

Yellowtail Water District

PWSID MT0000102

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Revised:

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Executive Summary

May 19, 2005

Introduction and Background

Yellowtail Water District is located about 90 miles southeast of Billings on Interstate 90 and Highway 313 on the Bighorn River ([Figure 1](#) and [Figure 3](#)). Yellowtail Water District is located in the town of Fort Smith. The U.S. Census Bureau estimates the 2000 population of Big Horn County at 12,671 people and the county's population has increased about 10% since 1990. Yellowtail Water District has about 100-150 residents.

The Yellowtail Water District public water supply is classified as a community system under the Federal Safe Drinking Water Act, because the system serves at least 25 year-round residents through at least 15 service connections. According to the most current sanitary survey, the public water supply services about 100-150 residents in the summer and 20-30 residents in the winter, with about 45 active service connections. Yellowtail Water District's public water supply is served by ground water from 2 wells that were drilled in 1961 according to the sanitary survey. These wells are about 400 feet deep and are interpreted as being completed in the Kootenai Formation.

Within the past five years, Yellowtail Water District has five positive total coliform detection in April and May of 2000. Follow-up samples tested negative indicating the water was not contaminated by bacteria. No MCL exceedances were noted for any other constituents monitored over the past five years, this includes nitrate. All the nitrate samples for the past five years were less than 0.05 mg/l, which is significantly below the MCL of 10 mg/l. Overall, the water quality for this system is very good.

Delineation of Source Water Protection Areas

The purpose of delineation is to map the source of drinking water for the public water supply and to define areas within which to prioritize source water protection efforts. Four source water protection areas are defined for Yellowtail Water District ([Figure 3](#), [Figure 6](#), and [Figure 7](#)). They are 1) a 100-foot control zone around each of the wells, 2) a 1,000-foot inventory region for each well, merged together to form a single inventory region, and 3) a recharge region corresponding to the watershed that surrounds the public water supply. The 1,000-foot inventory region is used based on the interpretation that the aquifer providing source water to the community is generally a confined aquifer. The goal of management in the control zone is to avoid introducing contaminants directly into the water supply's wells. The inventory and surface water buffer regions should be managed to prevent contaminants from reaching the wells before natural processes reduce their concentrations. The goal of management in the recharge region is to maintain and improve water quality over long periods of time or increased usage.

Source water for the Yellowtail Water District public water supply comes principally from sandstone and shale beds within the Kootenai Formation. The Kootenai lies beneath the modern alluvium of the Bighorn River Valley. The aquifer is interpreted to be generally confined. In general, recharge is considered to come from a combination of precipitation, snowmelt runoff, irrigation return flows, and possibly from leakage from the Bighorn Lake and Bighorn River. Ground water flow direction is interpreted to be primarily from upland areas toward the river ([Figure 3A and B](#)). Near the river the ground water flows generally parallel to the river.

Inventory of Potential Contaminant Sources

The inventory of potential contaminant sources is used to assess the susceptibility of the Yellowtail Water District public water supply to contamination and to identify priorities for source water protection planning. The inventory focuses on facilities that generate, use, store, transport, or dispose of potential contaminants, and on land types where potential contaminants are present. Some potential contaminant sources are considered significant based upon 1) the volume of potential releases, 2) the volume of hazardous materials typically handled, 3) the potential of the released materials to impact nearby surface water or ground water, and 4) the proximity of the potential contaminant sources to the source of water used by the public water supply. Maps showing the inventory results are shown in [Figure 3](#), [Figure 6](#), and [Figure 7](#).

Susceptibility is the potential for a public water supply to draw in water contaminated by inventoried sources. Susceptibility is determined by considering the hazard rating for each potential contaminant source and the existence of natural or man-made barriers that decrease the likelihood that contaminated water will flow to the public water supply wells (Tables 5 and 6). For wells tapping a confined aquifer hazard is based on whether the public water supply well is sealed through the confining layer and where other wells in the area tap the same aquifer, and on the proximity of potential hazards to the well (Table 5). Table 7 lists all of the potential contaminant sources identified in this inventory and includes the hazard and final susceptibility ratings assigned to each potential contaminant source.

Potential contaminant sources that could pose a threat to the public water supply include: sewer mains and service lines, and the leaky underground storage tank (LUST) at the Yellowtail Market. The hazard from sewer lines comes from the possibility of the leaks that could result in effluent infiltrating into the ground water. The hazard associated with the sewer lines is high for Well #2. The hazard associated with the LUST come from the tank leaking gasoline into the ground water. The hazard for the LUST is high (Table 7).

All other potential contaminant sources identified are assigned a low to very low susceptibility rating. [Figure 3](#), [Figure 6](#), and [Figure 7](#) show the locations of potential contaminant sources in relation to the public water supply. All potential contaminant sources may not have been identified in this inventory. In some instances, inadequate location information in the available databases can result in some potential contaminant sources not being included in the inventory. Review of the inventory and this report by the local public water supply operator and the community can help address limitations of the inventory process.

Management Recommendations

It should be noted that even small releases of some chemicals in close proximity to a well could have significant negative impact on water quality. Steps can be taken to reduce the likelihood of releases to the source water for the public water supply or in the vicinity of the sources. Some of these steps are listed in Table 7 and under the Management Recommendations section on page 18.

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INTRODUCTION

This Delineation and Assessment Report was prepared by Laura Rennick, an intern with the Source Water Protection Program (SWPP) at the Montana Department of Environmental Quality (DEQ) and Jim Stimson, Hydrogeologist with the SWPP reviewed and edited the report. Yellowtail Water District Public Water Supply (PWS) is located in Big Horn County, Montana, about 90 miles southeast of Billings (east on Interstate 90 and then south on Highway 313) ([Figure 1](#)). The DEQ PWS identification number, operator name, and operator phone number for the Yellowtail Water District PWS appear on the title page of this report.

Purpose

This report is intended to meet the technical requirements for the completion of the source water delineation and assessment report for the Yellowtail Water District PWS as required by the Montana Source Water Protection Program (DEQ, 1999) and the federal Safe Drinking Water Act (SDWA) Amendments of 1996 (P.L. 104-182). The Montana Source Water Protection Program is intended to be a practical and cost-effective approach to the protection of public drinking water supplies from contamination. The primary purpose of this source water delineation and assessment report is to provide information to assist the Yellowtail Water District PWS operator in the identification of potential contaminant sources near its wells and to encourage the development of a source water protection plan to help protect the drinking water for the long term.

Delineation and assessment constitute major components of the Montana Source Water Protection Program. Delineation entails mapping the boundaries of source water protection areas, which encompass ground water and/or surface waters contributing to public water supply. Assessment involves identifying locations or regions within source water protection areas where contaminants may be generated, stored, transported, or disposed, and determining the relative susceptibility of drinking water to contamination from these sources.

Limitations

This report was prepared to assess threats to the Yellowtail Water District PWS and is based on published data including the most recent sanitary survey, which was completed on August 12, 2004, by Jim Melstad of The Cadmus Group, Inc., and information obtained from local residents familiar with the community. The terms “drinking water supply” and “drinking water source” refer specifically to the sources of Yellowtail Water District PWS, and not any other public or private water supply. Also, not all of the potential or existing sources of ground water or surface-water contamination in the area of Yellowtail Water District are identified. Only potential sources of contamination in areas that contribute water to the identified drinking water sources are considered.

The term “contaminant” is used in this report to refer to constituents for which maximum concentration levels (MCLs) have been specified under the national primary drinking water standards, and to certain carcinogenic or toxic constituents that do not have MCLs but are considered to be significant health threats.

CHAPTER 1 BACKGROUND

The Community

Yellowtail Water District is located in Fort Smith ([Figure 1](#) and [Figure 3A and B](#)). Fort Smith is about 90 miles southeast of Billings on Interstate 90 and Highway 313. The town has a population of about 122. Fort Smith’s population has decreased by about a 22% since the 1990 census (Census and Economic Information Center, 2002). Big Horn County has a population of about 12,671 and the county’s population has increased about 10% since 1990. Approximately 100-150 people reside in Yellowtail Water District in the summer, and about 20-30 people continue to live there in the winter. There are 5 public water supplies (PWSs) in the Fort Smith area ([Figure 3](#)). Four of the PWSs are classified as community systems that serve 25 or more year round residences and the remainder are non-community transient PWSs that serve a transient population. Table 1 below lists the PWSs and the source of water they use. Within the town limits of Fort Smith, residents obtain their drinking water from the municipal public water supply. The municipal sewer district services all residents within town limits and some areas outside the limits.

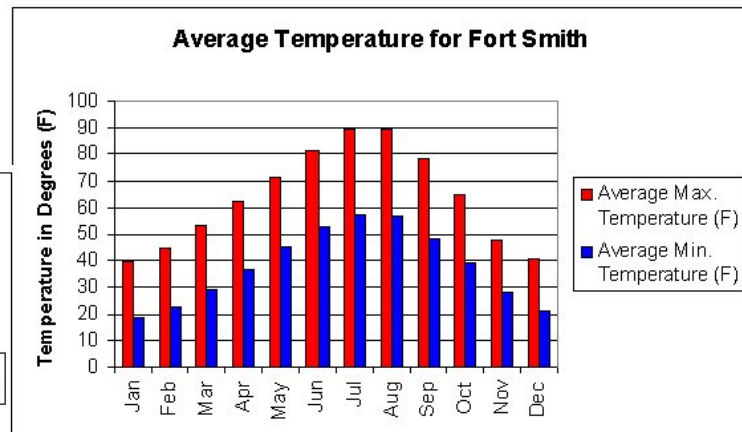
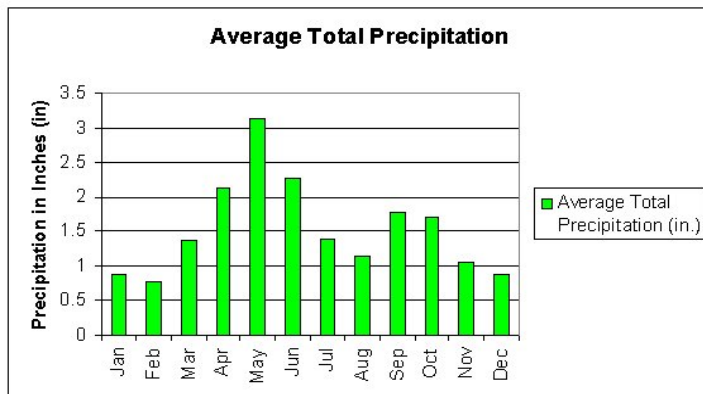
Table 1. Public Water Supplies in the area.

PWSID	Primary Name	Class	Source Name	Source Type	Resident Population	Non-Resident Population
MT0000104	Fort Smith W&S District	Community	Inside Artesian Lot 12 Well #1	Groundwater	36	105
MT0000104	Fort Smith W&S District	Community	Outside Artesian Lot 12 Well #2	Groundwater	36	105
MT0002514	Yellowtail Dam GC Lower System	Community	System #2	Surface Water	40	0
MT0002531	Yellowtail Dam MK Upper System	Community	Well For MK System	Groundwater	30	0
MT0000103	Yellowtail Dam Power plant and Visitor Center	Transient	Yellowtail Reservoir	Surface Water	0	25

Figure 2. Average Temperatures and Precipitation

Climate

The average daily high and low temperatures at Fort Smith are 89.7 °F and 57°F in August and 38.1°F



and 16.2°F in January (Figure 2). Precipitation averaging 17.94 inches annually is heaviest in

May and June. Average annual snowfall is 32.8 inches with the largest average accumulation coming in January (Western Regional Climate Center).

Geographic Setting

Fort Smith is located on the Bighorn River about 90 miles southeast of Billings. The town is located between the Soap Creek Valley and the Black Canyon Creek Valley ([Figure 1](#) and [Figure 3](#)). This location is about 3,300 feet above sea level and is within the Middle Yellowstone Watershed (HUC # 10080015). The Bighorn River Valley is approximately 3.5 miles wide near Fort Smith.

Geology

The Yellowtail Water District public water supply and the town of Fort Smith are located near the mouth of Bighorn Canyon on the northeastern flank of the Bighorn-Pryor Mountain uplift ([Figure 4](#)). The mountain front is composed of folded consolidated bedrock ranging in age from Cretaceous through the Mississippian period. This package of bedrock consists of a variety of rock types. The formations dip steeply (22 to 55 degrees) to the northeast. East of the mouth of the canyon, the older bedrock is overlain by younger unconsolidated sediments in the form of alluvial fans, alluvial terraces, and modern alluvium within the Bighorn River Valley. In other parts of Montana, there can be multiple alluvial terraces located at distinct elevations above the local river. In this area however, only one terrace deposit is mapped ([Figure 4](#)). Some of the gravel deposits within the younger alluvial deposits, including the terraces, can function as aquifers where they receive recharge from irrigation canals and flood irrigated fields. However, most of the wells in the vicinity of Fort Smith are drilled into the formations below the alluvial deposits, such as the Lakota Formation, Kootenai Formation, Amsden Formation, and Madison Formation. These formations consist of shale, siltstone, sandstone, and limestone. Aquifers within the older bedrock formations are interpreted as semi-confined to confined.

Yellowtail Water District's wells are completed in the Kootenai Formation, which lies below the modern alluvium deposits of the Bighorn River Valley ([Figure 4](#)). The Kootenai Formation consists of blue shale, sandstone, bentonite, and red clay layers. Based on lithology information from the well logs for the Yellowtail Water District and from wells in the vicinity, the Kootenai Formation is about 350 to 400 feet thick, with the overlying alluvium about 10 to 60 feet thick.

The Occurrence of Ground Water:

Ground water used by the public water supply comes from aquifers within older bedrock formations located at the base of the Bighorn-Prior Mountain uplift. Recharge for the aquifers in the Fort Smith area comes from a combination of precipitation, snowmelt runoff, irrigation return flows, and possibly from leakage from the Bighorn Reservoir and the Bighorn River. The Public Water Supply

The Yellowtail Water District public water supply is classified as a community system under the Federal Safe Drinking Water Act, because the system serves at least 25 year-round residents through at least 15 service connections. The PWS services about 100-150 residents in the summer and about 20-30 residents in the winter with about 45 of 50 active residential service connections, and 2 of 2 active transient service connections.

Yellowtail Water District’s public water supply is served by ground water from 2 wells that pump directly to the distribution system. Well #1, south well, is located in a pump house. Well #1 was drilled to a depth of 400 feet on August 9, 1961. The well has 6-inch casing to a depth of 400 feet. Well #1 is an artesian flowing well with natural pressure at 50 gallons per minute. This is an open bottom well. The casing extends 12 inches above the finished floor of the well house, as well as 3 feet above the 100-year flood elevation. Well #2, north well, is located in a pump house on the west side of the district service area. Well #2 was drilled to a depth of 361 feet on April 12, 1961. The well has 6-inch steel casing that extends to a depth of 345 feet, the casing is perforated from 330 feet to 345 feet. The casing extends 12 inches above the finished floor of the well house, as well as 3 feet above the 100-year flood elevation. Well #2 is grouted to a depth of 50 feet. This is an artesian flowing well with natural pressure at 45 gallons per minute. Each well is controlled by two pressure switches; when either well is the lead well, the pressure switch settings are set at cut-in 40 psi, and cut-out 60 psi. When either pump is the lag pump, the pressure settings are set at cut-in 35 psi, and cut-out 55 psi. At the time of the inspection

Table 2. Source water sensitivity criteria (DEQ, 1999).

Well #2 was the lead well. Well #1 has 5 pressure tanks: 1 Sears 90W, 1 ConAire 95, 1 WellRite, 1 Sears of unknown capacity, and 1 unknown captive air tank. Well #2 has 4 captive air tanks: 1 ConAire, 1 Kenmore MD220F, 1 Well-X-Trol, and 1 unknown captive air tank. Both wells have a submersible pump of unknown horsepower. The distribution system consists of 2 and 4 inch piping with no looping. No cross-connections were observed at the time of the sanitary survey. All the lines are dead-ends; there are no valves on this system. There is no treatment on this system. The Montana Bureau of Mines and Geology (MBMG) interpret the wells as being completed in the Lakota/Kootenai Formation. Although some wells in the area encounter sandstone beds that appear to be unconfined, the public water supply wells are fairly deep and there are multiple shale beds above the producing sandstone creating a confined aquifer.

Source Water Sensitivity
High Source Water Sensitivity Surface water and GWUDISW Unconsolidated Alluvium (unconfined) Fluvial-Glacial Gravel Terrace and Pediment Gravel Shallow Fractured or Carbonate Bedrock
Moderate Source Water Sensitivity Semi-consolidated Valley Fill sediments Unconsolidated Alluvium (semi-confined)
Low Source Water Sensitivity Consolidated Sandstone Bedrock Deep Fractured or Carbonate Bedrock Semi-consolidated Valley Fill Sediments (confined)

Public water systems must conduct routine monitoring for contaminants in accordance with Federal Safe Drinking Water Act requirements. A community public water supply, like Yellowtail Water District, must sample in accordance with schedules specified in the Administrative Rules of Montana (ARM). Monitoring includes coliform bacteria, lead, copper, nitrate, nitrite, volatile organic chemicals (including hydrocarbons and chlorinated solvents), inorganic chemicals (including metals), synthetic organic chemicals (including pesticides), and radiological contaminants. Transient, non-community PWSs are required to conduct routine monitoring only for pathogens (including coliform bacteria), nitrate, and nitrite. All contaminant concentrations detected in required samples must comply with numeric maximum contaminant levels (MCLs) specified in the Federal Safe Drinking Water Act.

Yellowtail Water District PWS Water Quality

Within the past five years, Yellowtail Water District has five positive total coliform detection in April and May of 2000. Follow-up samples tested negative indicating the water was not contaminated by bacteria. No MCL exceedances were noted for any other constituents monitored over the past five years, this includes nitrate. All the nitrate samples for the past five years were less than 0.05 mg/l, which is significantly below the MCL of 10 mg/l. Overall, the water quality for this system is very good.

