

**MOUAT INDUSTRIES SUPERFUND SITE  
2011 GROUNDWATER MONITORING RESULTS  
FINAL REPORT**

March 2012

**Prepared for:**

Montana Department of Environmental Quality  
Helena, MT59620  
Contract No 4000022—TO-32

**Prepared by:**

Gary Icopini/Ted Duaine  
Hydrogeologists

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**Approvals:**



3/26/12

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Ted Duaine, Project Manager  
Montana Bureau of Mines and Geology

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Date



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Gary Icopini, Project Manager  
Montana Bureau of Mines and Geology

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Date

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## 1.0 Executive Summary

This report presents data collected by the Montana Bureau of Mines and Geology (MBMG) under contract with the Montana Department of Environmental Quality (DEQ) to determine the current concentrations of dissolved and total recoverable chromium (Cr) in the groundwaters at the Mouat Industries Site, Columbus, MT. The current reporting includes results from the January 2011, June 2011, and November 2011 sampling trips. Contingency triggers were exceeded in samples collected during the January 2011 and June 2011 sampling events. The January 2011 sampling was conducted because a chromium concentration of 306 µg/L was detected in a sample from well MO-25 collected during the June 2010 sampling, which exceeded the contingency trigger of 300 µg/L for block-area wells.

The January 2011 sampling also resulted in an exceedance of the contingency trigger for downgradient wells. A chromium concentration of 52.5 µg/L was detected in the total recoverable sample from MO-11. The contingency trigger for downgradient wells is 50 µg/L chromium. The exceedance of this contingency trigger necessitated semi-annual sampling for at least two sampling events (June and November).

The June 2011 sampling event resulted in exceedances of the contingency trigger in 3 of the block-area wells and one downgradient well. The block-area wells MO-25, MO-26, and RMIS-2 had dissolved chromium concentrations of 518, 1500, and 805 µg/L (respectively) and total recoverable chromium concentrations of 561, 1520, and 773 µg/L (respectively). The downgradient well MIS-16 had dissolved and total recoverable chromium concentrations of 71 and 71 µg/L, respectively. The spring and summer of 2011 were exceptionally wet for Columbus, MT. Although we waited to sample for three weeks after a recharge event, the water levels were nearly as high as the 2010 peak water level. This unusual recharge provided for more than normal flushing of the block area and is likely the cause for the very high concentrations and the exceedances of the contingency triggers observed during the June 2011 sampling.

There were no exceedances of the contingency triggers in the samples collected during the November 2011. Our next sampling event is planned for late May or June 2012. Assuming no exceedances of the contingency triggers in the next samples, we will resume annual sampling in 2013.

## 2.0 Site Background

### 2.1 SITE HISTORY

Industrial activities from 1957 to approximately 1973 lead to the release of Cr(VI) to the soils and groundwater at the Mouat Industries Site located in Columbus, Montana. A significant amount of the visible surface contamination was removed in the 1970's. However, persistent Cr(VI) groundwater contamination led the Environmental Protection Agency (EPA) to place the Mouat Industries Site on the National Priority List (NPL) in 1986. From 1993 through 1995 FMC conducted full scale excavation and treatment activities. These activities included immobilization of Cr(VI) contaminated soils by both reduction of Cr(VI) to Cr(III) with reduced forms of iron and sulfur and by solidification in cement blocks. These cement blocks were then buried in on-site repositories (FMC, 1995).

Atlantic Richfield conducted groundwater monitoring from 1996 through 2003 on 12 monitoring wells. The monitoring documented the natural attenuation of the groundwater chromium plume. The Cr(VI) concentrations in the groundwater down gradient of the site

decreased from more than 200 to less than 50 µg/L. This indicates that under current conditions the treated soil and blocks are leaching less hexavalent chromium than before the removal action.

The EPA and DEQ conducted a soil sampling and groundwater sampling program in 2007 by contracting the MBMG to collect and analyze soil samples from areas within and surrounding the block area, in addition to locations south (down-gradient) of the site. This project was designed to evaluate the presence of Cr(VI) and dissolved Cr in groundwater and block areas at the site, and estimate the likelihood of remaining Cr(VI) leaching to form a contaminated groundwater plume as the concrete blocks degrade in the future. Six additional groundwater monitoring wells were installed as part of this work.

## 2.2 WELL DESCRIPTIONS

The current project was designed to determine chromium concentrations in the groundwater system within and immediately down-gradient from the block area. A total of eleven wells were selected for water-level monitoring and sampling (Table 1). Six of the wells (RMIS and MIS series) were installed as part of the previous Superfund investigations, while five of the other wells (MO series) were installed during the 2007 investigation by MBMG personnel. The locations of the wells are shown on Figure 1.

Table 1. Well designation, location and completion information for the eleven wells included in the 2010 monitoring network.

Well Name	GWIC ID	Elevation (ft)	Location	Casing Size and Type	Total Depth (ft)	Screen Interval (ft)
RMIS-1	129492	3580.21	Upgradient	2-in PVC	18.3	8-18
MO-09	236432	3579.73	West block area	2-in PVC	13.0	8-13
MO-25	236442	3580.77	East block area	2-in PVC	13.0	8-13
MO-26	236443	3580.97	Center block area	2-in PVC	14.0	9-14
RMIS-2	129493	3579.37	Between east and center block areas	2-in PVC	14.5	4.2-14.2
MO-10	236438	3575.33	Downgradient	2-in PVC	10.0	5-10
MO-11	236441	3574.62	Downgradient	2-in PVC	11.0	6-11
MIS-15*	236502	3575.28	Downgradient	2-in PVC	25.6	9-25.6
MIS-16*	236503	3574.36	Downgradient	2-in PVC	26.0	5.5-25.6
RMIS-4*	129495	3574.91	Downgradient	2-in PVC	15.6	5.3-15.3
RMIS-5*	129496	3574.21	Downgradient	2-in PVC	14.9	4.6-14.6

\*Compliance well



Figure 1. This map shows the Moutat Site long-term monitoring well locations.

## 3.0 Groundwater Monitoring and Analysis

### 3.1 Site Conditions

There have been two construction projects that have affected the site in since 2010. First, a security fence was installed around the airport, which damaged the surface completion of well MO-10 and buried well MIS-15. As reported previously, well MO-10 is still usable and we continue to sample this well. During the June 2010 sampling well MIS-15 could not be located. During the January 2011 sampling Beartooth Land and Surveying was able to relocate the well based on the previously surveyed location. Sampling of well MIS-15 resumed in January 2011.

The second construction project was the building of the Columbus Public Works Building on the eastern portion of the block area in the fall of 2011. The new building is within 10 feet and to the east of well MO-25 (figure 2). The building is rectangular in shape with the long axis running roughly north to south between Clough Avenue and 1<sup>st</sup> Avenue South. The excavation for the building unearthed some of the cement blocks emplaced during the remediation (figure 2). According the Dennis Holton, the excavated blocks were to be used as fill and reburied on the site in the swale between the east and middle block areas. The swale is a utility corridor through the site that was not part of the repository and had a lower elevation. The fence limiting access to well RMIS-2 with the telemetry station was also removed as a result of the building construction; however, a new fence has been erected around the telemetry station.



Figure 2. Photographs showing well MO-25 and cement blocks looking east from RMIS-2.

### 3.1 WATER-LEVEL MONITORING

Prior to the collection of water samples the static water levels were measured to the nearest one-hundredth of a foot in each of the eleven wells using an electric tape. Additionally, pressure transducers were installed during 2008 in five of the wells for semi-continuous monitoring of water levels. Each transducer was set up to collect water levels on a 2-hour increment; while a separate logger was installed to collect barometric pressure changes for correcting changes in water levels caused by barometric influences. In June 2010 a telemetry station was installed to report water levels in RMIS-2 to the Butte MBMG office. The telemetry system allows us to plan sampling trips to coincide with desirable water levels (decreasing, increasing, or elevation).

The hydrographs for the five monitoring wells with data loggers installed are presented in figure 3. Data from the entire monitoring period from May 2008 to November 2011 are presented to

illustrate the abnormally large recharge that occurred in 2011, which had a negative impact on the water quality at the site. The June 2010 sampling was conducted during or near the water-level maximum for the year, which was also the first major recharge peak of the 2010 spring/summer (figure 3). Data from the June 2010 sampling are presented again in this report, because the three consecutive exceedances of the contingency triggers began with the June 2010 sampling.

Groundwater sampling was conducted three times during 2011 in response to exceedances of the contingency triggers. The January 2011 sampling was conducted during a low-water period when water levels were 1.2 to 1.8 feet below the June 2010 water levels. The June 2011 sampling was conducted approximately three weeks after the peak water level for 2011 and when the water level was about one foot lower than the 2011 peak in most wells. The November 2011 sampling was conducted during the fall/winter declining water levels when the water levels were over two feet lower than the 2011 peak water levels.

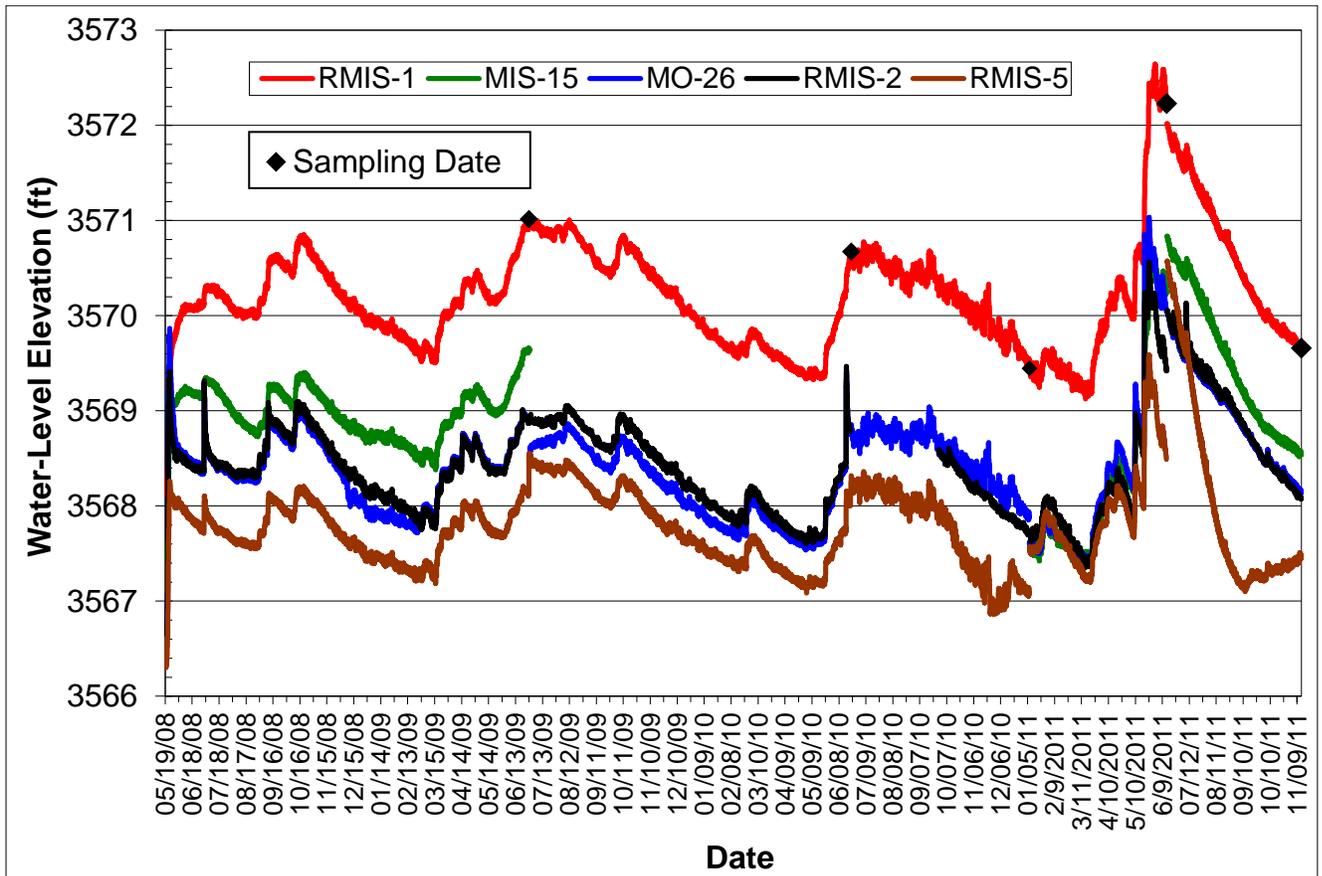


Figure 3. Water-level hydrographs for wells RMIS-1, MIS-15, MO-26, RMIS-2, and RMIS-5, northwest to southeast across the site. The RMIS-5 data gap was the result a malfunction of the STS telemetry system. The MIS-15 was lost due to the burial of the well and operator error. The data gaps are not considered critical because the other wells with data appear to respond similarly to the wells with data gaps.

### 3.2 Groundwater Sampling and Data

The 2011 groundwater samples were collected on January 7<sup>th</sup>/8<sup>th</sup>, June 14<sup>th</sup>/15<sup>th</sup>, and November 14<sup>th</sup>/15<sup>th</sup>/16<sup>th</sup>. Well development and purging followed established MBMG protocols, which are listed in the Sampling and Analysis Plan for this project (MBMG, 2008a). One field blank and one duplicate sample were collected during each sampling run. The field water-quality parameters, dissolved Cr, and total recoverable Cr data are listed in tables 2 and 3. Appendix A contains MBMG water-quality data for the 2011 sampling.

The January 2011 sampling resulted in an exceedance of the contingency trigger for downgradient wells. A chromium concentration of 52.5 µg/L was detected in the total recoverable sample from MO-11. The contingency trigger for downgradient wells is 50 µg/L chromium. The January MO-11 dissolved Cr concentrations was 22.8 µg/L. However, the total recoverable concentration was checked by the laboratory and deemed accurate. The exceedance of this contingency trigger necessitated semi-annual sampling for at least two subsequent sampling events (June and November 2011).

The June 2011 sampling event resulted in exceedances of the contingency trigger in 3 of the block-area wells and one downgradient well. The block-area wells MO-25, MO-26, and RMIS-2 had dissolved chromium concentrations of 518.17, 1500.15, and 804.67 µg/L (respectively) and total recoverable chromium concentrations of 560.55, 1520.1, and 773.33 µg/L (respectively). The downgradient well MIS-16 had dissolved and total recoverable chromium concentrations of 70.64 and 71.15 µg/L, respectively. The spring and summer of 2011 were exceptionally wet for

**Table 2.** Field water-quality parameters, dissolved Cr, and total recoverable Cr data for the block-area wells sampled in 2011. (SC = specific conductance at 25<sup>0</sup>C; ORP = oxidation-reduction potential)

Sample Date	Water Temp.	pH (mV)	SC (µmhos)	ORP (mV)	Dissolved Cr (µg/l)	Total Recoverable Cr (µg/l)
MO-09						
6/22/2010 10:13	13.3	9.14	2463	366	4.33	23.5
1/8/2011 9:45	9.2	9.15	2756	274	5.86	20.5
6/15/2011 13:10	9.86	9.01	2556	204	1.480 J	3.45
MO-25						
6/22/2010 12:00	12.56	9.85	1310	356	306	283
1/8/2011 13:35	11.81	7.67	2244	316	57	61.5
6/15/2011 13:30	10.01	9.89	1927	267	518.17	560.55
MO-26						
6/22/2010 11:10	10.35	8.64	1804	371	148	158
1/8/2011 12:15	12.01	7.47	2201	314	10.2	10.1
6/15/2011 11:19	10.14	9.62	2295	237	1500.15	1520.1
11/16/2011 12:10	11.7	7.39	2325	352	82.92	75.3
RMIS-2						
6/22/2010 12:56	10.24	8.02	2202	375	50	52.1
1/8/2011 10:45	11.6	7.38	2370	326	33.3	36.3
6/15/2011 10:15	9.92	7.55	2406	261	804.67	773.33
11/16/2011 11:10	12.5	7.2	2250	361	47.32	48.8

**Table 3.** Field water-quality parameters, dissolved Cr, and total recoverable Cr data for the downgradient wells sampled in 2011. (SC = specific conductance at 25<sup>0</sup>C; ORP = oxidation-reduction potential)

Sample Date	Water Temp.	pH (mV)	SC (µmhos)	ORP (mV)	Dissolved Cr (µg/l)	Total Recoverable Cr (µg/l)
<b>RMIS-4</b>						
6/21/2010 12:13	12.05	8.02	2479	387	7.68	9.9
1/7/2011 15:10	9.8	7.34	2688	341	8.42	8.94
6/14/2011 10:20	11.08	7.43	2685	200	27.95	27.98
6/14/2011 10:30	11.08	7.43	2685	200	15.94	26.86
11/15/2011 13:00	12.5	7.23	2555	343	13	12.7
<b>RMIS-5</b>						
6/22/2010 9:20	10.71	7.99	2342	388	15.4	16
6/22/2010 9:25			2342	388	15.2	18.5
1/7/2011 18:20	10.05	7.37	2433	349	14.8	15
6/14/2011 17:05	10.22	7.41	2355	251	18.7	24.84
11/15/2011 11:00	12.1	7.21	2395	354	47.12	45.9
<b>MIS-15</b>						
1/7/2011 11:21	11.7	7.16	2627	372	9.64	10.2
6/14/2011 19:40	10.81	7.3	2477	258	20.05	26.65
11/14/2011 14:35	13.2	7.1	2464	343	7.54	7.73
<b>MIS-16</b>						
6/21/2010 14:55	11.23	7.94	2390	405	7.83	9.14
1/7/2011 17:35	10.6	7.35	2514	350	7.11	7.19
1/7/2011 17:45	10.6	7.35	2514	350	7.04	7.44
6/14/2011 18:05	10.5	7.48	2316	258	70.64	71.15
11/15/2011 12:00	11.4	7.24	2430	344	23.22	27.8
11/15/2011 12:05	11.4	7.24	2430	344	30.48	30.5
<b>MO-10</b>						
6/21/2010 16:54	12.51	7.91	2531	343	9.13	10.7
1/7/2011 14:25	9.87	7.46	2682	333	11.2	12
6/14/2011 21:00	11.26	7.61	2614	7.61	14.91	24.03
11/14/2011 13:55	12.97	7.19	2565	363	17.43	16.1
<b>MO-11</b>						
6/21/2010 15:42	14.23	7.84	822	353	20.5	24.6
1/7/2011 16:40	7.93	7.62	2588	349	22.8	52.5
6/14/2011 20:05	16.62	8.22	736.2	277	0.96	5.56
<b>RMIS-1</b>						
11/15/2011 14:40	13.2	7.21	2495	350	0.540 J	0.550 J

Columbus, MT. Although the June sampling was conducted approximately 3 weeks after the peak recharge for the year, the water levels were still as high, or higher, than they were during any other sampling event since 2007. The unusual recharge provided for more than normal flushing of the block areas and is likely the cause for the very high concentrations and the exceedances of the contingency triggers observed during the June 2011 sampling. The theory that flushing the block areas results in higher aqueous concentrations is consistent with the exceedance during the June 2010 sampling, which was a sample collected coincidentally with the initial and largest recharge peak of the 2010. Also, the presence of elevated Cr concentrations in the downgradient well (MIS-16) approximately three weeks after the peak recharge may indicate that the travel time between the block area and this well is approximately three weeks.

