Yellowstone National Park
Controlled Ground Water Area, Montana

Well Inventory and Baseline Sampling

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Montana Bureau of Mines and Geology
Report of Investigation 8

Introduction

A Water Rights Compact between the State of Montana and the United States National Park Service (NPS) became effective on January 31, 1994. The Yellowstone Controlled Ground Water Area (CGWA) was established to implement controls on the development of ground water near Yellowstone National Park (Park) to preserve its natural geothermal features. The Montana Bureau of Mines and Geology (MBMG) was mandated by the compact to initiate an inventory of all ground-water appropriations within the CGWA having a priority date before January 31, 1994 that could be located and accessed with reasonable diligence.

The Montana Bureau of Mines and Geology, in a cooperative agreement with the NPS, has completed the well inventory of the CGWA. Standard Operating Procedures (SOPs) for the collection of field data and sampling were developed by the MBMG and are available as separate documents. Laboratory analyses were conducted under the U.S. Environmental Protection Agency (EPA) Statement of Work 846.

Information collected from each well that was inventoried included the following:

Location (cadastral and latitude/longitude)
Current well owner/user
Water temperature
pH
Specific Conductance
Chloride concentration (field determination)
Well flow rate or pump capacity
Pumping/static water level

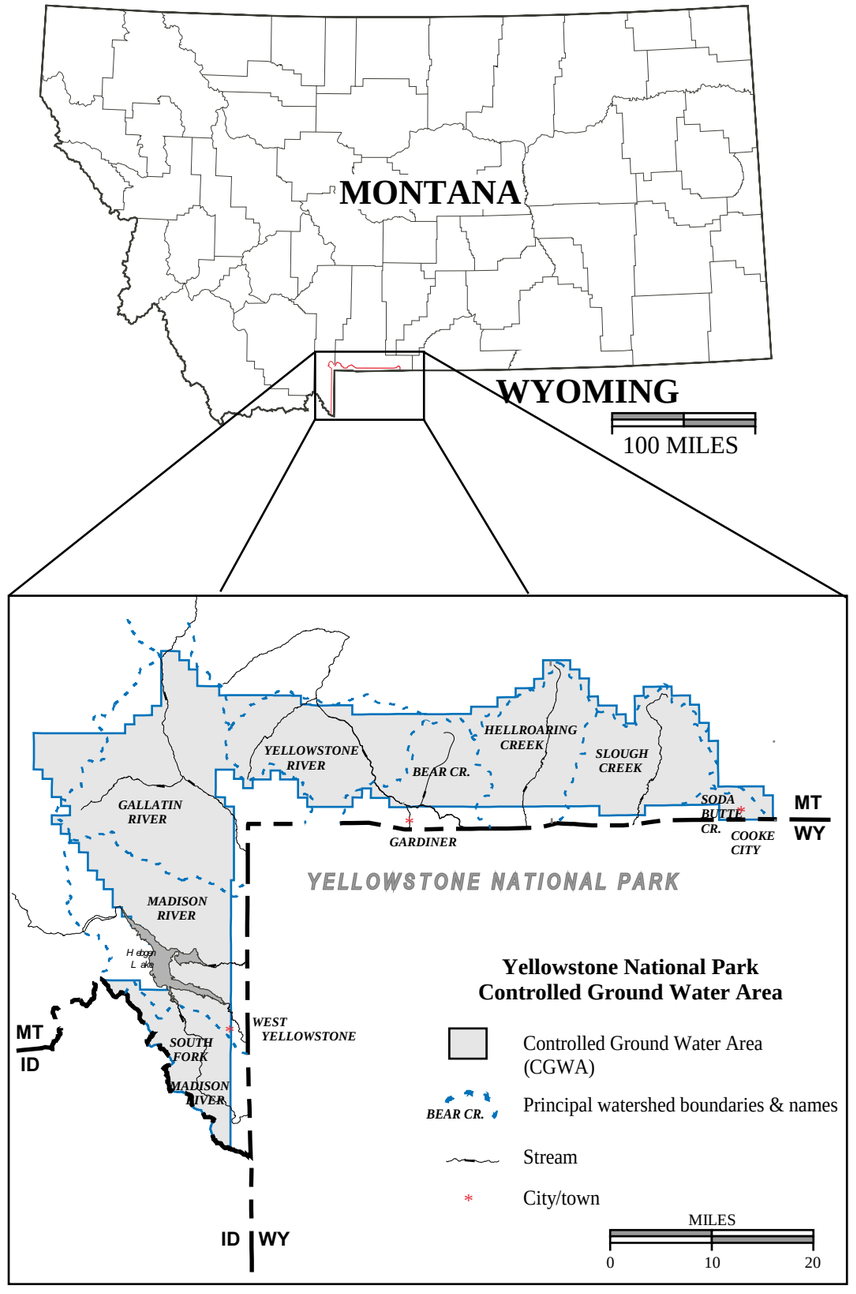
In addition to the inventory, samples were collected from a representative number of wells based on well depth, aquifer type, water temperature, chloride concentration, and geographic distribution. Laboratory analyses conducted by the MBMG Analytical Division included major cations, major anions, trace metals, and ^{222}Rn. Isotopes, including ^{18}O, ^{3}H, ^{2}H, and ^{3}He, were analyzed by other laboratories. All of the information gathered during this inventory and baseline sampling, including well logs, are available through the MBMG Ground-Water Information Center (GWIC) as hard copy or via the Internet at: http://mbmggwic.mtech.edu.

Acknowledgments

The MBMG gratefully acknowledges the support of the National Park Service in providing funding and expertise. The Technical Oversight Committee provided guidance and expertise throughout the project which was greatly appreciated. The authors also wish to express gratitude to the well owners within the CGWA for their patience and cooperation.

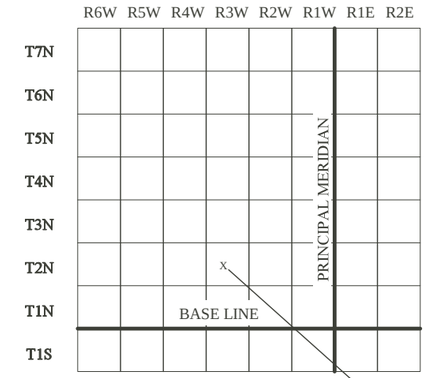
The Controlled Ground Water Area

The CGWA encompasses about 875,000 acres and includes 1,367 sections in 51 townships in Madison, Gallatin, and Park counties, Montana. Larger watersheds within the area are the upper Madison, South Fork Madison, and upper Yellowstone rivers, which flow out of the Park; and Bear, Hellroaring, Slough, and Soda Butte creeks, which flow into the Park. The principal population centers are West Yellowstone, near the West Entrance of the Park; Gardiner, near the North Entrance; and Silver Gate/Cooke City, near the Northeast Entrance.

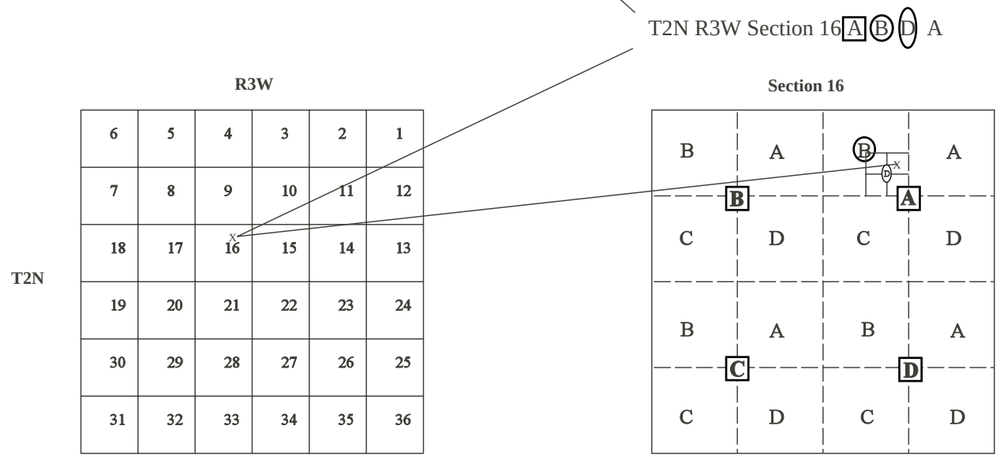


Yellowstone Controlled Ground Water Area
(Bold indicates sections with one or more wells)

TWN	RNG	Section
06S	04E	33, 34
07S	**04E**	2, 3, 4, 9, 10, 11, 12, 13, 14, 15, **16**, **21**, 22, 23, 24, 25, 26, 27, **28**, 32, 33, 34, 35, 36
07S	05E	19, 20, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
07S	06E	26, 27, 28, 28, 30, 31, 32, 33, 34, 35, 36
07S	07E	31, 32, 33, 34, 35
07S	**10E**	23, 24, 25, 26, 27, 28, 31, 32, 33, 34, **35, 36**
07S	11E	3, 4, 5, 8 through 36
07S	12E	25, 30, 31, 32, 33, 36
07S	13E	19, 20, 21, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
08S	02E	13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
08S	03E	1, 11 through 36
08S	**04E**	ALL **4**, **27**, **28**, **34**
08S	**05E**	ALL **24**
08S	**06E**	ALL **2**, **8**, **9**
08S	**07E**	ALL **2**, **11**, **12**, **13**, **24**, **26**, **27**, **28**, **29**, **35**
08S	**08E**	ALL **8**, **17**, **19**, **30**, **31**, **32**
08S	09E	ALL
08S	10E	ALL
08S	11E	ALL
08S	12E	1, 3 through 36
08S	13E	ALL
08S	14E	7, 18, 19, 20, 29, 30, 31, 32
09S	02E	1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 33, 34, 35, 36
09S	03E	ALL
09S	04E	ALL
09S	05E	1, 2, 5, 6, 7, 8, 12, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34
09S	06E	1, 2, 3, 5, 6, 12, 13
09S	07E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23
09S	**08E**	1, 2, 3, 4, **5,** 6, 7, **8,** 9, 10, 11, 12, 13, 14, **15, 16, 17,** 22, **23, 24**
09S	**09E**	1, 2, 3, **4,** 5, 6, 7, **8, 9,** 10, 11, 12, 13, 14, 15, **16,** 17, 18, 19, 20, 21, 22, 23, 24
09S	10E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
09S	11E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
09S	12E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
09S	13E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
09S	**14E**	5, 6, 7, 8, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, **25,** 26, **27,** 28, **33, 34,** 35, 36
09S	**15E**	18, **19, 20, 29, 30,** 31, 32
10S	02E	1, 2, 3, 11, 12, 13
10S	03E	1, 2 through 30, 32, 33, 34, 35, 36
10S	04E	ALL
10S	05E	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
11S	**03E**	1, 2, 3, 4, 10, 11, 12, 13, 14, **15,** 23, 24, **25**
11S	04E	ALL
11S	05E	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
12S	03E	33, 34, 35, 36
12S	**04E**	1, **2,** 3, **4, 5, 9, 10, 12, 13,** 14, 15, 22, 23, **24, 25, 26,** 27, **34, 35,** 36
13S	**04E**	ALL **1**, **2**, **3**, **4**, **10**, **15**, **16**, **20**, **21**, **22**, **26**
13S	**05E**	3, 4, 5, 6, 7, 8, 9, **10, 15,** 16, 17, 18, 19, 20, **21, 22, 27,** 28, 29, 30, 31, 32, 33, **34**
14S	04E	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 25, 26, 27, 34, 35, 36
14S	05E	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 24, 28, 29, 30, 31, 32, 33, 34
15S	04E	1
15S	05E	3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 33, 34



Explantion of
Township - Range - Section



The locations of wells in this inventory are described by latitude/longitude and by the cadastral system. The cadastral system of locating wells uses surveyed townships described by township, range, and section. Each section is divided into quarter-sections, and each quarter-section is further divided into quarters. Each division within the section is described by a letter (A, B, C, or D) assigned counter-clockwise. A full location description of sampled wells using both systems is included in the appendix.

Well Inventory

In the initial review of wells in the CGWA, approximately 600 wells were on record with GWIC and the Montana Department of Natural Resources (DNRC) in 1994; these data were used as the basis for this inventory. In addition, there have been 110 permits issued with priority dates after January 1994. The wells in the inventory have been grouped into one of three categories:

1) wells for which a complete set of inventory data were collected,

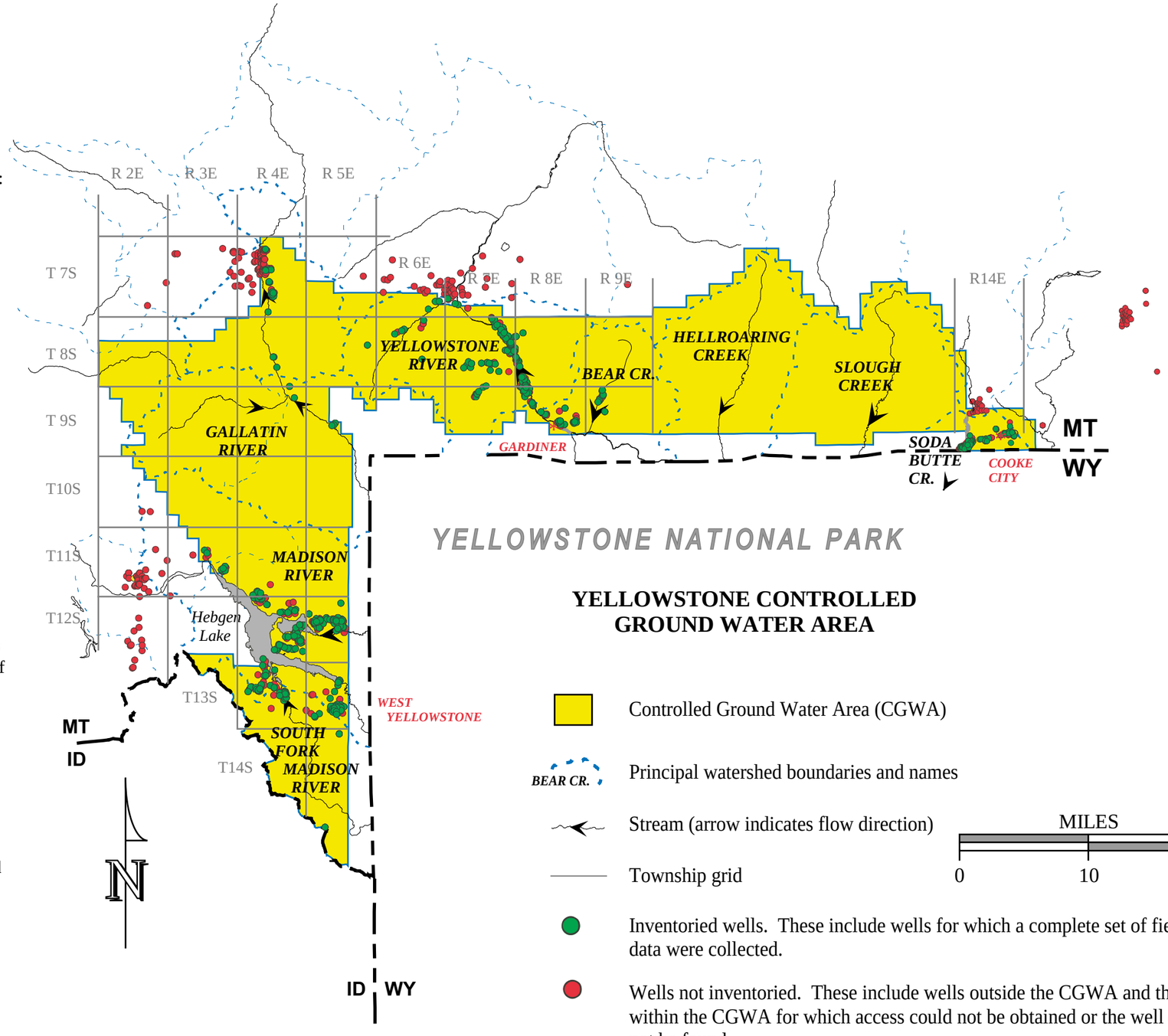
2) wells for which only location and limited, if any, field data could be obtained, and

3) wells for which a well log exists, but were not found.

The wells in the first category were inventoried and complete sets of data were collected.

The majority of wells in the second category are those that could be located but could not be pumped and sampled for field inventory because the owners could not be contacted. Most of these are recreational homes with the owners being in the area for only a short time. With a pump in the well and no electrical power, it was impractical to obtain a sample without the risk of damage to the well. When possible, owners were contacted at their permanent residences and access obtained, but this was rare. Wells were assigned to this category after at least three unsuccessful attempts over at least two years. This category also includes wells completed after January 31, 1994; many of these were installed just after the Compact went into effect, but no further activity has occurred. A small number of wells in this category are those under the control of well owners or users who refused access to the property.

The third category comprises wells for which locations were listed on well logs or DNRC water-right listings but could not be found. This was particularly common in the city of West Yellowstone, where the residents have been required to subscribe to a new community water-supply system. Estimates of these abandoned wells range from 140 to 240 wells affected by the change. The GWIC data base identified about 140 wells in the area, about half of which were found. Anecdotal accounts by residents indicated that most were destroyed during recent construction of homes and businesses. Other wells that were not found include those with poor or incomplete location information on the well logs. Many wells having such incomplete information were located during a ground search of the area and re-categorized, but those that could not be found remained in this category. The existing information on wells not found will remain in the data base until a notice of abandonment is received. There are 87 wells in this category.



Inventory Results

The Compact divides the CGWA into two subareas. Subarea 1 contains those areas around the three population centers (West Yellowstone, Gardiner, and Cooke City). Subarea 2 comprises the less populated areas in the Gallatin River drainage and the wilderness area along the northern boundary of the Park. For database administration purposes only, the inventory data were separated into three areas generally coinciding with the three population centers, which coincide with the geographic distribution of wells.

West Yellowstone
- 510 Total — 52 Sampled
- 330 Inventoried
- 109 Located
- 71 Not found

Gardiner
- 237 Total — 22 Sampled
- 186 Inventoried
- 35 Located
- 16 Not found

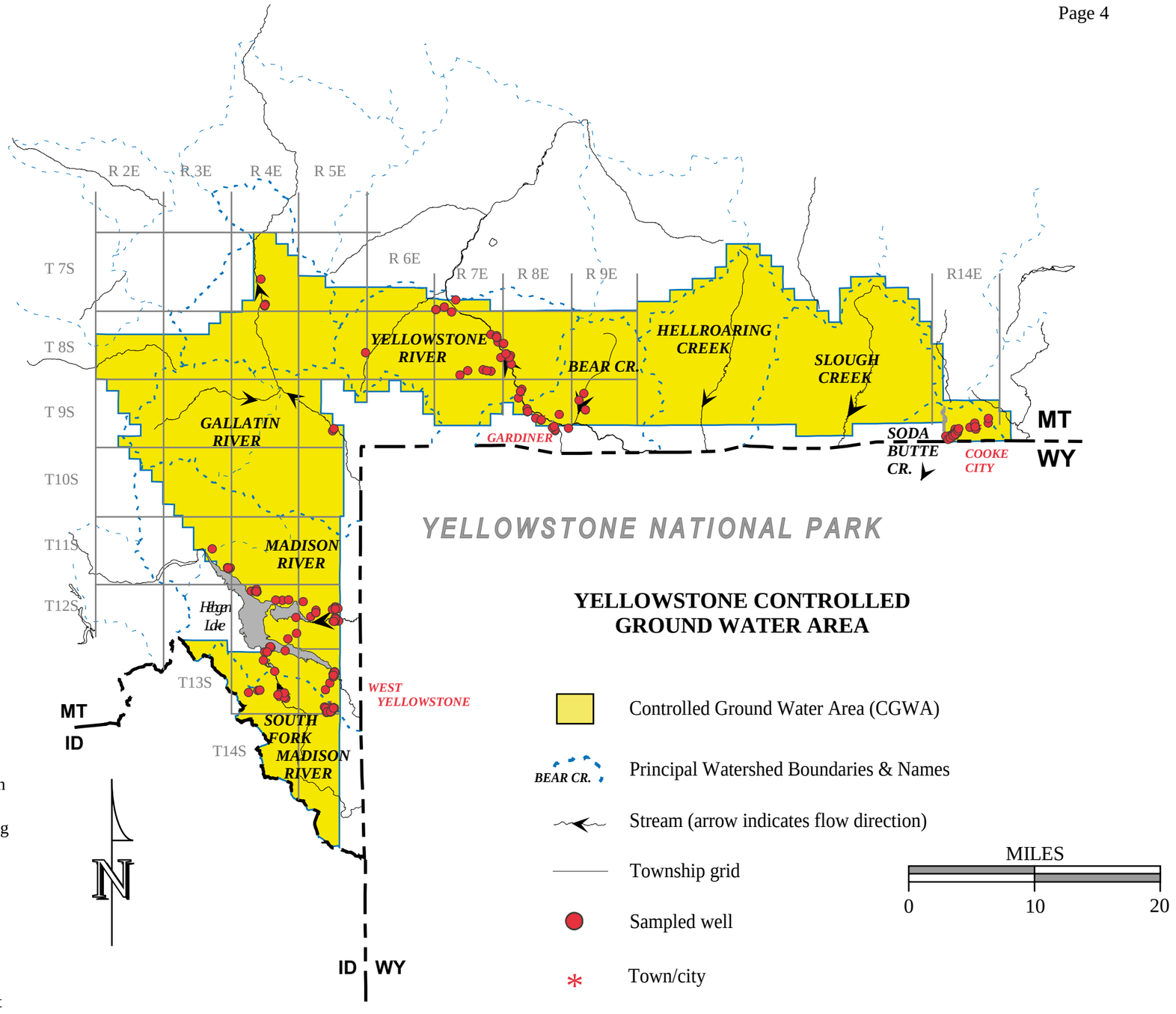
Cooke City - Silver Gate
- 155 Total — 25 Sampled
- 120 Inventoried
- 35 Located
- 0 Not found

Baseline Sampling

The Compact and the project work plan provided the guidelines used to select wells for sampling:

1) water temperature greater than 15^{o}C
2) chloride concentration greater than 15 milligrams per liter (mg/L)
3) specific conductance greater than 1000 micromhos/cm
4) 10 percent of the total number of wells inventoried, geographically distributed, and representing shallow and deep aquifers in the area near each of the three population centers (West Yellowstone in the upper Madison River drainage, Gardiner in the upper Yellowstone River drainage (including the Gallatin River drainage), and Cooke City the upper Soda Butte Creek drainage.

Wells meeting these criteria were sampled and analyzed for major cations, major anions, trace metals. The goal of 10 percent of the total number of wells inventoried was the largest group of samples. Thus, the objective was to collect samples from 10 percent of the total number of possible wells in each area, representing at least a shallow and deep aquifer, and including all wells that met the first three criteria. Additional samples were collected in the upper Soda Butte Creek drainage as part of a separate investigation by the MBMG and the U.S. Geological Survey.



Temperature, Chloride, pH, and SC Distributions

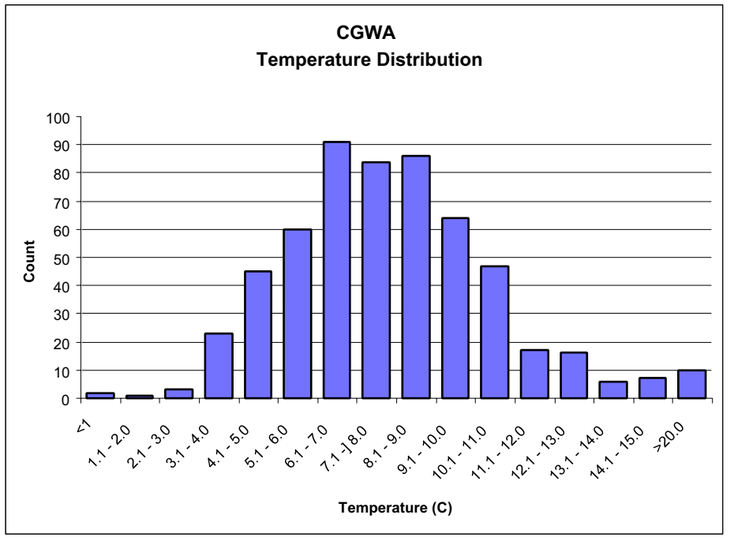
As noted, field parameters were temperature at the well head, field chloride concentration, and specific conductance. Temperatures are nearly equally distributed within the range of 6 to 10^{o}C. Ten wells exhibited temperatures greater than 15^{o}C; these were in the West Yellowstone area near the Madison River and in the Gardiner area near the Yellowstone River. There were 103 wells with temperatures greater than 10^{o}C in these two areas.

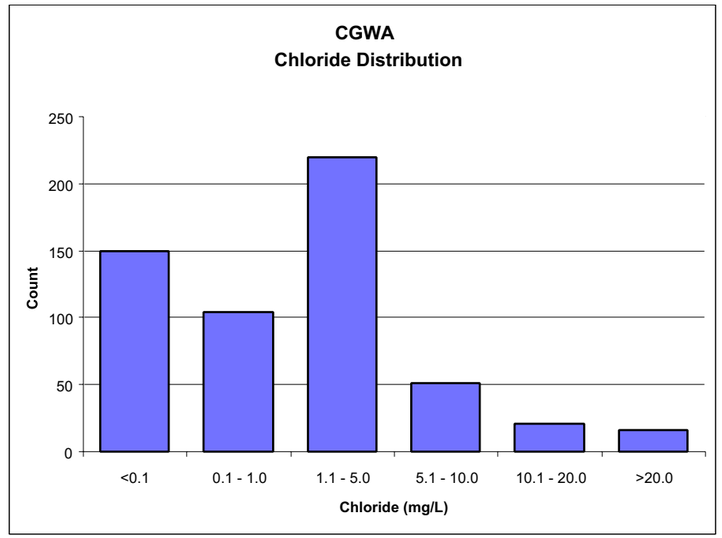
Most of the wells sampled had chloride concentrations of 5 mg/L or less; 37 wells had chloride concentrations greater than 10 mg/L. The greatest number of wells with higher chloride values were found in the upper Yellowstone River drainage near Gardiner. Wells with higher concentrations were found in all three areas but likely do not reflect similar sources. Lumping the distribution of chloride concentrations was necessary to present the wide range of values.

