply the Boulder Hot Springs resort. At present, the primary use of the hot water is a naturally heated swimming pool. As renovation of the hotel continues, the water may also be used for space heating as was the case in the past. Samples were collected at the supply pipe at each spring box. Water flow, which was difficult to measure because of the structures, was measured at two of the springs using a bucket and stopwatch; the flow of the middle springs could only be estimated. The combined flow of all three springs is on the order of 490 L/min.

The field temperatures of the springs vary by 20°C; the upper spring had the lowest temperature (54°C) and the middle spring, which was not being used, had the highest

temperature (74°C). The variance in temperature suggests that the water supplying the springs is undergoing mixing. Conversely, the chemistry of the waters from each of the three springs is similar (all are strongly a sodium-potassium type water) and the estimated reservoir temperature for each of the springs tend to agree regardless of the geothermometer used (table 2). Thus, the variance in temperature may result from the way the spring was developed and fed to the spring boxes.

Table 2 Selected Geothermometer Temperatures* calculated for the Boulder Hot Springs

ID	Site Name	Na-K-Ca (corrected)	Na-K-Ca (uncorr.)	Qtz (no steam)	Qtz (steam)
MGEOT349	BOULDER (UPPER)	110°C	134°C	133°C	129°C
MGEOT351	BOULDER (LOWER)		158°C	131°C	128°C
MGEOT350	BOULDER (MIDDLE)	120°C	141°C	136°C	132°C
MGEOT356	BOULDER (WELL)		134°C	129°C	126°C

*Geothermometer temperatures for all sites are presented in Appendix II.

The well, with a depth of 37.5 meters and a static-water-level of 0.85 meters, is downhill from the resort and the springs. The chemistry of its water (table 1) is similar to that of the springs; the geothermometer temperatures (Table 2) are in good agreement with those calculated for the springs. The water temperature (34.5°C) was 20°C lower than the spring with the lowest temperature. A small pond near the well had a temperature of 21°C.

Hot Springs Area

Water samples were collected from the Hot Springs area: 2 from wells northeast of Hot Springs and from 1 well in Hot Springs. As noted previously, temperature and chemistry data were not available for 3 of these sites, and the third, the Symes Hotel, had a sample collected in 1972 .

The Koepling well and the Ostranger well are completed in the Lonepine aquifer approximately 1.5 miles apart and approximately 5 miles northeast of Hot Springs. The Symes Hotel is located in Hot Springs.

Water temperature and the concentration of several of the dissolved constituents varies between the three wells (table 1). The geothermometer temperatures (table 3) also indicate a range of temperatures wider than would be expected for a system with little or no mixing. Donovan (1985) suggested that the chemistry (and geothermometers) reflected the relative position of the well in a deeply circulating flow system.

Table 3. Selected Geothermometer Temperatures* calculated for the Hot Springs area

ID	Site Name	Na-K-Ca (corrected)	Na-K-Ca (uncorr.)	Qtz (no steam)	Qtz (steam)
MGEOT352	SYMES HOTEL	35°C	131°C	120°C	118°C
MGEOT355	KOEPLING (WELL 138)			48°C	55°C
MGEOT354	OSTRANGER (WELL 56)		126°C	88°C	90°C

*Geothermometer temperatures for all sites are presented in Appendix II.

Geothermometer temperatures for the Symes Hotel well (table 3) have dropped a 3 to 5°C, perhaps the result of continued development of ground-water resources in the area. None of this development, however, has been of the geothermal resources. This area could easily provide for applications of heat-transfer technology.

Green Springs

Green Springs is approximately 12 miles south of Hot Springs and approximately 2.5 miles southwest of Camas Prairie. Green Springs consists of 3 or 4 thermal springs feeding a wetlands/pond area. Elsewhere in the area, several small springs have been described by local citizens. A sample was collected from the largest of the springs at its source (table 1). Although the site was documented by Sonderegger and others (1981), only a few chemical parameters were measured. The new data enabled a calculation of geothermometer temperatures (table 4).

Table 4. Selected Geothermometer Temperatures* calculated for the Green Springs area

ID	Site Name	Na-K-Ca (corrected)	Na-K-Ca (uncorr.)	Qtz (no steam)	Qtz (steam)
MGEOT353	GREEN SPRINGS		140°C	107°C	107°C

*Geothermometer temperatures for all sites are presented in Appendix II.

The differences between geothermometer temperatures suggests that mixing may be occurring and the difference in surface temperature and the geothermometer temperatures suggests either a high heat transfer or a slow circulation rate for this area.

Observations from Other Database Entries

Incorporating low-temperature sites in the inventory produced a new perspective of geothermal resources in the state. Areas such as Butte became more important with respect to potential development. The same may be true for the area near the city of Great Falls in Cascade County where wells 128- to 366- meters deep in the Madison Group produce water that ranges from 15 to 19°C; the water is used for irrigation and public water supply. Wells 274- to 396- meters deep in southern Treasure County and northern Big Horn County produce water whose temperatures range from 16.5°C to nearly 20°C.

The lower temperatures used in the selection criteria also had the effect of enlarging some of the areas identified by Sonderegger and others (1981). An example of this is in southern Broadwater County and northwestern Gallatin County where wells and springs had been identified in previous investigations. Updating the database provided additional information that may indicate a larger area for potential development.

5.0 Discussion

Resource Potential

There are 291 records in the current database; these represent 267 individual sites (wells and springs). Figure 2 shows that approximately 71% of these sites exhibit water temperatures between 10 and 30° Celsius.

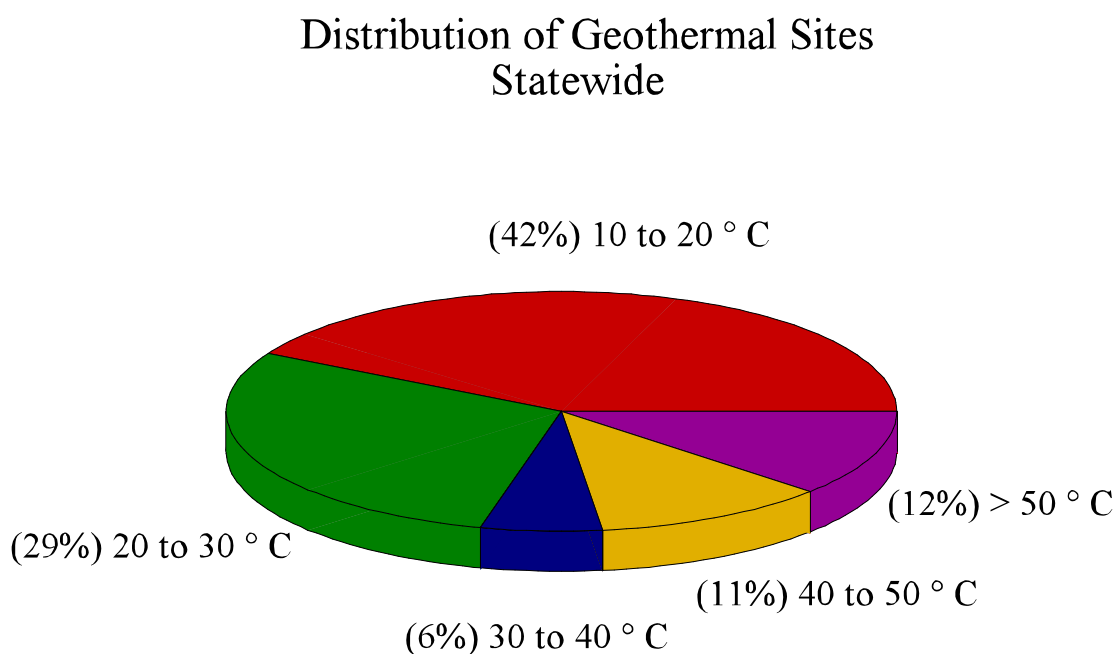


Figure 2 About 77% of the geothermal sites in Montana have water temperatures less than 40° Celsius; 12% of the sites have temperatures greater than 50° Celsius.

Collocation of Resources and Users

Montana's population centers are generally small (<50,000 people) and widely distributed. The western third of the state has more of the larger population centers and a slightly higher overall population than the eastern two-thirds.

The distribution of geothermal resources mimics, but does not correlate, to that of the population; 152 of the 267 geothermal sites occur in the mountainous area of the western third

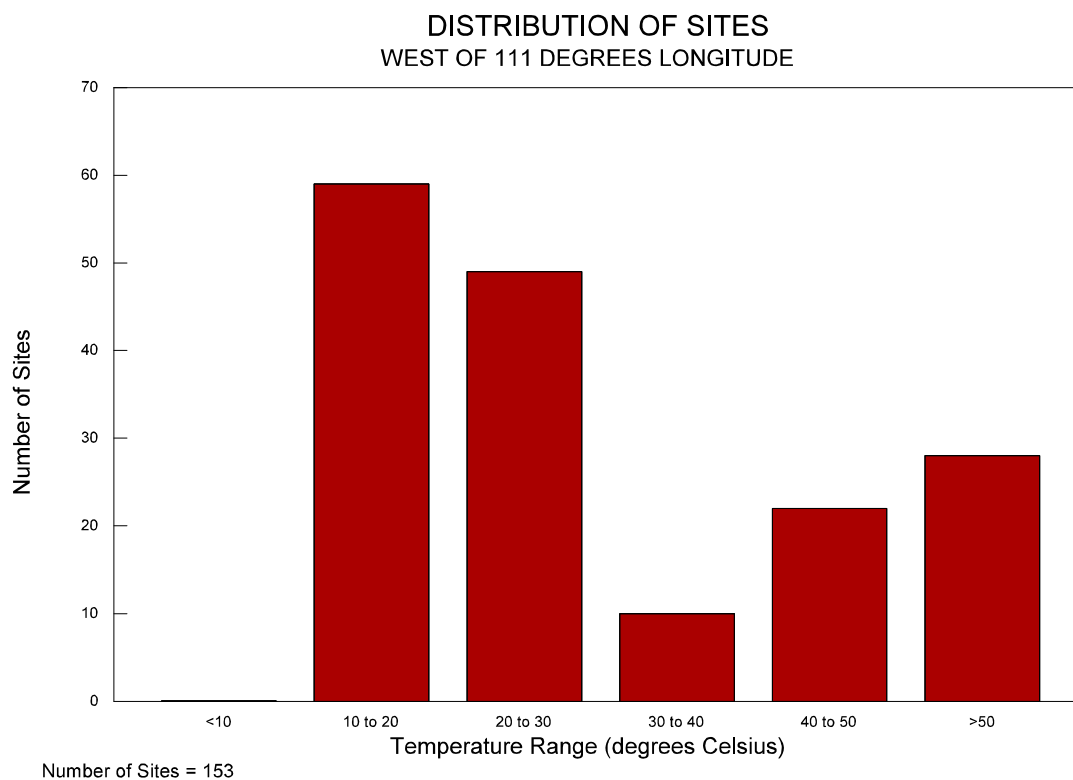


Figure 3 The western third of the state has 153 sites. About a third of those (approximately 100) have temperatures greater than 30°C.

(generally west of 111° longitude) whereas 115 sites are in the plains area of the eastern two-thirds of the state. Similarly, the number of warm and hot sites is much higher in the west. A comparison of the distribution within the western (figure 3) and eastern (figure 4) parts of the state shows that the western third has a larger number of sites with temperatures greater than 30°C. Collocation of population centers, although small, and geothermal resources are most likely to occur in the western third of the state. It should be noted, however, that deep wells into the Madison Formation in the eastern part of Montana have the potential to produce low- to moderate-temperature water as demonstrated in Treasure County and northern Big Horn County.

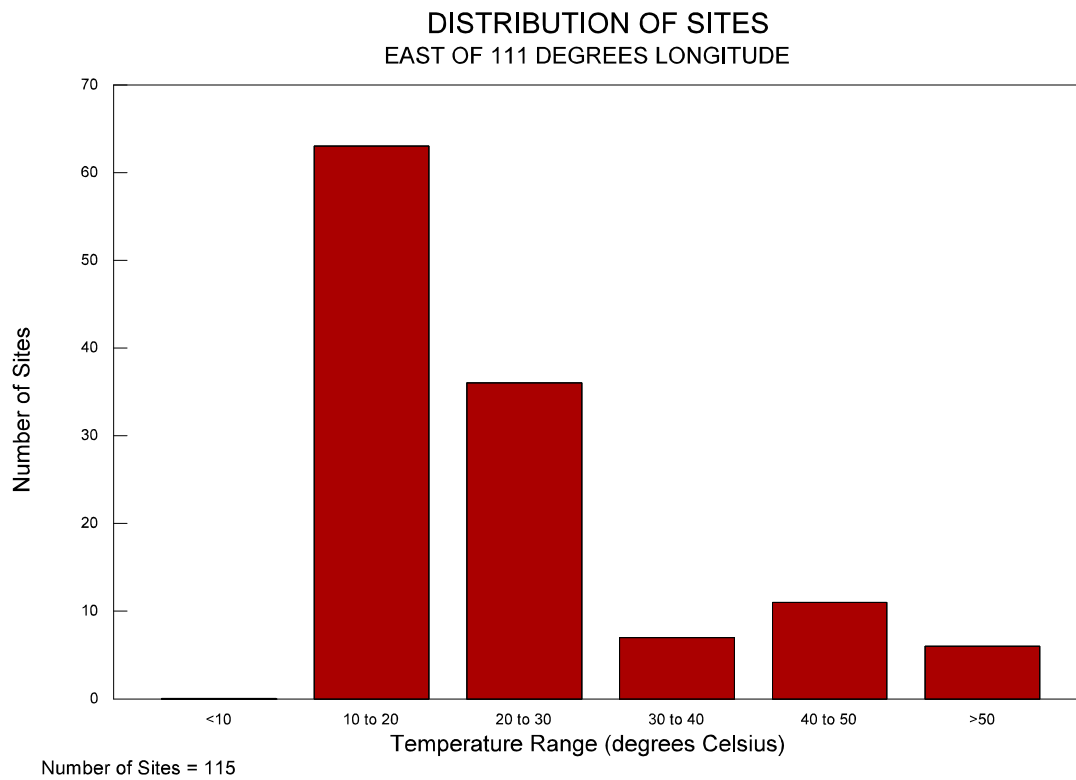


Figure 4 About 20 of the 115 sites in the eastern third of the state have temperatures greater than 30°C.

6.0 Summary

Each of the tasks outlined in the agreement between the Montana Bureau of Mines and Geology and the Oregon Institute of Technology / University of Utah Research Institute have been completed. The database described here represents the information on geothermal resources in the state of Montana as of 1994. The database also contains the information collected from eight sites that lacked information prior to this inventory. A 1:1,000,000 scale map, which accompanies this report, shows the location, temperature group, distribution, and type of geothermal resources in the state.

The distribution of geothermal resources and population in Montana suggests a good potential for development of these resources. Although Montana has only a few large population centers, smaller cities and towns near the resources could benefit from development. Although the low temperature of the resources (most are less than 50°C) restricts the type of development, small-scale direct-heat or heat-pump applications, aquaculture, and other development may be economical in some areas.

Whereas the information presented in this report reflects the current knowledge and information on geothermal resources across the state, funding and time limitations would not permit an evaluation of each site. Individuals or groups with the intention of developing any of the sites or areas identified in this assessment should conduct a more thorough investigation and confirm the temperatures, chemistry, and flows.

7.0 Recommendations

Priority Areas for Phase II Studies

The dominant consideration in selecting areas in Montana for future studies is the proximity of the resource area to transportation and population centers. Although there are several resource areas with a relatively high potential for development, limited past and/or current use and low population in the area likely prohibit development. The areas that have the highest potential and are nearest population centers (Figure 5) and transportation routes are as follows:

Bozeman

The Gallatin valley near Bozeman has experienced a steady population growth over the last decade. Data for the Bozeman Hot Springs just west of the city of Bozeman indicates a surface temperature of approximately 55°C and an estimated reservoir temperature of 80°C. The springs are currently used to heat a swimming pool at a commercial campground. Although little resource development has occurred in the area over the last ten years, the Gallatin valley was identified by Sonderegger and others (1981) as an area expected to contain geothermal resources suitable for development. Geophysical exploration and deep drilling would better define the source and extent of this resource area.

Butte

The Butte Mining District was extensively mined over a period of nearly 100 years. At the cessation of underground mining in the early 1980's, dewatering of the bedrock was discontinued and water-levels were allowed to rise. Soon after the mines were shut down, the area was listed in the National Priorities List and is designated as a Superfund site. The rising water, which has a low pH and a high dissolved-metals content, is of much to concern to local, state, and federal agencies, and it has been recognized that water levels will need to be controlled by pumping to prevent discharge into the Clark Fork River drainage.

With respect to geothermal development, the Butte area offers several avenues for low-to-moderate temperature resources. The underground workings were notoriously hot areas to work in while operating, and recent data collected from the mines show water temperatures ranging from 13° to 33°C. Monitoring wells completed in the bedrock aquifer at depths less than 183 meters indicate temperatures of 10 to 18°C, and water quality is quite good (for example, see MGEOT341 and MGEOT342). Diamond drill holes with depths up to 610 meters and open mine shafts may provide access to the deeper, warmer waters. An evaluation of depth, temperature, and potential applications of heat-pump technology is needed.

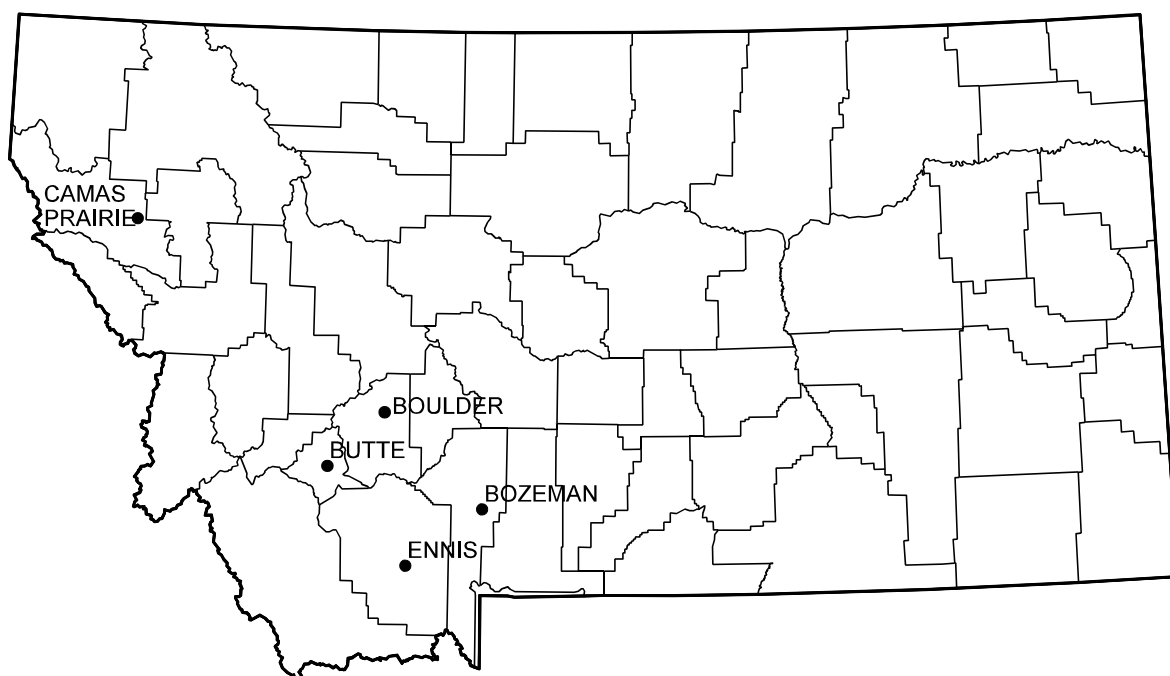


Figure 5 Five areas have been selected as potential areas for additional studies relating to application of direct-use technology.

Ennis

Several studies of the geothermal resources near Ennis have been conducted in the past; however, a deep drilling project is needed to fully understand the nature of this resource area. Recently, one of the areas in which wells were completed was offered for sale to the county government. Application of the information derived from previous studies to an investigation of potential direct-heat applications may also be warranted.

Boulder Hot Springs

The Boulder Hot Springs is within a few miles of Interstate-highway 15 and the town of Boulder is only 1/2 mile away. Larger cities, Butte to the south and Helena to the north, are within 30 miles. The surface temperatures at the three springs sampled range from 54 to 74°C, and flow is approximately 340 L/min. at the larger spring. The site is currently undergoing renovation. The likelihood of other geothermal resources in the area is high. An inventory of springs and wells throughout the valley and a deep drilling project is needed to better define this potential resource area.

Camas Prairie

There are several previously unrecorded springs in this area; one site was sampled recently (MGEOT353). Although the area is not near any of the larger population centers, there are some recreational facilities in the area. This particular area of Montana has been especially popular for cottage-industry development. A more complete well and spring inventory, coupled with a water-chemistry sampling program is needed to better define the occurrence and potential development in this area.

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Appendix I

Database Listing of

Known Geothermal Sites in Montana

With a separate list of 33 sites in the Camas-Lonepine Area

Group 1 – Known Geothermal Sites in Montana

Set 1 – location – latitude-longitude

Set 2 – date - chemistry

Set 3 – chemistry

Set 4 – location – township-range

Group 2 – 33 Sites in the Camas-Lonepine Area

Set 1 – location – latitude-longitude

Set 2 – date - chemistry

Set 3 – chemistry

Set 4 – location – township-range

MGEOT DATABASE

ID	Site name	Reference	Type	Flow (l/min)	Latitude	Longitude	Temp (deg c)	Status/use	Sample	
									SWL (M)	Depth (M)
MGEOT209	TARGHEE SULPHUR SPRING*6MI W W YELLOWSTONE	Sonderegger et.al. 1981	SPRING		44.6775	111.2180	18.0	STOCK		
MGEOT177	UPPER WEST SPRING-STAUDENMEYER RANCH	MBMG-GWIC	SPRING		44.6988	111.8780	28.8	STOCK		
MGEOT123	UPPERMOST SPRING-STAUDENMEYER RANCH	Sonderegger et.al. 1981	SPRING		44.6988	111.8780	28.0	OTHER		
MGEOT126	UPPER-EAST SPRING-STAUDENMEYER RANCH	MBMG-GWIC	SPRING		44.6988	111.8780	29.0	OTHER		
MGEOT125	LOWER WEST SPRINGS-STAUDENMEYER RANCH	MBMG-GWIC	SPRING		44.6988	111.8780	31.0	OTHER		
MGEOT127	LOWER EAST SPRING-STAUDENMEYER RANCH	MBMG-GWIC	SPRING		44.6988	111.8780	28.0	OTHER		
MGEOT124	UPPER WEST SPRING-STAUDENMEYER RANCH	MBMG-GWIC	SPRING		44.6988	111.8780	29.0	OTHER		
MGEOT121	ANDERSONS PASTURE SPRING #1	MBMG-GWIC	SPRING		44.7025	111.8855	28.0	STOCK		
MGEOT122	ANDERSONS PASTURE SPRING #2	MBMG-GWIC	SPRING		44.7030	111.8822	23.5	STOCK		
MGEOT210	USFS* BAKERS HOLE* 3MI N WEST YELLOWSTONE	Sonderegger et.al. 1981	WELL-FLOWING	16.0	44.7080	111.0991	16.0	PUBLIC SUPPLY	5.6	18.75
MGEOT115	SLOAN COW CAMP SPRING	Sonderegger et.al. 1981	SPRING	1306.0	44.7688	111.6487	29.5			
MGEOT120	WEST FORK SWIMMING HOLE	Sonderegger et.al. 1981	SPRING	1890.0	44.7863	111.6550	25.5	OTHER		
MGEOT118	CURLEW CREEK WARM SPRING	MBMG-GWIC	SPRING		44.8730	111.5455	23.0	UNUSED		
MGEOT119	WALL CANYON WARM SPRING	Sonderegger et.al. 1981	SPRING		44.9763	111.6508	24.0	UNUSED		
MGEOT229	WOLF CREEK HOT SPRING	Leonard et.al. 1978	SPRING	201.0	44.9838	111.6155	60.0	STOCK		
MGEOT129	LOWELL HILDRETH SPRING*15 MI SW DILLON	MBMG-GWIC	SPRING		45.0275	112.8452	19.6	DOMESTIC		
MGEOT016	BEAR CREEK SPRINGS	Sonderegger et.al. 1981	SPRING	38.0	45.0353	110.6653	24.0			
MGEOT132	VIGILANTE WARM SPRING	Sonderegger et.al. 1981	SPRING	8330.0	45.0369	111.9522	23.5	UNUSED		
MGEOT041	LA DUKE HOT SPRINGS	Mariner et.al. 1976	SPRING	500.0	45.0930	110.7737	65.0			
MGEOT012	BROWNS SPRINGS	Sonderegger et.al. 1981	SPRING	4160.0	45.1047	112.7508	23.7			
MGEOT010	PULLER HOT SPRINGS	Leonard et.al. 1978	SPRING	189.0	45.1717	112.1520	44.4			
MGEOT019	TRUDAU SPRINGS	Sonderegger et.al. 1981	SPRING	660.0	45.2350	112.1347	22.7	UNUSED		
MGEOT040	CHICO HOT SPRINGS	Mariner et.al. 1976	SPRING	500.0	45.3370	110.6913	42.0			
MGEOT032	GROUNDWATER*4.7 MI NE FT SMITH MT	MBMG-GWIC	WELL		45.3447	107.8627	20.0	OTHER		314.86
MGEOT074	BROWN CATTLE CO* 3.1 MI N BIRNEY MT	MBMG-GWIC	WELL	0.5	45.3663	106.5322	15.5	STOCK		
MGEOT276	JARDINE HOT SPRINGS 0.25 MI E OF JACKSON	MBMG-GWIC	SPRING		45.3675	113.4033	60.0	DOMESTIC		
MGEOT289	MBMG GEOTHERMAL TEST * THEXTON TX-12	MBMG-GWIC	WELL	28.6	45.3677	111.7247	87.0	RESEARCH		291.39
MGEOT028	JACKSON HOT SPRINGS	Mariner et.al. 1976	SPRING	1000.0	45.3678	113.4030	58.0			
MGEOT293	PRIVATE GEOTHERMAL TEST*ENNIS HOT SPRINGS*	MBMG-GWIC	WELL		45.3702	111.7252	87.0	INDUSTRIAL/COMM		371.86
MGEOT277	LAPHAM DOMESTIC WELL 1 MI NW JACKSON, MT.	MBMG-GWIC	WELL		45.3825	113.4222	17.0	DOMESTIC		30.48
MGEOT117	ENNIS HOT SPRINGS	MBMG-GWIC	SPRING		45.3852	111.7788	81.0	UNUSED		
MGEOT058	BROWN CATTLE CO * 9.5MI SW BIRNEY DAY SCH.	MBMG-GWIC	WELL	0.2	45.3869	106.5330	16.5	STOCK	0.9	252.98
MGEOT031	BEAVERHEAD ROCK SPRINGS	Sonderegger et.al. 1981	SPRING	380.0	45.3918	112.4512	27.0			
MGEOT133	APEX WARM SPRING	Sonderegger et.al. 1981	SPRING	2840.0	45.4205	112.6911	25.0	IRRIGATION		
MGEOT323	ELKHORN HOT SPRINGS	Mariner et.al. 1976	SPRING	400.0	45.4578	113.1087	48.5			
MGEOT292	MARTIN, KIETH	MBMG-GWIC	SPRING	1589.8	45.4594	109.8758	20.5	DOMESTIC		
MGEOT326	NEW BILTMORE HOT SPRINGS	Mariner et.al. 1976	SPRING	280.0	45.4620	112.4750	53.0			
MGEOT308	NEWMAN, JOHN * JOLIET, MT	MBMG-GWIC	WELL		45.4663	108.9800	16.0	DOMESTIC	70.3	225.55
MGEOT280	ANDERSON SPRING	MBMG-GWIC	SPRING	169.9	45.5530	110.1422	25.0	RECREATIONAL		
MGEOT006	ANDERSON'S SPRING	Sonderegger et.al. 1981	SPRING	280.0	45.5530	110.1422	25.0			
MGEOT043	NORRIS HOT SPRINGS	Leonard et.al. 1978	SPRING	424.0	45.5750	111.6833	50.0			
MGEOT015	POTOSI HOT SPRINGS	Mariner et.al. 1976	SPRING	197.0	45.5892	111.8987	49.5			
MGEOT187	GROSS, PETE * 4 MI S PONY MT	MBMG-GWIC	SPRING	64.4	45.6016	111.9002	37.5	OTHER		
MGEOT311	MCFERRAN, EUGENE * BILLINGS, MT	MBMG-GWIC	WELL		45.6033	108.4019	15.5	DOMESTIC	92.5	181.66
MGEOT179	CARTER'S BRIDGE * 4 MI SE LIVINGSTON MT.	Sonderegger et.al. 1981	SPRING		45.6091	110.5686	28.0	UNUSED		
MGEOT011	AVON WARM SPRING	Sonderegger et.al. 1981	SPRING	91.0	45.6103	112.5547	25.5			
MGEOT264	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	MBMG-GWIC	WELL	11.5	45.6602	111.1861	59.0	RESEARCH		164.59
MGEOT266	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	MBMG-GWIC	WELL	1000.0	45.6602	111.1861	55.0	RESEARCH		140.21
MGEOT265	BOZEMAN HOT SPRINGS * OLD WELL	MBMG-GWIC	WELL		45.6602	111.1861	54.0	RECREATIONAL	6.9	164.59
MGEOT263	BOZEMAN HOT SPRINGS * ORIGINAL SPRING	MBMG-GWIC	SPRING		45.6605	111.1861	54.0	RECREATIONAL		
MGEOT335	BOZEMAN HOT SPRINGS	Leonard et.al. 1978	SPRING	284.0	45.6605	111.1862	54.6			
MGEOT269	RANCA * MCLEOD	MBMG-GWIC	WELL		45.6647	110.1141	49.0	UNUSED		
MGEOT259	SCOTT FEED LOT	Sonderegger et.al. 1981	WELL	45.0	45.6819	108.1566	43.0	DOMESTIC		
MGEOT260	SCOTT FEED LOT	Sonderegger et.al. 1981	WELL	50.0	45.6838	108.1552	44.0	DOMESTIC		
MGEOT230	BLUE JOINT CREEK HOT SPRING	Sonderegger et.al. 1981	SPRING	849.0	45.6963	114.3633	29.4			
MGEOT002	BRIDGER CANYON WARM SPRING	Sonderegger et.al. 1981	SPRING	379.0	45.7073	110.9755	20.2			
MGEOT334	LOVE,MELVIN*THREE FORKS, MT	MBMG-GWIC	WELL		45.7269	111.4997	15.9	DOMESTIC		18.59
MGEOT033	GROUNDWATER*5.3 MI W HARDIN MT	MBMG-GWIC	WELL		45.7305	107.7311	39.4	OTHER		1219.20
MGEOT332	SHIPTON, HAROLD * THREE FORKS MT	MBMG-GWIC	WELL		45.7350	111.4825	16.9	DOMESTIC		54.86
MGEOT258	HERMAN, T.E. * ROCKY RANCH 7.4 M W HARDIN	MBMG-GWIC	WELL-FLOWING	2000.0	45.7369	107.7347	42.0	RECREATIONAL		1203.96
MGEOT344	GALLOGLY HOT SPRING	Sonderegger et.al. 1981	SPRING	454.0	45.7495	113.9395	48.9			
MGEOT245	LOST TRAIL * WARM AND HOT SPRINGS	MBMG-GWIC	SPRING		45.7497	113.9394	41.7	RECREATIONAL		
MGEOT089	CAIN MIKE*6 MI S VOLBERG	MBMG-GWIC	WELL	2.2	45.7533	105.7283	18.0	DOMESTIC	54.9	
MGEOT018	HUNTERS HOT SPRINGS	Mariner et.al. 1976	SPRING	5000.0	45.7572	110.2572	60.0			
MGEOT328	JORGENSEN, JACK * THREE FORKS MT	MBMG-GWIC	WELL		45.7736	111.4686	16.0	IRRIGATION		16.76
MGEOT346	RENOVA HOT SPRINGS	Leonard et.al. 1978	SPRING	151.0	45.7917	112.1263	50.0			
MGEOT339	WESTMORELAND * 9.1 M W SARPY SCHOOL	MBMG-GWIC	WELL		45.8027	107.0827	37.7	INDUSTRIAL	-0.5	
MGEOT095	LISCOM RANCH * 5.5 MI NW OF N STACY SCHOOL	MBMG-GWIC	WELL	0.1	45.8144	105.9705	15.5	STOCK	121.9	228.60
MGEOT331	TINDER, L. MARIE * THREE FORKS MT	MBMG-GWIC	WELL		45.8219	111.4672	21.9	DOMESTIC		32.92
MGEOT327	WILCOX, RALPH * THREE FORKS MT	MBMG-GWIC	WELL		45.8269	111.4638	16.5	DOMESTIC		22.25
MGEOT333	RICHARDSON, DEIRDRE * THREE FORKS	MBMG-GWIC	WELL		45.8300	111.4594	16.8	DOMESTIC		17.68
MGEOT347	MEDICINE HOT SPRINGS	Mariner et.al. 1976	SPRING	400.0	45.8458	114.0347	45.0			
MGEOT092	WESTERN ENERGY * 2 MI N COLSTRIP MT.	MBMG-GWIC	WELL	18.6	45.8863	106.6194	96.1	UNUSED	170.7	2845.61
MGEOT020	PIPESTONE HOT SPRINGS	Mariner et.al. 1976	SPRING	300.0	45.8963	112.2428	57.0			
MGEOT082	FRED WETSTEON SPRING DEVELOP	MBMG-GWIC	SPRING		45.9147	113.7608	19.0	OTHER		
MGEOT330	HART, FRANK * THREE FORKS, MT	MBMG-GWIC	WELL		45.9188	111.4975	15.9	DOMESTIC	1.2	16.76
MGEOT063	ANADARKO PROD*6 MI E FOSTER MT	MBMG-GWIC	WELL		45.9463	107.4588	26.7	UNUSED		781.51
MGEOT053	UN-NAMED SPRING * 29 M NE OF FOSTER MT	MBMG-GWIC	SPRING		45.9580	107.0625	29.0	STOCK		
MGEOT128	COWAN SPRING*9MI NW THREE FORKS MT	MBMG-GWIC	SPRING		45.9608	111.7227	23.0	STOCK		
MGEOT178	WOLF CREEK HOT SPRING	MBMG-GWIC	SPRING		45.9838	111.6155	60.0	STOCK		
MGEOT343	WILLIAMSBURG SPRING	MBMG-GWIC	SPRING	15.1	45.9916	112.5611	17.4			
MGEOT030	OIL WELL (TENSLEEP FORMATION)	Sonderegger et.al. 1981	WELL	1100.0	46.0082	109.3977	69.0			
MGEOT341	MONTANA RESOURCES MONITORING WELL C	MBMG-GWIC	WELL		46.0088	112.4875	17.8	RESEARCH		244.14
MGEOT342	MONTANA RESOURCES MONITORING WELL D2	MBMG-GWIC	WELL		46.0161	112.4902	16.0	RESEARCH	176.4	236.22