There were no exceedances of the contingency triggers in the samples collected during November 2011. There was insufficient water in wells MO-09, MO-11, and MO-25 to collect a sample in November.

### **3.2 2012 Groundwater Sampling Plan**

We plan to collect the 2012 groundwater samples during May or June approximately three weeks after the first major recharge event. This sampling will also be dependent on the weather with the avoidance of sampling during recharge events, if possible. We will discontinue semi-annual sampling in 2012, if there are no exceedances of the contingency triggers from the summer 2012 sampling.

## **4.0 References**

- FMC, 1995, Response action fieldwork completion report: Mouat Industries Site, Columbus, Montana.
- MBMG, 2007. Mouat Industries Superfund Site Evaluation, Final Report, Montana Bureau of Mines and Geology, 105p.
- MBMG, 2008a. Mouat Industries Superfund Site Sampling and Analysis Plan, Montana Bureau of Mines and Geology, 7p.
- MBMG, 2008b. Mouat Industries Superfund Site Evaluation, Final Report, Montana Bureau of Mines and Geology, 83p.

**APPENDIX A: 2011 MBMG WATER-QUALITY DATA**

Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-09

**Location Information**

Sample Id/Site Id: 2011Q0890 / 236432	Sample Date: 1/8/2011 9:45:00 AM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 38' 1" N 109° 14' 45" W	Field Number: MO-09
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): 12.45
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	13.200	0.659	Bicarbonate (HCO3)	293.100	4.804
Magnesium (Mg)	6.870	0.565	Carbonate (CO3)	15.160	0.543
Sodium (Na)	638.000	27.753	Chloride (Cl)	37.580	1.060
Potassium (K)	2.220	0.057	Sulfate (SO4)	1,011.000	21.059
Iron (Fe)	0.156	0.006	Nitrate (as N)	0.443	0.032
Manganese (Mn)	0.013	0.000	Fluoride (F)	1.720	0.091
Silica (SiO2)	19.100		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		29.129	<b>Total Anions</b>		27.588

**Trace Element Results (µg/L)**

Aluminum (Al): 98.000	Cesium (Cs): <2.5	Molybdenum (Mo): 152.000	Strontium (Sr): 271.000
Antimony (Sb): <1.0	Chromium (Cr): 5.860	Nickel (Ni): 5.620	Thallium (Tl): <1.0
Arsenic (As): 92.600	Cobalt (Co): 2.770	Niobium (Nb): <2.5	Thorium (Th): <1.0
Barium (Ba): 13.800	Copper (Cu): 5.700	Neodymium (Nd): <1.0	Tin (Sn): <2.5
Beryllium (Be): <1.0	Gallium (Ga): <0.9	Palladium (Pd): <2.5	Titanium (Ti): 15.900
Boron (B): 774.000	Lanthanum (La): <1.0	Praseodymium (Pr): <1.0	Tungsten (W): 7.990
Bromide (Br): 265.000	Lead (Pb): 1.000	Rubidium (Rb): <2.5	Uranium (U): 10.500
Cadmium (Cd): <1.0	Lithium (Li): <10.0	Silver (Ag): <1.0	Vanadium (V): 6.580
Cerium (Ce): <1.0	Mercury (Hg): NR	Selenium (Se): 1.380	Zinc (Zn): 16.700
			Zirconium (Zr): <0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,889.530	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,038.190	Hardness as CaCO3: 61.240	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2756	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2924	Alkalinity as CaCO3 (mg/L): 265.33	Phosphate, TD (mg/L as P): 0.234
Field pH: 9.15	Ryznar Stability Index: 7.241	Field Nitrate (mg/L): NR
Lab pH: 8.67	Sodium Adsorption Ratio: 35.476	Field Dissolved O2 (mg/L): 4.760
Water Temp (°C): 9.2	Langlier Saturation Index: 0.714	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05	Field Redox (mV): 274
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks: VERY LOW FLOW SAMPLING, USED DEDICATED BAILER TO PURGE. 3 CASING VOLUME PURGE PRIOR TO SAMPLING.  
 STABLE PARAMETERS OBTAINED.  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

**Disclaimer**

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted.

Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-09

**Location Information**

Sample Id/Site Id: 2011Q0891 / 236432	Sample Date: 1/8/2011 9:45:00 AM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 38' 1" N 109° 14' 45" W	Field Number: MO-09
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): 12.45
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	20.400	1.018	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	11.600	0.955	Carbonate (CO3)	NR	0.000
Sodium (Na)	648.000	28.188	Chloride (Cl)	NR	0.000
Potassium (K)	2.190	0.056	Sulfate (SO4)	NR	0.000
Iron (Fe)	5.360	0.192	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.093	0.003	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>31.013</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	4,629.000	Cesium (Cs):	<2.5	Molybdenum (Mo):	201.000	Strontium (Sr):	297.000
Antimony (Sb):	1.400	Chromium (Cr):	20.500	Nickel (Ni):	11.300	Thallium (Tl):	<1.0
Arsenic (As):	43.000	Cobalt (Co):	4.720	Niobium (Nb):	1.420	Thorium (Th):	1.600
Barium (Ba):	65.700	Copper (Cu):	12.100	Neodymium (Nd):	3.380	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	1.360	Palladium (Pd):	<2.5	Titanium (Ti):	116.000
Boron (B):	845.000	Lanthanum (La):	3.360	Praseodymium (Pr):	<1.0	Tungsten (W):	6.510
Bromide (Br):	NR	Lead (Pb):	3.870	Rubidium (Rb):	6.380	Uranium (U):	15.600
Cadmium (Cd):	<1.0	Lithium (Li):	<10.0	Silver (Ag):	<1.0	Vanadium (V):	14.200
Cerium (Ce):	7.430	Mercury (Hg):	NR	Selenium (Se):	1.830	Zinc (Zn):	22.900
						Zirconium (Zr):	4.010

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	98.680	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2756	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	9.15	Ryznar Stability Index:	20.281	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	28.384	Field Dissolved O2 (mg/L):	4.760
Water Temp (°C):	9.2	Langlier Saturation Index:	-10.140	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	274
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-09

**Location Information**

Sample Id/Site Id: 200185 / 236432	Sample Date: 6/15/2011 1:10:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 38' 1" N 109° 14' 45" W	Field Number: MO-09
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	14.330	0.715	Bicarbonate (HCO3)	218.350	3.579
Magnesium (Mg)	7.870	0.648	Carbonate (CO3)	20.650	0.739
Sodium (Na)	570.320	24.809	Chloride (Cl)	30.510	0.861
Potassium (K)	2.090	0.053	Sulfate (SO4)	999.800	20.826
Iron (Fe)	0.012	0.000	Nitrate (as N)	0.210	0.015
Manganese (Mn)	0.009	0.000	Fluoride (F)	1.400	0.074
Silica (SiO2)	20.020		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>26.302</b>	<b>Total Anions</b>		<b>26.093</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	25.710	Cesium (Cs):	<2.50 U	Molybdenum (Mo):	136.090	Strontium (Sr):	259.570
Antimony (Sb):	<2.50 U	Chromium (Cr):	1.4800 J	Nickel (Ni):	9.200	Thallium (Tl):	0.8700 J
Arsenic (As):	78.690	Cobalt (Co):	5.390	Niobium (Nb):	<2.50 U	Thorium (Th):	<2.50 U
Barium (Ba):	13.030	Copper (Cu):	8.460	Neodymium (Nd):	<2.50 U	Tin (Sn):	<2.50 U
Beryllium (Be):	<2.50 U	Gallium (Ga):	<2.50 U	Palladium (Pd):	<2.50 U	Titanium (Ti):	16.290
Boron (B):	726.560	Lanthanum (La):	<2.50 U	Praseodymium (Pr):	<2.50 U	Tungsten (W):	6.490
Bromide (Br):	234.000	Lead (Pb):	<1.00 U	Rubidium (Rb):	<2.50 U	Uranium (U):	5.990
Cadmium (Cd):	<2.50 U	Lithium (Li):	10.410	Silver (Ag):	<2.50 U	Vanadium (V):	3.790
Cerium (Ce):	<2.50 U	Mercury (Hg):	NR	Selenium (Se):	0.6800 J	Zinc (Zn):	1.2400 J
						Zirconium (Zr):	<2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,774.620	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	1,885.230	Hardness as CaCO3:	68.170	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2556	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	3267.1	Alkalinity as CaCO3 (mg/L):	213.82	Phosphate, TD (mg/L as P):	0.2200 J
Field pH:	9.01	Ryznar Stability Index:	7.147	Field Nitrate (mg/L):	NR
Lab pH:	8.88	Sodium Adsorption Ratio:	30.039	Field Dissolved O2 (mg/L):	4.860
Water Temp (°C):	9.86	Langlier Saturation Index:	0.866	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05 U	Field Redox (mV):	204
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-09

**Location Information**

Sample Id/Site Id: 200186 / 236432	Sample Date: 6/15/2011 1:10:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 38' 1" N 109° 14' 45" W	Field Number: MO-09 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	15.590	0.778	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	9.470	0.779	Carbonate (CO3)	NR	0.000
Sodium (Na)	584.420	25.422	Chloride (Cl)	NR	0.000
Potassium (K)	2.1300 J	0.000	Sulfate (SO4)	NR	0.000
Iron (Fe)	1.293	0.046	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.030	0.001	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.138</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	941.320	Cesium (Cs):	<2.00 U	Molybdenum (Mo):	138.380	Strontium (Sr):	256.420
Antimony (Sb):	0.6700 J	Chromium (Cr):	3.450	Nickel (Ni):	11.100	Thallium (Tl):	0.6100 J
Arsenic (As):	74.750	Cobalt (Co):	5.560	Niobium (Nb):	<2.00 U	Thorium (Th):	<2.00 U
Barium (Ba):	25.000	Copper (Cu):	8.350	Neodymium (Nd):	2.500	Tin (Sn):	<2.00 U
Beryllium (Be):	<2.00 U	Gallium (Ga):	<2.00 U	Palladium (Pd):	<2.00 U	Titanium (Ti):	33.740
Boron (B):	NR	Lanthanum (La):	1.1000 J	Praseodymium (Pr):	<2.00 U	Tungsten (W):	5.290
Bromide (Br):	NR	Lead (Pb):	1.1700 J	Rubidium (Rb):	1.4000 J	Uranium (U):	6.340
Cadmium (Cd):	<2.00 U	Lithium (Li):	9.250	Silver (Ag):	<2.00 U	Vanadium (V):	9.690
Cerium (Ce):	1.9900 J	Mercury (Hg):	NR	Selenium (Se):	1.5200 J	Zinc (Zn):	<4.00 U
						Zirconium (Zr):	0.8000 J

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	77.910	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2556	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	9.01	Ryznar Stability Index:	20.514	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	28.790	Field Dissolved O2 (mg/L):	4.860
Water Temp (°C):	9.86	Langlier Saturation Index:	-10.257	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	204
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 2011Q0878 / 236438	Sample Date: 1/7/2011 2:25:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): 8
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	78.100	3.897	Bicarbonate (HCO3)	589.500	9.662
Magnesium (Mg)	52.400	4.312	Carbonate (CO3)	0.000	0.000
Sodium (Na)	510.000	22.185	Chloride (Cl)	54.180	1.528
Potassium (K)	6.540	0.167	Sulfate (SO4)	877.700	18.282
Iron (Fe)	<0.010	0.000	Nitrate (as N)	2.000	0.143
Manganese (Mn)	0.046	0.002	Fluoride (F)	0.573	0.030
Silica (SiO2)	24.500		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>30.702</b>	<b>Total Anions</b>		<b>29.646</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	18.200	Strontium (Sr):	1,526.000
Antimony (Sb):	<1.0	Chromium (Cr):	11.200	Nickel (Ni):	1.500	Thallium (Tl):	<1.0
Arsenic (As):	26.900	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	27.100	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	13.000
Boron (B):	1,128.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	208.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	20.500
Cadmium (Cd):	<1.0	Lithium (Li):	19.000	Silver (Ag):	<1.0	Vanadium (V):	19.900
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.500	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,898.140	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,197.500	Hardness as CaCO3:	410.690	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2682	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2395	Alkalinity as CaCO3 (mg/L):	483.9	Phosphate, TD (mg/L as P):	0.126
Field pH:	7.46	Ryznar Stability Index:	5.955	Field Nitrate (mg/L):	NR
Lab pH:	7.89	Sodium Adsorption Ratio:	10.950	Field Dissolved O2 (mg/L):	1.210
Water Temp (°C):	9.87	Langlier Saturation Index:	0.967	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	333
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: WELL PURGED VIA PERISTALTIC PUMP (LOW FLOW SAMPLING) 3 CASING VOLUMES PURGED AND STABLE  
 PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 2011Q0879 / 236438	Sample Date: 1/7/2011 2:25:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): 8
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	79.700	3.977	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	53.000	4.361	Carbonate (CO3)	NR	0.000
Sodium (Na)	520.000	22.620	Chloride (Cl)	NR	0.000
Potassium (K)	6.370	0.163	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.015	0.001	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.047	0.002	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>31.254</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	17.000	Cesium (Cs):	<2.5	Molybdenum (Mo):	19.000	Strontium (Sr):	1,585.000
Antimony (Sb):	<1.0	Chromium (Cr):	12.000	Nickel (Ni):	<0.9	Thallium (Tl):	<1.0
Arsenic (As):	26.900	Cobalt (Co):	<0.9	Niobium (Nb):	<0.9	Thorium (Th):	<1.0
Barium (Ba):	29.800	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	6.470
Boron (B):	1,001.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	21.800
Cadmium (Cd):	<1.0	Lithium (Li):	20.200	Silver (Ag):	<1.0	Vanadium (V):	21.500
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	12.000	Zinc (Zn):	<5.0
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	417.160	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2682	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.46	Ryznar Stability Index:	19.097	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	11.078	Field Dissolved O2 (mg/L):	1.210
Water Temp (°C):	9.87	Langlier Saturation Index:	-9.549	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	333
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 200183 / 236438	Sample Date: 6/14/2011 9:00:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	55.590	2.774	Bicarbonate (HCO3)	653.920	10.718
Magnesium (Mg)	41.610	3.424	Carbonate (CO3)	0.000	0.000
Sodium (Na)	541.570	23.558	Chloride (Cl)	51.450	1.451
Potassium (K)	5.450	0.139	Sulfate (SO4)	833.900	17.370
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	2.380	0.170
Manganese (Mn)	0.125	0.005	Fluoride (F)	0.970	0.051
Silica (SiO2)	26.800		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>30.034</b>	<b>Total Anions</b>		<b>29.760</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	7.4200 J	Cesium (Cs):	<2.50 U	Molybdenum (Mo):	27.030	Strontium (Sr):	1,127.390
Antimony (Sb):	<2.50 U	Chromium (Cr):	14.910	Nickel (Ni):	1.3300 J	Thallium (Tl):	1.2300 J
Arsenic (As):	42.580	Cobalt (Co):	0.5300 J	Niobium (Nb):	<2.50 U	Thorium (Th):	<2.50 U
Barium (Ba):	28.980	Copper (Cu):	3.380	Neodymium (Nd):	<2.50 U	Tin (Sn):	<2.50 U
Beryllium (Be):	<2.50 U	Gallium (Ga):	<2.50 U	Palladium (Pd):	<2.50 U	Titanium (Ti):	13.730
Boron (B):	1,164.600	Lanthanum (La):	<2.50 U	Praseodymium (Pr):	<2.50 U	Tungsten (W):	0.9200 J
Bromide (Br):	161.000	Lead (Pb):	<1.00 U	Rubidium (Rb):	1.2700 J	Uranium (U):	21.520
Cadmium (Cd):	<2.50 U	Lithium (Li):	27.810	Silver (Ag):	<2.50 U	Vanadium (V):	30.160
Cerium (Ce):	<2.50 U	Mercury (Hg):	NR	Selenium (Se):	11.450	Zinc (Zn):	4.6600 J
						Zirconium (Zr):	<2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,881.370	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,213.200	Hardness as CaCO3:	310.070	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2614	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	3328.1	Alkalinity as CaCO3 (mg/L):	536.39	Phosphate, TD (mg/L as P):	0.1300 J
Field pH:	7.61	Ryznar Stability Index:	6.321	Field Nitrate (mg/L):	NR
Lab pH:	7.73	Sodium Adsorption Ratio:	13.393	Field Dissolved O2 (mg/L):	6.110
Water Temp (°C):	11.26	Langlier Saturation Index:	0.704	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05 U	Field Redox (mV):	7.61
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 200184 / 236438	Sample Date: 6/14/2011 9:00:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	54.370	2.713	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	44.140	3.632	Carbonate (CO3)	NR	0.000
Sodium (Na)	576.300	25.069	Chloride (Cl)	NR	0.000
Potassium (K)	5.320	0.136	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.117	0.004	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.131	0.005	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>31.591</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 48.880	Cesium (Cs): <2.00 U	Molybdenum (Mo): 28.310	Strontium (Sr): 1,166.070
Antimony (Sb): 0.5900 J	Chromium (Cr): 24.030	Nickel (Ni): 2.770	Thallium (Tl): 0.5900 J
Arsenic (As): 42.500	Cobalt (Co): 1.1500 J	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 62.250	Copper (Cu): 1.9700 J	Neodymium (Nd): <2.00 U	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.5700 J	Titanium (Ti): 12.840
Boron (B): NR	Lanthanum (La): <2.00 U	Praseodymium (Pr): <2.00 U	Tungsten (W): 1.8100 J
Bromide (Br): NR	Lead (Pb): <2.00 U	Rubidium (Rb): 1.2900 J	Uranium (U): 21.330
Cadmium (Cd): <2.00 U	Lithium (Li): 18.360	Silver (Ag): <2.00 U	Vanadium (V): 30.900
Cerium (Ce): <2.00 U	Mercury (Hg): NR	Selenium (Se): 9.380	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 317.440	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2614	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.61	Ryznar Stability Index: 19.429	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 14.067	Field Dissolved O2 (mg/L): 6.110
Water Temp (°C): 11.26	Langlier Saturation Index: -9.715	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 7.61
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 201088 / 236438	Sample Date: 11/14/2011 1:55:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	66.820	3.334	Bicarbonate (HCO3)	599.580	9.827
Magnesium (Mg)	42.970	3.536	Carbonate (CO3)	0.000	0.000
Sodium (Na)	450.870	19.613	Chloride (Cl)	47.780	1.348
Potassium (K)	7.440	0.190	Sulfate (SO4)	797.300	16.608
Iron (Fe)	<0.010 U	0.000	Nitrate (as N)	2.700	0.193
Manganese (Mn)	0.044	0.002	Fluoride (F)	0.630	0.033
Silica (SiO2)	27.470		Orthophosphate (as P)	0.090 J	0.000
<b>Total Cations</b>		<b>26.821</b>	<b>Total Anions</b>		<b>28.009</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<2.000 U	Cesium (Cs):	<0.500 U	Molybdenum (Mo):	19.130	Strontium (Sr):	1,347.800
Antimony (Sb):	<0.500 U	Chromium (Cr):	17.430	Nickel (Ni):	0.680 J	Thallium (Tl):	<0.500 U
Arsenic (As):	27.810	Cobalt (Co):	0.730 J	Niobium (Nb):	<0.500 U	Thorium (Th):	<0.500 U
Barium (Ba):	33.640	Copper (Cu):	3.780	Neodymium (Nd):	<0.500 U	Tin (Sn):	<0.500 U
Beryllium (Be):	<0.500 U	Gallium (Ga):	<0.500 U	Palladium (Pd):	<0.500 U	Titanium (Ti):	7.910
Boron (B):	1,238.330	Lanthanum (La):	<0.500 U	Praseodymium (Pr):	<0.500 U	Tungsten (W):	1.070 J
Bromide (Br):	200.000	Lead (Pb):	<0.200 U	Rubidium (Rb):	1.250 J	Uranium (U):	18.150
Cadmium (Cd):	<0.500 U	Lithium (Li):	31.190	Silver (Ag):	<0.500 U	Vanadium (V):	23.430
Cerium (Ce):	<0.500 U	Mercury (Hg):	NR	Selenium (Se):	14.880	Zinc (Zn):	2,800 J
						Zirconium (Zr):	<0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,739.360	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,043.790	Hardness as CaCO3:	343.710	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2565	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2280	Alkalinity as CaCO3 (mg/L):	492.1	Phosphate, TD (mg/L as P):	<0.060 U
Field pH:	7.19	Ryznar Stability Index:	6.236	Field Nitrate (mg/L):	NR
Lab pH:	7.73	Sodium Adsorption Ratio:	10.585	Field Dissolved O2 (mg/L):	3.980
Water Temp (°C):	12.97	Langlier Saturation Index:	0.747	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.010 U	Field Redox (mV):	363
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5	NR	Acidity to 8.3	NR
As(III) (ug/L)	NR	As(V) (ug/L)	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-10