CHAPTER 2 DELINEATION

The source water protection areas for the Yellowtail Water District public water system are delineated in this chapter. The purpose of delineation is to map the source of drinking water for the public water supply and to define areas within which to prioritize source water protection efforts. Normally for a public water supply using ground water there are three source water protection regions delineated for each well. They include: 1) a 100-foot control zone, 2) a 3-year Time-Of-Travel (TOT) inventory region, or an inventory region based on hydrogeologic mapping, and 3) a recharge region corresponding to the watershed that surrounds the public water supply. For ground water sources that are located close to streams, a surface water buffer region is also routinely delineated.

The goal of management in the control zone is to avoid introducing contaminants directly into the water supply's wells or the immediate surrounding areas. The inventory and surface water buffer regions should be managed to prevent contaminants from reaching the well before natural processes reduce their concentrations. The goal of management in the recharge region is to maintain and improve water quality over long periods of time or increased usage.

General Hydrogeologic Setting

Ground water within the Bighorn River Valley can be found in several distinct geologic deposits. A few wells are completed in the alluvium of the Bighorn River. This aquifer is relatively shallow and it is interpreted to be unconfined based on driller's logs from wells in the area. Older alluvial gravels deposits that cap terraces adjacent the modern alluvium can be sources of ground water. However, in the vicinity of the Yellowtail Dam public water supplies and Fort Smith, there do not appear to be any wells completed in the alluvial terrace deposits. Most of the wells in the area are relatively deep (400 to 900 feet deep) and they are completed in consolidated bedrock. The Lakota Sandstone, Kootenai Formation, and Madison Formation appear to be tapped for ground water in this area. Some of the wells are true artesian wells where ground water flows to and above the land surface.

Conceptual Model and Assumptions

Source water for the Yellowtail Water District public water supplies comes from older consolidated bedrock formations ([Figure 4A and 4B](#)). The aquifers within these formations are interpreted to be confined, and in one case the well is truly artesian with water flowing to the surface. From a Source Water Protection point of view, it is not critical to identify the exact geologic formation that hosts the aquifer. It is sufficient to note that the aquifer is located within older geologic formations as opposed to younger unconsolidated alluvial deposits, and that the aquifer appears to be relatively deep and confined. Recharge is considered to come from a combination of precipitation, snowmelt runoff, irrigation return flows, and possibly from leakage from the Bighorn Reservoir and the Bighorn River. Ground water flow direction is interpreted to be primarily from upland areas toward the river for both shallow alluvial and bedrock aquifers ([Figure 3](#) and [Figure 4](#)). Close to the Bighorn River, the ground water flow direction is interpreted to be approximately parallel to the river, or generally from the west to east.

Summary of Well Information

Table 3. Information from drillers log for the Yellowtail Water District wells.

Well Name: MBMG # DNRC WR#	Well #1 104092	Well #2 104091
Location	06S 31E 16 DCCC	06S 31E 16 DCCC
Date Completed	8/9/1961	4/12/1961
Depth (ft bgs*)	400.0	631.0
Screened Interval (ft**)	Open Bottom	330.0 – 345.0
SWL Depth (ft bgs*)	Artesian	Artesian
PWL Depth (ft bgs*)	-	-
Drawdown (ft**)	-	-
Test Pumping Rate (gpm***)	50.0	45.0
Specific Capacity (gpm/ft****)	-	-

*ft bgs = feet below ground surface, **ft = feet, ***gpm = gallons per minute, ****gpm/ft = gallons per minute per foot of drawdown.

Delineation Results

Control Zones - 100-foot radius control zones are delineated for each well; all sources of potential contaminants should be excluded in this region. All potential contaminant sources are identified within the control zone.

Inventory Region - The inventory region consists of a 1,000-foot radius for each well merged together to form a single inventory region. A 1,000-foot fixed radius is used for the inventory region based on the fact that the wells are receiving their water from a confined aquifer. All significant potential contaminant sources are identified and assessed within the inventory region.

Recharge Region – The watershed encompassing the Bighorn River drainage is delineated as the recharge region. Potential sources of nitrate and pathogens are inventoried within this region. The inventory generally includes landuse and larger facilities that could potentially impact water quality.

Limiting Factors

No site-specific ground water studies were available. The conceptual model presented in this report is a simplification of the real ground-water flow system near Yellowtail Water District but is considered to be sufficiently accurate to assess the susceptibility of the Yellowtail Water District public water supply to potential sources of contamination in the area.

CHAPTER 3 INVENTORY

An inventory of potential sources of contamination was conducted to assess the susceptibility of the Yellowtail Water District public water supply to contamination, and to identify priorities for source water protection planning. Inventories were conducted within the control zone, and the inventory, surface water buffer, and recharge regions. The inventory focuses on facilities that generate, use, store, transport, or dispose of potential contaminants, and on land types on which potential contaminants are generated, used, stored, transported, or disposed. Additionally, the inventory identifies potential sources of all primary drinking water contaminants and *Cryptosporidium*. Only significant potential contaminant sources were selected for detailed inventory.

Inventory Method

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

Step 1: Land cover is identified from the National Land Cover Dataset compiled by the U.S. Geological Survey and U.S. Environmental Protection Agency (U.S.G.S., 2000). Land cover types in this dataset were mapped from satellite imagery at 30-meter resolution using a variety of supporting information.

Step 2: EPA's Envirofacts System was queried to identify EPA regulated facilities. This system accesses the following databases: Resource Conservation and Recovery Information System (RCRIS), Biennial Reporting System (BRS), Toxic Release Inventory (TRI), Permit Compliance System (PCS), and Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). The available reports were browsed for facility information including the Handler/Facility Classification to be used in assessing whether a facility is a significant potential contaminant source.

Step 3: DEQ databases were queried to identify Underground Storage Tanks (UST), hazardous waste contaminated sites, landfills, and abandoned mines.

Step 4: Major road and rail transportation routes were identified.

Step 5. All significant potential contaminant sources were identified in the inventory region and land uses and facilities that generate, store, transport, or dispose large quantities of hazardous materials were identified within the recharge region.

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

- 1) Large quantity hazardous waste generators
- 2) Landfills
- 3) Hazardous waste contaminated sites
- 4) Underground storage tanks
- 5) Major roads or rail transportation routes
- 6) Cultivated cropland
- 7) Animal feeding operations
- 8) Wastewater lagoons or spray irrigation
- 9) Septic systems
- 10) Sewered residential areas
- 11) Storm sewer outflows
- 12) Floor drains, sumps, or dry wells
- 13) Abandoned or active mines

Inventory Results/Control Zones

The control zones for Well #2 may include portions of sewer lines, as it is located within the subdivision. The control zone for Well #2 also includes portions of local roads and several developed lots ([Figure 3](#)). Other potential contaminants present in the control zone for Well #2 include yard and lawn chemicals, and small volumes of fuel related to lawn care equipment. These potential contaminants are not stored in commercial volumes and are not considered to pose a threat to the source water. That being said, it would be still be advisable for the water system to restrict the use of fertilizers, pesticides, or herbicides near the well locations. Well #1 is located on undeveloped land south of the subdivision and therefore, there are no potential contaminants in its control zone.

Inventory Results/Inventory Region

There are three leaky underground storage tanks (LUST) located in the inventory region for Yellowtail Water District. These three tanks are located at the Yellowtail Market about 350 feet down gradient from Well #2 ([Figure 3](#)). This means that the ground water beneath these tank sites is moving away from the wells and not toward them ([Figure 3](#)). These tanks are not considered to pose a significant threat to the source water.

Within the inventory region most of the land is low septic density and although areas of high and moderate septic density are shown on the map, the area is served by the community sewer system. Well #2 is located in an area where sewer mains and service lines would be relatively close to the well.

As mentioned previously, the local road is located fairly close to Well #2. This road does not carry heavy traffic volume and is not a major truck route. This road is not considered to pose a threat to the source water. However, it is still advisable for emergency response personnel to be informed of the location of the public water supply wells to help them respond appropriately should an accident involving hazardous material occur near the wells.

Other potential contaminant sources in the Yellowtail Water District area possibly include Class V injection wells (floor drains, French drains, etc). These are drains that are open to the shallow aquifer system and that are not connected to a septic system or sewer service. Class V wells were common in the past in a variety of private and commercial shops. The threat from Class V injection wells cannot be determined because an accurate inventory of these wells has not been completed for Montana. A local inventory of Class V injection wells is the best way to assess the threat they may pose to the source water.

From the above list of potential contaminant sources, some are considered significant based upon the following factors: the volume of potential releases, the volume of hazardous materials typically handled, the potential of the released materials to impact nearby surface water or groundwater, and the proximity of the sources to the PWS well and infiltration lines. Significant potential contaminant sources from the above section are summarized for each source of water in Table 4 below.

Table 4. Significant Potential Contaminant Sources in the Inventory Region

Source	Contaminant	Hazard
Sewer Mains and Service Lines	Pathogens and nitrate, household hazardous waste	Infiltration into shallow ground water
Leaky Underground Storage Tanks (LUST's)	Petroleum Hydrocarbons	Spill, leak
Class V Injection Wells (existence and locations are not known) where storm and/or wastewater is concentrated and recharges groundwater.	VOCs, SOCs, petroleum hydrocarbons, metals, pathogens, nitrate	Leaks, spills, improper handling and disposal/discharge of chemicals used by various businesses and are released to systems that allow infiltration of contaminants to the subsurface or to the storm water system

Inventory Results/Recharge Region

Land cover in the recharge or watershed region is 50% grassland, 37% forest, 10% agricultural land, 2% wetlands, and 1% open water ([Figure 7](#)). Forest and grasslands are not considered potential contaminant sources. Agricultural land is considered a potential contaminant sources due to the use of fertilizers, pesticides and herbicides. The concern here is the potential for mismanagement or over-application of fertilizers and/or pesticides on the agricultural lands that could result in SOCs entering the Boulder River up-stream from the wells. However, the percent of agricultural land in the area is small and is not considered to pose a threat to the source water.

Inventory Update

To make this SWDAR a useful document in the years to come, the owners, manager, or the certified water system operator(s) for the public water supply should update the inventory for their records every year. Changes in land uses or potential contaminant sources should be noted and additions made as needed. The complete inventory should be submitted to DEQ at least every 5 years to ensure that this report/plan stays current in the public record.

Inventory Limitations

The potential sources of contaminants described above are identified from readily available information. Consequently, unregulated activities or unreported contaminant releases may have been overlooked. The use of multiple sources of information, however, should ensure that the major threats to the source water have been identified.

CHAPTER 4 SUSCEPTIBILITY ASSESSMENT

Susceptibility is the potential for a public water supply to draw in water contaminated by inventoried sources. Susceptibility is assessed in order to help prioritize management actions for each potential contaminant source.

The goal of source water management is to protect the source water by 1) controlling activities in the control zone, 2) managing significant potential contaminant sources in the inventory region, and 3) ensuring that land use activities in the recharge region pose minimal threats to the source water. Management priorities in the inventory region are determined by ranking the significant potential contaminant sources identified in the previous chapter according to susceptibility. The PWS operators, town, and county officials could pursue alternative management approaches to help reduce susceptibility that are listed in Table 7 and discussed briefly in Chapter 5.

Susceptibility is determined by considering the hazard rating for each potential contaminant source and the existence of barriers that decrease the likelihood that contaminated water will flow to the PWS wells (Tables 6 and 7).

When time-of-travel calculations are performed, high hazard is assigned to point sources within the 1-year time-of-travel distance to a well. A moderate hazard rating is assigned to point sources located between the 1-year time-of-travel distance and the 3-year time-of-travel distance to a well. A low hazard rating is assigned to point sources located farther than the 3-year time-of-travel distance. For the Yellowtail Dam wells, which are interpreted as tapping a confined aquifer, hazard ratings for point and nonpoint sources are assigned based on the following criteria in Table 5. Hazard is assigned based on whether the public water supply wells are sealed through the confining layer and on whether there are other wells within the inventory region that tap the same aquifer. In this case, the well logs for Yellowtail Water District do not indicate if the wells are properly sealed and this results in a high hazard being assigned to some potential contaminant sources.

Table 5. Hazard of potential contaminant sources for the public water system wells.

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

Barriers to contamination can be anything that decreases the likelihood that contaminants will reach a well. Barriers can be engineered structures, management actions, or natural conditions. Examples of engineered barriers are spill catchment structures for industrial facilities and leak detection for underground storage tanks. Emergency planning and best management practices are considered management barriers. Thick clay-rich soils, a deep water table or a thick saturated zone above the well intake can be a natural barrier. Table 6 shows how barriers are used to adjust the final susceptibility ratings.

Table 6. Susceptibility of Source Water based on Hazard rating and the presence of Barriers

	High Hazard Rating	Moderate Hazard Rating	Low Hazard Rating
No Barriers	Very High Susceptibility	High Susceptibility	Moderate Susceptibility
One Barrier	High Susceptibility	Moderate Susceptibility	Low Susceptibility
Multiple Barriers	Moderate Susceptibility	Low Susceptibility	Very Low Susceptibility

Susceptibility ratings are presented individually for each significant potential contaminant source and each associated contaminant on the following page (Table 7).

Table 7. Susceptibility Assessment Significant Potential Contaminant Sources in the Inventory Region - Yellowtail Water District Public Water Supply.

Inventory Region							
Source	ID Number on Maps	Contaminant	Hazard	Hazard Rating	Barriers	Susceptibility	Management Recommendations
Sewer Mains and Service Lines	Not Numbered	Pathogens and nitrate,	Infiltration into shallow ground water	High	-Aquifer Depth - Confining Layer of Aquifer - Down Gradient* location from Well #1 and Partially Down Gradient* location from Well #2	Well #1 – Low Well #2 - Moderate	Support efforts to provide educational workshops to the general public by the city, county, or state promote safe handling and proper storage, transport, use, and disposal of hazardous materials. Scheduled days for the collection of hazardous wastes from the public.
Yellowtail Market LUST Site	Petroleum Hydrocarbons	Spill, leak	Infiltration into shallow ground water	High	-Aquifer Depth -Down Gradient Location from both wells -Confining Layer of Aquifer	Low	Monitor status of Remediation
Class V Injection Wells (existence and locations are not known) where storm and/or wastewater is concentrated and recharges groundwater.	Not Numbered	VOCs, SOCs, petroleum hydrocarbons, metals, pathogens, nitrate	Leaks, spills, improper handling and disposal/discharge of chemicals used by various businesses and are released to systems that allow infiltration of contaminants to the subsurface or to the storm water system	Unknown	<i>Unknown</i>	Unknown	Inventory; Provide educational information, materials and resources to business owners and the public on proper waste disposal and recycling

Management Recommendations

It should be noted that even small releases of some chemicals in close proximity to a well, spring, infiltration gallery, or surface water intake can have significant negative impact on water quality, and is therefore a significant threat to a public water supply. Steps can be taken to reduce the likelihood of releases to the source water for the PWS or in the vicinity of the water sources (wells, springs, etc.). Some of these steps (considered management recommendations) are listed below. Some management recommendations are also included in the susceptibility table (Table 7). If these, and other, management actions are implemented; they may be considered additional barriers that will reduce the susceptibility of the public water supply wells to specific sources of contamination.

Specific management recommendations for the Yellowtail Water District Public Water Supply:

The public water supply serving Yellowtail Water District is moderately susceptible the agricultural land in the inventory region. Working with the agricultural community to increase awareness of the public water supply's location and encouraging the use of Best Management Practices (BMPs) for fertilizer, pesticide, and herbicide application would help lower the hazard posed by agricultural chemicals. Systematically inspecting and replacing aging septic lines would reduce the hazard posed by the on-site septic system.

Other general management recommendations fall into the following categories:

- Septic system maintenance and leak detection
- Municipal sewer extension
- Agricultural best management practices
- Education
- Emergency Response Planning

Septic System Maintenance and leak detection – Early warning of leaks and scheduled replacement of aging septic lines may reduce the susceptibility of the Yellowtail Water District public water supply to contamination from septic wastes.

Sewer Extension – Installation of advanced septic treatment systems such as sand filters can limit contamination from new rural residential development, however, annexation and extension of sewers is the only way to reduce contamination from existing unsewered developments.

Agricultural and silvicultural best management practices (BMPs) – BMPs that address application and mixing of fertilizer and pesticides are a viable alternative to prohibition of their use. BMPs may also be utilized to minimize surface runoff and soil erosion on cultivated fields. Erosion control, selective logging, and other silvicultural practices (essentially BMPs) should be considered on a countywide basis. BMPs are generally voluntary but their implementation can be encouraged through education and technical assistance. County planning can help promote the implementation of BMP on lands that are outside the town limits but indirectly affect the city PWS.

Education - Educational workshops provided to the general public by the county or state promote safe handling and proper storage, transport, use, and disposal of hazardous materials. Ongoing training

provided to designated emergency personnel will promote the efficiency and effectiveness of emergency responses to hazardous material spills. Likewise, educational workshops provided to rural homeowners will promote the proper maintenance and replacement of residential septic systems. The EPA and the State of Montana can provide educational materials on these topics.

Emergency Response Plan – Several counties have compiled Emergency Response Plans that were then adopted by the local communities. The usefulness and effectiveness of a response plan are maximized if it contains a clear listing of all emergency contacts, emergency numbers, and resources available within the county to respond to an emergency situation, such as a hazardous material spill. Emergency plans are not difficult to develop or distribute, but have a significant benefit to the citizens and municipalities within the county.