MGEOT DATABASE

ID	Site name	Reference	Type	Flow (l/min)	Latitude	Longitude	Temp (deg c)	Status/use	Sample	
									SWL (M)	Depth (M)
MGEOT055	HOWARD SPRING * 25 M SE OF BIGHORN MT	MBMG-GWIC	SPRING		46.0233	107.1233	23.0	STOCK		
MGEOT246	WENDT, FRED * .75 MI S GREGSON (FAIRMONT)	Sonderegger et.al. 1981	WELL	15.0	46.0322	112.8116	23.9	DOMESTIC	30.8	91.44
MGEOT298	MBMG RESEARCH WELL * FAIRMONT HOT SPRINGS	MBMG-GWIC	WELL	30.1	46.0383	112.8094	20.0	RESEARCH	10.2	180.75
MGEOT165	NELSON, HARVEY * 5 MI S BROADVIEW MT	MBMG-GWIC	WELL	6.9	46.0383	108.8822	16.0	DOMESTIC	45.7	182.88
MGEOT061	BRADBROOK * 10 M S BROADVIEW MT	MBMG-GWIC	WELL		46.0411	109.1502	32.9	STOCK	-0.0	
MGEOT279	FAIRMONT HOT SPRINGS, ANACONDA	MBMG-GWIC	SPRING	946.3	46.0425	112.8111	61.5	INDUSTRIAL/COMM		
MGEOT247	SPANGLER, HAZEL * 2 MI E-NE GREGSON MT	MBMG-GWIC	SPRING	151.4	46.0508	112.7691	15.5	STOCK		
MGEOT214	HUNSAKER SPRING	Sonderegger et.al. 1981	SPRING		46.0530	111.5011	24.5	UNUSED		
MGEOT150	MONT. HIGHWAY DEPT * .75 MI SE WACO MT.	MBMG-GWIC	WELL	9.9	46.0633	107.7102	15.5	DOMESTIC	45.7	91.14
MGEOT213	PLUNKET LAKE WARM SPRINGS	Sonderegger et.al. 1981	SPRING		46.0744	111.5844	17.0	IRRIGATION		
MGEOT237	SPRINGS FROM JOINTS IN MISS CYN'SW PLUNKET	MBMG-GWIC	SPRING		46.0750	111.5833	17.0	IRRIGATION		
MGEOT151	MONTANA DEPT HIGHWAYS * 2.5 MI NE WACO MT	MBMG-GWIC	WELL	5.0	46.0891	107.6611	16.5	DOMESTIC	46.6	
MGEOT216	HUNSAKER, MAURICE	Sonderegger et.al. 1981	WELL	17.1	46.1022	111.5230	15.0	STOCK	21.3	
MGEOT135	ANACONDA RED TRAVETINE MOUND-GEYSER	Sonderegger et.al. 1981	SPRING	11.0	46.1047	112.7772	21.7	UNUSED		
MGEOT325	SLEEPING CHILD HOT SPRINGS	Mariner et.al. 1976	SPRING	2000.0	46.1048	114.0042	43.0			
MGEOT236	BRUCE, N * IRRIGATION WELL WITH BOOSTER	MBMG-GWIC	WELL	160.9	46.1188	111.5972	18.0	IRRIGATION	44.0	100.58
MGEOT294	TOSTON WARM SPRING	MBMG-GWIC	SPRING		46.1258	111.3911	45.5	UNUSED		
MGEOT218	TOSTON WARM SPRING	Sonderegger et.al. 1981	SPRING		46.1258	111.3911	15.5	INDUSTRIAL/COMM		
MGEOT217	BRUCE, NORMAN	Sonderegger et.al. 1981	WELL		46.1330	111.6033	18.0	IRRIGATION	35.9	
MGEOT215	KIMPTON SPRING	MBMG-GWIC	SPRING		46.1708	111.5855	18.0	UNUSED		
MGEOT134	WARNER WARM SPRING	Sonderegger et.al. 1981	SPRING		46.1725	111.5855	18.0	IRRIGATION		
MGEOT172	STEELE, WILLIAM * 12.5 MI SE PINEVIEW MT.	MBMG-GWIC	WELL	0.5	46.1769	107.7380	16.0	STOCK	65.5	112.78
MGEOT284	MBMG TEST WELL*WARM SPRINGS STATE HOSPITAL	MBMG-GWIC	WELL		46.1780	112.7919	48.0	RESEARCH	4.0	92.66
MGEOT009	WARM SPRINGS	Mariner et.al. 1976	SPRING	600.0	46.1787	112.7942	77.0			
MGEOT233	WARM SPRINGS STATE HOSPITAL	MBMG-GWIC	WELL	2.3	46.1808	112.7930	67.0	RESEARCH	6.1	
MGEOT231	WARM SPRINGS STATE HOSPITAL	MBMG-GWIC	WELL	2.2	46.1808	112.7930	54.0	RESEARCH	6.1	
MGEOT349	BOULDER HOT SPRINGS - UPPER SPRING	MBMG/UURI	SPRING	340.0	46.1981	112.0947	54.0	RECREATION		38.10
MGEOT351	BOULDER HOT SPRINGS - LOWER SPRING	MBMG/UURI	SPRING	75.7	46.1981	112.0947	64.5	RECREATION		
MGEOT350	BOULDER HOT SPRINGS - MIDDLE SPRING	MBMG/UURI	SPRING		46.1981	112.0947	74.0	RECREATION		
MGEOT232	WARM SPRINGS STATE HOSPITAL * SPRING	MBMG-GWIC	SPRING	68.9	46.2000	112.8833	79.0	RESEARCH		
MGEOT185	M-B NO. 12 * 5 MI NE HAMILTON MT	MBMG-GWIC	WELL	3.2	46.2836	114.0694	18.5	UNUSED	20.4	338.33
MGEOT171	GRIERSON, J.B. * 2.5 MI NE RANCHERS CEMETARY.	MBMG-GWIC	WELL	0.5	46.2922	107.3958	21.0	STOCK		329.18
MGEOT130	PRISON RANCH SPRING SITE NO. 4	MBMG-GWIC	SPRING		46.3333	112.8872	26.0	OTHER		
MGEOT113	DEER LODGE PRISON RANCH WELL	Sonderegger et.al. 1981	WELL	57.0	46.3342	112.8863	26.0			
MGEOT044	BEDFORD SPRINGS	Sonderegger et.al. 1981	SPRING	5680.0	46.3542	111.5667	23.6			
MGEOT101	GRIERSON, J.B. * 23 MI NW HYSHAM MT	MBMG-GWIC	WELL	2.5	46.3852	107.6394	15.6	DOMESTIC	9.1	33.22
MGEOT275	MBMG RESEARCH WELL * WEED CREEK-1B	MBMG-GWIC	WELL		46.3952	107.7819	20.0	RESEARCH	64.3	
MGEOT274	MBMG RESEARCH WELL * WEED CREEK-1A	MBMG-GWIC	WELL		46.3952	107.7819	17.0	RESEARCH	65.9	
MGEOT255	HANSER, BILL * 3 MI SW TWO DOT MT	Sonderegger et.al. 1981	WELL-FLOWING	200.0	46.4136	110.1394	18.0	STOCK		255.12
MGEOT256	FOX INC * 1.5 MI W-SW TWO DOT	Sonderegger et.al. 1981	WELL-FLOWING	5.0	46.4208	110.1036	19.0	STOCK		216.41
MGEOT257	HOMER, RAY * TWO DOT WATER SUPPLY	Sonderegger et.al. 1981	WELL-FLOWING	20.0	46.4261	110.0713	20.0	PUBLIC SUPPLY		274.32
MGEOT296	HARLOWTON * SOUTH MUNICIPAL WELL	MBMG-GWIC	WELL	143.8	46.4344	109.8325	15.6	PUBLIC SUPPLY		280.72
MGEOT013	HILLBROOK FLOWING WELL	Leonard et.al. 1978	WELL	57.0	46.4478	111.9872	30.0			
MGEOT014	WALLS HOT SPRING	Leonard et.al. 1978	SPRING	110.0	46.4480	111.9805	55.6			
MGEOT001	ALHAMBRA HOT SPRINGS NORTH	Mariner et.al. 1976	SPRING	380.0	46.4497	111.9805	56.5			
MGEOT278	TOWNSEND,HERB*2.5 MI SW WHITE SULPHUR SPGS	MBMG-GWIC	WELL	180.1	46.5055	110.9347	48.5	IRRIGATION	4.6	76.20
MGEOT290	RALPH JOHNSON,P.O.BOX 65,WHITE SULPHUR SPR	MBMG-GWIC	WELL		46.5444	110.9061	15.3	IRRIGATION	9.6	53.34
MGEOT004	WHITE SULPHUR SPRINGS	Mariner et.al. 1976	SPRING	1500.0	46.5473	110.9038	46.0			
MGEOT282	WHITE SULPHUR SPRINGS BANK WELL	MBMG-GWIC	WELL	5.1	46.5477	110.9063	43.3	OTHER	2.0	100.58
MGEOT188	WATTS, JAMES * 16 MI NE KINSEY MT	MBMG-GWIC	WELL	0.4	46.5708	106.6980	15.0	DOMESTIC		259.08
MGEOT184	M-B NO 8 WELL * 2.5 MI SE CORVALLIS MT	MBMG-GWIC	WELL	1.8	46.5722	114.0363	18.3	OTHER	63.7	829.97
MGEOT007	BROADWATER HOT SPRINGS WELL	Leonard et.al. 1978	WELL	227.0	46.5955	112.1117	65.5			
MGEOT008	GLOEGE WELL	Leonard et.al. 1978	WELL	49.0	46.5958	112.1042	19.4			
MGEOT003	GARRISON WARM SPRINGS	Sonderegger et.al. 1981	SPRING	204.0	46.6088	112.7747	25.0			
MGEOT337	CHADWICK, GREG	MBMG-GWIC	WELL		46.6169	111.9883	15.0	DOMESTIC	9.0	23.16
MGEOT208	USGS OBS WELL * 4 MI SW EAST HELENA, MT.	MBMG-GWIC	WELL		46.6177	111.9961	25.0	RESEARCH	11.1	13.32
MGEOT336	MUELLER BUZZ	MBMG-GWIC	WELL		46.6308	112.1025	15.0	STOCK	18.5	27.13
MGEOT242	FLORENCE TEST WELL A	Sonderegger et.al. 1981	WELL	1.1	46.6461	114.0625	15.0	RESEARCH	2.1	
MGEOT329	SIVORTE MYSSSE * BOX 315 * INGOMAR MT 59039	MBMG-GWIC	WELL		46.6819	107.2030	37.0	STOCK	30.2	839.72
MGEOT167	CHERRY CK SHEEP CO.*1.35MI SE HAGEN RANCH.	MBMG-GWIC	WELL	1.1	46.6819	107.2030	36.0	DOMESTIC	-0.3	842.47
MGEOT261	MOORE, THOMAS * 6.5 MI SW ANGELA MT	Sonderegger et.al. 1981	WELL-FLOWING	120.1	46.6880	106.3225	82.0	RECREATIONAL		2529.84
MGEOT322	BYRNE WARM SPRING * WEST OF BEARMOUTH	MBMG-GWIC	SPRING		46.7036	113.4536	20.0	UNUSED		
MGEOT116	NIMROD SPRINGS	Sonderegger et.al. 1981	SPRING	12100.0	46.7057	113.4568	20.5			
MGEOT026	BEARMOUTH SPRINGS	Sonderegger et.al. 1981	SPRING	4160.0	46.7168	113.3032	20.2			
MGEOT338	GARRICK GALEN	MBMG-GWIC	WELL		46.7191	112.0536	15.0	DOMESTIC	36.5	53.64
MGEOT345	LOLO HOT SPRINGS	Mariner et.al. 1976	SPRING	100.0	46.7522	114.5328	44.0			
MGEOT069	MARYSVILLE DEEP WELL DEPTH 5750	Sonderegger et.al. 1981	WELL		46.7544	112.3750	96.7	UNUSED	161.5	2069.59
MGEOT170	CHERRY CREEK SHEEP CO*26 MI N VANANDA MT	MBMG-GWIC	WELL	23.0	46.7675	106.9194	44.0	STOCK	90.2	1433.17
MGEOT162	OLSEN, JONAS * 9 MI NW FLATWILLOW MT.	MBMG-GWIC	WELL	1.9	46.8958	108.5597	27.0	STOCK		353.57
MGEOT201	OLSEN JONAS * 14 MI NE N-BAR RANCH	MBMG-GWIC	WELL	2.3	46.8983	108.6122	16.0	STOCK		166.12
MGEOT164	REYNOLDS, KEITH * 6 MI NE FLATWILLOW MT.	MBMG-GWIC	WELL	0.6	46.9141	108.3602	24.5	DOMESTIC	-49.3	518.16
MGEOT163	HILL, FLOYD * 7 MI N FLATWILLOW MT.	MBMG-GWIC	WELL	1.6	46.9330	108.3825	15.0	STOCK		458.72
MGEOT180	M-B 4 (BUTLER CK) * 6 MI NW MISSOULA MT	MBMG-GWIC	WELL	1.1	46.9597	114.0644	16.0	RESEARCH	0.8	886.05
MGEOT254	KING, JOE & SONS INC. * 5 MI SSW WINNETT MT	MBMG-GWIC	WELL	0.2	46.9677	108.4500	16.0	STOCK	-95.1	644.35
MGEOT159	SHAW, BUD * 1.7 MI SW MOSBY MT.	MBMG-GWIC	WELL	21.0	46.9866	107.9158	29.0	DOMESTIC	-35.2	550.16
MGEOT160	EAGER, REX * 2 MI SW WINNETT MT.	MBMG-GWIC	WELL	2.3	47.0008	108.3997	15.5	DOMESTIC	-42.2	518.16
MGEOT161	BRATTON, WAYNE * 2 MI SE WINNETT MT.	MBMG-GWIC	WELL	0.8	47.0022	108.3244	24.2	DOMESTIC		643.74
MGEOT305	BURLY VISTA TRACTS	MBMG-GWIC	WELL	6.8	47.0275	109.3691	46.0	DOMESTIC	10.7	120.40
MGEOT157	TEIGEN, PETER * 9 MI E GRASSRANGE MT.	MBMG-GWIC	WELL	1.3	47.0347	108.6100	17.9	DOMESTIC		310.90
MGEOT196	MATOVICH * 4.5 MI E GRASSRANGE MT	MBMG-GWIC	WELL	0.9	47.0491	108.7083	21.8	STOCK		312.72
MGEOT181	HOLE NO 2 M-B DRILLING PROJECT	MBMG-GWIC	WELL	1.1	47.0525	114.2816	15.0	UNUSED	47.2	766.57
MGEOT240	MSU AG EXPERIMENT STATION * MOCCASIN MT	MBMG-GWIC	WELL	0.5	47.0561	109.9516	15.0	IRRIGATION	21.9	493.78
MGEOT155	BRADY, EARL*4 MI NW WINNETT, MT	MBMG-GWIC	WELL	0.8	47.0575	108.3575	15.8	STOCK	-14.1	
MGEOT203	GERDRUM, RONALD * 3 MI NE GRASS RANGE, MT.	MBMG-GWIC	WELL	0.7	47.0638	108.7750	15.9	DOMESTIC		297.18

MGEOT DATABASE

ID	Site name	Reference	Type	Flow (l/min)	Latitude	Longitude	Temp (deg c)	Status/use	Sample	
									SWL (M)	Depth (M)
MGEOT152	CENEX*15 MI NE WINNETT MT	MBMG-GWIC	WELL	2.6	47.0788	108.0405	16.0	INDUSTRIAL/COMM	91.4	
MGEOT158	BASSETT, EARL * 7.5 MI NW TEIGEN MT.	MBMG-GWIC	WELL	0.2	47.1233	108.6758	17.0	STOCK	-28.2	347.47
MGEOT059	HEDMAN, J. * 40 MI NE LEWISTOWN MT.	MBMG-GWIC	WELL-FLOWING	30.5	47.1416	108.5933	21.0	DOMESTIC	-56.3	336.19
MGEOT156	HARRIS FLOYD * 11 MI NW TEIGEN MT	MBMG-GWIC	WELL	1.7	47.1577	108.7322	19.2	STOCK	-14.1	572.72
MGEOT194	FOX, DENNIS * 7 MI NW GRASSRANGE MT	MBMG-GWIC	WELL	0.4	47.1711	108.9486	20.8	STOCK	15.5	436.17
MGEOT239	LAURENCE HESS * 1 MI N MOCCASIN MT	MBMG-GWIC	WELL	0.8	47.2058	109.9363	15.0	STOCK	28.8	527.61
MGEOT204	DELANEY, DOUGLAS*7 MI NW (WILD HORSE UNIT)	MBMG-GWIC	WELL	1.2	47.2105	108.7277	23.0	STOCK		335.28
MGEOT050	BROOKS WARM SPRING * 2.5 MI NW BROOKS MT.	MBMG-GWIC	SPRING		47.2191	109.4733	20.0	IRRIGATION		
MGEOT195	DELANEY, DOUGLAS * 11 MI NW ROY MT	MBMG-GWIC	WELL		47.2333	108.7694	21.3	STOCK		426.72
MGEOT154	MILLER RANCH * 14 MI SE VALENTINE MT.	MBMG-GWIC	WELL	0.3	47.2486	108.1394	19.5	STOCK		603.20
MGEOT045	CARDINAL PET CO * 10 M E HILGER MT	MBMG-GWIC	WELL		47.2816	109.1686	26.7	UNUSED		1392.94
MGEOT153	BUSENBARK, MERLIN*1 MI S VALENTINE MT*	MBMG-GWIC	WELL	7.0	47.2991	108.4208	27.0	STOCK	-45.8	637.64
MGEOT005	QUINN'S HOT SPRINGS	Sonderegger et.al. 1981	SPRING	284.0	47.3300	114.7872	43.3			
MGEOT268	QUINN'S HOT SPRINGS * JIM AND DONNA BROWN	Sonderegger et.al. 1981	WELL-FLOWING	75.0	47.3300	114.7872	45.1	INDUSTRIAL/COMM	11.4	44.20
MGEOT197	YEAGER * 8 MI EAST MOULTON, MT.	MBMG-GWIC	WELL	0.6	47.3333	109.1836	15.0	STOCK	0.9	258.47
MGEOT079	FINLEY, R.S.*1 MI NW ST. IGNATIUS	MBMG-GWIC	WELL		47.3350	114.1175	19.0	DOMESTIC	8.7	16.15
MGEOT205	SIROKY, FRANK * 9 MI EAST ROY, MT.	MBMG-GWIC	WELL	0.6	47.3402	108.7672	19.0	DOMESTIC	7.9	636.42
MGEOT192	HORYNA, JAMES * 6 MI E ROY MT	MBMG-GWIC	WELL	5.5	47.3533	108.8513	18.4	DOMESTIC	36.6	611.12
MGEOT131	CORPS OF ENGINEERS SOUTH WELL AFTER PERFS	MBMG-GWIC	WELL	24.9	47.3611	114.3119	15.0	UNUSED	0.1	56.39
MGEOT090	BRYSON, HAROLD*1 MI W MOISE MT	MBMG-GWIC	WELL		47.3730	114.2830	15.5	STOCK	33.7	91.44
MGEOT070	YARGER, ROBERT * 13 MI W CIRCLE MT	MBMG-GWIC	WELL	0.3	47.3830	105.8597	25.0	STOCK	30.5	
MGEOT287	SAND COULEE WTR USERS BENCH W ABV SAND COU	MBMG-GWIC	WELL		47.3972	110.1763	15.0	PUBLIC SUPPLY	45.7	64.01
MGEOT193	TAYLOR, JAMES * 8 MI E CHRISTINA MT	MBMG-GWIC	WELL	3.0	47.4005	109.1400	21.0	STOCK		435.86
MGEOT288	CHARLES ENTSMINGER*TOWN OF NUMBER SEVEN	MBMG-GWIC	WELL	1.0	47.4038	110.1547	16.0	DOMESTIC	36.9	56.39
MGEOT295	CUSTER, EVERETT* EDEN RT, GREAT FALLS, MT	MBMG-GWIC	WELL		47.4061	111.2605	15.5	DOMESTIC	9.8	
MGEOT297	TOWN OF TRACY	MBMG-GWIC	WELL		47.4133	111.1533	16.0	PUBLIC SUPPLY	27.4	60.96
MGEOT054	SLCGSVOLD, A. K. * 17 M SE RITCHEY MT	MBMG-GWIC	WELL	0.4	47.4211	105.1347	21.1	STOCK	39.6	
MGEOT211	GOVER * 2.5 MI TRAVIS SCHOOL	MBMG-GWIC	WELL	1.2	47.4308	111.5052	17.5	DOMESTIC	6.7	54.86
MGEOT200	VILLAGE INN * 2.5 MI NE TRAVIS SCHOOL	MBMG-GWIC	WELL	1.5	47.4355	111.5016	18.5	PUBLIC SUPPLY	15.9	140.21
MGEOT299	STONE, GENE	MBMG-GWIC	WELL		47.4411	114.6500	25.0	DOMESTIC		101.19
MGEOT062	WEBB RES * 17.5 MI SE GERALDINE MT.	MBMG-GWIC	WELL		47.4469	110.3044	20.0	UNUSED		793.70
MGEOT353	HOLLAND, JIM - GREEN SPRINGS	MBMG/UURI	SPRING		47.4513	114.6478	23.7	UNUSED		
MGEOT248	GREEN SPRINGS * HOLLAND RANCH	Sonderegger et.al. 1981	SPRING		47.4513	114.6478	26.0			
MGEOT191	TACKE, ROBERT * 2 MI SW GREAT FALLS MT	MBMG-GWIC	WELL	6.0	47.4605	111.3475	15.0	DOMESTIC	35.4	168.25
MGEOT198	PAUL, MICHAEL(ROBINSON)*3.5M SW GREATFALLS	MBMG-GWIC	WELL	34.1	47.4619	111.3516	17.0	DOMESTIC	111.9	259.69
MGEOT318	BUTTE CREEK SPRING * SQUARE BUTTE	MBMG-GWIC	SPRING	764.6	47.4650	110.2000	18.8	STOCK		
MGEOT319	BUTTE CREEK SPRING - NORTH * SQUARE BUTTE	MBMG-GWIC	SPRING		47.4650	110.2000	17.0	RESEARCH		
MGEOT169	CHAMBERLAIN, CURTIS * 2 MI W LLER SCHOOL.	MBMG-GWIC	WELL	1.0	47.4686	107.4780	16.0	DOMESTIC	146.3	158.50
MGEOT321	MELTON, LARUE * LOWER AQUIFER	MBMG-GWIC	WELL		47.4691	114.4033	16.0	UNUSED		202.69
MGEOT314	USGS - MELTON, LEON	MBMG-GWIC	WELL	3.7	47.4763	114.4091	18.5	UNUSED	33.4	100.89
MGEOT238	SCHMIDT, LLOYD * 3.5 MI SE SQUARE BUTTE	MBMG-GWIC	WELL		47.4897	110.1591	21.8		175.8	526.39
MGEOT190	USGS OBS WELL * .5 MI S VALLEY SCHOOL	MBMG-GWIC	WELL	3.9	47.5144	104.7750	27.1	RESEARCH	13.3	67.06
MGEOT199	EIDEL * .5 MI S SUNSET MEMORIAL CEMETARY	MBMG-GWIC	WELL	4.0	47.5230	111.4633	16.0	DOMESTIC	28.5	39.62
MGEOT078	WEBSTER, BONITA*BOX 443 RONAN MT	MBMG-GWIC	WELL		47.5441	114.1563	15.5	DOMESTIC	0.3	138.07
MGEOT099	DEMARS, TOM J.* 10 MI W OF WINIFRED MT.	MBMG-GWIC	WELL		47.5650	109.5925	17.0	DOMESTIC		27.43
MGEOT249	HOMESTEAD ACRES COUNTY WATER DISTRICT	MBMG-GWIC	WELL		47.5802	111.3077	15.0	PUBLIC SUPPLY	137.2	328.57
MGEOT250	HOMESTEAD ACRES COUNTY WATER DISTRICT	MBMG-GWIC	WELL	20.0	47.5808	111.3075	15.0	PUBLIC SUPPLY	152.4	328.57
MGEOT241	MCCOLLUM, JIM * 10 MI NW MATHISON RANCH	MBMG-GWIC	WELL	6.5	47.5822	108.7183	18.8	DOMESTIC	71.0	496.82
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	MBMG-GWIC	WELL		47.5827	114.5063	21.5	UNUSED		84.12
MGEOT047	* RYFFEL BROS. * 3MI S & 3 MI E HIGHWOOD	MBMG-GWIC	SPRING	757.1	47.5883	110.6802	18.6	DOMESTIC		
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	MBMG-GWIC	WELL		47.5952	114.5302	22.5	UNUSED	-0.0	60.96
MGEOT307	HOT SPRINGS CITY	MBMG-GWIC	WELL		47.6063	114.6736	21.0	PUBLIC SUPPLY		116.74
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH	MBMG-GWIC	WELL		47.6063	114.6744	18.5	PUBLIC SUPPLY	2.7	116.74
MGEOT228	LEISTNER, LAURA * CENTRAL AVE, HOT SPRINGS	Sonderegger et.al. 1981	WELL	9.1	47.6075	114.6713	29.8	DOMESTIC		128.02
MGEOT291	SOUTH EAST OF CAMP AQUA	MBMG-GWIC	WELL	10.1	47.6147	114.6655	51.5	RESEARCH		
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS	MBMG-GWIC	SPRING		47.6147	114.6658	44.0	RECREATIONAL		
MGEOT080	HOT SPRINGS MONTANA	MBMG-GWIC	SPRING		47.6155	114.6477	43.0	RECREATIONAL		
MGEOT017	CAMAS HOT SPRINGS	Mariner et.al. 1976	SPRING	200.0	47.6155	114.6663	45.0			
MGEOT352	SYMES HOTEL WELL	MBMG/UURI	WELL		47.6163	114.6763	33.3	DOMESTIC		
MGEOT029	SYMES HOT SPRINGS WELL	Sonderegger et.al. 1981	WELL	76.0	47.6163	114.6763	38.0			
MGEOT081	HOT SPRING GEOTHERM WELL - UNNAMED	MBMG-GWIC	WELL		47.6169	114.6555	15.0	UNUSED		
MGEOT355	KOEPLING, DELBERT * WELL 138	MBMG/UURI	WELL		47.6170	114.6781	26.5	IRRIGATION		
MGEOT354	OSTRANGER, DAVE * WELL 56	MBMG/UURI	WELL		47.6171	114.6775	17.2	IRRIGATION		
MGEOT077	VERNER, ROSE*3.75 MI W PABLO MT	MBMG-GWIC	WELL		47.6180	114.2108	17.5	DOMESTIC	16.2	45.72
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	MBMG-GWIC	WELL		47.6297	114.6236	19.5	DOMESTIC		69.80
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	MBMG-GWIC	WELL	40.0	47.6302	114.5550	19.0	IRRIGATION		87.17
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	MBMG-GWIC	WELL		47.6311	114.5813	15.2			
MGEOT042	SUN RIVER SPRINGS	Sonderegger et.al. 1981	SPRING	2690.0	47.6325	112.8542	30.4			
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	MBMG-GWIC	WELL	303.1	47.6347	114.5619	42.7	RESEARCH	-0.1	305.41
MGEOT226	KOPP, ARVID * .25 MI S CAMPAQUA MT	MBMG-GWIC	WELL	10.0	47.6361	114.5750	32.6	IRRIGATION		73.15
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	MBMG-GWIC	WELL	30.0	47.6372	114.5611	28.8	IRRIGATION		79.25
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	MBMG-GWIC	WELL	416.5	47.6411	114.5700	51.0	INDUSTRIAL/COMM	1.8	79.55
MGEOT027	CAMP AQUA AREA TEST WELL	Sonderegger et.al. 1981	WELL-FLOWING	1300.0	47.6422	114.5713	50.0	RESEARCH		
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	MBMG-GWIC	WELL	75.0	47.6422	114.5713	43.7	RESEARCH		98.76
MGEOT202	OLSEN, EDWIN * 8.4 MI NE WINIFRED MT	MBMG-GWIC	WELL	0.1	47.6425	109.3113	22.0	STOCK		495.00
MGEOT251	SMELSER, JAMES A. * POWER MT	MBMG-GWIC	WELL		47.6427	111.5830	16.0	STOCK	137.2	369.72
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	MBMG-GWIC	WELL	20.0	47.6433	114.5638	30.6	IRRIGATION		76.20
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	MBMG-GWIC	WELL	94.8	47.6438	114.5741	38.9	IRRIGATION		82.30
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	MBMG-GWIC	WELL	40.0	47.6452	114.5688	32.5	IRRIGATION		76.20
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	MBMG-GWIC	WELL		47.6472	114.5761	34.4	DOMESTIC		71.63
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT	MBMG-GWIC	WELL	0.4	47.6516	114.5836	24.0	STOCK		
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	MBMG-GWIC	WELL		47.6536	114.5813	25.8	IRRIGATION		
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	MBMG-GWIC	WELL	94.9	47.6619	114.5838	20.3	IRRIGATION		79.25
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	MBMG-GWIC	WELL	35.1	47.6700	114.5880	22.8	IRRIGATION		