With few exceptions, the field pH values obtained from the wells are within the range of 7 to 9. There were three wells whose waters had values less than pH 5; two wells were in the Gardiner area, and the third was in the West Yellowstone area.

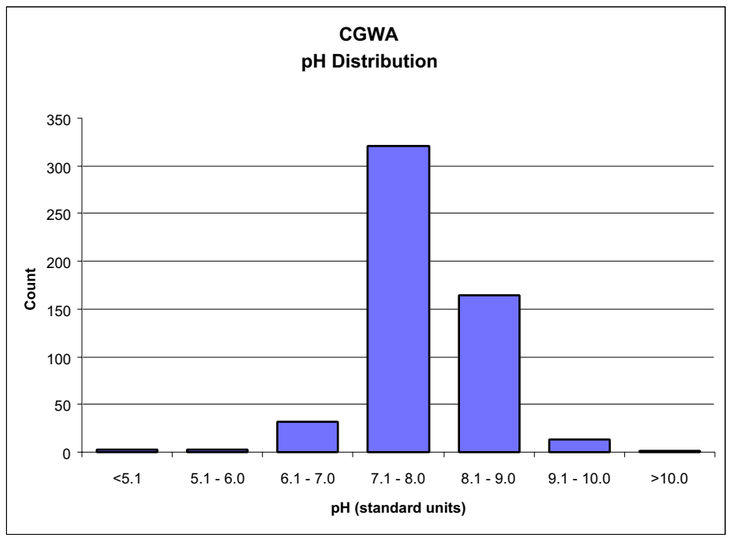
Specific conductance in water samples ranged from less than 50 µmhos/cm to greater than 1,000 µomhos/cm (all values are reported at 25^{o}C). The upper Yellowstone River near Gardiner, including the Jardine area and the Bear Creek drainage, had the greatest number of wells with specific conductance values exceeding 600 µmhos/cm. Eighteen wells had SC values greater than 1,000 µmhos/cm; 66 had SC values greater than 600 µmhos/cm.

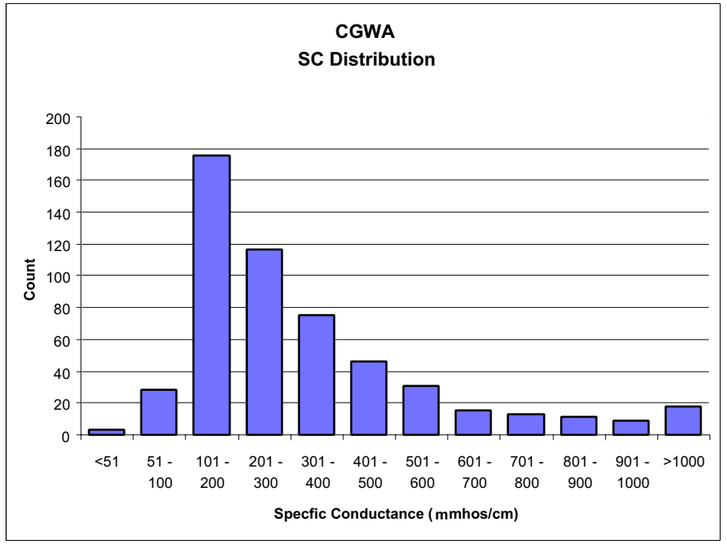
The succeeding maps present the locations and geographic distributions of temperature, chloride concentration, and specific conductance.

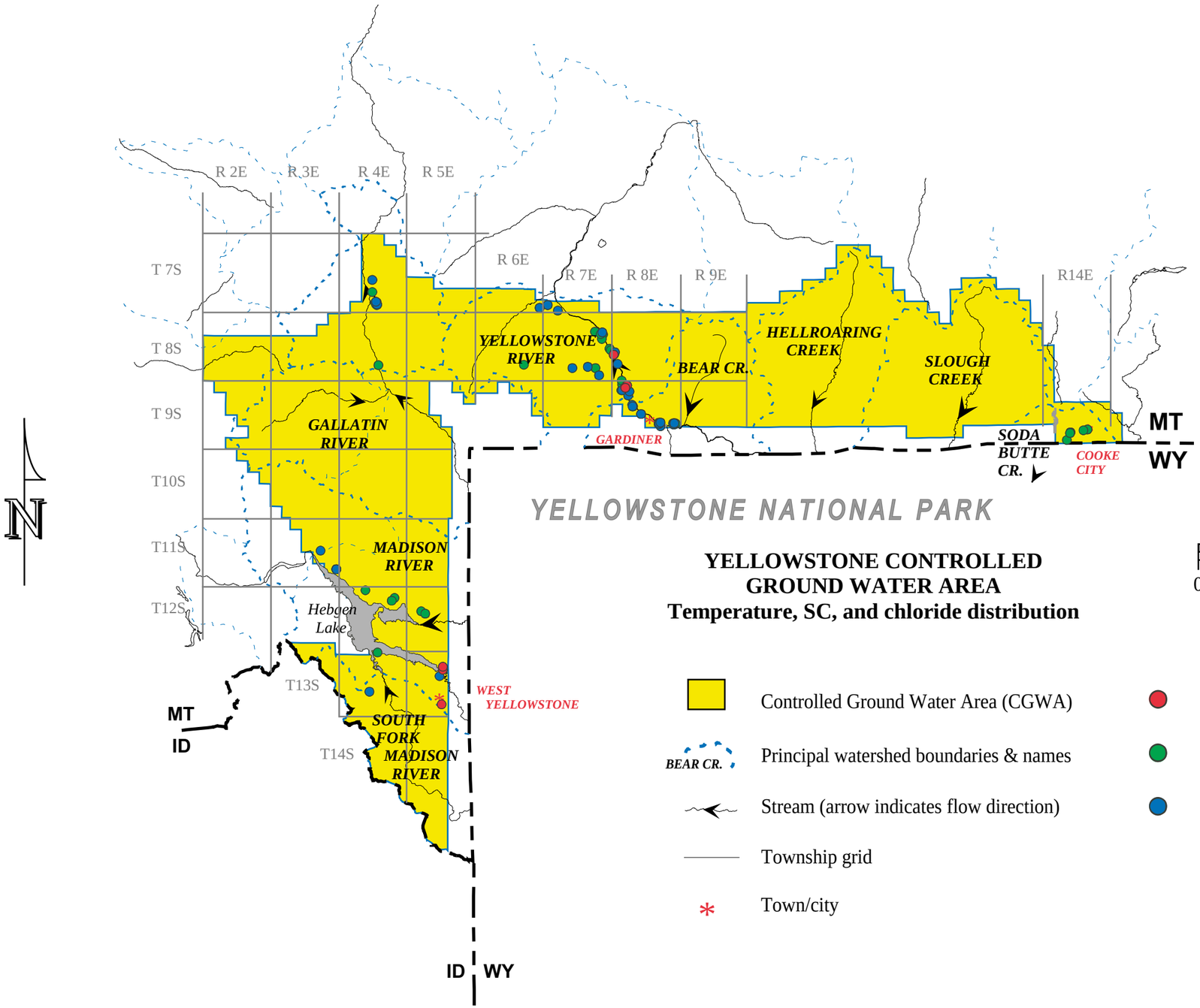




T range	T-dist	Cl range	Cl - dist	SC range	SC-dist	pH range	pH-dist
<1	2	<0.01	150	<51	3	<5.1	3
1.1 - 2.0	1	0.1 - 1.0	104	51 - 100	28	5.1 - 6.0	3
2.1 - 3.0	3	1.1 - 5.0	220	101 - 200	176	6.1 - 7.0	32
3.1 - 4.0	23	5.1 - 10.0	51	201 - 300	117	7.1 - 8.0	321
4.1 - 5.0	45	10.1 - 20.0	21	301 - 400	75	8.1 - 9.0	164
5.1 - 6.0	60	>20.0	16	401 - 500	46	9.1 - 10.0	13
6.1 - 7.0	91			501 - 600	31	>10.0	1
7.1 - 8.0	84			601 - 700	15		
8.1 - 9.0	86			701 - 800	13		
9.1 - 10.0	64			801 - 900	11		
10.1 - 11.0	47			901 - 1000	9		
11.1 - 12.0	17			>1000	18		
12.1 - 13.0	16						
13.1 - 14.0	6						
14.1 - 15.0	7						
>20.0	10						





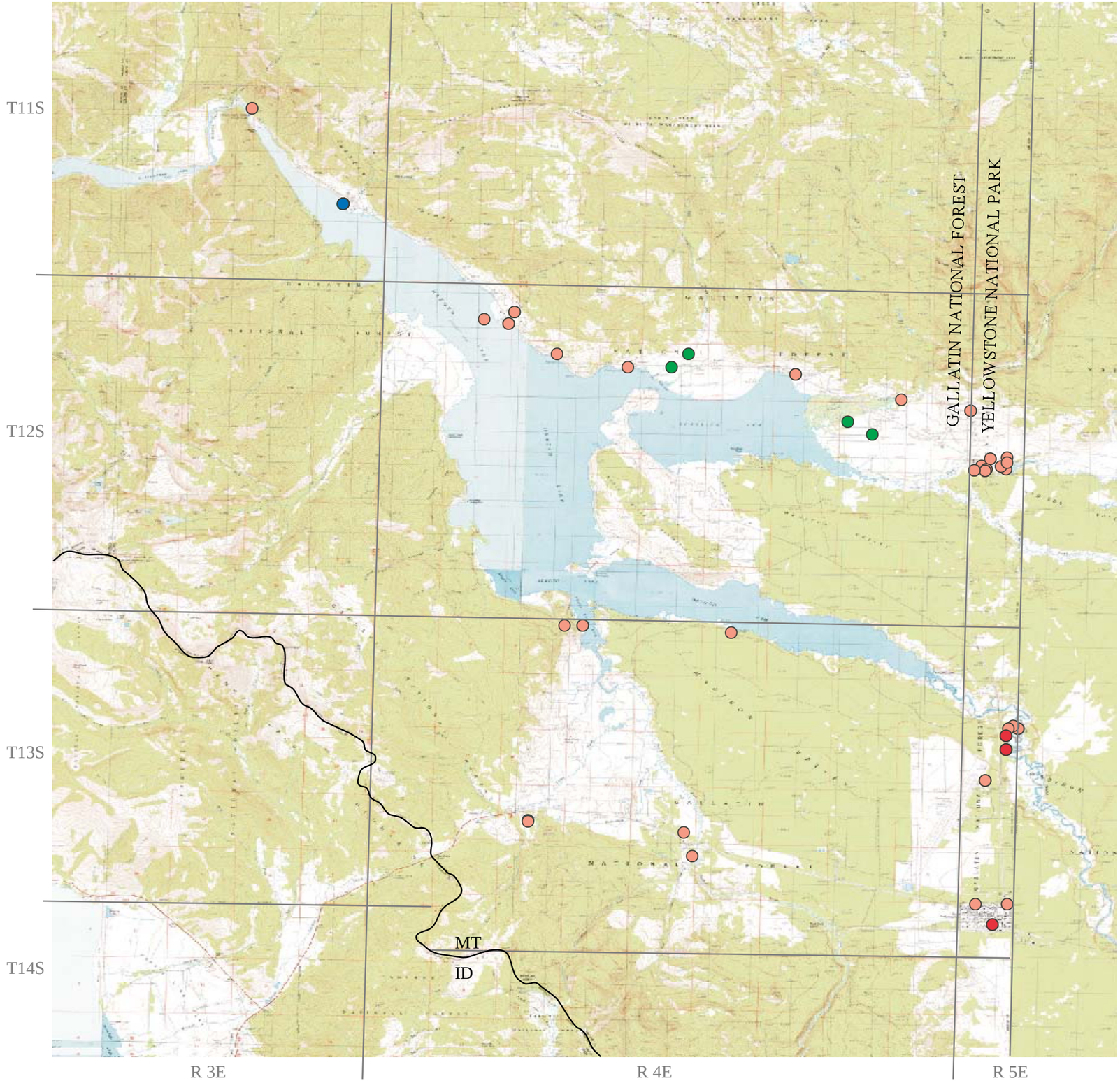


YELLOWSTONE CONTROLLED GROUND WATER AREA
Temperature, SC, and chloride distribution

- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries & names
- Stream (arrow indicates flow direction)
- Township grid
- Town/city

- Temperature greater than 15° C
- Specific Conductance greater than 600 mmhos/cm @ 25°C
- Chloride concentration greater than 10mg/L

Plotting priority: Temperature / SC / Cl



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YELLOWSTONE CONTROLLED GROUND WATER AREA
Temperature, SC, and chloride distribution
West Yellowstone Area

- Temperature greater than 15°C
- Temperature greater than 10°C
- Specific Conductance greater than 600 mmhos/cm @ 25°C
- Chloride concentration greater than 10 mg/L

MILES
0 2 4

T 7S

T 8S

T 9S

PARK
COUNTY
MT

YELLOWSTONE
NATIONAL
PARK

R 6E R 7E R 8E R 9E

YELLOWSTONE CONTROLLED GROUND WATER AREA
Temperature, SC, and chloride distribution
Gardiner Area

- Temperature greater than 15°C
- Temperature greater than 10°C
- Specific Conductance greater than 600 mmhos/cm @ 25°C
- Chloride concentration greater than 10 mg/L

MILES
0 1.5 3

Arsenic, Fluoride, Silica, and Bicarbonate Distributions

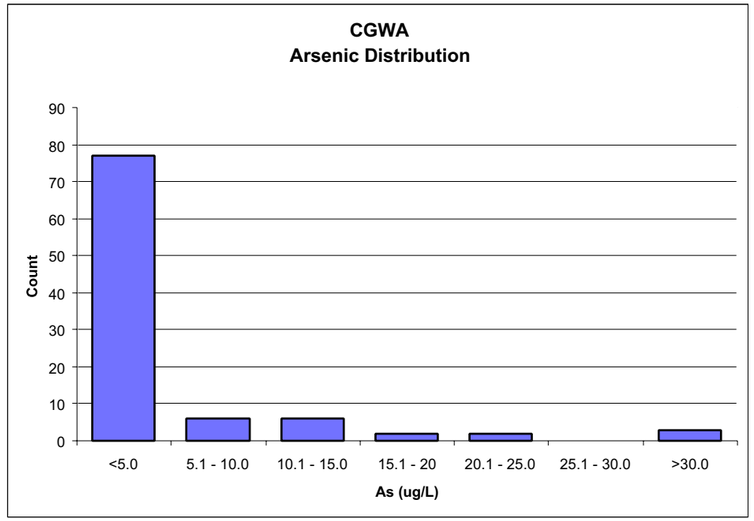
None of the well waters sampled for this inventory had arsenic concentrations greater than 50 micrograms per Liter (µg/L); only three concentrations exceeded 30 µg/L. The majority of the samples collected had concentrations of 5 µg/L or less. Wells whose samples were greater than 10 µg/L were found in both the upper Yellowstone River drainage (5 wells) and the upper Madison River drainage (10 wells).

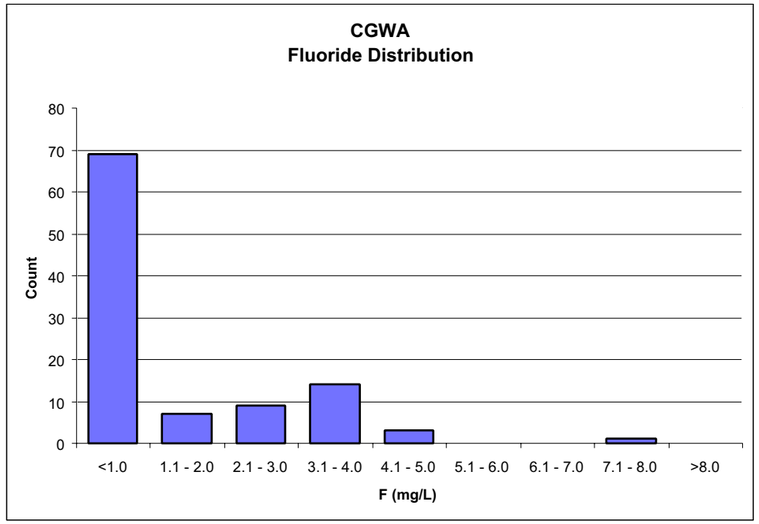
Fluoride concentrations generally ranged from less than 0.1 mg/L to 4 mg/L; the majority of the samples collected had concentrations of 1 mg/L or less. None of the samples collected had a concentration greater than 8 mg/L. Wells in the upper Madison River drainage are the only samples that had concentrations greater than 4 mg/L. Although a few of the wells with the relatively high concentrations of fluoride coincide with water temperatures greater than 10^{o} C in the Madison River drainage, most were associated with colder temperatures.

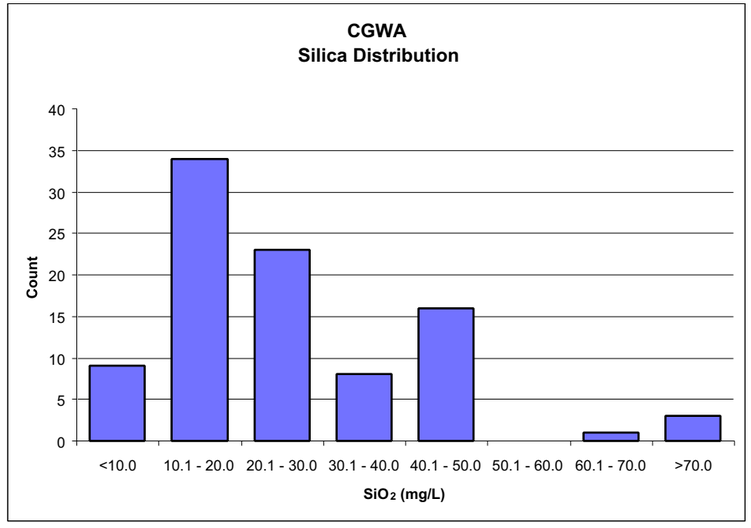
Silica (as SiO_2) concentrations ranged from less than 5 mg/L to 88.7 mg/L; 4 samples had concentrations greater than 50 mg/L. These higher concentrations were found in a closely spaced group of wells in the upper Madison River.

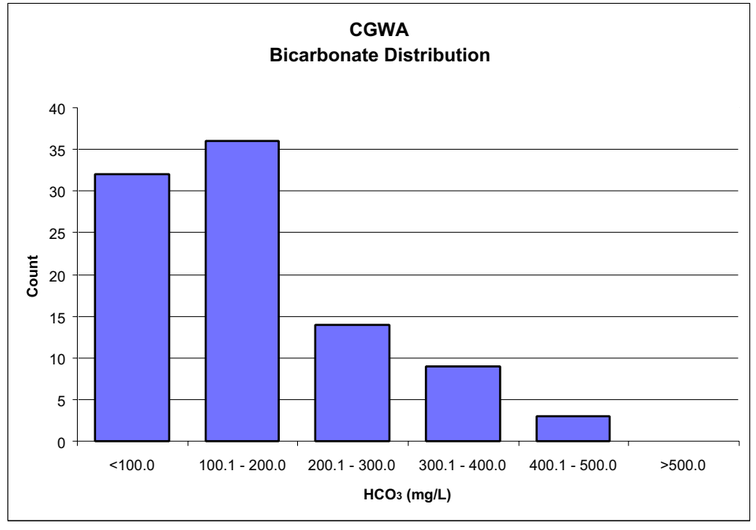
Bicarbonate concentrations exhibit a wide range, from less than 10 mg/L to almost 500 mg/L. Twelve samples had concentrations greater than 300 mg/L; these wells were located in the Cooke City and Gardiner areas.

The succeeding maps present the locations and geographic distributions of the higher concentrations of arsenic, fluoride, silica (as SiO_2), and bicarbonate.

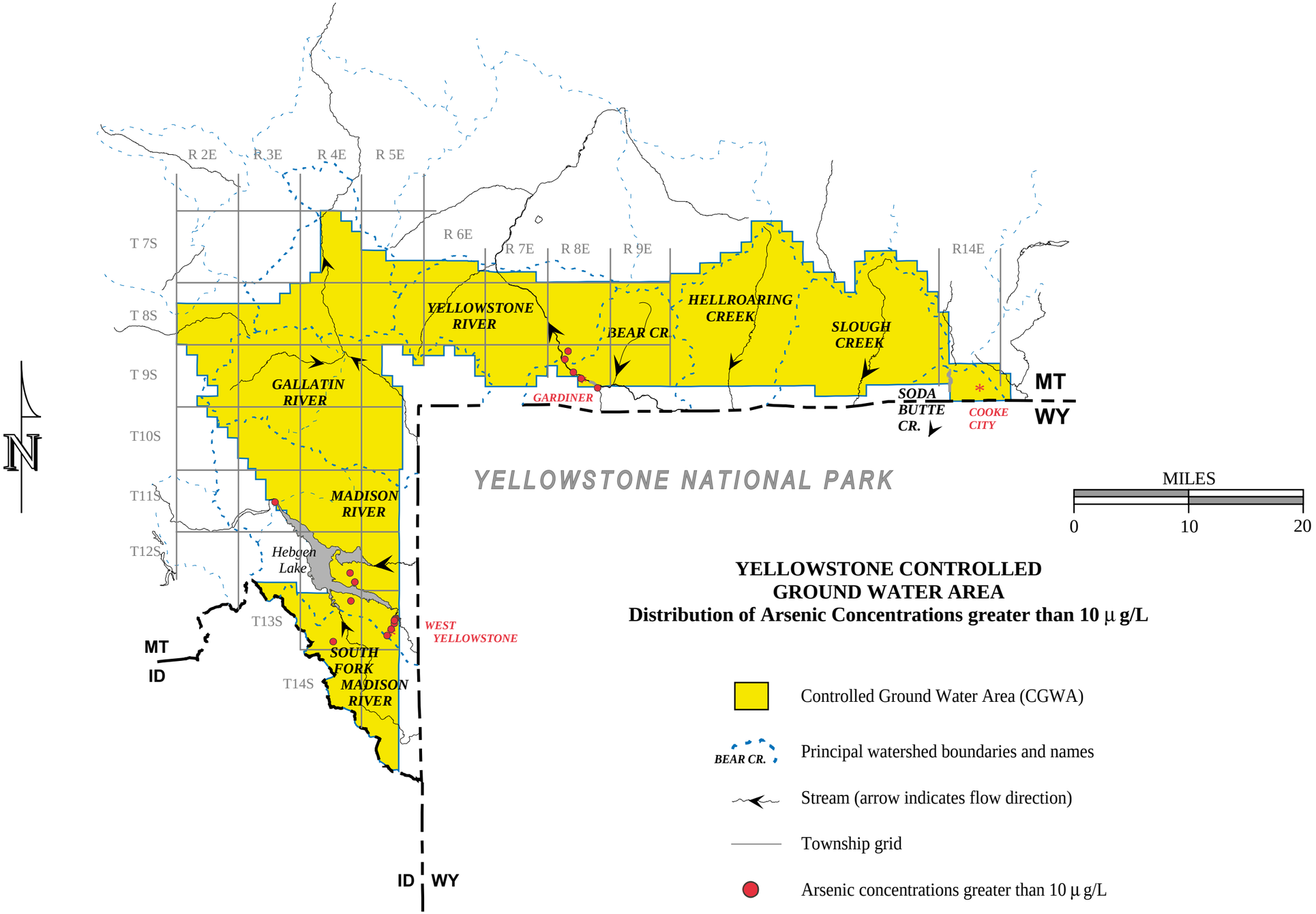








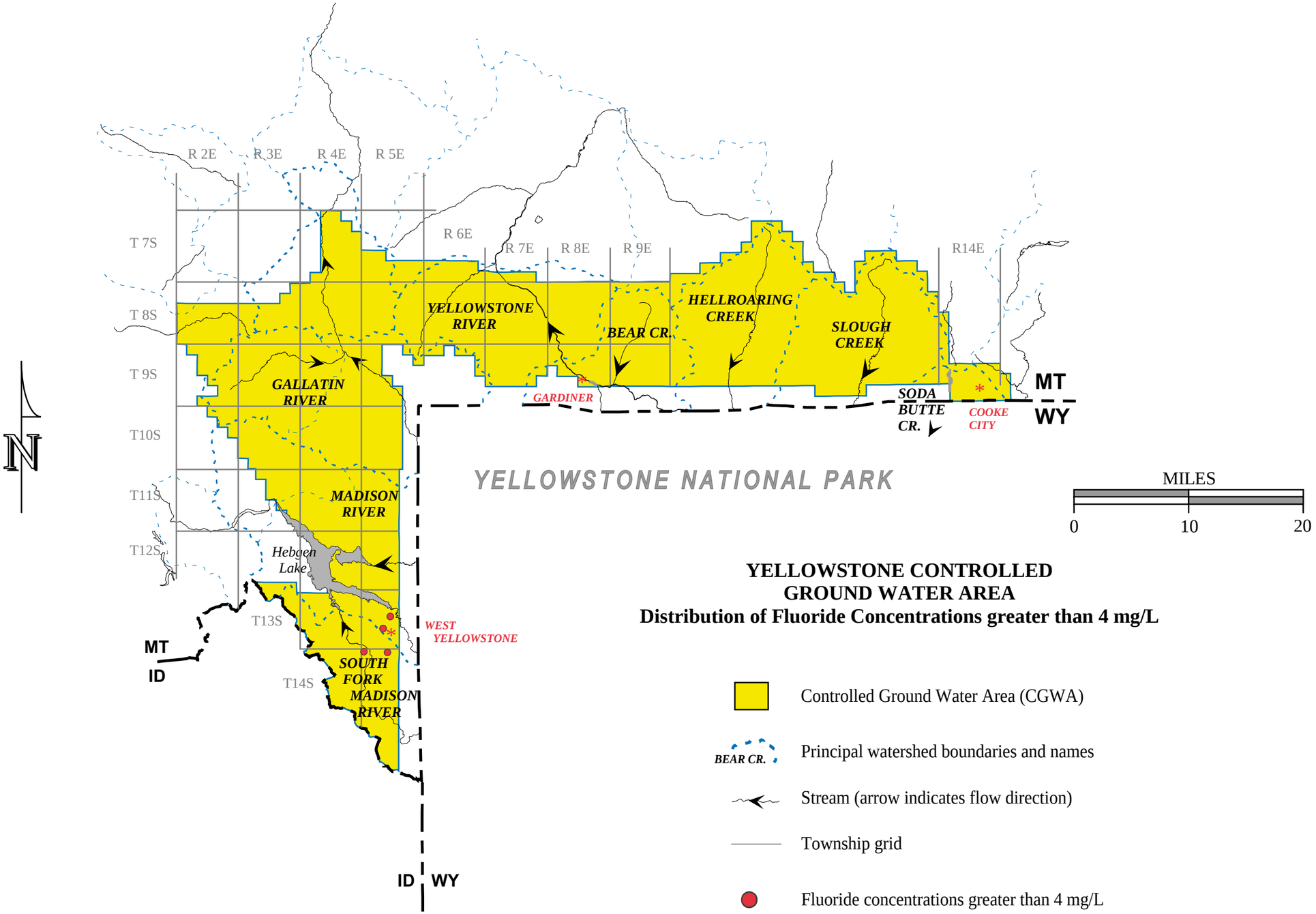
As range	As-dist	F range	F-dist
<5	77	<1.0	69
5.1 - 10.0	6	1.1 - 2.0	7
10.1 - 15.0	6	2.1 - 3.0	9
15.1 - 20	2	3.1 - 4.0	14
20.1 - 25.0	2	4.1 - 5.0	3
25.1 - 30.0	0	5.1 - 6.0	0
>30.0	3	6.1 - 7.0	0
		7.1 - 8.0	1
		>8.0	0
SiO_2 range	SiO_2-dist	HCO_3 range	HCO_3-dist
<10.0	9	<100	32
10.1 - 20.0	34	100.1 - 200.0	36
20.1 - 30.0	23	200.1 - 300.0	14
30.1 - 40.0	8	300.1 - 400.0	9
40.1 - 50.0	16	400.1 - 500.0	3
50.1 - 60.0	0	>500.0	0
60.1 - 70.0	1		
>70.0	3		