CHAPTER 5 MONITORING WAIVERS

Waiver Recommendation

It does not appear that the Yellowtail Water District has water quality monitoring waiver at this time. However, based on past monitoring results and the susceptibility assessment of the well, the Yellowtail PWS may be eligible for monitoring waivers. Prior to requesting additional waivers, the PWS Operators would be encouraged to carefully review the following section on Monitoring Waiver Requirements. If after reviewing this section it is determined that an additional waiver is feasible, the Yellowtail Water District PWS should submit a letter with the proper documentation to DEQ requesting monitoring waivers. The PWS also needs to provide additional information to DEQ regarding chemical use within the inventory region.

Monitoring Waiver Requirements

The 1986 Amendments to the Safe Drinking Water Act require that community and non-community PWSs sample drinking water sources for the presence of volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs). The US EPA has authorized states to issue monitoring waivers for the organic chemicals to systems that have completed an approved waiver application and review process. All PWSs in the State of Montana are eligible for consideration of monitoring waivers for several organic chemicals. The chemicals diquat, endothall, glyphosate, dioxins, ethylene dibromide (EDB), dibromochloropropane (DBCP), and polychlorinated biphenyls are excluded from monitoring requirements by statewide waivers.

Use Waivers

A Use Waiver can be allowed if through a vulnerability assessment, it is determined that specific organic chemicals were not used, manufactured, or stored in the area of a water source (or source area). If certain organic chemicals have been used, or if the use is unknown, the system would be determined to be vulnerable to organic chemical contamination and ineligible for a Use Waiver for those particular contaminants.

Susceptibility Waivers

If a Use Waiver is not granted, a system may still be eligible for a Susceptibility Waiver, if through a vulnerability assessment it is demonstrated that the water source would not be susceptible to contamination. Susceptibility is based on prior analytical or vulnerability assessment results, environmental persistence, and transport of the contaminants, natural protection of the source, wellhead protection program efforts, and the level of susceptibility indicators (such as nitrate and coliform bacteria). The vulnerability assessment of a surface water source must consider the watershed area above the source, or a minimum fixed radius of 1.5 miles up gradient of the surface water intake. PWSs developed in unconfined aquifers should use a minimum fixed radius of 1.0 mile as an area of investigation for the use of organic chemicals. Vulnerability assessment of spring water sources should use a minimum fixed radius of 1.0 mile as an area of investigation for the use of organic chemicals. Shallow groundwater sources under the direct influence of surface water (GWUDISW) should use the same area of investigation as surface water systems; that is, the watershed area above the source, or a minimum fixed radius of 1.5 miles upgradient of the point of diversion. The purpose of the vulnerability assessment procedures outlined in this section is to determine which of the organic chemical contaminants are in the area of investigation.

Given the wide range of landforms, land uses, and the diversity of groundwater and surface water sources across the state, additional information is often required during the review of a waiver application. Additional information may include well logs, pump test data, or water quality monitoring data from surrounding public water systems; delineation of zones of influence and contribution to a well; Time-of-Travel or attenuation studies; vulnerability mapping; and the use of computerized groundwater flow and transport models. DEQ's PWS Section and DEQ's Source Water Protection Program will conduct review of an organic chemical monitoring waiver application. Other state agencies may be asked for assistance.

Susceptibility Waiver for Confined Aquifers

Confined groundwater is isolated from overlying material by relatively impermeable geologic formations. A confined aquifer is subject to pressures higher than atmospheric pressure that would exist at the top of the aquifer if the aquifer were not geologically confined. A well that is drilled through the impervious layer into a confined aquifer will enable the water to rise in the borehole to a level that is proportional to the water pressure (hydrostatic head) that exists at the top of a confined aquifer.

The susceptibility of a confined aquifer relates to the probability of an introduced contaminant to travel from the source of contamination to the aquifer. Susceptibility of an aquifer to contamination will be influenced by the hydrogeologic characteristics of the soil, vadose zone (the unsaturated geologic materials between the ground surface and the aquifer), and confining layers. Important hydrogeologic controls include the thickness of the soil, the depth of the aquifer, the permeability of the soil and vadose zones, the thickness and uniformity of low permeability and confining layers between the surface and the aquifer, and hydrostatic head of the aquifer. These factors will control how readily a contaminant will infiltrate and percolate toward the groundwater.

The Susceptibility waiver has the objective of assessing the potential of contaminants reaching the groundwater used by the PWS. A groundwater source that appears to be confined from surface infiltration in the immediate area of the wellhead may eventually be affected by contaminated groundwater flow from elsewhere in the recharge area. Contaminants could also enter the confined aquifer through improper well construction or abandonment where the well provides a hydraulic connection from the surface to the confined aquifer. The extent of confinement of an aquifer is critical to limiting susceptibility to organic chemical contamination. Regional conditions that define the confinement of a groundwater source must be demonstrated by the PWS in order to be considered for a confined aquifer susceptibility waiver.

Confinement of an aquifer can be demonstrated by pump test data (storage coefficient), geologic mapping, and well logs. Site-specific information is required to sufficiently represent the recharge area of the aquifer and the zone of contribution to the PWS well. The following information should be provided:

- Abandoned wells in the region (zone of contribution to the well),
- Other wells in the region (zone of contribution to the well),
- Nitrate/Coliform bacteria analytical history of the PWS well,
- Organic chemical analytical history of the PWS well,

Susceptibility Waiver for Unconfined Aquifers

Unconfined aquifers are the most common source of usable groundwater. Unconfined aquifers differ from confined aquifers in that the groundwater is not regionally contained within relatively impervious geologic strata. As a result, the upper groundwater surface or water table in an unconfined aquifer is not under pressure that produces hydrostatic head common to confined aquifers.

Unconfined aquifers are usually locally recharged from surface water or precipitation. In general, groundwater flow gradients in unconfined aquifers reflect surface topography, and the residence time of

water in the aquifer is comparatively shorter than for water in confined aquifers. Similar water chemistry often exists between unconfined groundwater and area surface water, and physical parameters and dissolved constituents can be an indicator of the hydraulic connection between groundwater and surface water. Consequently, unconfined aquifers can be susceptible to contamination by organic chemicals migrating from the ground surface to groundwater.

The objective of the susceptibility waiver application is to assess the potential of organic chemical migration from the surface to the unconfined aquifer. The general procedures make use of a combination of site-specific information pertaining to the location and construction of the source development, monitoring history of the source, geologic characteristics of the unsaturated soil and vadose zones, and chemical characteristics of the organic chemicals pertaining to their mobility and persistence in the environment. The zone of contribution of the unconfined groundwater source must be defined and plotted. This should describe the groundwater flow directions, gradients, and a 3-year time-of-travel. All surface bodies within 1,000 feet of the PWS well(s) must be plotted. Analytical monitoring history of the PWS well and those nearby should be provided as well.

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GLOSSARY*

Acute Health Effect. An adverse health effect in which symptoms develop rapidly.

Alkalinity. The capacity of water to neutralize acids.

Best Management Practices (BMPs). Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from nonpoint sources.

Coliform Bacteria. Bacteria found in the intestinal tracts of animals. Their presence in water is an indicator of pollution and possible contamination by pathogens.

Confined Aquifer. A fully saturated aquifer overlain by a confining unit such as a clay layer. The static water level in a well in a confined aquifer is at an elevation that is equal to or higher than the base of the overlying confining unit.

Confining Unit. A geologic formation that inhibits the flow of water.

Delineation. A process of mapping source water management areas.

Effective Porosity. The percent of soil, sediment, or rock through which fluids, such as air or water, can pass. Effective porosity is always less than total porosity because fluids can not pass through all openings.

Hardness. Characteristic of water caused by presence of various salts. Hard water may interfere with some industrial processes and prevent soap from lathering.

Hazard. A measure of the potential of a contaminant leaked from a facility to reach a public water supply source. Proximity or density of significant potential contaminant sources determines hazard.

Hydraulic Conductivity. A coefficient of proportionality describing the rate at which water can move through an aquifer.

Inventory Region. A source water management area that encompasses an area expected to contribute water to a public water supply well within a fixed distance or a specified groundwater time-of-travel distance.

Maximum Contaminant Level (MCL). Maximum concentration of a substance in water that is permitted to be delivered to the users of a public water supply. Set by EPA under authority of the Safe Drinking Water Act.

Nitrate. An important plant nutrient and type of inorganic fertilizer. In water the major sources of nitrates are septic tanks, feed lots and fertilizers.

Nonpoint-Source Pollution. Pollution sources that are diffuse and do not have a single point of origin or are not introduced into a receiving stream from a specific outlet.

Pathogens. A bacterial organism or virus typically found in the intestinal tracts of mammals, capable of producing disease.

Point-Source. A stationary location or fixed facility from which pollutants are discharged.

Porosity. The percent of soil, sediment, or rock filled by air, water, or other fluid.

Public Water Supply (PWS). A system that provides piped water for human consumption to at least 15 service connections or regularly serves 25 individuals.

SIC Code. The U.S. Standard Industrial Classification (SIC) Codes classify categories of businesses. SIC Codes cover the entire range of business categories that exist within the economy.

Source Water Protection Area. For surface water sources, the land and surface drainage network that contributes water to a stream or reservoir used by a public water supply.

Susceptibility (of a PWS). The potential for a PWS to draw water contaminated at concentrations that would pose concern. Susceptibility is evaluated at the point immediately preceding treatment or, if no treatment is provided, at the entry point to the distribution system.

Synthetic Organic Compounds (SOC). Man made organic chemical compounds (e.g. pesticides).

Total Dissolved Solids (TDS). The dissolved solids collected after a sample of a known volume of water is passed through a very fine mesh filter.

Total Maximum Daily Load (TMDL). The total pollutant load to a surface water body from point, non-point, and natural sources. The TMDL program was established by section 303(d) of the Clean Water Act to help states implement water quality standards.

Turbidity. The cloudy appearance of water caused by the presence of suspended matter.

Transmissivity. The ability of an aquifer to transmit water.

Unconfined Aquifer. An aquifer containing water that is not under pressure. The water table is the top surface of an unconfined aquifer.

Volatile Organic Compounds (VOC). Any organic compound which evaporates readily to the atmosphere (e.g. fuels and solvents).

Recharge Region / Watershed. The land area that drains into a stream; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common delivery point.

* Definitions taken from EPA's Glossary of Selected Terms and Abbreviations and other sources.

FIGURES

[Figure 1 General Location Map](#)

Figure 2. Climate Summary – Imbedded in text on page 4.

[Figure 3. Inventory of Potential Contaminant Sources](#)

[Figure 4. General Geology Map](#)

Figure 5. Well Depth Histogram – Imbedded in text on page 10.

[Figure 6. Inventory Region Map with Landcover/Landuse.](#)

[Figure 7. Recharge Region with Landcover](#)

APPENDICES

APPENDIX A – Well Logs for Yellowtail Water District

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
YELLOWTAIL WATER DISTRICT

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 104092	Source of Data: LOG
Location (TRS): 06S 31E 16 DCCC	Latitude (dd): 45.3047
County (MT): BIG HORN	Longitude (dd): -107.9176
DNRC Water Right:	Geomethod: MAP
PWS Id: 00102002	Datum: NAD27
Block:	Altitude (feet): 3300.00
Lot:	Certificate of Survey:
Addition: YELLOWTAIL	Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 400.00	How Drilled: UNKNOWN
Static Water Level (ft):	Driller's Name: UNKNOWN
Pumping Water Level (ft):	Driller License:
Yield (gpm): 50.00	Completion Date (m/d/y): 8/9/1961
Test Type:	Special Conditions:
Test Duration:	Is Well Flowing?: YES
Drill Stem Setting (ft):	Shut-In Pressure:
Recovery Water Level (ft):	Geology/Aquifer: 217KOTN
Recovery Time (hrs):	Well/Water Use: PUBLIC WATER SUPPLY
Well Notes:	

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
0.0	400.0	6.0				BLACK

Annular Seal Information

No Seal Records currently in GWIC.

Completion Information¹

No Completion Records currently in GWIC.

Lithology Information

From	To	Description
0.0	400.0	SURFACE SOIL BLUE SHALE SANDY CLAY SANDSTONE & SHALE BENTONITE RED CLAY SANDY CLAY HARD SANDSTONE RED & BLUE CLAY HARD SAND WATER SAND (LAKOTA)

¹ - All diameters reported are **inside** diameter of the casing.

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

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
YELLOWTAIL WATER DISTRICT

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 104091
Location (TRS): 06S 31E 16 DCCC
County (MT): BIG HORN
DNRC Water Right:
PWS Id: 00102003
Block:
Lot:
Addition: YELLOWTAIL

Source of Data: LOG
Latitude (dd): 45.3042
Longitude (dd): -107.9178
Geomethod: MAP
Datum: NAD27
Altitude (feet):
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 361.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm): 45.00
Test Type: VOLUMETRIC
Test Duration: 1.00
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: ROTARY DRILL
Driller's Name: WESTERN WATER WORKS
Driller License:
Completion Date (m/d/y): 4/12/1961
Special Conditions:
Is Well Flowing?: YES
Shut-In Pressure: 36.00
Geology/Aquifer: 217KOTN
Well/Water Use: PUBLIC WATER SUPPLY

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
0.0	345.0	6.0				BLACK STEEL

Annular Seal Information

No Seal Records currently in GWIC.

Completion Information¹

From	To	Dia	# of Openings	Size of Openings	Description
330.0	345.0	6.0			3 X 1/4 CUT PERFS

Lithology Information

From	To	Description
0.0	60.0	SURFACE SOIL- GRAVEL AND SAND
60.0	83.0	BLUE SHALE
83.0	84.0	SS LEDGE
84.0	120.0	SHALE W/SANDSTONE STRINGERS
120.0	122.0	SAND STONE
122.0	152.0	SHALE
152.0	161.0	BENTONITE
161.0	196.0	SHALE W/BENTONITE STRINGERS
196.0	228.0	RED CLAY
228.0	240.0	BENTONITE AND SAND STONE STRINGERS
240.0	260.0	SANDY CLAY
260.0	282.0	SANDSTONE- SOFT SAND- AND BENTONITE
282.0	284.0	HARD SANDSTONE
284.0	296.0	SHALE- BENTONITE- RED CLAY
296.0	297.0	HARD SANDSTONE

297.0	329.0	RED AND BLUE CLAY
329.0	345.0	HARD SAND
345.0	361.0	WATER SAND (LAKOTA)

¹ - All diameters reported are **inside** diameter of the casing.

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

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
YELLOWTAIL DAM GC LOWER SYSTEM

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 104096
Location (TRS): 06S 31E 17 DCAD
County (MT): BIG HORN
DNRC Water Right: W040901-00
PWS Id: 02514002
Block:
Lot:
Addition:

Source of Data: GW4
Latitude (dd): 45.3064
Longitude (dd): -107.9333
Geomethod: MAP
Datum: NAD27
Altitude (feet):
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 520.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm): 100.00
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: UNKNOWN
Driller's Name: UNKNOWN
Driller License:
Completion Date (m/d/y): 8/1/1961
Special Conditions:
Is Well Flowing?: YES
Shut-In Pressure:
Geology/Aquifer: 217KOTN
Well/Water Use: PUBLIC WATER SUPPLY

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint Type
0.0	520.0	5.0			

Annular Seal Information

No Seal Records currently in GWIC.

Completion Information¹

No Completion Records currently in GWIC.

Lithology Information

From	To	Description
0.0	520.0	THERMOPOLIS SHALE (UPPER CRETACEOUS)

¹ - All diameters reported are **inside** diameter of the casing.

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

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
FORT SMITH WATER AND SEWER DISTRICT

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 188600
Location (TRS): 06S 31E 16 DBCC
County (MT): BIG HORN
DNRC Water Right: K005517-00
PWS Id: 00104003
Block:
Lot:
Addition:

Source of Data: DEQ
Latitude (dd): 45.3087
Longitude (dd): -107.9174
Geomethod: MAP
Datum: NAD27
Altitude (feet):
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 454.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm): 85.00
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled:
Driller's Name: JE LAMMERS
Driller License:
Completion Date (m/d/y): 5/22/1963
Special Conditions:
Is Well Flowing?: YES
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: PUBLIC WATER SUPPLY

Well Notes: WELL LOG CREATED FROM DEQ SANITARY SURVEY.

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
0.0	0.0	6.0				

Annular Seal Information

From	To	Description
0.0	52.0	CEMENT

Completion Information¹

No Completion Records currently in GWIC.

Lithology Information

From	To	Description
0.0	3.0	TOP SOIL
3.0	31.0	BOULDERS SAND AND GRAVEL
31.0	33.0	CLAY
33.0	46.0	BOULDERS SAND AND GRAVEL
46.0	58.0	GRAY CLAY
58.0	91.0	BLUE SHALE
91.0	93.0	GRAY SHALE
93.0	94.0	SS SHELL
94.0	99.0	BLUE SHALE
99.0	210.0	BLUE SHALE SHELL AT 112 AND 192
210.0	211.0	SHELL
211.0	219.0	BLUE SHALE
219.0	223.0	BENTONITE
223.0	267.0	RED CLAY
267.0	276.0	BENTONITE
276.0	303.0	RED CLAY

303.0	328.0	BLUE SOFT SHALE
328.0	343.0	BENTONITE
343.0	348.0	SANDSTONE
348.0	353.0	BENTONITE
353.0	364.0	RED CLAY
364.0	393.0	RED CLAY
393.0	397.0	RED CLAY

¹ - All diameters reported are **inside** diameter of the casing.