**Location Information**

Sample Id/Site Id: 201084 / 236438	Sample Date: 11/14/2011 1:55:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 59" N 109° 14' 45" W	Field Number: MO-10
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 10
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	67.640	3.375	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	44.910	3.696	Carbonate (CO3)	NR	0.000
Sodium (Na)	468.950	20.399	Chloride (Cl)	NR	0.000
Potassium (K)	5.430	0.139	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.979	0.035	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.090	0.003	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.731</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 448.870	Cesium (Cs): <0.500 U	Molybdenum (Mo): 19.500	Strontium (Sr): 1,440.630
Antimony (Sb): <0.500 U	Chromium (Cr): 16.100	Nickel (Ni): 2.350 J	Thallium (Tl): <0.500 U
Arsenic (As): 25.840	Cobalt (Co): 1.820 J	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 44.290	Copper (Cu): 3.020	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 21.480
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): 1.310 J
Bromide (Br): NR	Lead (Pb): 0.330 J	Rubidium (Rb): 1.480 J	Uranium (U): 20.030
Cadmium (Cd): 0.520 J	Lithium (Li): 18.200	Silver (Ag): <0.500 U	Vanadium (V): 19.690
Cerium (Ce): 0.900 J	Mercury (Hg): NR	Selenium (Se): 12.680	Zinc (Zn): 10.330
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 353.750	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2565	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.19	Ryznar Stability Index: 19.240	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.850	Field Dissolved O2 (mg/L): 3.980
Water Temp (°C): 12.97	Langlier Saturation Index: -9.620	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 363
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-11

**Location Information**

Sample Id/Site Id: 2011Q0882 / 236441	Sample Date: 1/7/2011 4:40:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 42" W	Field Number: MO-11
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 11
USGS 7.5' Quad:	SWL-MP (ft): 9
PWS Id:	Depth Water Enters (ft): 6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	69.700	3.478	Bicarbonate (HCO3)	632.900	10.373
Magnesium (Mg)	44.800	3.687	Carbonate (CO3)	0.000	0.000
Sodium (Na)	488.000	21.228	Chloride (Cl)	48.970	1.381
Potassium (K)	6.260	0.160	Sulfate (SO4)	749.800	15.618
Iron (Fe)	1.140	0.041	Nitrate (as N)	3.120	0.223
Manganese (Mn)	0.300	0.011	Fluoride (F)	0.721	0.038
Silica (SiO2)	25.700		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>28.845</b>	<b>Total Anions</b>		<b>27.634</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	1,011.000	Cesium (Cs):	<2.5	Molybdenum (Mo):	16.400	Strontium (Sr):	1,253.000
Antimony (Sb):	<1.0	Chromium (Cr):	22.800	Nickel (Ni):	3.940	Thallium (Tl):	<1.0
Arsenic (As):	15.200	Cobalt (Co):	2.220	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	53.300	Copper (Cu):	3.560	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	21.700
Boron (B):	1,076.000	Lanthanum (La):	1.030	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	201.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	25.000
Cadmium (Cd):	<1.0	Lithium (Li):	23.300	Silver (Ag):	<1.0	Vanadium (V):	6.690
Cerium (Ce):	1.840	Mercury (Hg):	NR	Selenium (Se):	13.200	Zinc (Zn):	4.780
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,751.340	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,072.520	Hardness as CaCO3:	358.440	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2588	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2174	Alkalinity as CaCO3 (mg/L):	519.17	Phosphate, TD (mg/L as P):	0.161
Field pH:	7.62	Ryznar Stability Index:	5.933	Field Nitrate (mg/L):	NR
Lab pH:	7.95	Sodium Adsorption Ratio:	11.216	Field Dissolved O2 (mg/L):	1.580
Water Temp (°C):	7.93	Langlier Saturation Index:	1.009	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	0.069	Field Redox (mV):	349
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUMES AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-11

**Location Information**

Sample Id/Site Id: 2011Q0883 / 236441	Sample Date: 1/7/2011 4:40:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 42" W	Field Number: MO-11
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: /
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 11
USGS 7.5' Quad:	SWL-MP (ft): 9
PWS Id:	Depth Water Enters (ft): 6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	102.000	5.090	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	69.200	5.694	Carbonate (CO3)	NR	0.000
Sodium (Na)	502.000	21.837	Chloride (Cl)	NR	0.000
Potassium (K)	13.000	0.333	Sulfate (SO4)	NR	0.000
Iron (Fe)	38.000	1.361	Nitrate (as N)	NR	0.000
Manganese (Mn)	1.160	0.042	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>39.121</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 41,471.000	Cesium (Cs): 3.410	Molybdenum (Mo): 17.700	Strontium (Sr): 1,679.000
Antimony (Sb): <1.0	Chromium (Cr): 52.500	Nickel (Ni): 47.500	Thallium (Tl): <1.0
Arsenic (As): 31.800	Cobalt (Co): 15.400	Niobium (Nb): 2.340	Thorium (Th): 17.900
Barium (Ba): 455.000	Copper (Cu): 49.300	Neodymium (Nd): 34.700	Tin (Sn): NR
Beryllium (Be): 1.540	Gallium (Ga): 9.920	Palladium (Pd): <2.5	Titanium (Ti): 474.000
Boron (B): 1,167.000	Lanthanum (La): 34.900	Praseodymium (Pr): 8.760	Tungsten (W): 1.050
Bromide (Br): NR	Lead (Pb): 33.900	Rubidium (Rb): 40.400	Uranium (U): 30.500
Cadmium (Cd): 2.210	Lithium (Li): 27.700	Silver (Ag): <1.0	Vanadium (V): 44.900
Cerium (Ce): 71.700	Mercury (Hg): NR	Selenium (Se): 12.900	Zinc (Zn): 173.000
			Zirconium (Zr): 3.950

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 539.520	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2588	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.62	Ryznar Stability Index: 18.883	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.404	Field Dissolved O2 (mg/L): 1.580
Water Temp (°C): 7.93	Langlier Saturation Index: -9.441	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 349
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLING  
 Lab Remarks: REDIGESTION AND REANALYSIS YIELDED 56.6 UG/L CR.

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-11

**Location Information**

Sample Id/Site Id: 200181 / 236441	Sample Date: 6/14/2011 8:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 42" W	Field Number: MO-11
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 11
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	29.230	1.459	Bicarbonate (HCO3)	232.130	3.805
Magnesium (Mg)	8.500	0.699	Carbonate (CO3)	0.000	0.000
Sodium (Na)	139.010	6.047	Chloride (Cl)	12.270	0.346
Potassium (K)	4.480	0.115	Sulfate (SO4)	195.700	4.076
Iron (Fe)	0.065	0.002	Nitrate (as N)	0.160	0.011
Manganese (Mn)	0.127	0.005	Fluoride (F)	0.270	0.014
Silica (SiO2)	10.960		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>8.378</b>	<b>Total Anions</b>		<b>8.253</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 115.000	Cesium (Cs): <0.50 U	Molybdenum (Mo): 27.220	Strontium (Sr): 430.580
Antimony (Sb): 0.4400 J	Chromium (Cr): 0.960	Nickel (Ni): 3.010	Thallium (Tl): 0.1700 J
Arsenic (As): 10.420	Cobalt (Co): 1.150	Niobium (Nb): <0.50 U	Thorium (Th): <0.50 U
Barium (Ba): 55.340	Copper (Cu): 6.000	Neodymium (Nd): 0.2534 J	Tin (Sn): <0.50 U
Beryllium (Be): <0.50 U	Gallium (Ga): <0.50 U	Palladium (Pd): <0.50 U	Titanium (Ti): 4.220
Boron (B): 308.450	Lanthanum (La): 0.2500 J	Praseodymium (Pr): <0.50 U	Tungsten (W): 1.690
Bromide (Br): <50.00 U	Lead (Pb): 0.0700 J	Rubidium (Rb): 0.670	Uranium (U): 6.250
Cadmium (Cd): <0.50 U	Lithium (Li): 10.680	Silver (Ag): <0.50 U	Vanadium (V): 4.080
Cerium (Ce): 1.450	Mercury (Hg): NR	Selenium (Se): 1.940	Zinc (Zn): 12.190
			Zirconium (Zr): 0.1010 J

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 514.150	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 631.860	Hardness as CaCO3: 107.970	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 736.2	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 769.5	Alkalinity as CaCO3 (mg/L): 190.28	Phosphate, TD (mg/L as P): 0.180
Field pH: 8.22	Ryznar Stability Index: 7.460	Field Nitrate (mg/L): NR
Lab pH: 8.05	Sodium Adsorption Ratio: 5.821	Field Dissolved O2 (mg/L): 8.390
Water Temp (°C): 16.62	Langlier Saturation Index: 0.295	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): 0.060	Field Redox (mV): 277
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-11

**Location Information**

Sample Id/Site Id: 200182 / 236441	Sample Date: 6/14/2011 8:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 42" W	Field Number: MO-11 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 11
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	30.030	1.498	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	10.900	0.897	Carbonate (CO3)	NR	0.000
Sodium (Na)	144.960	6.306	Chloride (Cl)	NR	0.000
Potassium (K)	5.200	0.133	Sulfate (SO4)	NR	0.000
Iron (Fe)	4.710	0.169	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.208	0.008	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>9.445</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 3,793.890	Cesium (Cs): 0.5000 J	Molybdenum (Mo): 25.440	Strontium (Sr): 450.920
Antimony (Sb): <2.00 U	Chromium (Cr): 5.560	Nickel (Ni): 9.490	Thallium (Tl): <2.00 U
Arsenic (As): 12.640	Cobalt (Co): 2.600	Niobium (Nb): <2.00 U	Thorium (Th): 1.0300 J
Barium (Ba): 109.610	Copper (Cu): 11.340	Neodymium (Nd): 4.860	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): <2.00 U	Titanium (Ti): 55.260
Boron (B): NR	Lanthanum (La): 4.410	Praseodymium (Pr): 1.0400 J	Tungsten (W): 0.9300 J
Bromide (Br): NR	Lead (Pb): 3.690	Rubidium (Rb): 4.660	Uranium (U): 5.860
Cadmium (Cd): 0.6800 J	Lithium (Li): 8.420	Silver (Ag): <2.00 U	Vanadium (V): 10.370
Cerium (Ce): 10.900	Mercury (Hg): NR	Selenium (Se): 1.5900 J	Zinc (Zn): 80.250
			Zirconium (Zr): 1.8800 J

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 119.850	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 736.2	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 8.22	Ryznar Stability Index: 19.945	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 5.763	Field Dissolved O2 (mg/L): 8.390
Water Temp (°C): 16.62	Langlier Saturation Index: -9.972	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 277
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-25

**Location Information**

Sample Id/Site Id: 2011Q0896 / 236442	Sample Date: 1/8/2011 1:35:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 38" W	Field Number: MO-25
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	61.400	3.064	Bicarbonate (HCO3)	518.600	8.500
Magnesium (Mg)	41.300	3.399	Carbonate (CO3)	0.000	0.000
Sodium (Na)	367.000	15.965	Chloride (Cl)	44.220	1.247
Potassium (K)	7.850	0.201	Sulfate (SO4)	682.200	14.210
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.110	0.222
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.575	0.030
Silica (SiO2)	21.300		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>22.735</b>	<b>Total Anions</b>		<b>24.210</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <10.0	Cesium (Cs): <2.5	Molybdenum (Mo): 10.900	Strontium (Sr): 1,183.000
Antimony (Sb): <1.0	Chromium (Cr): 57.000	Nickel (Ni): <0.9	Thallium (Tl): <1.0
Arsenic (As): 11.600	Cobalt (Co): 1.260	Niobium (Nb): <2.5	Thorium (Th): <1.0
Barium (Ba): 38.200	Copper (Cu): <2.5	Neodymium (Nd): <1.0	Tin (Sn): <2.5
Beryllium (Be): <1.0	Gallium (Ga): <0.9	Palladium (Pd): <2.5	Titanium (Ti): 10.000
Boron (B): 865.000	Lanthanum (La): <1.0	Praseodymium (Pr): <1.0	Tungsten (W): <1.0
Bromide (Br): 180.000	Lead (Pb): <1.0	Rubidium (Rb): <2.5	Uranium (U): 16.500
Cadmium (Cd): <1.0	Lithium (Li): 23.400	Silver (Ag): <1.0	Vanadium (V): 3.100
Cerium (Ce): <1.0	Mercury (Hg): NR	Selenium (Se): 14.500	Zinc (Zn): <2.5
			Zirconium (Zr): <0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,484.370	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,747.700	Hardness as CaCO3: 323.310	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2244	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 1933	Alkalinity as CaCO3 (mg/L): 425.67	Phosphate, TD (mg/L as P): 0.099
Field pH: 7.67	Ryznar Stability Index: 6.256	Field Nitrate (mg/L): NR
Lab pH: 7.91	Sodium Adsorption Ratio: 8.881	Field Dissolved O2 (mg/L): 4.100
Water Temp (°C): 11.81	Langlier Saturation Index: 0.827	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05	Field Redox (mV): 316
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks: VERY LOW FLOW SAMPLING, PERISTALTIC PUMP USED FOR PURGING. 3 CASING VOLUMES USED AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-25

**Location Information**

Sample Id/Site Id: 2011Q0897 / 236442	Sample Date: 1/8/2011 1:35:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 59" N 109° 14' 38" W	Field Number: MO-25
Datum: NAD83	Lab Date: 4/15/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	66.700	3.328	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	51.200	4.213	Carbonate (CO3)	NR	0.000
Sodium (Na)	419.000	18.227	Chloride (Cl)	NR	0.000
Potassium (K)	9.460	0.242	Sulfate (SO4)	NR	0.000
Iron (Fe)	1.900	0.068	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.045	0.002	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>26.412</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	1,843.000	Cesium (Cs):	<2.5	Molybdenum (Mo):	11.500	Strontium (Sr):	1,436.000
Antimony (Sb):	<1.0	Chromium (Cr):	61.500	Nickel (Ni):	3.060	Thallium (Tl):	<1.0
Arsenic (As):	11.300	Cobalt (Co):	1.920	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	60.000	Copper (Cu):	5.310	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	48.100
Boron (B):	1,019.000	Lanthanum (La):	2.560	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	1.320	Rubidium (Rb):	2.850	Uranium (U):	18.000
Cadmium (Cd):	<1.0	Lithium (Li):	<10.0	Silver (Ag):	<1.0	Vanadium (V):	6.390
Cerium (Ce):	4.370	Mercury (Hg):	NR	Selenium (Se):	13.400	Zinc (Zn):	8.860
						Zirconium (Zr):	1.040