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Arsenic Concentrations greater than 10 µ g/L

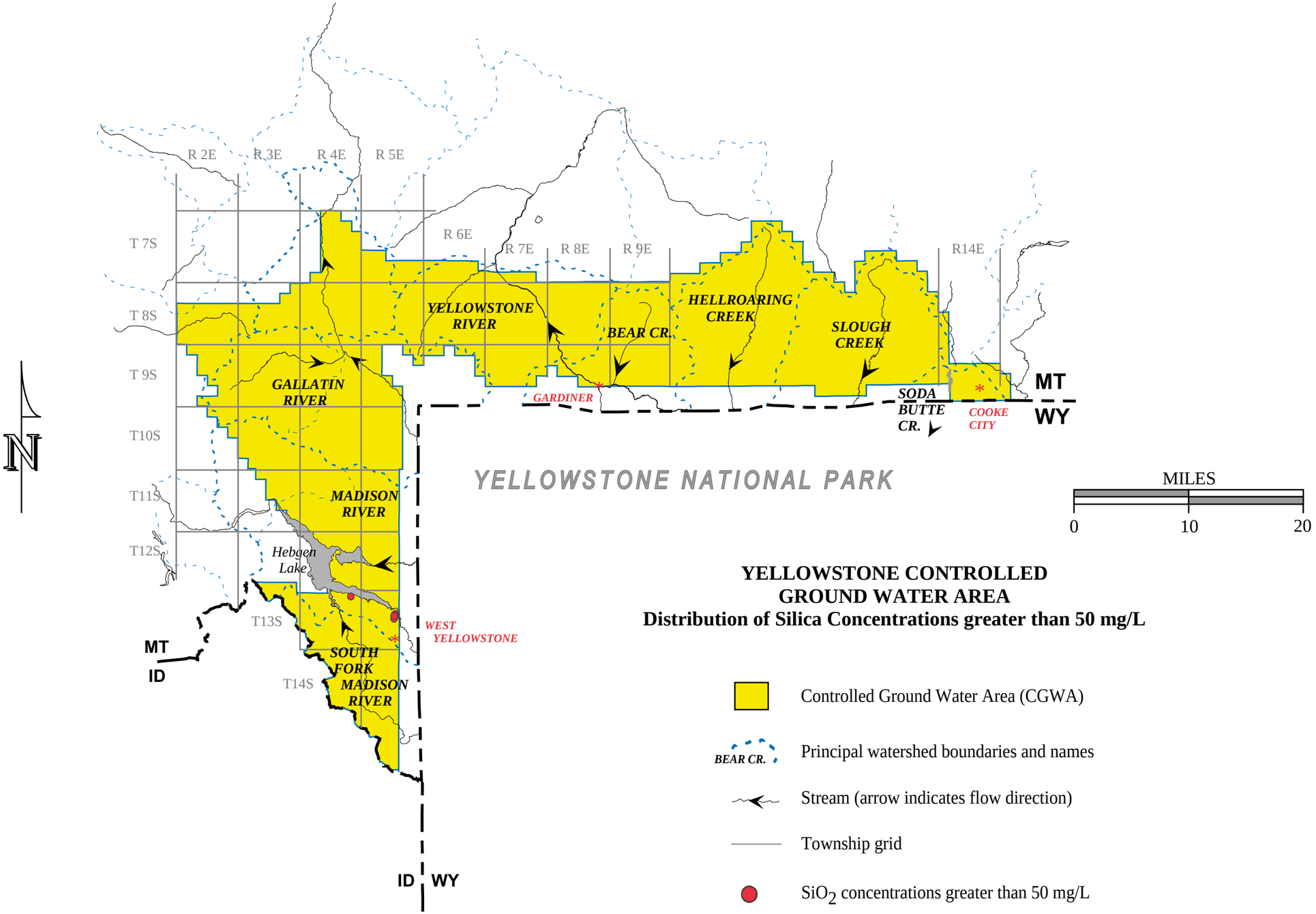
- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- Arsenic concentrations greater than 10 µ g/L
- Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Fluoride Concentrations greater than 4 mg/L

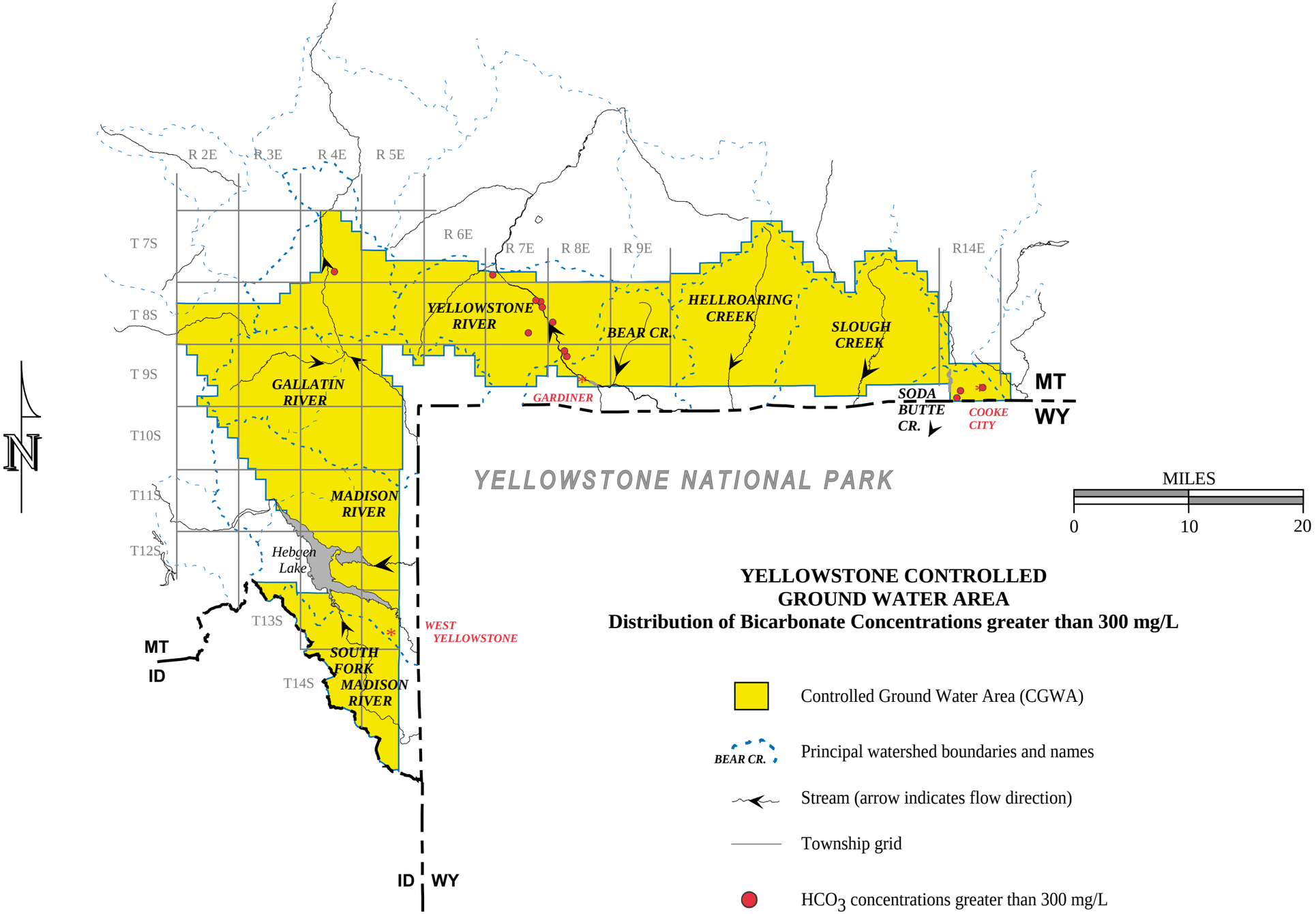
- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- Fluoride concentrations greater than 4 mg/L
- Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Silica Concentrations greater than 50 mg/L

- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- SiO_2 concentrations greater than 50 mg/L
- Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Bicarbonate Concentrations greater than 300 mg/L

- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- HCO_3 concentrations greater than 300 mg/L
- Town/city

Sulfate, Sodium, Calcium, and Magnesium Distributions

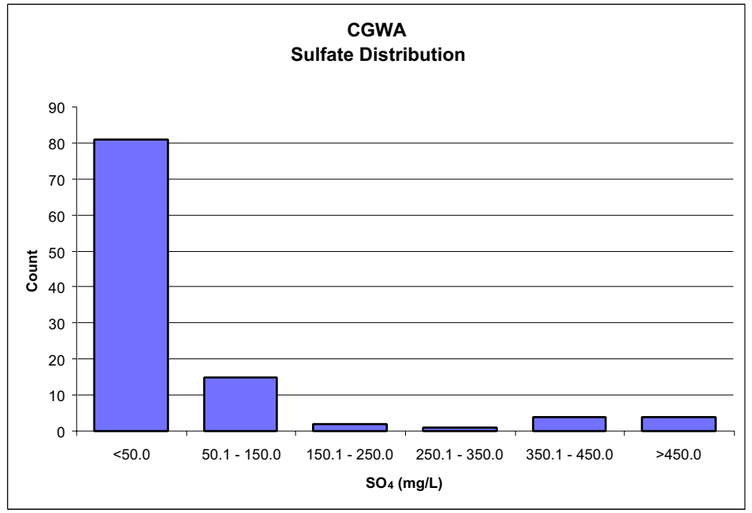
The majority of the wells sampled had sulfate concentrations of 100 mg/L or less; there were nine wells whose samples had greater than 250 mg/L. Most higher sulfate values were found in deep wells (>100 feet), throughout the CGWA.

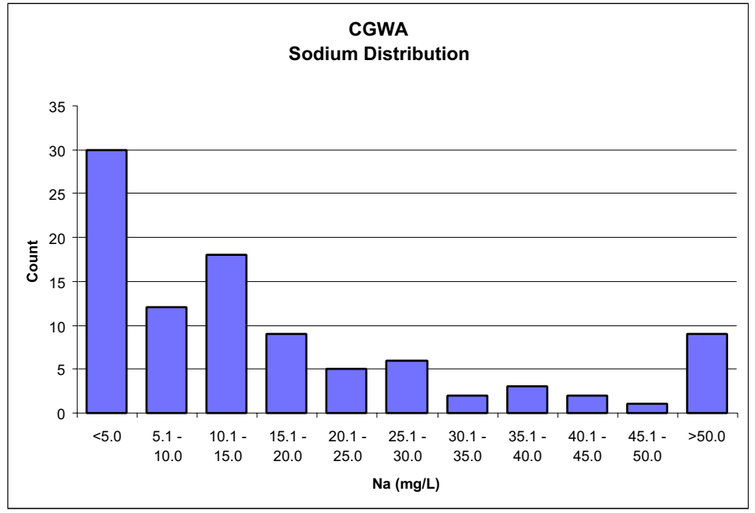
Sodium concentrations ranged from less than 5 mg/L to 182 mg/L; most samples had concentrations of 30 mg/L or less. Concentrations greater than 30 mg/L were common throughout the upper Yellowstone River drainage and in a group of wells north of West Yellowstone near the Madison River.

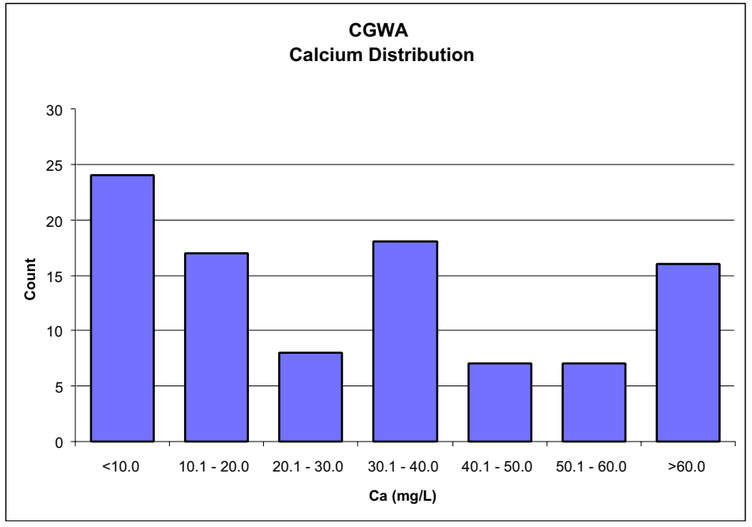
Calcium concentrations ranged from less than 5 mg/L to more than 200 mg/L and were variably distributed throughout the range. Similarly, wells having calcium concentrations greater than 60 mg/L (16 wells) were distributed throughout the CGWA.

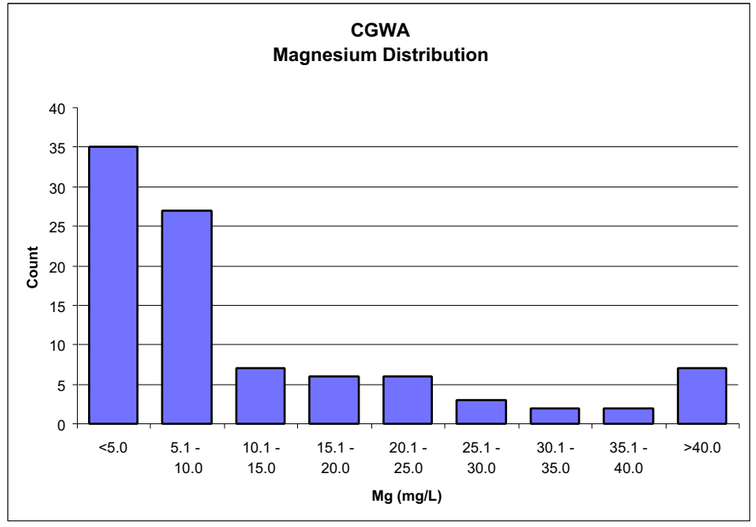
Magnesium concentrations ranged from less than 1 mg/L to more than 75 mg/L, but most wells had concentrations of 20 mg/L or less. With the exception of one site in the Gallatin River drainage, wells with magnesium concentrations greater than 40 mg/L were found only in the upper Yellowstone River basin.

The succeeding maps present the locations and geographic distributions of the higher concentrations of sulfate, sodium, calcium, and magnesium.

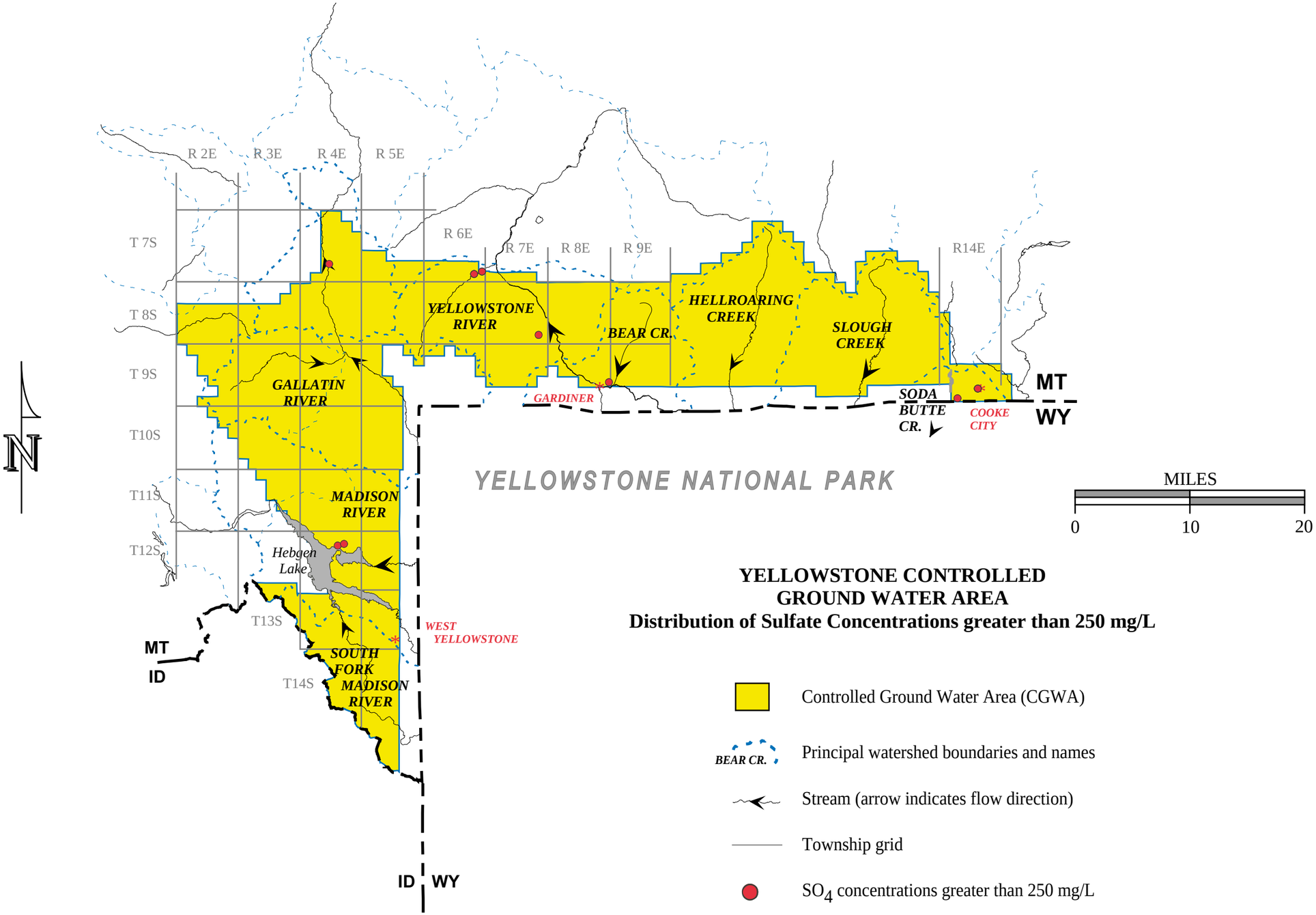








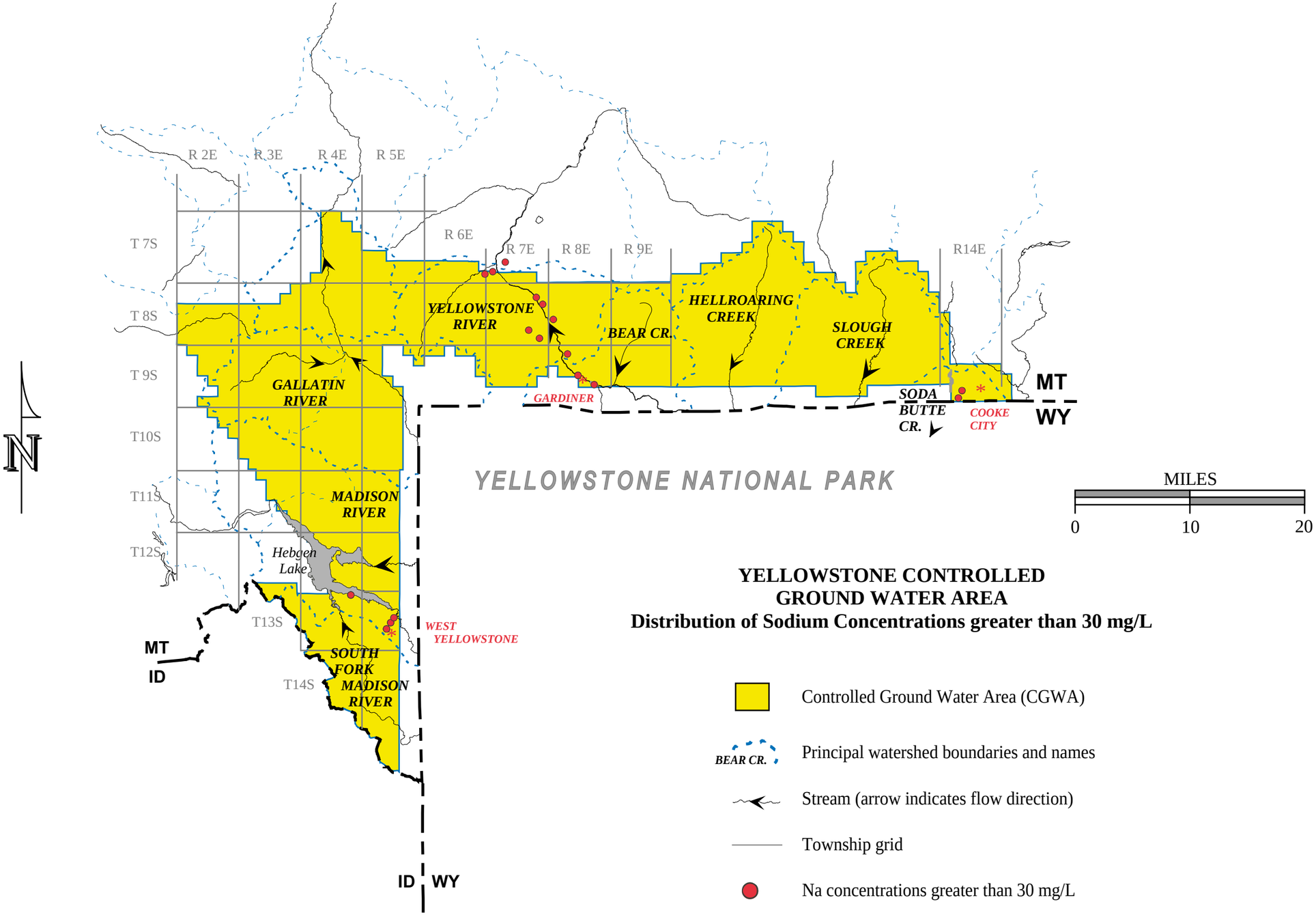
SO4 range	SO4-dist	Na range	Na-dist
<50.0	81	<5.0	30
50.1 - 150.0	15	5.1 - 10.0	12
150.1 - 250.0	2	10.1 - 15.0	18
250.1 - 350.0	1	15.1 - 20.0	9
350.1 - 450.0	4	20.1 - 25.0	5
>450.0	4	25.1 - 30.0	6
		30.1 - 35.0	2
		35.1 - 40.0	3
		40.1 - 45.0	2
		45.1 - 50.0	1
		>50.0	9
Ca range	Ca-dist	Mg range	Mg-dist
<10.0	24	<5.0	35
10.1 - 20.0	17	5.1 - 10.0	27
20.1 - 30.0	8	10.1 - 15.0	7
30.1 - 40.0	18	15.1 - 20.0	6
40.1 - 50.0	7	20.1 - 25.0	6
50.1 - 60.0	7	25.1 - 30.0	3
>60.0	16	30.1 - 35.0	2
		35.1 - 40.0	2
		>40.0	7



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Sulfate Concentrations greater than 250 mg/L

