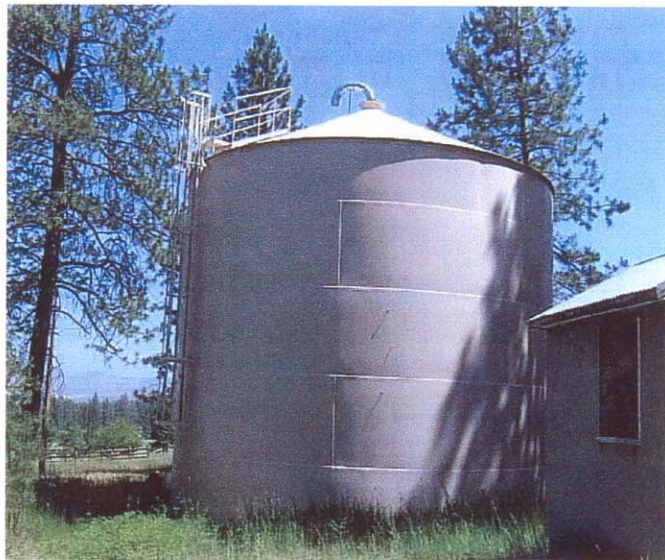


SOURCE WATER PROTECTION PLAN

Town of Hot Springs
Public Water System

PWSID # 00251

Date of Report: 07/15/03



Town of Hot Springs

PO Box 669
Hot Springs, MT 59845

Phone: (406) 741-2354

Table of Contents

Introduction

Chapter 1, Background

Chapter 2, Delineation

Chapter 3, Inventory

Chapter 4, Susceptibility Assessment Chapter 5, Management

Chapter 6, Emergency Planning Chapter 7, Plan Certification

References

Appendices

[APPENDIX A VICINITY MAP](#)

[APPENDIX B PWS SITE PLAN AND BASE MAP](#)

APPENDIX C WELL LOGS

APPENDIX D WATER QUALITY DATA

[APPENDIX E GEOLOGIC MAPS](#)

APPENDIX F DATABASE SEARCH RESULTS

APPENDIX G WATER SUPPLY PROTECTION ORDINANCE APPENDIX H
CONCURRENCE LETTERS

INTRODUCTION

This Source Water Protection Plan was completed by Scott Anderson, P.E., Project Engineer for Anderson-Montgomery Consulting Engineers. This plan is prepared for the following public water supply:

- Town of Hot Springs located in Sanders County, Montana. The system is also located within the Flathead Indian Reservation .
- PWSID 00251.
- Contact Person: Dan Oberlander or Glenn Sheldon, 406-741-2354

This source water protection plan is intended to meet the requirements of the federal Safe Drinking Water Act (SDWA) and the Montana Source Water Protection Program. Chapters 1 through 4 are also known as a source water delineation and assessment report that are intended to meet the technical requirements of section 1453 of the SDWA. Chapters 5 and 6 are intended to meet the requirements of section 1428 of the SDWA. The Montana Source Water Protection Program is a practical and cost-effective approach to protecting public drinking water supplies from contamination. As noted above, a major component of the Montana Source Water Protection Program is termed delineation and assessment. The emphasis of the delineation and assessment report is identifying significant potential contaminant threats to public drinking water sources, assessing susceptibility to those threats in order to provide the basis needed to develop a source water protection plan for the Town of Hot Springs.

Delineation is a process whereby areas that contribute water to aquifers or surface waters used for drinking water, called source water protection areas, are identified on a map. Geologic and hydrologic conditions are evaluated in order to delineate source water protection areas. Assessment involves identifying locations or regions in source water protection areas where contaminants may be generated, stored, or transported and then determining the potential for contamination of drinking water by these sources.

Delineation and assessment is the foundation of source water protection plans, the mechanism the Town of Hot Springs can use to protect their drinking water source. Although voluntary, source water protection plans are the ultimate focus of source water delineation and assessment.

CHAPTER 1

BACKGROUND

I. The Community

The Town of Hot Springs is located in the northwestern part of Montana and has a current year round population of approximately 531 persons. Hot Springs is located in Sanders County, which is bounded on the north by Lincoln County, on the east by Lake and Missoula Counties, on the south by Mineral County and on the west by Shoshone County, Idaho. Hot Springs is located in the northwestern part of Montana roughly 50 miles east of the Montana-Idaho state line. The town is located along State highway 28 roughly midway between the junction with State Highway 200 and the Town of Elmo on Flathead Lake. The Town has restaurants, schools, a hospital, convalescent center and a motel/spa which provides pools using geothermal hot water. Land use in the area is generally residential, commercial, park and open space surrounded by agricultural or grazing lands.

Hot Springs is an incorporated community, which falls under the political jurisdiction of the State of Montana. The Town is located within the Flathead Indian Reservation and is subject to environmental requirements imposed by the Confederated Salish-Kootenai Tribes. The Montana Department of Environmental Quality and Region VIII of the U.S. Environmental Protection Agency have regulatory authority over water systems in incorporated communities. The Town of Hot Springs is managed by a Mayor and four council persons.

The Town is served by a Public Water System which derives water from three wells located in community. Wastewater treatment is provided by a centralized collection system, a lift station and a three-cell aerated lagoon system with disinfection. The wastewater system discharges treated effluent to Hot Springs Creek.

II. Geographic Setting

The geographic location of Hot Springs is Township 21 North, Range 24 West, Section 3. Latitude 47°36'50", Longitude 114°38'45 and the general location of the Town can be found on the vicinity map found in [APPENDIX A](#). The Town is located at an elevation of about 2850 feet and is found on the west side of the Little Bitterroot Valley. The surrounding topography includes timbered and non-timbered foothills to the north, west and south with the relatively broad Little Bitterroot Valley to the east. Surface water in the area includes Hot Springs Creek which is perennial stream flowing through Town from west to east towards the Little Bitterroot River. An unnamed seasonal tributary flows to Hot Springs Creek from an area south of Town.

The climate in the area is typical of western Montana with relatively mild winters and warm summers. Most precipitation falls in the late winter and spring although the area is quite dry with an annual precipitation total of about 10 inches per year. Mean annual evaporation is estimated to be about 35 inches per year.

Hot Springs is underlain by well-developed alluvium consisting of sands, gravels and silts deposited during Tertiary time. The topsoil layers are sediments consisting of fine sands, silts and clays deposited during the time that Glacial Lake Missoula covered much of the region. Mountains bordering the valley are composed of Precambrian rocks of the lower Belt formations (Alt, 1986)

III. General description of the Source Water

The source water for the Hot Springs PWS comes from three wells located within the community. Hot Springs has prepared a Wellhead Protection Plan completed in 1998 by Bill O'Connell and Craig Pagel which was certified by the MDEQ on April 3, 1998. Much of the hydrogeological information used in this report was extracted from that plan. Well #1 and #2 which previously have been the primary supply wells for the Town are drawing from a confined aquifer located in the alluvial deposits. Well #3 is a deeper well drawing from a fractured bedrock aquifer located below the alluvial deposits. This well is being renovated under a project under construction in 2003 and will become a primary supply well for the Town. While the well has less capacity than either Well #1 or #2, the water is of better quality and preferred by the Town.

According to O'Connell, the alluvial aquifer supplying Wells #1 & #2 consists of sand interbedded with lacustrine deposits and is located west of the Lonepine aquifer. Recharge to the aquifer is from infiltration and possible discharge from bedrock through fractures. The bedrock aquifer supplying Well #3 is recharged through fractures (secondary porosity).

IV. The Public Water Supply

The Hot Springs water system consists of three wells located within the community, a 200,000 gallon steel storage tank and a distribution system of approximately 29,000 lineal feet of pipe ranging from 2 inches to 12 inches in diameter. Distribution piping materials consists of PVC, cast iron and steel. The current 2003 construction project includes installation of approximately 15,800 lineal feet of 6-inch, 7,800 lineal feet of 8-inch and 2,400 lineal feet of 12-inch PVC water distribution main and associated valves, fire hydrants, fittings, services, water meters, valve boxes and connections. Much of the new pipe will replace existing pipe in the community. The distribution system, when completed, will be in good condition with the exception of the individual service lines between the house connection and the meter. Most of the existing service lines are in poor condition due to excessive corrosion. [APPENDIX B](#) provides a site plan of the Hot Springs Water System.

At present, two of the three wells in Hot Springs, Well #1 and Well #2, are supplying the water to the system. Well #3 has not been utilized but will be renovated under the current project including a new casing, pump, and static water level indicator. Well #3 will become a primary supply well whereas Well #2 will be used as a standby supply. Water from Wells #1 and #2 has been in compliance with the primary drinking water standards

but do have some problems with taste and odor. Well #3, drawing from a deeper aquifer, is thought to have better quality water. Controls for all three wells will be modified under the current project with use of an autodialer for alarms and changes in the pump control sequence.

There are 407 connections to the water system, of which 342 are residential. The following table summarizes existing and anticipated water demands as projected in the 2003 Water System PER prepared by Anderson-Montgomery.

Year	Population	Avg. Demand	Peak Demand
2003	547	73,845 gpd	295,380 gpd
2023	667	90,045 gpd	360,180 gpd

Based on a 16 hour pumping day, the existing and design pumping demand would be 77gpm and 94 gpm respectively.

Well #1 and #2 are located on the southwestern edge of Town separated by about 800 feet. Well #3 is about 1200 feet west of the Town limits. Well #1 is a 8" and 6" steel cased well built in 1939 with an initial production yield of 350 gpm. The well is 241' deep with a static water level at 236'. Well #2 was constructed in 1927 with a 10" steel casing to 251.2' . and 6" casing from 252.2 to 383.0'. This well yielded 340 gpm during initial testing. Sustained production from the wells now is estimated to be 150 to 220 gpm. Well #3 is being renovated under the current 2003 project including a new casing, pump, and static water level indicator. Sustained production from this well is estimated to be about 60 gpm as determined by recent pumping tests performed by Land & Water Consulting, Inc. Well logs are included in **Appendix C** of this plan.

V. Water Quality

Water quality from the wells in Hot Springs is generally considered good and in compliance with current PWS standards. A problem occurred in August and September of 1997 with bacterial contamination which resulted in an investigation. No obvious cause of the problem was identified although it was thought to have occurred in storage or distribution rather than a contamination of the sources wells. The system was flushed and disinfected and the problem has not recurred. Well #1 and #3 has good quality water whereas Well #2 has some taste and odor problems associated with sulfur found in the source water. Well #2 will be used in the future as a backup well with Well #1 and #3 the primary supply wells. **Appendix D** contains information on the quality of the water supply.

CHAPTER 2 DELINEATION

The source water protection area, the land area that contributes water to the Town of Hot Springs PWS is identified in this chapter. Three management areas are identified within the source water protection area. These three regions are the control zone, inventory region, and recharge region. The control zone, also known as the exclusion zone, is an area at least 100-foot radius around the well. The inventory region represents the zone of contribution of the well, which approximates a two-year groundwater time-of-travel or in the case of confined aquifers, a prescribed distance typically 1000 feet. Analytical equations describing ground water flow using estimates of pumping and aquifer characteristics and simple hydrogeologic mapping are used to calculate groundwater time-of-travel distance for unconfined aquifers. The recharge region represents the estimated portion of the aquifer which contributes water to the Town of Hot Springs water system.

I. Hydrogeologic Conditions

According to O'Connell in the WHPP prepared in 1998, *Hot Springs is in the southwest end of the little Bitterroot Valley in northwestern Montana. The Valley is a structural basin with deep Tertiary sedimentary deposits covered by a thick layer of sediments deposited by Glacial Lake Missoula. The Valley is bordered by mountains composed of Precambrian rocks of the Lower Belt formations (Alt, 1986).*

Hot Springs sits on the western margin of the Valley and has shallow fluvial deposits covering glacial-lucustrian silts and clays from Glacial Lake Missoula. The sediments rest on bedrock composed of Argillites of the Lower Belt formations which rise up to form the Cabinet Mountains. The bedrock has been highly fractured and faulted as a result of tectonic and volcanic activity. A large dioritic dike cuts through the bedrock and disappears in the sediments south of Town. The dike runs north-south from the Camus Prairie, it has not been mapped in the bedrock north of the Town. A series of Northwest to southeast trending thrust faults cut the region.

The area has several flowing artesian hot springs which are located north of Town. The heat source is believed to be a localized igneous body at a depth of 600 feet and directly related to a northeast trending valley bounding fault (Crosby et al. 1974). A thick clay silt overburden 40 feet thick separates the bedrock from the additional valley sediments. The secondary porosity (fracture) flow recharging the aquifers supplying the wells must be separate from the hot water systems supplying the hot springs because the wells produce cold water. However, the hot springs do show that the fractures in this area are capable of moving significant amounts of water through deep bedrock fracture systems. The alluvial aquifer supplying Wells #1 and #2, consists of sand interbedded with lacustrian deposits and is located just west of the Lonepine aquifer. Donovan in his 1985 report on the Little Bitterroot Valley has Hot springs two miles north of the western extent of the Lonepine aquifer. The surface elevation at the wells is about 2880 feet which is over 100 feet above the potentiometric surface of the Lonepine aquifer.

Recharge to this aquifer is from infiltration and possible discharge from the bedrock through fractures. An occasional hydrogen-sulfide smell has been noticed in these wells which indicates some recharge may be from deep fracture flow.

The bedrock aquifer supplying Well #3 is recharged through fractures (secondary porosity). The fault intercepted by the well runs east west along the course of Hot Springs Creek. The bedrock has a low intrinsic permeability and the secondary porosity is also low as can be seen from the well's performance. Well #3 can be pumped for only about 2 hours before the water level drops below the pump, after the pump is turned off, the well requires 24 hours to recharge. The poor well performance could be because sediments and precipitants have closed off fractures.

Table 1. List of Geologic or Hydrogeologic Investigations Near the Town of Hot Springs PWS Area.

Title of Project	Period of Project	Area Covered	Project Purpose
Memoir 58 Hydrogeology and Geothermal resources of the Little Bitterroot Valley, Donovan-MBMG	1985	4 mile by 20 mile basin	Unknown
Memoir 48 Groundwater Resources in the Central Part of the Flathead Indian Reservation, Northwestern Montana, Boettcher, MBMG	1982	Central Part of Flathead Indian Reservation	Unknown
Hot Spring, Montana PWS Wellhead Protection Plan, O'Connell and Pagel	1998	Town of Hot Springs	Compliance with SDWA

Table 2. List of Geologic or Hydrogeologic Maps Available for the Town of Hot Springs Area.

Title or Description	Date	Area Covered	Reference
Generalized Geologic Map of the Little Bitterroot Valley	1981	4 mile by 20 mile basin	Memoir 58 Hydrogeology and Geothermal resources of the Little Bitterroot Valley, Donovan-MBMG
Stratigraphic Section of Geologic Units in the Little Bitterroot Valley			Memoir 58 Hydrogeology and Geothermal resources of the Little Bitterroot Valley, Donovan-MBMG

A collection of geologic maps showing conditions in the Hot Springs area, extracted from the O'Connell WHPP, is attached in [APPENDIX E](#) for reference.