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	377.290	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2244	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.67	Ryznar Stability Index:	19.252	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.386	Field Dissolved O2 (mg/L):	4.100
Water Temp (°C):	11.81	Langlier Saturation Index:	-9.626	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	316
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-25

**Location Information**

Sample Id/Site Id: 200187 / 236442	Sample Date: 6/15/2011 1:30:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 38" W	Field Number: MO-25
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	16.920	0.844	Bicarbonate (HCO3)	120.740	1.979
Magnesium (Mg)	7.130	0.587	Carbonate (CO3)	85.100	3.047
Sodium (Na)	426.200	18.540	Chloride (Cl)	21.970	0.620
Potassium (K)	16.170	0.414	Sulfate (SO4)	596.900	12.433
Iron (Fe)	0.024	0.001	Nitrate (as N)	4.920	0.351
Manganese (Mn)	1.0900 J	0.000	Fluoride (F)	0.940	0.049
Silica (SiO2)	17.850		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>20.422</b>	<b>Total Anions</b>		<b>18.480</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	63.150	Cesium (Cs):	<2.50 U	Molybdenum (Mo):	45.330	Strontium (Sr):	352.350
Antimony (Sb):	0.7800 J	Chromium (Cr):	518.170	Nickel (Ni):	5.400	Thallium (Tl):	<2.50 U
Arsenic (As):	43.120	Cobalt (Co):	16.370	Niobium (Nb):	<2.50 U	Thorium (Th):	<2.50 U
Barium (Ba):	13.470	Copper (Cu):	16.840	Neodymium (Nd):	<2.50 U	Tin (Sn):	<2.50 U
Beryllium (Be):	<2.50 U	Gallium (Ga):	<2.50 U	Palladium (Pd):	<2.50 U	Titanium (Ti):	10.970
Boron (B):	233.760	Lanthanum (La):	<2.50 U	Praseodymium (Pr):	<2.50 U	Tungsten (W):	1.5000 J
Bromide (Br):	121.000	Lead (Pb):	<1.00 U	Rubidium (Rb):	4.150	Uranium (U):	6.070
Cadmium (Cd):	<2.50 U	Lithium (Li):	7.7300 J	Silver (Ag):	<2.50 U	Vanadium (V):	41.120
Cerium (Ce):	<2.50 U	Mercury (Hg):	NR	Selenium (Se):	9.070	Zinc (Zn):	1.1900 J
						Zirconium (Zr):	<2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,253.740	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	1,315.130	Hardness as CaCO3:	71.600	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	1927	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	1930	Alkalinity as CaCO3 (mg/L):	241.01	Phosphate, TD (mg/L as P):	0.120
Field pH:	9.89	Ryznar Stability Index:	6.029	Field Nitrate (mg/L):	NR
Lab pH:	9.75	Sodium Adsorption Ratio:	21.907	Field Dissolved O2 (mg/L):	2.310
Water Temp (°C):	10.01	Langlier Saturation Index:	1.860	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	0.630	Field Redox (mV):	267
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-25

**Location Information**

Sample Id/Site Id: 200188 / 236442	Sample Date: 6/15/2011 1:30:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 59" N 109° 14' 38" W	Field Number: MO-25 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 13
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	17.980	0.897	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	8.050	0.662	Carbonate (CO3)	NR	0.000
Sodium (Na)	435.150	18.929	Chloride (Cl)	NR	0.000
Potassium (K)	19.270	0.493	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.709	0.025	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.013	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>21.073</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 511.250	Cesium (Cs): <2.00 U	Molybdenum (Mo): 50.670	Strontium (Sr): 374.570
Antimony (Sb): 0.8100 J	Chromium (Cr): 560.550	Nickel (Ni): 8.250	Thallium (Tl): 0.5000 J
Arsenic (As): 41.420	Cobalt (Co): 16.890	Niobium (Nb): 0.4500 J	Thorium (Th): <2.00 U
Barium (Ba): 19.290	Copper (Cu): 20.490	Neodymium (Nd): 0.7500 J	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): <2.00 U	Titanium (Ti): 14.330
Boron (B): NR	Lanthanum (La): 0.6100 J	Praseodymium (Pr): <2.00 U	Tungsten (W): 1.4600 J
Bromide (Br): NR	Lead (Pb): 0.5600 J	Rubidium (Rb): 5.140	Uranium (U): 4.980
Cadmium (Cd): <0.40 U	Lithium (Li): 4.7000 J	Silver (Ag): <2.00 U	Vanadium (V): 40.200
Cerium (Ce): 1.0100 J	Mercury (Hg): NR	Selenium (Se): 7.190	Zinc (Zn): 1.5500 J
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 78.030	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 1927	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 9.89	Ryznar Stability Index: 20.390	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 21.428	Field Dissolved O2 (mg/L): 2.310
Water Temp (°C): 10.01	Langlier Saturation Index: -10.195	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 267
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 2011Q0894 / 236443	Sample Date: 1/8/2011 12:15:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): 13.25
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	54.900	2.740	Bicarbonate (HCO3)	580.000	9.506
Magnesium (Mg)	35.200	2.897	Carbonate (CO3)	0.000	0.000
Sodium (Na)	365.000	15.878	Chloride (Cl)	43.300	1.221
Potassium (K)	4.740	0.121	Sulfate (SO4)	618.600	12.885
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.730	0.266
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.739	0.039
Silica (SiO2)	23.000		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>21.740</b>	<b>Total Anions</b>		<b>23.918</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	14.000	Strontium (Sr):	1,034.000
Antimony (Sb):	<1.0	Chromium (Cr):	10.200	Nickel (Ni):	1.960	Thallium (Tl):	<1.0
Arsenic (As):	23.900	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	37.400	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	9.030
Boron (B):	877.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	187.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	19.000
Cadmium (Cd):	<1.0	Lithium (Li):	24.800	Silver (Ag):	<1.0	Vanadium (V):	7.120
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.100	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,435.810	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	1,730.100	Hardness as CaCO3:	281.970	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2201	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	1931	Alkalinity as CaCO3 (mg/L):	475.7	Phosphate, TD (mg/L as P):	0.116
Field pH:	7.47	Ryznar Stability Index:	6.466	Field Nitrate (mg/L):	NR
Lab pH:	7.7	Sodium Adsorption Ratio:	9.458	Field Dissolved O2 (mg/L):	1.860
Water Temp (°C):	12.01	Langlier Saturation Index:	0.617	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	314
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUMES PURGED AND STABLE PARAMETERS PURGED PRIOR TO SAMPLING. VERY LOW FLOW SAMPLING, PERSISTAL TIC PUMP USED TO PURGE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 2011Q0895 / 236443	Sample Date: 1/8/2011 12:15:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26
Datum: NAD83	Lab Date: 4/15/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: /
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): 13.25
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	67.600	3.373	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	40.200	3.308	Carbonate (CO3)	NR	0.000
Sodium (Na)	400.000	17.400	Chloride (Cl)	NR	0.000
Potassium (K)	5.410	0.138	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.389	0.014	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.009	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>24.396</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	340.000	Cesium (Cs):	<2.5	Molybdenum (Mo):	14.500	Strontium (Sr):	1,213.000
Antimony (Sb):	<1.0	Chromium (Cr):	10.100	Nickel (Ni):	2.060	Thallium (Tl):	<1.0
Arsenic (As):	20.400	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	42.400	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	17.200
Boron (B):	1,043.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	20.200
Cadmium (Cd):	<1.0	Lithium (Li):	<10.0	Silver (Ag):	<1.0	Vanadium (V):	7.900
Cerium (Ce):	1.360	Mercury (Hg):	NR	Selenium (Se):	11.600	Zinc (Zn):	2.540
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	334.260	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2201	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.47	Ryznar Stability Index:	19.240	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.520	Field Dissolved O2 (mg/L):	1.860
Water Temp (°C):	12.01	Langlier Saturation Index:	-9.620	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	314
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 200189 / 236443	Sample Date: 6/15/2011 11:19:00 AM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	46.900	2.340	Bicarbonate (HCO3)	122.760	2.012
Magnesium (Mg)	23.880	1.965	Carbonate (CO3)	57.340	2.053
Sodium (Na)	465.470	20.248	Chloride (Cl)	13.250	0.374
Potassium (K)	12.760	0.326	Sulfate (SO4)	983.700	20.490
Iron (Fe)	5.5000 J	0.000	Nitrate (as N)	3.280	0.234
Manganese (Mn)	<1.50 U	0.000	Fluoride (F)	0.980	0.052
Silica (SiO2)	23.520		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		24.936	<b>Total Anions</b>		25.215

**Trace Element Results (µg/L)**

Aluminum (Al): 31.360	Cesium (Cs): <2.50 U	Molybdenum (Mo): 53.570	Strontium (Sr): 851.270
Antimony (Sb): 10.610	Chromium (Cr): 1,500.150	Nickel (Ni): 4.430	Thallium (Tl): <2.50 U
Arsenic (As): 109.340	Cobalt (Co): 15.870	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 28.300	Copper (Cu): 22.960	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 15.010
Boron (B): 349.680	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): 4.280
Bromide (Br): 106.000	Lead (Pb): <1.00 U	Rubidium (Rb): 3.530	Uranium (U): 3.780
Cadmium (Cd): <2.50 U	Lithium (Li): 22.710	Silver (Ag): <2.50 U	Vanadium (V): 64.370
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 6.720	Zinc (Zn): <5.00 U
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,691.430	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,753.830	Hardness as CaCO3: 215.400	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2295	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 3129.4	Alkalinity as CaCO3 (mg/L): 195.95	Phosphate, TD (mg/L as P): 0.230
Field pH: 9.62	Ryznar Stability Index: 5.673	Field Nitrate (mg/L): NR
Lab pH: 9.4	Sodium Adsorption Ratio: 13.786	Field Dissolved O2 (mg/L): 3.670
Water Temp (°C): 10.14	Langlier Saturation Index: 1.863	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): 0.870	Field Redox (mV): 237
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 200190 / 236443	Sample Date: 6/15/2011 11:19:00 AM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26 TOT. REC
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	49.350	2.463	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	25.160	2.070	Carbonate (CO3)	NR	0.000
Sodium (Na)	473.900	20.615	Chloride (Cl)	NR	0.000
Potassium (K)	13.370	0.342	Sulfate (SO4)	NR	0.000
Iron (Fe)	1.459	0.052	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.035	0.001	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>25.680</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 1,039.600	Cesium (Cs): <2.00 U	Molybdenum (Mo): 55.030	Strontium (Sr): 907.980
Antimony (Sb): 8.810	Chromium (Cr): 1,520.100	Nickel (Ni): 7.540	Thallium (Tl): <2.00 U
Arsenic (As): 113.690	Cobalt (Co): 18.050	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 39.510	Copper (Cu): 20.730	Neodymium (Nd): 1.6500 J	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.5100 J	Titanium (Ti): 18.580
Boron (B): NR	Lanthanum (La): 1.7100 J	Praseodymium (Pr): 0.4300 J	Tungsten (W): 3.790
Bromide (Br): NR	Lead (Pb): 0.9800 J	Rubidium (Rb): 4.760	Uranium (U): 3.950
Cadmium (Cd): <2.00 U	Lithium (Li): 18.450	Silver (Ag): <2.00 U	Vanadium (V): 72.590
Cerium (Ce): 2.900	Mercury (Hg): NR	Selenium (Se): 6.380	Zinc (Zn): 2.8000 J
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 226.790	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2295	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 9.62	Ryznar Stability Index: 19.513	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 13.696	Field Dissolved O2 (mg/L): 3.670
Water Temp (°C): 10.14	Langlier Saturation Index: -9.757	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 237
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 201094 / 236443	Sample Date: 11/16/2011 12:10:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	65.290	3.258	Bicarbonate (HCO3)	591.050	9.687
Magnesium (Mg)	37.950	3.123	Carbonate (CO3)	0.000	0.000
Sodium (Na)	419.550	18.250	Chloride (Cl)	48.250	1.361
Potassium (K)	7.090	0.181	Sulfate (SO4)	666.400	13.881
Iron (Fe)	<5.000 U	0.000	Nitrate (as N)	9.130	0.652
Manganese (Mn)	<2.500 U	0.000	Fluoride (F)	0.810	0.043
Silica (SiO2)	28.180		Orthophosphate (as P)	0.120	0.004
<b>Total Cations</b>		<b>24.947</b>	<b>Total Anions</b>		<b>25.628</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 19.620	Cesium (Cs): <0.250 U	Molybdenum (Mo): 21.820	Strontium (Sr): 1,226.690
Antimony (Sb): 0.510 J	Chromium (Cr): 82.920	Nickel (Ni): 1.080 J	Thallium (Tl): <0.250 U
Arsenic (As): 42.090	Cobalt (Co): 1.490	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 37.320	Copper (Cu): 3.210	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 6.780
Boron (B): 1,124.040	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): 1.460
Bromide (Br): 211.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.350	Uranium (U): 17.640
Cadmium (Cd): <0.250 U	Lithium (Li): 31.850	Silver (Ag): <0.250 U	Vanadium (V): 16.550
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 16.860	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,573.400	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,873.260	Hardness as CaCO3: 319.230	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2325	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2150	Alkalinity as CaCO3 (mg/L): 484.72	Phosphate, TD (mg/L as P): 0.108
Field pH: 7.39	Ryznar Stability Index: 6.179	Field Nitrate (mg/L): NR
Lab pH: 7.82	Sodium Adsorption Ratio: 10.229	Field Dissolved O2 (mg/L): 1.700
Water Temp (°C): 11.7	Langlier Saturation Index: 0.820	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): 0.080	Field Redox (mV): 352
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MBMG - MO-26

**Location Information**

Sample Id/Site Id: 201077 / 236443	Sample Date: 11/16/2011 12:10:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 38' 0" N 109° 14' 41" W	Field Number: MO-26
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	61.460	3.067	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	39.840	3.278	Carbonate (CO3)	NR	0.000
Sodium (Na)	416.200	18.105	Chloride (Cl)	NR	0.000
Potassium (K)	6.880	0.176	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.057	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>24.660</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 26.350	Cesium (Cs): <0.250 U	Molybdenum (Mo): 21.030	Strontium (Sr): 1,252.930
Antimony (Sb): 0.420 J	Chromium (Cr): 75.300	Nickel (Ni): 0.960 J	Thallium (Tl): <0.250 U
Arsenic (As): 45.640	Cobalt (Co): 1.270	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 38.550	Copper (Cu): 3.260	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 5.740
Boron (B): NR	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): 1.370
Bromide (Br): NR	Lead (Pb): <0.100 U	Rubidium (Rb): 1.430	Uranium (U): 19.220
Cadmium (Cd): <0.250 U	Lithium (Li): 29.620	Silver (Ag): <0.250 U	Vanadium (V): 15.810
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 11.300	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 317.450	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2325	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.39	Ryznar Stability Index: 19.323	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.159	Field Dissolved O2 (mg/L): 1.700
Water Temp (°C): 11.7	Langlier Saturation Index: -9.661	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 352
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 2011Q0877 / 236502	Sample Date: 1/7/2011
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): 7.01
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	97.000	4.840	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	61.200	5.036	Carbonate (CO3)	NR	0.000
Sodium (Na)	467.000	20.315	Chloride (Cl)	NR	0.000
Potassium (K)	6.660	0.170	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.110	0.004	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.373	0.014	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>30.532</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	91.300	Cesium (Cs):	<2.5	Molybdenum (Mo):	10.400	Strontium (Sr):	2,022.000
Antimony (Sb):	<1.0	Chromium (Cr):	10.200	Nickel (Ni):	1.240	Thallium (Tl):	<1.0
Arsenic (As):	9.830	Cobalt (Co):	<0.9	Niobium (Nb):	<0.9	Thorium (Th):	<1.0
Barium (Ba):	33.400	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	7.470
Boron (B):	1,043.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	23.600
Cadmium (Cd):	<1.0	Lithium (Li):	24.500	Silver (Ag):	<1.0	Vanadium (V):	5.560
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.400	Zinc (Zn):	<5.0
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	494.110	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2627	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.16	Ryznar Stability Index:	18.926	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.142	Field Dissolved O2 (mg/L):	0.510
Water Temp (°C):	11.7	Langlier Saturation Index:	-9.463	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	372
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 2011Q0876 / 236502	Sample Date: 1/7/2011 11:21:00 AM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): 7.01
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	93.600	4.671	Bicarbonate (HCO3)	594.000	9.736
Magnesium (Mg)	59.900	4.929	Carbonate (CO3)	0.000	0.000
Sodium (Na)	465.000	20.228	Chloride (Cl)	54.020	1.524
Potassium (K)	6.460	0.165	Sulfate (SO4)	839.400	17.485
Iron (Fe)	<0.010	0.000	Nitrate (as N)	2.540	0.181
Manganese (Mn)	0.295	0.011	Fluoride (F)	0.572	0.030
Silica (SiO2)	21.800		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>30.147</b>	<b>Total Anions</b>		<b>28.956</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	15.700	Cesium (Cs):	<2.5	Molybdenum (Mo):	10.100	Strontium (Sr):	1,900.000
Antimony (Sb):	<1.0	Chromium (Cr):	9.640	Nickel (Ni):	1.950	Thallium (Tl):	<1.0
Arsenic (As):	9.840	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	29.600	Copper (Cu):	2.670	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	12.200
Boron (B):	1,070.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	200.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	21.400
Cadmium (Cd):	<1.0	Lithium (Li):	22.100	Silver (Ag):	<1.0	Vanadium (V):	4.680
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	14.200	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,836.130	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,137.520	Hardness as CaCO3:	480.270	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	NR	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2341	Alkalinity as CaCO3 (mg/L):	487.18	Phosphate, TD (mg/L as P):	0.100
Field pH:	NR	Ryznar Stability Index:	6.022	Field Nitrate (mg/L):	NR
Lab pH:	7.66	Sodium Adsorption Ratio:	9.233	Field Dissolved O2 (mg/L):	NR
Water Temp (°C):	NR	Langlier Saturation Index:	0.819	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	NR
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUMES AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 200179 / 236502	Sample Date: 6/14/2011 7:40:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	92.860	4.634	Bicarbonate (HCO3)	601.800	9.864
Magnesium (Mg)	58.360	4.802	Carbonate (CO3)	0.000	0.000
Sodium (Na)	448.450	19.508	Chloride (Cl)	51.450	1.451
Potassium (K)	6.510	0.167	Sulfate (SO4)	831.500	17.320
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	3.620	0.258
Manganese (Mn)	0.014	0.001	Fluoride (F)	0.480	0.025
Silica (SiO2)	23.030		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>29.264</b>	<b>Total Anions</b>		<b>28.919</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 51.220	Cesium (Cs): <2.50 U	Molybdenum (Mo): 10.210	Strontium (Sr): 1,990.180
Antimony (Sb): <2.50 U	Chromium (Cr): 20.050	Nickel (Ni): 0.9400 J	Thallium (Tl): <2.50 U
Arsenic (As): 9.390	Cobalt (Co): <2.50 U	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 34.260	Copper (Cu): 3.770	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 12.370
Boron (B): 1,103.270	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): <2.50 U
Bromide (Br): 173.000	Lead (Pb): <1.00 U	Rubidium (Rb): 1.1900 J	Uranium (U): 20.320
Cadmium (Cd): <2.50 U	Lithium (Li): 32.560	Silver (Ag): <2.50 U	Vanadium (V): 1.8900 J
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 13.060	Zinc (Zn): <5.00 U
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,812.830	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,118.280	Hardness as CaCO3: 472.080	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2477	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 3130.8	Alkalinity as CaCO3 (mg/L): 493.74	Phosphate, TD (mg/L as P): 0.140
Field pH: 7.3	Ryznar Stability Index: 6.307	Field Nitrate (mg/L): NR
Lab pH: 7.37	Sodium Adsorption Ratio: 8.972	Field Dissolved O2 (mg/L): 0.100
Water Temp (°C): 10.81	Langlier Saturation Index: 0.531	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05 U	Field Redox (mV): 258
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 200180 / 236502	Sample Date: 6/14/2011 7:40:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	87.400	4.361	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	59.330	4.882	Carbonate (CO3)	NR	0.000
Sodium (Na)	448.820	19.524	Chloride (Cl)	NR	0.000
Potassium (K)	6.460	0.165	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.294	0.011	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.021	0.001	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		29.004	<b>Total Anions</b>		0.000