MGEOT DATABASE

ID	Site name	Reference	Type	Flow (l/min)	Latitude	Longitude	Temp (deg c)	Status/use	Sample	
									SWL (M)	Depth (M)
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	MBMG-GWIC	WELL		47.6736	114.6027	23.6	DOMESTIC	18.3	91.44
MGEOT149	MATOVICH,JOHN * 23 MI SW SUN PRAIRIE MT	MBMG-GWIC	WELL	0.8	47.6830	108.0702	16.0	STOCK	71.1	
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	MBMG-GWIC	WELL		47.6880	114.6538	16.6	DOMESTIC	22.9	95.71
MGEOT075	LONEPINE OBSERVATION WELL	MBMG-GWIC	WELL		47.7141	114.6477	16.5	DOMESTIC	33.2	
MGEOT110	STREIT, GEORGE * 4MI E-1MI S FT BENTON MT.	MBMG-GWIC	WELL	0.6	47.8030	110.5769	15.0	STOCK		616.31
MGEOT243	WHITMAYER ASSOC * 4.5MI SE SUN PRAIRIE SCH	MBMG-GWIC	WELL	1.0	47.8194	107.6294	15.6	STOCK	152.4	583.69
MGEOT109	CLARK, BRAD * 25 MI E FT. BENTON MT.	MBMG-GWIC	WELL		47.8297	110.1708	20.0	DOMESTIC	15.2	146.61
MGEOT114	LANDUSKY PLUNGE SPRINGS	Sonderegger et.al. 1981	SPRING	11000.0	47.8432	108.5967	24.0	DOMESTIC		
MGEOT072	LANDUSKY, I'8.5 MI S HAYS, MONTANA	Sonderegger et.al. 1981	SPRING	2378.0	47.8763	108.6572	20.3	IRRIGATION		
MGEOT046	BLACK COULEE * E OF TEST AREA	MBMG-GWIC	SPRING	56.8	47.9069	110.6586	28.8	UNUSED		
MGEOT313	ALZHEIMER, PAUL * SW OF BRADY, MT	MBMG-GWIC	WELL		47.9097	111.9400	25.0	DOMESTIC		53.34
MGEOT312	REVERE, LEE	MBMG-GWIC	WELL		47.9261	111.9533	25.0	DOMESTIC	0.3	
MGEOT049	LITTLE WARM SPRINGS*9 MI SE LODGE POLE	Sonderegger et.al. 1981	SPRING	4542.4	47.9691	108.3963	26.1	DOMESTIC		
MGEOT324	LODGEPOLE WARM SPRINGS	Sonderegger et.al. 1981	SPRING	10200.0	47.9938	108.4443	30.0			
MGEOT048	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	MBMG-GWIC	SPRING		47.9955	108.4466	30.6	DOMESTIC		
MGEOT051	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	MBMG-GWIC	SPRING		47.9958	108.4508	26.0	IRRIGATION		
MGEOT052	KIRKALDIE, BRUCE*7 MI SW LODGEPOLE MT	MBMG-GWIC	SPRING	10363.7	47.9963	108.4491	24.5	IRRIGATION		
MGEOT037	LARGE CAPACITY WELL*4 MI SW WOLF POINT, MT	MBMG-GWIC	WELL	100.1	48.0313	105.7422	51.0	OTHER		32.00
MGEOT024	CITY OF WOLF POINT * WELL IN WOLF POINT	MBMG-GWIC	WELL	6.6	48.0847	105.6433	18.3	DOMESTIC		335.28
MGEOT023	SHERMAN HOTEL OF WOLF POINT	MBMG-GWIC	WELL	9.4	48.0936	105.6363	17.2	DOMESTIC		300.23
MGEOT038	USGS TEST WELL * 1 MILE SOUTH POPLAR, MT	MBMG-GWIC	WELL		48.0950	105.2050	13.9	OTHER		
MGEOT025	FOSS ELMER * 5.8 MI SE BROCTON	MBMG-GWIC	WELL	0.9	48.1116	104.7975	16.1	STOCK		208.48
MGEOT317	LANDTECH WATER DISPOSAL SERVICE	MBMG-GWIC	WELL	2.6	48.1463	104.1969	17.9	INDUSTRIAL/COMM		
MGEOT315	THORNESS, RICK * 4 MILES NW OF BAINVILLE	MBMG-GWIC	WELL		48.2013	104.2452	15.0	DOMESTIC	10.7	14.94
MGEOT108	CLAWITER, MILT * 4MI N-4MI E BIG SANDY MT.	MBMG-GWIC	WELL		48.2313	110.0288	16.0	DOMESTIC	6.1	72.24
MGEOT303	SIMS SPRING	MBMG-GWIC	SPRING		48.3325	105.4552	15.0			
MGEOT140	TEXACO INC * 1.7 MI NW CENTRAL SCHOOL.	MBMG-GWIC	WELL	0.9	48.4819	109.2083	35.5	INDUSTRIAL/COMM	-8.1	1027.48
MGEOT252	MATOVAICH, MARTIN*17 MI E MALTA NEAR SACO	MBMG-GWIC	WELL	9.1	48.4847	107.5275	42.0	RECREATIONAL		975.36
MGEOT111	SLEEPING BUF REC AREA * 4MI NNW ASHFIELD	Sonderegger et.al. 1981	WELL		48.4852	107.5327	41.3	RECREATIONAL		971.70
MGEOT145	SHIRLE, WALTER * 3 MI S FRESNO DAM.	MBMG-GWIC	WELL	0.4	48.5563	109.9288	17.5	DOMESTIC	52.7	65.53
MGEOT106	PIMLEY, DON * 4 MI NW JOPLIN MT.	MBMG-GWIC	WELL		48.5994	110.8166	15.0	DOMESTIC	54.9	85.34
MGEOT105	CADY, ELWIN * 7.5 MI NW JOPLIN MT.	MBMG-GWIC	WELL		48.6747	110.7955	25.0	DOMESTIC	24.4	30.48
MGEOT309	FRANCIS, CLARA	MBMG-GWIC	WELL		48.6875	104.4552	29.0	IRRIGATION	7.6	
MGEOT107	WELSH, ORVILLE * 13 MI N-3MI E HINGHAM MT.	MBMG-GWIC	WELL	3.2	48.7405	110.3447	16.0	DOMESTIC	41.8	62.48
MGEOT310	EDWARDS, MARVIN / MIKE DUSTERHOFF	MBMG-GWIC	WELL		48.7694	112.4555	25.0	DOMESTIC		24.38
MGEOT039	BIG WEST OIL CO * 2 MI NE MTN VIEW SCHOOL	MBMG-GWIC	WELL		48.8397	112.0869	46.0	UNUSED	38.1	
MGEOT104	RYGH, KEN * 22 MI N - 5 MI W JOPLIN MT.	MBMG-GWIC	WELL		48.8783	110.8813	21.0	DOMESTIC		149.35
MGEOT142	BRADBURY, ALFRED * 11 MI E WILD HORSE MT	MBMG-GWIC	WELL	2.8	48.9130	110.1058	15.5	STOCK	12.2	
MGEOT144	NAGEHUS, ORVILLE * 3 MI N SIMPSON MT.	MBMG-GWIC	WELL	0.8	48.9686	110.2102	15.5	STOCK	21.3	59.74

MGEO T DATABASE

ID	Site name	Date	Chloride mg/l	Sulfate mg/l	Fluoride mg/l	Std dev balance	Lab ph	Sc mmohs	Tds mg/l	Hco3 mg/l	Alkalinity
MGEO T209	TARGHEE SULPHUR SPRING*6MI W W YELLOWSTONE	23 AUG 1979	1.70	156.0	1.1	-10.57	8.03	305.5	316.41	63.3	
MGEO T177	UPPER WEST SPRING-STAUDENMEYER RANCH	02 OCT 1978	16.00	107.9	1.6	0.51	8.29	607.0	395.15	249.0	
MGEO T123	UPPERMOST SPRING-STAUDENMEYER RANCH	03 OCT 1977									
MGEO T126	UPPER-EAST SPRING-STAUDENMEYER RANCH	04 OCT 1977									
MGEO T125	LOWER WEST SPRINGS-STAUDENMEYER RANCH	03 OCT 1977	9.35	116.0	1.8	0.32	7.44	625.5	400.95	251.0	
MGEO T127	LOWER EAST SPRING-STAUDENMEYER RANCH	04 OCT 1977	9.80	114.0	1.8	0.22	7.48	628.3	400.37	251.0	
MGEO T124	UPPER WEST SPRING-STAUDENMEYER RANCH	03 OCT 1977	9.80	114.0	1.8	0.55	7.52	617.2	395.24	249.0	
MGEO T121	ANDERSONS PASTURE SPRING #1	03 OCT 1977									
MGEO T122	ANDERSONS PASTURE SPRING #2	03 OCT 1977	9.00	118.0	1.8	-0.08	7.47	627.0	400.75	247.0	
MGEO T210	USFS* BAKERS HOLE* 3MI N WEST YELLOWSTONE	22 AUG 1979	17.00	8.8	3.7	0.20	7.76	310.8	256.64	152.0	
MGEO T115	SLOAN COW CAMP SPRING	29 SEP 1977	8.00	4.0	3.1		10.10		262		215
MGEO T120	WEST FORK SWIMMING HOLE	29 SEP 1977	2.75	11.8	0.4	-0.38	7.88	320.8	179.02	194.0	
MGEO T118	CURLEW CREEK WARM SPRING	09 SEP 1977									
MGEO T119	WALL CANYON WARM SPRING	13 SEP 1977	49.20	80.8	14.4	-0.09	8.06	1097.0	703.41	493.0	
MGEO T229	WOLF CREEK HOT SPRING	29 SEP 1978	19.00	43.0	18.0	0.83	8.81	492.9	331.67	157.0	
MGEO T129	LOWELL HILDRETH SPRING*15 MI SW DILLON	24 MAR 1978	16.15	191.0	0.7	0.17	7.44	722.0	480.7	217.0	
MGEO T016	BEAR CREEK SPRINGS										
MGEO T132	VIGILANTE WARM SPRING	24 MAY 1978	1.90	174.0	0.9	-0.49	7.74	617.7	403.41	182.0	
MGEO T041	LA DUKE HOT SPRINGS		45.00	1200.0	3.6		6.50		2230		299
MGEO T012	BROWNS SPRINGS						7.40		480		
MGEO T010	PULLER HOT SPRINGS		91.00	350.0	2.2		7.70		1160		511
MGEO T019	TRUDAU SPRINGS	25 MAY 1978	18.00	102.0	0.8		8.40		540		425
MGEO T040	CHICO HOT SPRINGS		10.00	41.0	0.9		7.40		342		172
MGEO T032	GROUNDWATER*4.7 MI NE FT SMITH MT	24 AUG 1960	7.90	125.0	1.4	-0.20	8.00	825.0	489.3	319.0	
MGEO T074	BROWN CATTLE CO* 3.1 MI N. BIRNEY MT	11 NOV 1975	4.55	79.4	2.0	-0.70	8.53	1020.0	619.1	519.7	
MGEO T276	JARDINE HOT SPRINGS 0.25 MI E OF JACKSON	30 MAY 1981	8.00	45.5	1.8	1.99	7.73	967.5	655.43	615.0	
MGEO T289	MBMG GEOTHERMAL TEST * THEXTON TX-12	30 JUN 1982	116.00	224.0	10.0	2.27	7.69	1338.0	1030.15	449.0	
MGEO T028	JACKSON HOT SPRINGS		8.00	45.0	2.0		6.77		986		614
MGEO T293	PRIVATE GEOTHERMAL TEST*ENNIS HOT SPRINGS*	06 JAN 1983	111.00	203.0	10.9	0.84	7.84	1442.0	966.38	404.0	
MGEO T277	LAPHAM DOMESTIC WELL 1 MI NW JACKSON, MT.	31 MAY 1981	7.80	40.4	1.4	0.54	7.63	953.3	575.1	558.0	
MGEO T117	ENNIS HOT SPRINGS	18 AUG 1977									
MGEO T058	BROWN CATTLE CO * 9.5MI SW BIRNEY DAY SCH.	01 MAR 1974	9.00	71.0	2.3	-0.64	8.28	992.0	600.36	531.0	
MGEO T031	BEAVERHEAD ROCK SPRINGS						7.20				
MGEO T133	APEX WARM SPRING	25 MAY 1978	11.55	135.0	0.6	-0.33	7.78	519.5	340.92	140.0	
MGEO T323	ELKHORN HOT SPRINGS		2.00	27.0	2.6		8.94		180		85
MGEO T292	MARTIN, KIETH	22 SEP 1982	0.70	216.0	0.8	-1.03	7.87	666.1	443.87	170.8	
MGEO T326	NEW BILTMORE HOT SPRINGS		46.00	1100.0	3.3		6.80		1970		232
MGEO T308	NEWMAN, JOHN * JOLIET, MT	07 AUG 1984	15.20	2820.0	0.2	-0.99	7.72	6184.0	4639.66	488.0	
MGEO T280	ANDERSON SPRING	06 OCT 1981	0.10	129.0	0.5	0.32	7.67	524.9	328.33	179.6	
MGEO T006	ANDERSON'S SPRING		1.00	139.0	0.4		7.84	414.0	270		88
MGEO T043	NORRIS HOT SPRINGS		22.00	130.0	8.1		7.80		651		383
MGEO T015	POTOSI HOT SPRINGS		6.00	140.0	6.2		8.60		333		67
MGEO T187	GROSS, PETE * 4 MI S PONY MT	25 JUN 1979	6.20	166.0	6.1	1.29	8.36	474.4	368.76	67.3	
MGEO T311	MCFERRAN, EUGENE * BILLINGS, MT	19 NOV 1984	39.80	71.7	5.8	0.85	7.36	1864.0	1140.2	1098.0	
MGEO T179	CARTER'S BRIDGE * 4 MI SE LIVINGSTON MT.	22 DEC 1978									
MGEO T011	AVON WARM SPRING						6.90				
MGEO T264	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	16 DEC 1980	50.00	131.0	10.1	6.43	9.41	715.1	434.4	52.5	
MGEO T266	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	17 DEC 1980	50.30	133.0	10.2	1.73	9.41	716.8	456.86	55.1	
MGEO T265	BOZEMAN HOT SPRINGS * OLD WELL	17 DEC 1980	50.00	132.0	10.1	0.11	9.43	713.9	462.34	53.7	
MGEO T263	BOZEMAN HOT SPRINGS * ORIGINAL SPRING	17 DEC 1980	49.70	130.0	9.9	0.73	9.29	711.9	455.41	62.5	
MGEO T335	BOZEMAN HOT SPRINGS		48.00	120.0	12.0		9.50		436		113
MGEO T269	RANCA * MCLEOD	02 APR 1981	2.00	1331.0	2.8	-0.41	7.58	2221.0	1983.42	118.3	
MGEO T259	SCOTT FEED LOT	25 NOV 1980	60.30	119.0	7.1	0.96	8.93	2001.0	1269.15	1016.0	
MGEO T260	SCOTT FEED LOT	25 NOV 1980	72.00	83.4	9.0	0.82	8.78	2521.0	1363.91	1169.0	
MGEO T230	BLUE JOINT CREEK HOT SPRING		3.00	5.0	9.5		8.22		179		67
MGEO T002	BRIDGER CANYON WARM SPRING		1.00	80.0	0.5		7.70		275		209
MGEO T334	LOVE,MELVIN*THREE FORKS, MT	11 MAY 1989	20.50	18.4	1.4	2.08	7.92	396.5	317.3	284.7	
MGEO T033	GROUNDWATER*5.3 MI W HARDIN MT	17 NOV 1980	4.00	1980.0	4.0	-1.55	7.60	3040.0	2935.17	180.0	
MGEO T332	SHIPTON, HAROLD * THREE FORKS MT	09 MAY 1989	32.00	24.9	1.4	-0.43	8.07	593.9	369.54	284.9	
MGEO T258	HERMAN, T.E. * ROCKY RANCH 7.4 M W HARDIN	25 NOV 1980	4.30	2130.0	3.1	0.18	7.76	3294.0	3081.89	150.1	
MGEO T344	GALLOGLY HOT SPRING	05 AUG 1964	1.00	12.0	5.8		9.12		190		89
MGEO T245	LOST TRAIL * WARM AND HOT SPRINGS	07 OCT 1980									
MGEO T089	CAIN MIKE*6.6 MI S VOLBERG	01 JUL 1976	51.00	5.5	4.0	-0.39	8.30	1472.0	888.02	894.0	
MGEO T018	HUNTERS HOT SPRINGS		18.00	11.0	5.6		9.10		384		227
MGEO T328	JORGENSEN, JACK * THREE FORKS MT	20 MAY 1988									
MGEO T346	RENOVA HOT SPRINGS		34.00	200.0	3.0		7.50		655		310
MGEO T339	WESTMORELAND * 9.1 M W SARPY SCHOOL	24 AUG 1990	20.10	996.0	2.7	0.77	7.67	1837.8	1526.37	80.8	
MGEO T095	LISCOM RANCH * 5.5 MI NW OF N STACY SCHOOL	21 JUL 1975	13.15	61.3	1.0	-0.71	8.61	1140.0	709.03	638.7	
MGEO T331	TINDER, L MARIE * THREE FORKS MT	05 MAY 1989	18.60	40.4	2.2	0.34	7.84	658.6	421.53	334.0	
MGEO T327	WILCOX, RALPH * THREE FORKS MT	19 MAY 1988									
MGEO T333	RICHARDSON, DEIRDRE * THREE FORKS	10 MAY 1989	25.00	60.5	2.4	0.31	8.05	754.1	485.04	360.0	
MGEO T347	MEDICINE HOT SPRINGS		7.00	33.0	14.0		8.60		322		126
MGEO T092	WESTERN ENERGY * 2 MI N COLSTRIP MT.	09 JUL 1976	79.00	736.9	4.9	0.75	7.45	1900.0	1394.9	162.5	
MGEO T020	PIPESTONE HOT SPRINGS		20.00	94.0	5.3		8.70		396		108
MGEO T082	FRED WETSTEON SPRING DEVELOP	06 MAY 1976									
MGEO T330	HART, FRANK * THREE FORKS, MT	04 MAY 1989									
MGEO T063	ANADARKO PROD*6 MI E FOSTER MT	17 JUN 1974	7860.00	30.0	0.7	-2.31	8.75	22150.0	13237.22	0.0	
MGEO T053	UN-NAMED SPRING * 29 M NE OF FOSTER MT	03 SEP 1973									
MGEO T128	COWAN SPRING*9MI NW THREE FORKS MT	26 AUG 1977									
MGEO T178	WOLF CREEK HOT SPRING	29 SEP 1978									
MGEO T343	WILLIAMSBURG SPRING	22 AUG 1991									
MGEO T030	OIL WELL (TENSLEEP FORMATION)								2810		
MGEO T341	MONTANA RESOURCES MONITORING WELL C	29 MAY 1991	3.50	336.0	1.2	-0.48	5.85	735.5	556.37	30.0	
MGEO T342	MONTANA RESOURCES MONITORING WELL D2	31 MAY 1991	5.80	652.1	1.0	0.58	6.36	1230.7	994.7	31.8	

NOTE: (-) indicates the detection limit for that element

MGEOT DATABASE

ID	Site name	Date	Chloride mg/l	Sulfate mg/l	Fluoride mg/l	Std dev balance	Lab ph	Sc mmohs	Tds mg/l	Hco3 mg/l	Alkalinity
MGEOT055	HOWARD SPRING * 25 M SE OF BIGHORN MT	25 JUN 1973	36.00	1516.0	0.2	0.02	8.42	3237.0	2527.59	490.0	
MGEOT246	WENDT, FRED * .75 MI S GREGSON (FAIRMONT)	08 OCT 1980	4.90	17.4	1.1	-0.95	8.30	243.1	173.34	106.8	
MGEOT298	MBMG RESEARCH WELL * FAIRMONT HOT SPRINGS	26 AUG 1983	18.70	214.0	21.0	-0.40	8.29	829.0	478.32	90.9	
MGEOT165	NELSON, HARVEY * 5 MI S BROADVIEW MT	26 SEP 1978	56.00	1562.0	1.6	0.74	8.56	3921.0	2954.21	602.0	
MGEOT061	BRADBROOK * 10 M S BROADVIEW MT	11 OCT 1974	197.00	1736.0	3.8	0.90	7.34	3726.0	3144.31	455.0	
MGEOT279	FAIRMONT HOT SPRINGS, ANACONDA	29 SEP 1981									
MGEOT247	SPANGLER, HAZEL * 2 MI E-NE GREGSON MT	08 OCT 1980	21.00	48.5	0.6	0.79	7.71	433.0	294.23	156.2	
MGEOT214	HUNSAKER SPRING	26 JUN 1979	11.00	30.0	0.8	-0.51	7.78	586.9	349.67	325.0	
MGEOT150	MONT. HIGHWAY DEPT * .75 MI SE WACO MT.	23 SEP 1978	15.10	1660.0	1.4	0.55	8.07	3775.0	2806.74	379.0	
MGEOT213	PLUNKET LAKE WARM SPRINGS	17 JUL 1979									
MGEOT237	SPRINGS FROM JOINTS IN MISS CYN*SW PLUNKET	10 NOV 1979	8.90	86.9	0.7	-0.82	8.48	497.3	299.55	183.0	
MGEOT151	MONTANA DEPT HIGHWAYS * 2.5 MI NE WACO MT	23 SEP 1978	23.90	615.0	3.0	-0.55	8.50	2120.0	1416.54	504.0	
MGEOT216	HUNSAKER, MAURICE	12 JUN 1979	9.60	34.1	1.5	-0.54	8.21	385.8	244.65	179.0	
MGEOT135	ANACONDA RED TRAVETINE MOUND-GEYSER	23 JUN 1978	7.00	1362.0	2.5	0.27	7.31	2624.0	2306.75	439.0	
MGEOT325	SLEEPING CHILD HOT SPRINGS		9.00	81.0	14.0		8.10		445		162
MGEOT236	BRUCE, N * IRRIGATION WELL WITH BOOSTER	02 MAY 1980	21.70	133.0	0.5	0.02	7.86	651.3	434.57	194.0	
MGEOT294	TOSTON WARM SPRING	07 MAY 1983	6.60	50.0	0.7	-0.44	7.54	421.1	258.63	200.1	
MGEOT218	TOSTON WARM SPRING	29 JUN 1979									
MGEOT217	BRUCE, NORMAN	29 JUN 1979	59.20	850.0	1.2	-0.06	7.05	1798.0	1374.26	30.7	
MGEOT215	KIMPTON SPRING	16 JUN 1979	1.80	16.4	0.2	-0.30	8.43	203.3	125.18	101.0	
MGEOT134	WARNER WARM SPRING	02 JUN 1978									
MGEOT172	STEELE, WILLIAM * 12.5 MI SE PINEVIEW MT.	06 OCT 1978	124.70	1879.0	1.7	0.77	7.98	4583.0	3293.74	362.0	
MGEOT284	MBMG TEST WELL*WARM SPRINGS STATE HOSPITAL	17 FEB 1982	6.00	622.0	3.0	-3.59	7.54	1497.0	1178.78	263.5	
MGEOT009	WARM SPRINGS		5.00	670.0	3.9		6.46		1310		258
MGEOT233	WARM SPRINGS STATE HOSPITAL	16 APR 1980	7.10	685.0	3.7	0.48	7.03	1662.0	1273.39	290.0	
MGEOT231	WARM SPRINGS STATE HOSPITAL	04 APR 1980	5.10	666.0	0.2	-1.04	7.34	1534.0	1258.29	301.6	
MGEOT349	BOULDER HOT SPRINGS - UPPER SPRING	02 NOV 1993	21.00	76.0	11.8	-0.62	8.89	434.0	419.46		161
MGEOT351	BOULDER HOT SPRINGS - LOWER SPRING	02 NOV 1993	22.00	73.0	11.0	-0.30	8.80	430.0	401.44		158
MGEOT350	BOULDER HOT SPRINGS - MIDDLE SPRING	02 NOV 1993	22.00	80.0	11.1	-0.26	8.89	428.0	421.14		153
MGEOT232	WARM SPRINGS STATE HOSPITAL * SPRING	04 APR 1980									
MGEOT185	M-B NO. 12 * 5 MI NE HAMILTON MT	30 JUL 1979	10.30	19.8	0.4	0.68	7.37	497.1	338.3	290.0	
MGEOT171	GRIERSON, J.B.*2.5MI NE RANCHERS CEMETARY.	07 OCT 1978	997.90	9.4	2.1	-0.23	7.97	4171.0	2385.96	813.0	
MGEOT130	PRISON RANCH SPRING SITE NO. 4	27 MAR 1978									
MGEOT113	DEER LODGE PRISON RANCH WELL		3.00	33.0	7.5		8.96		172		66
MGEOT044	BEDFORD SPRINGS		9.00	103.0	0.7		7.20		350		155
MGEOT101	GRIERSON, J.B. * 23 MI NW HYSHAM MT	10 AUG 1976	92.00	1698.3	2.5	1.05	8.09	4508.0	3201.72	638.7	
MGEOT275	MBMG RESEARCH WELL * WEED CREEK-1B	10 MAR 1981	43.60	952.0	4.3	2.04	9.82	3202.0	2022.05	294.3	
MGEOT274	MBMG RESEARCH WELL * WEED CREEK-1A	11 MAR 1981	34.70	1017.0	3.8	2.64	8.93	3054.5	2002.53	463.0	
MGEOT255	HANSER, BILL * 3 MI SW TWO DOT MT	31 OCT 1980	6.80	20.6	1.4	-0.42	9.22	1165.0	691.12	604.0	
MGEOT256	FOX INC * 1.5 MI W-SW TWO DOT	31 OCT 1980	4.40	31.4	0.5	0.96	9.39	838.0	489.59	368.0	
MGEOT257	HOMER, RAY * TWO DOT WATER SUPPLY	31 OCT 1980	2.40	43.1	0.4	-0.12	9.35	755.0	443.51	312.0	
MGEOT296	HARLOWTON * SOUTH MUNICIPAL WELL	25 MAY 1983	18.10	87.9	1.2	-0.95	8.94	909.9	558.33	383.0	
MGEOT013	HILLBROOK FLOWING WELL		25.00	170.0	8.7		6.90		1060		788
MGEOT014	WALLS HOT SPRING		11.00	88.0	6.9				651		489
MGEOT001	ALHAMBRA HOT SPRINGS NORTH		10.00	89.0	8.4		7.23		909		484
MGEOT278	TOWNSEND,HERB*2.5 MI SW WHITE SULPHUR SPGS	21 JUL 1981	4.30	45.0	0.4	0.72	7.89	409.7	237.25	192.5	
MGEOT290	RALPH JOHNSON,P.O.BOX 65,WHITE SULPHUR SPR		827.00	1332.0	7.7	1.58	8.63	7878.0	5700.36	2533.0	
MGEOT004	WHITE SULPHUR SPRINGS		180.00	310.0	7.4		6.80		1950		835
MGEOT282	WHITE SULPHUR SPRINGS BANK WELL	08 DEC 1981	147.00	211.0	6.3	-0.77	7.82	2169.0	1298.88	791.0	
MGEOT188	WATTS, JAMES * 16 MI NE KINSEY MT	08 AUG 1979	61.40	0.4	1.7	-0.19	9.03	1303.0	805.43	709.0	
MGEOT184	M-B NO 8 WELL*2.5 MI SE CORVALLIS MT	23 JUL 1979	5.79	34.3	0.6	0.29	7.31	269.8	222.97	113.0	
MGEOT007	BROADWATER HOT SPRINGS WELL		34.00	180.0	11.0				598		193
MGEOT008	GLOEGE WELL		12.00	84.0	0.7		7.40		403		289
MGEOT003	GARRISON WARM SPRINGS		3.00	335.0	1.3		7.30		558		59
MGEOT337	CHADWICK, GREG	17 JUL 1990	14.30								
MGEOT208	USGS OBS WELL * 4 MI SW EAST HELENA, MT.	05 SEP 1979	59.00	44.5	0.2	-0.82	7.76	802.0	453.89	316.0	
MGEOT336	MUELLER BUZZ	/ /19	16.00								
MGEOT242	FLORENCE TEST WELL A	25 AUG 1980	4.50	20.1	3.1	-1.38	8.80	354.9	207.65	164.5	
MGEOT329	SIVORTE MYSSSE * BOX 315 * INGOMAR MT 59039	12 OCT 1988	40.10	298.0	11.5	0.71	8.19	3105.0	2104.12	1795.0	
MGEOT167	CHERRY CK SHEEP CO.*1.35MI SE HAGEN RANCH.	13 OCT 1978	19.00	309.0	10.8	-1.07	8.08	3106.0	2137.33	1828.0	
MGEOT261	MOORE, THOMAS * 6.5 MI SW ANGELA MT	20 NOV 1980	2080.00	1380.0	5.3	-5.96	7.28	9968.0	5918.73	293.0	
MGEOT322	BYRNE WARM SPRING * WEST OF BEARMOUTH	30 JUL 1987									
MGEOT116	NIMROD SPRINGS		3.00	340.0	0.8		7.63		630		168
MGEOT026	BEARMOUTH SPRINGS		2.00	163.0	0.5		7.69		420		220
MGEOT338	GARRICK GALEN	19 JUL 1990	73.20								
MGEOT345	LOLO HOT SPRINGS		6.00	18.0	6.4		9.30		224		86
MGEOT069	MARYSVILLE DEEP WELL DEPTH 5750	29 AUG 1975	51.00	176.0	20.0	3.01	6.62	1004.0	672.39	264.0	
MGEOT170	CHERRY CREEK SHEEP CO*26 MI N VANANDA MT	14 OCT 1978	240.00	2469.0	3.4	0.23	7.25	5062.0	4245.76	346.0	
MGEOT162	OLSEN, JONAS * 9 MI NW FLATWILLOW MT.	28 SEP 1978	1.65	228.0	1.5	0.08	8.04	1005.0	656.12	360.0	
MGEOT201	OLSEN JONAS * 14 MI NE N-BAR RANCH	15 AUG 1979	3.70	275.0	0.6	0.15	8.41	710.6	585.82	233.0	
MGEOT164	REYNOLDS, KEITH * 6 MI NE FLATWILLOW MT.	30 SEP 1978	12.30	477.0	1.4	1.20	8.36	1670.0	1117.44	436.0	
MGEOT163	HILL, FLOYD * 7 MI N FLATWILLOW MT.	28 SEP 1978	11.30	475.0	0.9	0.83	8.23	1606.0	1078.47	402.0	
MGEOT180	M-B 4 (BUTLER CK) * 6 MI NW MISSOULA MT	09 FEB 1979	9.50	13.9	0.7	-2.54	7.66	919.5	707.83	651.0	
MGEOT254	KING, JOE & SONS INC. * 5 MI SSW WINNETT MT	29 OCT 1980	57.20	820.0	10.0	0.99	8.41	3276.0	2056.04	828.0	
MGEOT159	SHAW, BUD * 1.7 MI SW MOSBY MT.	01 OCT 1978	16.35	337.0	3.2	-0.02	8.40	1512.0	995.54	509.0	
MGEOT160	EAGER, REX * 2 MI SW WINNETT MT.	30 SEP 1978	18.60	207.0	1.4	-0.77	8.27	1134.0	727.86	429.0	
MGEOT161	BRATTON, WAYNE * 2 MI SE WINNETT MT.	01 OCT 1978	16.00	495.0	1.5	0.37	8.30	1659.0	1128.06	411.0	
MGEOT305	BURLY VISTA TRACTS	27 NOV 1983	0.80	95.1	0.4	0.46	7.51	602.1	355.09	280.6	
MGEOT157	TEIGEN, PETER * 9 MI E GRASSRANGE MT.	26 SEP 1978	26.50	552.0	0.8	0.46	7.59	1571.0	1138.23	411.0	
MGEOT196	MATOVICH * 4.5 MI E GRASSRANGE MT.	15 AUG 1979	6.40	90.0	0.6	-0.64	7.96	592.3	365.71	267.0	
MGEOT181	HOLE NO 2 M-B DRILLING PROJECT	03 MAY 1979		16.9	0.4	-0.62	7.86	675.6	435.76	450.0	
MGEOT240	MSU AG EXPERIMENT STATION * MOCCASIN MT	31 JUL 1980	2.10	53.0	0.3	0.14	7.69	443.9	258.92	215.0	
MGEOT155	BRADY, EARL*4 MI NW WINNETT, MT	27 SEP 1978	9.00	203.0	2.2	0.31	8.30	1125.0	715.94	444.0	
MGEOT203	GERDRUM, RONALD * 3 MI NE GRASS RANGE, MT.	15 AUG 1979	9.60	120.0	1.4	-0.15	8.72	780.0	503.98	334.0	