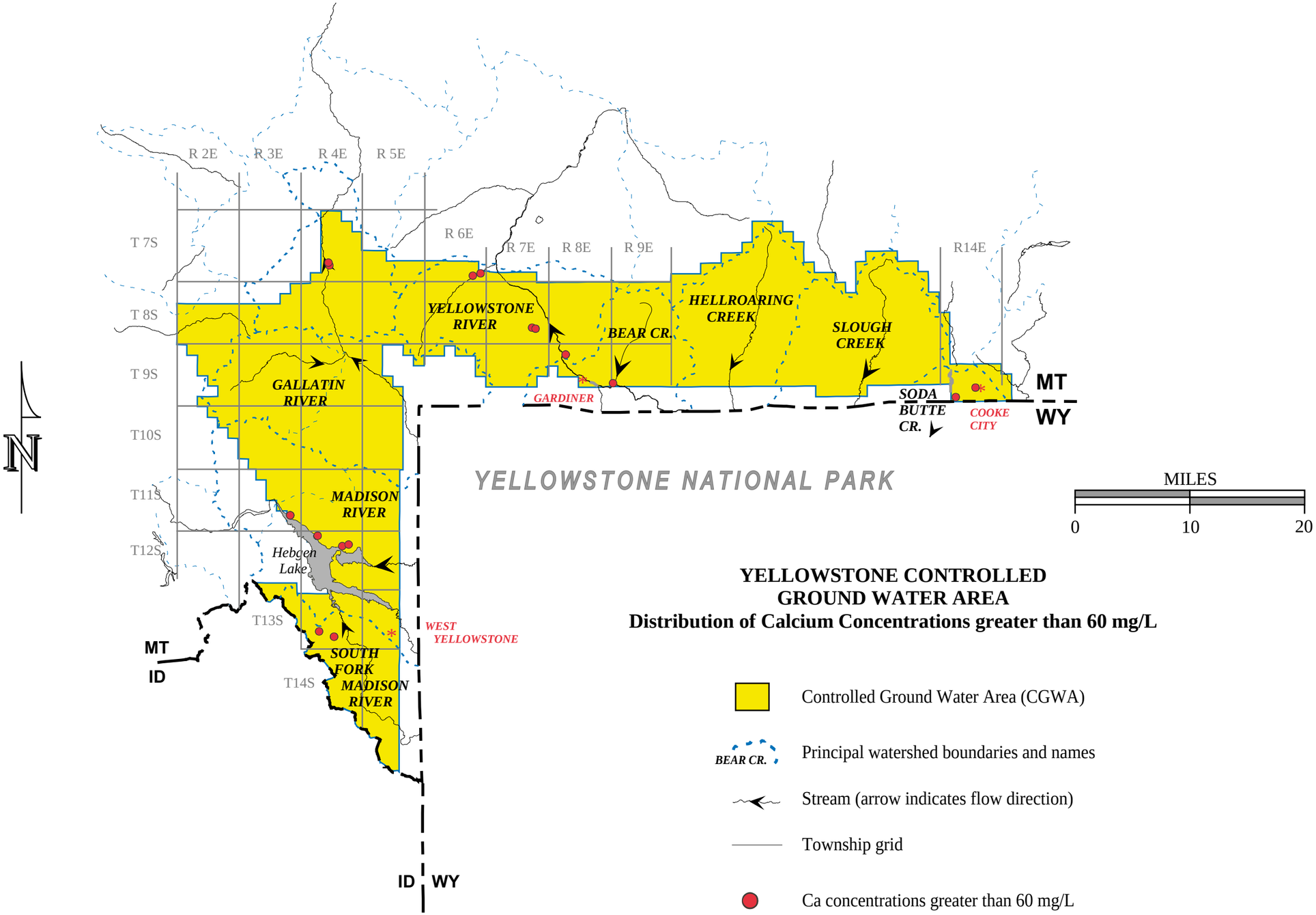
- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- SO_4 concentrations greater than 250 mg/L
- Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Sodium Concentrations greater than 30 mg/L

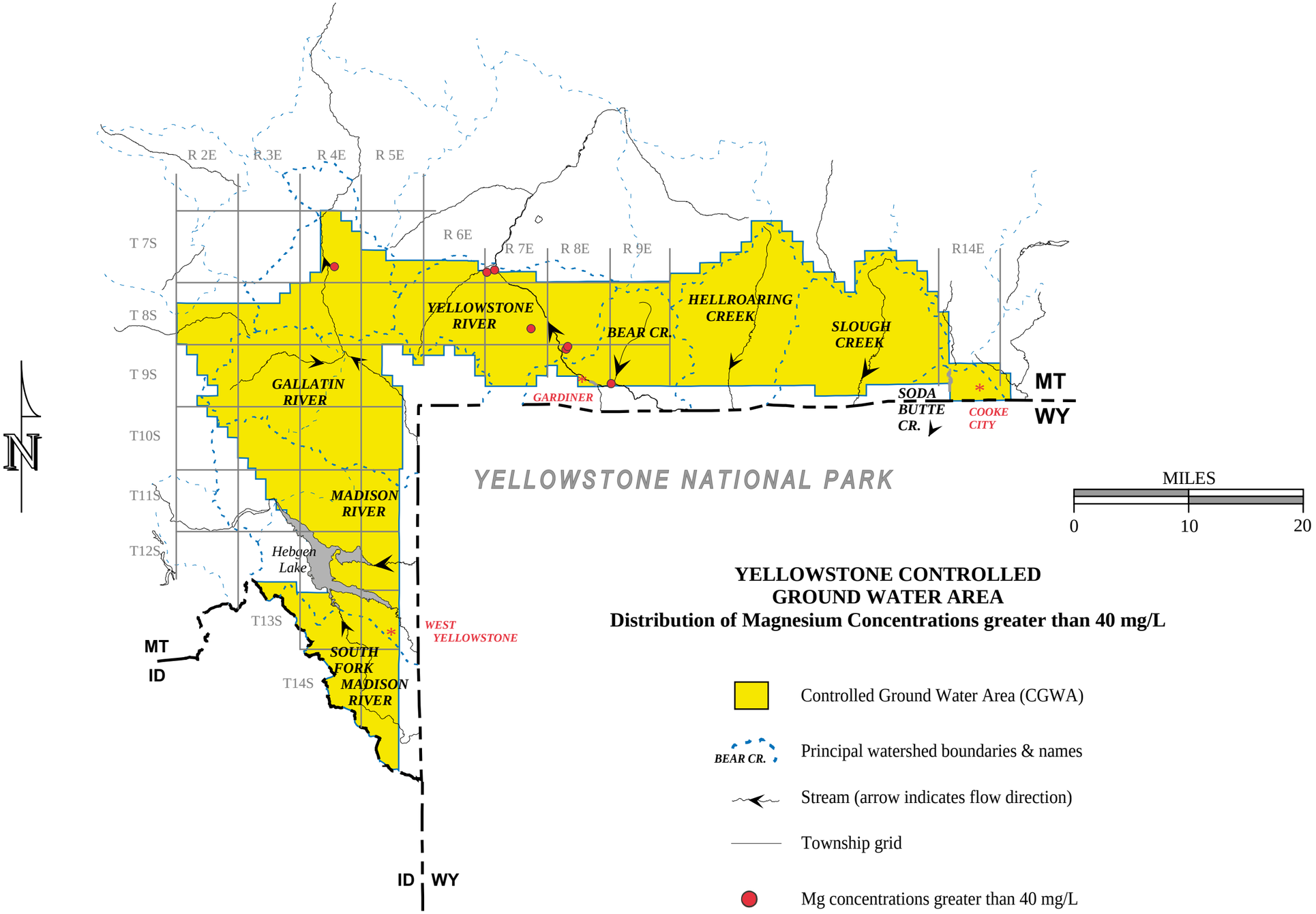
- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- Na concentrations greater than 30 mg/L
- Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Calcium Concentrations greater than 60 mg/L

- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries and names
- Stream (arrow indicates flow direction)
- Township grid
- Ca concentrations greater than 60 mg/L
- * Town/city



YELLOWSTONE CONTROLLED GROUND WATER AREA

Distribution of Magnesium Concentrations greater than 40 mg/L

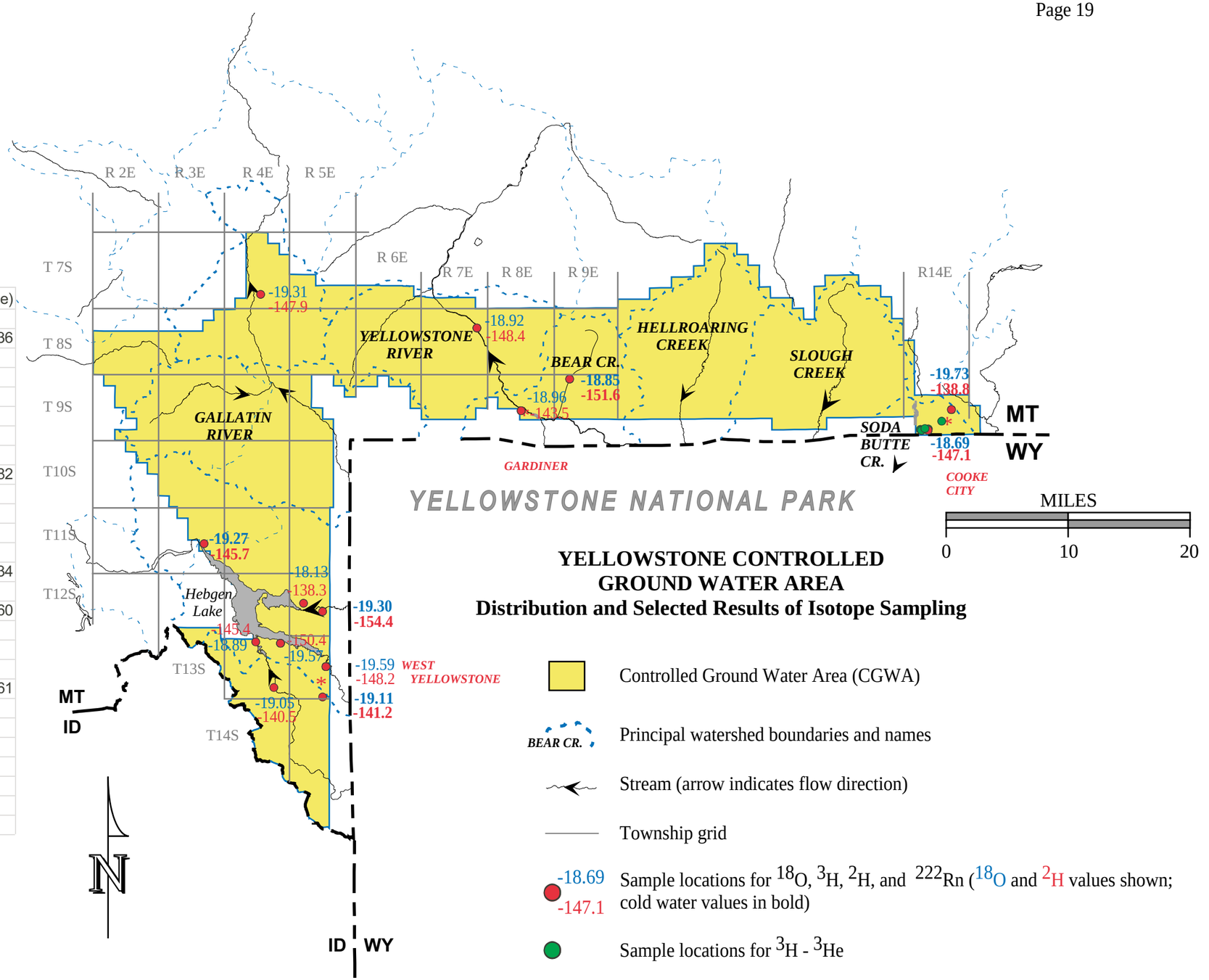
- Controlled Ground Water Area (CGWA)
- BEAR CR. — Principal watershed boundaries & names
- Stream (arrow indicates flow direction)
- Township grid
- Mg concentrations greater than 40 mg/L
- Town/city

Isotope Sampling

Samples for isotope analyses were a subset of the samples collected for major- and trace-constituent analyses. Priority was given to those wells meeting the criteria (page 4) of water temperature, chloride concentration, and high specific conductance. Additional samples were collected from wells in the upper Soda Butte Creek drainage for helium- and tritium-isotope analyses. These were used for age-dating of waters in a separate investigation.

Results

MNUMBER	DATE	^{18}O smow	^{2}H	^{3}H	^{3}H (age)	^{3}He (age)
105980	5/28/98	-18.96	-143.5	33		
106030	7/7/98				14.20	6.36
106598	6/10/98	-19.27	-145.7	39		
106726	6/12/98	-19.30	-154.4	13		
106737	6/10/98	-18.89	-145.4	16		
106775	6/9/98	-19.59	-148.2	-6		
106775	6/9/98		-148.4			
106853	6/17/98	-19.11	-141.2	23		
134028	7/7/98				32.90	8.82
134029	6/10/98	-18.92	-148.4	-6		
134029	6/10/98			-6		
137132	9/28/98	-18.69	-138.8	27		
137132	9/28/98		-139.0	30		
140290	7/7/98				14.40	7.34
140290	9/18/98	-18.79	-144.4	12		
144533	7/7/98				3.02	100.60
144533	8/27/98	-19.45	-145.1	8		
146964	6/4/98	-19.85				
146964	6/4/98	-19.83	-151.6	15		
152503	7/7/98				26.80	24.61
152503	7/8/98	-19.73	-145.3	24		
157970	6/10/98	-19.31	-147.9	7		
158049	6/16/98	-19.05	-140.5	10		
158183	6/17/98	-18.13	-138.3	20		
163260	9/28/98	-19.34	-147.1	8		
8925	6/18/98	-19.57	-150.4	9		
8925	6/18/98			10		



YELLOWSTONE CONTROLLED GROUND WATER AREA
Distribution and Selected Results of Isotope Sampling

Controlled Ground Water Area (CGWA)

BEAR CR. — Principal watershed boundaries and names

Stream (arrow indicates flow direction)

Township grid

-18.69 / -147.1 — Sample locations for ^{18}O, ^{3}H, ^{2}H, and ^{222}Rn (^{18}O and ^{2}H values shown; cold water values in bold)

Sample locations for ^{3}H - ^{3}He

Town/city

	MNUMBER		SITE_NAME	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TRACT	WATER_TEMP	PROJECT	SAMPLE_DATE	AGENCY	PH	SC umhos/cm	Ag	Al	As	B
										degrees C	ID*			S.U.	(25 degrees C)	ug/L	ug/L	ug/L	ug/L
1	8958		SUBURBAN PROPANE	44.6594	-111.1086	13S	05E	34	BCCA			08/22/1979	MBMG	7.09	107		-20.0	2.1	-20.0
2	8953		GREENE DICK	44.6613	-111.1100	13S	05E	34	BACD			08/23/1979	MBMG	7.70	150		-20.0	9.6	-20.0
3	8955		DUNBAR CALVIN	44.6619	-111.1119	13S	05E	34	BBCC			08/22/1979	MBMG	8.84	43		-24.0	2.4	-18.0
4	8956		SEELY CLYDE	44.6622	-111.1088	13S	05E	34	BBDC			08/23/1979	MBMG	7.61	135		-20.0	4.8	90.0
5	8948		HENRIE PAT	44.6636	-111.0966	13S	05E	34	AABC			08/23/1979	MBMG	7.16	111		30.0	3.3	70.0
6	8954		GOODING HAROLD	44.6650	-111.1150	13S	05E	34	BBAB			08/22/1979	MBMG	7.03	113		-20.0	3.7	-20.0
7	8944		MT AERONAUTICS COMMISSION	44.6875	-111.1138	13S	05E	21	ADDD			08/23/1979	MBMG	8.73	204		-20.0	45.3	-20.0
8	8941		MONTANA FISH & GAME	44.7111	-111.0977	13S	05E	10	DCAD			08/22/1979	MBMG	7.07	237		-20.0	10.1	-20.0
9	8912		CARSLEY SCOTT * 7MI NW WEST YELLOWSTO	44.7604	-111.1786	12S	04E	25	ADBC	7.0		08/25/1979	MBMG	8.34	143		-20.0	12.8	-20.0
10	8915		NELSON DEAN	44.7777	-111.1016	12S	05E	22	ABCB	6.6		08/25/1979	MBMG	7.39	186		-20.0	1.1	-20.0
11	8914		STELTER DALE * 9 MI NW WEST YELLOWSTO	44.7911	-111.1438	12S	05E	17	BDAA	3.9		08/25/1979	MBMG	7.58	161		-24.0	1.4	-20.0
12	104586		STATE HIGHWAY DEPT. (MINER SEC.)	45.2047	-110.8933	07S	07E	20	CDDD	12.6	GWAAMON	09/21/1993	MBMG	7.78	548	-1	-30.0	4.8	127.0
13	8957		EDGERTON DOUG	44.6577	-111.1113	13S	05E	34	BCCD	8.0	WYG-97	08/22/1979	MBMG	7.09	92		-20.0	1.5	-20.0
14	104568		PIKE GALE	45.1911	-111.2344	07S	04E	28	DDBB	6.7	YNPW	06/24/1998	MBMG	7.21	1408	-1.0	-30.0	-1.0	152.5
15	152662		PARENT HERSCHELL	45.1875	-110.9333	07S	06E	36	BBDC	10.0	YNPG	06/03/1998	MBMG	7.54	1542	-1.0	-30.0	2.2	-80.0
16	167395		GALLAGHER KEVIN	45.1848	-110.9045	07S	07E	31	ADDD	14.4	YNPG	07/08/1998	MBMG	7.73	399	-1.0	-30.0	-1.0	-30.0
17	134029		CUT * SPHINX LODGE	45.1561	-110.8308	08S	07E	11	ABCC	12.1	YNPG	06/10/1998	MBMG	7.80	725	-1.0	-30.0	-1.0	-80.0
18	105288		KRAPF PAUL & FONDA	45.1544	-110.8208	08S	07E	12	BCCB	9.8	YNPG	05/28/1998	MBMG	7.63	595	-1.0	-30.0	11.0	-30.0
19	147003		DEMAREE	45.1466	-110.8177	08S	07E	12	CCDC	10.9	YNPG	07/08/1998	MBMG	9.01	876	-1.0	-15.0	-1.0	193.8
20	133595		ROYAL TETON RANCH	45.1261	-110.8119	08S	07E	24	BDAD	10.8	YNPG	06/10/1998	MBMG	7.56	481	-1.0	-30.0	1.8	-80.0
21	140292		KRAMER ED & MARY	45.1088	-110.8375	08S	07E	26	BCDD	10.5	YNPG	05/29/1998	MBMG	7.35	601	-1.0	-30.0	1.3	-30.0
22	138859		MURPHY JERRY	45.1100	-110.8444	08S	07E	27	ADBD	10.5	YNPG	05/27/1998	MBMG	7.84	802	-1.0	-30.0	3.9	-30.0
23	26200		KOPLAND FRANK	45.1083	-110.8727	08S	07E	28	BDDD	10.4	YNPG	05/27/1998	MBMG	7.18	461	-1.0	-30.0	1.4	-30.0
24	146967		DARR ATLANTA	45.1255	-110.7961	08S	08E	19	BCAD	10.0	YNPG	07/08/1998	MBMG	7.69	902	-1.0	-30.0	7.4	91.5
25	138764		COLE JIM	45.0852	-110.7719	09S	08E	5	BAAC	18.3	YNPG	06/10/1998	MBMG	7.55	789	-1.0	-30.0	12.3	-80.0
26	145529		GONZALES CHRISTOPHER	45.0822	-110.7744	09S	08E	5	BDBB	15.7	YNPG	07/08/1998	MBMG	8.20	692	-1.0	-30.0	4.4	36.8
27	105961		ROYAL TETON LTD * MAIN RANCH OFFICE	45.0738	-110.7780	09S	08E	5	CCAC	11.1	YNPG	06/10/1998	MBMG	7.59	667	-1.0	-30.0	10.0	-80.0
28	105975		USFS	45.0530	-110.7022	09S	08E	14	ADBB	10.1	YNPG	06/05/1998	MBMG	7.71	346	-1.0	-30.0	1.6	-80.0
29	105980		GARDINER AIRPORT	45.0477	-110.7455	09S	08E	16	DBDB	11.1	YNPG	05/28/1998	MBMG	8.20	756	-1.0	-30.0	10.4	292.9
30	105981		BATESON GERALD JR	45.0561	-110.7608	09S	08E	17	AAAA	8.7	YNPG	06/16/1998	MBMG	7.10	286	-1.0	-30.0	19.2	222.0
31	140293		WESTERN AIR MOTEL	45.0363	-110.7130	09S	08E	23	CBAA	10.9	YNPG	06/16/1998	MBMG	7.34	641	-1.0	-30.0	6.1	67.8
32	146965		FOSTER LESLIE	45.0352	-110.6847	09S	08E	24	DBCA	10.0	YNPG	06/05/1998	MBMG	7.26	1169	-1.0	-30.0	8.9	-80.0
33	146964		SKERTICH * WELL A	45.0708	-110.6333	09S	09E	9	BBAC	7.2	YNPG	06/04/1998	MBMG	7.91	354	-1.0	-30.0	7.0	-80.0
34	105999		JOHNSON WARREN	45.0494	-110.6300	09S	09E	16	CABC	8.1	YNPG	06/04/1998	MBMG	7.62	475	-1.0	-30.0	-1.0	-80.0
35	106002		WILSONS RV RANCH	45.0197	-109.9380	09S	14E	25	BCCD	6.9	YNPC	07/16/1998	MBMG	7.53	922	-1.0	-15.0	8.8	38.1
36	106004		BROWN GARY	45.0155	-109.9682	09S	14E	25	CBCC	4.1	YNPC	06/03/1997	MBMG	8.10	277	-1.0	-30.0	-2.0	-30.0
1	134028		KLOSTER PAUL & GAYE E.	45.0047	-109.9878	09S	14E	26	CAAD	4.2	YNPC	09/28/1998	MBMG	7.70	420	-1.0	-30.0	-1.0	-30.0
2	106014		HINRICHS LOIS	45.0147	-109.9716	09S	14E	27	CDAD	8.9	YNPC	07/16/1998	MBMG	7.97	205	-1.0	-15.0	-1.0	-30.0
3	106021		SCHOLZ JOHN & JOYCE	45.0163	-109.9694	09S	14E	27	DBCD	6.7	YNPC	07/16/1998	MBMG	8.69	848	-1.0	-15.0	-1.0	93.9
4	106013		MT REPUBLIC CHAPEL OF PEACE	45.0158	-109.9672	09S	14E	27	DCAA	7.6	YNPC	08/07/1998	MBMG	8.03	316	-1.0	23.2	-1.0	-30.0
5	106045		LARSON W. & GREY T.	45.0131	-109.9692	09S	14E	27	DCCD	5.2	YNPC	08/07/1998	MBMG	8.04	289	-1.0	24.2	-1.0	-30.0
6	106030		SILVER GATE WATER USERS ASSOC.	45.0067	-109.9858	09S	14E	33	ACBD	2.9	YNPC	09/28/1998	MBMG	7.47	251	-1.0	-15.0	-1.0	-30.0
7	138885		MCDANIEL JAMES & DANI	45.0061	-109.9917	09S	14E	33	ACCB	5.1	YNPC	08/12/1997	MBMG						
8	152597		TYERS DANIEL B	45.0064	-109.9914	09S	14E	33	ACCB	4.2	YNPC	09/18/1997	MBMG	8.65	285	-1.0	-30.0	-1.0	-30.0
9	106024		HERMAN GEORGE M & A	45.0067	-109.9878	09S	14E	33	ACDA	3.9	YNPC	07/24/1997	MBMG					-1.0	
10	106024		HERMAN GEORGE M & A	45.0067	-109.9878	09S	14E	33	ACDA	4.7	YNPC	08/21/1998	MBMG	8.14	297	-1.0	19.6	1.1	-30.0
11	140297		ANDERSON JIM	45.0058	-109.9888	09S	14E	33	ACDD	4.6	YNPC	07/16/1998	MBMG	7.88	268	-1.0	24.0	-1.0	-30.0
12	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	4.4	YNPC	09/24/1997	MBMG	8.78	263	-1.0	-30.0	2.2	-30.0
13	106063		DAVIS GEORGE L	45.0081	-109.9825	09S	14E	33	ADAA	5.9	YNPC	08/07/1998	MBMG	7.91	260	-1.0	17.1	-1.0	-30.0
14	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	4.2	YNPC	09/28/1998	MBMG	7.96	255	-1.0	-15.0	-1.0	-30.0
15	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	3.9	YNPC	09/24/1997	MBMG	8.78	263	-1.0	-30.0	2.2	-30.0
16	106035		BATEMAN J.W.	45.0066	-109.9827	09S	14E	33	ADDA	5.4	YNPC	07/16/1998	MBMG	7.85	282	-1.0	-15.0	-1.0	-30.0
17	106037		HRUZA W V	45.0047	-109.9872	09S	14E	33	DABB	6.7	YNPC	08/05/1998	MBMG	7.96	293	-1.0	20.0	-2.0	-30.0
18	146336		HAGENSTON DENNIS	45.0047	-109.9878	09S	14E	33	DBAA	4.1	YNPC	08/27/1997	MBMG	8.19	360	-1.0	-30.0	-1.0	-30.0
19	106056		LARSON ELMER	45.0106	-109.9742	09S	14E	34	BAAC	6.7	YNPC	08/07/1998	MBMG	8.20	289	-1.0	-15.0	-1.0	-30.0
20	158027		JAY - FOR RANCH	45.0075	-109.9788	09S	14E	34	BCAC	3.7	YNPC	07/15/1998	MBMG	7.87	263	-1.0	-15.0	-1.0	-30.0
21	137132		ISRAEL TED & NELLIE	45.0080	-109.9763	09S	14E	34	BDBB	3.9	YNPC	09/28/1998	MBMG	7.75	251	-1.0	-15.0	1.1	-30.0
22	106075		U S FOREST SERVICE	45.0244	-109.9067	09S	15E	30	ABDB	6.6	YNPC	08/04/1998	MBMG	8.29	238	-1.0	-15.0	-1.0	-30.0
23	164137		MONTANA POWER COMPANY	44.8683	-111.3372	11S	03E	15	DDDD	9.7	YNPW	06/10/1998	MBMG	8.02	326	-1.0	-30.0	37.6	182.4
24	106597		DICK WILLIAM	44.8441	-111.3080	11S	03E	25	CADC	6.4	YNPW	06/17/1998	MBMG	7.34	640	-1.0	-30.0	-1.0	83.0
25	106598		PRUEHER JOHN & BERTHA	44.8441	-111.3083	11S	03E	25	CADC	6.5	YNPW	06/10/1998	MBMG	7.82	668	-1.0	-30.0	1.0	-80.0
26	106603		STOCKSDALE JOHN	44.8441	-111.3083	11S	03E	25	CADC	7.0	YNPW	06/10/1998	MBMG	7.75	685	-1.0	-30.0	1.3	-80.0
27	157973		SCHILDS WARREN & JEAN	44.8166	-111.2541	12S	04E	4	CBBB	8.8	YNPW	06/10/1998	MBMG	7.63	493	-1.0	-30.0	3.5	-80.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