11. Well Information

Well #1 and #2 which previously have been the primary supply wells for the Town are drawing from a confined aquifer located in the alluvial deposits. Well #3 is a deeper well drawing from a fractured bedrock aquifer located below the alluvial deposits. Well #1 and #2 are located on the southwestern edge of Town separated by about 800 feet. Well #3 is about 1200 feet west of the Town limits. Well #1 is a 8" and 6" steel cased well built in 1939 with an initial production yield of 350 gpm. The well is 241' deep with a static water level at 236'. Well #2 was constructed in 1927 with a 10" steel casing to 251.2' and 6" casing from 252.2 to 383.0'. This well yielded 340 gpm during initial testing. Sustained production from the wells now is estimated to be 150 to 220 gpm. Well #3 is being renovated under the current 2003 project including a new casing, pump, and static water level indicator. Sustained production from this well is estimated to be about 60 gpm as determined by recent pumping tests performed by Land & Water Consulting, Inc.

Note that Well #3 is being rehabilitated in 2003 with casing extended down to 804' and installation of a new well pump with lower output. A recent 5 day pumping test indicated that stabilized drawdown occurred at a depth of 190 feet with a test pump rate of 60 gpm. A new pump rated at 40-gpm flow output at a head of 350 feet will be installed.

It was the conclusion of O'Connell and others that the aquifer supplying Wells #1 and #2 is confined alluvial deposits overlain with Glacial Lake Missoula silty clay. This aquifer would be considered to have **moderate** source water sensitivity. The deeper aquifer serving Well #3 is located in fractured bedrock beneath a clay layer and would have a **low** source water sensitivity.

Table 3. Source Well Information for the Town of Hot Springs

Information	Well #1	Well #2	Well #3	Well #4
PWS Source Code	000251003	000251004	000251005	
Well Location (T,R, Sec or lat, long)	21 N 24W 04 DBCC	21N 24W 04 DBCC	21N 24W 04 CBA	
MBMG#	GWID 6154	GWID 6155	GWID 76195	
Water Right #	WO34351	WO34352	14713	
Date Well was Completed	1939	1963	1978, new casing 2003	
Total Depth	241'	383'	804'	
Perforated Interval	NA	195'-198' 240'-248'	504' to 400'	
Static Water Level	236	9'	26'	
Pumping Water Level	NA	99'	204'	
Drawdown	NA	NA	235'	
Test Pumping Rate	350 GPM	340 GPM	60 GPM	
Specific Capacity				

III. Delineation of Protection Zone

Based on well logs and other information, the PWS Wells # 1,2, and 3 have been drilled and installed into water bearing formations that appear to be locally confined. According to DEQ's Source Water Protection Program guidelines, an inventory region has been delineated in this SWPP that is a 1,000-foot radius circle surrounding each wellhead. The inventory regions and control zone are depicted on the drawing in [APPENDIX B](#). An inventory of potential contaminant sources and land uses was conducted for the area within each inventory region and are discussed in detail in the following chapter.

CHAPTER 3 INVENTORY

An inventory of potential sources of contamination was conducted for the Town of Hot Springs PWS within the control and inventory regions. Potential sources of all primary drinking water contaminants and *Cryptosporidium* were identified, however, only significant potential contaminant sources were selected for detailed inventory. The significant potential contaminants in the Town of Hot Springs PWS inventory region are nitrate, pathogens, fuels, road oil, magnesium chloride for ice removal, herbicides, pesticides and lawn/garden fertilizers.

The inventory for the Town of Hot Springs PWS focuses on all activities in the control zone, certain sites or land use activities in the inventory region, and general land uses and large facilities in the recharge region.

I. Inventory Method

A site survey was performed to identify potential sources of contamination within the control zone and inventory zone for Wells #1, #2 and #3. The survey was performed with the assistance of the Town's Water and Sewer Superintendent, Dan Oberlander. Additionally, work performed during planning and design of the water system improvements was reviewed as part of the inventory process.

Available databases were initially searched to identify businesses and land uses that are potential sources of regulated contaminants in the inventory region. The following steps were followed:

Step 1: Urban and agricultural land uses were identified from the U.S. Geological Survey's Geographic Information Retrieval and Analysis System (<http://nris.state.mt.us/gis/datalist.html>). Sewered and unsewered residential land use were identified from boundaries of sewer coverage obtained from municipal wastewater utilities.

Step 2: EPA's Envirofacts System (<http://www.epa.gov/enviro/>) was queried to identify EPA regulated facilities located in the Inventory Region. This system accesses facilities listed in the following databases: Resource Conservation and Recovery Information System (RCRIS), Biennial Reporting System (BRS), Toxic Release Inventory (TRI), and Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The available reports were browsed for facility information including the Handler/Facility Classification to be used in assessing whether a facility should be classified as a significant potential contaminant source.

Step 3: The Permit Compliance System (PCS) was queried using Envirofacts (<http://www.epa.gov/enviro/>) to identify Concentrated Animal Feeding Operations with MPDES permits. The water system operator or other local

official familiar with the area included in the inventory region identified animal feeding operations that are not required to obtain a permit.

Step 4: Databases were queried to identify the following in the inventory region: Underground Storage Tanks (UST) (<http://webdev.deq.state.mt.us/UST/>), hazardous waste contaminated sites (DEQ hazardous waste site cleanup bureau), landfills (<http://nris.state.mt.us/gis/datalist.html>), abandoned mines (<http://nris.state.mt.us/gis/datalist.html>) and active mines including gravel pits. Any information on past releases and present compliance status was noted.

Step 5: Major road and rail transportation routes were identified throughout the inventory region (<http://nris.state.mt.us/gis/datalist.html>).

Step 6. All land uses and facilities that generate, store, or use large quantities of hazardous materials were identified within the recharge region and identified on the base map.

The results of the database search are included in **Appendix F**.

Potential contaminant sources are designated as significant if they fall into one of the following categories:

- 1) Large quantity hazardous waste generators.
- 2) Landfills.
- 3) Underground storage tanks.
- 4) Known groundwater contamination (including open or closed hazardous waste sites, state or federal superfund sites, and UST leak sites).
- 5) Underground injection wells.
- 6) Major roads or rail transportation routes.
- 7) Cultivated cropland greater than 20 % of the inventory region.
- 8) Animal feeding operations.
- 9) Wastewater treatment facilities, sludge handling sites, or land application areas.
- 10) Septic systems.
- 11) Sewer mains.
- 12) Storm sewer outflows.
- 13) Abandoned or active mines.

II. Inventory Results/Control Zone

Well #1 and Well #2 - The control zone, defined as a circular area of 100 foot radius surrounding each water supply well, was surveyed and potential contaminant sources identified. The area was walked and addresses taken from the design plans to locate landowners. Well #1 and #2 are located in the southwest corner of the Town, in a residential area. Land use in the control zone includes single family residences, streets and alleyways. As shown on the Base Map in [APPENDIX B](#), a sanitary sewer is located in the alley which runs east-west between First Avenue and Second Avenue South. The sewer is less than 50' from the wellhead for both wells. The sewers in proximity to the well were rehabilitated in the last 5 years with the installation of a cured-in-place liner to

limit infiltration into the conduit. Because the sewers were recently upgraded and groundwater has typically moved into the sewer (rather than exfiltrate), the risk of leakage of wastewater into the wellhead has been significantly reduced.

The immediate land use around the wellhead is residential, primarily single family homes. These homes are all connected to the sanitary sewer and public water supply system. Most of the homes have small private flower and vegetable gardens as well as grassed areas. Use of fertilizers, pesticides and herbicides can be anticipated. One home immediately east of Well #1 (704 Second Avenue South) has a private well used for irrigation. The remaining property within the control zones of the two wells is City Right of Way which include portions of an alley and Second Avenue South. No unusual activities on the private homesites that might lead to potential contamination was apparent during the field survey. A listing of property owners within a 100-foot radius of the wellhead is as follows:

Well #1

Lot #	Owner	Address
8	Casselli (Kakin)	716 3rd Ave South
9	Manning	712 2 nd Ave South
11, 12	Devore	704 2 nd Ave South
2-4	Zimmer	709 1 st Ave South
	Town of Hot Springs	Town Right of Way

Well #2

Lot #2	Owner	Address
2,3	King	509 1 st Ave South
1	7 th Day Adventist	301 Demers Street
4,5	Mock	Vacant Lot, No Address
8	Gottlich	508 2 nd Ave South
9	Britton	506 2 nd Ave South
10, 11	Perras	504 2 nd Ave South
12	Wood	502 2 nd Ave South
	Town of Hot Springs	Town Right of Way

Well #3 - This well is located approximately 950 feet west of the Town limits, on private acreage owned by Ron Schwittay at PO Box 729 Hot Springs, MT 59845. Very minimal risk of contamination is present to this well, given current and anticipated land use practices. Mr. Schwittay was interviewed during the field survey and indicated that no change in land use is anticipated. His house is in the general vicinity of the well (> 1,000 feet in distance) and some grazing of horses and cows occurs on his acreage but no risks to the wellhead exist within the control zone at this time. This well is also over 800 feet deep.

No significant potential contaminant sources were identified in the control zone for Well #3. One significant potential contaminant source, the Town's sanitary sewer, is located within the control zone for Wells #1 and #2.

III. Inventory Results/Inventory Region

The land uses in the inventory region are similar to that found within the control zone - residential, light pasture and open woodlands. Potential contaminant sources are also similar in the inventory zone with a few known potential sources of contamination. Inventory zones, as depicted on the base map, overlap for all three wells with considerable overlap between Well #1 and Well #2. According to the review of available data bases as well as field surveys, no landfills, stockyards, hazardous waste generators, leaking underground storage tanks, major roads, septic systems or abandoned mines exist in the area. The Town's sanitary sewer exists throughout the inventory zone located primarily in alleys running east/west. Two private wells exist within the inventory zone and a third private well is being drilled. The Montana Department of Environmental Quality was contacted and no known leaking storage tanks are located within the inventory zones for the wells although the recent construction project uncovered an area with a layer of stained soil indicative of an old spill. Apparently a County Shop was located near the discovered spill and could be the potential source. The Town has two above-ground storage tanks located near their shop which have held road oil and magnesium chloride for road maintenance. The road oil tank is no longer being used. A small gravel pit is being used on the Schwittay property south of Well #3. This pit is being used only to provide backfill for the current construction project and will be closed up after the present work is complete. The base map indicates the location of the potential sources of contamination.

No significant potential contaminant sources were identified in the inventory zone for Well #3. One significant potential contaminant source, the Town's sanitary sewer, is located within the inventory zone for Wells #1 and #2. Other possible sources of contamination exist within the inventory zone but are not considered as "significant" at this time.

IV. Inventory Results/Recharge Region

The fractured bedrock and alluvial aquifers supplying the Hot Springs wells are likely recharged through infiltration of water originating from the basin surrounding the community to the west, as shown on the following map. With the exception of the immediate area around the Town, this area is largely undeveloped mountainous forestlands. The basin is primarily owned by the Confederated Salish-Kootenai Indian Tribes as part of the Flathead Reservation. Future development and increased risk of contaminants within the recharge region is unlikely.

Hot Springs Water Supply Recharge Region

V. Inventory Update

The certified operator will update the inventory every year. Changes in land uses or potential contaminant sources will be noted and additions made as needed. The complete inventory will be submitted to DEQ every five years to ensure re-certification of the source water delineation and assessment report.

VI. Inventory Limitations

The inventory was made through observation of surface conditions, discussion with local officials, review of databases and other available reports. Interviews with private property owners were not conducted and private property not entered, with the exception of the owner of land surrounding Well #3.

CHAPTER 4

SUSCEPTIBILITY ASSESSMENT

Susceptibility is the potential for a public water supply to draw water contaminated by inventoried sources at concentrations that would pose concern. Susceptibility is assessed in order to prioritize potential pollutant sources for management actions by local entities, in this case the Town of Hot Springs.

The goal of Source water management is to protect the source water by 1) controlling activities in the control zone, 2) managing significant potential contaminant sources in the Inventory Region, and 3) ensuring that land use activities in the Recharge Region pose minimal threat to the source water. Management priorities in the Inventory Region are determined by ranking the significant potential contaminant sources identified in the previous chapter according to susceptibility. Alternative management approaches that could be pursued by the Town of Hot Springs PWS to reduce susceptibility are recommended.

Susceptibility is determined by considering the hazard rating for each potential contaminant source and the existence of barriers that decrease the likelihood that contaminated water will flow to the Hot Springs wells. Hazard is rated by the proximity of a potential contaminant source to the wells and, in confined aquifers, how wells in the inventory area are constructed. The main avenue of contaminant transport into a confined aquifer is down along the unsealed or poorly sealed borehole of wells drilled through that confining layer(s). The hazard of these potential contaminant sources is evaluated based on the quality of sealing of any and all wells that are present with the inventory region. This is illustrated in Table 4 below. Susceptibility ratings are presented individually for each significant potential contaminant source and each associated contaminant (Table 5). The susceptibility of each well to each potential contaminant source is assessed separately. For PWS wells installed into confined aquifers, the hazard of potential contaminant sources is very dependant upon the avenues of contaminant transport vertically through the confining layers.

The information obtained from the MBMG-GWIC database indicates that no records exist for seal information on Well #1. Well #2 has a cement annular seal from 5' to 30'. Well #3 has a cement grout annular seal from 0' to 30'. All three wells are overlain with a layer of silt and clay which provides some protection from contaminant sources. The silt-clay layer starts roughly in the range of 5 to 30 feet in depth.

Table 4.
CONFINED AQUIFERS: Hazard Of Potential Contaminant Sources.

Potential Contaminate Sources	The PWS well is not sealed through the confining layer	Other wells in the inventory region are not sealed through the confining layer	All wells in the inventory region are sealed through the confining layer
Point Sources	High	Moderate	Low
Septic Systems (# per square mile)	High >300 Moderate: 50 to 300 Low: <50	Moderate: >300 Low: >300	Low
Sanitary Sewer (% land use)	<u>High:</u> <u>>50</u> Moderate 20 to 50 Low: <20	<u>Moderate:</u> <u>>50</u> Low: <50	Low
Cropland (% land use)	High: >50 Moderate: 20 to 50 Low: <20	Moderate: >50 Low: <50	Low

Table 5. Relative Susceptibility To Specific Contaminant Sources As Determined By Hazard And The Presence Of Barriers.

Presence of Barriers	Hazard		
	High	Moderate	Low
No Barriers	Very High Susceptibility	High Susceptibility	Moderate Susceptibility
One Barrier	High Susceptibility	Moderate Susceptibility	Low Susceptibility
Multiple Barriers	<u>Moderate Susceptibility</u>	Low Susceptibility	Very Low Susceptibility

Table 6. Susceptibility Assessment For Significant Potential Contaminant Sources In The Control Zone And Inventory Region.