NOTE: (-) indicates the detection limit for that element

MGEOT DATABASE

ID	Site name	Date	Chloride mg/l	Sulfate mg/l	Fluoride mg/l	Std dev balance	Lab ph	Sc mmohs	Tds mg/l	Hco3 mg/l	Alkalinity
MGEOT152	CENEX*15 MI NE WINNETT MT	21 SEP 1978	16.45	331.0	2.6	0.58	8.63	1461.0	953.62	426.0	
MGEOT158	BASSETT, EARL * 7.5 MI NW TEIGEN MT.	26 SEP 1978	1.70	117.0	0.5	-0.21	8.29	643.0	400.64	251.0	
MGEOT059	HEDMAN, J. * 40 MI NE LEWISTOWN MT.	07 MAY 1974	3.60	123.0	0.7	-0.17	8.13	725.0	432.21	269.0	
MGEOT156	HARRIS FLOYD * 11 MI NW TEIGEN MT	25 SEP 1978	2.20	240.0	2.4	-1.02	8.19	1167.0	747.06	429.0	
MGEOT194	FOX, DENNIS * 7 MI NW GRASSRANGE MT	16 AUG 1979	1.20	186.0	0.5	-1.07	8.14	615.5	434.82	188.0	
MGEOT239	LAURENCE HESS * 1 MI N MOCCASIN MT	29 JUL 1980	2.70	67.2	0.3	-0.55	7.78	576.5	330.32	276.0	
MGEOT204	DELANEY, DOUGLAS*7 MI NW (WILD HORSE UNIT)	16 AUG 1979	30.20	141.0	0.9	0.30	8.29	862.0	532.05	309.0	
MGEOT050	BROOKS WARM SPRING * 2.5 MI NW BROOKS MT.	17 AUG 1973									
MGEOT195	DELANEY, DOUGLAS * 11 MI NW ROY MT	16 AUG 1979	12.80	342.0	2.9	-0.93	8.41	1373.0	877.78	374.0	
MGEOT154	MILLER RANCH * 14 MI SE VALENTINE MT.	23 SEP 1978	1825.00		2.3	0.57	8.02	7535.0	4429.88	1630.0	
MGEOT045	CARDINAL PET CO * 10 M E HILGER MT	10 APR 1972	18.80	60.0	6.1	0.77	8.52	1017.0	577.63	487.0	
MGEOT153	BUSENBARK, MERLIN*1 MI S VALENTINE MT*	20 SEP 1978	63.40	1.9	6.7	-0.63	8.45	2587.0	1608.34	1639.0	
MGEOT005	QUINN'S HOT SPRINGS		3.00	29.0	2.1		8.90		224		71
MGEOT268	QUINN'S HOT SPRINGS * JIM AND DONNA BROWN	16 JAN 1981	2.30	28.8	2.3	0.71	8.70	206.1	185.68	51.2	
MGEOT197	YEAGER * 8 MI EAST MOULTON, MT.	17 AUG 1979	6.20	450.0	0.5	1.05	8.29	1510.0	985.7	359.0	
MGEOT079	FINLEY, R.S.*1 MI NW ST. IGNATIUS	05 MAR 1976	3.50	15.6	-0.1	0.32	7.82	510.6	293.17	322.3	
MGEOT205	SIROKY, FRANK * 9 MI EAST ROY, MT.	16 AUG 1979	2.60	280.0	0.4	-0.05	9.12	1274.0	828.12	381.0	
MGEOT192	HORYNA, JAMES * 6 MI E ROY MT	19 AUG 1979	4.30	415.0	0.4	1.08	9.18	1586.0	1036.58	398.0	
MGEOT131	CORPS OF ENGINEERS SOUTH WELL AFTER PERFS	03 MAY 1978	85.80	0.2	4.9	0.30	8.17	1101.0	648.15	574.0	
MGEOT090	BRYSON, HAROLD*1 MI W MOIESE MT	01 JUL 1976	36.95	1.0	2.0	-0.97	7.60	950.9	553.38	553.8	
MGEOT070	YARGER, ROBERT * 13 MI W CIRCLE MT	23 JUL 1975	3.30	670.7	-0.1	-1.06	8.38	1818.0	1280.09	410.4	
MGEOT287	SAND COULEE WTR USERS BENCH W AVS SAND COU	19 JUN 1982	12.30	71.0	1.1	0.31	7.69	789.2	453.57	444.0	
MGEOT193	TAYLOR, JAMES * 8 MI E CHRISTINA MT	19 AUG 1979	5.40	642.0	0.5	-0.82	9.01	2032.0	1349.59	389.0	
MGEOT288	CHARLES ENTSMINGER*TOWN OF NUMBER SEVEN	22 JUN 1982	4.00	132.0	0.4	0.41	7.94	596.3	393.48	246.9	
MGEOT295	CUSTER, EVERETT* EDEN RT, GREAT FALLS, MT	13 MAY 1983	30.10	215.0	1.1	0.49	7.48	808.0	557.4	255.0	
MGEOT297	TOWN OF TRACY	15 JUN 1983	6.90	145.0	0.6	0.23	7.57	623.8	407.36	236.2	
MGEOT054	SLCGSVOLD, A. K. * 17 M SE RITCHEY MT	15 OCT 1973	29.00	1154.0	0.1	-0.57	7.64	2770.0	2402.46	1014.0	
MGEOT211	GOVER * 2.5 MI TRAVIS SCHOOL	12 SEP 1979	18.30	360.0	1.0	-0.04	7.95	1557.0	1048.74	574.0	
MGEOT200	VILLAGE INN * 2.5 MI NE TRAVIS SCHOOL	23 AUG 1979	13.50	120.0	4.9	0.91	8.16	1295.0	798.12	680.0	
MGEOT299	STONE, GENE	13 SEP 1983	2.50	6.6	2.3	0.81	9.78	238.2	181.7	3.2	
MGEOT062	WEBB RES * 17.5 MI SE GERALDINE MT.	28 NOV 1973	6.40	57.0	0.8	-0.88	9.01	462.7	285.19	157.0	
MGEOT353	HOLLAND, JIM - GREEN SPRINGS	02 NOV 1983	12.00	17.0	2.1	-0.11	9.86	195.0	208.38		73
MGEOT248	GREEN SPRINGS * HOLLAND RANCH		5.00	18.0	2.2		9.20		280		125
MGEOT191	TACKE, ROBERT * 2 MI SW GREAT FALLS MT	21 AUG 1979	125.00	575.0	2.3	-0.55	7.57	1775.0	1280.1	348.0	
MGEOT198	PAUL, MICHAEL(ROBINSON)*3.5M SW GREATFALLS	22 AUG 1979	145.00	582.0	2.6	-0.39	7.67	1926.0	1375.49	385.0	
MGEOT318	BUTTE CREEK SPRING * SQUARE BUTTE	07 JUN 1985									
MGEOT319	BUTTE CREEK SPRING - NORTH * SQUARE BUTTE	07 JUN 1985									
MGEOT169	CHAMBERLAIN, CURTIS * 2 MI W LLER SCHOOL.	06 OCT 1978	14.05	1337.0	2.1	-0.41	8.43	3633.0	2587.91	640.0	
MGEOT321	MELTON, LARUE * LOWER AQUIFER	15 AUG 1985	8.80	10.3	0.6	-1.07	7.34	399.2	259.61	244.9	
MGEOT314	USGS - MELTON, LEON	15 OCT 1984	10.60	5.8	3.4	0.06	8.18	367.4	215.58	191.8	
MGEOT238	SCHMIDT, LLOYD * 3.5 MI SE SQUARE BUTTE	10 JUL 1980	40.20	85.9	1.3	0.19	7.85	910.0	524.17	385.0	
MGEOT190	USGS OBS WELL * .5 MI S VALLEY SCHOOL	12 AUG 1979	2.50	735.0	0.2	-13.71	8.12	1656.0	1284.72	232.0	
MGEOT199	EIDEL * 5 MI S SUNSET MEMORIAL CEMETARY	23 AUG 1979	49.10	1220.0	0.6	-1.24	7.90	3182.0	2362.2	651.0	
MGEOT078	WEBSTER, BONITA*BOX 443 RONAN MT	05 MAR 1976	1.70	0.5	0.1	-0.15	7.91	286.4	173.21	188.3	
MGEOT099	DEMARS, TOM J.* 10 MI W OF WINIFRED MT.	22 SEP 1976	13.00	511.3	0.8	0.89	7.51	1463.0	1045.4	390.4	
MGEOT249	HOMESTEAD ACRES COUNTY WATER DISTRICT	24 OCT 1980	14.70	201.0	0.9	-0.03	7.76	813.0	505.57	250.0	
MGEOT250	HOMESTEAD ACRES COUNTY WATER DISTRICT	24 OCT 1980	15.90	210.0	1.0	-0.89	8.35	777.0	501.93	223.0	
MGEOT241	MCCOLLUM, JIM * 10 MI NW MATHISON RANCH	26 AUG 1980	16.90	71.0	1.9	-0.65	8.97		962.79	807.0	
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	04 MAR 1976	6.00	8.1	0.6	0.09	7.96	330.2	195.26	196.9	
MGEOT047	* RYFFEL BROS. * 3MI S & 3 MI E HIGHWOOD	04 AUG 1972									
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	17 AUG 1976	17.45	8.6	3.5	0.56	7.83	622.3	374.62	366.9	
MGEOT307	HOT SPRINGS CITY	31 MAY 1984	3.10	10.7	0.2	0.76	7.99	253.6	172.15	149.3	
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH	27 AUG 1975	2.20	12.1	1.6	-0.46	6.74	245.6	156.07	127.8	
MGEOT228	LEISTNER, LAURA * CENTRAL AVE.HOT SPRINGS	03 DEC 1979	7.80	21.2	5.2	-0.63	9.46	383.5	286.58	84.6	
MGEOT291	SOUTH EAST OF CAMP AQUA	19 AUG 1982	9.90	9.6	5.7	-0.59	9.34	381.8	270.89	109.3	
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS	15 SEP 1975									
MGEOT080	HOT SPRINGS MONTANA	19 APR 1976									
MGEOT017	CAMAS HOT SPRINGS		9.00	38.0	5.6		9.40		399		189
MGEOT352	SYMES HOTEL WELL	02 NOV 1993	11.00	30.0	5.6	-0.01	9.66	280.0	297.16		131
MGEOT029	SYMES HOT SPRINGS WELL		9.00	40.0	5.8		9.80		367		158
MGEOT081	HOT SPRING GEOTHERM WELL - UNNAMED	23 APR 1976	3.60	61.2	2.3	-0.67	7.08	341.3	220.43	101.0	
MGEOT355	KOEPLING, DELBERT * WELL 138	03 NOV 1993	10.00	5.1	3.4	0.04	8.23	266.0	275.02		236
MGEOT354	OSTRANGER, DAVE * WELL 56	03 NOV 1993	14.00	3.8	5.4	-0.07	8.05	312.0	290.91		278
MGEOT077	VERNER, ROSE*3.75 MI W PABLO MT	05 MAR 1976	7.50	17.8	0.4	-0.54	8.06	726.8	436.13	472.3	
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	17 AUG 1976	25.25	0.3	0.8	-0.78	7.51	471.8	283.29	264.5	
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	04 DEC 1979	27.00	1.4	4.3	-0.67	8.06	592.9	375.46	324.0	
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	08 SEP 1978	2.40	14.0	5.4	-0.29	8.12	404.8	244.61	221.0	
MGEOT042	SUN RIVER SPRINGS						7.20		890		
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	15 JAN 1981	34.80	21.5	3.1	0.62	8.32	663.9	405.72	321.0	
MGEOT226	KOPP, ARVID * .25 MI S CAMPAQUA MT	29 NOV 1979	16.00	1.5	7.6	-0.98	8.71	472.4	304.15	237.0	
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	05 DEC 1979	34.80	0.6	4.2	0.99	7.89	656.7	403.19	348.0	
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	04 JUN 1982	34.00	0.6	5.0	0.53	8.53	651.2	413.14	327.0	
MGEOT027	CAMP AQUA AREA TEST WELL		33.00	4.0	3.9		8.40		420		351
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	18 DEC 1980	35.30	0.7	4.3	2.03	8.21	655.6	390.02	343.0	
MGEOT202	OLSEN, EDWIN * 8.4 MI NE WINIFRED MT	19 AUG 1979	2850.00	2.0	2.0	-2.48	8.09	9117.0	5325.18	608.0	
MGEOT251	SMELSER, JAMES A. * POWER MT	24 OCT 1980	765.00	13.8	1.5	0.37	7.83	3596.0	1981.91	807.0	
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	02 DEC 1979	35.50	0.6	4.5	0.38	8.28	668.4	419.64	354.0	
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	29 NOV 1979	31.30	1.3	7.8	-0.38	8.38	593.7	394.41	314.0	
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	02 DEC 1979	30.90	0.6	5.0	0.52	8.40	635.6	384.72	328.0	
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	07 SEP 1978	23.10	2.1	4.6	-0.87	8.63	633.6	395.26	326.0	
MGEOT091	KEMP, ANNA * 5 MI N HOT SPRINGS, MT	02 JUL 1976	28.25	1.2	6.1	0.49	8.18	617.2	381.08	331.8	
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	06 SEP 1978	10.90	1.8	4.4	-0.21	9.16	470.6	338.76	280.0	
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	02 DEC 1979	19.00	2.1	4.8	-0.89	8.48	537.0	345.3	287.0	
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	08 SEP 1978	2.20	6.9	3.2	-0.54	9.45	442.3	273.01	188.0	

NOTE: (-) indicates the detection limit for that element

MGEOT DATABASE

ID	Site name	Date	Chloride mg/l	Sulfate mg/l	Fluoride mg/l	Std dev balance	Lab ph	Sc mmohs	Tds mg/l	Hco3 mg/l	Alkalinity
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	30 NOV 1979	7.80	5.8	3.4	-0.95	7.90	446.7	276.24	255.0	
MGEOT149	MATOVICH,JOHN * 23 MI SW SUN PRAIRIE MT	15 SEP 1978	56.80	521.0	3.7	0.90	8.50	2496.0	1637.93	845.0	
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	06 DEC 1979	2.10	12.0	1.2	-0.69	7.89	289.7	174.8	164.0	
MGEOT075	LONEPINE OBSERVATION WELL	04 MAR 1976	6.30	12.2	0.9	-0.25	7.93	396.8	240.03	235.9	
MGEOT110	STREIT, GEORGE * 4MI E-1MI S FT BENTON MT.	16 JAN 1977	94.00	1164.0	3.0	0.25	7.38	2862.0	2252.84	620.0	
MGEOT243	WHITMAYER ASSOC * 4.5MI SE SUN PRAIRIE SCH	13 SEP 1980	920.00	102.0	2.7	-3.15	8.90	4649.0	2646.37	889.0	
MGEOT109	CLARK, BRAD * 25 MI E FT. BENTON MT.	15 JAN 1977	146.00	1174.0	1.2	-0.59	8.45	3737.0	2608.24	702.0	
MGEOT114	LANDUSKY PLUNGE SPRINGS	16 AUG 1973	10.00	620.0	1.6		8.10		960		101
MGEOT072	LANDUSKY, I'8.5 MI S HAYS, MONTANA	23 SEP 1975	13.65	871.0	1.4	-0.07	7.88	1724.0	1366.89	170.5	
MGEOT046	BLACK COULEE * E OF TEST AREA	03 AUG 1972	276.00	8230.0	0.4	1.20	8.24	14300.0	13093.99	461.0	
MGEOT313	ALZHEIMER, PAUL * SW OF BRADY, MT	14 JAN 1985	25.20	646.0	0.6	0.42	7.78	1678.0	1219.1	328.0	
MGEOT312	REVERE, LEE	14 JAN 1985	12.40	61.2	0.5	0.69	7.85	744.8	439.94	402.0	
MGEOT049	LITTLE WARM SPRINGS*9 MI SE LODGE POLE	16 AUG 1973	59.00	1144.0	1.4	0.53	8.06	2082.0	1754.58	101.0	
MGEOT324	LODGEPOLE WARM SPRINGS		57.00	1060.0	1.1		8.10		1630		81
MGEOT048	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	16 AUG 1973	57.00	1062.0	1.1	0.51	8.06	1980.0	1628.32	81.0	
MGEOT051	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	04 OCT 1973	38.00	650.0	0.9	-0.90	7.96	1430.0	1096.15	153.0	
MGEOT052	KIRKALDIE, BRUCE*7 MI SW LODGEPOLE MT	28 NOV 1973	50.00	893.0	0.7	0.86	7.14	1800.0	1433.87	148.0	
MGEOT037	LARGE CAPACITY WELL*4 MI SW WOLF POINT, MT	22 OCT 1963		522.0		9.22	7.80	1960.0	1234.47	627.0	
MGEOT024	CITY OF WOLF POINT * WELL IN WOLF POINT	10 OCT 1947	1850.00	1.9	1.0	-0.25	7.80	6510.0	3552.21	544.0	
MGEOT023	SHERMAN HOTEL OF WOLF POINT	10 OCT 1947	2050.00	5.8	1.0	-0.19	8.30	7080.0	3862.29	482.0	
MGEOT038	USGS TEST WELL * 1 MILE SOUTH POPLAR, MT	07 SEP 1963	9.20	281.0	0.5	0.87	7.80	1350.0	871.89	541.0	
MGEOT025	FOSS ELMER * 5.8 MI SE BROCTON	05 OCT 1947	116.00	5.8	4.8	-1.60	8.50	1950.0	1114.67	884.0	
MGEOT317	LANDTECH WATER DISPOSAL SERVICE	25 MAY 1985	242.00	-0.2	5.2	-0.25	8.38	2428.0	1429.18	1121.0	
MGEOT315	THORNESS, RICK * 4 MILES NW OF BAINVILLE	01 MAY 1985	9.50	640.0	0.5	-0.23	7.62	2028.0	1445.27	598.0	
MGEOT108	CLAWITER, MILT * 4MI N-4MI E BIG SANDY MT.	14 JAN 1977	156.00	617.0	1.9	-1.33	8.36	3076.0	2011.28	912.0	
MGEOT303	SIMS SPRING	10 SEP 1983	4.20	34.8	0.1	0.04	7.65	465.6	280.28	263.0	
MGEOT140	TEXACO INC * 1.7 MI NW CENTRAL SCHOOL.	21 AUG 1978	307.00	5.8	8.5	-0.76	8.29	3236.0	1918.59	1551.0	
MGEOT252	MATOVAICH, MARTIN*17 MI E MALTA NEAR SACO	27 OCT 1980	183.00	2120.0	1.9	0.53	8.35	4046.0	3333.97	112.5	
MGEOT111	SLEEPING BUF REC AREA * 4MI NNW ASHFIELD	10 MAY 1977	195.50	2147.0	2.9	0.79	7.38	3915.0	3419.37	151.0	
MGEOT145	SHIRLE, WALTER * 3 MI S FRESNO DAM.	02 SEP 1978	182.80	865.0	1.8	-0.58	8.37	3736.0	2500.21	1005.0	
MGEOT106	PIMLEY, DON * 4 MI NW JOPLIN MT.	05 DEC 1976	184.00	2668.0	0.4	-0.10	8.02	6323.0	4762.08	588.0	
MGEOT105	CADY, ELWIN * 7.5 MI NW JOPLIN MT.	05 DEC 1976	18.00	1060.0	0.1	0.59	7.59	5936.0	4245.74	3065.0	
MGEOT309	FRANCIS, CLARA	29 SEP 1984	85.80	1400.0	0.9	-0.73	7.65	3288.0	2808	851.0	
MGEOT107	WELSH, ORVILLE * 13 MI N-3MI E HINGHAM MT.	12 JAN 1977	47.00	1657.0	0.4	0.85	8.09	4544.0	3249.73	842.0	
MGEOT310	EDWARDS, MARVIN / MIKE DUSTERHOFF	16 NOV 1984	44.00	1010.0	0.3	0.87	8.24	3044.0	2077.47	596.0	
MGEOT039	BIG WEST OIL CO * 2 MI NE MTN VIEW SCHOOL	24 SEP 1965	8.00	190.0		27.89			483.06	427.0	
MGEOT104	RYGH, KEN * 22 MI N - 5 MI W JOPLIN MT.	04 DEC 1976	14.50	0.1	0.9	0.77	8.72	1484.0	913.88	941.0	
MGEOT142	BRADBURY, ALFRED * 11 MI E WILD HORSE MT	07 SEP 1978		823.0	2.3	1.67	8.15	2706.0	1845.46	730.0	
MGEOT144	NAGEHUS, ORVILLE * 3 MI N SIMPSON MT.	04 SEP 1978		312.0	2.6	0.07	8.38	1650.0	1055.12	652.0	

MGEOT DATABASE

ID	Site name	Sample type	Calcium mg/l	Magnesium mg/l	Sodium mg/l	Potassium mg/l	Iron mg/l	Silica (sio2) mg/l	Arsenic ug/l	Boron ug/l
MGEOT209	TARGHEE SULPHUR SPRING*6MI W W YELLOWSTONE	Dissolved	72.9	27.5	7.1	4.5	0.01	14.4	15.1	60.0
MGEOT177	UPPER WEST SPRING-STAUDENMEYER RANCH		67.3	25.0	26.9	6.9	0.02	20.8		
MGEOT123	UPPERMOST SPRING-STAUDENMEYER RANCH		67.5	24.5	25.8	6.8	0.01	20.1		
MGEOT126	UPPER-EAST SPRING-STAUDENMEYER RANCH		69.0	25.2	28.1	7.4	-0.01	22.7		
MGEOT125	LOWER WEST SPRINGS-STAUDENMEYER RANCH		68.0	24.0	29.0	7.7	-0.01	21.4		
MGEOT127	LOWER EAST SPRING-STAUDENMEYER RANCH	Dissolved	68.0	24.6	27.8	7.4	-0.01	23.3		
MGEOT124	UPPER WEST SPRING-STAUDENMEYER RANCH		67.0	24.0	27.9	7.2	0.02	20.8		
MGEOT121	ANDERSONS PASTURE SPRING #1		66.5	24.0	27.7	7.3	-0.01	21.4		
MGEOT122	ANDERSONS PASTURE SPRING #2		71.0	24.0	26.9	7.3	0.01	21		
MGEOT210	USFS* BAKERS HOLE* 3MI N WEST YELLOWSTONE	Dissolved	11.2	6.0	48.0	7.0	0.01	79.9	21.8	120.0
MGEOT115	SLOAN COW CAMP SPRING		0.9	0.1	88.0	1.1	0.17	50.9		0.2
MGEOT120	WEST FORK SWIMMING HOLE		19.0	29.0	4.8	1.9	-0.01	13.7		
MGEOT118	CURLEW CREEK WARM SPRING		12.5	1.3	33.0	1.2	1.11	19.7		
MGEOT119	WALL CANYON WARM SPRING	Dissolved	6.6	1.7	260.0	6.0	0.08	41.7		
MGEOT229	WOLF CREEK HOT SPRING		8.0	1.4	104.0	1.8	-0.01	50.7		
MGEOT129	LOWELL HILDRETH SPRING*15 MI SW DILLON		88.0	27.5	28.3	4.5	-0.01	17.5		
MGEOT016	BEAR CREEK SPRINGS									
MGEOT132	VIGILANTE WARM SPRING	Dissolved	84.5	27.0	6.7	3.1	-0.01	15.5		
MGEOT041	LA DUKE HOT SPRINGS		320.0	58.0	230.0	23.0		49		0.5
MGEOT012	BROWNS SPRINGS									
MGEOT010	PULLER HOT SPRINGS		56.0	19.0	330.0	24.0		33		0.7
MGEOT019	TRUDAU SPRINGS		78.0	30.0	70.0	11.1		19		
MGEOT040	CHICO HOT SPRINGS		35.0	8.8	35.0	6.8		34		0.1
MGEOT032	GROUNDWATER*4.7 MI NE FT SMITH MT	Dissolved	0.3	0.4	186.0	0.9	0.23	10		80.0
MGEOT074	BROWN CATTLE CO* 3.1 MI N BIRNEY MT		1.9	0.4	250.0	1.3	0.04	10.1		
MGEOT276	JARDINE HOT SPRINGS 0.25 MI E OF JACKSON	Dissolved	10.3	3.0	226.0	8.5	0.02	49.3	53.2	-20.0
MGEOT289	MBMG GEOTHERMAL TEST * THEXTON TX-12	Dissolved	5.2	0.2	331.0	15.2	0.22	107	22.4	680.0
MGEOT028	JACKSON HOT SPRINGS		10.0	3.7	240.0	10.0		52		0.8
MGEOT293	PRIVATE GEOTHERMAL TEST*ENNIS HOT SPRINGS*	Dissolved	5.0	0.2	314.0	14.9	0.01	108	22.7	620.0
MGEOT277	LAPHAM DOMESTIC WELL 1 MI NW JACKSON, MT.	Dissolved	27.3	3.4	192.0	9.0	0.83	16.2	37.0	
MGEOT117	ENNIS HOT SPRINGS									
MGEOT058	BROWN CATTLE CO * 9.5MI SW BIRNEY DAY SCH.		2.2	0.1	243.0	1.4	0.05	9.7		
MGEOT031	BEAVERHEAD ROCK SPRINGS									
MGEOT133	APEX WARM SPRING	Dissolved	62.0	16.2	23.4	3.2	-0.01	19.8		
MGEOT323	ELKHORN HOT SPRINGS		1.9	0.1	48.0	0.7		55		
MGEOT292	MARTIN, KIETH	Dissolved	94.5	33.4	1.7	1.7	-0.00	10.7		60.0
MGEOT326	NEW BILTMORE HOT SPRINGS		290.0	73.0	160.0	24.0		46		0.9
MGEOT308	NEWMAN, JOHN * JOLIET, MT	Dissolved	20.1	12.9	1520.0	2.7	-0.00	7.8		
MGEOT280	ANDERSON SPRING	Dissolved	73.6	22.3	1.4	1.4	-0.00	11.5		
MGEOT006	ANDERSON'S SPRING		47.0	23.0	2.0	1.3		12.2		
MGEOT043	NORRIS HOT SPRINGS		19.0	3.2	190.0	11.0		78		0.1
MGEOT015	POTOSI HOT SPRINGS		10.0	0.1	91.0	1.6		46		
MGEOT187	GROSS, PETE * 4 MI S PONY MT	Dissolved	13.2	0.1	94.6	1.7	0.01	47.7		30.0
MGEOT311	MCFERRAN, EUGENE * BILLINGS, MT	Dissolved	0.9	0.3	471.0	0.4	0.15	9.1		
MGEOT179	CARTER'S BRIDGE * 4 MI SE LIVINGSTON MT.		129.0	35.4	7.3	4.1	-0.01	19.4	1.1	110.0
MGEOT011	AVON WARM SPRING									
MGEOT264	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	Dissolved	2.3	0.1	115.0	2.4	0.01	71.2	5.0	260.0
MGEOT266	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	Dissolved	2.7	-0.0	136.0	2.5	-0.00	70.2	5.0	250.0
MGEOT265	BOZEMAN HOT SPRINGS * OLD WELL	Dissolved	1.3	-0.0	144.0	2.8	0.00	70.3	5.4	260.0
MGEOT263	BOZEMAN HOT SPRINGS * ORIGINAL SPRING	Dissolved	5.1	0.6	135.0	2.8	0.03	69.3	5.0	280.0
MGEOT335	BOZEMAN HOT SPRINGS		7.0	2.4	130.0	3.1		57		0.2
MGEOT269	RANCA * MCLEOD	Dissolved	454.0	79.1	13.4	11.5	0.70	30.6		
MGEOT259	SCOTT FEED LOT	Dissolved	1.2	0.2	512.0	1.2	0.22	19.4		1850.0
MGEOT260	SCOTT FEED LOT	Dissolved	1.2	0.2	559.0	1.1	0.08	20		2290.0
MGEOT230	BLUE JOINT CREEK HOT SPRING		2.6	0.1	38.0	0.3		54		
MGEOT002	BRIDGER CANYON WARM SPRING		54.8	22.7	4.0	1.4		8.2		
MGEOT334	LOVE,MELVIN*THREE FORKS, MT	Dissolved	62.1	13.8	23.4	4.5	0.00	32.1	26.0	220.0
MGEOT033	GROUNDWATER*5.3 MI W HARDIN MT	Dissolved	665.0	136.0	14.0	24.0	1.50	18		140.0
MGEOT332	SHIPTON, HAROLD * THREE FORKS MT	Dissolved	59.0	26.4	27.0	5.2	-0.00	50.7	45.0	190.0
MGEOT258	HERMAN, T.E. * ROCKY RANCH 7.4 M W HARDIN	Dissolved	669.0	143.0	14.6	26.4	0.32	17.2		420.0
MGEOT344	GALLOGLY HOT SPRING		3.0		43.0	0.7		43.7		0.1
MGEOT245	LOST TRAIL * WARM AND HOT SPRINGS		3.0	-0.1	42.8	0.7	0.01	43.7	0.8	50.0
MGEOT089	CAIN MIKE*6.6 MI S VOLBERG		3.5	0.8	374.0	1.4	0.22	7.1		
MGEOT018	HUNTERS HOT SPRINGS		0.9	0.1	85.0	0.6		65		0.7
MGEOT328	JORGENSEN, JACK * THREE FORKS MT	Dissolved							61.0	
MGEOT346	RENOVA HOT SPRINGS		51.0	13.0	150.0	13.0		37		0.5
MGEOT339	WESTMORELAND * 9.1 M W SARPY SCHOOL	Dissolved	300.0	44.6	48.3	53.0	0.23	21		281.0
MGEOT095	LISCOM RANCH * 5.5 MI NW OF N STACY SCHOOL		2.6	0.9	291.0	1.4	0.05	7.7		
MGEOT331	TINDER, L. MARIE * THREE FORKS MT	Dissolved	46.5	13.0	74.6	11.3	-0.00	49.5	116.0	390.0
MGEOT327	WILCOX, RALPH * THREE FORKS MT	Dissolved							130.0	
MGEOT333	RICHARDSON, DEIRDRE * THREE FORKS	Dissolved	56.5	14.7	84.8	12.0	-0.00	50.2	78.0	730.0
MGEOT347	MEDICINE HOT SPRINGS		1.9	0.1	80.0	1.4		60		0.1
MGEOT092	WESTERN ENERGY * 2 MI N COLSTRIP MT.	Dissolved	213.0	25.0	131.0	65.8	2.29	56.6		
MGEOT020	PIPESTONE HOT SPRINGS		2.6	0.1	98.0	1.9		66		0.3
MGEOT082	FRED WETSTEON SPRING DEVELOP		4.5		95.8	2.3	-0.01	59.5		
MGEOT330	HART, FRANK * THREE FORKS, MT									
MGEOT063	ANADARKO PROD*8 MI E FOSTER MT	Dissolved	87.0	29.0	5160.0	16.9	0.06	12.3		
MGEOT053	UN-NAMED SPRING * 29 M NE OF FOSTER MT		40.0	40.8	28.8	1.4	-0.01	1.6		
MGEOT128	COWAN SPRING*9MI NW THREE FORKS MT		14.5	6.8	41.6	3.6	0.12	3		
MGEOT178	WOLF CREEK HOT SPRING	Dissolved				0.0	-0.01		8.0	
MGEOT343	WILLIAMSBURG SPRING		19.9	5.3	8.1	2.3	0.09	9.7	1.9	350.0
MGEOT030	OIL WELL (TENSLEEP FORMATION)									
MGEOT341	MONTANA RESOURCES MONITORING WELL C	Dissolved	86.3	17.1	24.5	10.0	9.61	51.6	2.0	-100.0
MGEOT342	MONTANA RESOURCES MONITORING WELL D2	Dissolved	139.0	47.4	37.8	16.4	19.70	56.6	10.0	-100.0

