

Walker, Kay

From: ALAN MILLER [AMILLER2@DEQ.IDAHO.GOV]
Sent: Tuesday, December 07, 2004 4:19 PM
To: kay.walker@idwr.idaho.gov
Subject: Mission Creek Water Association in Boundary County



Mission Ck 2004
survey.pdf

Kay,

Attached is a copy of the inspection I did in September. Marcia is mailing you the consent order termination. They are using only the one well.

I hope this helps.

Alan Miller, Engineering Specialist
Coeur d'Alene Regional Office
Idaho Department of Environmental Quality
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Idaho Department of Environmental Quality

Drinking Water Supply Report

County: **Boundary** PWS #: **1110019**
System: **Mission Creek Water Association**
System Representative: **Will Parker**
Surveyed by: **Alan Miller**
Source: **Well**
Population/Connections: **90/36**

Date: **September 21, 2004**

GWUDI Analysis: **GW**
Water System Type: **Community**

History

In 1949 a water system was installed to provide service to the new Mt. Hall school. It consisted of an intake on Mission Creek, and approximately one mile of 5-inch coal tar wrapped steel main. In 1963 the Mission Creek Water Association was formed, and in addition to purchasing the existing water system, they constructed a slow sand filtration system with storage tank and chlorination. A greatly expanded distribution system was installed at that time. In 1998 the Association drilled a well, and constructed a 50,000 gallon storage tank. Some distribution system improvements were also completed at that time.

Location

Mission Creek Water Association serves the Copeland and Mt. Hall area approximately 15 miles north of Bonners Ferry.

Source

The source consists of one well drilled in March 1998 by Ed Minden. The well is 309 feet deep through clay and granites. Eight-inch (0.25 thickness) steel casing was installed to 224 feet; a 6-inch PVC casing was installed from 224 to 309 feet; and perforations were made in the PVC casing at 270 feet. A surface seal was installed to 25 feet. A six hour pump test indicated a yield of 55 to 57 gpm with a draw down of 206 feet. Static level was 33 feet from the casing. A Grundfos model 80S150-15 15 hp pump was installed at 278 feet. The well log is on file. The location of the well is Sec7, T64N, R1E, and is on Bob Dillin's property.

In 2003 and 2004 during the summer high use periods, the well yield declined to approximately 18 gpm. The cause is unknown; however, at the end of July 2004, the tank and distribution system ran dry. Requested water usage conservation allowed the tank to fill in three days. The association is currently seeking funding to make necessary improvements to secure a source of adequate capacity.

Corrective Action

A plan will need to be established to provide adequate source water for the Association's needs. The DEQ understands the Association is working on this. The alarm system should to be repaired.

Treatment

No treatment is provided at this time. Original slow sand filter / chlorination system is physically disconnected from the water system.

Storage and Pumping

A 50,000 gallon rectangular concrete storage tank was constructed in 1998. It is approximately 8 feet deep. The tank rides on the distribution system and was cleaned by Association personnel in 2003. The drain, overflow and vent screens need finer mesh (#24) screens installed. Tank level controls the well via floats and a dedicated phone line. At the time of the inspection, the alarm system, which should call several board members and illuminate a red light at the well house in the event of failure, was malfunctioning. Repair of the alarm system would have helped reduce the severity of the water depletion situation experienced earlier this year.

Corrective Action

The tank drain, overflow, and vent needs to have #24 mesh screen installed over their openings.

Distribution

The distribution system consists of 5-inch coal tar wrapped steel (1949) and 1-, 1¼-, 1½-, 2-, 2½-, 3- and 4-inch PVC (1963) and 6-inch PVC installed in 1998. The distribution system has 4 main line pressure reducing valves installed, and these are serviced as needed. Air relief valves were installed in 1963 and recently in 2004. No cross connection control program is in place. Currently the Association is losing approximately 200,000 gallons (approximately 4.6 gpm) of water each month (roughly 50% of average monthly usage). Extensive efforts to locate the leak(s) have been unsuccessful. Given the source water capacity problems, this situation is made all the more dire. We discussed methods of leak location by isolating portions of the water system and using pressures and elevations to help locate leaks.