Source	Contaminant	Hazard	Hazard Rating	Barriers	Susceptibility	Management
Well #1	Pathogens, NO₂, etc.	Leakage into Well	High to Mod	Multiple	Mod to Low	WHPP, Ordinance
Well #2	Pathogens, NO₂, etc.	Leakage into Well	High to Mod	Multiple	Mod to Low	WHPP, Ordinance
Well #3	NA	NA	NA		Very Low	WHPP, Ordinance

The conclusions derived from Table 6 above indicates that Well #1 and Well #2 have a moderate to low susceptibility to contaminant sources, with the conservative approach suggesting the moderate rating. The sealing of Well #1 and other wells in the area is unknown. Also, it is not clear that wells are sealed to the confining layer although the well logs would suggest that the sealing approaches the confining layer. No hazards presently exist with the three inventory zones applicable to Well #3. Barriers that exist in the community that may reduce the susceptibility of Wells #1 and #2 to contamination include the following:

- Sanitary sewers within the inventory zone were recently upgraded with Cured-In-Place Liner Pipe
- Groundwater in the inventory zone typically flows into the sanitary sewer rather than leakage from the conduit
- The Town has an approved WHPP, including an ordinance that controls pollutants within the inventory zone of the wells.
- The wells are located upgradient from the commercial areas in the community.
- No development within the recharge area of the wells, exclusive of the community, is likely.

CHAPTER 5 MANAGEMENT

The goal of the Source water Protection Plan is to: 1) protect the source water by keeping potentially polluting materials and activities out of the control zone, and, 2) to manage the special protection region to ensure that susceptibility to land use activities and potential contaminant sources is the lowest possible. The Town of Hot Springs has demonstrated their commitment to proper management of their water system through past activities in developing an approved Wellhead Protection Program. Additionally, the current water project and the completion of the Source Water Protection Plan further indicates the Town's desire to maintain a viable water system.

Control Zone Management

Properties in the control zone were described previously and the primary contaminant source identified within the control zone is the Town's sanitary sewer system, which is under complete management control of the Town officials. The Town recently completed a sewer system upgrade which included sealing of all sewers in proximity to the water supply wells. Short of replacement, the community has done everything economically possible to improve the condition of the sewer system. The Town has also adopted an ordinance which controls pollutants which might impact the water supply, included in Appendix G. Town officials and the water system operators are very cognizant to the potential threats to their groundwater supplies.

Inventory Region Management

Management of the inventory region is essentially the same as management of the control zone.

Recharge Region Management

The recharge zone is primarily within the control of the Confederated Salish Kootenai Indian Tribes and a few private property owners. The Town will work with these landowners if threats to the water supply occur. At present, the land use practices are of minimal threat to the recharge of the wells and no changes are anticipated.

Management Implementation

The Town of Hot Springs has an ordinance to protect their water supply and is contemplating changes to the ordinance to further protect their water system.

CHAPTER 6

EMERGENCY PLANNING

The emergency plan identifies the principal threats to the source water, designates an emergency coordinator, and then describes a series of potential responses planned in the event of a problem arises. Another important aspect of the plan is an estimate of the equipment and materials that would be needed in the event of an emergency, a description of how a short-term replacement water supply would be handled, and a description of the funding available to deal with an emergency response.

Identification of possible disruption threats

The principal threat to the PWS has been identified as a spill, leak, or discharge in the control or inventory zone which could contaminate the source water by entering through the well bore along with contaminated shallow ground water through a failed casing. Included are leaks from waste carrying pipes, spills from vehicles, spills from mobile liquid holding tanks, leaks from above or underground tanks, and older spill sites which have not yet been detected.

Designation of an emergency coordinator

The emergency coordinator for the Town of Hot Springs is Dan Oberlander, Water and Sewer Superintendent. The contact phone number is (406) 741-2353. The backup emergency coordinator is Glen Sheldon, at the same number.

The emergency coordinator is familiar with the county and state DES procedures and is responsible for contacting the appropriate officials should a spill or other threat to the source water occur. The Sanders County DES coordinator 24 hour phone number is (406) 827-6955 or call 911 for emergencies. The State of Montana 24 hour Spill Hotline phone number is (406) 444-6911.

Equipment and material resources

The principal identified threats to the well are generally limited to spills in the control zone. Resources that may be needed to respond to a spill are heavy equipment for berm and excavation work and absorbent materials. Local Town maintenance staff and local contractors have equipment to perform most of work that might be required to contain a spill. Should additional resources be needed due to the magnitude or chemical nature of a spill the Town of Hot Springs will contract with an emergency response firm properly trained and equipped. A list of possible contractors is maintained and updated by the DEQ Enforcement Division (406) 444-0379.

A catastrophic loss of water will require the contracted services of a water hauler, a design engineer, and a well driller.

Procedures to shut down the well

The well can be turned off and isolated from the water supply system. Important valves are located as shown on the drawing in [APPENDIX B](#). Under ideal conditions the system can operate without the supply by using water in the water storage tank can for approximately 3 to 5 days. Well or intake shut down is the responsibility of the certified operator or backup.

Coordination Procedures

The Town of Hot Springs SWP Plan has been made available to Sanders County DES coordinator. Additionally, reportable spills will be handled as per the mandated reporting requirements as follows:

- Agricultural chemical or fertilizer spills will be reported to the MT Department of Agriculture (406) 444-5400
- Any refined petroleum product such as gasoline, diesel, asphalt, road oil, kerosene, fuel oil, and derivatives of mineral, animal, or vegetable oil spills in excess of 25 gallons will be reported to the DES hotline (406) 841-3911.
- Spills will also be reported to the Confederated Salish Kootenai Indian Tribe at (406) 675-2700

Procedures to communicate with water users

The nature of the PWS should allow the source water to be isolated from the distribution system in the event of a spill in the control zone which threatens source water quality. If it is determined that the source water was exposed to a contaminant the well or intake will remain off line until sampling proves the water to be safe, an evaluation done in cooperation with the MT DEQ, PWS Section.

The Town's operator, local officials and the Sanders County DES officer would be utilized to contact users if necessary during an emergency situation.

Source of emergency water

The Town of Hot Springs has three water supply wells, each of which is capable of providing average daily flow demand, excluding irrigation. Well #3 is currently under reconstruction and will become a primary supply well in conjunction with Well #1. Well #2 will be maintained as a backup well and will be available at all times. If two wells were threatened by a spill in the control zone, the remaining third well could be used to meet typical water demand with restrictions on irrigation.

In the unlikely event that all three wells were unusable, water could be hauled to the community for consumptive needs. The short-term plan is to haul water using a DEQ approved water hauler from a DEQ approved water source. Should this be necessary, a hauler will be contracted and a short-term plan relating to the source water and disinfection requirements will be submitted to DEQ-PWS Section for approval.

If more than one well is out of service for several days, an emergency supply of water may need to be arranged. Should a total loss of water occur, the services of a design engineer and well driller will be retained to assess the options. Plans and specifications for any new well will require DEQ-PWS Section review and approval prior to construction.

Hot Springs Creek could be used as a water source with appropriate treatment.

Disinfection and resumption of water service

The well, storage tank, or distribution system can be disinfected for bacteriological contamination as per the Town of Hot Springs PWS standard disinfection and tank cleaning procedures under the direction of the certified operator. Normal water service resumption will occur after sample results indicate the supply is safe as approved by DEQ-PWS Section and the certified operator.

Funds

The Town of Hot Springs operates their water system as an enterprise fund and collects adequate revenues from users for operation, maintenance, debt payment and system administration. The fund has adequate reserves to address limited emergency situations. **If** costly improvements are needed on an emergency basis, the Town could pursue assistance from several state programs which provide loan or grant funds for emergency operations.

Important emergency contacts and phone

CONTACT NAME	TITLE	PHONE	RESPONSIBILITY
Dan Oberlander	Water & Sewer Superintendent	741-2353	Water and Sewer System Operation
Glenn Sheldon	Operator	741-2353	Water and Sewer System Operation
Rick Gould	Sanders County DES Coordinator	827-6955	DES Coordination
Montana 24 hr. Spill Hotline"		(406) 841-3911	All reportable spills.
Greg Murfitt	MT Dept of Agriculture	(406) 444-5400	All agricultural chemical or fertilizer spills or response questions
DEQ Enforcement Division		(406) 444-0379	Responds to any event that will pollute surface or ground waters.
Joleen Jacobson	CSKT Hazmat Coordinator	675-2700	Spills within Flathead Indian Res.

Long-term or Alternate Water Sources

The Town of Hot Springs is in the process of upgrading their water system to insure that a reliable and adequate supply of water is available. A recent study completed by Anderson-Montgomery Consulting Engineers for the Town indicated that water supply, upon completion of the existing project, is adequate and capable of meeting existing and anticipated flow demands. Population growth and demand was described in Chapter I of this SWPP. With renovation of Well #3, Well #2 can be used as a backup well. The only limitation in the system for meeting flow demand may occur during a fire event where large quantities of water are needed for a short period of time. Additional storage was recommended in the Anderson-Montgomery study to address this problem.

CHAPTER 7

PLAN CERTIFICATION

This document was prepared by Anderson-Montgomery Consulting Engineers, utilizing data from the 1999 Hot Springs WHPP and other references. This Source Water Protection Plan has been reviewed by the Town of Hot Springs and a concurrence letter is attached in Appendix H.

The plan was submitted to DEQ for review on July 17, 2003. DEQ comments were addressed and the final plan was certified by DEQ on

This certified plan is available for public review from Town Hall for the Town of Hot Springs. A synopsis of this plan will be included in our annual consumer confidence report.

REFERENCES

1. *Hot Springs, Montana PWS Wellhead Protection Plan*, O'Connell and Pagel, 1998
2. *Preliminary Engineering Report Hot Springs Water System Improvements 1999*, Neil Consultants, Inc.
3. *Preliminary Engineering Report Amendment for the Town of Hot Springs Water System*, May 2003, Anderson-Montgomery Consulting Engineers
4. Personal discussion with Jeffrey Herrick, MDEQ Source Water Protection Program

APPENDICES

APPENDIX A

VICINITY MAP

APPENDIX B

PWS SITE PLAN AND BASE MAP

APPENDIX C

WELL LOGS

Montana Bureau of Mines and Geology -- Ground-water Information Center
Site Report for HOT SPRINGS MUNICIPAL WATER - WELL 1
Plot this site on a topographic map

Location Information

GWIC Id: 6154	Source of Data: GW4\LOG
Location (TRS): 21N 24W 04 DBCC	Latitude (dd): 47.6057
County (MT): SANDERS	Longitude (dd): -114.6784
DNRC Water Right: W034351	Geomethod: MAP
PWS Id: 00251003	Datum: 1927
Block: 11	Addition: PINEVILLE
Lot: 9	Subdivision: Not Reported
Certificate of Survey: Not Reported	Type Of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 241.00	How Drilled: Not Reported
Static Water Level (ft): 236.00	Driller's Name: ZINKGRAF
Pumping Water Level (ft):	Driller License: Not Reported
Yield (gpm): 350.00	Completion Date: Oct 23, 1939
Test Type: Not Reported	Special Conditions: None Reported
Test Duration:	Is Well Flowing?: No
Drill Stem Setting (ft):	Shut-In Pressure:
Recovery Water Level (ft):	Well/Water Use: PUBLIC WATER SUPPLY
Recovery Time (hrs):	Geology/Aquifer: 112ALVM

Hole Diameter Information

No hole diameter records were found.

Casing Information

From	To	Dia	Description
0.0	229.0	8.0	STEEL
229.0	241.0	6.0	STEEL

Annular Seal Information

No annular seal records were found.

Completion Information

No completion records were found.

Lithology Information

No lithologic records were found.

Site Notes

* LB-315. TRACT LOCATION BASED ON LAT\LONG FROM DEQ.

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. Note: non-reported casing, completion, and lithologic records may exist in paper files at GWIC.

Montana Bureau of Mines and Geology -- Ground-water Information Center
Site Report for HOT SPRINGS MUNICIPAL WATER - WELL 2

Plot this site on a topographic map

Location Information

GWIC Id: 6155	Source of Data: GW2\LOG
Location (TRS): 21N 24W 04 DBDC	Latitude (dd): 47.6064
County (MT): SANDERS	Longitude (dd): -114.6750
DNRC Water Right: W034352	Geomethod: MAP
PWS Id: 00251004	Datum: 1927
Block: 9	Addition: PINEVILLE
Lot: 2-3	Subdivision: Not Reported
Certificate of Survey: Not Reported	Type Of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 383.00	How Drilled: CHURN
Static Water Level (ft): 9.00	Driller's Name: CAMP
Pumping Water Level (ft): 99.00	Driller License: WWC007
Yield (gpm): 340.00	Completion Date: Aug 19, 1963
Test Type: PUMP	Special Conditions: None Reported
Test Duration: 8.50	Is Well Flowing?: No
Drill Stem Setting (ft):	Shut-In Pressure:
Recovery Water Level (ft):	Well/Water Use: PUBLIC WATER SUPPLY
Recovery Time (hrs):	Geology/Aquifer: 112ALVM

Hole Diameter Information

From	To	Dia
0.0	251.2	10.0
251.2	383.0	6.0

Annular Seal Information

From	To	Description
5.0	30.0	CEMENT

Casing Information

From	To	Dia	Description
-1.7	251.2	10.0	34 LB STEEL
251.2	383.0	6.0	STEEL

Completion Information

From	To	Dia	Description
195.0	198.0	10.0	3/8 X 3 MILLS KNIFE
240.0	248.0	10.0	3/8 X 3 MILLS KNIFE

Lithology Information

From	To	Description
0.0	6.0	CLAY AND GRAVEL
6.0	30.0	CLAY
30.0	60.0	CLAY AND GRAVEL
60.0	118.0	SHALE CLAY
118.0	132.0	SHALE- CLAY AND GRAVEL
132.0	145.0	CLAY AND GRAVEL
145.0	191.0	CLAY- GRAVEL AND BOULDERS
191.0	194.0	GRAVEL AND CLAY
194.0	216.0	WATER- GRAVEL CLAY AND BOULDERS
216.0	239.0	BOULDERS AND GRAVEL
239.0	240.0	CLAY
240.0	245.0	GRAVEL
245.0	261.0	ROCK
261.0	379.0	LIMESTONE
379.0	383.0	PORESS LIMESTONE WITH WATER.

Site Notes

* LB-314. TRACT LOCATION BASED ON LAT\LONG FROM DEQ.

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. Note: non-reported casing, completion, and lithologic records may exist in paper files at GWIC.