MGEOT DATABASE

ID	Site name	Sample type	Calcium mg/l	Magnesium mg/l	Sodium mg/l	Potassium mg/l	Iron mg/l	Silica (sio2) mg/l	Arsenic ug/l	Boron ug/l
MGEOT055	HOWARD SPRING * 25 M SE OF BIGHORN MT		56.0	238.0	420.0	6.3	0.02	9.9		
MGEOT246	WENDT, FRED * .75 MI S GREGSON (FAIRMONT)	Dissolved	20.7	1.0	29.1	2.8	0.22	43.1	3.3	70.0
MGEOT298	MBMG RESEARCH WELL * FAIRMONT HOT SPRINGS	Dissolved	9.5	0.2	163.0	3.3	-0.00	3.8		240.0
MGEOT165	NELSON, HARVEY * 5 MI S BROADVIEW MT	Dissolved	4.7	1.4	1004.0	1.7	0.02	9		930.0
MGEOT061	BRADBROOK * 10 M S BROADVIEW MT	Dissolved	446.0	117.0	352.0	49.8	0.04	17.6		40.0
MGEOT279	FAIRMONT HOT SPRINGS, ANACONDA		4.0	0.3	165.0	4.4	0.01	80.6	8.6	340.0
MGEOT247	SPANGLER, HAZEL * 2 MI E-NE GREGSON MT	Dissolved	33.2	9.9	36.9	7.3	0.02	56.8		60.0
MGEOT214	HUNSAKER SPRING	Dissolved	71.2	18.8	22.3	11.4	0.58	23.3	3.4	100.0
MGEOT150	MONT. HIGHWAY DEPT * .75 MI SE WACO MT.	Dissolved	14.2	5.0	914.0	2.4	0.02	7.1		
MGEOT213	PLUNKET LAKE WARM SPRINGS		38.5	23.5	22.4	2.4		15.5	1.7	110.0
MGEOT237	SPRINGS FROM JOINTS IN MISS CYN*SW PLUNKET	Dissolved	48.0	23.0	22.7	2.7	-0.01	14.1	1.4	120.0
MGEOT151	MONTANA DEPT HIGHWAYS * 2.5 MI NE WACO MT	Dissolved	16.8	11.1	477.0	1.7	0.01	7.5		
MGEOT216	HUNSAKER, MAURICE	Dissolved	21.6	12.5	44.4	2.5	0.02	29.9		180.0
MGEOT135	ANACONDA RED TRAVETINE MOUND-GEYSER	Dissolved	470.0	67.0	147.0	10.6	1.21	22.7		
MGEOT325	SLEEPING CHILD HOT SPRINGS		6.2	0.2	110.0	2.6		60		0.3
MGEOT236	BRUCE, N * IRRIGATION WELL WITH BOOSTER	Dissolved	53.8	18.5	55.7	4.7	-0.01	48.4	6.0	180.0
MGEOT294	TOSTON WARM SPRING	Dissolved	46.6	18.8	16.1	2.5	-0.00	18.4	4.1	70.0
MGEOT218	TOSTON WARM SPRING		48.7	20.2	13.6	3.6	-0.01	19.8		120.0
MGEOT217	BRUCE, NORMAN	Dissolved	279.0	3.0	129.0	5.5	0.03	31.9	1.3	380.0
MGEOT215	KIMPTON SPRING	Dissolved	25.8	7.2	5.3	0.8	0.01	17.1	0.9	-20.0
MGEOT134	WARNER WARM SPRING		25.6	6.8	5.4	0.9	-0.01	16		
MGEOT172	STEELE, WILLIAM * 12.5 MI SE PINEVIEW MT.	Dissolved	19.0	4.6	1074.0	3.8	0.02	7		
MGEOT284	MBMG TEST WELL*WARM SPRINGS STATE HOSPITAL	Total Recoverable	196.0	23.1	124.0	24.4	21.40	28.4	0.3	110.0
MGEOT009	WARM SPRINGS		220.0	22.0	120.0	26.0		56		0.1
MGEOT233	WARM SPRINGS STATE HOSPITAL	Dissolved	216.0	24.5	114.0	31.5	10.80	37.7		
MGEOT231	WARM SPRINGS STATE HOSPITAL	Dissolved	218.0	24.5	128.0	32.9	0.36	33.6	14.9	170.0
MGEOT349	BOULDER HOT SPRINGS - UPPER SPRING	Dissolved	2.7	0.4	122.0	3.8	-0.01	93.2	0.7	0.6
MGEOT351	BOULDER HOT SPRINGS - LOWER SPRING	Dissolved	3.2	-0.0	111.4	6.1	0.31	90	-0.5	0.5
MGEOT350	BOULDER HOT SPRINGS - MIDDLE SPRING	Dissolved	2.0	0.3	118.2	4.1	0.08	98.5	-0.5	0.5
MGEOT232	WARM SPRINGS STATE HOSPITAL * SPRING		225.6	23.1	121.4	23.8	0.06	55.8	23.0	110.0
MGEOT185	M-B NO. 12 * 5 MI NE HAMILTON MT	Dissolved	68.2	11.8	20.7	4.4	0.03	59.3		
MGEOT171	GRIERSON, J.B.*2.5MI NE RANCHERS CEMETARY.	Dissolved	4.3	0.8	956.0	2.6	0.06	12.4		
MGEOT130	PRISON RANCH SPRING SITE NO. 4		3.9	0.1	45.8	0.5	-0.01	45.8		
MGEOT113	DEER LODGE PRISON RANCH WELL		3.9	0.1	46.0	0.5		45.8		
MGEOT044	BEDFORD SPRINGS		57.0	22.0						
MGEOT101	GRIERSON, J.B. * 23 MI NW HYSHAM MT	Dissolved	21.6	11.0	1050.0	4.1	0.05	6		140.0
MGEOT275	MBMG RESEARCH WELL * WEED CREEK-1B	Dissolved	2.4	0.7	700.0	1.8	0.03	0.8		
MGEOT274	MBMG RESEARCH WELL * WEED CREEK-1A	Dissolved	2.0	1.3	674.0	1.9	0.05	7.5		
MGEOT255	HANSEY, BILL * 3 MI SW TWO DOT MT	Dissolved	1.1	0.2	290.0	0.9	0.01	12.5		280.0
MGEOT256	FOX INC * 1.5 MI W-SW TWO DOT	Dissolved	0.6	-0.1	197.0	0.4	0.01	14		160.0
MGEOT257	HOMER, RAY * TWO DOT WATER SUPPLY	Dissolved	1.1	0.1	178.0	0.5	0.05	13.2		100.0
MGEOT296	HARLOWTON * SOUTH MUNICIPAL WELL	Dissolved	2.0	0.1	223.0	0.2	0.01	10.2		250.0
MGEOT013	HILLBROOK FLOWING WELL		32.0	5.6	340.0	20.0		67		0.5
MGEOT014	WALLS HOT SPRING		18.0	3.5	210.0	10.0		60		0.2
MGEOT001	ALHAMBRA HOT SPRINGS NORTH		18.0	3.5	220.0	9.5		66		0.2
MGEOT278	TOWNSEND,HERB*2.5 MI SW WHITE SULPHUR SPGS	Dissolved	48.0	15.1	10.9	2.0	0.01	15.9	1.6	-20.0
MGEOT290	RALPH JOHNSON,P.O BOX 65,WHITE SULPHUR SPR	Dissolved	2.5	3.4	2130.0	19.0	0.01	44	11.8	25200.0
MGEOT004	WHITE SULPHUR SPRINGS		44.0	12.0	480.0	20.0		51		9.1
MGEOT282	WHITE SULPHUR SPRINGS BANK WELL	Dissolved	41.0	9.5	433.0	17.5	0.10	43.7	-1.0	7900.0
MGEOT188	WATTS, JAMES * 16 MI NE KINSEY MT	Dissolved	1.0	0.2	340.0	0.6	0.03	10		674.0
MGEOT184	M-B NO 8 WELL*2.5 MI SE CORVALLIS MT	Dissolved	20.8	5.3	25.1	4.9	0.51	70		
MGEOT007	BROADWATER HOT SPRINGS WELL		13.0	0.8	180.0	5.9		93		0.8
MGEOT008	GLOEGE WELL		78.0	16.0	38.0	3.4		28		0.1
MGEOT003	GARRISON WARM SPRINGS		77.0	35.0	24.0	5.2		18.2		
MGEOT337	CHADWICK, GREG	Dissolved				0.0				
MGEOT208	USGS OBS WELL * 4 MI SW EAST HELENA, MT.	Dissolved	98.0	31.5	30.8	4.7	-0.01	15.8		
MGEOT336	MUELLER BUZZ	Dissolved								
MGEOT242	FLORENCE TEST WELL A	Dissolved	1.0	0.2	81.3	2.9	2.70	4.9		
MGEOT329	SIVORTE MYSSSE * BOX 315 * INGOMAR MT 59039	Dissolved	3.0	0.5	843.0	1.8	0.02	21.8		1320.0
MGEOT167	CHERRY CK SHEEP CO.*1.35MI SE HAGEN RANCH.	Dissolved	3.5	0.8	871.0	2.4	0.03	20.4		
MGEOT261	MOORE, THOMAS * 6.5 MI SW ANGELA MT	Dissolved	394.0	65.2	1684.0	115.0	0.08	50.8		2820.0
MGEOT322	BYRNE WARM SPRING * WEST OF BEARMOUTH		137.0	35.3	12.2	3.3	-0.00	20.7	8.3	140.0
MGEOT116	NIMROD SPRINGS		126.0	36.0	16.0	3.4		21		
MGEOT026	BEARMOUTH SPRINGS		89.0	28.0	8.0	1.8		16		
MGEOT338	GARRICK GALEN	Dissolved								
MGEOT345	LOLO HOT SPRINGS		1.8	0.1	52.0	1.2		72		0.1
MGEOT069	MARYSVILLE DEEP WELL DEPTH 5750	Dissolved	7.7	0.4	208.0	10.4	0.02	68.5		100.0
MGEOT170	CHERRY CREEK SHEEP CO*26 MI N VANANDA MT		456.0	101.0	705.0	78.6	0.78	21.5		
MGEOT162	OLSEN, JONAS * 9 MI NW FLATWILLOW MT.	Dissolved	28.2	11.5	190.0	4.9	0.01	13.1		
MGEOT201	OLSEN JONAS * 14 MI NE N-BAR RANCH	Dissolved	79.2	39.0	53.5	7.1	0.12	9.8		121.0
MGEOT164	REYNOLDS, KEITH * 6 MI NE FLATWILLOW MT.	Dissolved	5.9	1.6	384.0	2.6	0.15	13.5		
MGEOT163	HILL, FLOYD * 7 MI N FLATWILLOW MT.	Dissolved	6.8	1.8	368.0	3.1	0.12	13		
MGEOT180	M-B 4 (BUTLER CK) * 6 MI NW MISSOULA MT	Dissolved	10.4	5.4	237.0	9.0	8.90	91.9		
MGEOT254	KING, JOE & SONS INC. * 5 MI SSW WINNETT MT	Dissolved	8.3	2.9	726.0	4.2	0.93	12.6		1640.0
MGEOT159	SHAW, BUD * 1.7 MI SW MOSBY MT.	Dissolved	3.9	0.9	363.0	2.1	0.35	13.8		
MGEOT160	EAGER, REX * 2 MI SW WINNETT MT.	Dissolved	6.0	2.0	267.0	2.7	0.02	11.9		
MGEOT161	BRATTON, WAYNE * 2 MI SE WINNETT MT.	Dissolved	6.9	2.0	387.0	2.7	0.39	14.2		
MGEOT305	BURLY VISTA TRACTS	Dissolved	73.4	29.9	5.7	4.4	0.42	6.7		40.0
MGEOT157	TEIGEN, PETER * 9 MI E GRASSRANGE MT.	Dissolved	162.0	74.8	98.1	11.2	0.83	9.6		
MGEOT196	MATOVICH * 4.5 MI E GRASSRANGE MT	Dissolved	51.2	20.9	50.1	4.7	-0.01	10.2		86.0
MGEOT181	HOLE NO 2 M-B DRILLING PROJECT	Dissolved	5.7	1.1	171.0	2.0	0.35	16.6		
MGEOT240	MSU AG EXPERIMENT STATION * MOCCASIN MT	Dissolved	51.5	14.4	16.3	4.3	1.86	9.1		60.0
MGEOT155	BRADY, EARL*4 MI NW WINNETT, MT	Dissolved	8.9	3.1	252.0	3.4	0.82	14.6		170.0
MGEOT203	GERDRUM, RONALD * 3 MI NE GRASS RANGE, MT.	Dissolved	24.7	10.6	148.0	3.5	0.54	11.5		109.0

MGEOT DATABASE

ID	Site name	Sample type	Calcium mg/l	Magnesium mg/l	Sodium mg/l	Potassium mg/l	Iron mg/l	Silica (sio2) mg/l	Arsenic ug/l	Boron ug/l
MGEOT152	CENEX*15 MI NE WINNETT MT	Dissolved	2.1	0.4	347.0	1.3	0.17	13.5		220.0
MGEOT158	BASSETT, EARL * 7.5 MI NW TEIGEN MT.	Dissolved	9.6	4.6	130.0	2.4	1.57	9.7		
MGEOT059	HEDMAN, J. * 40 MI NE LEWISTOWN MT.		3.2	1.9	154.5	1.7	1.35	9.6		
MGEOT156	HARRIS FLOYD * 11 MI NW TEIGEN MT	Dissolved	18.0	7.3	251.0	2.7	0.21	11.9		270.0
MGEOT194	FOX, DENNIS * 7 MI NW GRASSRANGE MT	Dissolved	60.8	17.9	60.4	3.0	0.27	12.1		97.0
MGEOT239	LAURENCE HESS * 1 MI N MOCCASIN MT	Dissolved	54.7	20.6	33.8	5.2	1.47	8.3		-20.0
MGEOT204	DELANEY, DOUGLAS*7 MI NW (WILD HORSE UNIT)	Dissolved	10.9	5.6	178.0	2.6	0.26	10.3		-20.0
MGEOT050	BROOKS WARM SPRING * 2.5 MI NW BROOKS MT.		114.0	39.0	3.6	1.4	-0.01	10.7		
MGEOT195	DELANEY, DOUGLAS * 11 MI NW ROY MT	Dissolved	9.6	4.0	305.0	2.4	0.44	11		159.0
MGEOT154	MILLER RANCH * 14 MI SE VALENTINE MT.	Dissolved	5.9	2.1	1770.0	5.3	0.10	16.3		
MGEOT045	CARDINAL PET CO * 10 M E HILGER MT		7.1	1.6	219.0	5.4	4.09	1.3		
MGEOT153	BUSENBARK, MERLIN*1 MI S VALENTINE MT*	Total Recoverable	1.4	0.3	688.0	2.1	-100.00	16.5		
MGEOT005	QUINN'S HOT SPRINGS		3.6	0.2	39.0	1.5		76.6		
MGEOT268	QUINN'S HOT SPRINGS * JIM AND DONNA BROWN	Dissolved	2.7	-0.1	39.3	1.3	0.03	73.5	0.6	250.0
MGEOT197	YEAGER * 8 MI EAST MOULTON, MT.	Dissolved	10.7	6.0	322.0	2.5	0.01	10.9		133.0
MGEOT079	FINLEY, R.S.*1 MI NW ST. IGNATIUS	Dissolved	72.0	18.8	12.2	0.7	-0.01	11		
MGEOT205	SIROKY, FRANK * 9 MI EAST ROY, MT.	Dissolved	1.1	0.1	304.0	0.6	0.02	18		70.0
MGEOT192	HORYNA, JAMES * 6 MI E ROY MT	Dissolved	1.9	0.4	366.0	1.2	0.13	16.6		140.0
MGEOT131	CORPS OF ENGINEERS SOUTH WELL AFTER PERFS	Dissolved	24.6	10.1	221.0	6.6	3.05	8.9		
MGEOT090	BRYSON, HAROLD*1 MI W MOIESE MT		35.6	15.2	167.0	3.8	2.04	16.8		
MGEOT070	YARGER, ROBERT * 13 MI W CIRCLE MT	Dissolved	32.2	142.4	190.0	10.6	-0.01	12.2		
MGEOT287	SAND COULEE WTR USERS BENCH W ABV SAND COU	Dissolved	51.7	69.9	17.2	2.9	0.01	7.5		50.0
MGEOT193	TAYLOR, JAMES * 8 MI E CHRISTINA MT	Dissolved	2.4	0.2	476.0	1.2	0.06	11.5		120.0
MGEOT288	CHARLES ENTSMINGER*TOWN OF NUMBER SEVEN	Dissolved	79.6	28.7	11.4	2.5	-0.00	12.3		240.0
MGEOT295	CUSTER, EVERETT* EDEN RT, GREAT FALLS, MT	Dissolved	100.0	36.1	30.7	4.4	0.00	14.1	0.2	120.0
MGEOT297	TOWN OF TRACY	Dissolved	82.2	29.1	12.4	2.3	0.02	11.8	0.9	90.0
MGEOT054	SLCGSVOLD, A. K. * 17 M SE RITCHEY MT		362.0	286.0	32.0	7.9	0.01	13.2		
MGEOT211	GOVER * 2.5 MI TRAVIS SCHOOL	Dissolved	57.9	34.2	264.0	7.5	1.57	20.8		
MGEOT200	VILLAGE INN * 2.5 MI NE TRAVIS SCHOOL	Dissolved	24.0	8.2	274.0	7.5	0.23	10.8	1.7	
MGEOT299	STONE, GENE	Dissolved	0.8	-0.1	50.9	0.6	-0.00	56.4		120.0
MGEOT062	WEBB RES * 17.5 MI SE GERALDINE MT.		47.0	13.6	36.0	5.7	0.01	10.3		
MGEOT353	HOLLAND, JIM - GREEN SPRINGS	Dissolved	0.8	1.2	57.1					
MGEOT248	GREEN SPRINGS * HOLLAND RANCH									
MGEOT191	TACKE, ROBERT * 2 MI SW GREAT FALLS MT	Dissolved	182.0	75.4	132.0	13.5	3.37		1.1	
MGEOT198	PAUL, MICHAEL(ROBINSON)*3.5M SW GREATFALLS	Dissolved	224.0	71.1	124.0	13.4	2.22	20.6	0.3	
MGEOT318	BUTTE CREEK SPRING * SQUARE BUTTE		36.6	7.9	23.9	3.6	0.03	18.1	0.6	80.0
MGEOT319	BUTTE CREEK SPRING - NORTH * SQUARE BUTTE		32.2	8.4	26.5	2.9	0.01	16.8	0.4	80.0
MGEOT169	CHAMBERLAIN, CURTIS * 2 MI W LLER SCHOOL.		10.2	2.0	889.0	2.5	0.16	8.2		
MGEOT321	MELTON, LARUE * LOWER AQUIFER	Dissolved	11.1	1.1	83.5	6.6	0.83	15.5		80.0
MGEOT314	USGS - MELTON, LEON	Dissolved	12.2	5.2	61.4	1.2	-0.00	21.1		160.0
MGEOT238	SCHMIDT, LLOYD * 3.5 MI SE SQUARE BUTTE	Dissolved	45.8	14.2	128.0	7.7	0.33	11		-20.0
MGEOT190	USGS OBS WELL * .5 MI S VALLEY SCHOOL	Dissolved	210.0	151.0	43.4	7.1	1.32	19.8		241.0
MGEOT199	EIDEL * .5 MI S SUNSET MEMORIAL CEMETARY	Dissolved	112.0	114.0	523.0	11.9	0.14	10.6	2.0	
MGEOT078	WEBSTER, BONITA*BOX 443 RONAN MT	Dissolved	29.8	10.9	17.6	1.0	-0.01	18.8		
MGEOT099	DEMARS, TOM J. * 10 MI W OF WINIFRED MT.	Dissolved	163.5	57.5	94.5	4.1	0.03	7.9	-2.0	220.0
MGEOT249	HOMESTEAD ACRES COUNTY WATER DISTRICT	Dissolved	86.0	38.1	26.4	4.4	0.33	10.6		150.0
MGEOT250	HOMESTEAD ACRES COUNTY WATER DISTRICT	Dissolved	83.2	39.0	27.7	4.8	0.21	10.2		150.0
MGEOT241	MCCOLLUM, JIM * 10 MI NW MATHISON RANCH	Dissolved	1.2	0.2	401.0	1.0	0.05	11		830.0
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	Dissolved	32.3	13.0	19.9	1.4	-0.01	16.2		
MGEOT047	* RYFFEL BROS. * 3MI S & 3 MI E HIGHWOOD		57.0	19.0	52.0	3.6		29		
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	Dissolved	20.0	9.4	113.0	3.5	0.02	17.5		
MGEOT307	HOT SPRINGS CITY	Dissolved	17.2	4.0	32.0	3.1	0.07	28.1		70.0
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH		15.2	3.6	33.0	3.0	0.17	22		
MGEOT228	LEISTNER, LAURA * CENTRAL AVE. HOT SPRINGS	Dissolved	0.9	-0.1	92.3	0.0	0.61	67	-1.0	460.0
MGEOT291	SOUTH EAST OF CAMP AQUA	Dissolved	0.6	-0.1	85.8	1.7	-0.00	69.6	-1.0	350.0
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS		1.1	0.3	83.0	1.8	-0.01	58		
MGEOT080	HOT SPRINGS MONTANA		1.0	0.1	83.5	1.8	0.01	59		
MGEOT017	CAMAS HOT SPRINGS		0.9	0.1	85.0	1.7		70		0.3
MGEOT352	SYMES HOTEL WELL	Dissolved	0.6	0.7	89.4	2.2	-0.02	73.08	-0.5	0.2
MGEOT029	SYMES HOT SPRINGS WELL		1.2	0.2	91.0	1.7		68		
MGEOT081	HOT SPRING GEOTHERM WELL - UNNAMED		16.4	5.2	43.2	5.6	0.07	32.8		
MGEOT355	KOEPLING, DELBERT * WELL 138	Dissolved	4.5	-0.2	95.6	2.9	0.06	36.64	-0.5	0.4
MGEOT354	OSTRANGER, DAVE * WELL 56	Dissolved	5.5	2.5	109.3	-0.6	0.39	12.96	-0.5	0.3
MGEOT077	VERNER, ROSE*3.75 MI W PABLO MT	Dissolved	33.7	36.1	88.5	3.1	0.01	14.8		
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	Dissolved	37.0	11.9	46.0	3.9	5.80	21.9		
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	Dissolved	5.5	1.0	139.0	2.1	0.28	35	19.5	844.0
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	Dissolved	6.6	1.6	88.1	1.9	0.39	14.3	100.0	690.0
MGEOT042	SUN RIVER SPRINGS									
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	Dissolved	15.5	2.8	129.0	3.8	0.16	36.8	2.6	500.0
MGEOT226	KOPP, ARVID * .25 MI S CAMPAQUA MT	Dissolved	2.1	0.3	117.0	1.5	0.22	32.4	2.4	914.0
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	Dissolved	4.0	0.7	147.7	2.8	0.26	34.9	14.6	968.0
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	Dissolved	2.9	0.2	152.0	3.1	-0.00	43.2	0.2	540.0
MGEOT027	CAMP AQUA AREA TEST WELL		3.2	0.3	152.0	4.0		42.2		0.6
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	Dissolved	12.6	2.4	127.0	3.3	0.11	35.3	0.8	550.0
MGEOT202	OLSEN, EDWIN * 8.4 MI NE WINIFRED MT	Dissolved	10.0	3.3	2141.0	4.7	0.12	12.4		121.0
MGEOT251	SMELSER, JAMES A. * POWER MT	Dissolved	25.6	9.5	750.0	10.6	0.06	7.8		1000.0
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	Dissolved	3.3	0.4	154.4	2.6	0.13	43.6	5.6	934.0
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	Dissolved	4.8	1.0	144.0	2.8	0.65	41.4	0.7	910.0
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	Dissolved	4.4	0.4	142.0	2.1	0.12	36.6	3.3	885.0
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	Dissolved	3.6	0.6	150.0	3.4	0.02	36.5	1.0	870.0
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT		5.7	0.6	139.0	3.7	0.11	32.9		
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	Dissolved	4.6	0.7	127.0	2.7	0.03	29.3	6.7	710.0
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	Dissolved	3.3	0.4	134.0	1.7	0.09	28.6	4.2	849.0
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	Dissolved	5.8	0.7	101.0	2.3	0.20	21	23.0	540.0

NOTE: (-) indicates the detection limit for that element

MGEOT DATABASE

ID	Site name	Sample type	Calcium mg/l	Magnesium mg/l	Sodium mg/l	Potassium mg/l	Iron mg/l	Silica (sio2) mg/l	Arsenic ug/l	Boron ug/l
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	Dissolved	5.7	0.7	105.0	1.3	0.17	19.5	27.7	511.0
MGEOT149	MATOVICH,JOHN * 23 MI SW SUN PRAIRIE MT	Dissolved	2.4	0.6	608.0	1.6	0.07	10.5		
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	Dissolved	28.4	7.8	23.6	2.2	0.30	15.9	7.0	91.0
MGEOT075	LONEPINE OBSERVATION WELL	Dissolved	39.8	11.6	32.8	1.7	-0.01	18.2		
MGEOT110	STREIT, GEORGE * 4MI E-1MI S FT BENTON MT.		207.0	180.0	253.0	34.4	0.09	11.8		
MGEOT243	WHITMAYER ASSOC * 4.5MI SE SUN PRAIRIE SCH	Dissolved	11.6	3.2	1076.0	6.7	0.04	10.5		
MGEOT109	CLARK, BRAD * 25 MI E FT. BENTON MT.		19.4	16.0	885.0	3.3	0.03	7.5		
MGEOT114	LANDUSKY PLUNGE SPRINGS		161.0	65.0	24.0	6.7		17.8		
MGEOT072	LANDUSKY, I'8.5 MI S HAYS, MONTANA		250.9	86.8	35.2	9.1	0.01	14.7		
MGEOT046	BLACK COULEE * E OF TEST AREA	Total Recoverable	329.0	508.0	3250.0	24.8		6.1		
MGEOT313	ALZHEIMER, PAUL * SW OF BRADY, MT	Dissolved	118.0	58.0	193.0	3.2	4.82	8.3		
MGEOT312	REVERE, LEE	Dissolved	42.9	22.8	89.4	1.7	2.36	8.3		
MGEOT049	LITTLE WARM SPRINGS*9 MI SE LODGE POLE	Dissolved	289.0	110.0	72.0	13.3	0.10	16		
MGEOT324	LODGEPOLE WARM SPRINGS		286.0	96.0	75.0	13.0		16.3		
MGEOT048	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	Dissolved	288.0	96.0	75.0	13.0	-0.01	16.3		
MGEOT051	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT		187.0	69.0	52.5	8.5	-0.01	14.5		
MGEOT052	KIRKALDIE, BRUCE*7 MI SW LODGEPOLE MT		242.0	83.0	67.0	11.1	-0.01	14.1		
MGEOT037	LARGE CAPACITY WELL*4 MI SW WOLF POINT, MT	Dissolved			402.0		1.80			
MGEOT024	CITY OF WOLF POINT * WELL IN WOLF POINT	Dissolved	15.0	36.0	1330.0	19.0	0.13	13		5160.0
MGEOT023	SHERMAN HOTEL OF WOLF POINT	Dissolved	24.0	5.2	1500.0	1.6	0.05	13		5070.0
MGEOT038	USGS TEST WELL * 1 MILE SOUTH POPLAR, MT		54.0	31.0	214.0	4.7	0.67	9.9		
MGEOT025	FOSS ELMER * 5.8 MI SE BROCTON	Dissolved	6.8	2.0	463.0	5.2	0.10	16		970.0
MGEOT317	LANDTECH WATER DISPOSAL SERVICE	Dissolved	2.3	0.6	595.0	1.4	0.08	15.7	0.2	2520.0
MGEOT315	THORNESS, RICK * 4 MILES NW OF BAINVILLE	Dissolved	70.6	62.8	337.0	5.5	0.17	24.4		220.0
MGEOT108	CLAWITER, MILT * 4MI N-4MI E BIG SANDY MT.	Dissolved	25.4	13.0	710.0	7.1	0.06	21.4	2.9	1100.0
MGEOT303	SIMS SPRING		49.5	23.3	17.1	1.7	-0.00	19.7		
MGEOT140	TEXACO INC * 1.7 MI NW CENTRAL SCHOOL.	Dissolved	2.3	0.7	800.0	4.5	0.35	25.5		2890.0
MGEOT252	MATOVAICH, MARTIN*17 MI E MALTA NEAR SACO	Dissolved	521.0	156.0	254.0	25.1	0.46	17.1		950.0
MGEOT111	SLEEPING BUF REC AREA * 4MI NNW ASHFIELD		490.0	174.0	293.0	25.4	0.03	17.1		
MGEOT145	SHIRLE, WALTER * 3 MI S FRESNO DAM.	Dissolved	6.2	2.5	922.0	2.5	0.02	7.4		
MGEOT106	PIMLEY, DON * 4 MI NW JOPLIN MT.		26.0	11.2	1570.0	3.8	0.06	7.5		
MGEOT105	CADY, ELWIN * 7.5 MI NW JOPLIN MT.		27.0	13.2	1600.0	4.4	0.05	13		
MGEOT309	FRANCIS, CLARA	Dissolved	518.0	192.0	138.0	8.2	0.02	19.1		1170.0
MGEOT107	WELSH, ORVILLE * 13 MI N-3MI E HINGHAM MT.		17.4	4.6	1095.0	3.4	0.05	9.8		
MGEOT310	EDWARDS, MARVIN / MIKE DUSTERHOFF	Dissolved	7.1	1.8	713.0	1.1	0.03	6.4		490.0
MGEOT039	BIG WEST OIL CO * 2 MI NE MTN VIEW SCHOOL	Dissolved	32.0	37.0			5.72			
MGEOT104	RYGH, KEN * 22 MI N - 5 MI W JOPLIN MT.		0.8	0.9	385.0	1.0	0.03	8.7		
MGEOT142	BRADBURY, ALFRED * 11 MI E WILD HORSE MT	Dissolved	7.8	1.6	640.0	2.6	0.03	7.3		
MGEOT144	NAGEHUS, ORVILLE * 3 MI N SIMPSON MT.	Dissolved	5.5	1.3	394.0	1.8	0.01	9		