	MNUMBER		SITE_NAME	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TRACT	WATER_TEMP	PROJECT	SAMPLE_DATE	AGENCY	PH	SC umhos/cm	Ag	Al	As	B
28	106622		PYLE DON	44.8144	-111.2638	12S	04E	4	CBCC	9.9	YNPW	06/10/1998	MBMG	7.96	306	-1.0	-30.0	2.7	-80.0
29	106625		GARDNER RICHARD	44.8136	-111.2530	12S	04E	4	CCBA	9.0	YNPW	06/16/1998	MBMG	7.69	327	-1.0	-30.0	2.7	42.9
30	135301		MCDONALD DAN	44.8138	-111.2563	12S	04E	9	DADC	11.7	YNPW	06/10/1998	MBMG	8.07	290	-1.0	-30.0	3.9	93.8
31	152509		YELLOWSTONE HOLIDAYS	44.8030	-111.2197	12S	04E	10	ADDA	7.7	YNPW	06/17/1998	MBMG	7.69	450	-1.0	-30.0	-1.0	79.4
32	8910		KERZENMACHER WALT	44.8030	-111.2058	12S	04E	11	BDDC	7.1	YNPW	08/25/1998	MBMG	7.69	908	-1.0	-20.0	0.3	-20.0
33	164214		COOK GENE	44.7811	-111.1802	12S	04E	24	ABAB	6.3	YNPW	06/17/1998	MBMG	8.06	164	-1.0	79.2	1.6	-30.0
34	152513		LEVIS RICHARD	44.7530	-111.1944	12S	04E	26	DDAD	7.0	YNPW	06/25/1998	MBMG	7.65	233	-1.0	-30.0	-1.0	-30.0
35	158035		WAGNER JOHN	44.7411	-111.2250	12S	04E	34	CDAA	8.2	YNPW	06/16/1998	MBMG	7.18	146	-1.0	-30.0	4.0	-30.0
36	164207		YETTER GERALD	44.8019	-111.1677	12S	05E	7	CABB	10.0	YNPW	06/10/1998	MBMG	7.99	25	-1.0	-30.0	-1.0	-80.0
37	121243		VREELAND THAD	44.7944	-111.1072	12S	05E	15	BABB	5.9	YNPW	06/25/1998	MBMG	7.43	165	-1.0	-30.0	-1.0	-30.0
38	106702		DILENGE FRANK	44.7927	-111.1136	12S	05E	16	AADA	11.1	YNPW	06/12/1998	MBMG	7.05	156	-1.0	-30.0	-1.0	-80.0
39	158183		SMITH MIKE & TINA	44.7877	-111.1441	12S	05E	17	CAAA	7.1	YNPW	06/17/1998	MBMG	7.84	255	-1.0	42.5	-1.0	-30.0
40	106708		FRANKS DANIEL & HERMAN	44.7825	-111.1530	12S	05E	17	CCCB	5.9	YNPW	07/09/1998	MBMG	8.11	176	-1.0	-30.0	-1.0	-30.0
41	157975		MT DEPT OF TRANSPORTATION	44.7775	-111.1119	12S	05E	22	BBCC	11.7	YNPW	06/12/1998	MBMG	6.70	202	-1.0	-30.0	-1.0	44.9
42	106725		PARMLY BUTCH	44.7780	-111.1083	12S	05E	22	BBDA	13.8	YNPW	06/12/1998	MBMG	6.93	217	-1.0	-30.0	-1.0	48.5
43	106726		PARMLY ESTER	44.7772	-111.1083	12S	05E	22	BBDD	12.9	YNPW	06/12/1998	MBMG	6.69	185	-1.0	-30.0	-1.0	-80.0
44	106737		USDA FOREST SERVICE	44.7352	-111.2313	13S	04E	3	BDBA	9.4	YNPW	06/10/1998	MBMG	6.67	145	-1.0	-30.0	-1.0	-80.0
45	164216		LONESOMEHURST WATER USERS ASSOCIATI	44.7352	-111.2366	13S	04E	4	AADC	8.8	YNPW	06/11/1998	MBMG	7.09	114	-1.0	-30.0	-1.0	-30.0
46	106738		JACOBSEN THEODORE M	44.7241	-111.2386	13S	04E	4	DDCA	7.2	YNPW	07/09/1998	MBMG	6.77	103	-1.0	-15.0	-1.0	-30.0
47	8931		KEPHART EVANS	44.7100	-111.2172	13S	04E	10	DDCA	12.1	YNPW	08/24/1998	MBMG	8.91	127	-1.0	-24.0	0.3	-20.0
48	158021		FISHERMANS VILLAGE PROPERTY OWNERS	44.6816	-111.2644	13S	04E	20	DCBC	4.7	YNPW	06/17/1998	MBMG	7.22	146	-1.0	-30.0	-1.0	-30.0
49	145834		ROSS MONTE	44.6844	-111.2472	13S	04E	21	CADB	5.2	YNPW	06/17/1998	MBMG	7.30	515	-1.0	-30.0	-1.0	53.3
50	106768		CHENNAULT CHESTER B	44.6816	-111.1988	13S	04E	23	DDBC	7.7	YNPW	06/17/1998	MBMG	7.19	123	-1.0	-30.0	-1.0	49.4
51	158049		MADISON FORK RANCH # 4	44.6752	-111.1958	13S	04E	26	ADAB	9.1	YNPW	06/16/1998	MBMG	6.85	112	-1.0	-30.0	-1.0	77.7
52	8939		MILLER GARY	44.6772	-111.2075	13S	04E	26	BADA	9.0	YNPW	08/23/1998	MBMG	9.04	220	-1.0	-30.0	0.3	-20.0
53	106775		U S FOREST SERVICE * BAKER HOLE CAMP	44.7044	-111.1002	13S	05E	10	ACAB	22.9	YNPW	06/09/1998	MBMG	7.13	341	-1.0	-30.0	32.2	111.2
54	106778		KIELAND W. H.	44.7101	-111.0966	13S	05E	10	DCDB	12.8	YNPW	06/11/1998	MBMG	7.07	218	-1.0	-30.0	21.8	69.9
55	8943		U S FOREST SERVICE * BAKER HOLE CAMP	44.7083	-111.1002	13S	05E	15	ABAB	17.7	YNPW	07/21/1996	MBMG	7.76	311	-1.0	70.0	21.8	120.0
56	106781		U S FOREST SERVICE * GALLATIN NF	44.6963	-111.1061	13S	05E	15	CBDB	10.2	YNPW	06/09/1998	MBMG	7.94	257	-1.0	-30.0	15.8	148.5
57	152574		SPAINHOWER DONNA G.	44.7802	-111.1075	13S	05E	22	BAAA	10.0	YNPW	06/16/1998	MBMG	6.90	162	-1.0	-30.0	-1.0	30.5
58	106823		HADLEY MOTEL	44.6644	-111.0986	13S	05E	34	ABAA	9.2	YNPW	06/11/1998	MBMG	7.50	113	-1.0	-30.0	2.0	-80.0
59	8950		1ST SECURITY BANK OF W. YELLOWSTONE	44.6600	-111.1013	13S	05E	34	ACBC	9.0	YNPW	08/22/1998	MBMG	6.99	102	-1.0	-20.0	0.9	-20.0
60	106842		3 BEAR LODGE	44.6588	-111.1025	13S	05E	34	ACDB	9.3	YNPW	06/12/1998	MBMG	6.92	113	-1.0	-30.0	1.9	-80.0
61	106853		WHITMAN CLYDE AND SUSIE	44.6641	-111.1052	13S	05E	34	BAAB	7.4	YNPW	06/17/1998	MBMG	7.09	116	-1.0	-30.0	3.9	43.6
62	164139		MARTIN NORMA	44.6625	-111.1111	13S	05E	34	BBCA	7.3	YNPW	06/17/1998	MBMG	7.97	133	-1.0	-15.0	4.6	58.2
63	8959		WEST YELLOWSTONE CITY OF	44.6580	-111.1047	13S	05E	34	CAAB	9.1	YNPW	08/23/1998	MBMG	7.28	129	-1.0	80.0	2.6	-20.0
64	8960		DONNA TIMBER INC	44.6547	-111.1044	13S	05E	34	CADC	9.6	YNPW	08/22/1998	MBMG	7.91	110	-1.0	30.0	2.1	-20.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER	SITE_NAME	Ba	Be	Br	Ca	Cd	Cl	CO3	CO	Cr	Cu	F	Fe	HCO3	K	Li	Mg	Mn	Mo
		ug/L	ug/L	ug/L	mg/L	ug/L	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	ug/L
8958	SUBURBAN PROPANE				5.20		5.20	0.0				3.00	0.200	47.5	1.90	54	1.0		-10.0
8953	GREENE DICK				4.50		5.80	0.0				4.00	0.050	72.3	4.70	70	6.2		-10.0
8955	DUNBAR CALVIN				4.80		7.70	2.3				3.90	0.020	11.5	2.40	55	2.5	0.020	-10.0
8956	SEELY CLYDE				7.80		5.00	0.0				3.70	0.060	62.2	2.70	59	2.4	0.000	-10.0
8948	HENRIE PAT				5.60		4.30	0.0				3.60	0.020	49.4	2.40	53	1.5	0.000	-10.0
8954	GOODING HAROLD				5.80		5.00	0.0				3.60	0.030	51.5	3.00	44	1.4	0.000	-10.0
8944	MT AERONAUTICS COMMISSION				1.30		6.50	3.6				4.90	0.010	94.6	6.00	80	2.6	0.020	-10.0
8941	MONTANA FISH & GAME				15.10		6.00	0.0				3.10	0.010	121.8	6.20	46	4.3	0.000	
8912	CARSLEY SCOTT * 7MI NW WEST YELLOWSTO				11.90		2.50	4.2				0.53	0.080	70.1	3.30	21	6.3	0.070	
8915	NELSON DEAN				16.10		2.60	0.0				2.90	0.150	101.0	3.10	39	5.1	-0.001	
8914	STELTER DALE * 9 MI NW WEST YELLOWSTO				24.60		13.50	0.0				0.08	0.010	94.1	0.90	-50	4.2	-0.001	
104586	STATE HIGHWAY DEPT. (MINER SEC.)	43.0	-2.0	-100.0	50.40	-2.0	22.00	0.0	-2.0	-2.0	-2.0	0.82	0.014	234.0	7.50	44	15.1	-0.001	-10.0
8957	EDGERTON DOUG				5.00		5.20	0.0				2.30	0.080	39.0	1.90	54	0.9	0.010	-10.0
104568	PIKE GALE	8.9	-2.0	32.0	206.50	-2.0	7.43	0.0	-2.0	16.0	-2.0	0.47	0.707	350.1	8.70	-50	79.7	0.005	-10.0
152662	PARENT HERSCHELL	51.0	-2.0	-25.0	167.20	-2.0	163.60	0.0	-2.0	8.5	-2.0	0.55	0.049	293.3	22.00	-50	77.5	0.696	-10.0
167395	GALLAGHER KEVIN	23.6	-2.0	43.0	41.10	-2.0	3.05	0.0	-2.0	4.9	-2.0	0.24	-0.005	183.7	5.98	-50	13.0	-0.001	-10.0
134029	CUT * SPHINX LODGE	98.5	-2.0	30.0	37.80	-2.0	8.85	0.0	-2.0	21.4	4.4	0.14	0.036	422.6	7.94	-50	33.6	-0.001	-10.0
105288	KRAPF PAUL & FONDA	84.2	-2.0	-25.0	47.40	-2.0	5.18	0.0	-2.0	11.4	5.2	0.16	-0.005	318.4	8.23	-50	36.3	-0.001	-10.0
147003	DEMAREE	24.8	-2.0	89.0	1.20	-2.0	13.00	22.6	-2.0	10.5	-2.0	0.71	0.018	312.1	0.71	-50	0.3	0.002	-10.0
133595	ROYAL TETON RANCH	77.5	-2.0	-25.0	56.60	-2.0	1.13	0.0	-2.0	12.1	57.6	0.12	0.029	278.2	3.82	-50	23.2	0.003	-10.0
140292	KRAMER ED & MARY	81.1	-2.0	-500.0	60.37	-2.0	5.28	0.0	-2.0	6.8	-2.0	0.72	-0.005	236.4	4.02	-50	28.4	-0.001	-10.0
138859	MURPHY JERRY	50.4	-2.0	-500.0	60.10	-2.0	25.80	0.0	-2.0	13.7	6.7	0.78	-0.005	399.4	3.94	-50	53.1	-0.001	-10.0
26200	KOPLAND FRANK	78.0	-2.0	-25.0	55.56	-2.0	10.18	0.0	-2.0	5.6	-2.0	0.34	-0.005	245.0	2.54	-50	16.6	-0.001	-10.0
146967	DARR ATLANTA	56.7	-2.0	131.0	49.52	-2.0	21.70	0.0	-2.0	11.7	-2.0	0.24	-0.005	358.2	9.37	-50	33.4	-0.001	-10.0
138764	COLE JIM	101.2	-2.0	56.0	56.49	-2.0	7.70	0.0	-2.0	19.5	-2.0	0.40	-0.005	416.8	4.92	-50	64.8	-0.001	-10.0
145529	GONZALES CHRISTOPHER	67.6	-2.0	58.0	40.49	-2.0	7.05	0.0	-2.0	8.6	5.3	0.88	-0.005	299.6	5.51	-50	47.7	-0.001	-10.0
105961	ROYAL TETON LTD * MAIN RANCH OFFICE	43.6	-2.0	27.0	74.06	-2.0	6.79	0.0	-2.0	10.6	23.7	0.21	0.013	207.4	5.53	-50	22.3	-0.001	-10.0
105975	USFS	129.8	-2.0	25.0	36.80	-2.0	3.91	0.0	-2.0	10.6	-2.0	0.15	-0.005	174.7	5.41	-50	11.0	-0.001	-10.0
105980	GARDINER AIRPORT	36.4	-2.0	-25.0	16.70	-2.0	18.60	0.0	-2.0	3.0	-2.0	1.24	0.054	207.2	1.18	-50	2.0	0.067	-10.0
105981	BATESON GERALD JR	24.9	-2.0	43.0	23.04	-2.0	12.31	0.0	-2.0	3.1	81.1	0.49	0.010	100.8	3.77	-50	6.8	-0.001	-10.0
140293	WESTERN AIR MOTEL	70.9	-2.0	75.0	57.10	-2.0	14.80	0.0	-2.0	6.8	4.2	0.53	0.021	262.5	7.29	-50	20.5	0.014	-10.0
146965	FOSTER LESLIE	9.8	-2.0	101.0	147.30	-2.0	13.30	0.0	-2.0	10.2	-2.0	2.32	0.170	294.3	11.71	-50	62.8	0.018	53.9
146964	SKERTICH * WELL A	124.8	-2.0	-25.0	34.10	-2.0	2.33	0.0	-2.0	9.9	-2.0	0.15	0.032	188.9	5.19	-50	13.8	0.004	-10.0
105999	JOHNSON WARREN	76.8	-2.0	59.0	36.30	-2.0	9.71	0.0	-2.0	8.7	-2.0	0.15	0.022	193.7	4.90	-50	27.2	-0.001	-10.0
106002	WILSONS RV RANCH	12.5	-2.0	-25.0	138.00	-2.0	1.32	0.0	-2.0	2.4	-2.0	0.25	0.514	157.6	4.61	-50	27.7	0.026	-10.0
106004	BROWN GARY	41.8	-2.0	-25.0	37.64	-2.0	-5.00	0.0	-2.0	3.4	-2.0		-0.005	143.7	0.55	6	9.3	-0.001	-10.0
134028	KLOSTER PAUL & GAYE E.	57.9	-2.0	34.0	38.76	-2.0	0.71	0.0	-2.0	7.4	-2.0	.124	0.079	244.5	2.33	-50	22.8	-0.001	-10.0
106014	HINRICHS LOIS	17.57	-2.0	-25.0	22.20	-2.0	-5.00	0.0	-2.0	-2.0	-2.0	0.10	-0.005	106.4	0.41	-50	8.0	-0.001	-10.0
106021	SCHOLZ JOHN & JOYCE	21.3	-2.0	-25.0	5.21	-2.0	2.13	19.7	-2.0	6.9	-2.0	1.58	0.014	414.3	3.70	-50	5.3	0.002	-10.0
106013	MT REPUBLIC CHAPEL OF PEACE	63.6	-2.0	-25.0	40.25	-2.0	0.70	0.0	-2.0	3.1	2.3	-0.05	0.009	177.1	0.86	-50	9.6	-0.001	-10.0
106045	LARSON W. & GREY T.	155.9	-2.0	-25.0	38.65	-2.0	0.70	0.0	-2.0	2.9	4.2	-0.05	0.013	177.6	0.75	-50	9.0	-0.001	-10.0
106030	SILVER GATE WATER USERS ASSOC.	20.9	-2.0	-25.0	25.30	-2.0	0.98	0.0	-2.0	3.7	-2.0	0.06	0.025	141.3	0.54	-50	5.1	-0.001	-10.0
138885	MCDANIEL JAMES & DANI						0.87						0.000						
152597	TYERS DANIEL B	44.8	-2.0	-25.0	40.20	-2.0	0.60	5.5	-2.0	-2.0	-2.0	0.05	0.007	167.1	1.07	2	9.0	0.002	-10.0
106024	HERMAN GEORGE M & A						0.62	0.0	-2.0	-2.0	-2.0	-0.05	-0.005						
106024	HERMAN GEORGE M & A	48.5	-2.0	-25.0	34.08	-2.0	0.52	0.0	-2.0	-2.0	-2.0	-0.05	-0.005	163.2	0.82	-50	8.7	0.002	-10.0
140297	ANDERSON JIM	18.9	-2.0	-25.0	30.82	-2.0	1.47	0.0	-2.0	-2.0	2.2	0.11	-0.005	149.8	0.45	-50	7.0	-0.001	-10.0
163260	HOWARD CORBIN & FLORENCE	30.5	-2.0	30.0	38.00	-2.0	0.60	6.2	-2.0	-2.0	-2.0	0.07	-0.005	161.0	0.96	2	8.3	0.109	-10.0
106063	DAVIS GEORGE L	20.0	-2.0	-25.0	30.65	-2.0	0.57	0.0	-2.0	2.8	-2.0	-0.05	-0.005	154.2	0.64	-50	6.2	-0.001	-10.0
163260	HOWARD CORBIN & FLORENCE	43.0	-2.0	-25.0	31.60	-2.0	-5.00	0.0	-2.0	-2.0	-2.0	-0.05	0.048	154.7	0.76	-50	7.3	0.058	-10.0
163260	HOWARD CORBIN & FLORENCE	30.5	-2.0	30.0	38.00	-2.0	0.60	6.2	-2.0	-2.0	-2.0	0.07	-0.005	161.0	0.96	2	8.3	0.109	-10.0
106035	BATEMAN J.W.	16.5	-2.0	-25.0	33.94	-2.0	-5.00	0.0	-2.0	2.0	8.7	-0.05	0.016	162.0	0.61	-50	7.4	0.006	-10.0
106037	HRUZA W V	61.6	-2.0	-25.0	32.94	-2.0	0.63	0.0	-2.0	2.3	4.4	-0.05	-0.005	157.6	0.88	-50	9.1	-0.001	-10.0
146336	HAGENSTON DENNIS	25.8	-2.0	-25.0	43.60	-2.0	0.74	0.0	-2.0	-2.0	-2.0	0.11	0.034	244.0	0.80	-50	17.8	0.132	-10.0
106056	LARSON ELMER	22.5	-2.0	-25.0	35.35	-2.0	0.63	0.0	-2.0	2.8	3.3	-0.05	-0.005	165.2	0.62	-50	8.1	-0.001	-10.0
158027	JAY - FOR RANCH	17.9	-2.0	-25.0	30.38	-2.0	0.60	0.0	-2.0	-2.0	-2.0	0.11	-0.005	146.2	0.57	-50	7.1	0.003	-10.0
137132	ISRAEL TED & NELLIE	14.4	-2.0	-25.0	29.60	-2.0	0.54	0.0	-2.0	-2.0	2.1	-0.05	0.016	152.0	0.43	-50	6.3	-0.001	-10.0
106075	U S FOREST SERVICE	55.9	-2.0	-25.0	32.39	-2.0	-5.00	0.0	-2.0	2.2	-2.0	-0.05	-0.005	151.0	0.61	-50	6.2	-0.001	-10.0
164137	MONTANA POWER COMPANY	27.6	-2.0	57.0	21.14	-2.0	17.52	0.0	-2.0	6.4	-2.0	2.19	0.035	154.2	2.70	-50	10.5	-0.001	-10.0
106597	DICK WILLIAM	228.0	-2.0	-25.0	84.20	-2.0	7.41	0.0	-2.0	22.8	5.2	0.01	-0.005	367.5	1.19	-50	24.4	-0.001	-10.0
106598	PRUEHER JOHN & BERTHA	209.5	-2.0	-25.0	84.69	-2.0	23.40	0.0	-2.0	14.5	-2.0	0.07	-0.005	347.9	1.13	-50	20.9	-0.001	-10.0
106603	STOCKSDALE JOHN	191.8	-2.0	-25.0	87.50	-2.0	17.90	0.0	-2.0	13.5	3.1	0.07	-0.005	367.0	1.51	-50	19.7	-0.001	-10.0
157973	SCHILDS WARREN & JEAN	75.4	-2.0	-25.0	71.60	-2.0	2.94	0.0	-2.0	12.8	15.5	0.14	0.009	304.0	1.50	-50	15.2	-0.001	-10.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER		SITE_NAME	Ba	Be	Br	Ca	Cd	Cl	CO3	CO	Cr	Cu	F	Fe	HCO3	K	Li	Mg	Mn	Mo
106622		PYLE DON	24.1	-2.0	-25.0	20.66	-2.0	2.12	0.0	-2.0	9.2	-2.0	0.71	0.016	177.1	0.73	-50	7.3	-0.001	-10.0
106625		GARDNER RICHARD	42.2	-2.0	-25.0	34.30	-2.0	1.74	0.0	-2.0	7.2	3.1	0.32	0.035	208.9	0.86	-50	12.6	-0.001	-10.0
135301		MCDONALD DAN	30.1	-2.0	-25.0	18.09	-2.0	1.60	0.0	-2.0	5.7	-2.0	1.21	0.012	177.9	1.54	-50	6.3	-0.001	-10.0
152509		YELLOWSTONE HOLIDAYS	67.1	-2.0	-25.0	56.80	-2.0	2.70	0.0	-2.0	12.4	2.8	0.31	-0.005	244.2	3.21	-50	16.7	-0.001	-10.0
8910		KERZENMACHER WALT		-2.0	-25.0	143.00	-2.0	1.20	0.0	-2.0	-2.0	-2.0	0.04	7.200	196.0	1.70	-50	37.5	0.030	-10.0
164214		COOK GENE	29.6	-2.0	-25.0	20.80	-2.0	0.55	0.0	-2.0	5.3	-2.0	0.06	0.026	105.2	1.27	-50	4.0	-0.001	-10.0
152513		LEVIS RICHARD	12.3	-2.0	26.0	19.30	-2.0	2.78	0.0	-2.0	3.8	-2.0	0.37	-0.005	100.5	0.34	-50	6.6	-0.001	-10.0
158035		WAGNER JOHN	22.3	-2.0	-25.0	15.31	-2.0	1.20	0.0	-2.0	3.1	4.9	0.17	0.056	80.5	2.24	-50	4.3	0.005	-10.0
164207		YETTER GERALD	38.4	-2.0	-25.0	50.22	-2.0	0.88	0.0	-2.0	6.7	-2.0	0.25	0.024	188.4	0.88	-50	23.0	-0.001	-10.0
121243		VREELAND THAD	30.9	-2.0	28.0	19.44	-2.0	1.06	0.0	-2.0	3.9	41.0	0.11	-0.005	91.5	1.16	-50	4.4	-0.001	-10.0
106702		DILENGE FRANK	116.3	-2.0	-25.0	18.70	-2.0	1.25	0.0	-2.0	3.3	6.6	0.14	0.038	84.1	1.02	-50	3.7	-0.001	-10.0
158183		SMITH MIKE & TINA	65.8	-2.0	-25.0	35.50	-2.0	17.83	0.0	-2.0	3.9	-2.0	-0.05	0.007	127.9	1.43	-50	6.1	-0.001	-10.0
106708		FRANKS DANIEL & HERMAN	34.8	-2.0	-25.0	21.51	-2.0	0.75	0.0	-2.0	-2.0	-2.0	0.06	-0.005	99.3	1.15	-50	4.2	-0.001	-10.0
157975		MT DEPT OF TRANSPORTATION	33.6	-2.0	-25.0	13.50	-2.0	2.10	0.0	-2.0	5.4	17.9	2.99	0.021	99.1	3.36	-50	3.9	-0.001	-10.0
106725		PARMLY BUTCH	24.3	-2.0	41.0	11.98	-2.0	1.87	0.0	-2.0	5.7	-2.0	3.01	0.011	120.3	4.60	-50	7.0	-0.001	-10.0
106726		PARMLY ESTER	22.1	-2.0	-25.0	13.50	-2.0	1.79	0.0	-2.0	4.2	3.0	2.68	0.013	97.4	3.20	-50	3.7	-0.001	-10.0
106737		USDA FOREST SERVICE	37.9	-2.0	31.0	12.07	-2.0	8.24	0.0	-2.0	-2.0	-2.0	0.05	-0.005	50.8	2.03	-50	3.5	-0.001	-10.0
164216		LONESOMEHURST WATER USERS ASSOCIATI(	27.1	-2.0	-25.0	10.74	-2.0	2.73	0.0	-2.0	2.5	-2.0	-0.05	0.018	62.2	3.44	-50	3.0	-0.001	-10.0
106738		JACOBSEN THEODORE M	23.4	-2.0	-25.0	8.77	-2.0	2.01	0.0	-2.0	-2.0	-2.0	0.13	0.005	52.3	0.68	-50	2.3	0.002	-10.0
8931		KEPHART EVANS		-2.0	-25.0	34.30	-2.0	1.90	0.5	-2.0	-2.0	-2.0	0.10	0.020	72.7	1.70	-50	10.1	-0.001	-10.0
158021		FISHERMANS VILLAGE PROPERTY OWNERS	9.2	-2.0	-25.0	14.70	-2.0	4.24	0.0	-2.0	4.1	9.8	0.09	0.017	80.8	0.61	-50	5.9	-0.001	-10.0
145834		ROSS MONTE	54.5	-2.0	-25.0	84.50	-2.0	1.58	0.0	-2.0	11.8	-2.0	0.08	0.034	223.5	0.75	-50	13.6	0.004	-10.0
106768		CHENNAULT CHESTER B	11.2	-2.0	-25.0	7.74	-2.0	2.55	0.0	-2.0	6.1	-2.0	1.99	0.030	61.5	1.95	-50	2.4	0.006	-10.0
158049		MADISON FORK RANCH # 4	7.4	-2.0	-25.0	5.60	-2.0	4.82	0.0	-2.0	2.1	-2.0	3.71	0.016	47.8	1.80	-50	1.0	0.005	-10.0
8939		MILLER GARY		-2.0	-25.0	5.90	-2.0	1.70	1.9	-2.0	-2.0	-2.0	0.22	0.690	8.3	1.80	-50	1.6	0.000	-10.0
106775		U S FOREST SERVICE * BAKER HOLE CAMP	31.8	-2.0	41.0	7.07	-2.0	6.80	0.0	-2.0	3.5	-2.0	4.02	0.015	164.9	7.29	-50	4.2	-0.001	-10.0
106778		KIELAND W. H.	12.4	-2.0	-25.0	8.10	-2.0	4.69	0.0	-2.0	4.9	-2.0	4.12	0.042	107.4	5.21	-50	2.9	-0.001	-10.0
8943		U S FOREST SERVICE * BAKER HOLE CAMP		-2.0	-25.0	11.20	-2.0	12.60	0.0	-2.0	-2.0	-2.0	3.70	0.010	152.0	7.00	150	6.0	0.010	-10.0
106781		U S FOREST SERVICE * GALLATIN NF	18.3	-2.0	35.0	9.19	-2.0	6.55	0.0	-2.0	2.5	-2.0	3.37	0.108	123.5	4.38	-50	4.1	0.006	18.6
152574		SPAINHOWER DONNA G.	15.3	-2.0	-25.0	16.40	-2.0	1.29	0.0	-2.0	5.2	6.4	1.17	-0.005	87.8	2.04	-50	3.8	-0.001	-10.0
106823		HADLEY MOTEL	10.5	-2.0	-25.0	4.98	-2.0	3.84	0.0	-2.0	-2.0	-2.0	2.96	0.061	47.3	2.45	-50	1.4	0.011	10.3
8950		1ST SECURITY BANK OF W. YELLOWSTONE		-2.0	-25.0	5.20	-2.0	5.40	0.0	-2.0	-2.0	-2.0	3.60	0.080	44.5	2.00	-50	1.0	-0.001	-10.0
106842		3 BEAR LODGE	10.7	-2.0	-25.0	5.04	-2.0	3.95	0.0	-2.0	2.1	8.7	2.62	0.009	43.3	2.07	-50	0.9	-0.001	-10.0
106853		WHITMAN CLYDE AND SUSIE	14.1	-2.0	-25.0	5.35	-2.0	3.35	0.0	-2.0	3.1	2.1	3.22	0.045	48.6	2.49	-50	1.5	-0.001	11.4
164139		MARTIN NORMA	8.1	-2.0	-25.0	7.60	-2.0	4.10	0.0	-2.0	-2.0	-2.0	3.38	0.009	60.9	2.50	-50	1.7	-0.001	12.7
8959		WEST YELLOWSTONE CITY OF		-2.0	-25.0	5.20	-2.0	4.30	0.0	-2.0	-2.0	-2.0	3.80	0.050	44.8	1.70	-50	0.9	-0.001	-10.0
8960		DONNA TIMBER INC		-2.0	-25.0	6.40	-2.0	7.10	0.0	-2.0	-2.0	-2.0	7.20	2.060	35.4	1.70	-50	1.1	0.270	-10.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER		SITE_NAME	NO3_N	Na	Ni	Pb	orthoPO4	Sb	Se	SiO2	SO4	Sr	Ti	V	Zn	Zr				
			mg/L	mg/L	mg/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L				
8958		SUBURBAN PROPANE	0.038	14.90	-2.00	-2.0	-0.05	-2.0	-1.0	39.40	1.80		-10.0	-5.0		-5.0				
8953		GREENE DICK	0.011	15.90	-2.00	-2.0	-0.05	-2.0	-1.0	35.90	2.60		-10.0	-5.0		-5.0				
8955		DUNBAR CALVIN	1.100	15.10	-2.00	-2.0	-0.05	-2.0	-1.0	42.40	1.60		-10.0	-5.0		-5.0				
8956		SEELY CLYDE	0.110	15.30	-2.00	-2.0	-0.05	-2.0	-1.0	44.40	1.80		-10.0	-5.0		-5.0				
8948		HENRIE PAT	0.130	13.80	-2.00	-2.0	-0.05	-2.0	-1.0	47.00	1.90		-10.0	-5.0		-5.0				
8954		GOODING HAROLD	0.190	14.80	-2.00	-2.0	-0.05	-2.0	-1.0	48.70	1.90		-10.0	-5.0		-5.0				
8944		MT AERONAUTICS COMMISSION	0.038	38.30						32.50	3.00									
8941		MONTANA FISH & GAME	0.027	28.30						65.90	6.80									
8912		CARSLEY SCOTT * 7MI NW WEST YELLOWSTO	0.610	5.00	-2.00					43.40	1.10									
8915		NELSON DEAN	0.180	11.60	-2.00	-2.0				46.10	1.90									
8914		STELTER DALE * 9 MI NW WEST YELLOWSTO	0.230	1.80	-2.00					14.00	3.90									
104586		STATE HIGHWAY DEPT. (MINER SEC.)	0.350	50.20	-2.00	-2.0	-0.05	-2.0	1.1	22.00	74.50	215.0	-10.0	-5.0	5.7	-20.0				
8957		EDGERTON DOUG	0.023	14.50	-2.00	-2.0	-0.05	-2.0	-1.0	39.50	1.90		-10.0	-5.0		-5.0				
104568		PIKE GALE	0.068	4.80	24.40	-2.0	0.08	-2.0	-1.0	8.15	613.00	6607.0	-10.0	-5.0	-2.0	-5.0				
152662		PARENT HERSCHELL	-0.050	61.30	20.50	-2.0	-0.05	-2.0	3.9	29.89	491.50	1203.0	-10.0	-5.0	13.5	-5.0				
167395		GALLAGHER KEVIN	1.160	7.36	8.70	-2.0	-0.05	-2.0	1.2	19.57	47.30	434.2	-10.0	-5.0	8.6	-10.0				
134029		CUT * SPHINX LODGE	-0.050	60.50	4.98	-2.0	-0.05	-2.0	-1.0	25.29	29.17	1118.0	-10.0	6.7	8.9	-5.0				
105288		KRAPF PAUL & FONDA	2.300	12.80	7.00	-2.0	-0.05	-2.0	-1.0	25.70	34.15	646.6	-20.0	-5.0	2.8	-5.0				
147003		DEMAREE	0.065	182.00	-2.00	-2.0	0.08	-2.0	-1.0	8.35	121.00	56.9	-10.0	-5.0	-2.0	-10.0				
133595		ROYAL TETON RANCH	0.322	8.48	7.42	-2.0	-0.05	-2.0	-1.0	27.09	23.75	557.7	-10.0	-5.0	38.3	-5.0				
140292		KRAMER ED & MARY	1.060	17.79	7.20	-2.0	-0.05	-2.0	-1.0	32.12	101.70	619.0	36.4	5.3	116.7	-5.0				
138859		MURPHY JERRY	0.520	38.77	8.40	-2.0	-0.05	-2.0	-1.0	19.99	87.70	1531.0	-20.0	7.4	5.3	-5.0				
26200		KOPLAND FRANK	1.808	10.20	7.10	-2.0	-0.05	-2.0	-1.0	37.32	8.91	341.1	-20.0	6.9	14.7	-5.0				
146967		DARR ATLANTA	0.594	88.10	11.36	-2.0	-0.05	-2.0	2.9	29.10	160.00	836.3	-10.0	5.2	7.6	-10.0				
138764		COLE JIM	0.136	22.56	6.46	-2.0	-0.05	-2.0	-1.0	19.17	87.16	1688.0	-10.0	5.6	30.4	-5.0				
145529		GONZALES CHRISTOPHER	0.410	25.80	8.60	-2.0	0.08	-2.0	-1.0	26.36	122.56	740.2	-5.0	-5.0	33.7	-15.0				
105961		ROYAL TETON LTD * MAIN RANCH OFFICE	0.248	22.20	9.02	-2.0	-0.05	-2.0	-1.0	22.70	142.00	481.5	-10.0	-5.0	12.9	-5.0				
105975		USFS	0.600	8.90	4.08	-2.0	-0.05	-2.0	-1.0	20.20	17.57	122.4	-10.0	6.0	11.9	-5.0				
105980		GARDINER AIRPORT	-0.050	140.90	-2.00	-2.0	-0.05	-2.0	-1.0	16.30	177.50	227.5	-20.0	-5.0	49.2	-5.0				
105981		BATESON GERALD JR	0.374	17.40	3.04	-2.0	-0.05	-2.0	-1.0	22.90	34.71	118.0	-10.0	-5.0	6.2	-5.0				
140293		WESTERN AIR MOTEL	0.187	51.07	7.80	-2.0	-0.05	-2.0	-1.0	18.70	104.00	753.4	-10.0	-5.0	10.9	-5.0				
146965		FOSTER LESLIE	-0.050	29.94	20.38	-2.0	-0.05	-2.0	-1.0	13.20	458.60	1096.0	-10.0	-5.0	27.5	-5.0				
146964		SKERTICH * WELL A	0.188	9.70	3.70	-2.0	-0.05	-2.0	-1.0	16.07	17.40	323.5	-10.0	-5.0	5.8	-5.0				
105999		JOHNSON WARREN	0.563	10.79	4.14	-2.0	-0.05	-2.0	-1.0	14.90	34.19	262.6	-10.0	-5.0	15.0	-5.0				
106002		WILSONS RV RANCH	-0.050	27.72	13.97	-2.0	-0.05	-2.0	-1.0	8.65	379.10	4230.0	-20.0	-5.0	15.6	-10.0				
106004		BROWN GARY	0.230	4.00	4.80	-2.0	-0.05	-2.0	-1.0	11.70	22.70	107.0	-10.0	-5.0	12.1	-20.0				
134028		KLOSTER PAUL & GAYE E.	0.066	3.07	7.45	-2.0	0.09	-2.0	-1.0	11.721	19.20	291.9	-10.0	-5.0	11.4	-15.0				
106014		HINRICHS LOIS	0.169	1.31	2.32	-2.0	0.08	-2.0	-1.0	5.30	15.37	135.2	-20.0	-5.0	56.4	-10.0				
106021		SCHOLZ JOHN & JOYCE	0.065	172.40	-2.00	-2.0	0.09	-2.0	-1.0	7.50	78.80	331.3	-20.0	-5.0	-2.0	-10.0				
106013		MT REPUBLIC CHAPEL OF PEACE	0.242	2.59	5.24	-2.0	-0.05	-2.0	-1.0	11.49	22.52	150.0	-10.0	2.7	-2.0	11.3				
106045		LARSON W. & GREY T.	0.302	2.29	4.90	-2.0	-0.05	-2.0	-1.0	10.49	21.92	146.8	-10.0	-5.0	-2.0	-10.0				
106030		SILVER GATE WATER USERS ASSOC.	0.899	11.51	4.60	-2.0	-0.05	-2.0	-1.0	9.76	5.13	200.5	-10.0	5.5	-2.0	-15.0				
138885		MCDANIEL JAMES & DANI																		
152597		TYERS DANIEL B	0.360	3.50	8.10	-2.0	-0.05	-2.0	-1.0	11.50	14.10	163.0	-10.0	-5.0	5.0	-5.0				
106024		HERMAN GEORGE M & A																		
106024		HERMAN GEORGE M & A	0.242	3.00	3.20	-2.0	-0.05	-2.0	-1.0	10.61	13.90	162.6	14.7	-5.0	5.1	-10.0				
140297		ANDERSON JIM	0.243	3.85	3.78	-2.0	0.09	-2.0	-1.0	11.63	14.35	137.2	-10.0	-5.0	18.5	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.350	3.90	8.10	-2.0	-0.05	-2.0	-1.0	11.30	4.94	178.4	-10.0	-5.0	-2.0	-5.0				
106063		DAVIS GEORGE L	0.264	3.61	3.50	-2.0	-0.05	-2.0	-1.0	9.67	7.98	152.7	-10.0	-5.0	4.7	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.237	3.93	4.11	-2.0	-0.05	-2.0	-1.0	10.54	4.24	184.7	-10.0	-5.0	61.9	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.350	3.90	8.10	-2.0	-0.05	-2.0	-1.0	11.30	4.94	178.4	-10.0	-5.0	-2.0	-5.0				
106035		BATEMAN J.W.	0.115	3.78	4.06	-2.0	-0.05	-2.0	-1.0	12.30	10.97	143.4	-20.0	-5.0	7.5	-10.0				
106037		HRUZA W V	0.266	3.38	4.14	-2.0	-0.05	-2.0	-1.0	11.14	19.77	175.5	-10.0	-5.0	-2.0	-10.0				
146336		HAGENSTON DENNIS	-0.050	11.90	3.60	-2.0	0.05	-2.0	-1.0	13.09	4.60	847.0	-10.0	-5.0	5.0	-20.0				
106056		LARSON ELMER	0.221	2.68	2.68	-2.0	-0.05	-2.0	-1.0	10.44	17.01	140.5	-10.0	-5.0	2.6	-10.0				
158027		JAY - FOR RANCH	0.126	3.58	3.80	-2.0	0.10	-2.0	-1.0	13.40	12.94	126.4	-10.0	-5.0	14.0	-10.0				
137132		ISRAEL TED & NELLIE	0.126	7.67	3.66	-2.0	0.07	-2.0	1.0	17.50	6.65	112.4	-10.0	7.8	7.6	-10.0				
106075		U S FOREST SERVICE	0.094	1.16	3.76	-2.0	-0.05	-2.0	-1.0	8.13	5.35	102.0	-10.0	-5.0	6.6	-10.0				
164137		MONTANA POWER COMPANY	0.159	24.44	2.07	-2.0	-0.05	-2.0	-1.0	25.78	8.16	29.4	-10.0	-5.0	25.8	-5.0				
106597		DICK WILLIAM	4.660	8.25	13.90	-2.0	-0.05	-2.0	-1.0	17.50	14.98	71.0	-10.0	5.9	71.2	-5.0				
106598		PRUEHER JOHN & BERTHA	6.080	21.97	11.30	-2.0	-0.05	-2.0	-1.0	14.70	10.45	69.7	-10.0	-5.0	5.0	-5.0				
106603		STOCKSDALE JOHN	6.040	20.40	12.90	-2.0	-0.05	-2.0	-1.0	15.50	12.04	67.6	-10.0	-5.0	10.0	-5.0				
157973		SCHILDS WARREN & JEAN	2.890	4.88	9.90	-2.0	-0.05	-2.0	-1.0	24.40	7.03	118.6	-10.0	-5.0	30.6	-5.0				