Jan 75 75M1307 08-27-75
 21N 24W 04 DBD

Pl No. TRIPPLICATE

RECEIVED
 SEP 12 1963
 Montana Bureau of
 Mines and Geology

Neutral 09 T 21W R 24W
 County Lead
 STATE OF MONTANA
 ADMINISTRATOR OF GROUNDWATER CODE
 OFFICE OF STATE ENGINEER 098379

Top of Ground Montana Bureau of
 Mines and Geology
 (Elev. above sea level 2576.5)

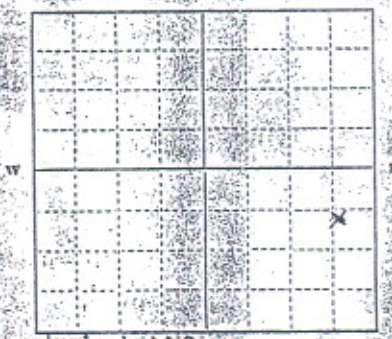
**Notice of Completion of Groundwater
 Appropriation by Means of Well**
 (Under Chapter 237, Montana Session Laws, 1961)

0 to 6' Clay & gravel
 6' to 30' Clay
 30' to 60' Clay & gravel
 60' to 118' Shale clay
 118' to 132' Shale, clay
 & gravel
 132' to 145' Clay & gravel
 145' to 191' Clay, gravel
 & boulders
 191' to 194' Gravel & clay
 194' to 216' Water, gravel
 clay & boulders
 (perf 195 to 198)
 216' to 239' Boulders &
 gravel
 239' to 240' Clay
 240' to 245' Gravel (
 water 70 G.P.M. with
 160' D.D.)
 245' to 261' Limestone
 261' to 379' Limestone
 379' to 393' Porous limest-
 one with water.

Owner City of Hot Springs Address Hot Springs, Mont
 Driller Glenn Camp 705 Alder Address Miscoula, Mont
 Date of Notice of Appropriation of Groundwater Aug. 16, 1963
 Date well started 7/3/63 Date Completed 8/19/63
 Type of well Drilled Equipment Used Churn drill
 (dug, driven, bored or drilled) (Churn, drill, rotary or other)
 Water Use: Domestic Municipal Other Irrigation
 Industrial Drainage Stock

Indicate on the diagram the character and thickness of the different strata met with in drilling, such as soil, clay, shale, gravel, rock or sand, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which water rises in the well.

Size of Drilled Hole	Size and Weight of Casing	From (Feet)	To (Feet)	PERFORATIONS		
				Kind Size	From (Feet)	To (Feet)
10" I.D.	10" I.D. 31-20 lbs to foot	20" above G.L.	to 251'-2"	Mills knife	195	198
6" hole in soft rock		251'-2"	333'	3/8 by 3"	240	249



SWNESE DBD's
 NWSEB Sec 4 T 21N R 24W
 Indicate location of well and place of use, if possible. Each small square represents 10 acres.
 Scale: One inch = 82.5 feet.
 Show exact depth of bottom.

Static Water Level for non-flowing Well 9' from G.L. feet.
 Shut-in Pressure for Flowing Well _____
 Pumping Water Level 99 feet at 340 gal. per minute.
 Discharge in gal. per min. of flowing well _____
 Compressor test 6 hours
 How Tested Ramp test Length of Test 8 1/2 hours
 Remarks: (Gravel packing, cementing, packers, type of shutoff, location of place of use of groundwater if not at well, and any other similar pertinent information, including number of acres irrigated, if used for irrigation) _____
 Cement/grout from 30' below G.L.
to within 5' of G.L. Total of 25' of
 grout

PL
 LAB 75Q1307
 elevation: 2875 FT 410
 Geo source: 400PRCO
 INV: 08VORMS

Licence # 7
 Driller's Licence Number
Glenn Camp
 Driller's Signature

This form to be prepared by driller, and three copies to be filed by the owner with the County Clerk and Recorder in the county in which the well is located.
 Please answer all questions. If not applicable, so state, otherwise the form will be returned.
 Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

M. 6/55

Montana Bureau of Mines and Geology -- Ground-water Information Center
 Site Report for TOWN OF HOT SPRINGS Well #3
 Plot this site on a topographic map

Location Information

GWIC Id: 76195	Source of Data: LOG
Location (TRS): 21N 24W 04 CBA	Latitude (dd): 47.6077
County (MT): SANDERS	Longitude (dd): -114.6860
DNRC Water Right: 14713	Geomethod: TRS-SEC
PWS Id: Not Reported	Datum: 1927
Block: Not Reported	Addition: Not Reported
Lot: Not Reported	Subdivision: Not Reported
Certificate of Survey: Not Reported	Type Of Site: WELL

Well Construction and Performance Data (measurements are reported below land surface)

Total Depth (ft): 804.00	How Drilled: ROTARY
Static Water Level (ft): 26.00	Driller's Name: LIBERTY
Pumping Water Level (ft): 204.00	Driller License: WWC052
Yield (gpm): 100.00	Completion Date: Mar 30, 1978
Test Type: PUMP	Special Conditions: None Reported
Test Duration: 17.00	Is Well Flowing?: No
Drill Stem Setting (ft):	Shut-In Pressure:
Recovery Water Level (ft):	Well/Water Use: PUBLIC WATER SUPPLY
Recovery Time (hrs):	Geology/Aquifer: 400PRCD

Hole Diameter Information

No hole diameter records were found.

Casing Information

From	To	Dia	Description
-10.0	93.0	8.0	STEEL
-1.5	109.0	7.0	STEEL
109.0	607.0	6.0	STEEL
607.0	800.0	6.0	STEEL

Annular Seal Information

From	To	Description
0.0	30.0	CEMENT GROUT

Completion Information

No completion records were found.

Lithology Information

From	To	Description
0.0	4.0	GRAVEL TOPSOIL
4.0	9.0	BROKEN ROCK IN TAN SAND & SILT
9.0	9.5	FRACTURED BOULDER
9.5	13.5	BROKEN ROCK IN DARK TAN SAND & SILT-SEEPS OF WATER
13.5	26.0	BROKEN ROCK IN TAN SAND & SILT-1 GPM
26.0	36.0	BROKEN GRAY ROCK EMBEDDED IN TAN CLAYEY SILT- 2 GPM OF WATER
36.0	41.0	BROKEN GRAY ROCK EMBEDDED IN GREENISH GRAY SILT CLAY- 2 GPM OF WATER
41.0	56.0	BROKEN GREEN & GRAY ROCK IN GREENISH-GRAY SILTY CLAY-2 GPM OF WATER
56.0	68.0	BROKEN GREEN ROCK IN BLUE-GRAY SILT-1/2 GPM
68.0	89.0	BROKEN GREEN & GRAY ROCK IN LIGHT GRAY SILT
89.0	91.5	BROKEN DARK GRAY ROCK
91.5	101.5	DARK GRAY ROCK. 5-10 GPM OF WATER
101.5	103.0	BROKEN GREEN-GRAY & MAROON ROCK-37.5 GPM OF WATER
103.0	109.0	GREEN & GRAY ROCK. 37.5 GPM TOTAL WATER
109.0	211.0	GRAY ROCK-1 GPM OF WATER
211.0	242.0	GREEN & DARK GRAY ROCK IN ALTERNATE LAYERS-10 TO 15 GPM OF WATER
242.0	417.0	DARK GRAY-GREEN AND LIGHT GRAYISH TAN ROCK IN ALTERNATE LAYERS
417.0	475.0	DARK GRAY ROCK WITH THIN SEAMS OF GRAYISH TAN ROCK 40 TO 50 GPM OF WATER AT 455'
475.0	804.0	DARK GRAY ROCK WITH SOME SEAMS OF GREEN ROCK & THIN SEAMS OF LIGHT TAN & BROWN ROCK. 60 GPM OF WATER AT 515'. 75 GPM OF WATER AT 607'. 100 GPM OF WATER AT 612'. OVER 150 GPM OF WATER AT 747'.

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. Note: non-reported casing, completion, and lithologic records may exist in paper files at GWIC.

WELL # 3

Top of Ground
Loose Shale
above sea level 2886
2879

MONTANA STATE BOARD OF ENGINEERS
Division of Sanitary Engineering
Helena, Montana

WELL DRILLER'S REPORT

Driller's Registration No. 111

Loose shale and Boulders

Driller Oliver F. Zinkgraf Address Spokane, Mont.

Elev. 2839

Owner of Well Hot Springs - Town of

Exact Location of Well Lot 10, Blk. 11, Pineville Addition

Hard shale

Nearest Post Office Hot Springs County Sanders

Water to be Used for Municipal

Drilling Begun July 7, 1939 Well Finished October

Elev. 2781

Indicate on the diagram the character and thickness of the strata met with in drilling, such as soil, clay, shale, gravel, etc. Show depth at which water is encountered, thickness and character of water-bearing strata and height to which the water rises in the well.

Boulders and Gravel

Casing Record

Elev. 2761 sand
Elev. 2756

Size of Pipe	Kind and Weight of Material Used	From (Feet)	To (Feet)	PERFORATED	
				Kind Size	From (Feet)
8	28# steel	2886	2657	None	
6	16# steel	2886	2650	None	

Sand and Gravel

Elev 2735 coarse Gravel
Elev 2727 sand

Elev. 2716

Coarse Gravel and Boulders

Describe the type of joints in casing RCRW

Elev. 2657 End 8" Casing solid - sandy
Elev. 2650 End 6" casing solid rock (shale)
Elev 2645 Bottom

Describe any screens used None

Capacity of Well 350 Gallons per minute or more
(In Gallons or Barrels)

Elev. 2645 to 2650 water bearing strata - water was flowing over casing elevation 2887.5 - Oct 23, 1939 at rate of approx. - 40 gal. per minute.

How Determined Air lift and weir
(Pump, Baffler, Weir, Etc.)

Signed Oliver F. Zinkgraf (signed)

Date E 1606 Sharp Avenue, Spokane

(Law and Regulations on Reverse Side)

Show correct depth of bottom

LIBERTY DRILLING COMPANY

INDUSTRIAL
DOMESTIC
IRRIGATION
WELLS

LICENSED, BONDED AND INSURED

HIGHWAY 93 SOUTH
PH 262 2011
KALISPELL, MONTANA 59901

MAY 10, 1978

OWNER OF HOT SPRINGS
HOT SPRINGS, MT 59845

#3 Well

WELL LOG

LOCATION: HOT SPRINGS, MONTANA

FORMATIONS LOG:

0	4"	GRAVELLY TOPSOIL
4"	9'	BROKEN ROCK IN TAN SAND AND SILT
9'	9' 6"	FRACTURED BOULDER
9' 6"	13' 6"	BROKEN ROCK IN DARK TAN SAND AND SILT. SEEP OF WATER.
13' 6"	26'	BROKEN ROCK IN TAN SAND AND SILT. 1 GPM OF WATER
26'	36'	BROKEN GRAY ROCK EMBEDDED IN TAN CLAYEY SILT. 2' GPM OF WATER.
36'	41'	BROKEN GRAY ROCK EMBEDDED IN GREENISH - GRAY SILTY CLAY. 2 GPM OF WATER
41'	56'	BROKEN GREEN AND GRAY ROCK IN GREENISH - GRAY SILT. 2 GPM WATER.
56'	68'	BROKEN GREEN ROCK IN BLUE - GRAY SILT. 1/2 GPM OF WATER.
68'	89'	BROKEN GREEN AND GRAY ROCK IN LIGHT GRAY SILT
89'	91' 6"	BROKEN DARK GRAY ROCK
91' 6"	101' 6"	DARK GRAY ROCK. 5 TO 10 GPM WATER.
101' 6"	103'	BROKEN GREEN, GRAY AND MAROON ROCK. 37 1/2 GPM OF WATER
103'	109'	GREEN AND GRAY ROCK. 37 1/2 GPM TOTAL WATER
109'	211'	GRAY ROCK. 1 GPM OF WATER.
211'	242'	GREEN AND DARK GRAY ROCK IN ALTERNATE LAYERS. 10 TO 15 GPM OF WATER.
242'	417'	DARK GRAY, GREEN AND LIGHT GRAYISH TAN ROCK IN ALTERNATE LAYERS.
417'	475'	DARK GRAY ROCK WITH THIN SEAMS OF GRAYISH TAN ROCK. 40 TO 50 GPM OF WATER AT 455'.
475'	804'	DARK GRAY ROCK WITH SOME SEAMS OF GREEN ROCK AND THIN SEAMS OF LIGHT TAN AND BROWN ROCK. 60 GPM OF WATER AT 515'. 75 GPM OF WATER AT 607'. 100 GPM WATER AT 612'. OVER 150 GPM OF WATER AT 747'.

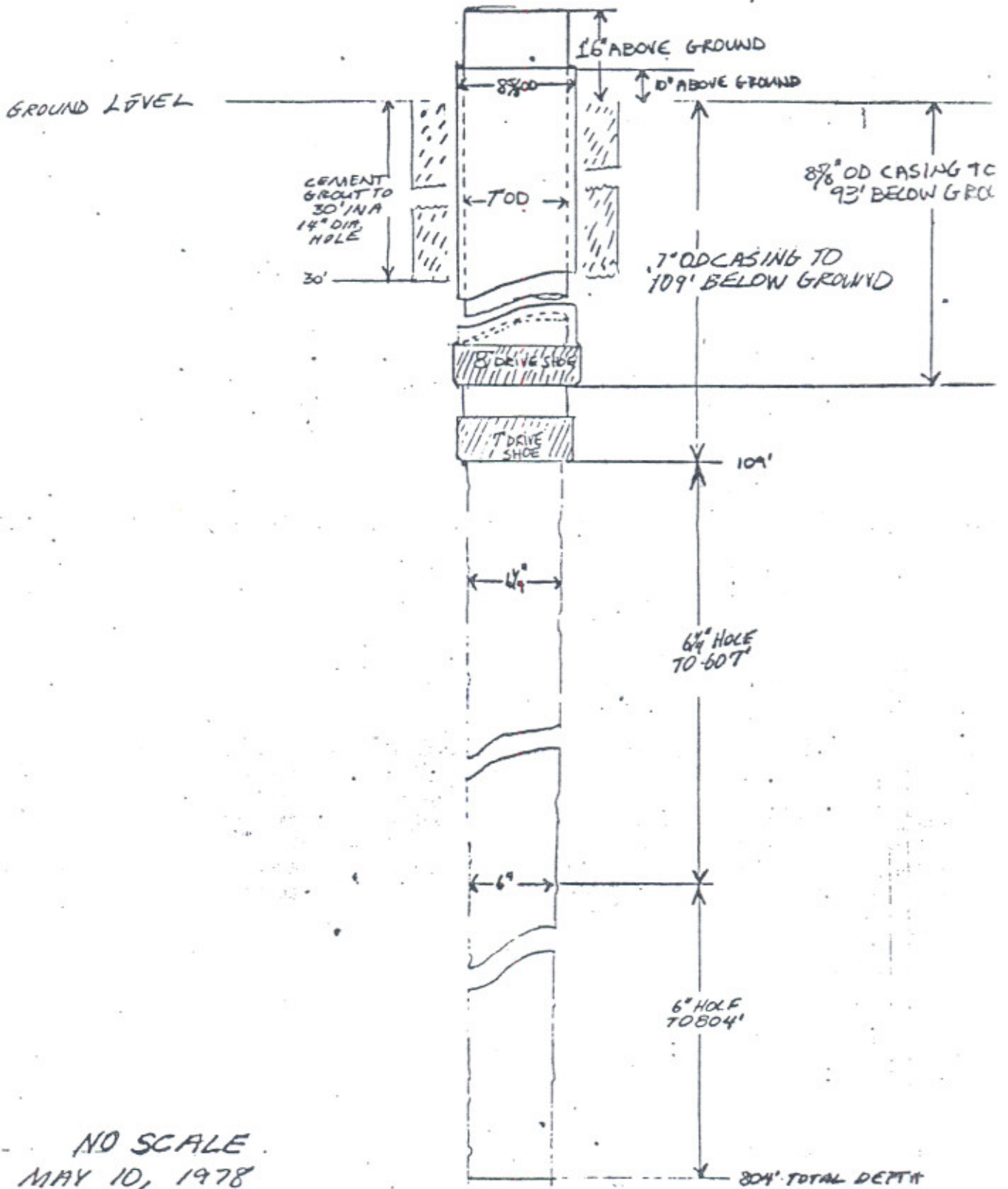
WATER LOG:

WELL PRODUCED 100 GALLONS PER MINUTE OF CLEAR SAND-FREE WATER ON AN 8 HOUR TEST WITH AN AIR LIFT PUMP. STATIC WATER LEVEL AT COMPLETION OF WELL WAS 26' 3" FROM SURFACE.