MGEOT DATABASE

ID	Site name	Lithium ug/l	H? d2? S	Location	County
MGEOT209	TARGHEE SULPHUR SPRING*6MI W W YELLOWSTONE	30.0		13S 04E 27 AACA	GALLATIN
MGEOT177	UPPER WEST SPRING-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT123	UPPERMOST SPRING-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT126	UPPER-EAST SPRING-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT125	LOWER WEST SPRINGS-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT127	LOWER EAST SPRING-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT124	UPPER WEST SPRING-STAUDENMEYER RANCH			13S 02W 17 CBD	BEAVERHEAD
MGEOT121	ANDERSONS PASTURE SPRING #1			13S 2W 18AC	BEAVERHEAD
MGEOT122	ANDERSONS PASTURE SPRING #2			13S 2W 18AC	BEAVERHEAD
MGEOT210	USFS* BAKERS HOLE* 3MI N WEST YELLOWSTONE	150.0		13S 05E 15 ABAB	GALLATIN
MGEOT115	SLOAN COW CAMP SPRING		0.9	12S 1E 19CDA	MADISON
MGEOT120	WEST FORK SWIMMING HOLE			12S 01E 18 CB	MADISON
MGEOT118	CURLEW CREEK WARM SPRING			11S 01E 13 DBC	MADISON
MGEOT119	WALL CANYON WARM SPRING			10S 01E 07 CAB	MADISON
MGEOT229	WOLF CREEK HOT SPRING			10S 01E 9 BBBB	MADISON
MGEOT129	LOWELL HILDRETH SPRING*15 MI SW DILLON			9S 10W 29 AAC	BEAVERHEAD
MGEOT016	BEAR CREEK SPRINGS			9S 9E 19CAA	PARK
MGEOT132	VIGILANTE WARM SPRING			9S 3W 22 BDDD	MADISON
MGEOT041	LA DUKE HOT SPRINGS		1.0	8S 8E 32 CDBA	PARK
MGEOT012	BROWNS SPRINGS			8S 9W 30DCB	BEAVERHEAD
MGEOT010	PULLER HOT SPRINGS			8S 5W 1AACC	MADISON
MGEOT019	TRUDAU SPRINGS			7S 4W 7DCAD	MADISON
MGEOT040	CHICO HOT SPRINGS		0.6	6S 8E 1CDDC	PARK
MGEOT032	GROUNDWATER*4.7 MI NE FT SMITH MT			5S 31E 35 CCC2	BIG HORN
MGEOT074	BROWN CATTLE CO* 3.1 MI N BIRNEY MT				ROSEBUD
MGEOT276	JARDINE HOT SPRINGS 0.25 MI E OF JACKSON	290.0		5S 15W 25 CBAA	BEAVERHEAD
MGEOT289	MBMG GEOTHERMAL TEST * THEXTON TX-12	230.0		5S 1W 28 DCA	MADISON
MGEOT028	JACKSON HOT SPRINGS		0.6	5S 15W 25CBBB	BEAVERHEAD
MGEOT293	PRIVATE GEOTHERMAL TEST*ENNIS HOT SPRINGS*	220.0		5S 1W 28 DBAA	MADISON
MGEOT277	LAPHAM DOMESTIC WELL 1 MI NW JACKSON, MT.	230.0		5S 15W 23 CABA	BEAVERHEAD
MGEOT117	ENNIS HOT SPRINGS			5S 1W 21 BB	MADISON
MGEOT058	BROWN CATTLE CO * 9.5MI SW BIRNEY DAY SCH.			5S 42E 22 DBBC	ROSEBUD
MGEOT031	BEAVERHEAD ROCK SPRINGS			5S 7W 22ABBD	MADISON
MGEOT133	APEX WARM SPRING			5S 9W 11 AADADD	BEAVERHEAD
MGEOT323	ELKHORN HOT SPRINGS		0.9	4S 12W 29ACAD	BEAVERHEAD
MGEOT292	MARTIN, KIETH	6.0			SWEET GRASS
MGEOT326	NEW BILTMORE HOT SPRINGS		1.1	4S 7W 28BDA	MADISON
MGEOT308	NEWMAN, JOHN * JOLIET, MT			4S 22E 23 CCDB	CARBON
MGEOT280	ANDERSON SPRING	-2.0		3S 13E 29ABA	SWEET GRASS
MGEOT006	ANDERSON'S SPRING			3S 13E 29ABAB	SWEET GRASS
MGEOT043	NORRIS HOT SPRINGS			3S 1W 14DAB	MADISON
MGEOT015	POTOSI HOT SPRINGS		0.5	3S 2W 6CACC	MADISON
MGEOT187	GROSS, PETE * 4 MI S PONY MT	56.0		3S 2W 6 CBDD	MADISON
MGEOT311	MCFERRAN, EUGENE * BILLINGS, MT			3S 27E 4 BCDD	YELLOWSTONE
MGEOT179	CARTER'S BRIDGE * 4 MI SE LIVINGSTON MT.	30.0			PARK
MGEOT011	AVON WARM SPRING			10N 8W 24BBC	POWELL
MGEOT264	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	38.0		2S 04E 14 DAD	GALLATIN
MGEOT266	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	38.0		02S 04E 14 DAD	GALLATIN
MGEOT265	BOZEMAN HOT SPRINGS * OLD WELL	38.0		2S 4E 14 DAD	GALLATIN
MGEOT263	BOZEMAN HOT SPRINGS * ORIGINAL SPRING	37.0		2S 4E 14 DAD	GALLATIN
MGEOT335	BOZEMAN HOT SPRINGS			2S 4E 14DDBAA	GALLATIN
MGEOT269	RANCA * MCLEOD	110.0			SWEET GRASS
MGEOT259	SCOTT FEED LOT	65.0		2S 13E 15 BCB	YELLOWSTONE
MGEOT260	SCOTT FEED LOT	74.0		2S 13E 15 BC	YELLOWSTONE
MGEOT230	BLUE JOINT CREEK HOT SPRING			2S 23W 1ABB	RAVALLI
MGEOT002	BRIDGER CANYON WARM SPRING			1S 6E 34BCDD	GALLATIN
MGEOT334	LOVE,MELVIN*THREE FORKS, MT	110.0		1S 2E 29 AAC	GALLATIN
MGEOT033	GROUNDWATER*5.3 MI W HARDIN MT			1S 32E 23 BD	BIG HORN
MGEOT332	SHIPTON, HAROLD * THREE FORKS MT	130.0		1S 2E 21 DBDB	GALLATIN
MGEOT258	HERMAN, T.E. * ROCKY RANCH 7.4 M W HARDIN	280.0		1S 32E 14 CCDD	BIG HORN
MGEOT344	GALLOGLY HOT SPRING			1S 19W 15BCCCA	RAVALLI
MGEOT245	LOST TRAIL * WARM AND HOT SPRINGS	90.0		1S 19W 15 BCC	RAVALLI
MGEOT089	CAIN MIKE*6 MI S VOLBERG				CUSTER
MGEOT018	HUNTERS HOT SPRINGS		5.3	1S 12E 9CCAD	PARK
MGEOT328	JORGENSEN, JACK * THREE FORKS MT			1S 2E 03 DCC	GALLATIN
MGEOT346	RENOVA HOT SPRINGS			01N 4W 32DBC	JEFFERSON
MGEOT339	WESTMORELAND * 9.1 M W SARPY SCHOOL	309.0			TREASURE
MGEOT095	LISCOM RANCH * 5.5 MI NW OF N STACY SCHOOL			01N 46E 26 ABCB	CUSTER
MGEOT331	TINDER, L MARIE * THREE FORKS MT	160.0		01N 02E 22 CABD	GALLATIN
MGEOT327	WILCOX, RALPH * THREE FORKS MT			01N 02E 22 CA	GALLATIN
MGEOT333	RICHARDSON, DEIRDRE * THREE FORKS	190.0		01N 02E 22 ABBB	GALLATIN
MGEOT347	MEDICINE HOT SPRINGS		0.6	01N 20W 12CCA	RAVALLI
MGEOT092	WESTERN ENERGY * 2 MI N COLSTRIP MT.	600.0		02N 41E 34 BADC	ROSEBUD
MGEOT020	PIPESTONE HOT SPRINGS		2.3	2N 5W 28BDDD	JEFFERSON
MGEOT082	FRED WETSTEON SPRING DEVELOP			02N 17W 19 ABB	RAVALLI
MGEOT330	HART, FRANK * THREE FORKS, MT			02N 02E 17 DDCC	GALLATIN
MGEOT063	ANADARKO PROD*6 MI E FOSTER MT			02N 34E 2 CACD	BIG HORN
MGEOT053	UN-NAMED SPRING * 29 M NE OF FOSTER MT				BIGHORN
MGEOT128	COWAN SPRING*9MI NW THREE FORKS MT	-10.0		02N 01W 04 AAAD	JEFFERSON
MGEOT178	WOLF CREEK HOT SPRING	70.0		10S 01E 9 BBBB	MADISON
MGEOT343	WILLIAMSBURG SPRING	12.0		03N 08W 23 CDBD	SILVER BOW
MGEOT030	OIL WELL (TENSLEEP FORMATION)				STILLWATER
MGEOT341	MONTANA RESOURCES MONITORING WELL C	13.0		03N 07W 17 DAD	SILVER BOW
MGEOT342	MONTANA RESOURCES MONITORING WELL D2	33.0		03N 07W 17 AAC	SILVER BOW

MGEOT DATABASE

ID	Site name	Lithium ug/l	H? d? S	Location	County
MGEOT055	HOWARD SPRING * 25 M SE OF BIGHORN MT				TREASURE
MGEOT246	WENDT, FRED * .75 MI S GREGSON (FAIRMONT)	39.0		03N 10W 11 BABD	SILVER BOW
MGEOT298	MBMG RESEARCH WELL * FAIRMONT HOT SPRINGS	600.0		03N 10W 02 CAD	SILVER BOW
MGEOT165	NELSON, HARVEY * 5 MI S BROADVIEW MT	110.0		03N 23E 4 CBBC	YELLOWSTONE
MGEOT061	BRADBROOK * 10 M S BROADVIEW MT	960.0			STILLWATER
MGEOT279	FAIRMONT HOT SPRINGS, ANACONDA	650.0		3N 10W 2BDCA	SILVER BOW
MGEOT247	SPANGLER, HAZEL * 2 MI E-NE GREGSON MT	28.0		04N 09W 31 CDAC	SILVER BOW
MGEOT214	HUNSAKER SPRING	19.0		4N 2E 32DBOB	BROADWATER
MGEOT150	MONT. HIGHWAY DEPT * .75 MI SE WACO MT.	110.0		04N 32E 35 BABA	YELLOWSTONE
MGEOT213	PLUNKET LAKE WARM SPRINGS	32.0		4N 1E 27AA	BROADWATER
MGEOT237	SPRINGS FROM JOINTS IN MISS CYN'SW PLUNKET	20.0		04N 01E 27 ABDD	BROADWATER
MGEOT151	MONTANA DEPT HIGHWAYS * 2.5 MI NE WACO MT	60.0			YELLOWSTONE
MGEOT216	HUNSAKER, MAURICE	25.0		4N 2E 18ACAC	BROADWATER
MGEOT135	ANACONDA RED TRAVETINE MOUND-GEYSER			04N 11W 13 AADA	DEER LODGE
MGEOT325	SLEEPING CHILD HOT SPRINGS		1.0	4N 19W 7DCDD	RAVALLI
MGEOT236	BRUCE, N * IRRIGATION WELL WITH BOOSTER	20.0		04N 01E 10 BCBB	BROADWATER
MGEOT294	TOSTON WARM SPRING	39.0		04N 03E 06 DAD	BROADWATER
MGEOT218	TOSTON WARM SPRING	47.0		04N 03E 06 DAD	BROADWATER
MGEOT217	BRUCE, NORMAN	70.0		4N 1E 4ADDC	BROADWATER
MGEOT215	KIMPTON SPRING	5.0			BROADWATER
MGEOT134	WARNER WARM SPRING			05N 01E 22 DBB	BROADWATER
MGEOT172	STEELE, WILLIAM * 12.5 MI SE PINEVIEW MT.	70.0		05N 32E 20 AAAC	YELLOWSTONE
MGEOT284	MBMG TEST WELL*WARM SPRINGS STATE HOSPITAL	370.0		05N 10W 24 ABAD	DEER LODGE
MGEOT009	WARM SPRINGS		0.7	5N 1E 22 DBBC	DEER LODGE
MGEOT233	WARM SPRINGS STATE HOSPITAL	430.0		5N 10W 24ABBD	DEER LODGE
MGEOT231	WARM SPRINGS STATE HOSPITAL	450.0		5N 10W 24A	DEER LODGE
MGEOT349	BOULDER HOT SPRINGS - UPPER SPRING	0.2		05N 04W 10CBA	JEFFERSON
MGEOT351	BOULDER HOT SPRINGS - LOWER SPRING	0.2		05N 04W 10CBA	JEFFERSON
MGEOT350	BOULDER HOT SPRINGS - MIDDLE SPRING	0.2		05N 04W 10CBA	JEFFERSON
MGEOT232	WARM SPRINGS STATE HOSPITAL * SPRING	400.0		05N 10W 24 ABBD	DEER LODGE
MGEOT185	M-B NO. 12 * 5 MI NE HAMILTON MT	10.0		06N 20W 14 BBBB	RAVALLI
MGEOT171	GRIERSON, J.B. * 2.5 MI NE RANCHERS CEMETARY.	140.0		06N 35E 07 BAAC	TREASURE
MGEOT130	PRISON RANCH SPRING SITE NO. 4	70.0		07N 10W 29 BC	POWELL
MGEOT113	DEER LODGE PRISON RANCH WELL				POWELL
MGEOT044	BEDFORD SPRINGS			7N 1E 23BAAD	BROADWATER
MGEOT101	GRIERSON, J.B. * 23 MI NW HYSHAM MT	70.0		07N 33E 06 DBD	TREASURE
MGEOT275	MBMG RESEARCH WELL * WEED CREEK-1B	60.0			YELLOWSTONE
MGEOT274	MBMG RESEARCH WELL * WEED CREEK-1A	53.0			YELLOWSTONE
MGEOT255	HANSER, BILL * 3 MI SW TWO DOT MT	98.0		08N 13E 31 AACC	WHEATLAND
MGEOT256	FOX INC * 1.5 MI W-SW TWO DOT	55.0		08N 13E 28 CADD	WHEATLAND
MGEOT257	HOMER, RAY * TWO DOT WATER SUPPLY	52.0		08N 13E 27 ADAD	WHEATLAND
MGEOT296	HARLOWTON * SOUTH MUNICIPAL WELL	16.0		08N 15E 22 CDDA	WHEATLAND
MGEOT013	HILLBROOK FLOWING WELL				JEFFERSON
MGEOT014	WALLS HOT SPRING				JEFFERSON
MGEOT001	ALHAMBRA HOT SPRINGS NORTH			8N 3W 16ACAA	JEFFERSON
MGEOT278	TOWNSEND, HERB * 2.5 MI SW WHITE SULPHUR SPGS	-2.0		09N 06E 26 DCC	MEAGHER
MGEOT290	RALPH JOHNSON, P.O. BOX 65, WHITE SULPHUR SPR	2020.0		09N 06E 13 ADAA	MEAGHER
MGEOT004	WHITE SULPHUR SPRINGS		0.7	9N 7E 18BB	MEAGHER
MGEOT282	WHITE SULPHUR SPRINGS BANK WELL	1150.0		09N 06E 13 AAAA	MEAGHER
MGEOT188	WATTS, JAMES * 16 MI NE KINSEY MT	29.0		09N 48E 04 BBBA	CUSTER
MGEOT184	M-B NO 8 WELL * 2.5 MI SE CORVALLIS MT	50.0		09N 19W 6 BAAC	RAVALLI
MGEOT007	BROADWATER HOT SPRINGS WELL			10N 4W 28ACA	LEWIS AND CLARK
MGEOT008	GLOEGE WELL			10N 4W 28AC	LEWIS AND CLARK
MGEOT003	GARRISON WARM SPRINGS			10N 9W 19ACB	POWELL
MGEOT337	CHADWICK, GREG			10N 03W 16 CDDD	LEWIS AND CLARK
MGEOT208	USGS OBS WELL * 4 MI SW EAST HELENA, MT.	13.0		10N 03W 16 CCDD	LEWIS AND CLARK
MGEOT336	MUELLER BUZZ			10N 04W 10 CCC	LEWIS AND CLARK
MGEOT242	FLORENCE TEST WELL A	17.0		10N 20W 12BBBA	RAVALLI
MGEOT329	SIVORTE MYSSE * BOX 315 * INGOMAR MT 59039	140.0		11N 36E 28 BAC	ROSEBUD
MGEOT167	CHERRY CK SHEEP CO * 1.35MI SE HAGEN RANCH.	180.0		11N 36E 28 BAC	ROSEBUD
MGEOT261	MOORE, THOMAS * 6.5 MI SW ANGELA MT	1880.0		11N 43E 21 CDCA	ROSEBUD
MGEOT322	BYRNE WARM SPRING * WEST OF BEARMOUTH	30.0		11N 15W 14 CAC	GRANITE
MGEOT116	NIMROD SPRINGS			11N 15W 14CDA	GRANITE
MGEOT026	BEARMOUTH SPRINGS			11N 14W 12CD	GRANITE
MGEOT338	GARRICK GALEN			11N 04W 12 CDD	LEWIS AND CLARK
MGEOT345	LOLO HOT SPRINGS		0.5	11N 23W 7ADCC	MISSOULA
MGEOT069	MARYSVILLE DEEP WELL DEPTH 5750	2000.0		12N 06W 32 ABDC	LEWIS AND CLARK
MGEOT170	CHERRY CREEK SHEEP CO * 26 MI N VANANDA MT			12N 38E 27 AD	ROSEBUD
MGEOT162	OLSEN, JONAS * 9 MI NW FLATWILLOW MT.	200.0		13N 25E 09 CD	PETROLEUM
MGEOT201	OLSEN JONAS * 14 MI NE N-BAR RANCH	126.0		13N 24E 12 DDA	FERGUS
MGEOT164	REYNOLDS, KEITH * 6 MI NE FLATWILLOW MT.	310.0		13N 26E 01 DA	PETROLEUM
MGEOT163	HILL, FLOYD * 7 MI N FLATWILLOW MT.	330.0		14N 26E 35 AD	PETROLEUM
MGEOT180	M-B 4 (BUTLER CK) * 6 MI NW MISSOULA MT	30.0		14N 20W 24 ADBC	MISSOULA
MGEOT254	KING, JOE & SONS INC. * 5 MI SSW WINNET MT	290.0		14N 26E 20 ABCC	PETROLEUM
MGEOT159	SHAW, BUD * 1.7 MI SW MOSBY MT.	200.0		14N 30E 09 DACD	PETROLEUM
MGEOT160	EAGER, REX * 2 MI SW WINNETT MT.	170.0		14N 26E 02 CAD	PETROLEUM
MGEOT161	BRATTON, WAYNE * 2 MI SE WINNETT MT.	230.0		14N 27E 05 DBB	PETROLEUM
MGEOT305	BURLY VISTA TRACTS	29.0		15N 19E 30 CCDD	FERGUS
MGEOT157	TEIGEN, PETER * 9 MI E GRASSRANGE MT.	220.0		15N 25E 30 BBC	PETROLEUM
MGEOT196	MATOVICH * 4.5 MI E GRASSRANGE MT	91.0		15N 24E 20 DBB	FERGUS
MGEOT181	HOLE NO 2 M-B DRILLING PROJECT	-10.0		15N 21W 17 DCCC	MISSOULA
MGEOT240	MSU AG EXPERIMENT STATION * MOCCASIN MT	33.0		15N 14E 16 DCDD	JUDITH BASIN
MGEOT155	BRADY, EARL * 4 MI NW WINNETT, MT	200.0			PETROLEUM
MGEOT203	GERDRUM, RONALD * 3 MI NE GRASS RANGE, MT.	115.0		15N 23E 14 BCA	FERGUS

MGEOT DATABASE

ID	Site name	Lithium ug/l	H? d2? S	Location	County
MGEOT152	CENEX*15 MI NE WINNETT MT	150.0			PETROLEUM
MGEOT158	BASSETT, EARL * 7.5 MI NW TEIGEN MT.	120.0		16N 24E 28 AAC	PETROLEUM
MGEOT059	HEDMAN, J. * 40 MI NE LEWISTOWN MT.			16N 25E 18 DDB	PETROLEUM
MGEOT156	HARRIS FLOYD * 11 MI NW TEIGEN MT	260.0		16N 24E 7 CC	PETROLEUM
MGEOT194	FOX, DENNIS * 7 MI NW GRASSRANGE MT	69.0		16N 22E 05 DDB	FERGUS
MGEOT239	LAURENCE HESS * 1 MI N MOCCASIN MT	63.0		17N 14E 28 DAAD	JUDITH BASIN
MGEOT204	DELANEY, DOUGLAS*7 MI NW (WILD HORSE UNIT)	123.0		17N 23E 25 ABB	FERGUS
MGEOT050	BROOKS WARM SPRING * 2.5 MI NW BROOKS MT.	20.0		17N 18E 19 DBDB	FERGUS
MGEOT195	DELANEY, DOUGLAS * 11 MI NW ROY MT	149.0		17N 23E 15 DBA	FERGUS
MGEOT154	MILLER RANCH * 14 MI SE VALENTINE MT.	290.0		17N 28E 09 DB	PETROLEUM
MGEOT045	CARDINAL PET CO * 10 M E HILGER MT			18N 20E 34 BCAC	FERGUS
MGEOT153	BUSENBARK, MERLIN*1 MI S VALENTINE MT*			18N 26E 29 AAA	PETROLEUM
MGEOT005	QUINN'S HOT SPRINGS			18N 25W 9CDADA	SANDERS
MGEOT268	QUINN'S HOT SPRINGS * JIM AND DONNA BROWN	-2.0		18N 25W 09 DCBB	SANDERS
MGEOT197	YEAGER * 8 MI EAST MOULTON, MT.	120.0		18N 20E 16 BBB	FERGUS
MGEOT079	FINLEY, R.S.*1 MI NW ST. IGNATIUS	-10.0		18N 20W 10 ADD	LAKE
MGEOT205	SIROKY, FRANK * 9 MI EAST ROY, MT.	28.0		18N 23E 10 ABA	FERGUS
MGEOT192	HORYNA, JAMES * 6 MI E ROY MT	54.0		18N 22E 01 AAC	FERGUS
MGEOT131	CORPS OF ENGINEERS SOUTH WELL AFTER PERFS	150.0		19N 21W 31 DAB	LAKE
MGEOT090	BRYSON, HAROLD*1 MI W MOIESE MT			19N 21W 28 CCA	LAKE
MGEOT070	YARGER, ROBERT * 13 MI W CIRCLE MT				MCCONE
MGEOT287	SAND COULEE WTR USERS BENCH W ABV SAND COU	42.0		19N 04E 14 DADA	CASCADE
MGEOT193	TAYLOR, JAMES * 8 MI E CHRISTINA MT	55.0		19N 20E 23 BCB	FERGUS
MGEOT288	CHARLES ENTSMINGER*TOWN OF NUMBER SEVEN	16.0		19N 04E 13 AADD	CASCADE
MGEOT295	CUSTER, EVERETT* EDEN RT, GREAT FALLS, MT	67.0			CASCADE
MGEOT297	TOWN OF TRACY	19.0		19N 05E 07 CBBD1	CASCADE
MGEOT054	SLCGSVOLD, A. K. * 17 M SE RITCHEY MT				DAWSON
MGEOT211	GOVER * 2.5 MI TRAVIS SCHOOL	70.0		19N 02E 5 ACBC	CASCADE
MGEOT200	VILLAGE INN * 2.5 MI NE TRAVIS SCHOOL	221.0		19N 02E 5 ABAA	CASCADE
MGEOT299	STONE, GENE	12.0		19N 24W 04 AADB	SANDERS
MGEOT062	WEBB RES * 17.5 MI SE GERALDINE MT.			20N 11E 35 BCDA	CHOUTEAU
MGEOT353	HOLLAND, JIM - GREEN SPRINGS			21N 24W 04ADB	SANDERS
MGEOT248	GREEN SPRINGS * HOLLAND RANCH				SANDERS
MGEOT191	TACKE, ROBERT * 2 MI SW GREAT FALLS MT	300.0		20N 03E 27 BCBB	CASCADE
MGEOT198	PAUL, MICHAEL(ROBINSON)*3.5M SW GREATFALLS	277.0		20N 03E 28 AACD	CASCADE
MGEOT318	BUTTE CREEK SPRING * SQUARE BUTTE	5.0		20N 12E 27 BBAC	CHOUTEAU
MGEOT319	BUTTE CREEK SPRING - NORTH * SQUARE BUTTE	4.0		20N 12E 27 BBAC	CHOUTEAU
MGEOT169	CHAMBERLAIN, CURTIS * 2 MI W LLER SCHOOL.			20N 33E 26 BA	GARFIELD
MGEOT321	MELTON, LARUE * LOWER AQUIFER	-2.0		20N 22W 28 ABCB	SANDERS
MGEOT314	USGS - MELTON, LEON	12.0		20N 22W 21 CBDA	SANDERS
MGEOT238	SCHMIDT, LLOYD * 3.5 MI SE SQUARE BUTTE	100.0		20N 12E 13 BCDB	CHOUTEAU
MGEOT190	USGS OBS WELL * .5 MI S VALLEY SCHOOL	47.0		20N 54E 1 DCCD	DAWSON
MGEOT199	EIDEL * 5 MI S SUNSET MEMORIAL CEMETARY	251.0		20N 02E 3 BAAD	CASCADE
MGEOT078	WEBSTER, BONITA*BOX 443 RONAN MT	-10.0		21N 20W 33 AAA	LAKE
MGEOT099	DEMARS, TOM J. * 10 MI W OF WINIFRED MT.	110.0		21N 17E 30 BDDB	FERGUS
MGEOT249	HOMESTEAD ACRES COUNTY WATER DISTRICT	56.0		21N 03E 14 AABC	CASCADE
MGEOT250	HOMESTEAD ACRES COUNTY WATER DISTRICT	53.0		21N 03E 14 AABC	CASCADE
MGEOT241	MCCOLLUM, JIM * 10 MI NW MATHISON RANCH	35.0		21N 23E 13 CBDB	FERGUS
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	-10.0		21N 23W 14 ACB	SANDERS
MGEOT047	* RYFFEL BROS. * 3MI S & 3 MI E HIGHWOOD	20.0		21N 08E 11 CB	CHOUTEAU
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	20.0		21N 23W 10 BDD	SANDERS
MGEOT307	HOT SPRINGS CITY	13.0		21N 24W 04 DBDA	SANDERS
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH			21N 24W 04 DBDA	SANDERS
MGEOT228	LEISTNER, LAURA * CENTRAL AVE, HOT SPRINGS	18.0		21N 24W 04 DABD	SANDERS
MGEOT291	SOUTH EAST OF CAMP AQUA	51.0		21N 24W 03 BBB	SANDERS
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS			21N 24W 03 BBB	SANDERS
MGEOT080	HOT SPRINGS MONTANA				SANDERS
MGEOT017	CAMAS HOT SPRINGS		7.4	21N 24W 3BBDB	SANDERS
MGEOT352	SYMES HOTEL WELL	0.0		21N 24W 04ADB	SANDERS
MGEOT029	SYMES HOT SPRINGS WELL			21N 24W 4ADCA	SANDERS
MGEOT081	HOT SPRING GEOTHERM WELL - UNNAMED				SANDERS
MGEOT355	KOEPLING, DELBERT * WELL 138	0.0		22N 24W 13DADD	SANDERS
MGEOT354	OSTRANGER, DAVE * WELL 56	-0.0		22N 23W 17BBC	SANDERS
MGEOT077	VERNER, ROSE*3.75 MI W PABLO MT	-10.0		22N 20W 31 CDD	LAKE
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	30.0		22N 24W 36 BBB	SANDERS
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	61.0		22N 23W 33 BABB	LAKE
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	20.0			LAKE
MGEOT042	SUN RIVER SPRINGS			22N 10W 26CAB	LEWIS AND CLARK
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	73.0		22N 23W 29 DADD	SANDERS
MGEOT226	KOPP, ARVID * 25 MI S CAMPAQUA MT	58.0		22N 23W 29 CACA	LAKE
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	80.0		22N 23W 28 CBDB	LAKE
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	78.0		22N 23W 29 ACAB	LAKE
MGEOT027	CAMP AQUA AREA TEST WELL			22N 23W 29 AC	LAKE
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	59.0		22N 23W 29 BADD	LAKE
MGEOT202	OLSEN, EDWIN * 8.4 MI NE WINIFRED MT	126.0		22N 19E 32 ABBC	FERGUS
MGEOT251	SMELSER, JAMES A. * POWER MT	450.0		22N 01E 22 DDAC	CASCADE
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	80.0		22N 23W 29 AADB	LAKE
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	81.0		22N 23W 29 BAAC	LAKE
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	74.0		22N 23W 20 DCDB	LAKE
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	100.0		22N 23W 20 CDBC	LAKE
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT				SANDERS
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	80.0			SANDERS
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	65.0		22N 23W 18 DDAD	SANDERS
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	40.0			SANDERS

MGEOT DATABASE

ID	Site name	Lithium ug/l	H? d2? S	Location	County
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	24.0		22N 23W 18 BBBB	SANDERS
MGEOT149	MATOVICH,JOHN * 23 MI SW SUN PRAIRIE MT	110.0			PETROLEUM
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	-8.0		22N 24W 10 ABAB	SANDERS
MGEOT075	LONEPINE OBSERVATION WELL	-10.0			SANDERS
MGEOT110	STREIT, GEORGE * 4MI E-1MI S FT BENTON MT.			24N 09E 28 DDAA	CHOUTEAU
MGEOT243	WHITMAYER ASSOC * 4.5MI SE SUN PRAIRIE SCH	170.0		24N 32E 29 AAAC	VALLEY
MGEOT109	CLARK, BRAD * 25 MI E FT. BENTON MT.			24N 12E 22 AAAD	CHOUTEAU
MGEOT114	LANDUSKY PLUNGE SPRINGS			24N 24E 12CDDA	BLAINE
MGEOT072	LANDUSKY, P*8.5 MI S HAYS, MONTANA			25N 24E 32 DBAD	PHILLIPS
MGEOT046	BLACK COULEE * E OF TEST AREA	2100.0			CHOUTEAU
MGEOT313	ALZHEIMER, PAUL * SW OF BRADY, MT			25N 03W 24 BBCB	TETON
MGEOT312	REVERE, LEE			25N 03W 14 BAAB	TETON
MGEOT049	LITTLE WARM SPRINGS*9 MI SE LODGE POLE	140.0			BLAINE
MGEOT324	LODGEPOLE WARM SPRINGS			26N 25E 24CABD	BLAINE
MGEOT048	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	140.0		26N 25E 24 BCD	BLAINE
MGEOT051	BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT			26N 25E 24 BCD	BLAINE
MGEOT052	KIRKALDIE, BRUCE*7 MI SW LODGEPOLE MT			26N 25E 24 BDBC	BLAINE
MGEOT037	LARGE CAPACITY WELL*4 MI SW WOLF POINT, MT			26N 46E 02 DCD	ROOSEVELT
MGEOT024	CITY OF WOLF POINT * WELL IN WOLF POINT			27N 47E 22 BBBB	ROOSEVELT
MGEOT023	SHERMAN HOTEL OF WOLF POINT			27N 47E 15 BDCA	ROOSEVELT
MGEOT038	USGS TEST WELL * 1 MILE SOUTH POPLAR, MT				ROOSEVELT
MGEOT025	FOSS ELMER * 5.8 MI SE BROCTON			27N 54E 07 BACA	RICHLAND
MGEOT317	LANDTECH WATER DISPOSAL SERVICE	96.0			RICHLAND
MGEOT315	THORNESS, RICK * 4 MILES NW OF BAINVILLE	65.0			ROOSEVELT
MGEOT108	CLAWITER, MILT * 4MI N-4MI E BIG SANDY MT.	70.0		29N 13E 34 ABCB	CHOUTEAU
MGEOT303	SIMS SPRING				ROOSEVELT
MGEOT140	TEXACO INC * 1.7 MI NW CENTRAL SCHOOL.	300.0		32N 19E 36 CDCA	BLAINE
MGEOT252	MATOVAICH, MARTIN*17 MI E MALTA NEAR SACO	260.0		32N 32E 35 DCBC	PHILLIPS
MGEOT111	SLEEPING BUF REC AREA * 4MI NNW ASHFIELD			32N 32E 35 CDB	PHILLIPS
MGEOT145	SHIRLE, WALTER * 3 MI S FRESNO DAM.	160.0		32N 14E 04 CCBC	HILL
MGEOT106	PIMLEY, DON * 4 MI NW JOPLIN MT.			33N 07E 21 DADC	LIBERTY
MGEOT105	CADY, ELWIN * 7.5 MI NW JOPLIN MT.			34N 07E 27 DAAB	LIBERTY
MGEOT309	FRANCIS, CLARA	130.0			SHERIDAN
MGEOT107	WELSH, ORVILLE * 13 MI N-3MI E HINGHAM MT.			35N 11E 31 DCCC	HILL
MGEOT310	EDWARDS, MARVIN / MIKE DUSTERHOFF	76.0		35N 07W 24 DCDD	GLACIER
MGEOT039	BIG WEST OIL CO * 2 MI NE MTN VIEW SCHOOL				TOOLE
MGEOT104	RYGH, KEN * 22 MI N - 5 MI W JOPLIN MT.			36N 06E 13 ADDD	LIBERTY
MGEOT142	BRADBURY, ALFRED * 11 MI E WILD HORSE MT	160.0			HILL
MGEOT144	NAGEHUS, ORVILLE * 3 MI N SIMPSON MT.	80.0		37N 12E 18 BBDD	HILL