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER		SITE_NAME	NO3_N	Na	Ni	Pb	orthoPO4	Sb	Se	SiO2	SO4	Sr	Ti	V	Zn	Zr				
106622		PYLE DON	0.447	29.32	-2.00	-2.0	-0.05	-2.0	-1.0	22.60	5.93	67.8	-10.0	-5.0	2.5	-5.0				
106625		GARDNER RICHARD	0.387	14.30	9.50	-2.0	-0.05	-2.0	-1.0	21.60	6.24	107.0	-10.0	-5.0	7.8	-5.0				
135301		MCDONALD DAN	0.372	32.73	-2.00	-2.0	-0.05	-2.0	-1.0	24.80	5.42	42.4	-10.0	-5.0	4.6	-5.0				
152509		YELLOWSTONE HOLIDAYS	-0.050	19.96	8.20	-2.0	-0.05	-2.0	-1.0	18.90	64.50	413.1	-10.0	-5.0	17.8	-5.0				
8910		KERZENMACHER WALT	0.130	7.90	-2.00	-2.0	-0.05	-2.0	-1.0	12.90	362.00		-10.0	-5.0	-2.0	-5.0				
164214		COOK GENE	-0.050	2.20	4.00	-2.0	-0.05	-2.0	-1.0	16.60	4.33	47.9	-10.0	-5.0	8.6	-5.0				
152513		LEVIS RICHARD	0.889	3.49	3.29	-2.0	0.14	-2.0	-1.0	24.95	3.16	65.8	-10.0	-5.0	64.9	-5.0				
158035		WAGNER JOHN	0.290	4.11	4.43	-2.0	-0.05	-2.0	-1.0	41.05	4.08	29.8	-10.0	-5.0	30.8	-5.0				
164207		YETTER GERALD	0.163	1.59	6.04	-2.0	-0.05	-2.0	-1.0	9.14	74.00	297.9	-10.0	-5.0	195.0	-5.0				
121243		VREELAND THAD	0.507	2.71	2.40	-2.0	-0.05	-2.0	-1.0	20.40	4.12	48.5	-10.0	-5.0	528.9	-5.0				
106702		DILENGE FRANK	0.449	2.80	-2.00	-2.0	-0.05	-2.0	-1.0	21.20	4.02	42.4	-10.0	-5.0	174.6	-5.0				
158183		SMITH MIKE & TINA	0.547	2.40	9.40	-2.0	-0.05	-2.0	-1.0	13.20	4.46	69.5	-10.0	-5.0	11.8	-5.0				
106708		FRANKS DANIEL & HERMAN	0.165	2.10	3.69	-2.0	0.09	-2.0	-1.0	14.73	4.71	47.6	-10.0	-5.0	-2.0	-15.0				
157975		MT DEPT OF TRANSPORTATION	0.807	15.90	-2.00	-2.0	-0.05	-2.0	-1.0	48.12	3.26	36.6	-10.0	-5.0	9.1	-5.0				
106725		PARMLY BUTCH	0.088	17.02	-2.00	-2.0	-0.05	-2.0	-1.0	2.40	2.92	32.4	-10.0	-5.0	5.3	-5.0				
106726		PARMLY ESTER	0.283	14.80	-2.00	-2.0	-0.05	-2.0	-1.0	48.90	3.04	35.1	-10.0	-5.0	23.1	-5.0				
106737		USDA FOREST SERVICE	1.100	4.53	-2.00	-2.0	-0.05	-2.0	-1.0	22.10	5.45	43.0	-10.0	-5.0	287.3	-5.0				
164216		LONESOMEHURST WATER USERS ASSOCIATI(	0.400	5.23	-2.00	-2.0	-0.05	-2.0	-1.0	21.60	2.79	41.0	-10.0	-5.0	5.3	-5.0				
106738		JACOBSEN THEODORE M	0.464	5.59	-2.00	-2.0	-0.05	-2.0	-1.0	25.67	3.56	40.9	-5.0	-5.0	436.4	-10.0				
8931		KEPHART EVANS	2.200	2.10	-2.00	-2.0	-0.05	-2.0	-1.0	15.00	6.00		-10.0	-5.0	-2.0	-5.0				
158021		FISHERMANS VILLAGE PROPERTY OWNERS	-0.050	2.96	-2.00	-2.0	-0.05	-2.0	-1.0	16.90	3.18	23.2	-10.0	-5.0	30.8	-5.0				
145834		ROSS MONTE	-0.050	3.83	11.50	-2.0	-0.05	-2.0	-1.0	10.80	98.90	402.7	-10.0	-5.0	23.0	-5.0				
106768		CHENNAULT CHESTER B	0.196	11.34	-2.00	-2.0	-0.05	-2.0	-1.0	38.80	3.66	26.8	13.7	-5.0	50.9	-5.0				
158049		MADISON FORK RANCH # 4	0.104	13.80	-2.00	-2.0	-0.05	-2.0	-1.0	38.40	2.56	7.7	-10.0	-5.0	313.5	-5.0				
8939		MILLER GARY	0.063	7.90	-2.00	-2.0	-0.05	-2.0	-1.0	28.40	3.90		-10.0	-5.0	0.0	-5.0				
106775		U S FOREST SERVICE * BAKER HOLE CAMP	0.110	57.40	-2.00	-2.0	-0.05	-2.0	-1.0	88.70	8.76	13.0	-10.0	-5.0	6.4	-5.0				
106778		KIELAND W. H.	-0.050	29.70	-2.00	-2.0	-0.05	-2.0	-1.0	70.60	5.55	16.9	-10.0	-5.0	9.3	-5.0				
8943		U S FOREST SERVICE * BAKER HOLE CAMP	0.140	48.00	-2.00	-2.0	-0.05	-2.0	-1.0	79.90	8.80		-10.0	-5.0	-2.0	-5.0				
106781		U S FOREST SERVICE * GALLATIN NF	0.141	35.54	-2.00	-2.0	-0.05	-2.0	-1.0	47.20	4.14	26.1	-10.0	-5.0	74.7	-5.0				
152574		SPAINHOWER DONNA G.	0.271	6.70	-2.00	-2.0	-0.05	-2.0	-1.0	29.10	3.59	43.0	-10.0	-5.0	-2.0	-5.0				
106823		HADLEY MOTEL	0.121	14.40	-2.00	-2.0	-0.05	-2.0	-1.0	41.01	2.95	7.3	-10.0	-5.0	218.9	-5.0				
8950		1ST SECURITY BANK OF W. YELLOWSTONE	0.023	6.90	-2.00	-2.0	-0.05	-2.0	-1.0	40.60	1.90		-10.0	-5.0	0.0	-5.0				
106842		3 BEAR LODGE	0.157	12.90	-2.00	-2.0	-0.05	-2.0	-1.0	41.43	3.05	7.1	-10.0	-5.0	54.4	-5.0				
106853		WHITMAN CLYDE AND SUSIE	0.128	13.00	-2.00	-2.0	-0.05	-2.0	-1.0	44.80	2.98	7.1	-10.0	-5.0	62.4	-5.0				
164139		MARTIN NORMA	0.110	15.40	-2.00	-2.0	-0.05	-2.0	-1.0	45.40	2.77	11.2	-10.0	-5.0	193.8	-5.0				
8959		WEST YELLOWSTONE CITY OF	0.016	14.60	-2.00	-2.0	-0.05	-2.0	-1.0	41.40	2.40		-10.0	-5.0	-2.0	-5.0				
8960		DONNA TIMBER INC	0.023	13.60	-2.00	-2.0	-0.05	-2.0	-1.0	16.70	5.10		-10.0	-5.0	-2.0	-5.0				