CASING LOG:

THE WELL IS CASIED FROM 10" ABOVE SURFACE TO 93' WITH 8 5/8" OD x .277 BLACK STEEL W R WELL CASING. A FORGED STEEL DRIVE SHOE IS WELDED TO THE BOTTOM OF THE 8" CASING.

CITY OF HOT SPRINGS



1. WELL OWNER Name TOWN OF HOT SPRINGS
Well # 3

2. CURRENT MAILING ADDRESS HOT SPRINGS, MONTANA 59845

3. PROPOSED USE _____ domestic (includes lawn and garden); _____ stock; municipal; _____ industrial; _____ irrigation; _____ other (specify) _____

4. WELL LOCATION

	NW	NE	
XX		4'	
	SW	SE	

NA 1/4 NE 1/4 NW 1/4 SW 1/4 Section 4
 T. 21N R. 24W
 N or S 8 or W W
 OR, Lot _____ Block _____
 Subdivision _____
 City HOT SPRINGS County SANDERS
 Elevation 2960 Accuracy: _____ ±10'; ±50'; _____ ±100'

8. WELL TEST DATA pump _____ bailer _____ other _____
 (if other, specify) _____
 Pumping level below land surface:
204' 2" ft. after 17 hrs. pumping 100 gpm
 _____ ft. after _____ hrs. pumping _____ gpm

9. WAS WELL PLUGGED OR ABANDONED? Yes No
 If yes, how? _____

10. DATE STARTED 12/20/77
 DATE COMPLETED 03/30/78

11. WELL LOG

Depth (ft.)		Formation
From	To	
0	4"	GRAVELLY TOPSOIL
4"	9"	BROKEN ROCK IN TAN SAND AND SILT
9"	9' 6"	FRACTURED BOULDER
9' 6"	13' 6"	BROKEN ROCK IN DARK TAN SAND AND SILT. SEEP OF WATER.
13' 6"	26	BROKEN ROCK IN TAN SAND AND SILT. 1 GPM OF WATER.
26	36	BROKEN GRAY ROCK EMBEDDED IN TAN CLAYEY SILT. 2 GPM OF WATER.
36	41	BROKEN GRAY ROCK EMBEDDED IN GREENISH - GRAY SILTY CLAY. 2 GPM OF WATER.
41	56	BROKEN GREEN AND GRAY ROCK IN GREENISH - GRAY SILT. 2 GPM OF WATER.
56	68	BROKEN GREEN ROCK IN BLUE - GRAY SILT. 3/4 GPM OF WATER.
68	89	BROKEN GREEN AND GRAY ROCK IN LIGHT GRAY SILT
89	91' 6"	BROKEN DARK GRAY ROCK
91' 6"	101' 6"	DARK GRAY ROCK. 5 TO 10 GPM OF WATER.
101' 6"	103	BROKEN GREEN, GRAY AND MAROON ROCK. 37 1/2 GPM OF WATER.
103	109	GREEN AND GRAY ROCK. 37 1/2 GPM TOTAL WATER.
109	211	GRAY ROCK. 1 GPM OF WATER.
211	242	GREEN AND DARK GRAY ROCK IN ALTERNATE LAYERS. 10 TO 15 GPM OF WATER.
242	417	DARK GRAY, GREEN AND LIGHT GRAYISH TAN ROCK IN ALTERNATE LAYERS

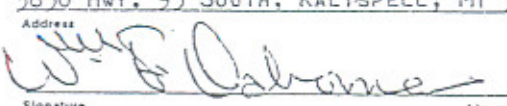
5. DRILLING METHOD _____ cable, _____ bored, _____ forward rotary, _____ reverse rotary, _____ jetted, other (specify) AIR ROTARY

6. WELL CONSTRUCTION AND COMPLETION

Size of drilled hole	Size and weight of casing	From (feet)	To (feet)	Perforations _____ and/or _____		
				Screen Kind Size	From (feet)	To (feet)
8"	8 5/8" OD 24.70 #	+10	93'			
8"	7" OD 19.54	+1' 6"	109'			
6 1/2" 6"		109	607			
		607	800			

Was casing left open end? Yes, _____ No
 Was a packer or seal used? _____ Yes, _____ No
 If so, what material _____
 Was the well gravel packed? _____ Yes, _____ No
 Was the well grouted? Yes, _____ No
 To what depth? 30'
 Material used in grouting CEMENT GROUT
 Well head completion: Pileless adapter _____
 12 in. above grade _____, other _____
 (if other, specify) _____
 Pump horsepower _____, pump type _____
 Pump intake level _____ feet below land surface
 Power (electric, diesel, etc.) _____

7. WATER LEVEL
 Static water level 26' 3" feet below land surface
 If flowing, closed-in pressure _____ psi
 _____ gpm flow through _____ inch pipe
 Controlled by: _____ valve, _____ reducers, _____ other
 (if other, specify) _____

12. DRILLER'S CERTIFICATION
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge.
7/17/78
 Date
LIBERTY DRILLING COMPANY
 Firm Name
3850 Hwy. 93 SOUTH, KALISPELL, MT 59901
 Address

 Signature
52
 License No.

CONTINUED ON PAGE 2
 (use separate sheet if necessary)

TOWN OF HOT SPRINGS
STATE WELL LOG (CONTINUED)
PAGE 2 OF 2

417 - 475

DARK GRAY ROCK WITH THIN SEAMS OF GRAYISH TAN ROCK. 40 TO 50 GPM OF WATER AT 455'.

475 - 804

DARK GRAY ROCK WITH SOME SEAMS OF GREEN ROCK AND THIN SEAMS OF LIGHT TAN AND BROWN ROCK. 60 GPM OF WATER AT 515'. 75 GPM OF WATER AT 607'. 100 GPM OF WATER AT 612'. OVER 150 GPM OF WATER AT 747'.

APPENDIX D

WATER QUALITY DATA

INVENTORY

DAN

I

INVENTORY

Status A Class C County 089

Location HOT SPRINGS

ACTUAL SYSTEM ADDRESS

Service Connections 384

Active Connections 384

Comments 09-29-98 PER FEE BILL CHANGED TOTAL
10-21-97 WELL #3 SOURCE 005 IS EME
CAPABLE OF PRODUCING FOR ABOUT 2 H
EVENT OF A STRUCTURAL FIRE IN TOWN

Name HOT SPRINGS MUNICIPAL WATER

Resident Pop 500

AKA Names

Non-Resident Pop

Seasonal Start *****

Seasonal End *****

Addressee TOWN OF HOT SPRINGS

Total Fees Due \$3.00

Survey Date 01-17-95 San Surveyor MIKE HAGEI

Street PO BOX 669

System Startup Deactivate

City/St/Zip HOT SPRINGS MT 59845

System Phone 406-741-2353 Fax 406-741-2354

Code	Associated Name	Phone	WHP Status	C	Service Cat	CG	Service Comments	Ins
OWNER	TOWN OF HOT SPRINGS	406-741-2353	Certified Oper	Y		BA		Nar
OPER	DANIEL OBERLANDER #3522 SHOP	406-741-2531				DC		USG
OPER	DANIEL OBERLANDER #3522 H741-2592406-741-2353		Owner Type	4		IN		Pho
			Regulator	B				Sys
Change Date 09-29-98								Latitude
								Longitude

INVENTORY HISTORY

HISTORY DATE	HISTORY DESCRIPTION
09/29/98	field ACTIVE.CONNECTIONS changed from 353 to 384 <i>384</i>
09/29/98	field CONNECTION changed from 353 to 384
08/17/98	SDWINV SENT 1ST FY99 FEE BILL
08/14/98	SDWINV SENT 1ST FY99 FEE BILL
10/03/97	field CONNECTION changed from 348 to 353
10/03/97	field ACTIVE.CONNECTIONS changed from 342 to 353
08/15/97	SDWINV 1ST FY98 FEE BILL
09/17/96	field ACTIVE.CONNECTIONS changed from 348 to 342 PER FEE BIL
08/02/96	SDWINV 1ST FY97 FEE BILL
02/20/96	field CONNECTION changed from 346 to 348 PER FEE BILL
20/96	field ACTIVE.CONNECTIONS changed from 346 to 348 PER FEE BILL
01/11/96	SDWINV 1ST FY96 FEE BILL

Dan - I've highlighted the data applicable to your CCR.

Greg P.

- 1) POST NOTICE
- 2) SEND TO MUMMETT
- 3) " " DAN
- 4) DRIVE TYPE IN RPT
- 5) SIGN & DATE.

- 1. 2 may up all year

SELECT SOURCES

Source name.....

DISTRIBUTION SYSTEM

SPRINGS CREEK

706 2ND AVE S WELL #1

A G 511 1ST AVE S WELL #2

S I G OLD MILL RD WELL #3

503 E A C EP FOR 706 2ND AVE S WELL #1

504 E A C EP FOR 511 1ST AVE S WELL #2

505 E I C EP FOR OLD MILL RD WELL #3

BACTI SAMPLES

	type	rslt	fc+	hpc	#sm	location.....	lab.....
	R	0			1		PHHS
	R	0			1		PHHS
	R	0			1	#2/EXPRESSWAY	ENERGYBI
02/03/99	R	0			1	SITE #3	PHHS
J1 01/06/99	R	0			1		PHHS
251*001	12/08/98	R	0		1	HS SITE #1	PHHS
0251*001	11/09/98	R	0		1		PHHS
00251*001	10/14/98	R	0		1		PHHS
251*001	10/05/98	V	INV		1	SITE #2	PHHS
251*001	09/21/98	R	0		1	SITE #1	PHHS
0251*001	09/15/98	V	INV		1	SITE 1	PHHS
00251*001	08/17/98	R	0		1	SITE 3	PHHS
251*001	08/12/98	V	INV		1		PHHS
251*001	07/14/98	R	0		1	SITE #2	PHHS
0251*001	06/17/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
00251*001	05/06/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
0251*001	04/15/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
0251*001	03/09/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
0251*001	02/10/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
0251*001	01/12/98	R	0		1	HOT SPRINGS MUNICIPA	PHHS
0251*001	12/10/97	R	0		1	SITE #2	PHHS
0251*001	11/19/97	R	0		1	HOT SPRINGS MUNICIPA	PHHS
00251*001	10/07/97	R	0		5		PHHS
0251*001	09/24/97	S	2		4	SITE #3 618 1ST AVE	PHHS
0251*001	09/18/97	R	0		5		PHHS
0251*001	09/12/97	C	16	-	4	ELEMENTARY SCHOOL	MEKAL
00251*001	09/10/97	R	16	+	5	SITE 1	MEKAL
0251*001	08/25/97	C	27		4	SITE #1	MEKAL
0251*001	08/20/97	R	3		1		MEKAL
0251*001	07/15/97	R	0		1		MEKAL
00251*001	06/23/97	R	0		1		MEKAL
0251*001	05/19/97	R	0		1	SITE #2	MEKAL
0251*001	04/09/97	R	0		1	SITE #1	MEKAL
0251*001	03/11/97	R	0		1	SITE #3	MEKAL
0251*001	02/10/97	R	0		1		MEKAL
0251*001	01/08/97	R	0		1	SITE #2	MEKAL
0251*001	12/10/96	R	0		1	SITE #1	MEKAL
0251*001	11/13/96	R	0		1	SITE #4	MEKAL
0251*001	10/22/96	R	0		1	SITE #3	MEKAL
0251*001	09/24/96	R	0		1	SITE #2	MEKAL
0251*001	08/07/96	R	0		1	TOWN OF HOT SPRINGS	MEKAL
0251*001	07/09/96	R	0		1		MEKAL
0251*001	06/11/96	R	0		1		MEKAL
0251*001	05/29/96	R	0	291	1		MEKAL
0251*001	05/22/96	V	OLD		1		MEKAL
0251*001	04/10/96	R	0		1		MEKAL
0251*001	03/12/96	R	0		1	#4	MEKAL
0251*001	02/20/96	R	0		1	#3	MEKAL
0251*001	01/17/96	R	0		1	SITE #2	MEKAL
0251*001	12/14/95	R	0		1	CITY SHOP	MEKAL
0251*001	12/12/95	R	0		1		
0251*001	11/13/95	R	0		1	#4	
0251*001	10/18/95	R	0		1	TOWN OF HOT SPRINGS	
0251*001	09/12/95	R	0		1	TOWN OF HOT SPRINGS	
0251*001	08/14/95	R	0		1	TOWN OF HOT SPRINGS	
0251*001	07/18/95	R	0		1	TOWN OF HOT SPRINGS	
0251*001	06/21/95	R	0		1	TOWN OF HOT SPRINGS	
0251*001	05/22/95	R	0		1	TOWN OF HOT SPRINGS	

*No violations
 all bacti samples
 satisfactory (one per
 month)*

90TH PERCENTILES

WSID....	SYSTEM NAME.....	PERIOD END..	CU 90%.	PB 90%.	WQP..	YN #'S
00251*001	HOT SPRINGS MUNICIPA	09-30-96	0.02	0.002		Y
251*001	HOT SPRINGS MUNICIPA	09-30-95	0.04	0.005		Y
251*001	HOT SPRINGS MUNICIPA	06-30-94	0.02	0.005		Y
00251	1 HOT SPRINGS MUNICIPA	12-31-93	0.02	0.005		Y

actual sample date of 9/21/96
completed baseline requirements for
period ending 9/30/96. will reduce
to once every 3 years - due again
during June - Sept in 1999

Radiological Popul

ID.	Date....	Typ	alpha.
01	06/06/95	R	ND
01	07/20/91	R	<1.0
01	03/25/87	R	1.5
001	/01/82	R	<2.