Corrective Action

A formal cross connection control program must be established. Information is provided with this report to assist in that effort. Current water leaks need to be found and repaired or corrected.

Administration

The Association, established as a non-profit corporation, is governed by a 6 member board, with George Hays being the president. Accounting, billing, and associated elements are provided by Ruth Ann Wilson's office in Bonners Ferry. Current rates are \$36 for 12,000 gallons; overage is \$4/1000 gallons to 22,000; and \$5/1000 gallons over that. Well, storage tank and other improvements made in 1998 were funded by Rural Development Administration of USDA.

Operator Certification

George Hays (Board President) is certified at a Very Small Water System Distribution level (license # 12267). Mr. Hays is serving as both the responsible charge, and back-up operator.

Monitoring

The Association monitors for coliform bacteria (monthly) and nitrate (annually) and arsenic (every three years). Monitoring history for the past five years has been very good, with no total coliform present since October 2001. Other than the uranium exceedence described below, all other monitoring has been within normal range. Sodium, a secondary contaminant, has been relatively high; however, this is not a regulated contaminant.

A waiver was granted for other normally required monitoring which reduces the frequency of these sample requirements. The waiver granted on December 12, 2004 was for inorganics, asbestos, cyanide, volatile, and synthetic organics, and dioxin monitoring. Reduced monitoring

frequencies for these vary, and some waivers will need to be renewed this year. Information will be provided to the Association to complete this process.

Corrective Action

The well exhibits unusually high levels of uranium. Monitoring in 1998 and 2002 showed results of 46 and 38 µg/L. The current allowable maximum contaminant level (MCL) is 30 µg/L. Quarterly sampling must be completed for uranium. Compositing of four quarters is allowed if correct procedures are followed. Contact your laboratory for their requirements regarding compositing. Based on the results of the quarterly sampling, the Association may also need to develop a plan to address the radionuclides which exceed current maximum contaminant levels. There may have been uranium and thorium mining conducted in the mountains northeast of the well in the fifties and sixties. This may help explain the high levels naturally present. Some information regarding removal of radionuclides from the water is included with this report.

Compliance

The Mission Creek Water Association currently is in substantial compliance with Idaho Rules for Public Drinking Water Systems (Rules). Provided the following items are addressed in a timely manner, this substantial compliance status will remain in effect.

Source

Complete by May 1 2005

1. Establish a plan to provide adequate source water for the Associations needs.
2. Establish a plan to reduce the uranium, and gross alpha levels to below the MCL.

Storage Tank

Complete by December 15, 2004

1. Install #24 mesh screen on tank vent, overflow, and drain lines.

Distribution System

Complete by March 30, 2005

1. Locate and repair leaks in system
2. Establish a formal cross connection control program

Monitoring **2004**

Complete 1st sample by December 31,

1. Complete quarterly sampling of uranium for one year. Samples may be composited by the lab.

Plan and Specification Review

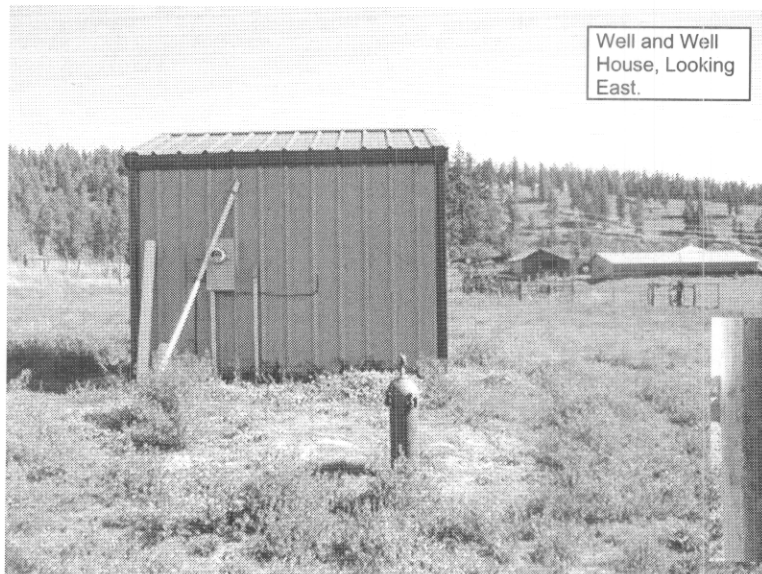
Historically the Mission Creek Water Association has submitted plans prior to construction as required by Idaho Code. As a reminder, all expansions, additions, extensions, or changes to the water system must be submitted for review prior to construction.