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

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
FORT SMITH WATER AND SEWER DISTRICT

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 104090
Location (TRS): 06S 31E 16 DBCC
County (MT): BIG HORN
DNRC Water Right: W185412-00
PWS Id: 00104002
Block:
Lot:
Addition: YELLOWTAIL
SUBDIVISION

Source of Data: COMBO
Latitude (dd): 45.3088
Longitude (dd): -107.9175
Geomethod: MAP
Datum: NAD27
Altitude (feet): 3290.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 440.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm): 110.00
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled: CABLE TOOL
Driller's Name: KRAY
Driller License:
Completion Date (m/d/y): 4/21/1961
Special Conditions:
Is Well Flowing?: YES
Shut-In Pressure:
Geology/Aquifer: 217KOTN
Well/Water Use: DOMESTIC
IRRIGATION
PUBLIC WATER SUPPLY

Well Notes:

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
0.0	64.4	8.0				STEEL
0.0	347.0	6.0				GALVANIZED
0.0	421.0	4.0				GALVANIZED

Annular Seal Information

From	To	Description
0.0	421.0	CEMENT BTWN 8 AND 6"

Completion Information¹

From	To	Dia	# of Openings	Size of Openings	Description
400.0	421.0	4.0			TORCH CUTS

Lithology Information

From	To	Description
0.0	2.0	TOPSOIL
2.0	24.0	RED CLAY GRAVEL AND BOULDERS
24.0	40.0	GREY CLAY GRAVEL AND BOULDERS
40.0	44.0	PEA GRAVEL AND SILT WATER 10 GPM
44.0	49.0	YELLOW CLAY
49.0	218.0	DARK SHALE
218.0	225.0	BENTONITE
225.0	250.0	RED CLAY
250.0	255.0	GREEN SHALE - CAVED
255.0	300.0	RED CLAY
300.0	340.0	LITE SHALE

340.0	345.0	BENTONITE
345.0	350.0	HARD ROCK
350.0	358.0	BENTONITE
358.0	395.0	RED CLAY
395.0	400.0	SHELL
400.0	440.0	SAND

¹ - All diameters reported are **inside** diameter of the casing.

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

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
FORT SMITH WATER AND SEWER DISTRICT

[Plot this site on a topographic map](#)

Location Information

GWIC Id: 188600
Location (TRS): 06S 31E 16 DBCC
County (MT): BIG HORN
DNRC Water Right: K005517-00
PWS Id: 00104003
Block:
Lot:
Addition:

Source of Data: DEQ
Latitude (dd): 45.3087
Longitude (dd): -107.9174
Geomethod: MAP
Datum: NAD27
Altitude (feet):
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 454.00
Static Water Level (ft):
Pumping Water Level (ft):
Yield (gpm): 85.00
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):

How Drilled:
Driller's Name: JE LAMMERS
Driller License:
Completion Date (m/d/y): 5/22/1963
Special Conditions:
Is Well Flowing?: YES
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: PUBLIC WATER SUPPLY

Well Notes: WELL LOG CREATED FROM DEQ SANITARY SURVEY.

Hole Diameter Information

No Hole Diameter Records currently in GWIC.

Casing Information¹

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
0.0	0.0	6.0				

Annular Seal Information

From	To	Description
0.0	52.0	CEMENT

Completion Information¹

No Completion Records currently in GWIC.

Lithology Information

From	To	Description
0.0	3.0	TOP SOIL
3.0	31.0	BOULDERS SAND AND GRAVEL
31.0	33.0	CLAY
33.0	46.0	BOULDERS SAND AND GRAVEL
46.0	58.0	GRAY CLAY
58.0	91.0	BLUE SHALE
91.0	93.0	GRAY SHALE
93.0	94.0	SS SHELL
94.0	99.0	BLUE SHALE
99.0	210.0	BLUE SHALE SHELL AT 112 AND 192
210.0	211.0	SHELL
211.0	219.0	BLUE SHALE
219.0	223.0	BENTONITE
223.0	267.0	RED CLAY
267.0	276.0	BENTONITE
276.0	303.0	RED CLAY

303.0	328.0	BLUE SOFT SHALE
328.0	343.0	BENTONITE
343.0	348.0	SANDSTONE
348.0	353.0	BENTONITE
353.0	364.0	RED CLAY
364.0	393.0	RED CLAY
393.0	397.0	RED CLAY

¹ - All diameters reported are **inside** diameter of the casing.

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

APPENDIX B - DEQ PWS's Database Output



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

City: FORT SMITH

County: BIG HORN

Tot Pop: 100

Pri Src: GW

Class: C

Last Snty Srv Dt: 08/12/2004

Activity Status: A

Type	Conn's	In Svc Dts	Eff Begin Dt	Avg Daily Cnt	Type
RS	47	1/1-12/31	01/01/1997	100	R

Administrative Contact
YELLOWTAIL WATER DIST
1300 N TRANSTECH WAY
BILLINGS, MT 59102

Financial Contact
HILBER, STEVE
PO BOX 7806
FORT SMITH, MT 59035
406-666-2375

Operator
ZAIC, ALVIN (ROCKY)
PO BOX 156
SAINT XAVIER, MT 59071
406-666-3202

Operator
WAITE, MATTHEW W
ENGINEERING, INC.
1260 SOUTH 32ND STREET W
BILLINGS, MT 59102
406-656-5255

Operator
RUTT, JON F
603 WEST MAIN
LAUREL, MT 59044
406-628-6059

Operator
PALMER, PHILIP E
GC LOWER GC MK
PO BOX 7551
YELLOWTAIL, MT 59035
406-666-2306

Owner
RUTT, JON F
603 W MAIN
LAUREL, MT 59044
406-628-6059

Facilities and Entry Points

Status: I 08/12/2004 Fac ID: CH001 COMMON HEADER FOR WELLS 1 2 Src: GW
Lat/Long Dec: DMS:

Smp Pt ID	Status	Description
EP502	I 08/12/2004	INACT EP WELLS 1 2

Status: A 02/14/2000 Fac ID: DS001 DISTRIBUTION SYSTEM Src: GW
Lat/Long Dec: DMS:

Smp Pt ID	Status	Description
SP001	A 03/31/2000	SP FOR DS

Status: A 10/12/2000 Fac ID: PC001 PRESSURE CONTROL UPPER Src: GW
Lat/Long Dec: DMS:

Status: A 08/02/2000 Fac ID: PC002 PRESSURE CONTROL LOWER Src: GW
Lat/Long Dec: DMS:



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Status: A 02/14/2000 Fac ID: **WL002** **WELL 1 UPPER HOUSE S** Src: GW
Lat/Long Dec: 45.304167 DMS: 45 18 15.00 107 55 04.00

Smp Pt ID	Status	Description
EP502	A	08/12/2004 EP FOR WELL 1

Status: A 02/14/2000 Fac ID: **WL003** **WELL 2 LOWER HOUSE N** Src: GW
Lat/Long Dec: 45.306972 DMS: 45 18 25.10 107 55 01.00

Smp Pt ID	Status	Description
EP503	A	08/12/2004 EP FOR WELL 2

Sample Schedules/Monitoring Requirements

Attention Community and Noncommunity Nontransient systems: the new Disinfection Byproducts Rule has taken effect. Please contact the PWS Section at 444-4400 for additional monitoring requirements.

Fac ID: DS001 Fac Name: DISTRIBUTION SYSTEM Status: A Src: GW

Smp Pt ID	Active	Smp Pt Description
SP001	A	SP FOR DS

Group	Name	Schd Beg Date	Seas Coll Per	Requirement
3100	COLIFORM, TOTAL (TCR)	08/01/2002	1/1-12/31	1 RT MN

Fac ID: DS001 Fac Name: DISTRIBUTION SYSTEM Status: A Src: GW

Smp Pt ID	Active	Smp Pt Description
SP001	A	SP FOR DS

Group	Name	Schd Beg Date	Init MP Beg	Seas Coll Per	Requirement
ASBE	CDS ASBESTOS	01/01/2002	01/01/2002	1/1-12/31	1 RT 9Y
PBCU	CDS LEAD COPPER ONLY	01/01/1999	01/01/1999	6/1-9/30	5 RT 3Y

Bacti Results FROM 01/01/2000 TO 05/19/2005

Collection Dt	Lab Number	Type	Orig Lab #	Code	TCR Presence	Fec/EC Result
05/10/2005	B05050740-001A	RT	3014	COLIFORM, E. COLI	A	-
05/10/2005	B05050740-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
04/12/2005	B05040800-001A	RT	3014	COLIFORM, E. COLI	A	-
04/12/2005	B05040800-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
03/07/2005	B05030398-001A	RT	3014	COLIFORM, E. COLI	A	-
03/07/2005	B05030398-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
02/09/2005	B05020564-001A	RT	3014	COLIFORM, E. COLI	A	-
02/09/2005	B05020564-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
01/10/2005	B05010349-001A	RT	3014	COLIFORM, E. COLI	A	-
01/10/2005	B05010349-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
12/07/2004	B04120378-001A	RT	3014	COLIFORM, E. COLI	A	-
12/07/2004	B04120378-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
11/09/2004	B04110526-001A	RT	3014	COLIFORM, E. COLI	A	-
11/09/2004	B04110526-001A	RT	3100	COLIFORM, TOTAL (TCR)	A	-
10/05/2004	B04100210-001A	RT	3014	COLIFORM, E. COLI	A	-



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Collection Dt	Lab Number	Type	Orig Lab #	Code	TCR Presence	Fec/EC Result
10/05/2004	B04100210-001A	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/01/2004	B04090069-001A	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/01/2004	B04090069-001A	RT		3014	COLIFORM, E. COLI	A -
08/03/2004	B04080191-001A	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/03/2004	B04080191-001A	RT		3014	COLIFORM, E. COLI	A -
07/06/2004	B04070217-001A	RT		3014	COLIFORM, E. COLI	A -
07/06/2004	B04070217-001A	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/01/2004	0086-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
05/11/2004	B04050685-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
04/05/2004	B04040208-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
04/05/2004	B04040208-001A	RT		3014	COLIFORM, E. COLI	A -
04/05/2004	B04040208-001A	RT		3100	COLIFORM, TOTAL (TCR)	A -
03/02/2004	B04030126-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
02/03/2004	B04020106-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
01/07/2004	B04010197-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
12/17/2003	B03120944-1	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/16/2003	B03090817-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/16/2003	B03090817-002	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/16/2003	B03090817-003	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/16/2003	B03090817-004	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/16/2003	B03090817-005	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/26/2003	B03081270-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/26/2003	B03081270-002	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/26/2003	B03081270-003	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/26/2003	B03081270-004	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/26/2003	B03081270-005	RT		3100	COLIFORM, TOTAL (TCR)	A -
07/10/2003	B03070397-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/25/2003	B03061531-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
05/08/2003	B03050304-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
04/02/2003	B03040151-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
03/13/2003	B03030561-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
02/18/2003	B03020576-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
01/14/2003	B03010604-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
12/26/2002	B02120975-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
11/18/2002	B02110850-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
10/03/2002	B02100070-002	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/12/2002	B02090653-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/22/2002	B02081139-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
07/30/2002	B02071603-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/24/2002	B02061452-001	RT		3100	COLIFORM, TOTAL (TCR)	A -



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Collection Dt	Lab Number	Type	Orig Lab #	Code	TCR Presence	Fec/EC Result
05/31/2002	B02051424-001	RT		3100	COLIFORM, TOTAL (TCR)	A -
04/29/2002	020791	RT		3100	COLIFORM, TOTAL (TCR)	A -
03/26/2002	020530	RT		3100	COLIFORM, TOTAL (TCR)	A -
02/12/2002	020260	RT		3100	COLIFORM, TOTAL (TCR)	A -
01/09/2002	020078	RT		3100	COLIFORM, TOTAL (TCR)	A -
12/05/2001	012725	RT		3100	COLIFORM, TOTAL (TCR)	A -
11/30/2001	012697	RT		3100	COLIFORM, TOTAL (TCR)	A -
10/23/2001	012460	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/24/2001	012216	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/07/2001	011698	RT		3100	COLIFORM, TOTAL (TCR)	A -
07/17/2001	011510	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/04/2001	011036	RT		3100	COLIFORM, TOTAL (TCR)	A -
05/09/2001	010863	RT		3100	COLIFORM, TOTAL (TCR)	A -
04/16/2001	010700	RT		3100	COLIFORM, TOTAL (TCR)	A -
03/12/2001	010404	RT		3100	COLIFORM, TOTAL (TCR)	A -
02/28/2001	010338	RT		3100	COLIFORM, TOTAL (TCR)	A -
01/09/2001	010058	RT		3100	COLIFORM, TOTAL (TCR)	A -
12/19/2000	002661	RT		3100	COLIFORM, TOTAL (TCR)	A -
11/15/2000	002464	RT		3100	COLIFORM, TOTAL (TCR)	A -
10/10/2000	002238	RT		3100	COLIFORM, TOTAL (TCR)	A -
09/26/2000	002099	RT		3100	COLIFORM, TOTAL (TCR)	A -
08/29/2000	001844	RT		3100	COLIFORM, TOTAL (TCR)	A -
07/25/2000	001486	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/20/2000	001166	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/20/2000	001167	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/20/2000	001168	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/20/2000	001169	RT		3100	COLIFORM, TOTAL (TCR)	A -
06/14/2000	001149	RT		3100	COLIFORM, TOTAL (TCR)	A -
05/10/2000	000841	RP	00738	3100	COLIFORM, TOTAL (TCR)	P +
05/10/2000	000841	RP	00738	3014	COLIFORM, E. COLI	A -
05/10/2000	000842	RP	00738	3100	COLIFORM, TOTAL (TCR)	P +
05/10/2000	000842	RP	00738	3014	COLIFORM, E. COLI	A -
05/10/2000	000843	RP	00738	3100	COLIFORM, TOTAL (TCR)	P +
05/10/2000	000843	RP	00738	3014	COLIFORM, E. COLI	A -
05/10/2000	000844	RP	00738	3100	COLIFORM, TOTAL (TCR)	P +
05/10/2000	000844	RP	00738	3014	COLIFORM, E. COLI	A -
04/28/2000	00738	RT		3100	COLIFORM, TOTAL (TCR)	P +
04/28/2000	00738	RT		3014	COLIFORM, E. COLI	A -
03/20/2000	000451	RT		3100	COLIFORM, TOTAL (TCR)	A -
02/22/2000	311	RT		3100	COLIFORM, TOTAL (TCR)	A -



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Collection Dt	Lab Number	Type	Orig Lab #	Code	TCR Presence	Fec/EC Result
01/24/2000	0142	RT	3100	COLIFORM, TOTAL (TCR)	A	-

Chemical Results FROM 01/01/2000 TO 05/19/2005

Fac ID: DS001 Fac Name: DISTRIBUTION SYSTEM Avl: P Status: A Src: GW
Smp Pt ID: SP001 Status: A Description: SP FOR DS Src Typ: FN

Analyte/CAS No	Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
IOC 7440-50-8	1022	COPPER	RT	10/05/2004	08	B04100314-001A	0.08 MG/L
IOC 7439-92-1	1030	LEAD	RT	10/05/2004	08	B04100314-001A	0.002 MG/L
IOC 7440-50-8	1022	COPPER	RT	09/01/2004	08	B04090208-001A	0.02 MG/L
IOC 7439-92-1	1030	LEAD	RT	09/01/2004	08	B04090208-001A	< MRL .001 MG/L
IOC 7440-50-8	1022	COPPER	RT	09/01/2004	08	B04090208-003A	0.99 MG/L
IOC 7439-92-1	1030	LEAD	RT	09/01/2004	08	B04090208-003A	0.033 MG/L

Fac ID: CH001 Fac Name: COMMON HEADER FOR WELLS 1 2 Avl: P Status: I Src: GW
Smp Pt ID: EP502 Status: I Description: INACT EP WELLS 1 2 Src Typ:

Analyte/CAS No	Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	11/09/2004	24	B04110528-001	3.2 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	11/09/2004	24	B04110528-001	0.8 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	11/09/2004	24	B04110528-001A	2.4 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	11/09/2004	24	B04110528-001A	3.20 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	11/09/2004	24	B04110528-001A	0.8 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	11/09/2004	24	B04110528-001A	2.4 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	09/12/2004	24	B04090772-001A	1.20 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	09/12/2004	24	B04090772-001A	1.2 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	09/12/2004	24	B04090772-001A	< MRL 1 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	09/12/2004	24	B04090772-001A	< MRL .01 MG/L
IOC 7440-50-8	1022	COPPER	RT	09/01/2004	08	B04090208-002A	< MRL .01 MG/L
IOC 7439-92-1	1030	LEAD	RT	09/01/2004	08	B04090208-002A	< MRL .001 MG/L
IOC 1038	1038	NITRATE+NITRITE (AS N)	RT	06/01/2004	08	B04060087-001A	< MRL .05 MG/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	05/11/2004	08	B04050892-001-R502	1.0 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	05/11/2004	08	B04050892-001-R502	1.0 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	05/11/2004	24	B04050892-001A	< MDL 1 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	05/11/2004	24	B04050892-001A	1.00 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	05/11/2004	24	B04050892-001A	1.0 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	05/11/2004	24	B04050892-001A	< MRL 1 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	03/02/2004	08	B04030137-001-R502	0.50 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	03/02/2004	08	B04030137-001-R502	0.5 PIC/L
RA 13982-63-3	4010	RADIUM, COMBINED (226, 228)	RT	03/02/2004	08	B04030137-001-R502	< MDL 1 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	03/02/2004	08	B04030137-001-R502	< MDL .05 MG/L
IOC 1038	1038	NITRATE+NITRITE (AS N)	RT	03/13/2003	08	B03030565-001-N502	< MDL .05 MG/L
IOC 1038	1038	NITRATE+NITRITE (AS N)	RT	01/14/2003	08	B03010804-001-N502	< MDL .05 MG/L
RA 4000	4000	GROSS ALPHA, INCLDNG RA, EXCLDNG RN	RT	11/18/2002	08	B02110851-001-R502	2.5 PIC/L
RA 4010	4010	RADIUM, COMBINED (226, 228)	RT	11/18/2002	08	B02110851-001-R502	6.3 PIC/L
RA 13982-63-3	4020	RADIUM-226	RT	11/18/2002	08	B02110851-001-R502	1.7 PIC/L
RA 15282-20-1	4030	RADIUM-228	RT	11/18/2002	08	B02110851-001-R502	4.6 PIC/L
IOC 7440-38-0	1074	ANTIMONY	RT	08/22/2002	08	B02081141-001-#502	< MDL .003 MG/L
IOC 7440-38-2	1005	ARSENIC	RT	08/22/2002	08	B02081141-001-#502	< MDL .005 MG/L
IOC 7440-39-3	1010	BARIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .1 MG/L
IOC 7440-41-7	1075	BERYLLIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .001 MG/L
IOC 7440-43-9	1015	CADMIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .001 MG/L
IOC 7440-47-3	1020	CHROMIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .01 MG/L
IOC 7439-97-8	1035	MERCURY	RT	08/22/2002	08	B02081141-001-#502	< MDL .0002 MG/L
IOC 7440-02-0	1036	NICKEL	RT	08/22/2002	08	B02081141-001-#502	< MDL .01 MG/L
IOC 7782-49-2	1045	SELENIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .005 MG/L
IOC 7440-28-0	1085	THALLIUM	RT	08/22/2002	08	B02081141-001-#502	< MDL .001 MG/L
IOC 1038	1038	NITRATE+NITRITE (AS N)	RT	08/22/2002	08	B02081141-001-N502	< MDL .05 MG/L