Cross of Ave during 41 years - no detect
in 1995 sample (not required for CCR)

Source ID	SYSTEM NAME	Smpldate	Tetrachloro-ethylene...	Polychlorinated Biphenyls.....	Dinoseb.	Simazine	Oxamyl...
251*003* 003	HOT SPRINGS MUNICIPAL WATER	03-27-91	<.5				

251*004* 004	HOT SPRINGS MUNICIPAL WATER	03-27-91	<.5				

251*005* 005	HOT SPRINGS MUNICIPAL WATER	05-27-91	<.5				

251*503* 503	HOT SPRINGS MUNICIPAL WATER	07-16-93	ND	ND	ND	ND	ND
0251*503* 503	HOT SPRINGS MUNICIPAL WATER	09-24-96	ND				
251*503* 503	HOT SPRINGS MUNICIPAL WATER	06-23-97	ND				
251*503* 503	HOT SPRINGS MUNICIPAL WATER	11-09-98	ND		ND		

251*504* 504	HOT SPRINGS MUNICIPAL WATER	07-16-93	ND	ND	ND	ND	ND
0251*504* 504	HOT SPRINGS MUNICIPAL WATER	09-24-96	ND				
0251*504* 504	HOT SPRINGS MUNICIPAL WATER	06-23-97	ND				
251*504* 504	HOT SPRINGS MUNICIPAL WATER	11-09-98	ND		ND		

251*505* 505	HOT SPRINGS MUNICIPAL WATER	07-16-93	ND	ND	ND	ND	ND
0251*505* 505	HOT SPRINGS MUNICIPAL WATER	09-24-96	ND				
0251*505* 505	HOT SPRINGS MUNICIPAL WATER	10-08-96	ND				
251*505* 505	HOT SPRINGS MUNICIPAL WATER	06-23-97	ND				

*** EPA Analytical Method 524.2 VOCs 505/508 PCBs 515.1 Herbicides 525.2 Semi-volatiles 531.1 Carbamate Pesticides

Rows Processed

- There has never been a detectable presence of organic chemicals listed above in the water supply.
- VOC annual baseline completed 11/9/98.
- VOCs & SOC Method 515.1 has been done each 3-year period... due again in 2001. (SOC water for PCBs, Semivolatiles & Carbamate Pesticides)

Anti- Bery-

ORGANIC	source id	primary name.....	SMPLDATE	Arsenic	mony..	llium.	Nickel	Thallium
	51*001	001	HOT SPRINGS MUNICIPAL WAT	06-23-76	0.001			
	51*001	001	HOT SPRINGS MUNICIPAL WAT	06-15-78	<0.001			
0025*	001	001	HOT SPRINGS MUNICIPAL WAT	04-20-79	<0.001			
00	51*001	001	HOT SPRINGS MUNICIPAL WAT	11-16-83	<0.001			
	51*001	001	HOT SPRINGS MUNICIPAL WAT	12-05-84	<0.001			
	251*001	001	HOT SPRINGS MUNICIPAL WAT	05-07-86	<0.001			
00251*	001	001	HOT SPRINGS MUNICIPAL WAT	03-17-87	<0.001			
00	51*001	001	HOT SPRINGS MUNICIPAL WAT	06-11-91	<0.001			
	51*001	001	HOT SPRINGS MUNICIPAL WAT	03-02-94				

	51*002	002	HOT SPRINGS MUNICIPAL WAT	02-28-97				

	251*003	003	HOT SPRINGS MUNICIPAL WAT	02-28-97				
00251*	003	003	HOT SPRINGS MUNICIPAL WAT	04-21-97				

00251*	005	005	HOT SPRINGS MUNICIPAL WAT	02-28-97				
00	51*005	005	HOT SPRINGS MUNICIPAL WAT	04-21-97				

	51*503	503	HOT SPRINGS MUNICIPAL WAT	03-12-93				
	51*503	503	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	ND
00251*	503	503	HOT SPRINGS MUNICIPAL WAT	06-21-95				
00	51*503	503	HOT SPRINGS MUNICIPAL WAT	06-30-96				
	51*503	503	HOT SPRINGS MUNICIPAL WAT	09-24-96	ND	ND	ND	ND
	51*503	503	HOT SPRINGS MUNICIPAL WAT	06-20-97				
00251*	503	503	HOT SPRINGS MUNICIPAL WAT	11-09-98				

00251*	504	504	HOT SPRINGS MUNICIPAL WAT	03-12-93				
00	51*504	504	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	ND
	51*504	504	HOT SPRINGS MUNICIPAL WAT	06-21-95				
	51*504	504	HOT SPRINGS MUNICIPAL WAT	06-30-96				
00	51*504	504	HOT SPRINGS MUNICIPAL WAT	09-24-96	ND	ND	ND	ND
	51*504	504	HOT SPRINGS MUNICIPAL WAT	06-20-97				
	51*504	504	HOT SPRINGS MUNICIPAL WAT	11-09-98				

	51*505	505	HOT SPRINGS MUNICIPAL WAT	03-12-93				
00251*	505	505	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	ND
00	51*505	505	HOT SPRINGS MUNICIPAL WAT	06-21-95				
	51*505	505	HOT SPRINGS MUNICIPAL WAT	06-30-96				
	51*505	505	HOT SPRINGS MUNICIPAL WAT	09-24-96	ND	ND	ND	ND
00251*	505	505	HOT SPRINGS MUNICIPAL WAT	06-20-97				

Phase V Inorganics + Arsenic done once during each 3-year compliance period, if previous results = No Detect

1

ORGANIC	source id	primary name	SMPDATE	Barium	Cadmium	Chromium	Fluoride	Mercury	SELENIUM	Sulfate
10251*001	001	HOT SPRINGS MUNICIPAL WAT	06-23-76	<0.1	<0.001	<0.005	0.06	<0.0002	<0.001	
11*001	001	HOT SPRINGS MUNICIPAL WAT	06-15-78	<0.1	<0.001	<0.005	0.04	<0.0002	<0.002	
11*001	001	HOT SPRINGS MUNICIPAL WAT	04-20-79	<0.1	<0.001	<0.005	0.06	<0.0002	<0.002	
10251*001	001	HOT SPRINGS MUNICIPAL WAT	11-16-83	0.007	<0.001	<0.005	<0.10	<0.0002	<0.002	
10251*001	001	HOT SPRINGS MUNICIPAL WAT	12-05-84	<0.005	<0.001	<0.005	<0.10	<0.0002	<0.002	
11*001	001	HOT SPRINGS MUNICIPAL WAT	05-07-86	0.006	<0.001	<0.005	1.6	<0.0002	<0.002	
11*001	001	HOT SPRINGS MUNICIPAL WAT	03-17-87	<0.005	<0.001	<0.005	<0.10	<0.0002	<0.002	
10251*001	001	HOT SPRINGS MUNICIPAL WAT	06-11-91	<0.005	<0.001	<0.005	1.53	<0.0002	<0.001	
11*001	001	HOT SPRINGS MUNICIPAL WAT	03-02-94							

1*002	002	HOT SPRINGS MUNICIPAL WAT	02-28-97	0.06						

1*003	003	HOT SPRINGS MUNICIPAL WAT	02-28-97	0.05						
11*003	003	HOT SPRINGS MUNICIPAL WAT	04-21-97							

151*005	005	HOT SPRINGS MUNICIPAL WAT	02-28-97	0.03						
0251*005	005	HOT SPRINGS MUNICIPAL WAT	04-21-97							

0251*503	503	HOT SPRINGS MUNICIPAL WAT	03-12-93							
1*503	503	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	1.7	ND	ND	16
1*503	503	HOT SPRINGS MUNICIPAL WAT	06-21-95							
0251*503	503	HOT SPRINGS MUNICIPAL WAT	06-30-96							
0251*503	503	HOT SPRINGS MUNICIPAL WAT	09-24-96							
1	503	HOT SPRINGS MUNICIPAL WAT	06-20-97							
0251*503	503	HOT SPRINGS MUNICIPAL WAT	11-09-98							

51*504	504	HOT SPRINGS MUNICIPAL WAT	03-12-93							
0251*504	504	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	1.4	ND	ND	14
1*504	504	HOT SPRINGS MUNICIPAL WAT	06-21-95							
1*504	504	HOT SPRINGS MUNICIPAL WAT	06-30-96							
51*504	504	HOT SPRINGS MUNICIPAL WAT	09-24-96							
0251*504	504	HOT SPRINGS MUNICIPAL WAT	06-20-97							
1*504	504	HOT SPRINGS MUNICIPAL WAT	11-09-98							

1*505	505	HOT SPRINGS MUNICIPAL WAT	03-12-93							
51*505	505	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND	ND	0.5	ND	ND	18
0251*505	505	HOT SPRINGS MUNICIPAL WAT	06-21-95							
1*505	505	HOT SPRINGS MUNICIPAL WAT	06-30-96							
1*505	505	HOT SPRINGS MUNICIPAL WAT	09-24-96							
51*505	505	HOT SPRINGS MUNICIPAL WAT	06-20-97							

Phase II Inorganics + Sulfate. Sulfate (unregulated due one time only. Phase I inorganics required to analyze during each 9-year compliance cycle (i.e., due again by 2010) by a waiver. ⇒ not required to report results on CCR.

INORGANIC	source id	primary name.....	SMPDATE	NO3+NO2-N	NITRATE	NITRITE	Asbestos
00251*001	001	HOT SPRINGS MUNICIPAL WAT	06-23-76		0.02		
51*001	001	HOT SPRINGS MUNICIPAL WAT	06-15-78		0.04		
51*001	001	HOT SPRINGS MUNICIPAL WAT	04-20-79		<0.01		
00251	1 001	HOT SPRINGS MUNICIPAL WAT	11-16-83		0.01		
00251	001 001	HOT SPRINGS MUNICIPAL WAT	12-05-84		<0.01		
51*001	001	HOT SPRINGS MUNICIPAL WAT	05-07-86		0.01		
51*001	001	HOT SPRINGS MUNICIPAL WAT	03-17-87		<0.01		
00251*001	001	HOT SPRINGS MUNICIPAL WAT	06-11-91		<0.01		
51*001	001	HOT SPRINGS MUNICIPAL WAT	03-02-94		ND		

51*002	002	HOT SPRINGS MUNICIPAL WAT	02-28-97				

51*003	003	HOT SPRINGS MUNICIPAL WAT	02-28-97				
51*003	003	HOT SPRINGS MUNICIPAL WAT	04-21-97				

51*005	005	HOT SPRINGS MUNICIPAL WAT	02-28-97				
00251*005	005	HOT SPRINGS MUNICIPAL WAT	04-21-97				

00251*503	503	HOT SPRINGS MUNICIPAL WAT	03-12-93	<0.01	<0.01	<0.01	
51*503	503	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND		
51*503	503	HOT SPRINGS MUNICIPAL WAT	06-21-95	0.01			
00251*503	503	HOT SPRINGS MUNICIPAL WAT	06-30-96	ND			
00251*503	503	HOT SPRINGS MUNICIPAL WAT	09-24-96				
51	503	HOT SPRINGS MUNICIPAL WAT	06-20-97	0.02			
51	503	HOT SPRINGS MUNICIPAL WAT	11-09-98	0.01			

251*504	504	HOT SPRINGS MUNICIPAL WAT	03-12-93	<0.01	<0.01	<0.01	
00251*504	504	HOT SPRINGS MUNICIPAL WAT	07-16-93	0.04	ND		
51*504	504	HOT SPRINGS MUNICIPAL WAT	06-21-95	0.02			
51*504	504	HOT SPRINGS MUNICIPAL WAT	06-30-96	ND			
00251*504	504	HOT SPRINGS MUNICIPAL WAT	09-24-96				
00251*504	504	HOT SPRINGS MUNICIPAL WAT	06-20-97	0.01			
51*504	504	HOT SPRINGS MUNICIPAL WAT	11-09-98	0.02			

51*505	505	HOT SPRINGS MUNICIPAL WAT	03-12-93	0.09	0.09	<0.01	
51*505	505	HOT SPRINGS MUNICIPAL WAT	07-16-93	ND	ND		
00251*505	505	HOT SPRINGS MUNICIPAL WAT	06-21-95	ND			
51*505	505	HOT SPRINGS MUNICIPAL WAT	06-30-96	ND			
51*505	505	HOT SPRINGS MUNICIPAL WAT	09-24-96				
51*505	505	HOT SPRINGS MUNICIPAL WAT	06-20-97	ND			

4 Rows Processed

Total N or Nitrate due annually. Nitrite due one time only.

⇒ Report nitrates on CCR "Low levels of nitrate are naturally occurring and common in groundwater. There are no known health effects associated with nitrates less than the MCL in drinking water"

INORGANIC source id	primary name.....	SMPDATE	ALKALIN	...CA	MG...	HARDNS	.PH	SODIUM	IRON	MNGNSE	SPECIF	CHLOR.
											CONDUCT	
51*001 001	HOT SPRINGS MUNICIPAL WAT	06-23-76	12.	2.0	3.6	20						
51*001 001	HOT SPRINGS MUNICIPAL WAT	06-15-78	12.	4.8	13.0	66						
00251*001 001	HOT SPRINGS MUNICIPAL WAT	04-20-79	11.	3.7	1.1	14						
00751*001 001	HOT SPRINGS MUNICIPAL WAT	11-16-83	284.	5.0	0.8							
51*001 001	HOT SPRINGS MUNICIPAL WAT	12-05-84	15.	4.8	12.3	63						
00251*001 001	HOT SPRINGS MUNICIPAL WAT	05-07-86	106.	20.7	4.2	69						
00251*001 001	HOT SPRINGS MUNICIPAL WAT	03-17-87	1.	2.4	1.0							
051*001 001	HOT SPRINGS MUNICIPAL WAT	06-11-91	118.	24.1	5.2	82						
51*001 001	HOT SPRINGS MUNICIPAL WAT	03-02-94										

51*002 002	HOT SPRINGS MUNICIPAL WAT	02-28-97		73.9	30.6	311		>250	0.33	3.0		

00251*003 003	HOT SPRINGS MUNICIPAL WAT	02-28-97		68.0	29.0	289		>250	0.18	2.42		
00251*003 003	HOT SPRINGS MUNICIPAL WAT	04-21-97							0.11	0.789		

00251*005 005	HOT SPRINGS MUNICIPAL WAT	02-28-97		67.6	28.8	288		>250	0.06	1.06		
0051*005 005	HOT SPRINGS MUNICIPAL WAT	04-21-97							0.03	0.408		

0051*503 503	HOT SPRINGS MUNICIPAL WAT	03-12-93										
51*503 503	HOT SPRINGS MUNICIPAL WAT	07-16-93	118	23.8	4.3	77	8	24.9	0.04	0.041	275	
00251*503 503	HOT SPRINGS MUNICIPAL WAT	06-21-95										
00751*503 503	HOT SPRINGS MUNICIPAL WAT	06-30-96										
51*503 503	HOT SPRINGS MUNICIPAL WAT	09-24-96										
00251*503 503	HOT SPRINGS MUNICIPAL WAT	06-20-97										
00251*503 503	HOT SPRINGS MUNICIPAL WAT	11-09-98										

00251*504 504	HOT SPRINGS MUNICIPAL WAT	03-12-93										
0051*504 504	HOT SPRINGS MUNICIPAL WAT	07-16-93	115	18.3	3.4	60	8	30.3	0.05	0.016	262	
51*504 504	HOT SPRINGS MUNICIPAL WAT	06-21-95										
251*504 504	HOT SPRINGS MUNICIPAL WAT	06-30-96										
00751*504 504	HOT SPRINGS MUNICIPAL WAT	09-24-96										
51*504 504	HOT SPRINGS MUNICIPAL WAT	06-20-97										
00251*504 504	HOT SPRINGS MUNICIPAL WAT	11-09-98										

251*505 505	HOT SPRINGS MUNICIPAL WAT	03-12-93										
00251*505 505	HOT SPRINGS MUNICIPAL WAT	07-16-93	111	25.6	3.2	77	8	21.1	0.13	0.025	257	
0051*505 505	HOT SPRINGS MUNICIPAL WAT	06-21-95										
51*505 505	HOT SPRINGS MUNICIPAL WAT	06-30-96										
251*505 505	HOT SPRINGS MUNICIPAL WAT	09-24-96										
00251*505 505	HOT SPRINGS MUNICIPAL WAT	06-20-97										

Unregulated inorganics - not required on CCR.