MGEOT DATABASE

ID	Site name	Reference	Type	Flow (l/min)	Latitude	Longitude	Temp (deg c)	Status/use	SWL (M)	Sample Depth (M)
MGEOT017	CAMAS HOT SPRINGS	Mariner et.al. 1976	SPRING	200.0	47.6155	114.66633	45			
MGEOT029	SYMES HOT SPRINGS WELL	Sonderegger et.al. 1981	WELL	76.0	47.61633	114.67633	38			
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH	MBMG-GWIC	WELL		47.6063	114.6744	18.5	PUBLIC SUPPLY	2.74	
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS	MBMG-GWIC	SPRING		47.6147	114.6658	44	RECREATIONAL		
MGEOT075	LONEPINE OBSERVATION WELL	MBMG-GWIC	WELL		47.7141	114.6477	16.5	DOMESTIC	33.22	
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	MBMG-GWIC	WELL		47.5827	114.5063	21.5	UNUSED		
MGEOT080	HOT SPRINGS MONTANA	MBMG-GWIC	SPRING		47.6155	114.6477	43	RECREATIONAL		
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT	MBMG-GWIC	WELL	0.4	47.6516	114.5836	24	STOCK		
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	MBMG-GWIC	WELL		47.6297	114.6236	19.5	DOMESTIC		
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	MBMG-GWIC	WELL		47.6472	114.5761	34.4	DOMESTIC		
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	MBMG-GWIC	WELL		47.6536	114.5813	25.8	IRRIGATION		
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	MBMG-GWIC	WELL		47.6311	114.5813	15.2			
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	MBMG-GWIC	WELL	94.9	47.6619	114.5838	20.3	IRRIGATION		
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	MBMG-GWIC	WELL	40.0	47.6302	114.555	19	IRRIGATION		
MGEOT221	KEMP * 5 MI SE CAMPAQUA MT	MBMG-GWIC	WELL	30.0	47.6372	114.5611	28.8	IRRIGATION		
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	MBMG-GWIC	WELL		47.688	114.6538	16.6	DOMESTIC	22.86	
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	MBMG-GWIC	WELL		47.6736	114.6027	23.6	DOMESTIC	18.29	
MGEOT224	KEMP IRR WELL (RUNAWAY) * 5 MI N CAMPAQUA	MBMG-GWIC	WELL	40.0	47.6452	114.5688	32.5	IRRIGATION		
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	MBMG-GWIC	WELL	20.0	47.6433	114.5638	30.6	IRRIGATION		
MGEOT226	KOPP, ARVID * 25 MI S CAMPAQUA MT	MBMG-GWIC	WELL	10.0	47.6361	114.575	32.6	IRRIGATION		
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	MBMG-GWIC	WELL	94.8	47.6438	114.5741	38.9	IRRIGATION		
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	MBMG-GWIC	WELL	75.0	47.6422	114.5713	43.7	RESEARCH		
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	MBMG-GWIC	WELL	416.5	47.6411	114.57	51	INDUSTRIAL/COMM	1.83	
MGEOT027	CAMP AQUA AREA TEST WELL	Sonderegger et.al. 1981	WELL-FLOWING	1300.0	47.64217	114.57133	50	RESEARCH		
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	MBMG-GWIC	WELL		47.5952	114.5302	22.5	UNUSED	-0.01	
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	MBMG-GWIC	WELL	35.1	47.67	114.588	22.8	IRRIGATION		
MGEOT228	LEISTNER, LAURA * CENTRAL AVE.HOT SPRINGS	Sonderegger et.al. 1981	WELL	9.1	47.6075	114.6713	29.8	DOMESTIC		
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPQUA AREA	MBMG-GWIC	WELL	303.1	47.6347	114.5619	42.7	RESEARCH	-0.08	
MGEOT291	SOUTH EAST OF CAMP AQUA	MBMG-GWIC	WELL	10.1	47.6147	114.6655	51.5	RESEARCH		
MGEOT307	HOT SPRINGS CITY	MBMG-GWIC	WELL		47.6063	114.6736	21	PUBLIC SUPPLY		
MGEOT352	SYMES HOTEL WELL	MBMG/UURI	WELL		47.6163	114.6763	33.3	DOMESTIC		
MGEOT355	KOEPLING, DELBERT * WELL 138	MBMG/UURI	WELL		47.6170	114.6781	26.5	IRRIGATION		
MGEOT354	OSTRANGER, DAVE * WELL 56	MBMG/UURI	WELL		47.6171	114.6775	17.2	IRRIGATION		

MGEOT DATABASE

ID	Site name	Date	Chloride mg/l	Sulfate mg/l	Fluoride mg/l	Std dev balance	Lab ph	Sc mmohs	Tds mg/l	Hco3 mg/l	Alkalinity
MGEOT017	CAMAS HOT SPRINGS		9.0	38.0	5.6		9.40		399.00		189
MGEOT029	SYMES HOT SPRINGS WELL		9.0	40.0	5.8		9.80		367.00		158
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH	27 AUG 1975	2.2	12.1	1.6	-0.46	6.74	245.60	156.07	127.8	
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS	15 SEP 1975									
MGEOT075	LONEPINE OBSERVATION WELL	04 MAR 1976	6.3	12.2	0.9	-0.25	7.93	396.80	240.03	235.9	
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	04 MAR 1976	6.0	8.1	0.6	0.09	7.96	330.20	195.26	196.9	
MGEOT080	HOT SPRINGS MONTANA	19 APR 1976									
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT	02 JUL 1976	28.3	1.2	6.1	0.49	8.18	617.20	381.08	331.8	
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	17 AUG 1976	25.3	0.3	0.8	-0.78	7.51	471.80	283.29	264.5	
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	07 SEP 1978	23.1	2.1	4.6	-0.87	8.63	633.60	395.26	326.0	
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	06 SEP 1978	10.9	1.8	4.4	-0.21	9.16	470.60	338.76	280.0	
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	08 SEP 1978	2.4	14.0	5.4	-0.29	8.12	404.80	244.61	221.0	
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	02 DEC 1979	19.0	2.1	4.8	-0.89	8.48	537.00	345.30	287.0	
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	04 DEC 1979	27.0	1.4	4.3	-0.67	8.06	592.90	375.46	324.0	
MGEOT221	KEMP * 5 MI SE CAMPAQUA MT	05 DEC 1979	34.8	0.6	4.2	0.99	7.89	656.70	403.19	348.0	
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	06 DEC 1979	2.1	12.0	1.2	-0.69	7.89	289.70	174.80	164.0	
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	30 NOV 1979	7.8	5.8	3.4	-0.95	7.90	446.70	276.24	255.0	
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	02 DEC 1979	30.9	0.6	5.0	0.52	8.40	635.60	384.72	328.0	
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	02 DEC 1979	35.5	0.6	4.5	0.38	8.28	668.40	419.64	354.0	
MGEOT226	KOPP, ARVID * .25 MI S CAMPAQUA MT	29 NOV 1979	16.0	1.5	7.6	-0.98	8.71	472.40	304.15	237.0	
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	29 NOV 1979	31.3	1.3	7.8	-0.38	8.38	593.70	394.41	314.0	
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	18 DEC 1980	35.3	0.7	4.3	2.03	8.21	655.60	390.02	343.0	
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	04 JUN 1982	34.0	0.6	5.0	0.53	8.53	651.20	413.14	327.0	
MGEOT027	CAMP AQUA AREA TEST WELL		33.0	4.0	3.9		8.40		420.00		351
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	17 AUG 1976	17.5	8.6	3.5	0.56	7.83	622.30	374.62	366.9	
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	08 SEP 1978	2.2	6.9	3.2	-0.54	9.45	442.30	273.01	188.0	
MGEOT228	LEISTNER, LAURA * CENTRAL AVE.HOT SPRINGS	03 DEC 1979	7.8	21.2	5.2	-0.63	9.46	383.50	286.58	84.6	
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	15 JAN 1981	34.8	21.5	3.1	0.62	8.32	663.90	405.72	321.0	
MGEOT291	SOUTH EAST OF CAMP AQUA	19 AUG 1982	9.9	9.6	5.7	-0.59	9.34	381.80	270.89	109.3	
MGEOT307	HOT SPRINGS CITY	31 MAY 1984	3.1	10.7	0.2	0.76	7.99	253.60	172.15	149.3	
MGEOT352	SYMES HOTEL WELL	02 NOV 1993	11.0	30.0	5.6	-0.01	9.66	280.00	297.16		131
MGEOT355	KOEPLING, DELBERT * WELL 138	03 NOV 1993	10.0	5.1	3.4	0.04	8.23	266.00	275.02		236
MGEOT354	OSTRANGER, DAVE * WELL 56	03 NOV 1993	14.0	3.8	5.4	-0.07	8.05	312.00	290.91		278

MGEOT DATABASE

ID	Site name	Sample type	Calcium mg/l	Magnesium mg/l	Sodium mg/l	Potassium mg/l	Iron mg/l	Silica (sio2) mg/l	Arsenic ug/l	Boron ug/l
MGEOT017	CAMAS HOT SPRINGS		0.9	0.1	85.0	1.7		70.0		300.0
MGEOT029	SYMES HOT SPRINGS WELL		1.2	0.2	91.0	1.7		68.0		
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH		15.2	3.6	33.0	3.0	0.17	22.0		
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS		1.1	0.3	83.0	1.8	-0.01	58.0		
MGEOT075	LONEPINE OBSERVATION WELL	Dissolved	39.8	11.6	32.8	1.7	-0.01	18.2		
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	Dissolved	32.3	13.0	19.9	1.4	-0.01	16.2		
MGEOT080	HOT SPRINGS MONTANA		1.0	0.1	83.5	1.8	0.01	59.0		
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT		5.7	0.6	139.0	3.7	0.11	32.9		
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	Dissolved	37.0	11.9	46.0	3.9	5.80	21.9		
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	Dissolved	3.6	0.6	150.0	3.4	0.02	36.5	1.0	870.0
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	Dissolved	4.6	0.7	127.0	2.7	0.03	29.3	6.7	710.0
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	Dissolved	6.6	1.6	88.1	1.9	0.39	14.3	100.0	690.0
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	Dissolved	3.3	0.4	134.0	1.7	0.09	28.6	4.2	849.0
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	Dissolved	5.5	1.0	139.0	2.1	0.28	35.0	19.5	844.0
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	Dissolved	4.0	0.7	147.7	2.8	0.26	34.9	14.6	968.0
MGEOT222	GAIL, PATTON RANCH * 1 MI SW LONEPINE MT	Dissolved	28.4	7.8	23.6	2.2	0.30	15.9	7.0	91.0
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	Dissolved	5.7	0.7	105.0	1.3	0.17	19.5	27.7	511.0
MGEOT224	KEMP IRR WELL (RUNAWAY) * 5 MI N CAMPAQUA	Dissolved	4.4	0.4	142.0	2.1	0.12	36.6	3.3	885.0
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	Dissolved	3.3	0.4	154.4	2.6	0.13	43.6	5.6	934.0
MGEOT226	KOPP, ARVID * .25 MI S CAMPAQUA MT	Dissolved	2.1	0.3	117.0	1.5	0.22	32.4	2.4	914.0
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	Dissolved	4.8	1.0	144.0	2.8	0.65	41.4	0.7	910.0
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	Dissolved	12.6	2.4	127.0	3.3	0.11	35.3	0.8	550.0
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	Dissolved	2.9	0.2	152.0	3.1	-0.00	43.2	0.2	540.0
MGEOT027	CAMP AQUA AREA TEST WELL		3.2	0.3	152.0	4.0		42.2		640.0
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	Dissolved	20.0	9.4	113.0	3.5	0.02	17.5		
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	Dissolved	5.8	0.7	101.0	2.3	0.20	21.0	23.0	540.0
MGEOT228	LEISTNER, LAURA * CENTRAL AVE,HOT SPRINGS	Dissolved	0.9	-0.1	92.3	0.0	0.61	67.0	-1.0	460.0
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	Dissolved	15.5	2.8	129.0	3.8	0.16	36.8	2.6	500.0
MGEOT291	SOUTH EAST OF CAMP AQUA	Dissolved	0.6	-0.1	85.8	1.7	-0.00	69.6	-1.0	350.0
MGEOT307	HOT SPRINGS CITY	Dissolved	17.2	4.0	32.0	3.1	0.07	28.1		70.0
MGEOT352	SYMES HOTEL WELL	Dissolved	0.6	0.7	89.4	2.2	-0.02	73.1	-0.5	0.2
MGEOT355	KOEPLING, DELBERT * WELL 138	Dissolved	4.5	-0.2	95.6	2.9	0.06	36.6	-0.5	0.4
MGEOT354	OSTRANGER, DAVE * WELL 56	Dissolved	5.5	2.5	109.3	-0.6	0.39	13.0	-0.5	0.3

MGEOT DATABASE

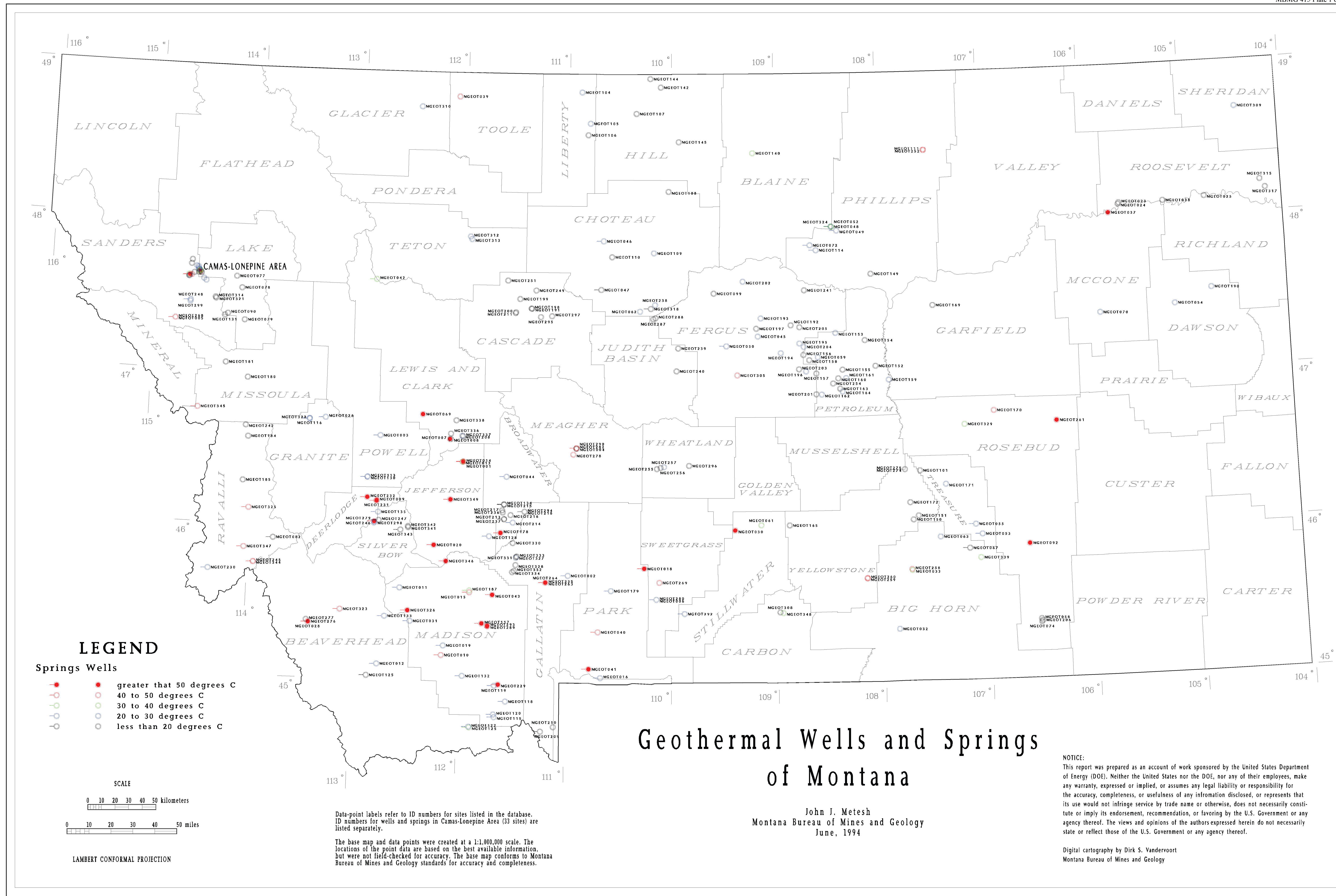
ID	Site name	Lithium ug/l	H? d2? S	Location	County
MGEOT017	CAMAS HOT SPRINGS		7.4	21N 24W 3BDB	SANDERS
MGEOT029	SYMES HOT SPRINGS WELL			21N 24W 4ADCA	SANDERS
MGEOT068	TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH			21N 24W 04 DBDA	SANDERS
MGEOT071	CORN HOLE* CAMAS HOT SPRINGS			21N 24W 03 BBB	SANDERS
MGEOT075	LONEPINE OBSERVATION WELL	-10.0			SANDERS
MGEOT076	CARR, FRANK*BOX 456 HOT SPRINGS MT	-10.0		21N 23W 14 ACB	SANDERS
MGEOT080	HOT SPRINGS MONTANA				SANDERS
MGEOT091	KEMP, ANNA* 5 MI N HOT SPRINGS, MT				SANDERS
MGEOT098	IRRIGATION EQUIPMENT SALES*HOT SPRINGS	30.0		22N 24W 36 BBB	SANDERS
MGEOT173	KEMP, ANNA * HOT SPRINGS, MT *	100.0		22N 23W 20 CDBC	LAKE
MGEOT174	HUGHES, RAY * HOT SPRINGS, MT	80.0			SANDERS
MGEOT176	KOPP, ARVID * HOT SPRINGS, MT	20.0			LAKE
MGEOT219	BAXTER, C * 1.5 MI N CAMPAQUA MT	65.0		22N 23W 18 DDAD	SANDERS
MGEOT220	JACOBSEN, R * HOT SPRINGS MT	61.0		22N 23W 33 BABB	LAKE
MGEOT221	KEMP * .5 MI SE CAMPAQUA MT	80.0		22N 23W 28 CBBB	LAKE
MGEOT222	GAIL PATTON RANCH * 1 MI SW LONEPINE MT	-8.0		22N 24W 10 ABAB	SANDERS
MGEOT223	LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	24.0		22N 23W 18 BBBB	SANDERS
MGEOT224	KEMP IRR WELL (RUNAWAY) * .5 MI N CAMPAQUA	74.0		22N 23W 20 DCDB	LAKE
MGEOT225	KEMP * 0.3 MI E CAMPAQUA MT	80.0		22N 23W 29 AADB	LAKE
MGEOT226	KOPP, ARVID * 25 MI S CAMPAQUA MT	58.0		22N 23W 29 CACA	LAKE
MGEOT227	KEMP * .25 MI N CAMPAQUA MT	81.0		22N 23W 29 BAAC	LAKE
MGEOT262	MBMG GEO. TEST WELL #1 * CAMPAQUA AREA	59.0		22N 23W 29 BADD	LAKE
MGEOT286	JACKOLA AP.100 FT E. OF CAMP AQUA BATH SPA	78.0		22N 23W 29 ACAB	LAKE
MGEOT027	CAMP AQUA AREA TEST WELL			22N 23W 29 AC	LAKE
MGEOT097	CHRISTIANSON, BOB*HOT SPRINGS MT.	20.0		21N 23W 10 BDD	SANDERS
MGEOT175	BAXTER, CHARLES * HOT SPRINGS, MT	40.0			SANDERS
MGEOT228	LEISTNER, LAURA * CENTRAL AVE.HOT SPRINGS	18.0		21N 24W 04 DABD	SANDERS
MGEOT267	MBMG GEOTHERMAL TEST WELL #1*CAMPAQUA AREA	73.0		22N 23W 29 DADD	SANDERS
MGEOT291	SOUTH EAST OF CAMP AQUA	51.0		21N 24W 03 BBB	SANDERS
MGEOT307	HOT SPRINGS CITY	13.0		21N 24W 04 DBDA	SANDERS
MGEOT352	SYMES HOTEL WELL	0.0		21N 24W 04ADB	SANDERS
MGEOT355	KOEPLING, DELBERT * WELL 138	0.0		22N 24W 13DADD	SANDERS
MGEOT354	OSTRANGER, DAVE * WELL 56	-0.0		22N 23W 17BBC	SANDERS

Site name	Surface Temp	Na-K-Ca (B=4/3)	Na-K-Ca (B=1/3)	Log(sqrt(Ca/Na))	Temperature Corrected	R Coefficient	Delta T (Mg Corr.)	Na-K-Ca Corrected	Na-K-Ca Uncorrected	Quartz (no steam)	Quartz (steam loss)	Chalcedony	a-Cristobalite	B-Cristobalite	Amorphous Silica	Published Estimates	
MGEOT209	TARGHEE SULPHUR SPRING*6MI W W YELLOWSTONE	18.0	25.14	213.95	2.14	25.14	37.62	-61.25	25.1	213.9	51.5	58.3	19.1			18	
MGEOT127	LOWER EAST SPRING-STAUDENMEYER RANCH	28.0	50.56	190.06	1.53	50.56	36.10	-20.25	50.6	190.1	69.3	74.1	37.4				
MGEOT125	LOWER WEST SPRING-STAUDENMEYER RANCH	31.0	52.05	190.72	1.51	52.05	35.49	-18.99	52.1	190.7	66.0	71.2	34.0				
MGEOT124	UPPER WEST SPRING-STAUDENMEYER RANCH	29.0	50.11	188.52	1.53	50.11	35.89	-21.38	50.1	188.5	64.9	70.3	32.9				
MGEOT177	UPPER WEST SPRING-STAUDENMEYER RANCH	28.8	48.53	187.46	1.54	48.53	36.79	-22.28	48.5	187.5	64.9	70.3	32.9				
MGEOT123	UPPERMOST SPRING-STAUDENMEYER RANCH	28.0	47.70	188.17	1.56	47.70	36.27	-24.62	47.7	188.2	63.6	69.1	31.6			45	
MGEOT126	UPPER-EAST SPRING-STAUDENMEYER RANCH	29.0	50.39	189.52	1.53	50.39	36.34	-20.08	50.4	189.5	68.3	73.2	36.4				
MGEOT121	ANDERSONS PASTURE SPRING #1	28.0	50.56	189.64	1.53	50.56	36.04	-20.37	50.6	189.6	66.0	71.2	34.0			45	
MGEOT122	ANDERSONS PASTURE SPRING #2	23.5	49.09	190.13	1.56	49.09	34.62	-25.49	49.1	190.1	65.3	70.6	33.3			45	
MGEOT210	USFS* BAKERS HOLE* 3MI N WEST YELLOWSTONE	16.0	91.96	183.40	0.90	91.96	40.09	48.22	43.7	183.4	125.0	122.4	97.1	74.4	26.4	6.1	45
MGEOT115	SLOAN COW CAMP SPRING	29.5	93.08	100.79	0.09	93.08	10.12	-19.50	93.1	100.8	102.6	103.3	72.8	52.2			85
MGEOT120	WEST FORK SWIMMING HOLE	25.5	22.90	191.44	2.02	22.90	70.54	-12.10	22.9	191.4	49.8	56.8	17.3			30	
MGEOT118	CURLWE CREEK WARM SPRING	23.0	33.96	112.31	1.09	33.96	14.05	-86.94	34.0	112.3	62.9	68.4	30.8				
MGEOT119	WALL CANYON WARM SPRING	24.0	120.82	126.06	0.05	126.06	22.46	50.23	75.8	126.1	93.5	95.4	63.0	43.3			
MGEOT229	WOLF CREEK HOT SPRING	60.0	63.55	101.42	0.49	63.55	20.56	-32.25	63.6	101.4	102.5	103.1	72.6	52.1			
MGEOT129	LOWELL HILDRETH SPRING*15 MI SW DILLON	19.6	33.21	160.79	1.58	33.21	33.43	-55.00	33.2	160.8	58.5	64.5	26.2	9.6			
MGEOT016	BEAR CREEK SPRINGS	24.0															
MGEOT132	VIGILANTE WARM SPRING	23.5	14.06	192.50	2.20	14.06	34.09	-89.48	14.1	192.5	54.1	60.6	21.7			30	
MGEOT041	LA DUKE HOT SPRINGS	65.0	74.46	161.74	0.95	74.46	22.38	-12.71	74.5	161.7	100.9	101.7	70.9			73	
MGEOT012	BROWNS SPRINGS	23.7															
MGEOT010	PULLER HOT SPRINGS	44.4	122.49	166.37	0.42	166.37	31.45	116.37	50.0	166.4	83.4	86.5	52.2			90	
MGEOT019	TRUDAU SPRINGS	22.7	68.70	177.23	1.16	68.70	37.15	10.00	58.7	177.2	61.5	67.2	29.4			45	
MGEOT040	CHICO HOT SPRINGS	42.0	63.04	182.95	1.29	63.04	27.38	-18.12	63.0	183.0	84.6	87.6	53.6			58	
MGEOT032	GROUNDWATER*4.7 MI NE FT SMITH MT	20.0	122.94	82.65	-0.47	82.65	46.42	45.21	37.4	82.6	39.3	47.3					
MGEOT074	BROWN CATTLE CO* 3.1 MI N. BIRNEY MT	15.5	93.67	78.14	-0.20	78.14	20.45	-12.29	78.1	78.1	39.6	47.6					
MGEOT276	JARDINE HOT SPRINGS 0.25 MI E OF JACKSON	60.0	121.03	142.13	0.21	142.13	25.23	75.24	66.9	142.1	101.2	102.0	71.2				
MGEOT289	MBMG GEOTHERMAL TEST * THEXTON TX-12	87.0	175.27	163.18	-0.10	163.18	2.48	-0.45	163.2	163.2	141.0	135.9	114.7	90.4			
MGEOT028	JACKSON HOT SPRINGS	58.0	129.49	148.01	0.18	148.01	28.74	91.06	148.0	103.6	104.1	73.9				125	
MGEOT293	PRIVATE GEOTHERMAL TEST*ENNIS HOT SPRINGS*	87.0	174.67	164.28	-0.09	164.28	2.54	0.01	164.3	164.3	141.5	136.4	115.3	90.9			
MGEOT277	LAPHAM DOMESTIC WELL 1 MI NW JACKSON, MT.	17.0	96.20	142.30	0.49	96.20	14.94	-4.51	96.2	142.3	55.7	62.1	23.4				
MGEOT117	ENNIS HOT SPRINGS	81.0															
MGEOT058	BROWN CATTLE CO * 9.5 MI SW BIRNEY DAY SCH.	16.5	92.50	80.39	-0.15	80.39	5.35	-30.60	80.4	80.4	38.3	46.4				129	
MGEOT031	BEAVERHEAD ROCK SPRINGS	27.0															
MGEOT133	APEX WARM SPRING	25.0	29.04	153.19	1.59	29.04	29.57	-70.34	29.0	153.2	63.1	68.6	31.0			76	
MGEOT323	ELKHORN HOT SPRINGS	48.5	56.42	94.55	0.52	56.42	6.80	-53.08	56.4	94.5	106.3	106.4	76.7	55.8			
MGEOT292	MARTIN, KIETH	20.5	-8.62	210.02	2.82	-8.62	36.61	-130.80		210.0	41.5	49.3					
MGEOT328	NEW BILTMORE HOT SPRINGS	53.0	74.05	177.28	1.09	74.05	28.48	0.54	73.5	177.3	98.0	99.2	67.8				
MGEOT308	NEWMAN, JOHN * JOLIET, MT	16.0	85.34	52.06	-0.47	52.06	49.75	4.98	47.1	52.1	31.4	40.2					
MGEOT006	ANDERSON'S SPRING	25.0	-3.89	194.51	2.60	-3.89	44.31	-102.80		194.5	45.8	53.2				30	
MGEOT280	ANDERSON SPRING	25.0	-10.31	208.61	2.85	-10.31	33.10	-142.90		208.6	43.9	51.4					
MGEOT043	NORRIS HOT SPRINGS	50.0	112.68	154.87	0.42	154.87	17.64	61.48	93.4	154.9	123.8	121.4	95.7	73.1		107	
MGEOT015	POTOSI HOT SPRINGS	49.5	54.51	99.00	0.60	54.51	1.50	-14.81	54.5	99.0	98.0	99.2	67.8			60	
MGEOT187	GROSS, PETE * 4 MI S PONY MT	37.5	51.38	98.58	0.64	51.38	1.16	-5.13	51.4	98.6	99.6	100.7	69.5	49.3			
MGEOT311	MCFERRAN EUGENE * BILLINGS, MT	15.5	77.73	35.87	-0.64	35.87	30.92	-55.34	35.9	35.9	36.2	44.5					
MGEOT179	CARTER'S BRIDGE * 4 MI SE LIVINGSTON MT.	28.0	14.63	201.35	2.25	14.63	30.81	-95.22		201.4	62.3	67.9	30.2				
MGEOT011	AVON WARM SPRING	25.5															
MGEOT264	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	59.0	101.91	117.96	0.18	117.96	2.28	-10.03	118.0	118.0	119.1	117.4	90.5	68.4			
MGEOT265	BOZEMAN HOT SPRINGS * OLD WELL	54.0	125.96	122.00	-0.04	122.00	0.00			122.0	118.4	116.8	89.8	67.8			
MGEOT266	BOZEMAN HOT SPRINGS * OWNER - CHARLES PAGE	55.0	101.72	114.11	0.14	114.11	0.00			114.1	118.3	116.7	89.8	67.7			
MGEOT263	BOZEMAN HOT SPRINGS * ORIGINAL SPRING	54.0	90.29	114.55	0.28	90.29	13.15	-15.52	90.3	114.6	117.7	116.2	89.0	67.1			
MGEOT335	BOZEMAN HOT SPRINGS	54.6	86.10	117.51	0.37	86.10	31.54	24.04	62.1	117.5	108.0	107.9	78.6	57.5		80	
MGEOT269	RANCA * MCLEOD	49.0	23.53	227.45	2.26	23.53	22.10	-94.90		227.5	80.2	83.8	48.9			50	
MGEOT259	SCOTT FEED LOT	43.0	110.94	63.14	-0.61	63.14	15.38	-43.36	63.1	63.1	62.3	67.9				46	
MGEOT260	SCOTT FEED LOT	44.0	108.71	58.85	-0.65	58.85	15.75	-48.51	58.8	58.8	63.4	69.0				46	
MGEOT230	BLUE JOINT CREEK HOT SPRING	29.4	26.85	69.82	0.69	26.85	5.65	-74.20		69.8	105.4	105.7	75.8	55.0		45	
MGEOT002	BRIDGER CANYON WARM SPRING	20.2	0.03	171.81	2.33	0.03	40.27	-104.10		171.8	33.0	41.6				25	
MGEOT334	LOVE,MELVIN*THREE FORKS, MT	15.9	37.46	170.17	1.59	37.46	26.11	-62.30	37.5	170.2	82.2	85.5	51.0	32.3			
MGEOT033	GROUNDWATER*5.3 MI W HARDIN MT	39.4	35.50	273.88	2.33	35.50	24.88	-68.16		273.9	59.5	65.5					
MGEOT332	SHIPTON, HAROLD * THREE FORKS MT	16.9	43.32	173.18	1.51	43.32	41.38	-22.49	43.3	173.2	102.5	103.1	72.6	52.1			
MGEOT258	HERMAN, T.E. * ROCKY RANCH 7.4 M W HARDIN	42.0	38.17	279.16	2.31	38.17	25.68	-61.92		279.2	57.9	64.0					
MGEOT344	GALLOGLY HOT SPRING	48.9	46.93	94.45	0.67	46.93	0.00			94.5	95.6	97.2	65.3			56	
MGEOT245	LOST TRAIL, * WARM AND HOT SPRINGS	41.7	46.89	94.56	0.67	46.89	0.00			94.6	95.6	97.2	65.3	45.4			
MGEOT089	CAIN MIKE*6 MI S VOLBERG	18.0	86.75	68.76	-0.24	68.76	23.83	-17.46	68.8	68.8	28.6	37.5					
MGEOT018	HUNTERS HOT SPRINGS	60.0	72.46	80.46	0.11	72.46	12.01	-37.46	72.5	80.5	114.5	113.4	85.5	63.9		78	
MGEOT328	JORGENSEN, JACK * THREE FORKS MT	16.0															
MGEOT346	RENOVA HOT SPRINGS	50.0	91.54	162.75	0.74	91.54	27.10	21.49	70.1	162.8	88.3	90.8	57.4	38.2		90	
MGEOT339	WESTMORELAND * 9.1 M W SARPY SCHOOL	37.7	86.26	281.79	1.61	86.26	18.35	-7.06	86.3	281.8	65.3	70.6					
MGEOT095	LISCOM RANCH * 5.5 MI NW OF N STACY SCHOOL	15.5	90.70	75.57	-0.20	75.57	30.91	7.91	67.7	75.6	31.0	39.8					
MGEOT331	TINDER, L. MARIE * THREE FORKS MT	21.9	80.95	180.54	1.02	80.95	29.08	11.61	69.3	180.5	101.3	102.2	71.4	51.0			
MGEOT327	WILCOX, RALPH * THREE FORKS MT	16.5															
MGEOT333	RICHARDSON, DEIRDRE * THREE FORKS	16.8	80.06	177.43	1.01	80.06	27.90	7.77	72.3	177.4	102.0	102.7	72.1	51.6			
MGEOT347	MEDICINE HOT SPRINGS	45.0	83.15	107.55	0.30	83.15	5.93	-30.04	83.1	107.6	110.5	110.0	81.3	60.0		82	
MGEOT092	WESTERN ENERGY * 2 MI N COLSTRIP MT.	96.1	114.82	251.67	1.11	251.67	14.32	109.95	141.7	251.7	107.7	107.6				100	
MGEOT020	PIPESTONE HOT SPRINGS	57.0	88.72	112.11	0.28	88.72	4.41	-24.40	88.7	112.1	115.2	114.1	86.4	64.6		88	
MGEOT082	FRED WETSTEON SPRING DEVELOP	19.0	82.54	116.66	0.41	82.54	0.00			116.7	110.1	109.7	80.8	59.6			
MGEOT330	HART, FRANK * THREE FORKS, MT	15.9															
MGEOT063	ANADARKO PROD*6 MI E FOSTER MT	26.7	134.01	75.21	-0.68	75.21	33.33	12.31	62.9	75.2	46.1	53.5					
MGEOT053	SPRING * 29 M NE OF FOSTER MT	29.0	18.24	114.33	1.40	18.24	62.30	-29.92	18.2	114.3							
MGEOT128	COWAN SPRING*5MI NW THREE FORKS MT	23.0	63.30	152.04	1.02	63.30	40.69	8.10	55.2	152.0							
MGEOT178	WOLF CREEK HOT SPRING	60.0															
MGEOT343	WILLIAMSBURG SPRING	17.4	30.83	182.20	1.80												