**Trace Element Results (µg/L)**

Aluminum (Al):	142.020	Cesium (Cs):	<2.00 U	Molybdenum (Mo):	10.190	Strontium (Sr):	1,943.310
Antimony (Sb):	<2.00 U	Chromium (Cr):	26.650	Nickel (Ni):	2.170	Thallium (Tl):	0.7500 J
Arsenic (As):	8.630	Cobalt (Co):	0.7500 J	Niobium (Nb):	<2.00 U	Thorium (Th):	<2.00 U
Barium (Ba):	35.170	Copper (Cu):	3.190	Neodymium (Nd):	<2.00 U	Tin (Sn):	<2.00 U
Beryllium (Be):	<2.00 U	Gallium (Ga):	<2.00 U	Palladium (Pd):	0.9600 J	Titanium (Ti):	14.930
Boron (B):	NR	Lanthanum (La):	<2.00 U	Praseodymium (Pr):	<2.00 U	Tungsten (W):	<2.00 U
Bromide (Br):	NR	Lead (Pb):	<2.00 U	Rubidium (Rb):	1.3400 J	Uranium (U):	19.660
Cadmium (Cd):	<2.00 U	Lithium (Li):	16.360	Silver (Ag):	<2.00 U	Vanadium (V):	4.320
Cerium (Ce):	0.1000 J	Mercury (Hg):	NR	Selenium (Se):	10.670	Zinc (Zn):	<4.00 U
						Zirconium (Zr):	<2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	462.440	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2477	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.3	Ryznar Stability Index:	19.017	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.085	Field Dissolved O2 (mg/L):	0.100
Water Temp (°C):	10.81	Langlier Saturation Index:	-9.508	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	258
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 2011Q0884 / 236503	Sample Date: 1/7/2011 5:35:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): 7.11
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.900	4.137	Bicarbonate (HCO3)	589.800	9.667
Magnesium (Mg)	53.000	4.361	Carbonate (CO3)	0.000	0.000
Sodium (Na)	462.000	20.097	Chloride (Cl)	50.350	1.420
Potassium (K)	6.250	0.160	Sulfate (SO4)	772.100	16.083
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.770	0.269
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.639	0.034
Silica (SiO2)	22.000		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>28.892</b>	<b>Total Anions</b>		<b>27.473</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	12.300	Strontium (Sr):	1,542.000
Antimony (Sb):	<1.0	Chromium (Cr):	7.110	Nickel (Ni):	1.010	Thallium (Tl):	<1.0
Arsenic (As):	12.600	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	24.600	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	11.500
Boron (B):	1,104.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	199.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	20.900
Cadmium (Cd):	<1.0	Lithium (Li):	21.000	Silver (Ag):	<1.0	Vanadium (V):	6.200
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	14.900	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,743.540	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,042.900	Hardness as CaCO3:	425.150	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2514	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2151	Alkalinity as CaCO3 (mg/L):	483.9	Phosphate, TD (mg/L as P):	0.111
Field pH:	7.35	Ryznar Stability Index:	6.163	Field Nitrate (mg/L):	NR
Lab pH:	7.63	Sodium Adsorption Ratio:	9.750	Field Dissolved O2 (mg/L):	0.560
Water Temp (°C):	10.6	Langlier Saturation Index:	0.733	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	350
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5	NR	Acidity to 8.3	NR
As(III) (ug/L)	NR	As(V) (ug/L)	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUMES AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 2011Q0885 / 236503	Sample Date: 1/7/2011 5:35:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED /
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): 7.11
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.500	4.117	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	52.100	4.287	Carbonate (CO3)	NR	0.000
Sodium (Na)	449.000	19.532	Chloride (Cl)	NR	0.000
Potassium (K)	6.010	0.154	Sulfate (SO4)	NR	0.000
Iron (Fe)	<0.010	0.000	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>28.221</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	11.100	Cesium (Cs):	<2.5	Molybdenum (Mo):	12.100	Strontium (Sr):	1,573.000
Antimony (Sb):	<1.0	Chromium (Cr):	7.190	Nickel (Ni):	<0.9	Thallium (Tl):	<1.0
Arsenic (As):	11.700	Cobalt (Co):	<0.9	Niobium (Nb):	<0.9	Thorium (Th):	<1.0
Barium (Ba):	26.400	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	5.020
Boron (B):	1,020.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	22.300
Cadmium (Cd):	<1.0	Lithium (Li):	20.100	Silver (Ag):	<1.0	Vanadium (V):	6.370
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.500	Zinc (Zn):	<5.0
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	420.450	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2514	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.35	Ryznar Stability Index:	19.067	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.528	Field Dissolved O2 (mg/L):	0.560
Water Temp (°C):	10.6	Langlier Saturation Index:	-9.534	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	350
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 2011Q0886 / 236503	Sample Date: 1/7/2011 5:45:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16 DUPLICATE
Datum: NAD83	Lab Date: 4/7/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.400	4.112	Bicarbonate (HCO3)	588.200	9.641
Magnesium (Mg)	52.700	4.337	Carbonate (CO3)	0.000	0.000
Sodium (Na)	460.000	20.010	Chloride (Cl)	50.330	1.420
Potassium (K)	6.090	0.156	Sulfate (SO4)	772.700	16.095
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.760	0.268
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.640	0.034
Silica (SiO2)	21.000		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>28.650</b>	<b>Total Anions</b>		<b>27.458</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <10.0	Cesium (Cs): <2.5	Molybdenum (Mo): 12.100	Strontium (Sr): 1,532.000
Antimony (Sb): <1.0	Chromium (Cr): 7.040	Nickel (Ni): 0.927	Thallium (Tl): <1.0
Arsenic (As): 12.300	Cobalt (Co): <0.9	Niobium (Nb): <2.5	Thorium (Th): <1.0
Barium (Ba): 24.600	Copper (Cu): <2.5	Neodymium (Nd): <1.0	Tin (Sn): <2.5
Beryllium (Be): <1.0	Gallium (Ga): <0.9	Palladium (Pd): <2.5	Titanium (Ti): 11.100
Boron (B): 10.990	Lanthanum (La): <1.0	Praseodymium (Pr): <1.0	Tungsten (W): <1.0
Bromide (Br): 195.000	Lead (Pb): <1.0	Rubidium (Rb): <2.5	Uranium (U): 21.100
Cadmium (Cd): <1.0	Lithium (Li): 21.500	Silver (Ag): <1.0	Vanadium (V): 6.020
Cerium (Ce): <1.0	Mercury (Hg): NR	Selenium (Se): 14.700	Zinc (Zn): <2.5
			Zirconium (Zr): <0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,739.760	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,038.100	Hardness as CaCO3: 422.670	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): NR	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2167	Alkalinity as CaCO3 (mg/L): 482.26	Phosphate, TD (mg/L as P): 0.113
Field pH: NR	Ryznar Stability Index: 6.242	Field Nitrate (mg/L): NR
Lab pH: 7.56	Sodium Adsorption Ratio: 9.736	Field Dissolved O2 (mg/L): NR
Water Temp (°C): NR	Langlier Saturation Index: 0.659	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05	Field Redox (mV): NR
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks: DUPLICATE SAMPLE COLLECTED FOR WINTER-11 MOUAT SAMPLING EVENT  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 2011Q0887 / 236503	Sample Date: 1/7/2011 5:45:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16 DUPLICATE
Datum: NAD83	Lab Date: 2/11/2011
Altitude:	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	86.700	4.326	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	55.300	4.551	Carbonate (CO3)	NR	0.000
Sodium (Na)	466.000	20.271	Chloride (Cl)	NR	0.000
Potassium (K)	6.650	0.170	Sulfate (SO4)	NR	0.000
Iron (Fe)	<0.010	0.000	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>29.453</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	11.700	Cesium (Cs):	<2.5	Molybdenum (Mo):	12.300	Strontium (Sr):	1,636.000
Antimony (Sb):	<1.0	Chromium (Cr):	7.440	Nickel (Ni):	<0.9	Thallium (Tl):	<1.0
Arsenic (As):	11.800	Cobalt (Co):	<0.9	Niobium (Nb):	<0.9	Thorium (Th):	<1.0
Barium (Ba):	26.600	Copper (Cu):	4.890	Neodymium (Nd):	<1.0	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	5.040
Boron (B):	1,038.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	22.900
Cadmium (Cd):	<1.0	Lithium (Li):	20.400	Silver (Ag):	<1.0	Vanadium (V):	6.650
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.200	Zinc (Zn):	<5.0
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	444.100	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	NR	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	NR	Ryznar Stability Index:	19.024	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.622	Field Dissolved O2 (mg/L):	NR
Water Temp (°C):	NR	Langlier Saturation Index:	-9.512	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	NR
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE FOR DUPLICATE SAMPLE OF MIS-16  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 200177 / 236503	Sample Date: 6/14/2011 6:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	78.150	3.900	Bicarbonate (HCO3)	559.910	9.177
Magnesium (Mg)	49.210	4.049	Carbonate (CO3)	0.000	0.000
Sodium (Na)	429.580	18.687	Chloride (Cl)	51.500	1.453
Potassium (K)	6.020	0.154	Sulfate (SO4)	748.900	15.600
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	3.220	0.230
Manganese (Mn)	<1.50 U	0.000	Fluoride (F)	0.610	0.032
Silica (SiO2)	22.500		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>26.929</b>	<b>Total Anions</b>		<b>26.491</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 35.820	Cesium (Cs): <2.50 U	Molybdenum (Mo): 12.500	Strontium (Sr): 1,542.920
Antimony (Sb): <2.50 U	Chromium (Cr): 70.640	Nickel (Ni): <2.50 U	Thallium (Tl): 0.9200 J
Arsenic (As): 12.430	Cobalt (Co): <2.50 U	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 23.970	Copper (Cu): 0.9500 J	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 11.420
Boron (B): 1,078.840	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): <2.50 U
Bromide (Br): 160.000	Lead (Pb): <1.00 U	Rubidium (Rb): 1.2100 J	Uranium (U): 17.570
Cadmium (Cd): <2.50 U	Lithium (Li): 27.080	Silver (Ag): <2.50 U	Vanadium (V): 2.640
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 14.020	Zinc (Zn): 3.5300 J
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,667.260	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,951.400	Hardness as CaCO3: 397.690	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2316	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2164.7	Alkalinity as CaCO3 (mg/L): 459.3	Phosphate, TD (mg/L as P): 0.080
Field pH: 7.48	Ryznar Stability Index: 6.440	Field Nitrate (mg/L): NR
Lab pH: 7.45	Sodium Adsorption Ratio: 9.382	Field Dissolved O2 (mg/L): 0.420
Water Temp (°C): 10.5	Langlier Saturation Index: 0.505	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05 U	Field Redox (mV): 258
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 200178 / 236503	Sample Date: 6/14/2011 6:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	73.940	3.690	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	50.120	4.124	Carbonate (CO3)	NR	0.000
Sodium (Na)	438.980	19.096	Chloride (Cl)	NR	0.000
Potassium (K)	6.120	0.157	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.058	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<10.00 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.108</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 45.410	Cesium (Cs): <2.00 U	Molybdenum (Mo): 13.600	Strontium (Sr): 1,541.390
Antimony (Sb): <2.00 U	Chromium (Cr): 71.150	Nickel (Ni): 0.5300 J	Thallium (Tl): 0.7400 J
Arsenic (As): 11.700	Cobalt (Co): 0.6200 J	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 24.400	Copper (Cu): <2.00 U	Neodymium (Nd): <2.00 U	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.8100 J	Titanium (Ti): 12.170
Boron (B): NR	Lanthanum (La): <2.00 U	Praseodymium (Pr): <2.00 U	Tungsten (W): <2.00 U
Bromide (Br): NR	Lead (Pb): <2.00 U	Rubidium (Rb): 1.2900 J	Uranium (U): 18.250
Cadmium (Cd): <2.00 U	Lithium (Li): 31.930	Silver (Ag): <2.00 U	Vanadium (V): 5.930
Cerium (Ce): <2.00 U	Mercury (Hg): NR	Selenium (Se): 13.260	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 390.920	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2316	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.48	Ryznar Stability Index: 19.162	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.661	Field Dissolved O2 (mg/L): 0.420
Water Temp (°C): 10.5	Langlier Saturation Index: -9.581	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 258
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 201083 / 236502	Sample Date: 11/14/2011 2:34:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.180	4.101	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	52.480	4.319	Carbonate (CO3)	NR	0.000
Sodium (Na)	425.870	18.525	Chloride (Cl)	NR	0.000
Potassium (K)	6.660	0.170	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.509	0.018	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.417	0.015	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.243</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 481.670	Cesium (Cs): <0.500 U	Molybdenum (Mo): 12.330	Strontium (Sr): 1,801.360
Antimony (Sb): <0.500 U	Chromium (Cr): 7.730	Nickel (Ni): 2.260 J	Thallium (Tl): <0.500 U
Arsenic (As): 11.100	Cobalt (Co): <0.500 U	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 31.340	Copper (Cu): 2.650	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 10.810
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): 0.510 J
Bromide (Br): NR	Lead (Pb): <0.200 U	Rubidium (Rb): 1.590 J	Uranium (U): 20.700
Cadmium (Cd): <0.500 U	Lithium (Li): 25.460	Silver (Ag): <0.500 U	Vanadium (V): 5.360
Cerium (Ce): 0.580 J	Mercury (Hg): NR	Selenium (Se): 12.490	Zinc (Zn): <1.000 U
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 421.210	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2464	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.1	Ryznar Stability Index: 19.070	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.032	Field Dissolved O2 (mg/L): 0.800
Water Temp (°C): 13.2	Langlier Saturation Index: -9.535	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 343
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-15

**Location Information**

Sample Id/Site Id: 201089 / 236502	Sample Date: 11/14/2011 2:35:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-15
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 25.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 9.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.160	4.100	Bicarbonate (HCO3)	622.300	10.199
Magnesium (Mg)	50.080	4.121	Carbonate (CO3)	0.000	0.000
Sodium (Na)	411.120	17.884	Chloride (Cl)	51.430	1.451
Potassium (K)	6.640	0.170	Sulfate (SO4)	735.500	15.320
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	4.940	0.353
Manganese (Mn)	0.265	0.010	Fluoride (F)	0.650	0.034
Silica (SiO2)	25.320		Orthophosphate (as P)	<0.010 U	0.000
<b>Total Cations</b>		<b>26.425</b>	<b>Total Anions</b>		<b>27.358</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 17.730	Cesium (Cs): <0.250 U	Molybdenum (Mo): 12.040	Strontium (Sr): 1,755.790
Antimony (Sb): 0.310 J	Chromium (Cr): 7.540	Nickel (Ni): 1.350	Thallium (Tl): <0.250 U
Arsenic (As): 10.130	Cobalt (Co): <0.250 U	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 26.570	Copper (Cu): 2.150	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 7.280
Boron (B): 1,064.600	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): 0.390 J
Bromide (Br): 202.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.260	Uranium (U): 20.050
Cadmium (Cd): <0.250 U	Lithium (Li): 26.930	Silver (Ag): <0.250 U	Vanadium (V): 5.200
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 14.150	Zinc (Zn): 0.780 J
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,674.660	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,990.260	Hardness as CaCO3: 411.280	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2464	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2120	Alkalinity as CaCO3 (mg/L): 510.15	Phosphate, TD (mg/L as P): 0.037 J
Field pH: 7.1	Ryznar Stability Index: 6.215	Field Nitrate (mg/L): NR
Lab pH: 7.54	Sodium Adsorption Ratio: 8.818	Field Dissolved O2 (mg/L): 0.800
Water Temp (°C): 13.2	Langlier Saturation Index: 0.662	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.010 U	Field Redox (mV): 343
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 201086 / 236503	Sample Date: 11/15/2011 12:00:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	74.540	3.720	Bicarbonate (HCO3)	596.260	9.773
Magnesium (Mg)	46.680	3.841	Carbonate (CO3)	0.000	0.000
Sodium (Na)	414.250	18.020	Chloride (Cl)	47.940	1.352
Potassium (K)	6.100	0.156	Sulfate (SO4)	733.800	15.285
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	6.660	0.475
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	0.740	0.039
Silica (SiO2)	22.510		Orthophosphate (as P)	0.090 J	0.000
<b>Total Cations</b>		<b>25.876</b>	<b>Total Anions</b>		<b>26.925</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 29.220	Cesium (Cs): <0.250 U	Molybdenum (Mo): 18.250	Strontium (Sr): 1,511.310
Antimony (Sb): <0.250 U	Chromium (Cr): 23.220	Nickel (Ni): <0.250 U	Thallium (Tl): <0.250 U
Arsenic (As): 11.670	Cobalt (Co): 1.110 J	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 23.770	Copper (Cu): 2.440	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 6.700
Boron (B): 1,099.980	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): 188.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.250	Uranium (U): 20.130
Cadmium (Cd): <0.250 U	Lithium (Li): 26.820	Silver (Ag): <0.250 U	Vanadium (V): 5.490
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 12.300	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,647.850	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,950.250	Hardness as CaCO3: 378.260	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2430	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2220	Alkalinity as CaCO3 (mg/L): 488.82	Phosphate, TD (mg/L as P): 0.040 J
Field pH: 7.24	Ryznar Stability Index: 6.307	Field Nitrate (mg/L): NR
Lab pH: 7.57	Sodium Adsorption Ratio: 9.262	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 11.4	Langlier Saturation Index: 0.632	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.010 U	Field Redox (mV): 344
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 201082 / 236503	Sample Date: 11/15/2011 12:00:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	77.700	3.877	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	49.370	4.063	Carbonate (CO3)	NR	0.000
Sodium (Na)	427.530	18.598	Chloride (Cl)	NR	0.000
Potassium (K)	6.070	0.155	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.055	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		26.734	<b>Total Anions</b>		0.000