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	MNUMBER		SITE_NAME	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TRACT	WATER_TEMP	PROJECT	SAMPLE_DATE	AGENCY	PH	SC umhos/cm	Ag	Al	As	B
										degrees C	ID*			S.U.	(25 degrees C)	ug/L	ug/L	ug/L	ug/L
	104568		PIKE GALE	45.1911	-111.2344	07S	04E	28	DDBB	6.7	YNPW	06/24/1998	MBMG	7.21	1408	-1.0	-30.0	-1.0	152.5
	152662		PARENT HERSCHELL	45.1875	-110.9333	07S	06E	36	BBDC	10.0	YNPG	06/03/1998	MBMG	7.54	1542	-1.0	-30.0	2.2	-80.0
	167395		GALLAGHER KEVIN	45.1848	-110.9045	07S	07E	31	ADDD	14.4	YNPG	07/08/1998	MBMG	7.73	399	-1.0	-30.0	-1.0	-30.0
	134029		CUT * SPHINX LODGE	45.1561	-110.8308	08S	07E	11	ABCC	12.1	YNPG	06/10/1998	MBMG	7.80	725	-1.0	-30.0	-1.0	-80.0
	105288		KRAPF PAUL & FONDA	45.1544	-110.8208	08S	07E	12	BCCB	9.8	YNPG	05/28/1998	MBMG	7.63	595	-1.0	-30.0	11.0	-30.0
	147003		DEMAREE	45.1466	-110.8177	08S	07E	12	CCDC	10.9	YNPG	07/08/1998	MBMG	9.01	876	-1.0	-15.0	-1.0	193.8
	133595		ROYAL TETON RANCH	45.1261	-110.8119	08S	07E	24	BDAD	10.8	YNPG	06/10/1998	MBMG	7.56	481	-1.0	-30.0	1.8	-80.0
	140292		KRAMER ED & MARY	45.1088	-110.8375	08S	07E	26	BCDD	10.5	YNPG	05/29/1998	MBMG	7.35	601	-1.0	-30.0	1.3	-30.0
	138859		MURPHY JERRY	45.1100	-110.8444	08S	07E	27	ADBD	10.5	YNPG	05/27/1998	MBMG	7.84	802	-1.0	-30.0	3.9	-30.0
	26200		KOPLAND FRANK	45.1083	-110.8727	08S	07E	28	BDDD	10.4	YNPG	05/27/1998	MBMG	7.18	461	-1.0	-30.0	1.4	-30.0
	146967		DARR ATLANTA	45.1255	-110.7961	08S	08E	19	BCAD	10.0	YNPG	07/08/1998	MBMG	7.69	902	-1.0	-30.0	7.4	91.5
	138764		COLE JIM	45.0852	-110.7719	09S	08E	5	BAAC	18.3	YNPG	06/10/1998	MBMG	7.55	789	-1.0	-30.0	12.3	-80.0
	145529		GONZALES CHRISTOPHER	45.0822	-110.7744	09S	08E	5	BDBB	15.7	YNPG	07/08/1998	MBMG	8.20	692	-1.0	-30.0	4.4	36.8
	105961		ROYAL TETON LTD * MAIN RANCH OFFICE	45.0738	-110.7780	09S	08E	5	CCAC	11.1	YNPG	06/10/1998	MBMG	7.59	667	-1.0	-30.0	10.0	-80.0
	105975		USFS	45.0530	-110.7022	09S	08E	14	ADBB	10.1	YNPG	06/05/1998	MBMG	7.71	346	-1.0	-30.0	1.6	-80.0
	105980		GARDINER AIRPORT	45.0477	-110.7455	09S	08E	16	DBDB	11.1	YNPG	05/28/1998	MBMG	8.20	756	-1.0	-30.0	10.4	292.9
	105981		BATESON GERALD JR	45.0561	-110.7608	09S	08E	17	AAAA	8.7	YNPG	06/16/1998	MBMG	7.10	286	-1.0	-30.0	19.2	222.0
	140293		WESTERN AIR MOTEL	45.0363	-110.7130	09S	08E	23	CBAA	10.9	YNPG	06/16/1998	MBMG	7.34	641	-1.0	-30.0	6.1	67.8
	146965		FOSTER LESLIE	45.0352	-110.6847	09S	08E	24	DBCA	10.0	YNPG	06/05/1998	MBMG	7.26	1169	-1.0	-30.0	8.9	-80.0
	146964		SKERTICH * WELL A	45.0708	-110.6333	09S	09E	9	BBAC	7.2	YNPG	06/04/1998	MBMG	7.91	354	-1.0	-30.0	7.0	-80.0
	105999		JOHNSON WARREN	45.0494	-110.6300	09S	09E	16	CABC	8.1	YNPG	06/04/1998	MBMG	7.62	475	-1.0	-30.0	-1.0	-80.0
	106002		WILSONS RV RANCH	45.0197	-109.9380	09S	14E	25	BCCD	6.9	YNPC	07/16/1998	MBMG	7.53	922	-1.0	-15.0	8.8	38.1
	106004		BROWN GARY	45.0155	-109.9682	09S	14E	25	CBCC	4.1	YNPC	06/03/1997	MBMG	8.10	277	-1.0	-30.0	-2.0	-30.0
	134028		KLOSTER PAUL & GAYE E.	45.0047	-109.9878	09S	14E	26	CAAD	4.2	YNPC	09/28/1998	MBMG	7.70	420	-1.0	-30.0	-1.0	-30.0
	106014		HINRICHS LOIS	45.0147	-109.9716	09S	14E	27	CDAD	8.9	YNPC	07/16/1998	MBMG	7.97	205	-1.0	-15.0	-1.0	-30.0
	106021		SCHOLZ JOHN & JOYCE	45.0163	-109.9694	09S	14E	27	DBCD	6.7	YNPC	07/16/1998	MBMG	8.69	848	-1.0	-15.0	-1.0	93.9
	106013		MT REPUBLIC CHAPEL OF PEACE	45.0158	-109.9672	09S	14E	27	DCAA	7.6	YNPC	08/07/1998	MBMG	8.03	316	-1.0	23.2	-1.0	-30.0
	106045		LARSON W. & GREY T.	45.0131	-109.9692	09S	14E	27	DCCD	5.2	YNPC	08/07/1998	MBMG	8.04	289	-1.0	24.2	-1.0	-30.0
	106030		SILVER GATE WATER USERS ASSOC.	45.0067	-109.9858	09S	14E	33	ACBD	2.9	YNPC	09/28/1998	MBMG	7.47	251	-1.0	-15.0	-1.0	-30.0
	138885		MCDANIEL JAMES & DANI	45.0061	-109.9917	09S	14E	33	ACCB	5.1	YNPC	08/12/1997	MBMG						
	152597		TYERS DANIEL B	45.0064	-109.9914	09S	14E	33	ACCB	4.2	YNPC	09/18/1997	MBMG	8.65	285	-1.0	-30.0	-1.0	-30.0
	106024		HERMAN GEORGE M & A	45.0067	-109.9878	09S	14E	33	ACDA	3.9	YNPC	07/24/1997	MBMG					-1.0	
	106024		HERMAN GEORGE M & A	45.0067	-109.9878	09S	14E	33	ACDA	4.7	YNPC	08/21/1998	MBMG	8.14	297	-1.0	19.6	1.1	-30.0
	140297		ANDERSON JIM	45.0058	-109.9888	09S	14E	33	ACDD	4.6	YNPC	07/16/1998	MBMG	7.88	268	-1.0	24.0	-1.0	-30.0
	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	4.4	YNPC	09/24/1997	MBMG	8.78	263	-1.0	-30.0	2.2	-30.0
	106063		DAVIS GEORGE L	45.0081	-109.9825	09S	14E	33	ADAA	5.9	YNPC	08/07/1998	MBMG	7.91	260	-1.0	17.1	-1.0	-30.0
	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	4.2	YNPC	09/28/1998	MBMG	7.96	255	-1.0	-15.0	-1.0	-30.0
	163260		HOWARD CORBIN & FLORENCE	45.0086	-109.9825	09S	14E	33	ADAA	3.9	YNPC	09/24/1997	MBMG	8.78	263	-1.0	-30.0	2.2	-30.0
	106035		BATEMAN J.W.	45.0066	-109.9827	09S	14E	33	ADDA	5.4	YNPC	07/16/1998	MBMG	7.85	282	-1.0	-15.0	-1.0	-30.0
	106037		HRUZA W V	45.0047	-109.9872	09S	14E	33	DABB	6.7	YNPC	08/05/1998	MBMG	7.96	293	-1.0	20.0	-2.0	-30.0
	146336		HAGENSTON DENNIS	45.0047	-109.9878	09S	14E	33	DBAA	4.1	YNPC	08/27/1997	MBMG	8.19	360	-1.0	-30.0	-1.0	-30.0
	106056		LARSON ELMER	45.0106	-109.9742	09S	14E	34	BAAC	6.7	YNPC	08/07/1998	MBMG	8.20	289	-1.0	-15.0	-1.0	-30.0
	158027		JAY - FOR RANCH	45.0075	-109.9788	09S	14E	34	BCAC	3.7	YNPC	07/15/1998	MBMG	7.87	263	-1.0	-15.0	-1.0	-30.0
	137132		ISRAEL TED & NELLIE	45.0080	-109.9763	09S	14E	34	BDBB	3.9	YNPC	09/28/1998	MBMG	7.75	251	-1.0	-15.0	1.1	-30.0
	106075		U S FOREST SERVICE	45.0244	-109.9067	09S	15E	30	ABDB	6.6	YNPC	08/04/1998	MBMG	8.29	238	-1.0	-15.0	-1.0	-30.0
	164137		MONTANA POWER COMPANY	44.8683	-111.3372	11S	03E	15	DDDD	9.7	YNPW	06/10/1998	MBMG	8.02	326	-1.0	-30.0	37.6	182.4
	106597		DICK WILLIAM	44.8441	-111.3080	11S	03E	25	CADC	6.4	YNPW	06/17/1998	MBMG	7.34	640	-1.0	-30.0	-1.0	83.0
	106598		PRUEHER JOHN & BERTHA	44.8441	-111.3083	11S	03E	25	CADC	6.5	YNPW	06/10/1998	MBMG	7.82	668	-1.0	-30.0	1.0	-80.0
	106603		STOCKSDALE JOHN	44.8441	-111.3083	11S	03E	25	CADC	7.0	YNPW	06/10/1998	MBMG	7.75	685	-1.0	-30.0	1.3	-80.0
	157973		SCHILDS WARREN & JEAN	44.8166	-111.2541	12S	04E	4	CBBB	8.8	YNPW	06/10/1998	MBMG	7.63	493	-1.0	-30.0	3.5	-80.0
	106622		PYLE DON	44.8144	-111.2638	12S	04E	4	CBCC	9.9	YNPW	06/10/1998	MBMG	7.96	306	-1.0	-30.0	2.7	-80.0
	106625		GARDNER RICHARD	44.8136	-111.2530	12S	04E	4	CCBA	9.0	YNPW	06/16/1998	MBMG	7.69	327	-1.0	-30.0	2.7	42.9
	135301		MCDONALD DAN	44.8138	-111.2563	12S	04E	9	DADC	11.7	YNPW	06/10/1998	MBMG	8.07	290	-1.0	-30.0	3.9	93.8
	152509		YELLOWSTONE HOLIDAYS	44.8030	-111.2197	12S	04E	10	ADDA	7.7	YNPW	06/17/1998	MBMG	7.69	450	-1.0	-30.0	-1.0	79.4
	8910		KERZENMACHER WALT	44.8030	-111.2058	12S	04E	11	BDDC	7.1	YNPW	08/25/1998	MBMG	7.69	908	-1.0	-20.0	0.3	-20.0
	164214		COOK GENE	44.7811	-111.1802	12S	04E	24	ABAB	6.3	YNPW	06/17/1998	MBMG	8.06	164	-1.0	79.2	1.6	-30.0
	152513		LEVIS RICHARD	44.7530	-111.1944	12S	04E	26	DDAD	7.0	YNPW	06/25/1998	MBMG	7.65	233	-1.0	-30.0	-1.0	-30.0
	158035		WAGNER JOHN	44.7411	-111.2250	12S	04E	34	CDAA	8.2	YNPW	06/16/1998	MBMG	7.18	146	-1.0	-30.0	4.0	-30.0
	164207		YETTER GERALD	44.8019	-111.1677	12S	05E	7	CABB	10.0	YNPW	06/10/1998	MBMG	7.99	25	-1.0	-30.0	-1.0	-80.0
	121243		VREELAND THAD	44.7944	-111.1072	12S	05E	15	BABB	5.9	YNPW	06/25/1998	MBMG	7.43	165	-1.0	-30.0	-1.0	-30.0
	106702		DILENGE FRANK	44.7927	-111.1136	12S	05E	16	AADA	11.1	YNPW	06/12/1998	MBMG	7.05	156	-1.0	-30.0	-1.0	-80.0
	158183		SMITH MIKE & TINA	44.7877	-111.1441	12S	05E	17	CAAA	7.1	YNPW	06/17/1998	MBMG	7.84	255	-1.0	42.5	-1.0	-30.0
	106708		FRANKS DANIEL & HERMAN	44.7825	-111.1530	12S	05E	17	CCCB	5.9	YNPW	07/09/1998	MBMG	8.11	176	-1.0	-30.0	-1.0	-30.0

' - ' below detection limit *Project ID: YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

	MNUMBER		SITE_NAME	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION	TRACT	WATER_TEMP	PROJECT	SAMPLE_DATE	AGENCY	PH	SC umhos/cm	Ag	Al	As	B
	157975		MT DEPT OF TRANSPORTATION	44.7775	-111.1119	12S	05E	22	BBCC	11.7	YNPW	06/12/1998	MBMG	6.70	202	-1.0	-30.0	-1.0	44.9
	106725		PARMLY BUTCH	44.7780	-111.1083	12S	05E	22	BBDA	13.8	YNPW	06/12/1998	MBMG	6.93	217	-1.0	-30.0	-1.0	48.5
	106726		PARMLY ESTER	44.7772	-111.1083	12S	05E	22	BBDD	12.9	YNPW	06/12/1998	MBMG	6.69	185	-1.0	-30.0	-1.0	-80.0
	106737		USDA FOREST SERVICE	44.7352	-111.2313	13S	04E	3	BDBA	9.4	YNPW	06/10/1998	MBMG	6.67	145	-1.0	-30.0	-1.0	-80.0
	164216		LONESOMEHURST WATER USERS ASSOCIATI	44.7352	-111.2366	13S	04E	4	AADC	8.8	YNPW	06/11/1998	MBMG	7.09	114	-1.0	-30.0	-1.0	-30.0
	106738		JACOBSEN THEODORE M	44.7241	-111.2386	13S	04E	4	DDCA	7.2	YNPW	07/09/1998	MBMG	6.77	103	-1.0	-15.0	-1.0	-30.0
	8931		KEPHART EVANS	44.7100	-111.2172	13S	04E	10	DDCA	12.1	YNPW	08/24/1998	MBMG	8.91	127	-1.0	-24.0	0.3	-20.0
	158021		FISHERMANS VILLAGE PROPERTY OWNERS	44.6816	-111.2644	13S	04E	20	DCBC	4.7	YNPW	06/17/1998	MBMG	7.22	146	-1.0	-30.0	-1.0	-30.0
	145834		ROSS MONTE	44.6844	-111.2472	13S	04E	21	CADB	5.2	YNPW	06/17/1998	MBMG	7.30	515	-1.0	-30.0	-1.0	53.3
	106768		CHENNAULT CHESTER B	44.6816	-111.1988	13S	04E	23	DDBC	7.7	YNPW	06/17/1998	MBMG	7.19	123	-1.0	-30.0	-1.0	49.4
	158049		MADISON FORK RANCH # 4	44.6752	-111.1958	13S	04E	26	ADAB	9.1	YNPW	06/16/1998	MBMG	6.85	112	-1.0	-30.0	-1.0	77.7
	8939		MILLER GARY	44.6772	-111.2075	13S	04E	26	BADA	9.0	YNPW	08/23/1998	MBMG	9.04	220	-1.0	-30.0	0.3	-20.0
	106775		U S FOREST SERVICE * BAKER HOLE CAMP	44.7044	-111.1002	13S	05E	10	ACAB	22.9	YNPW	06/09/1998	MBMG	7.13	341	-1.0	-30.0	32.2	111.2
	106778		KIELAND W. H.	44.7101	-111.0966	13S	05E	10	DCDB	12.8	YNPW	06/11/1998	MBMG	7.07	218	-1.0	-30.0	21.8	69.9
	8943		U S FOREST SERVICE * BAKER HOLE CAMP	44.7083	-111.1002	13S	05E	15	ABAB	17.7	YNPW	07/21/1996	MBMG	7.76	311	-1.0	70.0	21.8	120.0
	106781		U S FOREST SERVICE * GALLATIN NF	44.6963	-111.1061	13S	05E	15	CBDB	10.2	YNPW	06/09/1998	MBMG	7.94	257	-1.0	-30.0	15.8	148.5
	152574		SPAINHOWER DONNA G.	44.7802	-111.1075	13S	05E	22	BAAA	10.0	YNPW	06/16/1998	MBMG	6.90	162	-1.0	-30.0	-1.0	30.5
	106823		HADLEY MOTEL	44.6644	-111.0986	13S	05E	34	ABAA	9.2	YNPW	06/11/1998	MBMG	7.50	113	-1.0	-30.0	2.0	-80.0
	8950		1ST SECURITY BANK OF W. YELLOWSTONE	44.6600	-111.1013	13S	05E	34	ACBC	9.0	YNPW	08/22/1998	MBMG	6.99	102	-1.0	-20.0	0.9	-20.0
	106842		3 BEAR LODGE	44.6588	-111.1025	13S	05E	34	ACDB	9.3	YNPW	06/12/1998	MBMG	6.92	113	-1.0	-30.0	1.9	-80.0
	106853		WHITMAN CLYDE AND SUSIE	44.6641	-111.1052	13S	05E	34	BAAB	7.4	YNPW	06/17/1998	MBMG	7.09	116	-1.0	-30.0	3.9	43.6
	164139		MARTIN NORMA	44.6625	-111.1111	13S	05E	34	BBCA	7.3	YNPW	06/17/1998	MBMG	7.97	133	-1.0	-15.0	4.6	58.2
	8959		WEST YELLOWSTONE CITY OF	44.6580	-111.1047	13S	05E	34	CAAB	9.1	YNPW	08/23/1998	MBMG	7.28	129	-1.0	80.0	2.6	-20.0
	8960		DONNA TIMBER INC	44.6547	-111.1044	13S	05E	34	CADC	9.6	YNPW	08/22/1998	MBMG	7.91	110	-1.0	30.0	2.1	-20.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER	SITE_NAME	Ba	Be	Br	Ca	Cd	Cl	CO3	CO	Cr	Cu	F	Fe	HCO3	K	Li	Mg	Mn	Mo
		ug/L	ug/L	ug/L	mg/L	ug/L	mg/L	mg/L	mg/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	ug/L
104568	PIKE GALE	8.9	-2.0	32.0	206.50	-2.0	7.43	0.0	-2.0	16.0	-2.0	0.47	0.707	350.1	8.70	-50	79.7	0.005	-10.0
152662	PARENT HERSCHELL	51.0	-2.0	-25.0	167.20	-2.0	163.60	0.0	-2.0	8.5	-2.0	0.55	0.049	293.3	22.00	-50	77.5	0.696	-10.0
167395	GALLAGHER KEVIN	23.6	-2.0	43.0	41.10	-2.0	3.05	0.0	-2.0	4.9	-2.0	0.24	-0.005	183.7	5.98	-50	13.0	-0.001	-10.0
134029	CUT * SPHINX LODGE	98.5	-2.0	30.0	37.80	-2.0	8.85	0.0	-2.0	21.4	4.4	0.14	0.036	422.6	7.94	-50	33.6	-0.001	-10.0
105288	KRAPF PAUL & FONDA	84.2	-2.0	-25.0	47.40	-2.0	5.18	0.0	-2.0	11.4	5.2	0.16	-0.005	318.4	8.23	-50	36.3	-0.001	-10.0
147003	DEMAREE	24.8	-2.0	89.0	1.20	-2.0	13.00	22.6	-2.0	10.5	-2.0	0.71	0.018	312.1	0.71	-50	0.3	0.002	-10.0
133595	ROYAL TETON RANCH	77.5	-2.0	-25.0	56.60	-2.0	1.13	0.0	-2.0	12.1	57.6	0.12	0.029	278.2	3.82	-50	23.2	0.003	-10.0
140292	KRAMER ED & MARY	81.1	-2.0	-500.0	60.37	-2.0	5.28	0.0	-2.0	6.8	-2.0	0.72	-0.005	236.4	4.02	-50	28.4	-0.001	-10.0
138859	MURPHY JERRY	50.4	-2.0	-500.0	60.10	-2.0	25.80	0.0	-2.0	13.7	6.7	0.78	-0.005	399.4	3.94	-50	53.1	-0.001	-10.0
26200	KOPLAND FRANK	78.0	-2.0	-25.0	55.56	-2.0	10.18	0.0	-2.0	5.6	-2.0	0.34	-0.005	245.0	2.54	-50	16.6	-0.001	-10.0
146967	DARR ATLANTA	56.7	-2.0	131.0	49.52	-2.0	21.70	0.0	-2.0	11.7	-2.0	0.24	-0.005	358.2	9.37	-50	33.4	-0.001	-10.0
138764	COLE JIM	101.2	-2.0	56.0	56.49	-2.0	7.70	0.0	-2.0	19.5	-2.0	0.40	-0.005	416.8	4.92	-50	64.8	-0.001	-10.0
145529	GONZALES CHRISTOPHER	67.6	-2.0	58.0	40.49	-2.0	7.05	0.0	-2.0	8.6	5.3	0.88	-0.005	299.6	5.51	-50	47.7	-0.001	-10.0
105961	ROYAL TETON LTD * MAIN RANCH OFFICE	43.6	-2.0	27.0	74.06	-2.0	6.79	0.0	-2.0	10.6	23.7	0.21	0.013	207.4	5.53	-50	22.3	-0.001	-10.0
105975	USFS	129.8	-2.0	25.0	36.80	-2.0	3.91	0.0	-2.0	10.6	-2.0	0.15	-0.005	174.7	5.41	-50	11.0	-0.001	-10.0
105980	GARDINER AIRPORT	36.4	-2.0	-25.0	16.70	-2.0	18.60	0.0	-2.0	3.0	-2.0	1.24	0.054	207.2	1.18	-50	2.0	0.067	-10.0
105981	BATESON GERALD JR	24.9	-2.0	43.0	23.04	-2.0	12.31	0.0	-2.0	3.1	81.1	0.49	0.010	100.8	3.77	-50	6.8	-0.001	-10.0
140293	WESTERN AIR MOTEL	70.9	-2.0	75.0	57.10	-2.0	14.80	0.0	-2.0	6.8	4.2	0.53	0.021	262.5	7.29	-50	20.5	0.014	-10.0
146965	FOSTER LESLIE	9.8	-2.0	101.0	147.30	-2.0	13.30	0.0	-2.0	10.2	-2.0	2.32	0.170	294.3	11.71	-50	62.8	0.018	53.9
146964	SKERTICH * WELL A	124.8	-2.0	-25.0	34.10	-2.0	2.33	0.0	-2.0	9.9	-2.0	0.15	0.032	188.9	5.19	-50	13.8	0.004	-10.0
105999	JOHNSON WARREN	76.8	-2.0	59.0	36.30	-2.0	9.71	0.0	-2.0	8.7	-2.0	0.15	0.022	193.7	4.90	-50	27.2	-0.001	-10.0
106002	WILSONS RV RANCH	12.5	-2.0	-25.0	138.00	-2.0	1.32	0.0	-2.0	2.4	-2.0	0.25	0.514	157.6	4.61	-50	27.7	0.026	-10.0
106004	BROWN GARY	41.8	-2.0	-25.0	37.64	-2.0	-5.00	0.0	-2.0	3.4	-2.0		-0.005	143.7	0.55	6	9.3	-0.001	-10.0
134028	KLOSTER PAUL & GAYE E.	57.9	-2.0	34.0	38.76	-2.0	0.71	0.0	-2.0	7.4	-2.0	.124	0.079	244.5	2.33	-50	22.8	-0.001	-10.0
106014	HINRICHS LOIS	17.57	-2.0	-25.0	22.20	-2.0	-5.00	0.0	-2.0	-2.0	-2.0	0.10	-0.005	106.4	0.41	-50	8.0	-0.001	-10.0
106021	SCHOLZ JOHN & JOYCE	21.3	-2.0	-25.0	5.21	-2.0	2.13	19.7	-2.0	6.9	-2.0	1.58	0.014	414.3	3.70	-50	5.3	0.002	-10.0
106013	MT REPUBLIC CHAPEL OF PEACE	63.6	-2.0	-25.0	40.25	-2.0	0.70	0.0	-2.0	3.1	2.3	-0.05	0.009	177.1	0.86	-50	9.6	-0.001	-10.0
106045	LARSON W. & GREY T.	155.9	-2.0	-25.0	38.65	-2.0	0.70	0.0	-2.0	2.9	4.2	-0.05	0.013	177.6	0.75	-50	9.0	-0.001	-10.0
106030	SILVER GATE WATER USERS ASSOC.	20.9	-2.0	-25.0	25.30	-2.0	0.98	0.0	-2.0	3.7	-2.0	0.06	0.025	141.3	0.54	-50	5.1	-0.001	-10.0
138885	MCDANIEL JAMES & DANI						0.87						0.000						
152597	TYERS DANIEL B	44.8	-2.0	-25.0	40.20	-2.0	0.60	5.5	-2.0	-2.0	-2.0	0.05	0.007	167.1	1.07	2	9.0	0.002	-10.0
106024	HERMAN GEORGE M & A						0.62	0.0	-2.0	-2.0	-2.0	-0.05	-0.005						
106024	HERMAN GEORGE M & A	48.5	-2.0	-25.0	34.08	-2.0	0.52	0.0	-2.0	-2.0	-2.0	-0.05	-0.005	163.2	0.82	-50	8.7	0.002	-10.0
140297	ANDERSON JIM	18.9	-2.0	-25.0	30.82	-2.0	1.47	0.0	-2.0	-2.0	2.2	0.11	-0.005	149.8	0.45	-50	7.0	-0.001	-10.0
163260	HOWARD CORBIN & FLORENCE	30.5	-2.0	30.0	38.00	-2.0	0.60	6.2	-2.0	-2.0	-2.0	0.07	-0.005	161.0	0.96	2	8.3	0.109	-10.0
106063	DAVIS GEORGE L	20.0	-2.0	-25.0	30.65	-2.0	0.57	0.0	-2.0	2.8	-2.0	-0.05	-0.005	154.2	0.64	-50	6.2	-0.001	-10.0
163260	HOWARD CORBIN & FLORENCE	43.0	-2.0	-25.0	31.60	-2.0	-5.00	0.0	-2.0	-2.0	-2.0	-0.05	0.048	154.7	0.76	-50	7.3	0.058	-10.0
163260	HOWARD CORBIN & FLORENCE	30.5	-2.0	30.0	38.00	-2.0	0.60	6.2	-2.0	-2.0	-2.0	0.07	-0.005	161.0	0.96	2	8.3	0.109	-10.0
106035	BATEMAN J.W.	16.5	-2.0	-25.0	33.94	-2.0	-5.00	0.0	-2.0	2.0	8.7	-0.05	0.016	162.0	0.61	-50	7.4	0.006	-10.0
106037	HRUZA W V	61.6	-2.0	-25.0	32.94	-2.0	0.63	0.0	-2.0	2.3	4.4	-0.05	-0.005	157.6	0.88	-50	9.1	-0.001	-10.0
146336	HAGENSTON DENNIS	25.8	-2.0	-25.0	43.60	-2.0	0.74	0.0	-2.0	-2.0	-2.0	0.11	0.034	244.0	0.80	-50	17.8	0.132	-10.0
106056	LARSON ELMER	22.5	-2.0	-25.0	35.35	-2.0	0.63	0.0	-2.0	2.8	3.3	-0.05	-0.005	165.2	0.62	-50	8.1	-0.001	-10.0
158027	JAY - FOR RANCH	17.9	-2.0	-25.0	30.38	-2.0	0.60	0.0	-2.0	-2.0	-2.0	0.11	-0.005	146.2	0.57	-50	7.1	0.003	-10.0
137132	ISRAEL TED & NELLIE	14.4	-2.0	-25.0	29.60	-2.0	0.54	0.0	-2.0	-2.0	2.1	-0.05	0.016	152.0	0.43	-50	6.3	-0.001	-10.0
106075	U S FOREST SERVICE	55.9	-2.0	-25.0	32.39	-2.0	-5.00	0.0	-2.0	2.2	-2.0	-0.05	-0.005	151.0	0.61	-50	6.2	-0.001	-10.0
164137	MONTANA POWER COMPANY	27.6	-2.0	57.0	21.14	-2.0	17.52	0.0	-2.0	6.4	-2.0	2.19	0.035	154.2	2.70	-50	10.5	-0.001	-10.0
106597	DICK WILLIAM	228.0	-2.0	-25.0	84.20	-2.0	7.41	0.0	-2.0	22.8	5.2	0.01	-0.005	367.5	1.19	-50	24.4	-0.001	-10.0
106598	PRUEHER JOHN & BERTHA	209.5	-2.0	-25.0	84.69	-2.0	23.40	0.0	-2.0	14.5	-2.0	0.07	-0.005	347.9	1.13	-50	20.9	-0.001	-10.0
106603	STOCKSDALE JOHN	191.8	-2.0	-25.0	87.50	-2.0	17.90	0.0	-2.0	13.5	3.1	0.07	-0.005	367.0	1.51	-50	19.7	-0.001	-10.0
157973	SCHILDS WARREN & JEAN	75.4	-2.0	-25.0	71.60	-2.0	2.94	0.0	-2.0	12.8	15.5	0.14	0.009	304.0	1.50	-50	15.2	-0.001	-10.0
106622	PYLE DON	24.1	-2.0	-25.0	20.66	-2.0	2.12	0.0	-2.0	9.2	-2.0	0.71	0.016	177.1	0.73	-50	7.3	-0.001	-10.0
106625	GARDNER RICHARD	42.2	-2.0	-25.0	34.30	-2.0	1.74	0.0	-2.0	7.2	3.1	0.32	0.035	208.9	0.86	-50	12.6	-0.001	-10.0
135301	MCDONALD DAN	30.1	-2.0	-25.0	18.09	-2.0	1.60	0.0	-2.0	5.7	-2.0	1.21	0.012	177.9	1.54	-50	6.3	-0.001	-10.0
152509	YELLOWSTONE HOLIDAYS	67.1	-2.0	-25.0	56.80	-2.0	2.70	0.0	-2.0	12.4	2.8	0.31	-0.005	244.2	3.21	-50	16.7	-0.001	-10.0
8910	KERZENMACHER WALT		-2.0	-25.0	143.00	-2.0	1.20	0.0	-2.0	-2.0	-2.0	0.04	7.200	196.0	1.70	-50	37.5	0.030	-10.0
164214	COOK GENE	29.6	-2.0	-25.0	20.80	-2.0	0.55	0.0	-2.0	5.3	-2.0	0.06	0.026	105.2	1.27	-50	4.0	-0.001	-10.0
152513	LEVIS RICHARD	12.3	-2.0	26.0	19.30	-2.0	2.78	0.0	-2.0	3.8	-2.0	0.37	-0.005	100.5	0.34	-50	6.6	-0.001	-10.0
158035	WAGNER JOHN	22.3	-2.0	-25.0	15.31	-2.0	1.20	0.0	-2.0	3.1	4.9	0.17	0.056	80.5	2.24	-50	4.3	0.005	-10.0
164207	YETTER GERALD	38.4	-2.0	-25.0	50.22	-2.0	0.88	0.0	-2.0	6.7	-2.0	0.25	0.024	188.4	0.88	-50	23.0	-0.001	-10.0
121243	VREELAND THAD	30.9	-2.0	28.0	19.44	-2.0	1.06	0.0	-2.0	3.9	41.0	0.11	-0.005	91.5	1.16	-50	4.4	-0.001	-10.0
106702	DILENGE FRANK	116.3	-2.0	-25.0	18.70	-2.0	1.25	0.0	-2.0	3.3	6.6	0.14	0.038	84.1	1.02	-50	3.7	-0.001	-10.0
158183	SMITH MIKE & TINA	65.8	-2.0	-25.0	35.50	-2.0	17.83	0.0	-2.0	3.9	-2.0	-0.05	0.007	127.9	1.43	-50	6.1	-0.001	-10.0
106708	FRANKS DANIEL & HERMAN	34.8	-2.0	-25.0	21.51	-2.0	0.75	0.0	-2.0	-2.0	-2.0	0.06	-0.005	99.3	1.15	-50	4.2	-0.001	-10.0