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Fac ID: CH001 Fac Name: COMMON HEADER FOR WELLS 1 2 Avl: P Status: I Src:
Smp Pt ID: EP502 Status: I Description: INACT EP WELLS 1 2 Src Typ:

Analyte/CAS No	Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC 1748-01-6	2063	2,3,7,8 TCDD (DIOXIN)	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 93-72-1	2110	2,4,5-TP (SILVEX)	RT	08/22/2002	08	B02081141-001-S502	< MDL .0002 MG/L
OC 94-75-7	2105	2,4-D	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 16855-82-8	2068	3-HYDROXYCARBOFURAN	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 15972-60-8	2051	ALACHLOR (LASSO)	RT	08/22/2002	08	B02081141-001-S502	< MDL .0002 MG/L
OC 116-06-3	2047	ALDICARB	RT	08/22/2002	08	B02081141-001-S502	< MDL .0005 MG/L
OC 1646-98-4	2044	ALDICARB SULFONE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0005 MG/L
OC 1648-87-3	2043	ALDICARB SULFOXIDE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0008 MG/L
OC 309-00-2	2356	ALDRIN	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 1912-24-9	2050	ATRAZINE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 50-32-8	2306	BENZO (A) PYRENE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 58-89-9	2010	BHC-GAMMA (LINDANE)	RT	08/22/2002	08	B02081141-001-S502	< MDL .0002 MG/L
OC 23194-86-9	2076	BUTACHLOR (MACHETE)	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 63-25-2	2021	CARBARYL	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 1563-86-2	2046	CARBOFURAN	RT	08/22/2002	08	B02081141-001-S502	< MDL .0009 MG/L
OC 57-74-9	2959	CHLORDANE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0002 MG/L
OC 75-99-0	2031	DALAPON	RT	08/22/2002	08	B02081141-001-S502	< MDL .1 MG/L
OC 103-23-1	2035	DI(2-ETHYLHEXYL) - ADIPATE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0006 MG/L
OC 117-81-7	2039	DI(2-ETHYLHEXYL) - PHTHALATE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0006 MG/L
OC 96-12-8	2931	DIBROMOCHLOROPROPANE (DBCP)	RT	08/22/2002	08	B02081141-001-S502	< MDL .00002 MG/L
OC 1919-00-9	2440	DICAMBA	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 80-57-1	2070	DIELDRIN	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 88-85-7	2041	DINOSEB	RT	08/22/2002	08	B02081141-001-S502	< MDL .0002 MG/L
OC 85-00-7	2032	DIQUAT	RT	08/22/2002	08	B02081141-001-S502	< MDL .0004 MG/L
OC 145-73-3	2033	ENDOTHALL	RT	08/22/2002	08	B02081141-001-S502	< MDL .009 MG/L
OC 72-20-8	2005	ENDRIN	RT	08/22/2002	08	B02081141-001-S502	< MDL .00001 MG/L
OC 106-93-4	2946	ETHYLENE DIBROMIDE (EDB)	RT	08/22/2002	08	B02081141-001-S502	< MDL .00001 MG/L
OC 1071-93-6	2034	GLYPHOSATE	RT	08/22/2002	08	B02081141-001-S502	< MDL .008 MG/L
OC 76-44-8	2065	HEPTACHLOR	RT	08/22/2002	08	B02081141-001-S502	< MDL .00004 MG/L
OC 1024-67-3	2067	HEPTACHLOR EPOXIDE	RT	08/22/2002	08	B02081141-001-S502	< MDL .00002 MG/L
OC 118-74-1	2274	HEXACHLOROBENZENE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 77-47-4	2042	HEXACHLOROCYCLOPENTADIENE	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 16752-77-5	2022	METHOMYL	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 72-43-5	2015	METHOXYCHLOR	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 51218-45-2	2045	METOLACHLOR	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 21087-64-9	2595	METRIBUZIN (SENCOR)	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 23135-22-0	2036	OXAMYL (VYDATE)	RT	08/22/2002	08	B02081141-001-S502	< MDL .002 MG/L
OC 87-88-5	2326	PENTACHLOROPHENOL	RT	08/22/2002	08	B02081141-001-S502	< MDL .00004 MG/L
OC 1918-02-1	2040	PICLORAM	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 1336-36-3	2383	POLYCHLORINATED BIPHENYLS (PCB)	RT	08/22/2002	08	B02081141-001-S502	< MDL .0001 MG/L
OC 1918-16-7	2077	PROPACHLOR	RT	08/22/2002	08	B02081141-001-S502	< MDL 0 MG/L
OC 122-34-9	2037	SIMAZINE	RT	08/22/2002	08	B02081141-001-S502	< MDL .00007 MG/L
OC 8001-35-2	2020	TOXAPHENE	RT	08/22/2002	08	B02081141-001-S502	< MDL .001 MG/L
OC 630-20-6	2986	1,1,1,2-TETRACHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 71-55-6	2981	1,1,1-TRICHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC 79-34-5	2988	1,1,2,2-TETRACHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 79-00-5	2985	1,1,2-TRICHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC 75-34-3	2978	1,1-DICHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 75-35-4	2977	1,1-DICHLOROETHYLENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC 563-59-6	2410	1,1-DICHLOROPROPENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 2419	1,2,3 - TRIMETHYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L	
OC 87-61-6	2420	1,2,3-TRICHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 96-18-4	2414	1,2,3-TRICHLOROPROPANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC 120-82-1	2378	1,2,4-TRICHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC 107-06-2	2980	1,2-DICHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC 78-87-5	2983	1,2-DICHLOROPROPANE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

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Fac ID: CH001 Fac Name: COMMON HEADER FOR WELLS 1 2 Avl: P Status: I Src:
Smp Pt ID: EP502 Status: I Description: INACT EP WELLS 1 2 Src Typ:

Analyte/CAS No	Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC	108-87-8	2424 1,3,5-TRIMETHYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	142-28-9	2412 1,3-DICHLOROPROPANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	594-20-7	2416 2,2-DICHLOROPROPANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	71-43-2	2990 BENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	108-96-1	2993 BROMOBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-27-4	2943 BROMODICHLOROMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-25-2	2942 BROMOFORM	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	74-83-9	2214 BROMOMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	56-23-5	2982 CARBON TETRACHLORIDE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	124-49-1	2944 CHLORODIBROMOMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-00-3	2216 CHLOROETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	87-68-3	2941 CHLOROFORM	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	74-87-3	2210 CHLOROMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	156-59-2	2380 CIS-1,2-DICHLOROETHYLENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	10081-02-8	2228 CIS-1,3-DICHLOROPROPENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	74-95-3	2408 DIBROMOMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-71-8	2212 DICHLORODIFLUOROMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-09-2	2964 DICHLOROMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	100-41-4	2992 ETHYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	87-68-3	2246 HEXACHLOROBUTADIENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	98-82-8	2994 ISOPROPYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	541-73-1	2967 M-DICHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	108-90-7	2989 MONOCHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	104-51-8	2422 N-BUTYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	103-85-1	2998 N-PROPYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	91-20-3	2248 NAPHTHALENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	95-49-8	2965 O-CHLOROTOLUENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	95-50-1	2968 O-DICHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	106-43-4	2966 P-CHLOROTOLUENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	106-46-7	2969 P-DICHLOROBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	99-87-8	2030 P-ISOPROPYLTOLUENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	100-42-5	2996 STYRENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	98-06-6	2426 TERT-BUTYLBENZENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	127-18-4	2987 TETRACHLOROETHYLENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	108-98-3	2991 TOLUENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	156-80-5	2979 TRANS-1,2-DICHLOROETHYLENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	10081-02-8	2224 TRANS-1,3-DICHLOROPROPENE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	79-01-6	2984 TRICHLOROETHYLENE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	75-69-4	2218 TRICHLOROFLUOROMETHANE	RT	08/22/2002	08	B02081141-001-V502	< MDL 0 MG/L
OC	75-01-4	2976 VINYL CHLORIDE	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	108-38-3	2995 XYLENE, META	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	95-47-6	2997 XYLENE, ORTHO	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	106-42-3	2962 XYLENE, PARA	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
OC	1330-20-7	2965 XYLENES	RT	08/22/2002	08	B02081141-001-V502	< MDL .0005 MG/L
WQ	471-34-1	1929 ALKALINITY, CARBONATE	RT	05/24/2002	08	B02051299-001-G	0 MG/L
WQ	471-34-1	1927 ALKALINITY, TOTAL	RT	05/24/2002	08	B02051299-001-G	208 MG/L
WQ		1026 BICARBONATE AS HCO3	RT	05/24/2002	08	B02051299-001-G	254 MG/L
WQ		1064 CONDUCTIVITY	RT	05/24/2002	08	B02051299-001-G	529 UMHOS/CM
WQ		1914 HARDNESS, CALCIUM	RT	05/24/2002	08	B02051299-001-G	135 MG/L
WQ		1925 PH	RT	05/24/2002	08	B02051299-001-G	7.5 SU
WQ		1930 SOLIDS, TOTAL DISSOLVED (TDS)	RT	05/24/2002	08	B02051299-001-G	314 MG/L
IOC	7440-70-2	1016 CALCIUM	RT	05/24/2002	08	B02051299-001-I602	30 MG/L
IOC	16887-00-6	1017 CHLORIDE	RT	05/24/2002	08	B02051299-001-I602	0 MG/L
IOC	7439-89-6	1028 IRON	RT	05/24/2002	08	B02051299-001-I602	1.71 MG/L
IOC	7439-95-4	1031 MAGNESIUM	RT	05/24/2002	08	B02051299-001-I602	15 MG/L
IOC		1038 NITRATE+NITRITE (AS N)	RT	05/24/2002	08	B02051299-001-I602	0 MG/L



Public Water Supply System

PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

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Fac ID: CH001 Fac Name: COMMON HEADER FOR WELLS 1 2 Avl: P Status: I Src:
Smp Pt ID: EP502 Status: I Description: INACT EP WELLS 1 2 Src Typ:

Analyte/CAS No	Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
IOC 7447-40-7	1042	POTASSIUM	RT	05/24/2002	08	B02051299-001-1502	2 MG/L
IOC 7440-23-5	1052	SODIUM	RT	05/24/2002	08	B02051299-001-1502	63 MG/L
IOC 14808-79-8	1055	SULFATE	RT	05/24/2002	08	B02051299-001-1502	78 MG/L
IOC	1038	NITRATE+NITRITE (AS N)	RT	12/17/2000	MIG	C0012-4168-1502	< MRL .0005 MG/L

Violations & Enforcements FROM 01/01/2000 TO 05/19/2005

Viol Date	Comp Beg	Comp End	Fed FY	Viol No	Type	Sev	Cate	Code	Name
04/05/2004	10/01/2002	12/31/2002	2002	1	01		MCL	4010	RADIUM, COMBINED (226, 228)
	2004	54279	06/02/2004	SIE	ST PUBLIC NOTIF REQUESTED				
	2004	54278	06/02/2004	SIA	ST VIOLATION/REMINDER NOTICE				
04/05/2004	10/01/2002	12/31/2002	2002	1	M1	MJ	MCL	4010	RADIUM, COMBINED (226, 228)
	2004	54279	06/02/2004	SIE	ST PUBLIC NOTIF REQUESTED				
	2004	54278	06/02/2004	SIA	ST VIOLATION/REMINDER NOTICE				
01/14/2004	01/01/1999	12/31/2001	2004	3	52		MON	5000	LEAD & COPPER RULE
12/19/2003	11/01/2003	11/30/2003	2004	3	23	MJ	MON	3100	COLIFORM, TOTAL (TCR)
	2004	54264	12/22/2003	SOX	ST COMPLIANCE ACHIEVED				
	2004	54263	12/22/2003	SIE	ST PUBLIC NOTIF REQUESTED				
	2004	54262	12/22/2003	SIA	ST VIOLATION/REMINDER NOTICE				
11/20/2003	10/01/2003	10/31/2003	2004	3	23	MJ	MON	3100	COLIFORM, TOTAL (TCR)
	2004	54261	12/16/2003	SOX	ST COMPLIANCE ACHIEVED				
	2004	54260	12/04/2003	SIF	ST PUBLIC NOTIF RECEIVED				
	2004	54258	11/23/2003	SIE	ST PUBLIC NOTIF REQUESTED				
	2004	54257	11/23/2003	SIA	ST VIOLATION/REMINDER NOTICE				
03/11/2003	02/01/2003	02/28/2003	2003	3	23	MJ	MON	3100	COLIFORM, TOTAL (TCR)
07/22/2002	01/01/1999	12/31/2001	2002	3	03	MJ	MON	ARSE	CDS ARSENIC
	2003	54245	12/02/2002	SOX	ST COMPLIANCE ACHIEVED				
	2002	54240	08/27/2002	SIF	ST PUBLIC NOTIF RECEIVED				
	2002	54237	07/25/2002	SIE	ST PUBLIC NOTIF REQUESTED				
	2002	54236	07/25/2002	SIA	ST VIOLATION/REMINDER NOTICE				
07/09/2002	01/01/1999	12/31/2001	2002	3	03	MJ	MON	INO2	CDS P5 INORGANICS
	2003	54245	12/02/2002	SOX	ST COMPLIANCE ACHIEVED				
	2002	54241	08/27/2002	SIF	ST PUBLIC NOTIF RECEIVED				
	2002	54233	07/12/2002	SIE	ST PUBLIC NOTIF REQUESTED				
	2002	54232	07/12/2002	SIA	ST VIOLATION/REMINDER NOTICE				
07/02/2002	01/01/1999	12/31/2001	2002	3	03	MJ	MON	SOC1	CDS SOC
	2003	54245	12/02/2002	SOX	ST COMPLIANCE ACHIEVED				
	2002	54242	08/27/2002	SIF	ST PUBLIC NOTIF RECEIVED				
	2002	54239	07/05/2002	SIE	ST PUBLIC NOTIF REQUESTED				



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PWSID: MT0000102 Name: YELLOWTAIL WATER DISTRICT

(continued)

Viol Date	Comp Beg	Comp End	Fed FY	Viol No	Type	Sev	Cate	Code	Name
	2002	54238	07/05/2002	SIA					ST VIOLATION/REMINDER NOTICE
06/26/2002	01/01/1999	12/31/2001	2002	3	03	MJ	MON	VOC1	CDS VOC
	2003	54245	12/02/2002	SOX					ST COMPLIANCE ACHIEVED
	2002	54243	08/27/2002	SIF					ST PUBLIC NOTIF RECEIVED
	2002	54235	06/29/2002	SIE					ST PUBLIC NOTIF REQUESTED
	2002	54234	06/29/2002	SIA					ST VIOLATION/REMINDER NOTICE
04/16/2002	01/01/2001	12/31/2001	2002	3	03	MJ	MON	NITR	CDS NITRATE NITRITE
	2003	54245	12/02/2002	SOX					ST COMPLIANCE ACHIEVED
	2002	50025	05/16/2002	SIF					ST PUBLIC NOTIF RECEIVED
	2002	54228	04/19/2002	SIE					ST PUBLIC NOTIF REQUESTED
	2002	54227	04/19/2002	SIA					ST VIOLATION/REMINDER NOTICE
11/14/2001	05/01/2000	05/31/2000	2002	2	22		MCL	3100	COLIFORM, TOTAL (TCR)
	2002	50023	11/14/2001	SOX					ST COMPLIANCE ACHIEVED
	2000	1016	11/14/2001	SIF					ST PUBLIC NOTIF RECEIVED
	2002	50020	11/15/2001	SIE					ST PUBLIC NOTIF REQUESTED
	2002	50019	11/15/2001	SIA					ST VIOLATION/REMINDER NOTICE
	2002	50022	11/15/2001	MPH					PHONE CALL TO SYSTEM
	2002	50021	11/15/2001	MHA					HEALTH ADVISORY
	2002	50022	11/15/2001	EF<					FED CFP ISSUED
03/01/2001	01/01/1996	12/31/1998	2001	3	52		MON	5000	LEAD & COPPER RULE
	2001	44340	03/01/2001	SIA					ST VIOLATION/REMINDER NOTICE

APPENDIX C – Sanitary Survey

*The Cadmus Group, Inc
2620 Colonial Drive, Suite A
Helena, MT 59601
Telephone: 406-443-9194
Fax: 406-443-9197*

December 20, 2004

Steve Hilber
Box 7806
Fort Smith, MT 59035

BIG HORN COUNTY

**RE: Sanitary Survey of Yellowtail Water and Sewer District Public Water Supply System.
PWSID # MT0000102**

Dear Mr. Hilber:

On August 12, 2004, I conducted a sanitary survey of the Yellowtail Water and Sewer District Public Water Supply (PWS) system. I work for The Cadmus Group, Inc. (Cadmus), and Cadmus is a contractor for the MDEQ. I would like to thank you for your assistance during the inspection, and I apologize for the delay in this report.