SOURCES

PWSID	00251	HOT SPRINGS MUNICIPAL WATER	class C	
source id	005	source name	OLD MILL RD WELL #3	26 SW-
word type	S	location	1/8 MI W. OF CORP CITY LIMITS ON OLD MILL RD	
source type	G		SEC 4 TOWNSHIP 21 RANGE 24 H.S.	547 D
status	A	SWTR filtration status		was 701
fill draw	N	seasonal		
available	P	start	end	name*freq
purchased				effective
turb meter				
objective	N			
treatment	000			
		single contams		
name			frq	effective

change date 11-09-95 info verify date 05-21-92

SOURCES HISTORY

HISTORY DATE	HISTORY
--------------	---------

Hot Springs

INORGANIC SAMPLES

S.ID.	DATE.....	TYPE..	LABNUM.....	NO3+NO2	NITRATE	NITRITE
503	11-04-96	R	C9609-105720			
74	11-04-96	R	C9609-105721			
5	11-04-96	R	C9609-105722			
503	09-24-96	R	C9609-105720			
504	09-24-96	R	C9609-105721			
505	09-24-96	R	C9609-105722			
503	06-30-96	R	C9606-102744		ND	
504	06-30-96	R	C9606-102745		ND	
505	06-30-96	R	C9606-102746		ND	
503	06-21-95	R	6367-1	0.01		
504	06-21-95	R	6367-2	0.02		
505	06-21-95	R	6367-3		ND	
001	03-02-94	R	2202			ND
503	07-16-93	R	C9307-102738		ND	ND
504	07-16-93	R	C9307-102739	0.04		ND
505	07-16-93	R	C9307-102740		ND	ND
503	03-12-93		3705-1	<0.01	<0.01	<0.01
504	03-12-93		3705-2	<0.01	<0.01	<0.01
505	03-12-93		3705-3	0.09	0.09	<0.01
001	06-11-91	R	91W1966		<0.01	
001	03-17-87	R	87W0416		<0.01	
001	05-07-86	R	86W0928		0.01	
001	12-05-84	R	84W2371		<0.01	
001	11-16-83	R	83W2207		0.01	
001	04-20-79	R	79W0733		<0.01	
001	06-15-78	R	78W1072		0.04	
001	06-23-76	R	76W1307		0.02	

APPENDIX E

GEOLOGIC MAPS

APPENDIX F

DATABASE SEARCH RESULTS

Land Stewardship

TOWN='HOT SPRINGS' With a Buffer of 10 Miles

Owner	Acres	Sq. Miles	% of Total
Private	104,847	163.82	52.14%
Tribal Land	47,174	73.71	23.46%
U.S. Forest Service	30,739	48.03	15.29%
State Trust Land	10,909	17.05	5.43%
Plum Creek Timber lands	6,892	10.77	3.43%
Water	513	0.80	0.26%
GRAND TOTAL	201,074	314.18	

Data Description

Ownership data, plus data on conservation easements and special land-management designations, are all incorporated in a single, "stewardship", data-layer.

Much of the public lands ownership information was originally digitized by the Bureau of Land Management (BLM) from 1:100,000 scale BLM maps.

Additional information, corrections and updates (especially for tribal lands and private lands) were added by the University of Montana, Wildlife Spatial Analysis Unit, during 1996-1998.

Since 1998, the Montana Natural Heritage Program (MTNHP) has made and continues to make numerous updates and corrections, based on data supplied by the various public agencies. The data have not been verified against county or Montana Department of Revenue records.

The base scale for the data is 1:100,000, though many of the recent edits incorporate data digitized from 1:24,000 scale quads or survey data.

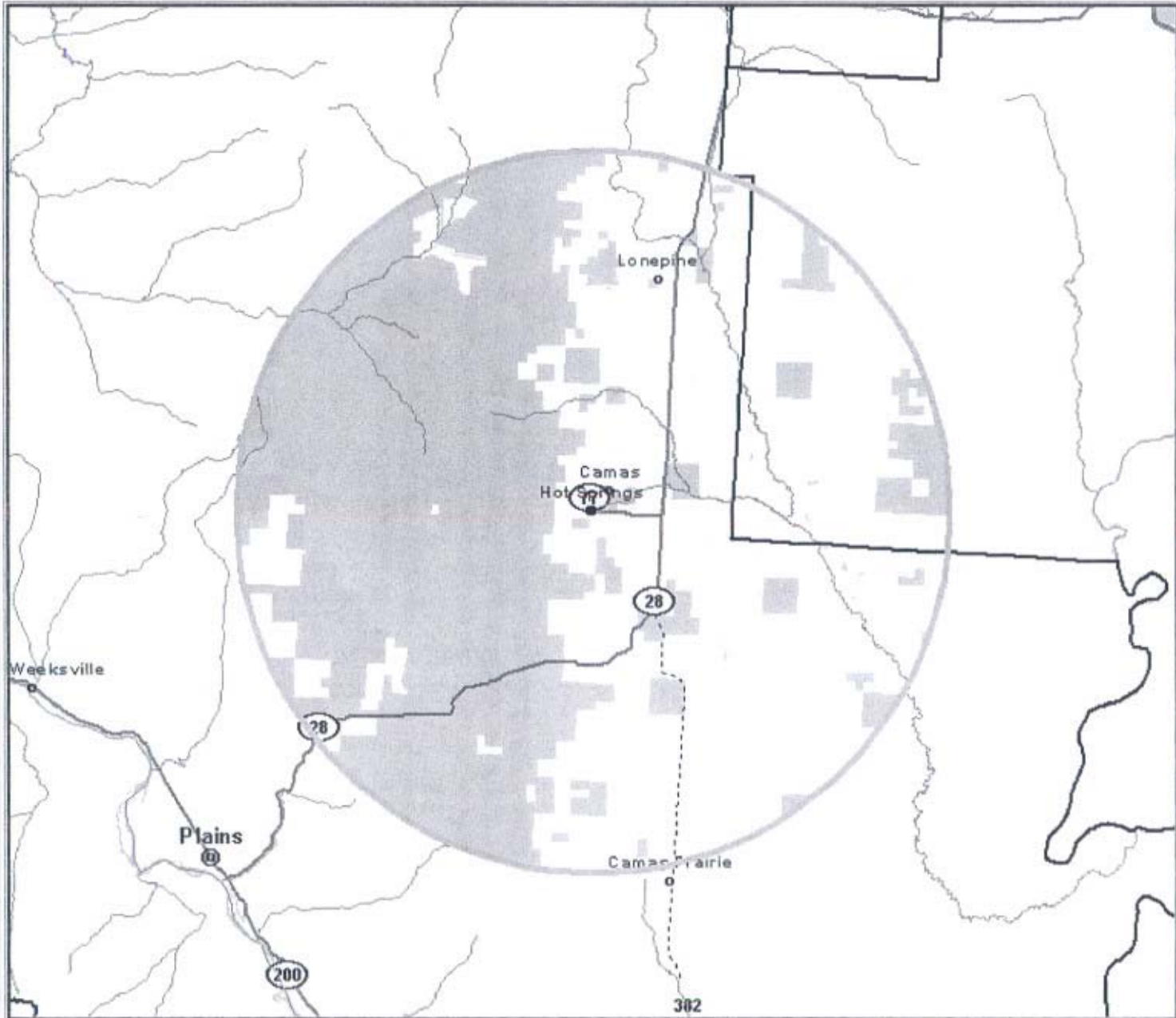
Federal and state lands are coded for the agency that manages them. The categories 'other federal' and 'other state' were created to simplify the maps and tabular summaries by lumping lands managed by agencies with smaller acreages.

This data was last updated 8/3/2001. If you have comments or questions about this data-layer, please contact Cedron Jones at (406) 444-2817.

Ownership - System Output Map

Date 9/24/01 | Width of Map=32.59 Miles

This map produced by the Natural Resource Information System-Helena MT 59620



Groundwater Information Center Well Data

[Click here to close window and return to map.](#)

M number- Site Report	Water Quality Data?	Hydrograph available?	Name	Water Right #	PWS ID	Depth	Date Completed
6154	Yes	No	HOT SPRINGS MUNICIPAL WATER - WELL 1	W034351- 00	00251003	241	10/23/1939
6155	Yes	No	HOT SPRINGS MUNICIPAL WATER - WELL 2	W034352	00251004	383	8/19/1963
6153	Yes	No	LESTNER LAURA * LB- 313			420	9/12/1977
76200	No	No	MAISH ENID MRS.			50	1/1/1943
76198	No	No	PEPPENGER ALBERT L	67883		200	4/25/1988
76197	No	No	SHELDON CLAIR R.			125	1/1/1928

Data Description

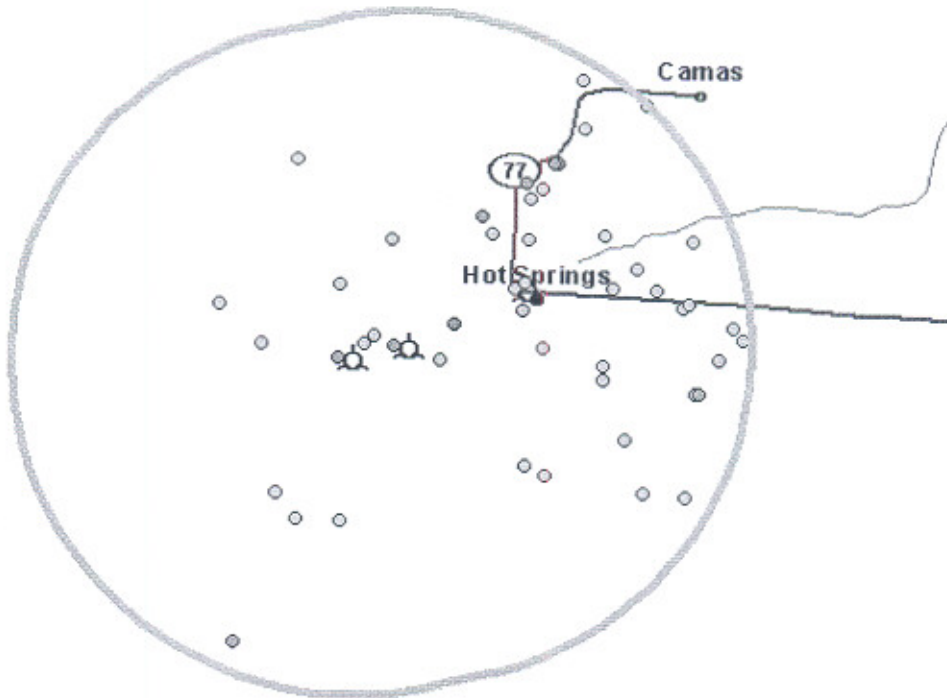
This report provides basic information about the wells in the area you selected.

Data is provided by the [Groundwater Information Center \(GWIC\)](#), a program of the Montana Bureau of Mines and Geology and was last updated 1/9/2003.

GWIC Well Data

Selection Info: PWSID='MT0000251', with a buffer of 1.0 Miles


Zoom IN OUT Zoom Factor Pan



Identify

G
 L
 H
 F
 E
 None
* If the map available

Area of Interest



<u>Data Reports</u>	<u>Description</u>
Well Summary List	Click Here
Wells Yearly Summary	Click Here
Well Average Depth	Click Here

[Download GWIC Wells Shape File](#)

Septic Density 2000

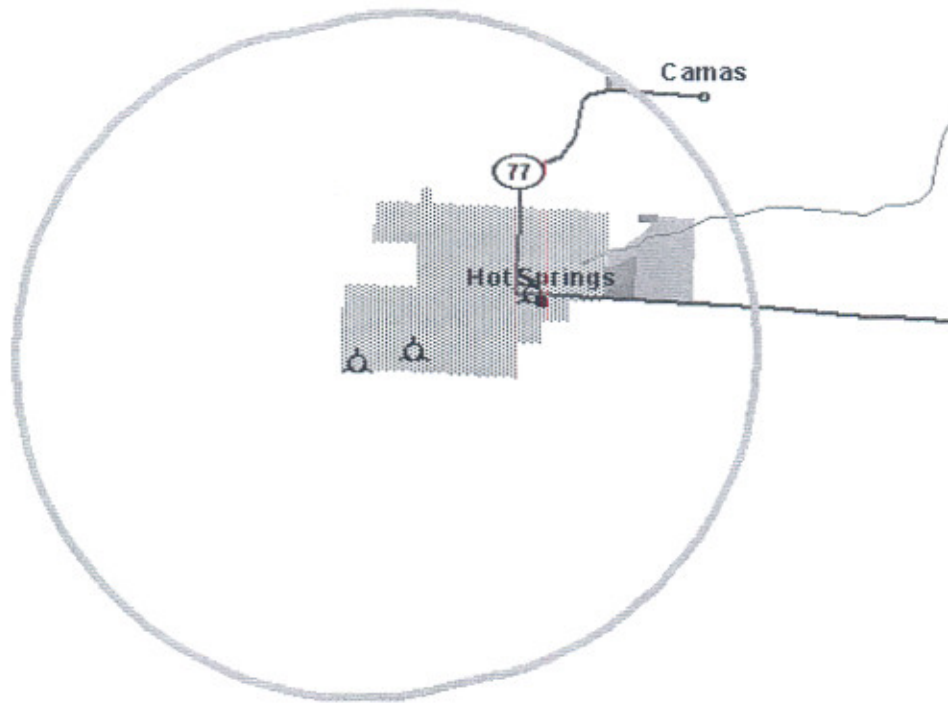
Selection Info: PWSID='MT0000251', with a buffer of 1.0 Miles

Zoom IN OUT

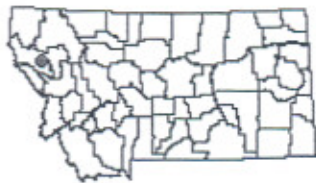
Zoom Factor

Pan

Identify



Area of Interest



Data Reports

[Septic Summary](#)