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area

MNUMBER		SITE_NAME	Ba	Be	Br	Ca	Cd	Cl	CO3	CO	Cr	Cu	F	Fe	HCO3	K	Li	Mg	Mn	Mo
157975		MT DEPT OF TRANSPORTATION	33.6	-2.0	-25.0	13.50	-2.0	2.10	0.0	-2.0	5.4	17.9	2.99	0.021	99.1	3.36	-50	3.9	-0.001	-10.0
106725		PARMLY BUTCH	24.3	-2.0	41.0	11.98	-2.0	1.87	0.0	-2.0	5.7	-2.0	3.01	0.011	120.3	4.60	-50	7.0	-0.001	-10.0
106726		PARMLY ESTER	22.1	-2.0	-25.0	13.50	-2.0	1.79	0.0	-2.0	4.2	3.0	2.68	0.013	97.4	3.20	-50	3.7	-0.001	-10.0
106737		USDA FOREST SERVICE	37.9	-2.0	31.0	12.07	-2.0	8.24	0.0	-2.0	-2.0	-2.0	0.05	-0.005	50.8	2.03	-50	3.5	-0.001	-10.0
164216		LONESOMEHURST WATER USERS ASSOCIATI(	27.1	-2.0	-25.0	10.74	-2.0	2.73	0.0	-2.0	2.5	-2.0	-0.05	0.018	62.2	3.44	-50	3.0	-0.001	-10.0
106738		JACOBSEN THEODORE M	23.4	-2.0	-25.0	8.77	-2.0	2.01	0.0	-2.0	-2.0	-2.0	0.13	0.005	52.3	0.68	-50	2.3	0.002	-10.0
8931		KEPHART EVANS		-2.0	-25.0	34.30	-2.0	1.90	0.5	-2.0	-2.0	-2.0	0.10	0.020	72.7	1.70	-50	10.1	-0.001	-10.0
158021		FISHERMANS VILLAGE PROPERTY OWNERS	9.2	-2.0	-25.0	14.70	-2.0	4.24	0.0	-2.0	4.1	9.8	0.09	0.017	80.8	0.61	-50	5.9	-0.001	-10.0
145834		ROSS MONTE	54.5	-2.0	-25.0	84.50	-2.0	1.58	0.0	-2.0	11.8	-2.0	0.08	0.034	223.5	0.75	-50	13.6	0.004	-10.0
106768		CHENNAULT CHESTER B	11.2	-2.0	-25.0	7.74	-2.0	2.55	0.0	-2.0	6.1	-2.0	1.99	0.030	61.5	1.95	-50	2.4	0.006	-10.0
158049		MADISON FORK RANCH # 4	7.4	-2.0	-25.0	5.60	-2.0	4.82	0.0	-2.0	2.1	-2.0	3.71	0.016	47.8	1.80	-50	1.0	0.005	-10.0
8939		MILLER GARY		-2.0	-25.0	5.90	-2.0	1.70	1.9	-2.0	-2.0	-2.0	0.22	0.690	8.3	1.80	-50	1.6	0.000	-10.0
106775		U S FOREST SERVICE * BAKER HOLE CAMP	31.8	-2.0	41.0	7.07	-2.0	6.80	0.0	-2.0	3.5	-2.0	4.02	0.015	164.9	7.29	-50	4.2	-0.001	-10.0
106778		KIELAND W. H.	12.4	-2.0	-25.0	8.10	-2.0	4.69	0.0	-2.0	4.9	-2.0	4.12	0.042	107.4	5.21	-50	2.9	-0.001	-10.0
8943		U S FOREST SERVICE * BAKER HOLE CAMP		-2.0	-25.0	11.20	-2.0	12.60	0.0	-2.0	-2.0	-2.0	3.70	0.010	152.0	7.00	150	6.0	0.010	-10.0
106781		U S FOREST SERVICE * GALLATIN NF	18.3	-2.0	35.0	9.19	-2.0	6.55	0.0	-2.0	2.5	-2.0	3.37	0.108	123.5	4.38	-50	4.1	0.006	18.6
152574		SPAINHOWER DONNA G.	15.3	-2.0	-25.0	16.40	-2.0	1.29	0.0	-2.0	5.2	6.4	1.17	-0.005	87.8	2.04	-50	3.8	-0.001	-10.0
106823		HADLEY MOTEL	10.5	-2.0	-25.0	4.98	-2.0	3.84	0.0	-2.0	-2.0	-2.0	2.96	0.061	47.3	2.45	-50	1.4	0.011	10.3
8950		1ST SECURITY BANK OF W. YELLOWSTONE		-2.0	-25.0	5.20	-2.0	5.40	0.0	-2.0	-2.0	-2.0	3.60	0.080	44.5	2.00	-50	1.0	-0.001	-10.0
106842		3 BEAR LODGE	10.7	-2.0	-25.0	5.04	-2.0	3.95	0.0	-2.0	2.1	8.7	2.62	0.009	43.3	2.07	-50	0.9	-0.001	-10.0
106853		WHITMAN CLYDE AND SUSIE	14.1	-2.0	-25.0	5.35	-2.0	3.35	0.0	-2.0	3.1	2.1	3.22	0.045	48.6	2.49	-50	1.5	-0.001	11.4
164139		MARTIN NORMA	8.1	-2.0	-25.0	7.60	-2.0	4.10	0.0	-2.0	-2.0	-2.0	3.38	0.009	60.9	2.50	-50	1.7	-0.001	12.7
8959		WEST YELLOWSTONE CITY OF		-2.0	-25.0	5.20	-2.0	4.30	0.0	-2.0	-2.0	-2.0	3.80	0.050	44.8	1.70	-50	0.9	-0.001	-10.0
8960		DONNA TIMBER INC		-2.0	-25.0	6.40	-2.0	7.10	0.0	-2.0	-2.0	-2.0	7.20	2.060	35.4	1.70	-50	1.1	0.270	-10.0

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MNUMBER		SITE_NAME	NO3_N	Na	Ni	Pb	orthoPO4	Sb	Se	SiO2	SO4	Sr	Ti	V	Zn	Zr				
			mg/L	mg/L	mg/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L				
104568		PIKE GALE	0.068	4.80	24.40	-2.0	0.08	-2.0	-1.0	8.15	613.00	6607.0	-10.0	-5.0	-2.0	-5.0				
152662		PARENT HERSCHELL	-0.050	61.30	20.50	-2.0	-0.05	-2.0	3.9	29.89	491.50	1203.0	-10.0	-5.0	13.5	-5.0				
167395		GALLAGHER KEVIN	1.160	7.36	8.70	-2.0	-0.05	-2.0	1.2	19.57	47.30	434.2	-10.0	-5.0	8.6	-10.0				
134029		CUT * SPHINX LODGE	-0.050	60.50	4.98	-2.0	-0.05	-2.0	-1.0	25.29	29.17	1118.0	-10.0	6.7	8.9	-5.0				
105288		KRAPF PAUL & FONDA	2.300	12.80	7.00	-2.0	-0.05	-2.0	-1.0	25.70	34.15	646.6	-20.0	-5.0	2.8	-5.0				
147003		DEMAREE	0.065	182.00	-2.00	-2.0	0.08	-2.0	-1.0	8.35	121.00	56.9	-10.0	-5.0	-2.0	-10.0				
133595		ROYAL TETON RANCH	0.322	8.48	7.42	-2.0	-0.05	-2.0	-1.0	27.09	23.75	557.7	-10.0	-5.0	38.3	-5.0				
140292		KRAMER ED & MARY	1.060	17.79	7.20	-2.0	-0.05	-2.0	-1.0	32.12	101.70	619.0	36.4	5.3	116.7	-5.0				
138859		MURPHY JERRY	0.520	38.77	8.40	-2.0	-0.05	-2.0	-1.0	19.99	87.70	1531.0	-20.0	7.4	5.3	-5.0				
26200		KOPLAND FRANK	1.808	10.20	7.10	-2.0	-0.05	-2.0	-1.0	37.32	8.91	341.1	-20.0	6.9	14.7	-5.0				
146967		DARR ATLANTA	0.594	88.10	11.36	-2.0	-0.05	-2.0	2.9	29.10	160.00	836.3	-10.0	5.2	7.6	-10.0				
138764		COLE JIM	0.136	22.56	6.46	-2.0	-0.05	-2.0	-1.0	19.17	87.16	1688.0	-10.0	5.6	30.4	-5.0				
145529		GONZALES CHRISTOPHER	0.410	25.80	8.60	-2.0	0.08	-2.0	-1.0	26.36	122.56	740.2	-5.0	-5.0	33.7	-15.0				
105961		ROYAL TETON LTD * MAIN RANCH OFFICE	0.248	22.20	9.02	-2.0	-0.05	-2.0	-1.0	22.70	142.00	481.5	-10.0	-5.0	12.9	-5.0				
105975		USFS	0.600	8.90	4.08	-2.0	-0.05	-2.0	-1.0	20.20	17.57	122.4	-10.0	6.0	11.9	-5.0				
105980		GARDINER AIRPORT	-0.050	140.90	-2.00	-2.0	-0.05	-2.0	-1.0	16.30	177.50	227.5	-20.0	-5.0	49.2	-5.0				
105981		BATESON GERALD JR	0.374	17.40	3.04	-2.0	-0.05	-2.0	-1.0	22.90	34.71	118.0	-10.0	-5.0	6.2	-5.0				
140293		WESTERN AIR MOTEL	0.187	51.07	7.80	-2.0	-0.05	-2.0	-1.0	18.70	104.00	753.4	-10.0	-5.0	10.9	-5.0				
146965		FOSTER LESLIE	-0.050	29.94	20.38	-2.0	-0.05	-2.0	-1.0	13.20	458.60	1096.0	-10.0	-5.0	27.5	-5.0				
146964		SKERTICH * WELL A	0.188	9.70	3.70	-2.0	-0.05	-2.0	-1.0	16.07	17.40	323.5	-10.0	-5.0	5.8	-5.0				
105999		JOHNSON WARREN	0.563	10.79	4.14	-2.0	-0.05	-2.0	-1.0	14.90	34.19	262.6	-10.0	-5.0	15.0	-5.0				
106002		WILSONS RV RANCH	-0.050	27.72	13.97	-2.0	-0.05	-2.0	-1.0	8.65	379.10	4230.0	-20.0	-5.0	15.6	-10.0				
106004		BROWN GARY	0.230	4.00	4.80	-2.0	-0.05	-2.0	-1.0	11.70	22.70	107.0	-10.0	-5.0	12.1	-20.0				
134028		KLOSTER PAUL & GAYE E.	0.066	3.07	7.45	-2.0	0.09	-2.0	-1.0	11.721	19.20	291.9	-10.0	-5.0	11.4	-15.0				
106014		HINRICHS LOIS	0.169	1.31	2.32	-2.0	0.08	-2.0	-1.0	5.30	15.37	135.2	-20.0	-5.0	56.4	-10.0				
106021		SCHOLZ JOHN & JOYCE	0.065	172.40	-2.00	-2.0	0.09	-2.0	-1.0	7.50	78.80	331.3	-20.0	-5.0	-2.0	-10.0				
106013		MT REPUBLIC CHAPEL OF PEACE	0.242	2.59	5.24	-2.0	-0.05	-2.0	-1.0	11.49	22.52	150.0	-10.0	2.7	-2.0	11.3				
106045		LARSON W. & GREY T.	0.302	2.29	4.90	-2.0	-0.05	-2.0	-1.0	10.49	21.92	146.8	-10.0	-5.0	-2.0	-10.0				
106030		SILVER GATE WATER USERS ASSOC.	0.899	11.51	4.60	-2.0	-0.05	-2.0	-1.0	9.76	5.13	200.5	-10.0	5.5	-2.0	-15.0				
138885		MCDANIEL JAMES & DANI																		
152597		TYERS DANIEL B	0.360	3.50	8.10	-2.0	-0.05	-2.0	-1.0	11.50	14.10	163.0	-10.0	-5.0	5.0	-5.0				
106024		HERMAN GEORGE M & A																		
106024		HERMAN GEORGE M & A	0.242	3.00	3.20	-2.0	-0.05	-2.0	-1.0	10.61	13.90	162.6	14.7	-5.0	5.1	-10.0				
140297		ANDERSON JIM	0.243	3.85	3.78	-2.0	0.09	-2.0	-1.0	11.63	14.35	137.2	-10.0	-5.0	18.5	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.350	3.90	8.10	-2.0	-0.05	-2.0	-1.0	11.30	4.94	178.4	-10.0	-5.0	-2.0	-5.0				
106063		DAVIS GEORGE L	0.264	3.61	3.50	-2.0	-0.05	-2.0	-1.0	9.67	7.98	152.7	-10.0	-5.0	4.7	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.237	3.93	4.11	-2.0	-0.05	-2.0	-1.0	10.54	4.24	184.7	-10.0	-5.0	61.9	-10.0				
163260		HOWARD CORBIN & FLORENCE	0.350	3.90	8.10	-2.0	-0.05	-2.0	-1.0	11.30	4.94	178.4	-10.0	-5.0	-2.0	-5.0				
106035		BATEMAN J.W.	0.115	3.78	4.06	-2.0	-0.05	-2.0	-1.0	12.30	10.97	143.4	-20.0	-5.0	7.5	-10.0				
106037		HRUZA W V	0.266	3.38	4.14	-2.0	-0.05	-2.0	-1.0	11.14	19.77	175.5	-10.0	-5.0	-2.0	-10.0				
146336		HAGENSTON DENNIS	-0.050	11.90	3.60	-2.0	0.05	-2.0	-1.0	13.09	4.60	847.0	-10.0	-5.0	5.0	-20.0				
106056		LARSON ELMER	0.221	2.68	2.68	-2.0	-0.05	-2.0	-1.0	10.44	17.01	140.5	-10.0	-5.0	2.6	-10.0				
158027		JAY - FOR RANCH	0.126	3.58	3.80	-2.0	0.10	-2.0	-1.0	13.40	12.94	126.4	-10.0	-5.0	14.0	-10.0				
137132		ISRAEL TED & NELLIE	0.126	7.67	3.66	-2.0	0.07	-2.0	1.0	17.50	6.65	112.4	-10.0	7.8	7.6	-10.0				
106075		U S FOREST SERVICE	0.094	1.16	3.76	-2.0	-0.05	-2.0	-1.0	8.13	5.35	102.0	-10.0	-5.0	6.6	-10.0				
164137		MONTANA POWER COMPANY	0.159	24.44	2.07	-2.0	-0.05	-2.0	-1.0	25.78	8.16	29.4	-10.0	-5.0	25.8	-5.0				
106597		DICK WILLIAM	4.660	8.25	13.90	-2.0	-0.05	-2.0	-1.0	17.50	14.98	71.0	-10.0	5.9	71.2	-5.0				
106598		PRUEHER JOHN & BERTHA	6.080	21.97	11.30	-2.0	-0.05	-2.0	-1.0	14.70	10.45	69.7	-10.0	-5.0	5.0	-5.0				
106603		STOCKSDALE JOHN	6.040	20.40	12.90	-2.0	-0.05	-2.0	-1.0	15.50	12.04	67.6	-10.0	-5.0	10.0	-5.0				
157973		SCHILDS WARREN & JEAN	2.890	4.88	9.90	-2.0	-0.05	-2.0	-1.0	24.40	7.03	118.6	-10.0	-5.0	30.6	-5.0				
106622		PYLE DON	0.447	29.32	-2.00	-2.0	-0.05	-2.0	-1.0	22.60	5.93	67.8	-10.0	-5.0	2.5	-5.0				
106625		GARDNER RICHARD	0.387	14.30	9.50	-2.0	-0.05	-2.0	-1.0	21.60	6.24	107.0	-10.0	-5.0	7.8	-5.0				
135301		MCDONALD DAN	0.372	32.73	-2.00	-2.0	-0.05	-2.0	-1.0	24.80	5.42	42.4	-10.0	-5.0	4.6	-5.0				
152509		YELLOWSTONE HOLIDAYS	-0.050	19.96	8.20	-2.0	-0.05	-2.0	-1.0	18.90	64.50	413.1	-10.0	-5.0	17.8	-5.0				
8910		KERZENMACHER WALT	0.130	7.90	-2.00	-2.0	-0.05	-2.0	-1.0	12.90	362.00		-10.0	-5.0	-2.0	-5.0				
164214		COOK GENE	-0.050	2.20	4.00	-2.0	-0.05	-2.0	-1.0	16.60	4.33	47.9	-10.0	-5.0	8.6	-5.0				
152513		LEVIS RICHARD	0.889	3.49	3.29	-2.0	0.14	-2.0	-1.0	24.95	3.16	65.8	-10.0	-5.0	64.9	-5.0				
158035		WAGNER JOHN	0.290	4.11	4.43	-2.0	-0.05	-2.0	-1.0	41.05	4.08	29.8	-10.0	-5.0	30.8	-5.0				
164207		YETTER GERALD	0.163	1.59	6.04	-2.0	-0.05	-2.0	-1.0	9.14	74.00	297.9	-10.0	-5.0	195.0	-5.0				
121243		VREELAND THAD	0.507	2.71	2.40	-2.0	-0.05	-2.0	-1.0	20.40	4.12	48.5	-10.0	-5.0	528.9	-5.0				
106702		DILENGE FRANK	0.449	2.80	-2.00	-2.0	-0.05	-2.0	-1.0	21.20	4.02	42.4	-10.0	-5.0	174.6	-5.0				
158183		SMITH MIKE & TINA	0.547	2.40	9.40	-2.0	-0.05	-2.0	-1.0	13.20	4.46	69.5	-10.0	-5.0	11.8	-5.0				
106708		FRANKS DANIEL & HERMAN	0.165	2.10	3.69	-2.0	0.09	-2.0	-1.0	14.73	4.71	47.6	-10.0	-5.0	-2.0	-15.0				

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MNUMBER		SITE_NAME	NO3_N	Na	Ni	Pb	orthoPO4	Sb	Se	SiO2	SO4	Sr	Ti	V	Zn	Zr				
157975		MT DEPT OF TRANSPORTATION	0.807	15.90	-2.00	-2.0	-0.05	-2.0	-1.0	48.12	3.26	36.6	-10.0	-5.0	9.1	-5.0				
106725		PARMLY BUTCH	0.088	17.02	-2.00	-2.0	-0.05	-2.0	-1.0	2.40	2.92	32.4	-10.0	-5.0	5.3	-5.0				
106726		PARMLY ESTER	0.283	14.80	-2.00	-2.0	-0.05	-2.0	-1.0	48.90	3.04	35.1	-10.0	-5.0	23.1	-5.0				
106737		USDA FOREST SERVICE	1.100	4.53	-2.00	-2.0	-0.05	-2.0	-1.0	22.10	5.45	43.0	-10.0	-5.0	287.3	-5.0				
164216		LONESOMEHURST WATER USERS ASSOCIATI(	0.400	5.23	-2.00	-2.0	-0.05	-2.0	-1.0	21.60	2.79	41.0	-10.0	-5.0	5.3	-5.0				
106738		JACOBSEN THEODORE M	0.464	5.59	-2.00	-2.0	-0.05	-2.0	-1.0	25.67	3.56	40.9	-5.0	-5.0	436.4	-10.0				
8931		KEPHART EVANS	2.200	2.10	-2.00	-2.0	-0.05	-2.0	-1.0	15.00	6.00		-10.0	-5.0	-2.0	-5.0				
158021		FISHERMANS VILLAGE PROPERTY OWNERS	-0.050	2.96	-2.00	-2.0	-0.05	-2.0	-1.0	16.90	3.18	23.2	-10.0	-5.0	30.8	-5.0				
145834		ROSS MONTE	-0.050	3.83	11.50	-2.0	-0.05	-2.0	-1.0	10.80	98.90	402.7	-10.0	-5.0	23.0	-5.0				
106768		CHENNAULT CHESTER B	0.196	11.34	-2.00	-2.0	-0.05	-2.0	-1.0	38.80	3.66	26.8	13.7	-5.0	50.9	-5.0				
158049		MADISON FORK RANCH # 4	0.104	13.80	-2.00	-2.0	-0.05	-2.0	-1.0	38.40	2.56	7.7	-10.0	-5.0	313.5	-5.0				
8939		MILLER GARY	0.063	7.90	-2.00	-2.0	-0.05	-2.0	-1.0	28.40	3.90		-10.0	-5.0	0.0	-5.0				
106775		U S FOREST SERVICE * BAKER HOLE CAMP	0.110	57.40	-2.00	-2.0	-0.05	-2.0	-1.0	88.70	8.76	13.0	-10.0	-5.0	6.4	-5.0				
106778		KIELAND W. H.	-0.050	29.70	-2.00	-2.0	-0.05	-2.0	-1.0	70.60	5.55	16.9	-10.0	-5.0	9.3	-5.0				
8943		U S FOREST SERVICE * BAKER HOLE CAMP	0.140	48.00	-2.00	-2.0	-0.05	-2.0	-1.0	79.90	8.80		-10.0	-5.0	-2.0	-5.0				
106781		U S FOREST SERVICE * GALLATIN NF	0.141	35.54	-2.00	-2.0	-0.05	-2.0	-1.0	47.20	4.14	26.1	-10.0	-5.0	74.7	-5.0				
152574		SPAINHOWER DONNA G.	0.271	6.70	-2.00	-2.0	-0.05	-2.0	-1.0	29.10	3.59	43.0	-10.0	-5.0	-2.0	-5.0				
106823		HADLEY MOTEL	0.121	14.40	-2.00	-2.0	-0.05	-2.0	-1.0	41.01	2.95	7.3	-10.0	-5.0	218.9	-5.0				
8950		1ST SECURITY BANK OF W. YELLOWSTONE	0.023	6.90	-2.00	-2.0	-0.05	-2.0	-1.0	40.60	1.90		-10.0	-5.0	0.0	-5.0				
106842		3 BEAR LODGE	0.157	12.90	-2.00	-2.0	-0.05	-2.0	-1.0	41.43	3.05	7.1	-10.0	-5.0	54.4	-5.0				
106853		WHITMAN CLYDE AND SUSIE	0.128	13.00	-2.00	-2.0	-0.05	-2.0	-1.0	44.80	2.98	7.1	-10.0	-5.0	62.4	-5.0				
164139		MARTIN NORMA	0.110	15.40	-2.00	-2.0	-0.05	-2.0	-1.0	45.40	2.77	11.2	-10.0	-5.0	193.8	-5.0				
8959		WEST YELLOWSTONE CITY OF	0.016	14.60	-2.00	-2.0	-0.05	-2.0	-1.0	41.40	2.40		-10.0	-5.0	-2.0	-5.0				
8960		DONNA TIMBER INC	0.023	13.60	-2.00	-2.0	-0.05	-2.0	-1.0	16.70	5.10		-10.0	-5.0	-2.0	-5.0				

' - ' below detection limit

*Project ID:

YNPG = Gardiner area YNPW = W. Yellowstone area YNPC: Cooke City area