This system is classified as a community PWS. This was a routine sanitary survey conducted under contract with the Montana Department of Environmental Quality (MDEQ). The State completes sanitary surveys on all Montana public water supply systems at about 3-5 year intervals. Sanitary Surveys are required of public water systems by both State and Federal regulations, and the MDEQ provides the sanitary surveys as a service to the regulated community.

The system appears to be in fair to good overall condition. The pumphouses are beginning to show their age. The following summary contains a brief description of the water system and recommendations resulting from the inspection.

Water System Description

This PWS consists of:

- Two wells.
- Two pumphouses with associated pressure tanks and discharge piping.
- A distribution system.



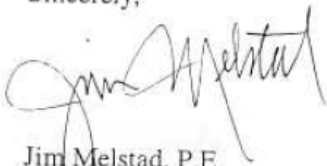
Recommendations

1. The end of the flushing line from Well 1 must be located to ensure that an adequate air gap exists at the termination point. It is recommended that this line be disconnected until the issue is resolved.
2. The meters in each pumphouse should be repaired to enable the district to monitor and detect changes in water use.
3. No looping of the distribution system is provided. Flushing hydrants should be installed at the end of each line, and planning should begin to loop the ends of the lines together. Valves should be installed on each lateral so the entire system does not have to be shut down when leaks occur.
4. The system should work with MDEQ to resolve the apparent radium 226+228 exceedance. Jenny O'Mara at MDEQ (444-5318) in Helena should be able to provide assistance.
5. More district citizens must become involved on the board. Steve Hilber was the only active member at the time of the inspection.
6. A plan for routine system maintenance, including record keeping, should be developed. The system is aging and needs routine maintenance to ensure continued operation.

Please contact me if you have questions about this report or any other concerns. I am providing copies of this letter and the report to the MDEQ Drinking Water Program. You may also call DEQ in Billings at (406) 247-4445 with any questions you may have.

Thank you very much for your attention to these matters and for your assistance during the inspection.

Sincerely,



Jim Melstad, P.E.
The Cadmus Group, Inc
jmelstad@cadmusgroup.com

cc: MDEQ – Helena Office
MDEQ – Billings Office
Big Horn County Health Department
Sanitary Survey file

SANITARY SURVEY FORM - INVENTORY		Page 1 of 11
2/04		
PWSID MT0000102	SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT	
DATE OF SURVEY 8/12/2004	COUNTY BIG HORN	SURVEYOR NAME JIM MELSTAD, P.E., THE CADMUS GROUP, INC.
(SYSTEM REPRESENTATIVE)		(OTHER REPRESENTATIVE) NONE
Addressee STEVE HILBER <small>Primary Address</small> Street BOX 7806 City FORT SMITH State MT Zip 59035 System Phone (406)666-2422 Fax ()		SYSTEM ADDRESS Addressee YELLOWTAIL WATER AND SEWER DISTRICT <small>Owners Address</small> Street BOX 7806 City FORT SMITH State MT Zip 59035 Owner Phone (406) 666-2422 Fax ()
LOCATION OF SYSTEM Nearest City FORT SMITH		Description or Physical Address SOUTH SIDE OF HIGHWAY IN FORT SMITH
OPERATOR OF SYSTEM Name ENGINEERING, INC., BILLINGS - RICK LEUTHOLD Certified Operator? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not required Certification # _____ Phone # (406) 656-5255 Cell # () Fax # ()		ALTERNATE OPERATOR OF SYSTEM Name ENGINEERING INC., - CAVIN NODDINGS Certified Operator? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not required Certification # _____ Phone # (406) 656-5255 Cell # () Fax # ()
SYSTEM STATUS <input checked="" type="checkbox"/> A = Active <input type="checkbox"/> P = Pending (Add New System) <input type="checkbox"/> I = Inactive		SYSTEM CLASS <input checked="" type="checkbox"/> C = Community <input type="checkbox"/> NTNC = Non-Transient Non-Community <input type="checkbox"/> TNC = Transient Non-Community
Total Service Connections: Residential / Non-Transient: ~50 Transient: 2 Total Active Connections: Residential / Non-Transient: 45 Transient: 2 Service Connections Metered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Percent Metered _____ % Rates and Rate Structure _____		Resident Population (Number of permanent residents utilizing PWS daily) Summer: 100-150 Winter: 20-30 Non-Transient Population (Number of non-transient persons utilizing PWS daily) Summer: _____ Winter: _____ Transient Population (Number of transient persons served by PWS daily) Summer: _____ Winter: _____
<input type="checkbox"/> 1 Federal Government <input type="checkbox"/> 2 Private Subdivision, Investor, Trust, Cooperative, Water Association, etc. <input type="checkbox"/> 3 State Government		OWNER TYPE <input checked="" type="checkbox"/> 4 Local Government Authority, Commission, District, Municipality, City, etc. <input type="checkbox"/> 5 Mixed Public/Private <input type="checkbox"/> 6 Native American
SERVICE AREA CHARACTERISTICS LIST <input type="checkbox"/> BR Bar <input type="checkbox"/> PA Recreation Areas <input type="checkbox"/> CH Church <input checked="" type="checkbox"/> RA Residential Area <input type="checkbox"/> DC Day Care Center <input type="checkbox"/> RE Retail Employees <input type="checkbox"/> DI Dispenser <input type="checkbox"/> RS Restaurant <input type="checkbox"/> HS Head Start <input type="checkbox"/> RV RV Park <input type="checkbox"/> HA Homeowners Assoc. <input type="checkbox"/> SC School <input type="checkbox"/> HM Hotel/Motel <input type="checkbox"/> SI Sanitary Improvement District <input type="checkbox"/> HR Highway Rest Area <input type="checkbox"/> SK Summer Camp <input type="checkbox"/> IA Industrial/Agricultural <input type="checkbox"/> SR Secondary Residences <input type="checkbox"/> IC Interstate Carrier <input checked="" type="checkbox"/> SS Service Station <input type="checkbox"/> IN Institution <input type="checkbox"/> SU Subdivision <input type="checkbox"/> MF Medical Facility <input type="checkbox"/> WB Water Bottler <input type="checkbox"/> MH Mobile Home Park <input type="checkbox"/> WH Wholesaler (Sells Water) <input type="checkbox"/> MU Municipality <input type="checkbox"/> OA Other Area <input type="checkbox"/> ON Other Non-Transient Area (Average Daily Visitors TNC) <input type="checkbox"/> OR Other Residential Area <input checked="" type="checkbox"/> OT Other Transient Area		Comments: APPROXIMATELY 15 RESIDENCES ARE OCCUPIED YEAR-ROUND. DURING THE SUMMER, APPROXIMATELY 45 HOMES ARE OCCUPIED. STEVE HILBER IS CURRENTLY THE ONLY ACTIVE BOARD MEMBER.
Service Category Description RESIDENTIAL AREA, SERVICE STATION AND GROCERY STORE, FLY SHOP.		

SANITARY SURVEY FORM – WATER SYSTEM FACILITIES

PWSID MT0000102

SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT

Water System Facilities (WSF) numbers are WSF Type Codes plus an assigned number. (i.e. source facility numbering starts with 002 and all non-sour facilities also start with 001). See instruction sheet for a list of WSF Type Codes. When a source is operational it is considered Active, this includes systems that are seasonal. Inactive sources are those which are shut down but can return to active status, such as a system out of business. Proposed sources are those that have been identified through the Plan Review process, but are not connected to the water system.

A water source facility is a well, spring, intake, infiltration gallery or consecutive connections from which a system draws or purchases water:

Total Number of Source Facilities 2

WATER SYSTEM FACILITIES SUMMARY (WSF)

WSF ID	Facility Name	Water Type Code	Purchased	Seller PWSID	Activity Status*
DS 001	Distribution System				
WL002	WELL 1 (SOUTH WELL)	GW	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		A
WL003	WELL 2 (NORTH WELL)	GW	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		A
PC001	PRESSURE CONTROL (SOUTH WELL)		<input type="checkbox"/> Yes <input type="checkbox"/> No		A
PC002	PRESSURE CONTROL (NORTH WELL)		<input type="checkbox"/> Yes <input type="checkbox"/> No		A
EP502	ENTRY POINT FOR WELL 1		<input type="checkbox"/> Yes <input type="checkbox"/> No		A
EP503	ENTRY POINT FOR WELL 2		<input type="checkbox"/> Yes <input type="checkbox"/> No		A
CH001	Common Header - Delete -		<input type="checkbox"/> Yes <input type="checkbox"/> No		InActive
			<input type="checkbox"/> Yes <input type="checkbox"/> No		
			<input type="checkbox"/> Yes <input type="checkbox"/> No		

Description of Water System Facility flow: WELLS 1 AND 2 PUMP DIRECTLY INTO THE DISTRIBUTION SYSTEM. THERE IS NO COMMON HEADER INDICATED ON THE SDWIS PRINTOUT. EACH WELL IS LOCATED INSIDE A PUMPHOUSE, AND EACH PUMPHOUSE HAS A PRESSURE CONTROL FACILITY AND A SEPARATE ENTRY POINT. HOWEVER, THE WELL LOGS APPEAR SIMILAR AND THE WELLS ARE FLOWING ARTESIAN, SO IT PROBABLY FEASIBLE TO CONSIDER THEM AS HYDROLOGICALLY SIMILAR FOR MONITORING PURPOSES.

Example: Well 1(WL001) is pumped into pumphouse where chlorine is applied (TP001) and from there to the storage tank (ST001). The treated water flows by gravity to the distribution system (DS001).

* (A)ctive, (I)nactive, or (P)roposed

FACILITY LATITUDE AND LONGITUDE (IN DECIMAL DEGREES) (Sources, treatment plants, storage)

WSF ID	Facility Name	Latitude	Longitude
WL002	WELL 1 (SOUTH WELL)	N45°18'15.0"	W107°55'04.0"
WL003	WELL 2 (NORTH WELL)	N45°18'25.1"	W107°55'01.0"

EMERGENCY POWER

Does the system have emergency power?

Yes No

If yes, what type: _____

Frequency of testing: _____

Record of primary power failures: 1-2 in last year Switchover: Automatic Manual

Comments: _____

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID: MT0000102

SYSTEM NAME: YELLOWTAIL WATER AND SEWER DISTRICT

Page 3 of 11

(Please copy this sheet for additional wells & pumps)

COMPLETE ONE PAGE FOR EACH SOURCE

STATUS OF SOURCE (A) Active (I) Inactive (P) Proposed

WSF ID WL002 These are State assigned identification numbers Entry Point ID EP502

Source Name WELL 1 (SOUTH WELL)
Name of Source - Example: Well 1 or South Well, etc.

Location of Water Source (TRS or street address) SW OF FORT SMITH - 1/4 MILE

Entry Point Name EP FOR WELL 1
Name of EP - Example: Entry point for North Well 1 & South Well 2

Location of Entry Point AT SW CORNER OF FORT SMITH

Available Perm Emerg Interim Seasonal Other
If seasonal: _____ to _____

GWUDISW PA Completed Yes No

Log Available? Yes No

Average Production UNK indicate units

Maximum Production UNK indicate units

Date Drilled AUGUST 1961 if well date drilled

Casing Size 6" size of casing installed in well

Case Depth 400' depth of casing installed in well

Well Depth 400' depth of well expressed in feet

Grout Depth UNK depth of grout used to seal well walls

Log SWL ARTESIAN FLOWING (static) expressed in feet below ground elevation

Log PWL UNK (pumping) expressed in feet below ground elevation

Pump Capacity FLOWING 50 GPM capacity of pump installed expressed in gallons per min

Intake Type OPEN BOTTOM? type of intake mechanism

Screened Interval UNK expressed in feet below ground elevation

Well Yield 50 GPM W/O PUMP pump tested in gallons per minute

Latitude N45°18'15.0" Expressed in decimal degrees

Longitude W107°55'04.0" Expressed in decimal degrees

WELLS

PUMPS

<p>Is well site protected from flooding? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is well located in proximity of potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>If Yes, explain _____</p> <p>Does casing extend at least <input type="checkbox"/> 18 inches above outside ground level; <input checked="" type="checkbox"/> 12 inches above finished floor inside well house; and <input checked="" type="checkbox"/> 3 feet above 100 year flood elevation? <small>(Check for appropriate distance)</small> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is top of the well casing properly sealed? (sanitary seal) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is well vented? Is well vent properly screened and terminated in a downward position? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Does well have suitable sampling tap? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A <small>Raw Water Treated</small></p> <p>Are check valves, blow-off valves and water meters maintained and operating properly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is upper termination of well protected (housed or fenced)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is intake located below the maximum drawdown? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/> N/A</p>	<p>Type <u>SUBMERSIBLE</u> <small>(example: 30 hp line shaft turbine)</small></p> <p>Rated Capacity <u>UNK</u></p> <p>Are pumps operable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>How frequently are pump(s) replaced? <u>EVERY 5 YEARS</u></p> <p>Are backup pumps/motors provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Are controls functioning properly and adequately protected? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Do underground compartments have a drain? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is facility properly protected against trespassing and vandalism? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Are pump records maintained (amp, drawdown, discharge, pressure, maintenance schedule, manuals, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is the plumbing adequately painted to prevent excessive corrosion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Are adequate heating, lighting, and ventilation provided? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Is a preventive maintenance program in operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Cross connection program in operation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p> <p>Are recommended spare parts on hand? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/> N/A</p>
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Comments: (Such as, detailed information on any items with identified deficiencies)
THE LOWER PORTION OF THE PUMPHOUSE FLOOR IS APPROXIMATELY AT GROUND LEVEL.

Explain Controls: EACH WELL IS CONTROLLED BY TWO PRESSURE SWITCHES. WHEN THE WELL IS THE LEAD PUMP, THE PRESSURE SWITCH SETTINGS ARE 40/60 PSI. WHEN THE WELL IS THE LAG PUMP, THE PRESSURE SETTINGS ARE 35/55 PSI.

Comments: (Such as, detailed information on any items with identified deficiencies)
THE WATER METER IS NOT WORKING. THE DISCHARGE FROM A DRAIN LINE CONNECTED TO THE WELL COULD NOT BE LOCATED. IT SHOULD BE LOCATED TO ENSURE THAT AN AIR GAP IS PROVIDED AT THE DISCHARGE POINT.

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID **MT0000102**

SYSTEM NAME **YELLOWTAIL WATER AND SEWER DISTRICT**

(Please copy this sheet for additional wells & pumps)

COMPLETE ONE PAGE FOR EACH SOURCE

STATUS OF SOURCE (A)ctive (I)inactive (P)roposed

WSF ID **WL003** *These are State assigned identification numbers*
 Entry Point ID **EP503**
 Source Name **WELL 2 (NORTH WELL)**
 Location of Water Source (TRS or street address) **WEST SIDE OF DISTRICT SERVICE AREA**
 Entry Point Name **EP FOR WELL 2**
 Location of Entry Point **WEST SIDE OF DISTRICT SERVICE AREA**
 Available Perm Emerg Interim Seasonal Other
 If seasonal: _____ to _____
 GWUDISW PA Completed Yes No

Log Available? Yes No
 Average Production **UNK**
 Maximum Production **UNK**
 Date Drilled **APRIL 1961**
 Casing Size **6"**
 Case Depth **345'**
 Well Depth **361'**
 Grout Depth **50'**

Log SWL **ARTESIAN FLOWING**
 Log PWL **UNK**
 Pump Capacity **UNK**
 Intake Type **PERFORATIONS**
 Screened Interval **330-345'**
 Well Yield **45 GPM W/O PUMP**
 Latitude **N45°18'25.1"**
 Longitude **W107°55'01.0"**

WELLS

PUMPS

Is well site protected from flooding? Yes No Unk N/A

Is well located in proximity of potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)?

If Yes, explain _____

Does casing extend at least:
 18 inches above outside ground level;
 12 inches above finished floor inside well house; and
 3 feet above 100 year flood elevation?
 (Check for appropriate distance)

Is top of the well casing properly sealed? (sanitary seal)

Is well vented?

Is well vent properly screened and terminated in a downward position?

Does well have suitable sampling tap? Raw Water
 Treated

Are check valves, blow-off valves and water meters maintained and operating properly?

Is upper termination of well protected (housed or fenced)?

Is intake located below the maximum drawdown?

Type **SUBMERSIBLE**
 (example: 30 hp line shaft turbine)
 Rated Capacity **UNK**

Are pumps operable? Yes No Unk N/A

How frequently are pump(s) replaced? ~ **EVERY 5 YEARS**

Are backup pumps/motors provided?

Are controls functioning properly and adequately protected?

Do underground compartments have a drain?

Is facility properly protected against trespassing and vandalism?

Are pump records maintained (amp, drawdown, discharge, pressure, maintenance schedule, manuals, etc.)?

Is the plumbing adequately painted to prevent excessive corrosion?

Are adequate heating, lighting, and ventilation provided?

Is a preventive maintenance program in operation?

Cross connection program in operation?

Are recommended spare parts on hand?

Comments: (Such as, detailed information on any items with identified deficiencies)
THE PUMPHOUSE FLOOR IS APPROXIMATELY AT GROUND LEVEL.

Explain Controls: **EACH WELL IS CONTROLLED BY TWO PRESSURE SWITCHES. WHEN THE WELL IS THE LEAD PUMP, THE PRESSURE SWITCH SETTINGS ARE 40/60 PSI. WHEN THE WELL IS THE LAG PUMP, THE PRESSURE SETTINGS ARE 35/55 PSI.**

Comments: (Such as, detailed information on any items with identified deficiencies)
THE WATER METER IS NOT WORKING. THIS WELL WAS THE LEAD WELL (FIRST WELL TO OPERATE) AT THE TIME OF THE INSPECTION.