**Trace Element Results (µg/L)**

Aluminum (Al): 34.760	Cesium (Cs): <0.500 U	Molybdenum (Mo): 18.620	Strontium (Sr): 1,559.540
Antimony (Sb): <0.500 U	Chromium (Cr): 27.800	Nickel (Ni): 0.850 J	Thallium (Tl): <0.500 U
Arsenic (As): 11.460	Cobalt (Co): 1.060 J	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 24.290	Copper (Cu): 2.380 J	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 8.520
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): <0.500 U
Bromide (Br): NR	Lead (Pb): <0.200 U	Rubidium (Rb): 1.140 J	Uranium (U): 20.370
Cadmium (Cd): <0.500 U	Lithium (Li): 26.190	Silver (Ag): <0.500 U	Vanadium (V): 5.110
Cerium (Ce): <0.500 U	Mercury (Hg): NR	Selenium (Se): 13.760	Zinc (Zn): <1.000 U
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 397.220	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2430	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.24	Ryznar Stability Index: 19.119	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.344	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 11.4	Langlier Saturation Index: -9.560	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 344
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 201087 / 236503	Sample Date: 11/15/2011 12:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16D
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	77.050	3.845	Bicarbonate (HCO3)	592.410	9.710
Magnesium (Mg)	46.810	3.852	Carbonate (CO3)	0.000	0.000
Sodium (Na)	414.600	18.035	Chloride (Cl)	48.090	1.357
Potassium (K)	6.130	0.157	Sulfate (SO4)	736.300	15.337
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	6.690	0.478
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	0.750	0.039
Silica (SiO2)	23.840		Orthophosphate (as P)	<0.010 U	0.000
<b>Total Cations</b>		<b>26.030</b>	<b>Total Anions</b>		<b>26.920</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 17.570	Cesium (Cs): <0.250 U	Molybdenum (Mo): 18.230	Strontium (Sr): 1,514.580
Antimony (Sb): <0.250 U	Chromium (Cr): 30.480	Nickel (Ni): 0.540 J	Thallium (Tl): <0.250 U
Arsenic (As): 11.780	Cobalt (Co): 1.150 J	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 23.380	Copper (Cu): 2.420	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 7.330
Boron (B): 1,127.780	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): 188.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.370	Uranium (U): 19.670
Cadmium (Cd): <0.250 U	Lithium (Li): 27.250	Silver (Ag): <0.250 U	Vanadium (V): 5.710
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 15.450	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,652.510	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,952.880	Hardness as CaCO3: 385.060	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2430	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2230	Alkalinity as CaCO3 (mg/L): 485.54	Phosphate, TD (mg/L as P): 0.034 J
Field pH: 7.24	Ryznar Stability Index: 6.274	Field Nitrate (mg/L): NR
Lab pH: 7.58	Sodium Adsorption Ratio: 9.202	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 11.4	Langlier Saturation Index: 0.653	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.010 U	Field Redox (mV): 344
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* MIS-16

**Location Information**

Sample Id/Site Id: 201085 / 236503	Sample Date: 11/15/2011 12:05:00 PM
Location (TRS): 02S 20E 27 BD	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 58" N 109° 14' 44" W	Field Number: MIS-16D
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude:	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 26
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.5
Project: MOUAT, ARWWS-DOM	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	78.470	3.916	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	50.060	4.119	Carbonate (CO3)	NR	0.000
Sodium (Na)	434.530	18.902	Chloride (Cl)	NR	0.000
Potassium (K)	5.800	0.148	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.063	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.125</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 15.300	Cesium (Cs): <0.500 U	Molybdenum (Mo): 18.600	Strontium (Sr): 1,571.400
Antimony (Sb): <0.500 U	Chromium (Cr): 30.500	Nickel (Ni): 0.760 J	Thallium (Tl): <0.500 U
Arsenic (As): 11.590	Cobalt (Co): 1.050 J	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 24.340	Copper (Cu): 1.020 J	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 7.860
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): <0.500 U
Bromide (Br): NR	Lead (Pb): <0.200 U	Rubidium (Rb): 1.150 J	Uranium (U): 20.510
Cadmium (Cd): <0.500 U	Lithium (Li): 22.770	Silver (Ag): <0.500 U	Vanadium (V): 5.070
Cerium (Ce): <0.500 U	Mercury (Hg): NR	Selenium (Se): 13.650	Zinc (Zn): <1.000 U
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 401.990	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2430	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.24	Ryznar Stability Index: 19.111	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.441	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 11.4	Langlier Saturation Index: -9.555	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 344
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-1

**Location Information**

Sample Id/Site Id: 201091 / 129492	Sample Date: 11/15/2011 2:40:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-1
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude: 3575.4	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 18.3
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	56.330	2.811	Bicarbonate (HCO3)	687.730	11.272
Magnesium (Mg)	42.760	3.519	Carbonate (CO3)	0.000	0.000
Sodium (Na)	455.950	19.834	Chloride (Cl)	45.300	1.278
Potassium (K)	5.070	0.130	Sulfate (SO4)	717.200	14.939
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	2.010	0.143
Manganese (Mn)	0.042	0.002	Fluoride (F)	0.910	0.048
Silica (SiO2)	26.210		Orthophosphate (as P)	<0.010 U	0.000
<b>Total Cations</b>		26.430	<b>Total Anions</b>		27.680

**Trace Element Results (µg/L)**

Aluminum (Al):	<1.000 U	Cesium (Cs):	<0.250 U	Molybdenum (Mo):	20.180	Strontium (Sr):	1,383.910
Antimony (Sb):	<0.250 U	Chromium (Cr):	0.540 J	Nickel (Ni):	1.180 J	Thallium (Tl):	<0.250 U
Arsenic (As):	8.990	Cobalt (Co):	<0.250 U	Niobium (Nb):	<0.250 U	Thorium (Th):	<0.250 U
Barium (Ba):	21.350	Copper (Cu):	2.250	Neodymium (Nd):	<0.250 U	Tin (Sn):	<0.250 U
Beryllium (Be):	<0.250 U	Gallium (Ga):	<0.250 U	Palladium (Pd):	<0.250 U	Titanium (Ti):	6.990
Boron (B):	1,123.640	Lanthanum (La):	<0.250 U	Praseodymium (Pr):	<0.250 U	Tungsten (W):	<0.250 U
Bromide (Br):	225.000	Lead (Pb):	<0.100 U	Rubidium (Rb):	1.040 J	Uranium (U):	26.930
Cadmium (Cd):	<0.250 U	Lithium (Li):	26.520	Silver (Ag):	<0.250 U	Vanadium (V):	4.120
Cerium (Ce):	<0.250 U	Mercury (Hg):	NR	Selenium (Se):	16.910	Zinc (Zn):	<0.500 U
						Zirconium (Zr):	<0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,690.010	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,039.090	Hardness as CaCO3:	316.660	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2495	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2270	Alkalinity as CaCO3 (mg/L):	564.28	Phosphate, TD (mg/L as P):	0.051 J
Field pH:	7.21	Ryznar Stability Index:	6.386	Field Nitrate (mg/L):	NR
Lab pH:	7.61	Sodium Adsorption Ratio:	11.150	Field Dissolved O2 (mg/L):	0.500
Water Temp (°C):	13.2	Langlier Saturation Index:	0.612	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	0.080	Field Redox (mV):	350
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-1

**Location Information**

Sample Id/Site Id: 201080 / 129492	Sample Date: 11/15/2011 2:40:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-1
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude: 3575.4	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 18.3
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 8
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	54.470	2.718	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	45.810	3.770	Carbonate (CO3)	NR	0.000
Sodium (Na)	463.980	20.183	Chloride (Cl)	NR	0.000
Potassium (K)	5.000	0.128	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.048	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.053	0.002	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>26.839</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 36.920	Cesium (Cs): <0.250 U	Molybdenum (Mo): 19.840	Strontium (Sr): 1,415.650
Antimony (Sb): <0.250 U	Chromium (Cr): 0.550 J	Nickel (Ni): 1.180 J	Thallium (Tl): <0.250 U
Arsenic (As): 8.300	Cobalt (Co): <0.250 U	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 22.620	Copper (Cu): 2.440	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 6.620
Boron (B): NR	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): NR	Lead (Pb): <0.100 U	Rubidium (Rb): 1.100 J	Uranium (U): 27.930
Cadmium (Cd): <0.250 U	Lithium (Li): 26.620	Silver (Ag): <0.250 U	Vanadium (V): 3.970
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 10.570	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 324.570	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2495	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.21	Ryznar Stability Index: 19.428	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 11.207	Field Dissolved O2 (mg/L): 0.500
Water Temp (°C): 13.2	Langlier Saturation Index: -9.714	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 350
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 201092 / 129493	Sample Date: 11/16/2011 11:10:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	68.980	3.442	Bicarbonate (HCO3)	587.850	9.635
Magnesium (Mg)	42.570	3.503	Carbonate (CO3)	0.000	0.000
Sodium (Na)	393.300	17.109	Chloride (Cl)	45.870	1.294
Potassium (K)	5.520	0.141	Sulfate (SO4)	639.000	13.310
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	7.680	0.548
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	0.780	0.041
Silica (SiO2)	26.320		Orthophosphate (as P)	0.110	0.003
<b>Total Cations</b>		<b>24.326</b>	<b>Total Anions</b>		<b>24.832</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <1.000 U	Cesium (Cs): <0.250 U	Molybdenum (Mo): 15.580	Strontium (Sr): 1,377.950
Antimony (Sb): 0.260 J	Chromium (Cr): 47.320	Nickel (Ni): <0.250 U	Thallium (Tl): <0.250 U
Arsenic (As): 17.260	Cobalt (Co): <0.250 U	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 31.960	Copper (Cu): 1.950	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 6.260
Boron (B): 1,080.460	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): 191.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.160 J	Uranium (U): 18.580
Cadmium (Cd): <0.250 U	Lithium (Li): 29.480	Silver (Ag): <0.250 U	Vanadium (V): 3.500
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 15.780	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,520.210	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,818.550	Hardness as CaCO3: 347.460	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2250	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2060	Alkalinity as CaCO3 (mg/L): 482.26	Phosphate, TD (mg/L as P): 0.074
Field pH: 7.2	Ryznar Stability Index: 6.296	Field Nitrate (mg/L): NR
Lab pH: 7.66	Sodium Adsorption Ratio: 9.174	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 12.5	Langlier Saturation Index: 0.682	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.010 U	Field Redox (mV): 361
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 201079 / 129493	Sample Date: 11/16/2011 11:10:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	64.280	3.208	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	44.160	3.634	Carbonate (CO3)	NR	0.000
Sodium (Na)	391.250	17.019	Chloride (Cl)	NR	0.000
Potassium (K)	5.450	0.139	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.053	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>24.034</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 7.600	Cesium (Cs): <0.250 U	Molybdenum (Mo): 15.320	Strontium (Sr): 1,373.510
Antimony (Sb): <0.250 U	Chromium (Cr): 48.800	Nickel (Ni): <0.250 U	Thallium (Tl): <0.250 U
Arsenic (As): 17.070	Cobalt (Co): <0.250 U	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 32.560	Copper (Cu): 2.110	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 5.260
Boron (B): NR	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): NR	Lead (Pb): <0.100 U	Rubidium (Rb): 1.210 J	Uranium (U): 18.970
Cadmium (Cd): <0.250 U	Lithium (Li): 29.710	Silver (Ag): <0.250 U	Vanadium (V): 3.520
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 11.060	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 342.270	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2250	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.2	Ryznar Stability Index: 19.284	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.196	Field Dissolved O2 (mg/L): 1.100
Water Temp (°C): 12.5	Langlier Saturation Index: -9.642	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 361
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 201093 / 129495	Sample Date: 11/15/2011 1:00:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	79.940	3.989	Bicarbonate (HCO3)	619.520	10.154
Magnesium (Mg)	49.580	4.080	Carbonate (CO3)	0.000	0.000
Sodium (Na)	441.190	19.192	Chloride (Cl)	52.120	1.470
Potassium (K)	7.350	0.188	Sulfate (SO4)	800.400	16.672
Iron (Fe)	<0.010 U	0.000	Nitrate (as N)	3.910	0.279
Manganese (Mn)	0.185	0.007	Fluoride (F)	0.670	0.035
Silica (SiO2)	23.910		Orthophosphate (as P)	<0.010 U	0.000
<b>Total Cations</b>		<b>27.599</b>	<b>Total Anions</b>		<b>28.611</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<2.000 U	Cesium (Cs):	<0.500 U	Molybdenum (Mo):	15.780	Strontium (Sr):	1,680.210
Antimony (Sb):	<0.500 U	Chromium (Cr):	13.000	Nickel (Ni):	0.690 J	Thallium (Tl):	<0.500 U
Arsenic (As):	13.510	Cobalt (Co):	<0.500 U	Niobium (Nb):	<0.500 U	Thorium (Th):	<0.500 U
Barium (Ba):	22.290	Copper (Cu):	3.120	Neodymium (Nd):	<0.500 U	Tin (Sn):	<0.500 U
Beryllium (Be):	<0.500 U	Gallium (Ga):	<0.500 U	Palladium (Pd):	<0.500 U	Titanium (Ti):	8.300
Boron (B):	1,138.990	Lanthanum (La):	<0.500 U	Praseodymium (Pr):	<0.500 U	Tungsten (W):	<0.500 U
Bromide (Br):	199.000	Lead (Pb):	<0.200 U	Rubidium (Rb):	1.230 J	Uranium (U):	20.100
Cadmium (Cd):	<0.500 U	Lithium (Li):	35.400	Silver (Ag):	<0.500 U	Vanadium (V):	6.170
Cerium (Ce):	<0.500 U	Mercury (Hg):	NR	Selenium (Se):	16.030	Zinc (Zn):	1.010 J
						Zirconium (Zr):	<0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,763.940	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,078.520	Hardness as CaCO3:	403.680	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2555	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2330	Alkalinity as CaCO3 (mg/L):	508.51	Phosphate, TD (mg/L as P):	<0.060 U
Field pH:	7.23	Ryznar Stability Index:	6.152	Field Nitrate (mg/L):	NR
Lab pH:	7.63	Sodium Adsorption Ratio:	9.551	Field Dissolved O2 (mg/L):	0.500
Water Temp (°C):	12.5	Langlier Saturation Index:	0.739	Field Chloride (mg/L):	343
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.010 U	Field Redox (mV):	343
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5	NR	Acidity to 8.3	NR
As(III) (ug/L)	NR	As(V) (ug/L)	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 201078 / 129495	Sample Date: 11/15/2011 1:05:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	74.600	3.723	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	51.280	4.220	Carbonate (CO3)	NR	0.000
Sodium (Na)	451.020	19.619	Chloride (Cl)	NR	0.000
Potassium (K)	6.150	0.157	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.051	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.176	0.006	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.767</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 16.110	Cesium (Cs): <0.500 U	Molybdenum (Mo): 15.950	Strontium (Sr): 1,677.420
Antimony (Sb): <0.500 U	Chromium (Cr): 12.700	Nickel (Ni): 1.280 J	Thallium (Tl): <0.500 U
Arsenic (As): 13.230	Cobalt (Co): <0.500 U	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 24.130	Copper (Cu): 3.500	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 7.000
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): <0.500 U
Bromide (Br): NR	Lead (Pb): <0.200 U	Rubidium (Rb): 1.320 J	Uranium (U): 20.710
Cadmium (Cd): <0.500 U	Lithium (Li): 26.820	Silver (Ag): <0.500 U	Vanadium (V): 5.930
Cerium (Ce): <0.500 U	Mercury (Hg): NR	Selenium (Se): 11.770	Zinc (Zn): <1.000 U
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 397.340	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2555	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.23	Ryznar Stability Index: 19.155	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 9.845	Field Dissolved O2 (mg/L): 0.500
Water Temp (°C): 12.5	Langlier Saturation Index: -9.577	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 343
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 201090 / 129496	Sample Date: 11/15/2011 11:00:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5
Datum: NAD83	Lab Date: 2/8/2012 8:18:26 AM
Altitude: 3571.3	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	68.790	3.433	Bicarbonate (HCO3)	585.550	9.597
Magnesium (Mg)	42.930	3.533	Carbonate (CO3)	0.000	0.000
Sodium (Na)	418.530	18.206	Chloride (Cl)	47.440	1.338
Potassium (K)	5.570	0.142	Sulfate (SO4)	711.100	14.812
Iron (Fe)	<0.005 U	0.000	Nitrate (as N)	6.510	0.465
Manganese (Mn)	<0.003 U	0.000	Fluoride (F)	0.770	0.041
Silica (SiO2)	24.210		Orthophosphate (as P)	<0.010 U	0.000
<b>Total Cations</b>		<b>25.436</b>	<b>Total Anions</b>		<b>26.253</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <1.000 U	Cesium (Cs): <0.250 U	Molybdenum (Mo): 15.470	Strontium (Sr): 1,379.920
Antimony (Sb): <0.250 U	Chromium (Cr): 47.120	Nickel (Ni): <0.250 U	Thallium (Tl): <0.250 U
Arsenic (As): 12.150	Cobalt (Co): 0.600 J	Niobium (Nb): <0.250 U	Thorium (Th): <0.250 U
Barium (Ba): 21.290	Copper (Cu): 2.050	Neodymium (Nd): <0.250 U	Tin (Sn): <0.250 U
Beryllium (Be): <0.250 U	Gallium (Ga): <0.250 U	Palladium (Pd): <0.250 U	Titanium (Ti): 6.820
Boron (B): 981.020	Lanthanum (La): <0.250 U	Praseodymium (Pr): <0.250 U	Tungsten (W): <0.250 U
Bromide (Br): 191.000	Lead (Pb): <0.100 U	Rubidium (Rb): 1.340	Uranium (U): 19.680
Cadmium (Cd): <0.250 U	Lithium (Li): 26.940	Silver (Ag): <0.250 U	Vanadium (V): 3.210
Cerium (Ce): <0.250 U	Mercury (Hg): NR	Selenium (Se): 16.200	Zinc (Zn): <0.500 U
			Zirconium (Zr): <0.250 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,615.390	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 1,912.720	Hardness as CaCO3: 348.470	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2395	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 2170	Alkalinity as CaCO3 (mg/L): 480.62	Phosphate, TD (mg/L as P): 0.045 J
Field pH: 7.21	Ryznar Stability Index: 6.331	Field Nitrate (mg/L): NR
Lab pH: 7.63	Sodium Adsorption Ratio: 9.767	Field Dissolved O2 (mg/L): 0.830
Water Temp (°C): 12.1	Langlier Saturation Index: 0.649	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.010 U	Field Redox (mV): 354
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 201081 / 129496	Sample Date: 11/15/2011 11:00:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / BURY, LOUIS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5
Datum: NAD83	Lab Date: 2/7/2012 9:12:09 AM
Altitude: 3571.3	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	68.480	3.417	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	44.880	3.693	Carbonate (CO3)	NR	0.000
Sodium (Na)	434.330	18.893	Chloride (Cl)	NR	0.000
Potassium (K)	5.380	0.138	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.140	0.005	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		26.191	<b>Total Anions</b>		0.000