Conclusion

The Mission Creek Water Association public water system is in substantial compliance with the Idaho Rules for Public Drinking Water Systems. Provided the items listed in the compliance section of this report are completed in a timely manner, the Association will retain this status. This inspection finds the current operations to be conscientious, and management appears to be addressing the water system's needs to the extent possible.

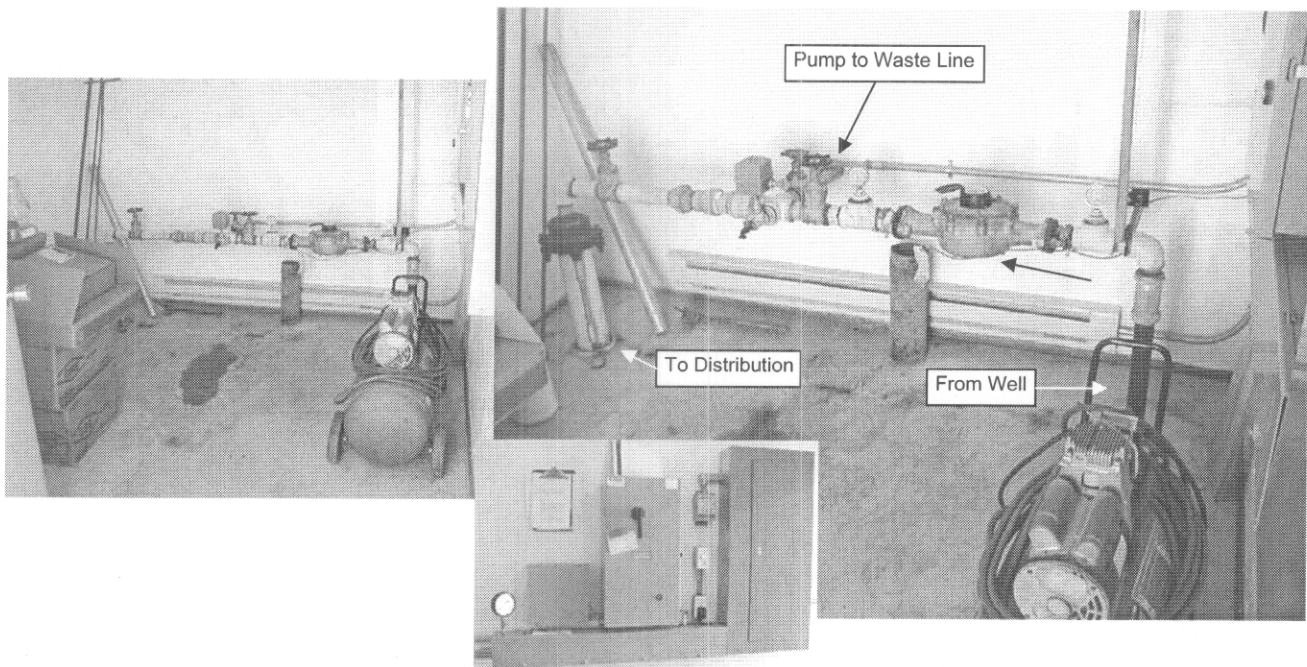
Alan Miller, EIT

Date



IDWR Well
Tag # D0003635

Mission Creek Well House, and Well . Location Bob Dillin Property, T64N, R1E, Section 7



Well House and Control Panel



50,000 Gallon Concrete Storage Reservoir (Constructed 1998)