[Public Water Supply Summary Report](#)

[Download Septic Density 2000 Shape File](#)

[Download Public Water Supplies Shape File](#)

Description

[Click Here](#)

[Click Here](#)

None



* If the map available



Hot Springs Chamber of Commerce

Virtual Business Cards

Town of Hot Springs

<u>Buck's Grocery</u>	<u>Caldwell Banker Real Estate</u>
<u>Clark Fork Valley Hospital</u>	<u>Crestview Horse Ranch</u>
<u>D & L Machine Shop</u>	<u>Firebird Touch Therapy</u>
<u>Flowers-N-Things</u>	<u>Gamble's Hardware Store</u>
<u>Hearts Across America</u>	<u>Herb Store</u>
<u>Hot Springs Artists Society</u>	<u>Hot Springs Lumber & Feed</u>
<u>Hot Springs Spa</u>	<u>Hot Springs Telephone Company</u>
<u>Howard's Health Center</u>	<u>Massage Therapy</u>
<u>Preston Town County Library</u>	<u>Primitive Woods Antiques</u>
<u>Second Home Restaurant</u>	<u>Spring Street Exxon</u>
<u>Stobie's Auto Parts</u>	<u>Symes Hotel</u>
<u>Timberline Apartments</u>	<u>Valley Bank</u>
<u>Wild Horse Hot Springs</u>	<u>Yoga by Nisca Warthen</u>

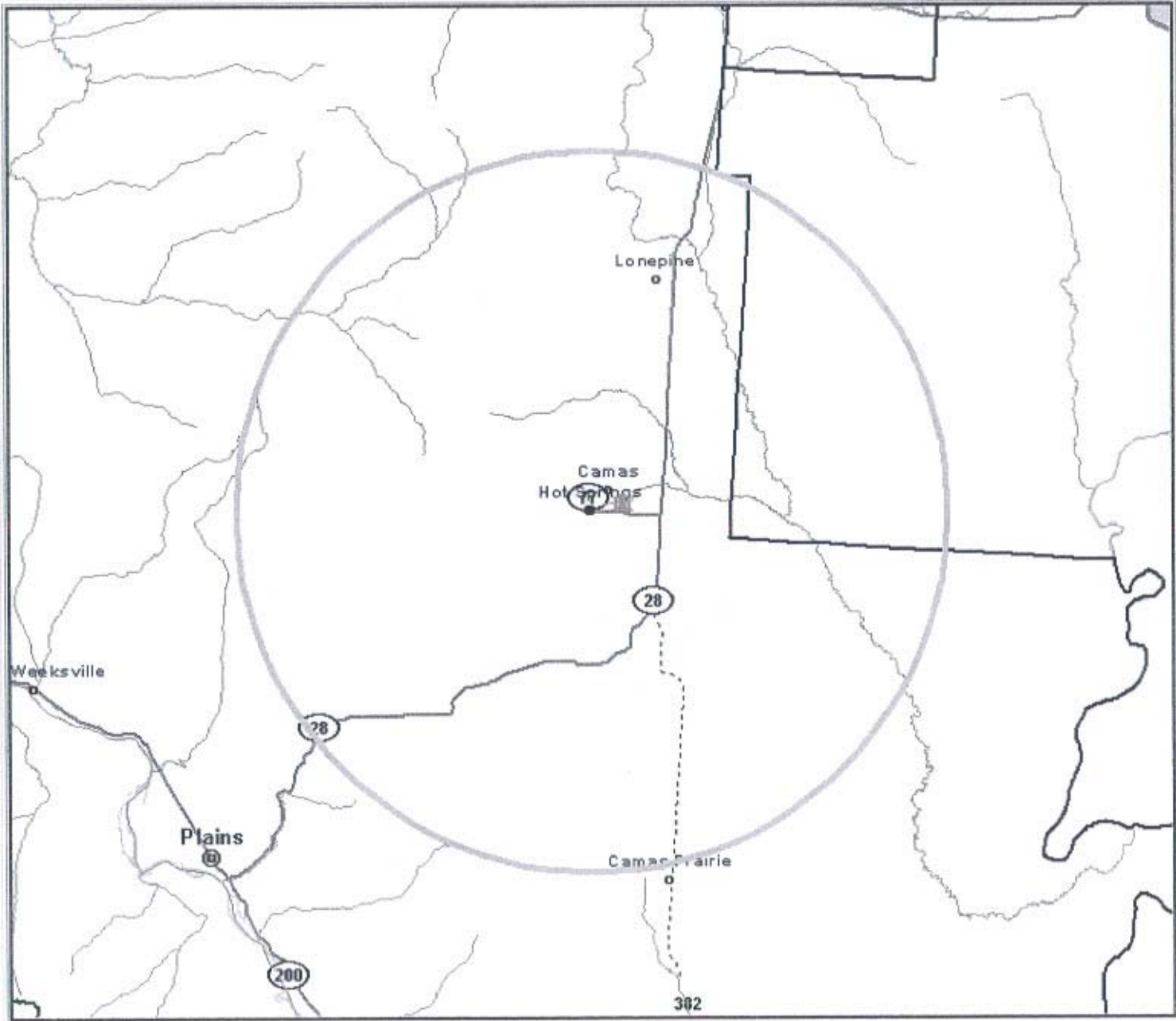
HOME

*This page maintained by
rickest@hotsprgs.net.*

Wastewater Discharge Locations - System Output Map

Date 9/24/01 | Width of Map

This map produced by the Natural Resource Information System-Helena MT 59620



Point Source Dischargers

(close window to return to map)

Click on NPDES for EPA's Detailed Report

NPDES#	Site #	Name	Description	Receiving Water	Type
MT0030198	001	Hot Springs (WWTP) 001	Wastewater Treatment Plant	Hot Springs Creek	Municipal

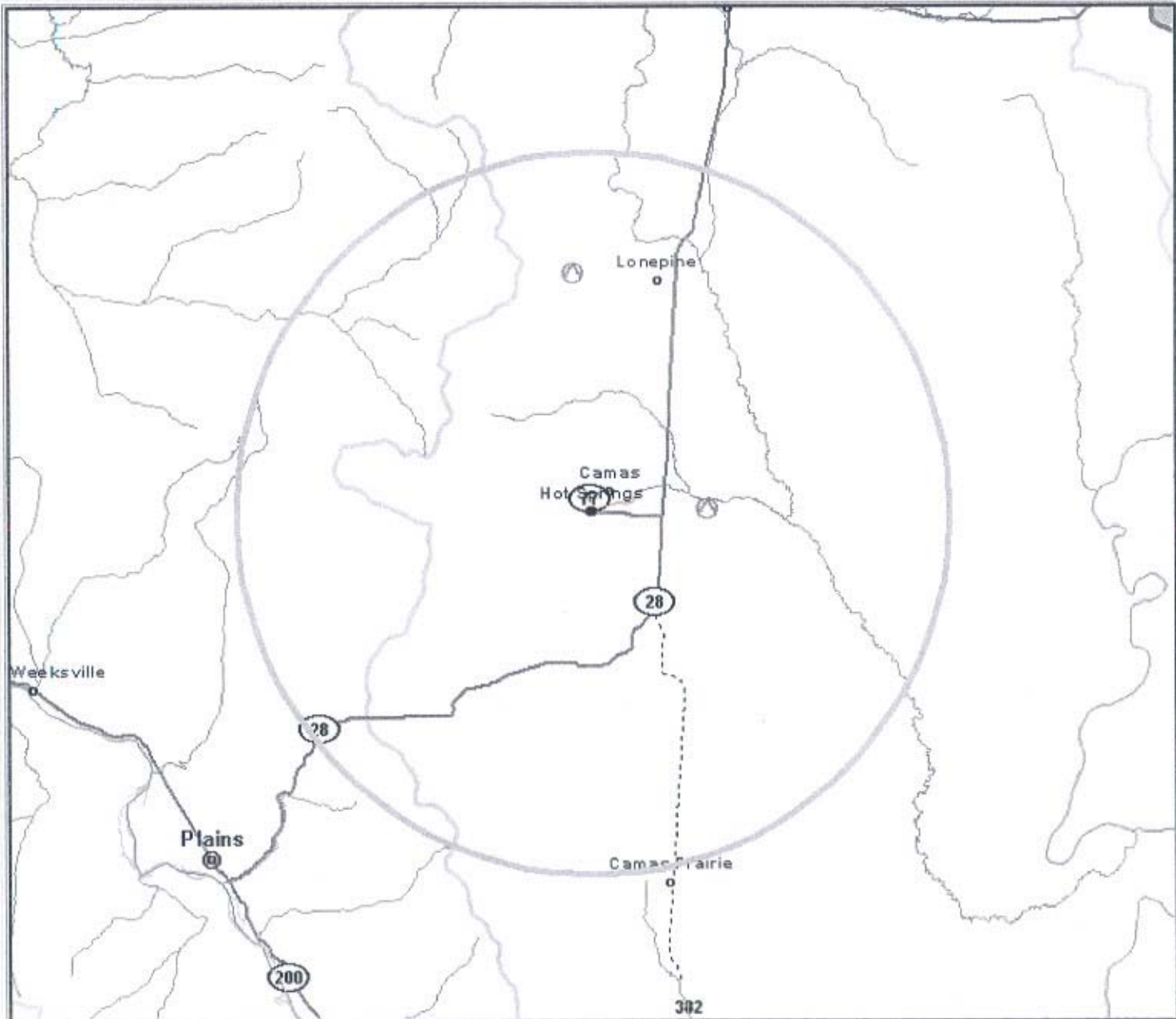
Data Description

Point Source Discharge Data

Landfills - System Output Map

Date 9/24/01 | Width of Map=32.59 Miles

This map produced by the Natural Resource Information System-Helena MT 59620



Hot Springs Spills

- USPS – 110 Main Street. 1994 spill 6.5' north of P.O. bldg, just east of ramp. \leq 1,000 gal. Water main 150' south. Removed 20 yd³ of soil. Contamination likely still present – inactive.
- Erschul – 505 2nd Ave. S. 1971 gasoline. City well is 2 blocks NW, water main 90' north. 25 yd³ removed. TPH = 180 in 1993
- Hot Springs School District – 325 Broadway. Two heating oil tanks removed. One was 1,000 gal, the other 10,000 gal. DRO 32,000 ppm, 1,400 ppm. 100 yd³ removed from around larger tank. See map. One gasoline tank removed as well. Work on site continues.
- Symes Hotel – storage sheds west of hotel building. Above ground storage tanks for heating oil – historic overfilling. 215 tons of material removed (1993) and land farmed in Idaho.
- Symes – 109 Wall Street. 6,300 ppm DRO initial sample. Over-excavated 30 yd³. No closure samples, no GW investigation – site resolved.
- Spring Street Exxon – 104 Spring Street. Gasoline contamination in soil 1996. Tanks removed in 1999. No GW investigation, no spill extent established. 1996 GRO = 330 ppm.

Other spills have been reported for the Hot Springs area. However the remaining spills (14 total) were well outside of the water project area boundary.

* - note action levels 100 ppm DRO and TPH.

APPENDIX G

WATER SUPPLY PROTECTION ORDINANCE

RECEIVED

ORDINANCE NO. 94-05

FEB - 9 1998

MONTANA

AN ORDINANCE REGULATING
ESTABLISHMENTS WHICH THREATEN TO POLLUTE
THE WATER SUPPLY OF THE TOWN OF HOT SPRINGS

DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

WHEREAS, it is necessary to maintain the quality of the ground water in the aquifer in order to protect the health and safety of the residents of Hot Springs and to protect the Town's investment in its water supply system;

WHEREAS, any individual, entity or business which threatens the quality of the Town's ground water is an "offensive and unwholesome establishment" as that term is defined in Section 7-21-4204, MCA; and

WHEREAS, the Town is authorized by Sections 7-13-4406 and 7-21-4204, MCA to regulate or prohibit such establishments within the Town or within three miles from its limits;

NOW, THEREFORE, BE IT ORDAINED, by the Town Council of the Town of Hot Springs that the following language be adopted:

13.04.120 Pollution of Water Supply

No offensive or unwholesome establishment may exist within the corporate limits of the Town of Hot Springs or within three miles thereof except upon application made to and permission received in advance from the Town Council. No pollution nor potentially polluting material may exist within the corporate limits of the Town or within three miles thereof except upon application made to and permission received in advance from the Town Council.

13.04.121 Definitions

A. "Offensive and unwholesome establishment" shall mean any business, entity, organization or individual or location which manufactures, possesses, disposes, transports, handles, deals with, stores, sells, or allows the presence of pollution under circumstances which pollute or threaten to pollute the ground water

supply of the Town.

B. "Pollution" is defined by Section 75-5-103, MCA.

C. "Potentially polluting material" means any substance that would result in pollution of the Town's groundwater supply if allowed to enter the supply in sufficient quantities. The term includes but is not limited to the following:

1. sewage effluent, petroleum products, pesticides and fertilizers, Section 75-10-403, MCA;
2. hazardous substances as defined by Section 75-10-602, MCA;
3. hazardous or deleterious substances as defined by Section 75-10-701, MCA;
4. regulated substances as defined by Section 75-10-403, MCA;
5. halogenated solvents as defined by Section 75-10-451, MCA;
6. hazardous chemicals as defined by Section 50-78-102, MCA;
7. contaminants identified by the U.S. Environmental Protection Agency pursuant to the federal Safe Drinking Water Act (42 USC 300f et.seq.); and
8. pollution as defined above.

13.04.122 Permits

Applications for permits shall be made on a form supplied by the Town Clerk. Applications will be considered by the Town Council at the next regularly scheduled meeting after submission to the Town Clerk.

No permit shall be issued except in conformity with all State and Federal statutes and regulations and upon conditions imposed by the Town Council to preserve the integrity of the Town's ground water source and water system.

Application for a permit and acceptance of a permit shall be consideration for and agreement by the applicant and holder that the Town Council or its representative may inspect the premises of the applicant or the permittee at any time.

13.04.123 Public Nuisance

The existence of pollution or potentially polluting materials within the limits of the Town or within three miles thereof without a permit issued by the Town Council under this ordinance is hereby declared a public nuisance and may be enjoined, abated or punished as a criminal offense in accordance with the Codes of the Town of Hot Springs.

13.04.123 Revocation

The Town may revoke any permit previously issued for good cause following notice and an opportunity to be heard. A permit shall be revoked for failure to adhere to conditions required, upon conviction of the permittee of maintaining a public nuisance, or after relief granted in favor of the Town to abate a public nuisance.

The Clerk is instructed upon final passage and effective date to prepare and place this Ordinance in the Town of Hot Springs Ordinance Book.

First Reading: _____ Ayes _____ Nays _____ Abstentions
Second Reading: _____ Ayes _____ Nays _____ Abstentions

Effective Date:

Mayor

Attest: _____
Clerk-Treasurer

APPENDIX H

CONCURRENCE LETTERS