SANITARY SURVEY FORM - PRESSURE CONTROL ASSEMBLIES

Page 5 of 11

PWSID MT0000102

SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT

COMPLETE ONE SECTION FOR EACH PRESSURE CONTROL ASSEMBLY

CAPTIVE AIR TANK(S) (bladder tanks)	PRESSURE TANK(S) (air/water interface)
<p>WSF ID PC001 Location, Description PRESSURE CONTROL FOR SOUTH WELL</p> <p>Is there a pressure relief valve? Yes No Unk N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there an operable pressure gauge? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Does low pressure level provide adequate pressure? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is the tank operating properly (not water logged)? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Are the exterior surfaces of the tank(s) in good physical condition? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Can tank(s) be by-passed for repair? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump run time: UNK</p> <p>Time of Day: N/A Cut-In 35 (LAG SETTING); 40 (LEAD SETTING) psi Cut-Out 55 (LAG SETTING); 60 (LEAD SETTING) psi</p> <p>Pump Type: SUBMERSIBLE</p> <p>Comments: 5 TANKS: 1 SEARS 90W; 1 CONAIRE 95; 1 WELLRITE; 1 SEARS ?; 1 UNKNOWN. EACH WELL CAN BE USED AS THE LEAD OR LAG WELL. WHEN USED AS THE LAG WELL, THE PRESSURE SWITCH WITH THE 35/55 SETTINGS CONTROLS THE PUMP. WHEN USED AS THE LEAD WELL, THE PRESSURE SWITCH WITH THE 40/60 SETTINGS CONTROLS THE WELL.</p>	<p>WSF ID _____ Location, Description _____</p> <p>Is there an operable pressure gauge? Yes No Unk N/A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Does low pressure level provide adequate pressure? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump run time _____ Cut-In _____ psi</p> <p>Time of day _____ Cut-Out _____ psi</p> <p>Is the tank operating properly (not water logged)? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is air charge system adequate? How much air is in the tank? _____ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is the exterior surface of the pressure tank in good physical condition? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a water level sight glass? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a bottom drain valve? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a pressure relief valve? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Can tank(s) be by-passed for repair? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump type: _____</p> <p>Comments: _____</p>
<p>WSF ID PC002 Location, Description PRESSURE CONTROL FOR NORTH WELL</p> <p>Is there a pressure relief valve? Yes No Unk N/A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there an operable pressure gauge? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Does low pressure level provide adequate pressure? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is the tank operating properly (not water logged)? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Are the exterior surfaces of the tank(s) in good physical condition? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Can tank(s) be by-passed for repair? <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump run time: UNK</p> <p>Time of Day: N/A Cut-In 35 (LAG SETTING); 40 (LEAD SETTING) psi Cut-Out 55 (LAG SETTING); 60 (LEAD SETTING) psi</p> <p>Pump Type: SUBMERSIBLE</p> <p>Comments: 4 TANKS: 1 CONAIRE; 1 KENMORE MD220F; 1 WELL XTROL 302; 1 UNKNOWN. EACH WELL CAN BE USED AS THE LEAD OR LAG WELL. WHEN USED AS THE LAG WELL, THE PRESSURE SWITCH WITH THE 35/55 SETTINGS CONTROLS THE PUMP. WHEN USED AS THE LEAD WELL, THE PRESSURE SWITCH WITH THE 40/60 SETTINGS CONTROLS THE WELL.</p>	<p>WSF ID _____ Location, Description _____</p> <p>Is there an operable pressure gauge? Yes No Unk N/A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Does low pressure level provide adequate pressure? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump run time _____ Cut-In _____ psi</p> <p>Time of day _____ Cut-Out _____ psi</p> <p>Is the tank operating properly (not water logged)? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is air charge system adequate? How much air is in the tank? _____ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is the exterior surface of the pressure tank in good physical condition? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a water level sight glass? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a bottom drain valve? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Is there a pressure relief valve? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Can tank(s) be by-passed for repair? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Pump type: _____</p> <p>Comments: _____</p>

SANITARY SURVEY FORM - MISCELLANEOUS		Page 6 of 11																																																																																																																												
PWSID MT0000102	SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT																																																																																																																													
<p style="text-align: center;">DISTRIBUTION SYSTEM EVALUATION</p> <p>System description 2" AND 4" - NO LOOPING</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> <th style="text-align: center;">Unk</th> <th style="text-align: center;">N/A</th> </tr> </thead> <tbody> <tr><td>System drawings available?</td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>As-built drawings?</td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td 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<input type="checkbox"/> Cross-connections were observed. Describe below.</p> <p>Comments: <u>ALL LINES ARE DEAD-ENDS. SYSTEM HAS NO VALVES.</u></p>		Yes	No	Unk	N/A	System drawings available?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	As-built drawings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drawing on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lines adequately sized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Asbestos concrete pipe used?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Adequate pressure maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mains protected from freezing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distribution system free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fire hydrants?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dead end lines eliminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flushing program?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pressure reducing stations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number _____					Booster stations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number _____					Connections to other PWSs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If Yes, please describe: _____					<p style="text-align: center;">SAFETY</p> <p>Check one: <input checked="" type="checkbox"/> No confined spaces were observed. <input type="checkbox"/> Confined space(s) were observed.</p> <p>Describe any confined spaces observed: _____</p> <p>Confined space safety adequate? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p>Fall risks adequately mitigated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A</p> <p>Describe _____</p> <p>Note any other safety deficiencies (consider items such as ladders, tank supports, guards on rotating electrical equipment, lightning protection for pumps, etc.) _____</p>																																			
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FROM BILLINGS IS THE CERTIFIED OPERATOR. ENGINEERING INC. 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there an O&M manual?</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td style="padding-left: 20px;">Is it current?</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td style="padding-left: 20px;">Is a copy on-site?</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td>O&M log maintained?</td><td style="text-align: center;"><input 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MORE INVOLVEMENT BY OTHER DISTRICT MEMBERS ON THE BOARD IS NEEDED.</u></p>		Yes	No	Unk	N/A	By-laws or articles of incorporation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Year of enactment: <u>1996</u>					Are copies available?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Budget:					Exists?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are personnel adequately trained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are operators properly certified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are there sufficient personnel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is an emergency plan available and workable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are abandoned wells present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do abandoned wells appear to be properly abandoned?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is operator aware of procedures regarding well abandonment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is there an O&M manual?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is it current?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is a copy on-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M log maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does the system have a current Monitoring Schedule?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	Unk	N/A																																																																																																																										
Bacti monitoring records observed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																										
Appropriate records maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																																																																										
Familiar with repeat sampling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																										
Bacti Sample Site Plan submitted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																										
Did Surveyor take a bacteriological sample?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																																																																										
	Yes	No	Unk	N/A																																																																																																																										
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REPORT SUMMARY

PWSID MT0000102

SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT

Page 7 of 11

The State, or an authorized agent, conducts sanitary surveys for all public water supply systems. This sanitary survey must address the eight sanitary survey components.

Please review the eight sanitary survey components listed below, and summarize any significant deficiencies found during this inspection.

- | | |
|---------------------------|--|
| A) Source | E) Pumps, pump facilities, and controls |
| B) Treatment | F) Monitoring and reporting, and data verification |
| C) Distribution system | G) System management and operation |
| D) Finished water storage | H) Operator compliance with State requirements |

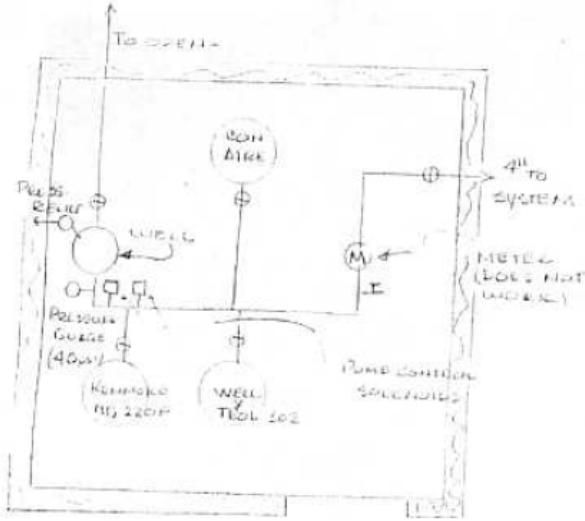
Comments: (A) THE END OF THE FLUSHING LINE FROM WELL 1 MUST BE LOCATED TO ENSURE THAT AN ADEQUATE AIR GAP EXISTS AT THE TERMINATION POINT. IT IS RECOMMENDED THAT THIS LINE BE DISCONNECTED UNTIL THE ISSUE IS RESOLVED. THE METERS IN EACH PUMPHOUSE SHOULD BE REPAIRED TO ENABLE THE DISTRICT TO MONITOR AND DETECT CHANGES IN WATER USE. (C) NO LOOPING OF THE DISTRIBUTION SYSTEM IS PROVIDED. FLUSHING HYDRANTS SHOULD BE INSTALLED AT THE END OF EACH LINE, AND PLANNING SHOULD BEGIN TO LOOP THE ENDS OF THE LINES TOGETHER. VALVES SHOULD BE INSTALLED ON EACH LATERAL SO THE ENTIRE SYSTEM DOES NOT HAVE TO BE SHUT DOWN WHEN LEAKS OCCUR. (F) THE SYSTEM SHOULD WORK WITH THE STATE TO RESOLVE THE APPARENT RADIUM 226+228 EXCEEDANCE. (G) MORE DISTRICT CITIZENS MUST BECOME INVOLVED ON THE BOARD. STEVE HILBER IS CURRENTLY THE ONLY ACTIVE MEMBER. A PLAN FOR SYSTEM MAINTENANCE SHOULD BE DEVELOPED. THE SYSTEM IS AGING AND NEEDS ROUTINE MAINTENANCE TO ENSURE CONTINUED OPERATION.

SANITARY SURVEY FORM - DIAGRAMS

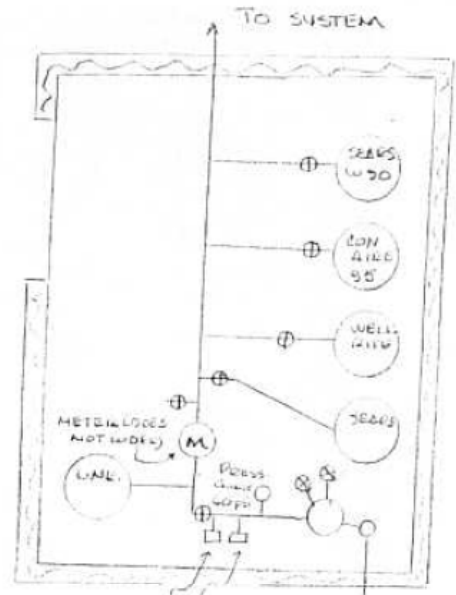
PWSID: MT0000102

SYSTEM NAME: YELLOWTAIL WATER AND SEWER DISTRICT

Draw brief schematic of pumphouse facilities (pressure control assemblies, treatment(s) valves, filters, meters, electrical controls, etc.)
From Joe Steiner Sanitary Survey Dated 8-2-2000



UPPER WELL HOUSE
(SOUTH)



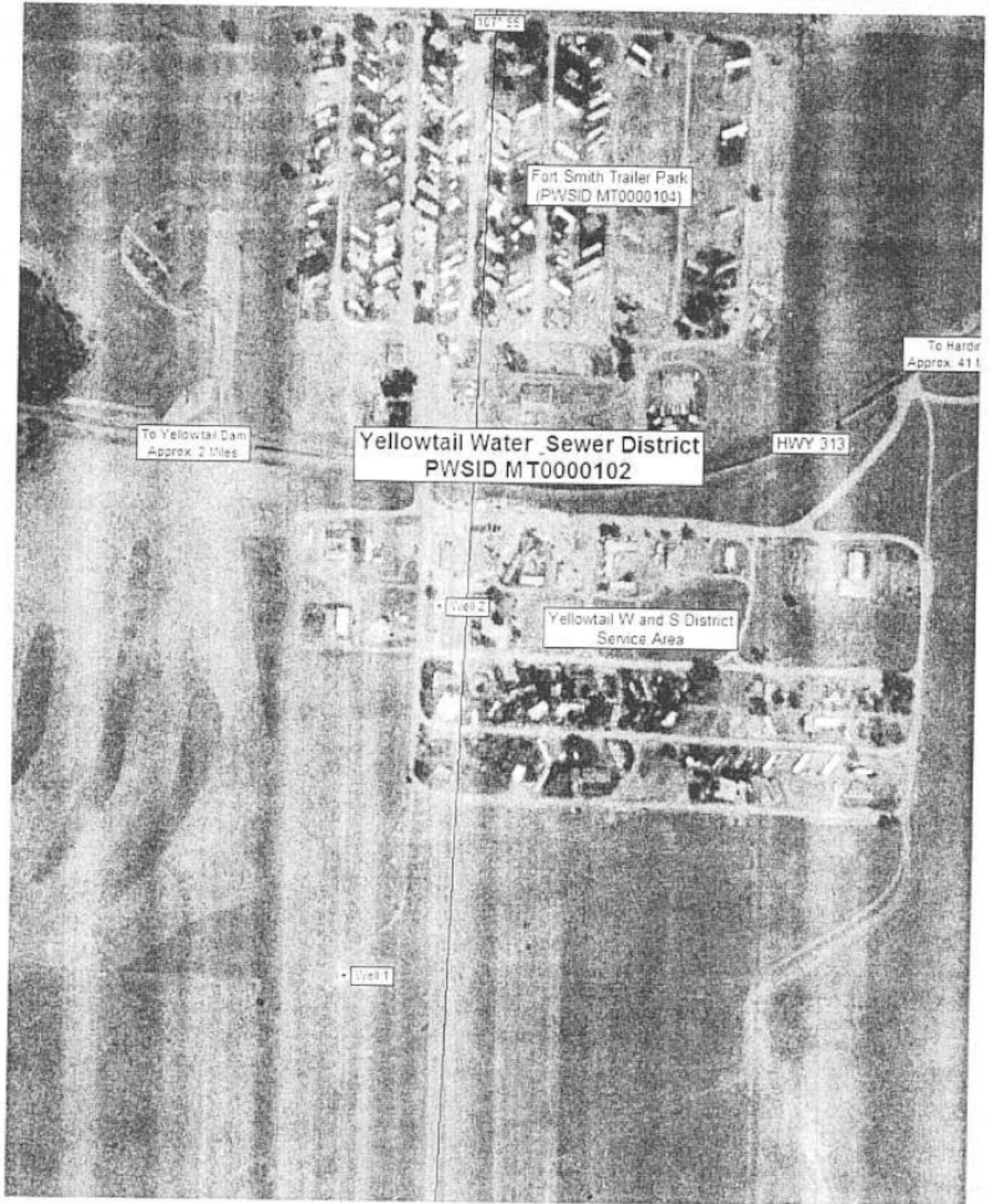
PUMP CONTROL SOLENOIDS
LOWER WELL HOUSE
(NORTH)

SANITARY SURVEY FORM - DIAGRAMS

PWSID MT0000102

SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT

Draw brief site plan showing location of well(s), springs(s), water storage, distribution system, pumphouse(s), entry point(s), treatment, etc. and label with appropriate facility designation. Include interconnections with other PWSs. (An appropriately sized map is recommended.)