**Trace Element Results (µg/L)**

Aluminum (Al): 116.440	Cesium (Cs): <0.500 U	Molybdenum (Mo): 15.660	Strontium (Sr): 1,403.780
Antimony (Sb): <0.500 U	Chromium (Cr): 45.900	Nickel (Ni): 0.760 J	Thallium (Tl): <0.500 U
Arsenic (As): 11.020	Cobalt (Co): 0.640 J	Niobium (Nb): <0.500 U	Thorium (Th): <0.500 U
Barium (Ba): 24.230	Copper (Cu): 2.450 J	Neodymium (Nd): <0.500 U	Tin (Sn): <0.500 U
Beryllium (Be): <0.500 U	Gallium (Ga): <0.500 U	Palladium (Pd): <0.500 U	Titanium (Ti): 8.740
Boron (B): NR	Lanthanum (La): <0.500 U	Praseodymium (Pr): <0.500 U	Tungsten (W): <0.500 U
Bromide (Br): NR	Lead (Pb): <0.200 U	Rubidium (Rb): 1.280 J	Uranium (U): 20.750
Cadmium (Cd): <0.500 U	Lithium (Li): 27.810	Silver (Ag): <0.500 U	Vanadium (V): 2.930
Cerium (Ce): <0.500 U	Mercury (Hg): NR	Selenium (Se): 13.900	Zinc (Zn): <1.000 U
			Zirconium (Zr): <0.500 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 355.720	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2395	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.21	Ryznar Stability Index: 19.229	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.013	Field Dissolved O2 (mg/L): 0.830
Water Temp (°C): 12.1	Langlier Saturation Index: -9.614	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 354
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 2011Q0892 / 129493	Sample Date: 1/8/2011 10:45:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2
Datum: NAD83	Lab Date: 4/7/2011
Altitude: 3571.8	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	69.300	3.458	Bicarbonate (HCO3)	582.600	9.549
Magnesium (Mg)	46.700	3.843	Carbonate (CO3)	0.000	0.000
Sodium (Na)	435.000	18.923	Chloride (Cl)	46.450	1.310
Potassium (K)	5.530	0.141	Sulfate (SO4)	709.400	14.777
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.550	0.253
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.686	0.036
Silica (SiO2)	23.700		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		26.494	<b>Total Anions</b>		25.926

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	13.400	Strontium (Sr):	1,375.000
Antimony (Sb):	<1.0	Chromium (Cr):	33.300	Nickel (Ni):	1.050	Thallium (Tl):	<1.0
Arsenic (As):	15.300	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	32.900	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	10.100
Boron (B):	1,058.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	194.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	20.200
Cadmium (Cd):	<1.0	Lithium (Li):	22.100	Silver (Ag):	<1.0	Vanadium (V):	3.530
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	13.800	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,628.190	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	1,924.000	Hardness as CaCO3:	365.260	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2370	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2056	Alkalinity as CaCO3 (mg/L):	478.16	Phosphate, TD (mg/L as P):	0.122
Field pH:	7.38	Ryznar Stability Index:	6.279	Field Nitrate (mg/L):	NR
Lab pH:	7.68	Sodium Adsorption Ratio:	9.904	Field Dissolved O2 (mg/L):	0.850
Water Temp (°C):	11.6	Langlier Saturation Index:	0.700	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	326
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUME PURGE PRIOR TO SAMPLE COLLECTION STABLE PARAMETERS OBTAINED  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 2011Q0893 / 129493	Sample Date: 1/8/2011 10:45:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2
Datum: NAD83	Lab Date: 4/15/2011
Altitude: 3571.8	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	73.200	3.653	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	49.600	4.082	Carbonate (CO3)	NR	0.000
Sodium (Na)	422.000	18.357	Chloride (Cl)	NR	0.000
Potassium (K)	5.640	0.144	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.032	0.001	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>26.379</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	34.400	Cesium (Cs):	<2.5	Molybdenum (Mo):	14.500	Strontium (Sr):	1,431.000
Antimony (Sb):	<1.0	Chromium (Cr):	36.300	Nickel (Ni):	<0.9	Thallium (Tl):	<1.0
Arsenic (As):	14.700	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	35.300	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	9.480
Boron (B):	1,143.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	21.900
Cadmium (Cd):	<1.0	Lithium (Li):	<10.0	Silver (Ag):	<1.0	Vanadium (V):	4.100
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	12.700	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	386.930	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2370	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.38	Ryznar Stability Index:	19.171	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.335	Field Dissolved O2 (mg/L):	0.850
Water Temp (°C):	11.6	Langlier Saturation Index:	-9.585	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	326
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 200167 / 129493	Sample Date: 6/15/2011 10:15:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	74.590	3.722	Bicarbonate (HCO3)	459.060	7.524
Magnesium (Mg)	47.440	3.904	Carbonate (CO3)	0.000	0.000
Sodium (Na)	470.650	20.473	Chloride (Cl)	33.260	0.938
Potassium (K)	5.460	0.140	Sulfate (SO4)	906.700	18.887
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	4.210	0.301
Manganese (Mn)	<1.50 U	0.000	Fluoride (F)	0.820	0.043
Silica (SiO2)	22.410		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>28.362</b>	<b>Total Anions</b>		<b>27.693</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 33.160	Cesium (Cs): <2.50 U	Molybdenum (Mo): 29.440	Strontium (Sr): 1,440.640
Antimony (Sb): <2.50 U	Chromium (Cr): 804.670	Nickel (Ni): 0.7100 J	Thallium (Tl): 0.9500 J
Arsenic (As): 18.270	Cobalt (Co): 4.560	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 35.610	Copper (Cu): 5.550	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 13.710
Boron (B): 936.690	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): <2.50 U
Bromide (Br): 139.000	Lead (Pb): <1.00 U	Rubidium (Rb): 1.0500 J	Uranium (U): 13.730
Cadmium (Cd): <2.50 U	Lithium (Li): 21.010	Silver (Ag): <2.50 U	Vanadium (V): 11.400
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 10.280	Zinc (Zn): <5.00 U
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,791.180	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,024.070	Hardness as CaCO3: 381.510	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2406	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 3111.6	Alkalinity as CaCO3 (mg/L): 376.46	Phosphate, TD (mg/L as P): 0.120
Field pH: 7.55	Ryznar Stability Index: 6.543	Field Nitrate (mg/L): NR
Lab pH: 7.56	Sodium Adsorption Ratio: 10.493	Field Dissolved O2 (mg/L): NR
Water Temp (°C): 9.92	Langlier Saturation Index: 0.508	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05 U	Field Redox (mV): 261
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-2

**Location Information**

Sample Id/Site Id: 200168 / 129493	Sample Date: 6/15/2011 10:15:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-2 TOT. REC
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.5
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.2
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	68.720	3.429	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	47.060	3.873	Carbonate (CO3)	NR	0.000
Sodium (Na)	456.420	19.854	Chloride (Cl)	NR	0.000
Potassium (K)	5.140	0.131	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.044	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<10.00 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.326</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 39.480	Cesium (Cs): <2.00 U	Molybdenum (Mo): 28.310	Strontium (Sr): 1,404.210
Antimony (Sb): <2.00 U	Chromium (Cr): 773.330	Nickel (Ni): 1.3700 J	Thallium (Tl): 0.5600 J
Arsenic (As): 18.600	Cobalt (Co): 3.480	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 34.910	Copper (Cu): 4.870	Neodymium (Nd): <2.00 U	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.6800 J	Titanium (Ti): 13.560
Boron (B): NR	Lanthanum (La): 0.0000 J	Praseodymium (Pr): <2.00 U	Tungsten (W): 0.4000 J
Bromide (Br): NR	Lead (Pb): <2.00 U	Rubidium (Rb): 1.1000 J	Uranium (U): 14.430
Cadmium (Cd): <2.00 U	Lithium (Li): 20.350	Silver (Ag): <2.00 U	Vanadium (V): 11.620
Cerium (Ce): <2.00 U	Mercury (Hg): NR	Selenium (Se): 8.650	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 365.290	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2406	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.55	Ryznar Stability Index: 19.226	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.381	Field Dissolved O2 (mg/L): NR
Water Temp (°C): 9.92	Langlier Saturation Index: -9.613	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 261
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 2011Q0880 / 129495	Sample Date: 1/7/2011 3:10:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4
Datum: NAD83	Lab Date: 4/7/2011
Altitude: 3571.8	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): 7.33
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	89.700	4.476	Bicarbonate (HCO3)	595.300	9.757
Magnesium (Mg)	58.100	4.781	Carbonate (CO3)	0.000	0.000
Sodium (Na)	489.000	21.272	Chloride (Cl)	55.120	1.555
Potassium (K)	6.510	0.167	Sulfate (SO4)	870.500	18.133
Iron (Fe)	<0.010	0.000	Nitrate (as N)	2.430	0.173
Manganese (Mn)	0.129	0.005	Fluoride (F)	0.570	0.030
Silica (SiO2)	21.900		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>30.848</b>	<b>Total Anions</b>		<b>29.648</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	12.800	Strontium (Sr):	1,952.000
Antimony (Sb):	<1.0	Chromium (Cr):	8.420	Nickel (Ni):	1.780	Thallium (Tl):	<1.0
Arsenic (As):	13.000	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	26.900	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	12.800
Boron (B):	1,115.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	205.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	22.000
Cadmium (Cd):	<1.0	Lithium (Li):	19.800	Silver (Ag):	<1.0	Vanadium (V):	5.070
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	14.300	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,887.900	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,189.800	Hardness as CaCO3:	463.120	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2688	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2196	Alkalinity as CaCO3 (mg/L):	488	Phosphate, TD (mg/L as P):	0.107
Field pH:	7.34	Ryznar Stability Index:	5.938	Field Nitrate (mg/L):	NR
Lab pH:	7.78	Sodium Adsorption Ratio:	9.887	Field Dissolved O2 (mg/L):	NR
Water Temp (°C):	9.8	Langlier Saturation Index:	0.921	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	341
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUMES AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 2011Q0881 / 129495	Sample Date: 1/7/2011 3:10:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4
Datum: NAD83	Lab Date: 2/11/2011
Altitude: 3571.8	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: /
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): 7.33
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	92.400	4.611	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	59.700	4.913	Carbonate (CO3)	NR	0.000
Sodium (Na)	492.000	21.402	Chloride (Cl)	NR	0.000
Potassium (K)	6.360	0.163	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.052	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.182	0.007	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>31.237</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	22.400	Cesium (Cs):	<2.5	Molybdenum (Mo):	13.100	Strontium (Sr):	1,896.000
Antimony (Sb):	<1.0	Chromium (Cr):	8.940	Nickel (Ni):	1.150	Thallium (Tl):	<1.0
Arsenic (As):	12.400	Cobalt (Co):	<0.9	Niobium (Nb):	<0.9	Thorium (Th):	<1.0
Barium (Ba):	30.200	Copper (Cu):	2.650	Neodymium (Nd):	<1.0	Tin (Sn):	NR
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	6.210
Boron (B):	1,017.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	NR	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	23.500
Cadmium (Cd):	<1.0	Lithium (Li):	21.200	Silver (Ag):	<1.0	Vanadium (V):	5.580
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	12.700	Zinc (Zn):	<5.0
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	NR	Hardness as CaCO3:	476.450	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2688	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	NR	Alkalinity as CaCO3 (mg/L):	NR	Phosphate, TD (mg/L as P):	NR
Field pH:	7.34	Ryznar Stability Index:	18.969	Field Nitrate (mg/L):	NR
Lab pH:	NR	Sodium Adsorption Ratio:	9.808	Field Dissolved O2 (mg/L):	NR
Water Temp (°C):	9.8	Langlier Saturation Index:	-9.484	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	NR	Field Redox (mV):	341
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 200169 / 129495	Sample Date: 6/14/2011 10:20:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	91.830	4.582	Bicarbonate (HCO3)	600.360	9.840
Magnesium (Mg)	58.980	4.853	Carbonate (CO3)	0.000	0.000
Sodium (Na)	500.280	21.762	Chloride (Cl)	53.760	1.517
Potassium (K)	5.990	0.153	Sulfate (SO4)	913.200	19.022
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	2.370	0.169
Manganese (Mn)	0.136	0.005	Fluoride (F)	0.540	0.028
Silica (SiO2)	22.730		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>31.507</b>	<b>Total Anions</b>		<b>30.576</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <10.00 U	Cesium (Cs): <2.50 U	Molybdenum (Mo): 14.530	Strontium (Sr): 1,899.250
Antimony (Sb): <2.50 U	Chromium (Cr): 27.950	Nickel (Ni): 1.9700 J	Thallium (Tl): 1.3300 J
Arsenic (As): 14.150	Cobalt (Co): <2.50 U	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 24.780	Copper (Cu): 1.6000 J	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 13.450
Boron (B): 1,159.350	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): <2.50 U
Bromide (Br): 170.000	Lead (Pb): <1.00 U	Rubidium (Rb): 1.1700 J	Uranium (U): 19.930
Cadmium (Cd): <2.50 U	Lithium (Li): 20.000	Silver (Ag): <2.50 U	Vanadium (V): 2.520
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 15.430	Zinc (Zn): <5.00 U
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,945.380	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,249.810	Hardness as CaCO3: 472.060	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2685	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 3655.5	Alkalinity as CaCO3 (mg/L): 492.1	Phosphate, TD (mg/L as P): 0.1100 J
Field pH: 7.43	Ryznar Stability Index: 6.180	Field Nitrate (mg/L): NR
Lab pH: 7.51	Sodium Adsorption Ratio: 10.013	Field Dissolved O2 (mg/L): NR
Water Temp (°C): 11.08	Langlier Saturation Index: 0.665	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05 U	Field Redox (mV): 200
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 200170 / 129495	Sample Date: 6/14/2011 10:20:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4 TOT REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	82.270	4.105	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	57.050	4.695	Carbonate (CO3)	NR	0.000
Sodium (Na)	484.330	21.068	Chloride (Cl)	NR	0.000
Potassium (K)	6.420	0.164	Sulfate (SO4)	NR	0.000
Iron (Fe)	11.0400 J	0.000	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.133	0.005	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>30.079</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 7.7900 J	Cesium (Cs): <2.00 U	Molybdenum (Mo): 14.320	Strontium (Sr): 1,825.810
Antimony (Sb): <2.00 U	Chromium (Cr): 27.980	Nickel (Ni): 2.020	Thallium (Tl): 0.8100 J
Arsenic (As): 12.260	Cobalt (Co): 0.5400 J	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 24.240	Copper (Cu): <2.00 U	Neodymium (Nd): <2.00 U	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.9100 J	Titanium (Ti): 13.640
Boron (B): NR	Lanthanum (La): <2.00 U	Praseodymium (Pr): <2.00 U	Tungsten (W): <2.00 U
Bromide (Br): NR	Lead (Pb): <2.00 U	Rubidium (Rb): 1.2200 J	Uranium (U): 21.060
Cadmium (Cd): <2.00 U	Lithium (Li): 6.3000 J	Silver (Ag): <2.00 U	Vanadium (V): 5.250
Cerium (Ce): <2.00 U	Mercury (Hg): NR	Selenium (Se): 12.960	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 440.250	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2685	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.43	Ryznar Stability Index: 19.070	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.037	Field Dissolved O2 (mg/L): NR
Water Temp (°C): 11.08	Langlier Saturation Index: -9.535	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 200
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 200171 / 129495	Sample Date: 6/14/2011 10:30:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4 QA/QC DUPLICATE
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	91.000	4.541	Bicarbonate (HCO3)	598.030	9.802
Magnesium (Mg)	58.460	4.811	Carbonate (CO3)	0.000	0.000
Sodium (Na)	488.520	21.251	Chloride (Cl)	53.320	1.504
Potassium (K)	5.920	0.151	Sulfate (SO4)	909.500	18.945
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	2.380	0.170
Manganese (Mn)	0.143	0.005	Fluoride (F)	0.540	0.028
Silica (SiO2)	22.350		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>30.913</b>	<b>Total Anions</b>		<b>30.449</b>