Site name	Surface Temp	Na-K-Ca (B=4/3)	Na-K-Ca (B=1/3)	Log(sqrt(Ca/Na))	Temperature Corrected	R Coefficient	Delta T (Mg Corr.)	Na-K-Ca Corrected	Na-K-Ca Uncorrected	Quartz (no steam)	Quartz (steam loss)	Chalcedony	a-Cristobalite	B-Cristobalite	Amorphous Silica	Published Estimates
MGEOT284	48.0	80.29	191.17	1.11	80.29	15.45	-21.47									
MGEOT009	77.0	79.49	194.96	1.15	79.49	13.46	-26.80									79
MGEOT233	67.0	85.73	206.59	1.17	85.73	14.82	-16.53									79
MGEOT231	54.0	88.33	206.44	1.12	88.33	14.68	-13.93									79
MGEOT350	64.5	130.10	157.93	0.26	157.93	0.00										
MGEOT349	74.0	126.81	141.13	0.14	141.13	10.65	21.54	119.6	141.1	136.3	127.8	104.0	80.7			
MGEOT348	54.0	115.54	134.06	0.19	134.06	12.64	24.04	110.0	134.1	133.3	129.4	106.2				
MGEOT232	79.0	76.20	189.23	1.15	76.20	13.81	-29.92									79
MGEOT185	18.5	34.29	172.45	1.66	34.29	21.64	-76.40		34.3	172.4	109.9		80.6	59.4		
MGEOT171	21.0	116.09	67.49	-0.80	67.49	18.98	-30.12		67.5	46.4	53.7					40
MGEOT130	28.0	34.21	80.00	0.89	34.21	3.82	-58.24		34.2	80.0	97.8		67.5	47.5		
MGEOT113	26.0	34.25	79.90	0.89	34.25	3.82	-58.21		34.2	79.9	97.8		67.5	47.5		
MGEOT044	23.6					38.89										30
MGEOT101	15.6	93.90	71.33	-0.29	71.33	43.35	24.47	46.9	71.3	23.6	33.0					
MGEOT274	17.0	119.32	68.93	-0.62	68.93	41.89	18.57	50.4	68.9	30.2	39.1					
MGEOT275	20.0	112.81	65.58	-0.59	65.58	25.78	-17.76	65.6	65.6							
MGEOT255	18.0	95.31	66.32	-0.38	66.32	17.44	-35.02	66.3	66.3	46.7	53.9					
MGEOT256	19.0	77.08	53.12	-0.35	53.12	0.00		53.1	50.5	57.4	55.6					22
MGEOT257	20.0	70.27	58.54	-0.17	58.54	10.84	-54.82	58.5	58.5	48.5	55.6					
MGEOT296	15.6	35.61	27.84	-0.14	27.84	7.27	-84.39	27.8	27.8	39.9	47.9					
MGEOT013	30.0	130.95	160.89	0.28	160.89	17.94	67.79	93.1	160.9	116.0	114.7	87.2	65.4			
MGEOT014	55.6	111.67	147.60	0.37	147.60	63.64		84.0	147.6	110.5	110.0	81.3	60.0			
MGEOT001	56.5	110.28	143.79	0.35	143.79	20.15	60.68	83.1	143.8	115.2	114.1	86.4	64.6			96
MGEOT278	48.5	16.27	157.17	1.86	157.17	33.68	-86.02			157.2	55.0					
MGEOT290	15.3	259.05	122.38	-1.07	122.38	31.42	69.60	52.8	122.4	95.9	97.5	65.6	45.7			
MGEOT004	46.0	126.79	147.27	0.20	147.27	26.73	84.76	62.5	147.3	103.4	102.7	72.9	52.3			125
MGEOT282	43.3	121.76	144.81	0.23	144.81	23.87	73.83	71.0	144.8	95.6	97.2	65.3	45.4			
MGEOT188	15.0	85.25	51.90	-0.47	51.90	20.14	-50.45	51.9	51.9	39.3	47.3					
MGEOT184	18.3	60.33	181.90	1.32	60.33	27.27	-22.50	60.3	181.9	118.2	116.6	89.6	67.6			
MGEOT007	65.5	98.03	130.98	0.36	130.98	7.61	-19.47	98.0	131.0	133.2	129.3	106.1	82.5			
MGEOT008	19.4	30.72	139.24	1.43	30.72	24.86	-76.67	30.7	139.2	76.6	80.6	45.1	26.9			
MGEOT003	25.0	37.70	174.98	1.62	37.70	42.01	-30.80	37.7	175.0	59.9	65.8	27.7				
MGEOT208	25.0	33.21	159.26	1.57	33.21	34.09	-53.67	33.2	159.3	54.8	61.3					
MGEOT242	15.0	126.79	141.90	0.15	141.90	11.71	26.55	115.4	141.9	17.8	27.7					70
MGEOT167	36.0	117.14	67.99	-0.61	67.99	21.81	-23.10	68.0	68.0	64.2	69.6					
MGEOT329	37.0	109.43	60.78	-0.63	60.78	17.37	-42.84	60.8	60.8	66.7	71.9					
MGEOT261	82.0	158.97	174.41	0.13	174.41	19.18	84.02	90.4	174.4	102.6	103.2					
MGEOT322	20.0	12.77	169.78	2.04	12.77	29.56	-101.51			169.8	64.7	70.1	32.7			
MGEOT116	20.5	16.61	162.80	1.91	16.61	31.73	-89.43	16.6	162.8	65.3	70.6	33.3				30
MGEOT026	20.2	3.20	157.08	2.13	3.20	33.93	-111.79			157.1	55.3	61.7	22.9			35
MGEOT345	44.0	74.60	113.07	0.47	74.60	6.39	-36.98	74.6	113.1	119.6	117.8	91.2	69.0			83
MGEOT069	96.7	136.70	156.51	0.19	156.51	4.82	8.00	148.5	156.5	117.1	115.7					122
MGEOT170	44.0	124.20	183.90	0.54	183.90	25.13	113.90	70.0	183.9	66.2	71.4					
MGEOT162	27.0	74.75	116.42	0.51	74.75	38.18	20.78	54.0	116.4	48.3	55.4					
MGEOT201	16.0	52.65	163.23	1.28	52.65	43.70	-3.43	52.6	163.2	38.6	46.7					
MGEOT164	24.5	96.58	85.39	-0.14	85.39	26.73	12.43	73.0	85.4	49.3	56.3					
MGEOT163	15.0	99.00	91.62	-0.09	91.62	26.13	19.29	72.3	91.6	48.0	55.1	15.4				
MGEOT180	16.0	123.77	143.22	0.19	143.22	37.23	105.41	73.8	143.2	132.5	128.8	105.3	81.9	33.5		
MGEOT254	16.0	114.09	85.32	-0.34	85.32	31.39	22.64	62.7	85.3	46.9	54.2					
MGEOT159	29.0	98.14	81.79	-0.20	81.79	22.97	-1.32	81.8	81.8	50.1	57.0					
MGEOT160	15.5	93.19	95.04	0.02	93.19	30.87	32.17	61.0	95.0	45.0	52.4					
MGEOT161	24.2	94.27	85.61	-0.11	85.61	28.48	16.70	68.9	85.6	51.0	57.9					
MGEOT305	46.0	22.81	221.76	2.24	22.81	39.46	-61.88		221.8	26.8	36.0					
MGEOT157	17.9	57.79	159.85	1.17	57.79	42.37	2.44	55.3	159.9	37.9	46.1					
MGEOT196	21.8	48.68	148.85	1.21	48.68	39.13	-17.71	48.7	148.9	39.9	47.9					
MGEOT181	15.0	79.09	95.24	0.20	79.09	21.24	-9.11	79.1	95.2	56.6	62.8	24.3				
MGEOT240	15.0	36.41	182.25	1.70	36.41	30.66	-54.91	36.4	182.2	36.2	44.5					
MGEOT155	15.8	91.37	102.46	0.13	91.37	32.45	33.08	58.3	102.5	52.0	58.8	19.6				
MGEOT203	15.9	64.48	110.59	0.59	64.48	39.75	8.28	56.2	110.6	43.9	51.4					
MGEOT152	16.0	95.18	70.64	-0.32	70.64	19.25	-25.17	70.6	70.6	49.3	56.3	16.8				
MGEOT158	17.0	70.90	105.48	0.44	70.90	41.19	20.33	50.6	105.5	38.3	46.4					
MGEOT059	21.0	85.37	95.29	0.12	85.37	43.49	44.67	40.7	95.3	37.9	46.1					
MGEOT156	19.2	68.35	90.04	0.29	68.35	38.31	11.58	58.8	90.0	45.0	52.4					
MGEOT194	20.8	35.54	122.35	1.17	35.54	32.13	-53.47	35.5	122.3	45.6	53.0					
MGEOT239	15.0	46.67	166.08	1.40	46.67	37.19	-24.59	46.7	166.1	33.3	41.9					
MGEOT204	23.0	74.05	99.87	0.33	74.05	43.02	27.90	46.1	99.9	40.2	48.1					
MGEOT050	20.0	-9.89	169.12	2.53	-9.89	35.92	-135.23		169.1	41.5	49.3					
MGEOT195	21.3	80.00	85.13	0.07	80.00	37.85	27.75	52.2	85.1	42.4	50.1					
MGEOT154	19.5	146.52	75.27	-0.80	75.27	28.67	2.70	72.6	75.3	55.9	62.3	23.6				
MGEOT045	26.7	112.37	125.93	0.15	125.93	21.10	45.93	80.0	125.9							
MGEOT153	27.0	133.83	73.49	-0.70	73.49	16.65	-27.23	73.5	73.5	56.4	62.6					
MGEOT268	45.1	65.79	121.07	0.68	65.79	0.00		64.2	121.1	120.7	118.7	92.3	70.1			99
MGEOT005	43.3	64.25	125.22	0.75	64.25	7.02	-46.66		125.2	122.8	120.6	94.7				99
MGEOT197	15.0	79.55	84.68	0.07	79.55	45.23	39.16	40.4	84.7	42.1	49.8					
MGEOT079	19.0	-9.53	105.88	1.90	-9.53	29.99	-148.28		105.9	42.4	50.1					
MGEOT205	19.0	81.86	53.55	-0.40	53.55	10.49	-60.86	53.5	53.5	59.5	65.5	27.3				
MGEOT192	18.4	95.34	67.59	-0.36	67.59	20.78	-25.99	67.6	67.6	56.6	62.8	24.3				
MGEOT131	15.0	89.35	125.42	0.41	89.35	37.31	39.81	49.5	125.4	35.5	43.9					
MGEOT090	15.5	60.88	108.31	0.61	60.88	40.03	3.25	57.6	108.3	57.0	63.2	24.7				
MGEOT070	25.0	98.01	148.92	0.54	98.01	86.19	90.69		148.9	45.8	53.2					
MGEOT287	15.0	27.13	159.87	1.68	27.13	68.43	-8.62	27.1	159.9	30.2	39.1					
MGEOT193	21.0	92.92	81.16	-0.43	81.16	9.86	-52.08	61.2	81.2	43.9	51.4					
MGEOT288	16.0	14.10	162.56	1.95	14.10	36.91	-83.47	14.1	162.6	46.1	53.5					
MGEOT295	15.5	31.23	155.98	1.57	31.23	36.80	-51.86	31.2	156.0	50.8	57.7	18.3				
MGEOT297	16.0	12.44	155.43	1.92	12.44	36.53	-87.52	12.4	155.4	44.7	52.2					
MGEOT054																

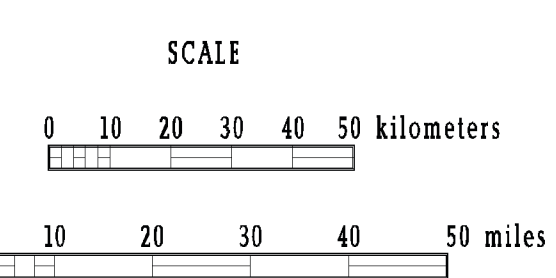
Site name	Surface Temp	Na-K-Ca (B=4/3)	Na-K-Ca (B=1/3)	Log(sqrt(Ca/Na))	Temperature Corrected	R Coefficient	Delta T (Mg Corr.)	Na-K-Ca Corrected	Na-K-Ca Uncorrected	Quartz (no steam)	Quartz (steam loss)	Chalcedony	a-Cristobalite	B-Cristobalite	Amorphous Silica	Published Estimates
MGEOT241 MCCOLLUM, JIM * 10 MI NW MATHISON RANCH	18.8	100.95	62.56	-0.50	62.56	16.15	-42.71	62.6	62.6	42.4	50.1					
MGEOT076 CARR, FRANK*BOX 456 HOT SPRINGS MT	21.5	18.67	125.83	1.52	18.67	39.37	-69.72		125.8	55.7	82.1	23.4				
MGEOT047 * RYFFEL BROS. * 3 MI S & 3 MI E HIGHWOOD	18.6	40.02	134.81	1.22	40.02	34.74	-40.50	40.0	134.8	78.0	81.8	46.6	28.3			
MGEOT097 CHRISTIANSON, BOB*HOT SPRINGS MT	22.5	66.02	119.13	0.66	66.02	41.56	13.68	52.3	119.1	58.5	64.5	26.2				
MGEOT068 TOWN OF HOT SPRINGS* MAIN WELL BY CHURCH	18.5	54.84	150.35	1.13	54.84	26.18	-33.36	54.8	150.3	67.1	72.2	35.1				
MGEOT307 HOT SPRINGS CITY	21.0	53.15	151.90	1.17	53.15	25.98	-36.45	53.1	151.9	76.7	80.7	45.2			27.0	
MGEOT228 LEISTNER, LAURA * CENTRAL AVE, HOT SPRINGS	29.8									116.0	114.7	87.2			65.4	
MGEOT291 SOUTH EAST OF CAMP AQUA	51.5	119.51	120.98	0.02	120.98	0.00				117.9	116.4	89.3			67.3	
MGEOT071 CORN HOLE* CAMAS HOT SPRINGS	44.0	105.48	120.10	0.16	120.10	19.65	35.28	84.8	120.1	108.9	108.6	79.5			58.4	
MGEOT017 CAMAS HOT SPRINGS	45.0	108.70	118.49	0.11	118.49	8.52	-2.55	118.5	118.5	118.2	116.6	89.6			67.6	100
MGEOT080 HOT SPRINGS MONTANA	43.0	107.98	120.58	0.14	120.58	7.90	-2.83	120.6	120.6	109.7	109.3	80.4			59.2	
MGEOT351 SYMES HOTEL IN HOT SPRINGS	33.3	132.15	130.82	-0.01	130.82	39.49	95.70	35.1	130.8	120.4	118.5	92.0			69.8	
MGEOT029 SYMES HOT SPRINGS WELL	38.0	102.31	114.75	0.14	114.75	13.73	10.78	104.0	114.7	116.7	115.4	88.0			66.1	
MGEOT081 HOT SPRING GEOTHERM WELL - UNNAMED	15.0	74.80	171.81	1.03	74.80	30.79	6.55	68.2	171.8	83.1	86.3	52.0			33.2	
MGEOT144 KOEPLING, DELBERT * WELL 138	15.5	90.38	126.34	0.41	90.38	0.00				126.3	87.8	90.4				
MGEOT144 OSTRANGER, DAVE * WELL 56	15.5			0.39		42.78	-98.53			47.9	55.1					
MGEOT077 VERNER, ROSE*3.75 MI W PABLO MT	17.5	50.10	117.31	0.88	50.10	62.78	18.18	31.9	117.3	52.5	59.2	20.1				
MGEOT098 IRRIGATION EQUIPMENT SALES*HOT SPRINGS	19.5	48.72	145.33	1.18	48.72	33.47	-28.35	48.7	145.3	86.9	72.0	35.0				
MGEOT220 JACOBSEN, R * HOT SPRINGS MT	19.0	79.21	102.28	0.29	79.21	20.05	-11.84	79.2	102.3	85.9	88.7	54.9	35.9			
MGEOT176 KOPP, ARVID * HOT SPRINGS, MT	15.2	67.39	108.85	0.52	67.39	25.84	-14.97	67.4	108.8	51.3	58.1	18.8				
MGEOT042 SUN RIVER SPRINGS	30.4															
MGEOT267 MBMG GEOTHERMAL TEST WELL #11 CAMP AQUA AREA	42.7	75.25	120.61	0.54	75.25	20.93	-15.03	75.2	120.6	88.0	90.6	57.2				
MGEOT226 KOPP, ARVID * 25 MI S CAMP AQUA MT	32.6	87.52	100.02	0.15	87.52	14.71	-14.78	87.5	100.0	82.6	85.9	51.4	32.7			
MGEOT221 KEMP * 5 MI SE CAMP AQUA MT	28.8	97.10	113.78	0.19	97.10	17.52	3.62	93.5	113.8	85.8	88.6	54.8	35.8			
MGEOT286 JACKOLA AP 100 FT E. OF CAMP AQUA BATH SPA	51.0	109.26	119.23	0.11	119.23	6.84	-6.36	119.2	119.2	95.1	96.8	64.7				
MGEOT027 CAMP AQUA AREA TEST WELL	50.0	116.70	129.16	0.13	129.16	8.61	5.22	123.9	129.2	94.1	95.8	63.6				100
MGEOT262 MBMG GEO. TEST WELL #1 * CAMP AQUA AREA	43.7	74.99	116.72	0.51	74.99	21.69	-13.60	75.0	116.7	86.2	89.0	55.3				
MGEOT202 OLSEN, EDWIN * 8.4 MI NE WINIFRED MT	22.0	128.37	64.87	-0.77	64.87	30.48	-8.80	64.9	64.9	46.4	53.7	13.8				
MGEOT251 SMELSER, JAMES A. * POWER MT	16.0	121.58	111.36	-0.11	111.36	33.55	61.05	50.3	111.4	31.4	40.2					
MGEOT225 KEMP * 0.3 MI E CAMP AQUA MT	30.6	99.61	110.97	0.13	99.61	12.46	-7.70	99.6	111.0	95.5	97.1	65.2	45.3			
MGEOT227 KEMP * 25 MI N CAMP AQUA MT	38.9	92.46	113.25	0.24	92.46	20.92	7.26	85.2	113.2	93.2	95.1	62.7	43.0			
MGEOT224 KEMP IRR WELL (RUNAWAY) * 5 MI N CAMP AQUA	32.5	84.39	103.13	0.23	84.39	10.75	-26.72	84.4	103.1	87.8	90.4	56.9	37.7			
MGEOT173 KEMP, ANNA * HOT SPRINGS, MT *	34.4	107.11	121.90	0.16	121.90	15.62	23.95	97.9	121.9	87.7	90.3	56.8	37.6			
MGEOT091 KEMP, ANNA * 5 MI N HOT SPRINGS, MT	24.0	97.92	124.33	0.29	97.92	11.52	-11.78	97.9	124.3	83.3	86.4	52.1	33.3			
MGEOT174 HUGHES, RAY * HOT SPRINGS, MT	25.8	90.72	115.41	0.29	90.72	16.17	-7.38	90.7	115.4	78.4	82.2	47.0	28.7			
MGEOT219 BAXTER, C * 1.5 MI N CAMP AQUA MT	20.3	83.08	98.53	0.19	83.08	13.65	-22.28	83.1	98.5	77.4	81.3	46.0	27.7			
MGEOT175 BAXTER, CHARLES * HOT SPRINGS, MT	22.8	77.55	113.58	0.44	77.55	14.19	-27.52	77.6	113.6	65.3	70.6	33.3				
MGEOT223 LUCKY HOWSER RANCH * 3 MI SE LONEPINE MT	23.6	60.70	91.51	0.42	60.70	15.35	-46.68	60.7	91.5	62.5	68.1	30.4				
MGEOT149 MATOVICH, JOHN * 23 MI SW SUN PRAIRIE MT	16.0	106.44	64.86	-0.53	64.86	23.50	-23.85	64.9	64.9	40.8	48.7					
MGEOT222 GAIL PATTON RANCH * 1 MI SW LONEPINE MT	16.6	32.66	141.52	1.41	32.66	30.34	-62.21	32.7	141.5	55.0	61.5	22.7				
MGEOT075 LONEPINE OBSERVATION WELL	16.5	23.73	118.66	1.34	23.73	31.99	-75.26	23.7	118.7	59.9	65.8	27.7				
MGEOT110 STREIT, GEORGE * 4 MI E-1 MI S FT BENTON MT	15.0	99.19	183.28	0.81	99.19	56.92	79.55	19.6	183.3	44.7	52.2					
MGEOT243 WHITMAYER ASSOC * 4.5 MI SE SUN PRAIRIE SCH	15.6	129.50	90.43	-0.44	90.43	25.98	17.38	73.1	90.4	40.8	48.7					
MGEOT109 CLARK, BRAD * 25 MI E FT. BENTON MT.	20.0	86.84	88.69	-0.24	86.89	55.57	37.05	31.6	68.7	30.2	39.1					
MGEOT114 LANDUSKY PLUNGE SPRINGS	24.0	31.75	182.01	1.78	31.75	39.46	-45.80	31.8	182.0	59.1	65.1	26.9				30
MGEOT072 LANDUSKY, I*8.5 MI S HAYS, MONTANA	20.3	35.17	180.75	1.71	35.17	35.90	-46.65	35.2	180.7	52.3	59.0					
MGEOT046 BLACK COULEE * E OF TEST AREA	28.8	107.18	90.94	-0.19	90.94	71.03	78.79	90.9	90.9	24.0	33.4					
MGEOT313 ALZHEIMER, PAUL * SW OF BRADY, MT	25.0	35.78	91.16	0.81	35.78	44.43	-29.79	35.8	91.2	33.3	41.9					
MGEOT312 REVERE, LEE	25.0	30.48	92.90	0.92	30.48	46.21	-35.70	30.5	92.9	33.3	41.9					
MGEOT049 LITTLE WARM SPRINGS*9 MI SE LODGE POLE	26.1	48.88	174.25	1.43	48.88	38.01	-19.43	48.9	174.2	55.3	61.7					
MGEOT324 LODGEPOLE WARM SPRINGS	30.0	48.82	171.71	1.41	48.82	35.10	-25.01	48.8	171.7	55.9	62.3					35
MGEOT048 BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	30.6	50.01	172.28	1.40	50.01	36.56	-20.28	50.0	172.3	55.9	62.3					
MGEOT051 BIG WARM SPRINGS*6.4 MI NE ZORTMAN MT	26.0	41.85	165.73	1.48	41.85	37.29	-32.47	41.9	165.7	51.8	58.5					
MGEOT052 KIRKALDIE, BRUCE*7 MI SW LODGEPOLE MT	24.5	46.53	168.86	1.43	46.53	35.59	-27.85	46.5	168.9	50.8	57.7					
MGEOT037 LARGE CAPACITY WELL*4 MI SW WOLF POINT, MT	51.0															
MGEOT024 CITY OF WOLF POINT * WELL IN WOLF POINT	18.3	174.23	123.03	-0.48	123.03	70.58	117.01		123.0	48.0	55.1					
MGEOT023 SHERMAN HOTEL OF WOLF POINT	17.2	64.71	37.56	-0.43	37.56	25.68	-62.97	37.6	64.7	48.0	55.1					
MGEOT038 USGS TEST WELL * 1 MILE SOUTH POPLAR, MT	13.9	61.39	107.46	0.60	61.39	47.54	16.02	45.4	107.5	38.9	47.0					
MGEOT025 FOSS ELMER * 5.8 MI SE BROCTON	16.1	122.02	104.85	-0.19	104.85	25.84	35.26	69.6	104.9	55.3	61.7	22.9				
MGEOT317 LANDTECH WATER DISPOSAL SERVICE	17.9	102.22	61.52	-0.53	61.52	24.69	-26.23	61.5	102.2	54.6	61.1	22.2				
MGEOT315 THORNESS, RICK * 4 MILES NW OF BAINVILLE	15.0	65.27	100.32	0.46	65.27	58.52	35.39	29.9	100.3	71.1	75.7	39.3	21.6			
MGEOT108 CLAWITER, MILT * 4MI N-4MI E BIG SANDY MT.	16.0	105.28	97.71	-0.09	97.71	42.47	59.78	37.9	97.7	66.0	71.2	34.0	16.7			
MGEOT303 SIMS SPRING	15.0	15.54	135.47	1.67	15.54	43.27	-67.72	15.5	135.5	62.9	68.4	30.8				
MGEOT140 TEXACO INC * 1.7 MI NW CENTRAL SCHOOL	35.5	156.01	92.86	-0.66	92.86	20.04	5.43	87.4	92.9	72.8	77.3	41.2				
MGEOT252 MATOVICH, MARTIN*17 MI E MALTA NEAR SACO	42.0	68.06	158.77	1.01	68.06	32.52	0.16	67.9	158.8	57.7	63.8					
MGEOT111 SLEEPING BUF REC AREA * 4MI NNW ASHFIELD	41.3	71.17	155.20	0.94	71.17	36.32	12.16	59.0	155.2	57.7	63.8					45
MGEOT145 SHIRLE, WALTER * 3 MI S FRESNO DAM.	17.5	104.64	65.18	-0.51	65.18	35.53	1.67	65.2	104.6	29.8	38.7					
MGEOT106 PIMLEY, DON * 4 MI NW JOPLIN MT.	15.0	91.58	59.98	-0.43	59.98	39.79	1.44	58.5	60.0	30.2	39.1					
MGEOT105 CADY, ELWIN * 7.5 MI NW JOPLIN MT.	25.0	96.12	63.76	-0.43	63.76	42.66	12.08	51.7	63.8	48.0	55.1					
MGEOT309 FRANCIS, CLARA	29.0	31.89	126.42	1.28	31.89	37.75	-48.85	31.9	126.4	61.7	67.4	29.6				
MGEOT107 WELSH, ORVILLE * 13 MI N-3MI E HINGHAM MT.	16.0	92.86	65.82	-0.36	65.82	28.38	-11.79	65.8	92.8	38.6	46.7					
MGEOT310 EDWARDS, MARVIN / MIKE DUSTERHOFF	25.0	70.51	46.04	-0.37	46.04	27.92	-44.01	46.0	46.0	25.4	34.7					
MGEOT039 BIG WEST OIL CO * 2 MI NE MTN VIEW SCHOOL	46.0															
MGEOT104 RYGH, KEN * 22 MI N - 5 MI W JOPLIN MT.	21.0	110.67	65.40	-0.57	65.40	53.07	29.37	36.0	65.4	34.8	43.2					
MGEOT142 BRADBURY, ALFRED * 11 MI E WILD HORSE MT	15.5	95.99	72.73	-0.30	72.73	22.41	-15.03	72.7	72.7	29.4	38.3					
MGEOT144 NAGEHUS, ORVILLE * 3 MI N SIMPSON MT.	15.5	85.64	73.17	-0.17	73.17	25.02	-8.42	73.2	73.2	35.9	44.2					

NOTE: (-) indicates the detection limit for that element



LEGEND

- Springs Wells**
- greater than 50 degrees C
 - 40 to 50 degrees C
 - 30 to 40 degrees C
 - 20 to 30 degrees C
 - less than 20 degrees C



LAMBERT CONFORMAL PROJECTION

Data-point labels refer to ID numbers for sites listed in the database. ID numbers for wells and springs in Camas-Lonepine Area (33 sites) are listed separately.

The base map and data points were created at a 1:1,000,000 scale. The locations of the point data are based on the best available information, but were not field-checked for accuracy. The base map conforms to Montana Bureau of Mines and Geology standards for accuracy and completeness.

Geothermal Wells and Springs of Montana

John J. Metesh
 Montana Bureau of Mines and Geology
 June, 1994

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Digital cartography by Dirk S. Vandervoort
 Montana Bureau of Mines and Geology