**Trace Element Results (µg/L)**

Aluminum (Al): <10.00 U	Cesium (Cs): <2.50 U	Molybdenum (Mo): 13.760	Strontium (Sr): 1,931.790
Antimony (Sb): <2.50 U	Chromium (Cr): 15.940	Nickel (Ni): 1.0600 J	Thallium (Tl): 1.2900 J
Arsenic (As): 12.930	Cobalt (Co): <2.50 U	Niobium (Nb): <2.50 U	Thorium (Th): <2.50 U
Barium (Ba): 25.900	Copper (Cu): 3.950	Neodymium (Nd): <2.50 U	Tin (Sn): <2.50 U
Beryllium (Be): <2.50 U	Gallium (Ga): <2.50 U	Palladium (Pd): <2.50 U	Titanium (Ti): 14.150
Boron (B): 1,189.620	Lanthanum (La): <2.50 U	Praseodymium (Pr): <2.50 U	Tungsten (W): <2.50 U
Bromide (Br): 173.000	Lead (Pb): <1.00 U	Rubidium (Rb): 1.2400 J	Uranium (U): 20.730
Cadmium (Cd): <2.50 U	Lithium (Li): 29.060	Silver (Ag): <2.50 U	Vanadium (V): 2.570
Cerium (Ce): <2.50 U	Mercury (Hg): NR	Selenium (Se): 14.940	Zinc (Zn): 3.8300 J
			Zirconium (Zr): <2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): 1,927.050	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): 2,230.460	Hardness as CaCO3: 467.850	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2685	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): 3718.4	Alkalinity as CaCO3 (mg/L): 490.46	Phosphate, TD (mg/L as P): 0.1500 J
Field pH: 7.43	Ryznar Stability Index: 6.271	Field Nitrate (mg/L): NR
Lab pH: 7.43	Sodium Adsorption Ratio: 9.837	Field Dissolved O2 (mg/L): 0.600
Water Temp (°C): 11.08	Langlier Saturation Index: 0.580	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): <0.05 U	Field Redox (mV): 200
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): 0.000	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-4

**Location Information**

Sample Id/Site Id: 200172 / 129495	Sample Date: 6/14/2011 10:30:00 AM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-4 QA/QC DUPLICATE TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.8	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 15.6
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 5.3
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	86.220	4.302	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	59.730	4.915	Carbonate (CO3)	NR	0.000
Sodium (Na)	505.580	21.993	Chloride (Cl)	NR	0.000
Potassium (K)	6.190	0.158	Sulfate (SO4)	NR	0.000
Iron (Fe)	9.0300 J	0.000	Nitrate (as N)	NR	0.000
Manganese (Mn)	0.137	0.005	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>31.418</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 8.340	Cesium (Cs): <2.00 U	Molybdenum (Mo): 14.190	Strontium (Sr): 1,882.960
Antimony (Sb): <2.00 U	Chromium (Cr): 26.860	Nickel (Ni): 1.9100 J	Thallium (Tl): 0.8100 J
Arsenic (As): 12.450	Cobalt (Co): 0.5300 J	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 25.380	Copper (Cu): 1.7300 J	Neodymium (Nd): 0.5500 J	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.930	Titanium (Ti): 13.390
Boron (B): NR	Lanthanum (La): <2.00 U	Praseodymium (Pr): <2.00 U	Tungsten (W): <2.00 U
Bromide (Br): NR	Lead (Pb): 0.1200 J	Rubidium (Rb): 1.2700 J	Uranium (U): 21.180
Cadmium (Cd): <2.00 U	Lithium (Li): 5.6800 J	Silver (Ag): <2.00 U	Vanadium (V): 5.470
Cerium (Ce): <2.00 U	Mercury (Hg): NR	Selenium (Se): 12.840	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 461.140	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2685	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.43	Ryznar Stability Index: 19.029	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.253	Field Dissolved O2 (mg/L): 0.600
Water Temp (°C): 11.08	Langlier Saturation Index: -9.514	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 200
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **J** = Estimated quantity above detection limit but below reporting limit; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; **U** = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 2011Q0889 / 129496	Sample Date: 1/7/2011
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5
Datum: NAD83	Lab Date: 2/11/2011
Altitude: 3571.3	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 1100
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): 7.07
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	72.200	3.603	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	46.900	3.859	Carbonate (CO3)	NR	0.000
Sodium (Na)	463.000	20.141	Chloride (Cl)	NR	0.000
Potassium (K)	5.350	0.137	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.026	0.001	Nitrate (as N)	NR	0.000
Manganese (Mn)	<0.005	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.867</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 19.900	Cesium (Cs): <2.5	Molybdenum (Mo): 12.200	Strontium (Sr): 1,601.000
Antimony (Sb): <1.0	Chromium (Cr): 15.000	Nickel (Ni): <0.9	Thallium (Tl): <1.0
Arsenic (As): 10.700	Cobalt (Co): <0.9	Niobium (Nb): <0.9	Thorium (Th): <1.0
Barium (Ba): 23.200	Copper (Cu): <2.5	Neodymium (Nd): <1.0	Tin (Sn): NR
Beryllium (Be): <1.0	Gallium (Ga): <0.9	Palladium (Pd): <2.5	Titanium (Ti): 5.220
Boron (B): 946.000	Lanthanum (La): <1.0	Praseodymium (Pr): <1.0	Tungsten (W): <1.0
Bromide (Br): NR	Lead (Pb): <1.0	Rubidium (Rb): <2.5	Uranium (U): 22.000
Cadmium (Cd): <1.0	Lithium (Li): 19.600	Silver (Ag): <1.0	Vanadium (V): 3.700
Cerium (Ce): <1.0	Mercury (Hg): NR	Selenium (Se): 12.600	Zinc (Zn): <5.0
			Zirconium (Zr): <0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 373.320	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2433	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.37	Ryznar Stability Index: 19.183	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.427	Field Dissolved O2 (mg/L): 0.570
Water Temp (°C): 10.05	Langlier Saturation Index: -9.591	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 349
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks: TOTAL RECOVERABLE SAMPLE  
 Lab Remarks:

Explanation: **mg/L** = milligrams per Liter; **µg/L** = micrograms per Liter; **ft** = feet; **NR** = No Reading in GWIC

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 2011Q0888 / 129496	Sample Date: 1/7/2011 6:20:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS J.
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5
Datum: NAD83	Lab Date: 4/7/2011
Altitude: 3571.3	Lab/Analyst: MBMG / SM
County/State: STILLWATER / MT	Sample Method/Handling: PUMPED / 4220
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): 7.07
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	71.200	3.553	Bicarbonate (HCO3)	589.200	9.657
Magnesium (Mg)	48.400	3.983	Carbonate (CO3)	0.000	0.000
Sodium (Na)	458.000	19.923	Chloride (Cl)	48.700	1.374
Potassium (K)	5.310	0.136	Sulfate (SO4)	753.200	15.689
Iron (Fe)	<0.010	0.000	Nitrate (as N)	3.460	0.247
Manganese (Mn)	<0.005	0.000	Fluoride (F)	0.664	0.035
Silica (SiO2)	21.700		Orthophosphate (as P)	<0.1	0.000
<b>Total Cations</b>		<b>27.719</b>	<b>Total Anions</b>		<b>27.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	<10.0	Cesium (Cs):	<2.5	Molybdenum (Mo):	12.700	Strontium (Sr):	1,405.000
Antimony (Sb):	<1.0	Chromium (Cr):	14.800	Nickel (Ni):	1.180	Thallium (Tl):	<1.0
Arsenic (As):	11.600	Cobalt (Co):	<0.9	Niobium (Nb):	<2.5	Thorium (Th):	<1.0
Barium (Ba):	22.600	Copper (Cu):	<2.5	Neodymium (Nd):	<1.0	Tin (Sn):	<2.5
Beryllium (Be):	<1.0	Gallium (Ga):	<0.9	Palladium (Pd):	<2.5	Titanium (Ti):	10.900
Boron (B):	998.000	Lanthanum (La):	<1.0	Praseodymium (Pr):	<1.0	Tungsten (W):	<1.0
Bromide (Br):	194.000	Lead (Pb):	<1.0	Rubidium (Rb):	<2.5	Uranium (U):	21.300
Cadmium (Cd):	<1.0	Lithium (Li):	22.600	Silver (Ag):	<1.0	Vanadium (V):	3.440
Cerium (Ce):	<1.0	Mercury (Hg):	NR	Selenium (Se):	14.200	Zinc (Zn):	<2.5
						Zirconium (Zr):	<0.9

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,700.750	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	1,999.600	Hardness as CaCO3:	377.000	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	NR	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2117	Alkalinity as CaCO3 (mg/L):	483.08	Phosphate, TD (mg/L as P):	0.100
Field pH:	NR	Ryznar Stability Index:	6.347	Field Nitrate (mg/L):	NR
Lab pH:	7.58	Sodium Adsorption Ratio:	10.264	Field Dissolved O2 (mg/L):	NR
Water Temp (°C):	NR	Langlier Saturation Index:	0.616	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05	Field Redox (mV):	NR
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	NR	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks: 3 CASING VOLUME PURGE AND STABLE PARAMETERS OBTAINED PRIOR TO SAMPLING  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 200175 / 129496	Sample Date: 6/14/2011 5:05:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.3	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:1 ra:0 fu:1 fa:1
Site Type: WELL	Procedure Type: DISSOLVED
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	73.560	3.671	Bicarbonate (HCO3)	590.400	9.677
Magnesium (Mg)	47.440	3.904	Carbonate (CO3)	0.000	0.000
Sodium (Na)	449.850	19.568	Chloride (Cl)	50.530	1.425
Potassium (K)	5.510	0.141	Sulfate (SO4)	754.800	15.722
Iron (Fe)	<10.00 U	0.000	Nitrate (as N)	3.100	0.221
Manganese (Mn)	0.002	0.000	Fluoride (F)	0.630	0.033
Silica (SiO2)	22.970		Orthophosphate (as P)	<0.10 U	0.000
<b>Total Cations</b>		<b>27.421</b>	<b>Total Anions</b>		<b>27.079</b>

**Trace Element Results (µg/L)**

Aluminum (Al):	28.340	Cesium (Cs):	<2.50 U	Molybdenum (Mo):	12.620	Strontium (Sr):	1,448.390
Antimony (Sb):	<2.50 U	Chromium (Cr):	18.700	Nickel (Ni):	<2.50 U	Thallium (Tl):	1.0000 J
Arsenic (As):	10.060	Cobalt (Co):	<2.50 U	Niobium (Nb):	<2.50 U	Thorium (Th):	<2.50 U
Barium (Ba):	24.730	Copper (Cu):	4.770	Neodymium (Nd):	<2.50 U	Tin (Sn):	<2.50 U
Beryllium (Be):	<2.50 U	Gallium (Ga):	<2.50 U	Palladium (Pd):	<2.50 U	Titanium (Ti):	12.300
Boron (B):	1,091.830	Lanthanum (La):	<2.50 U	Praseodymium (Pr):	<2.50 U	Tungsten (W):	<2.50 U
Bromide (Br):	170.000	Lead (Pb):	<1.00 U	Rubidium (Rb):	1.2900 J	Uranium (U):	19.000
Cadmium (Cd):	<2.50 U	Lithium (Li):	30.700	Silver (Ag):	<2.50 U	Vanadium (V):	1.7700 J
Cerium (Ce):	<2.50 U	Mercury (Hg):	NR	Selenium (Se):	14.920	Zinc (Zn):	<5.00 U
						Zirconium (Zr):	<2.50 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L):	1,700.670	Field Hardness as CaCO3 (mg/L):	NR	Ammonia (mg/L):	NR
**Sum of Diss. Constituents (mg/L):	2,000.030	Hardness as CaCO3:	378.940	T.P. Hydrocarbons (µg/L):	NR
Field Conductivity (µmhos):	2355	Field Alkalinity as CaCO3 (mg/L):	NR	PCP (µg/L):	NR
Lab Conductivity (µmhos):	2184.5	Alkalinity as CaCO3 (mg/L):	483.9	Phosphate, TD (mg/L as P):	0.090
Field pH:	7.41	Ryznar Stability Index:	6.387	Field Nitrate (mg/L):	NR
Lab pH:	7.51	Sodium Adsorption Ratio:	10.059	Field Dissolved O2 (mg/L):	0.630
Water Temp (°C):	10.22	Langlier Saturation Index:	0.561	Field Chloride (mg/L):	NR
Air Temp (°C):	NR	Nitrite (mg/L as N):	<0.05 U	Field Redox (mV):	251
Nitrate + Nitrite (mg/L as N):	NR	Hydroxide (mg/L as OH):	0.000	Lab, Dissolved Organic Carbon (mg/L):	NR
Total Kjeldahl Nitrogen (mg/L as N):	NR	Lab, Dissolved Inorganic Carbon (mg/L):	NR	Lab, Total Organic Carbon (mg/L):	NR
Total Nitrogen (mg/L as N):	NR	Acidity to 4.5:	NR	Acidity to 8.3:	NR
As(III) (ug/L):	NR	As(V) (ug/L):	NR		

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

**Explanation:** mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

**Qualifiers:** A = Hydride atomic absorption; E = Estimated due to interference; H = Exceeded holding time; J = Estimated quantity above detection limit but below reporting limit; K = Na+K combined; N = Spiked sample recovery not within control limits; P = Preserved sample; S = Method of standard additions; U = Undetected quantity below detection limit; \* = Duplicate analysis not within control limits; \*\* = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, Cl, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

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Ground-Water Information Center Water Quality Report  
**Report Date:** 3/14/2012

**Site Name:** MOUAT INDUSTRIES \* RMIS-5

**Location Information**

Sample Id/Site Id: 200176 / 129496	Sample Date: 6/14/2011 5:05:00 PM
Location (TRS): 02S 20E 27 C	Agency/Sampler: MBMG / TUCCI, NICHOLAS
Latitude/Longitude: 45° 37' 38" N 109° 14' 53" W	Field Number: RMIS-5 TOT. REC.
Datum: NAD83	Lab Date: 8/29/2011 9:35:06 AM
Altitude: 3571.3	Lab/Analyst: MBMG / MCGRATH, STEVE
County/State: STILLWATER / MT	Sample Method/Handling: GRAB / ru:0 ra:1 fu:0 fa:0
Site Type: WELL	Procedure Type: TOTAL RECOVERABLE
Geology: 111SNGR	Total Depth (ft): 14.9
USGS 7.5' Quad:	SWL-MP (ft): NR
PWS Id:	Depth Water Enters (ft): 4.6
Project: MOUAT	

**Major Ion Results**

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	70.580	3.522	Bicarbonate (HCO3)	NR	0.000
Magnesium (Mg)	49.020	4.034	Carbonate (CO3)	NR	0.000
Sodium (Na)	464.900	20.223	Chloride (Cl)	NR	0.000
Potassium (K)	5.650	0.145	Sulfate (SO4)	NR	0.000
Iron (Fe)	0.066	0.002	Nitrate (as N)	NR	0.000
Manganese (Mn)	<10.00 U	0.000	Fluoride (F)	NR	0.000
Silica (SiO2)	NR		Orthophosphate (as P)	NR	0.000
<b>Total Cations</b>		<b>27.966</b>	<b>Total Anions</b>		<b>0.000</b>

**Trace Element Results (µg/L)**

Aluminum (Al): 63.160	Cesium (Cs): <2.00 U	Molybdenum (Mo): 13.210	Strontium (Sr): 1,464.910
Antimony (Sb): <2.00 U	Chromium (Cr): 24.840	Nickel (Ni): 0.5800 J	Thallium (Tl): 0.6700 J
Arsenic (As): 9.370	Cobalt (Co): 0.4400 J	Niobium (Nb): <2.00 U	Thorium (Th): <2.00 U
Barium (Ba): 25.880	Copper (Cu): 1.4500 J	Neodymium (Nd): <2.00 U	Tin (Sn): <2.00 U
Beryllium (Be): <2.00 U	Gallium (Ga): <2.00 U	Palladium (Pd): 0.7200 J	Titanium (Ti): 12.320
Boron (B): NR	Lanthanum (La): <2.00 U	Praseodymium (Pr): <2.00 U	Tungsten (W): <2.00 U
Bromide (Br): NR	Lead (Pb): <2.00 U	Rubidium (Rb): 1.3500 J	Uranium (U): 19.540
Cadmium (Cd): <2.00 U	Lithium (Li): 19.190	Silver (Ag): <2.00 U	Vanadium (V): 4.090
Cerium (Ce): 0.6700 J	Mercury (Hg): NR	Selenium (Se): 12.900	Zinc (Zn): <4.00 U
			Zirconium (Zr): <2.00 U

**Field Chemistry and Other Analytical Results**

**Total Dissolved Solids (mg/L): NR	Field Hardness as CaCO3 (mg/L): NR	Ammonia (mg/L): NR
**Sum of Diss. Constituents (mg/L): NR	Hardness as CaCO3: 378.000	T.P. Hydrocarbons (µg/L): NR
Field Conductivity (µmhos): 2355	Field Alkalinity as CaCO3 (mg/L): NR	PCP (µg/L): NR
Lab Conductivity (µmhos): NR	Alkalinity as CaCO3 (mg/L): NR	Phosphate, TD (mg/L as P): NR
Field pH: 7.41	Ryznar Stability Index: 19.203	Field Nitrate (mg/L): NR
Lab pH: NR	Sodium Adsorption Ratio: 10.407	Field Dissolved O2 (mg/L): 0.630
Water Temp (°C): 10.22	Langlier Saturation Index: -9.601	Field Chloride (mg/L): NR
Air Temp (°C): NR	Nitrite (mg/L as N): NR	Field Redox (mV): 251
Nitrate + Nitrite (mg/L as N): NR	Hydroxide (mg/L as OH): NR	Lab, Dissolved Organic Carbon (mg/L): NR
Total Kjeldahl Nitrogen (mg/L as N): NR	Lab, Dissolved Inorganic Carbon (mg/L): NR	Lab, Total Organic Carbon (mg/L): NR
Total Nitrogen (mg/L as N): NR	Acidity to 4.5: NR	Acidity to 8.3: NR
As(III) (ug/L): NR	As(V) (ug/L): NR	

**Notes**

Sample Condition:  
 Field Remarks:  
 Lab Remarks:

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