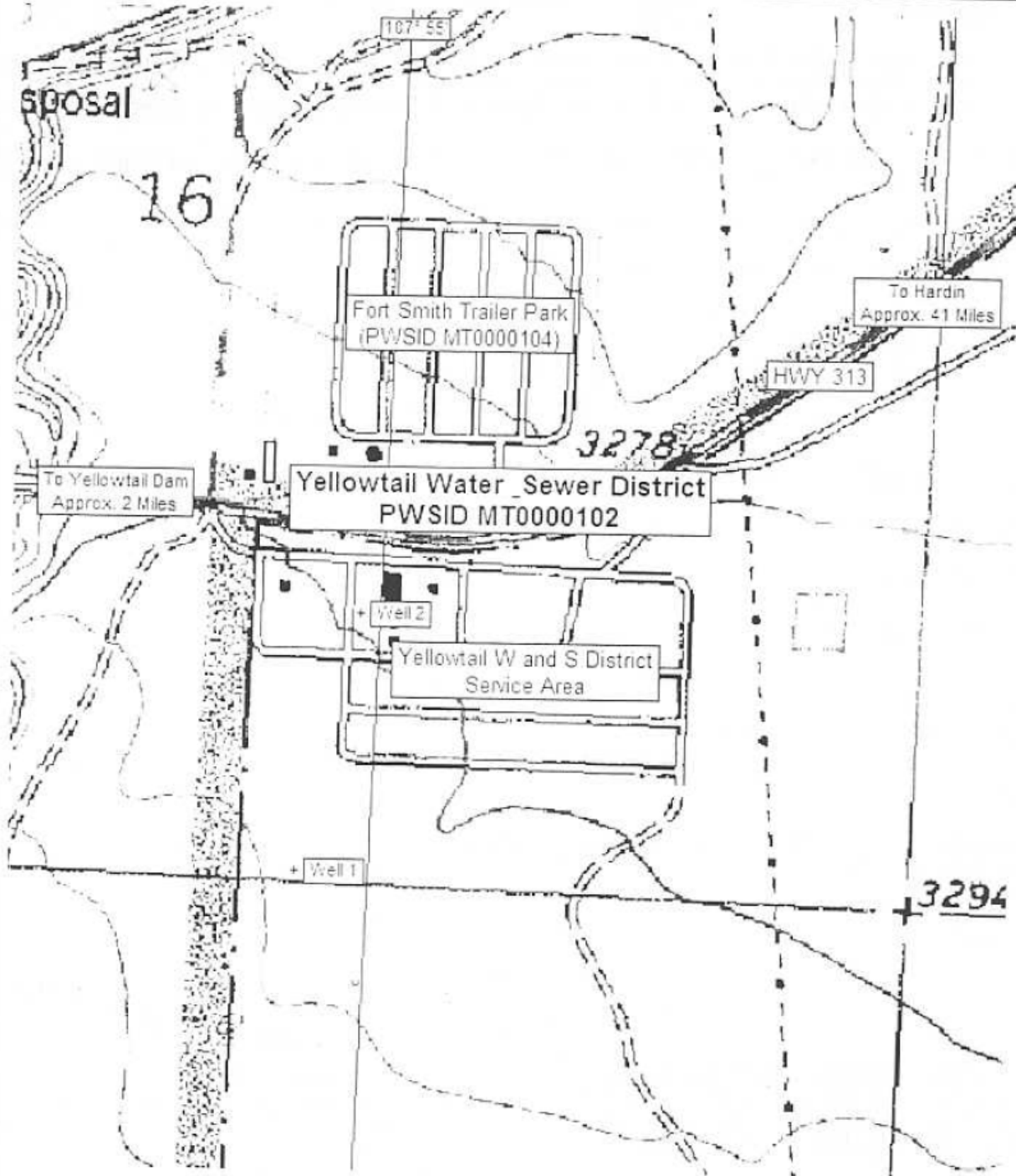


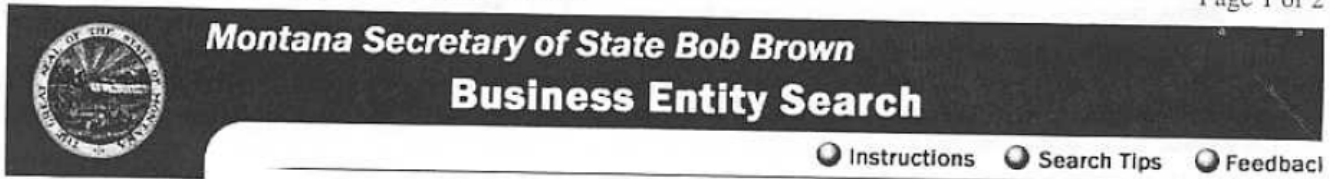
SANITARY SURVEY FORM - DIAGRAMS

PWSID MT0000102

SYSTEM NAME YELLOWTAIL WATER AND SEWER DISTRICT

Draw brief site plan showing location of well(s), springs(s), water storage, distribution system, pumphouse(s), entry point(s), treatment, etc. and label with appropriate facility designation. Include interconnections with other PWSs. (An appropriately sized map is recommended.)





Montana Secretary of State Bob Brown
Business Entity Search

[Instructions](#) [Search Tips](#) [Feedback](#)

Data Current as of...

If you are ordering a Certificate of Fact or Certificate of Existence, please make sure the Foreign/Domestic Corporation or Limited Liability Company is in "Good Standing". Enter the name of the business, and check to see whether their annual report was filed in 2004.

We are not able to provide a Certificate of Fact or Certificate of Existence unless the current annual report is filed.

Name: YELLOWTAIL/BIG HORN COUNTY WATER & SEWER DISTRICT
ID #: D086125
Type: COUNTY WATER & SEWER DISTRICT **
Jurisdiction State: MT
Status: ACTIVE
Status Reason: GOOD STANDING

Status Dates

Expiration Date:
Date of Incorporation: 03/20/1996
Last AR Filed:
Suspension:
Inactive Date:
Diss/Widthdr/Revoke:

Additional Info

Term: PERP
Shares:
Purpose Code: WATER AND SEWER DISTRICT

Agent

Registered Agent: BIG HORN COUNTY CLERK & RECORDER
Address 2: DRAWER H
City: HARDIN
State: MT
Zip: 59034-0000

If you would like to purchase a Certificate of Existence for this business entity, select the button below. You will be assessed a \$5.00 fee for this service. (This fee consists of a \$3.00 certificate fee from the Secretary of State's office, and a \$2.00 online processing fee).

[Get Certificate of Existence](#)

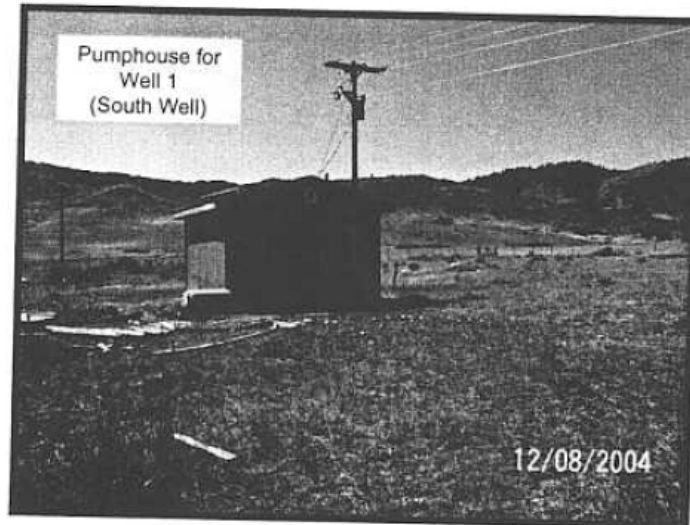
If you would like to purchase a Certificate of Fact for this business entity, select the button below. You will be assessed a \$15.00 fee for this service. (A \$13.00 certificate fee from the Secretary of State's office, and a \$2.00 online processing fee).

[Get Certificate of Fact](#)

Yellowtail Water & Sewer District
PWSID MT0000102

Yellowtail Water & Sewer District
PWSID MT0000102
Sanitary Survey 8-12-2004

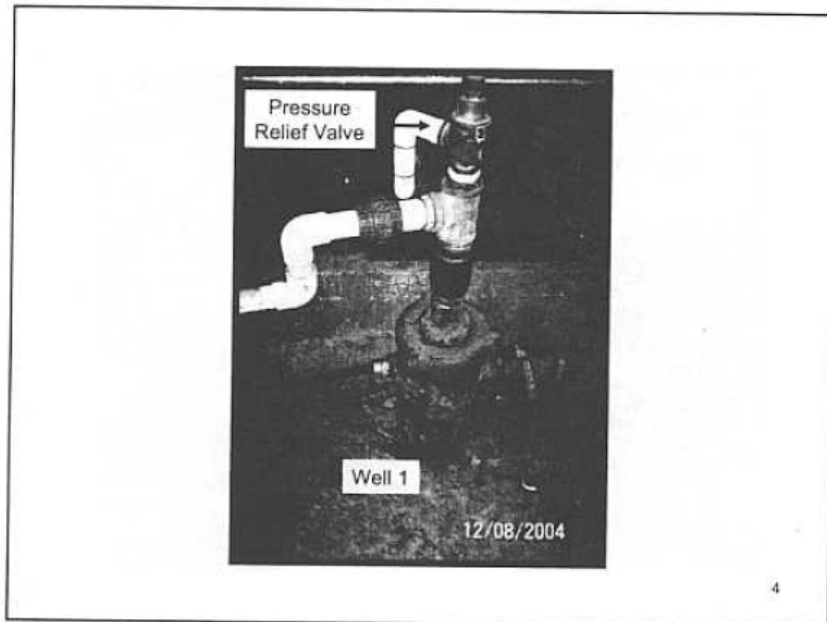
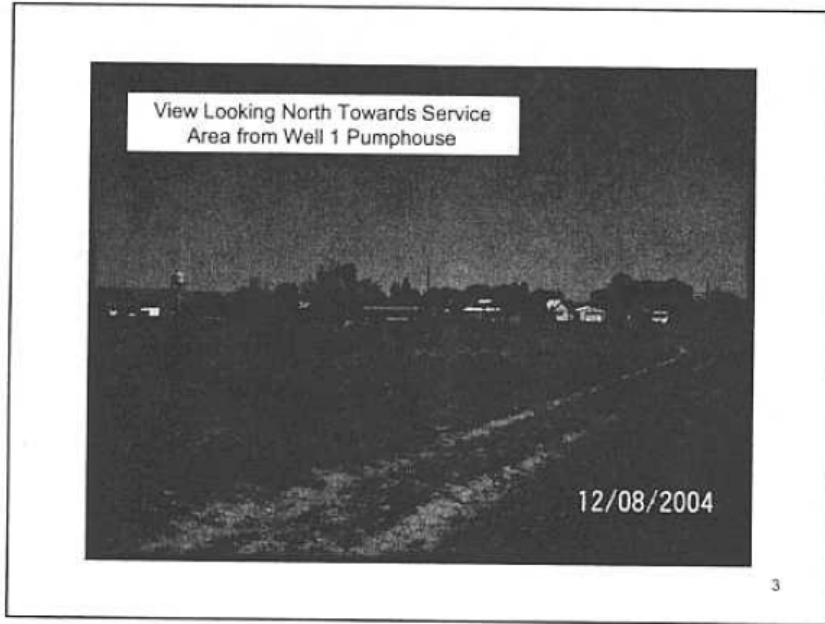
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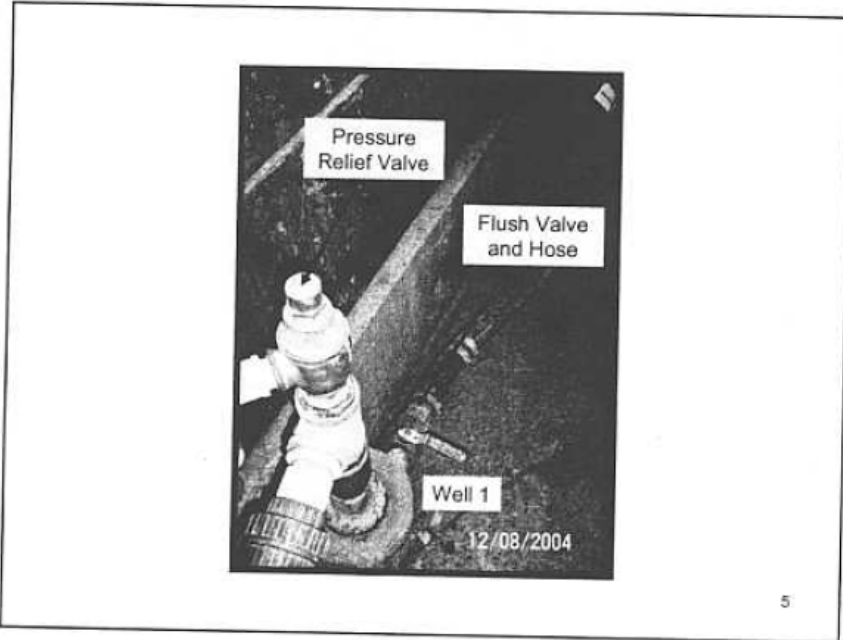
Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102

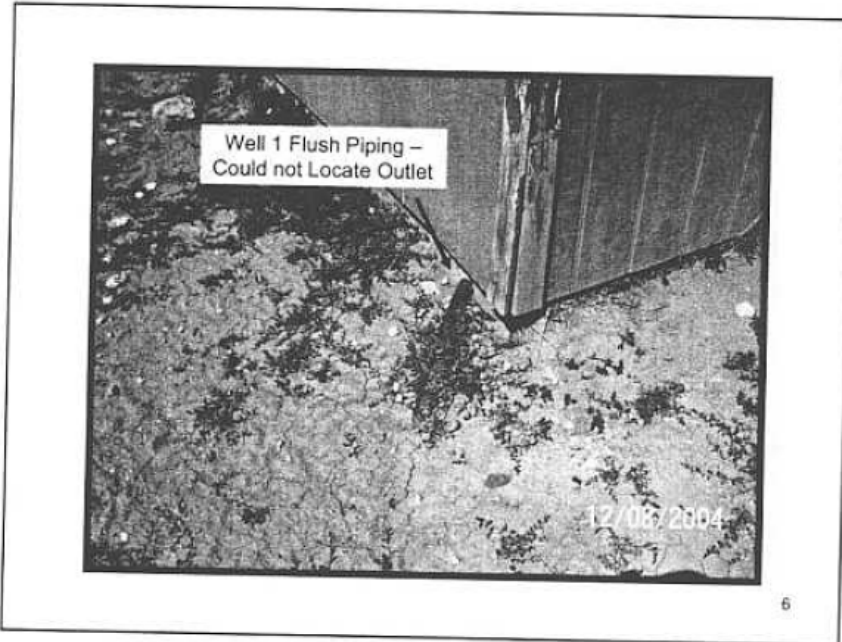


Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102



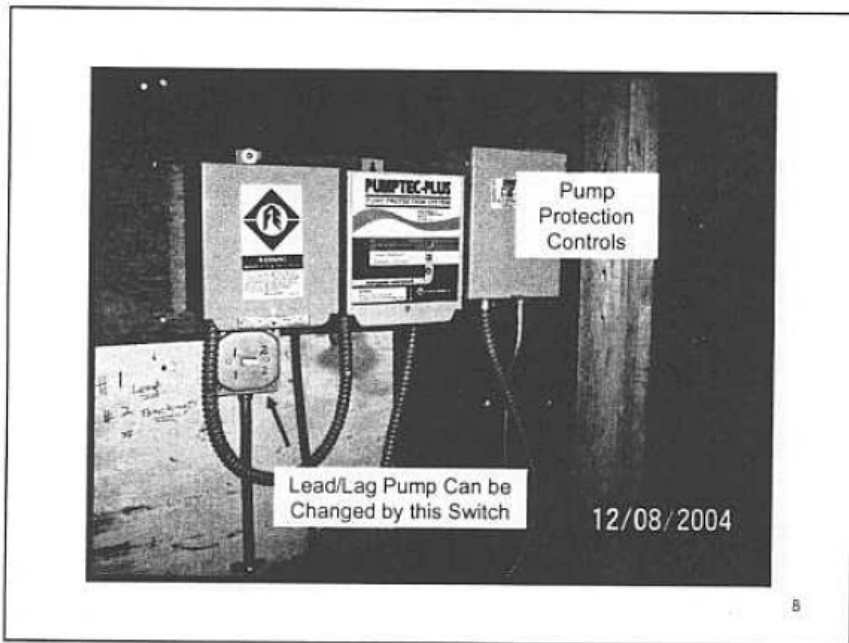
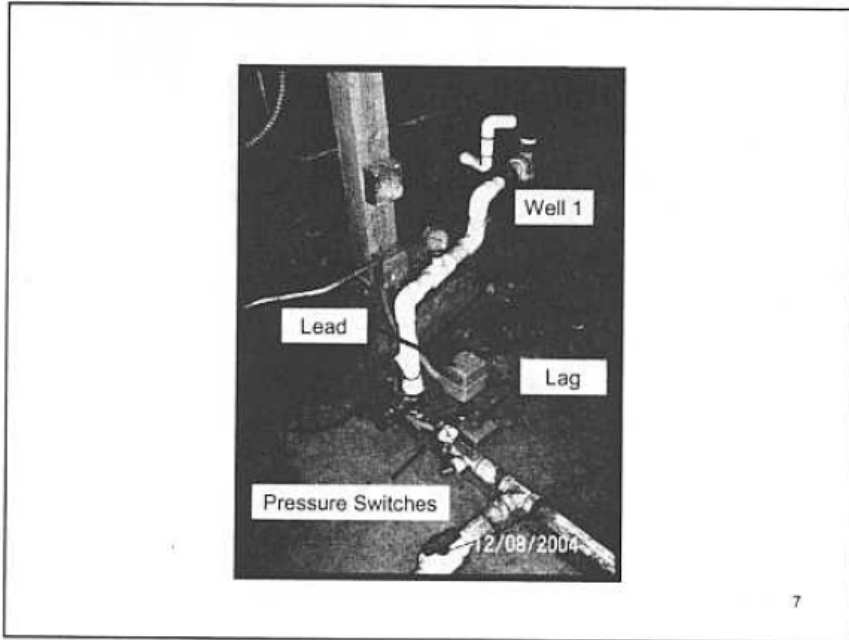
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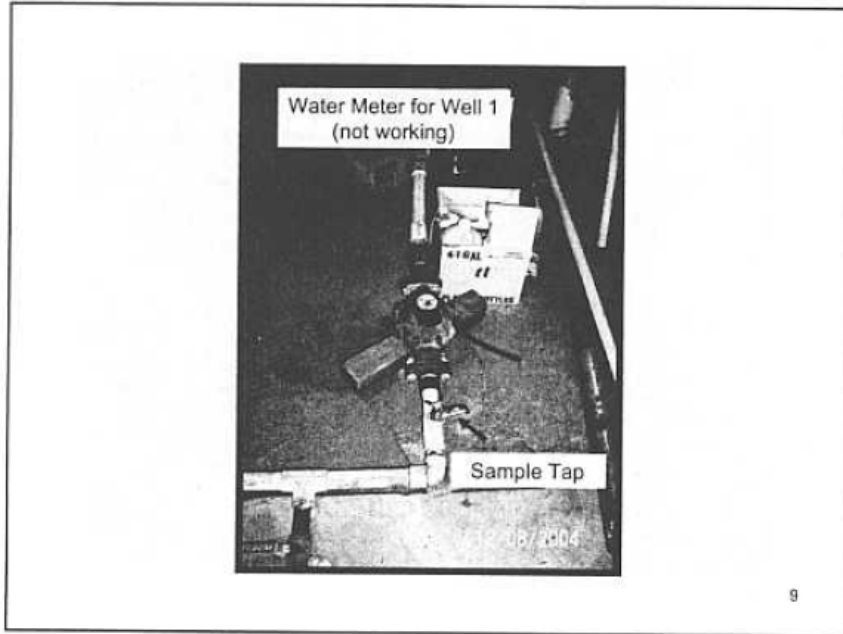
Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102

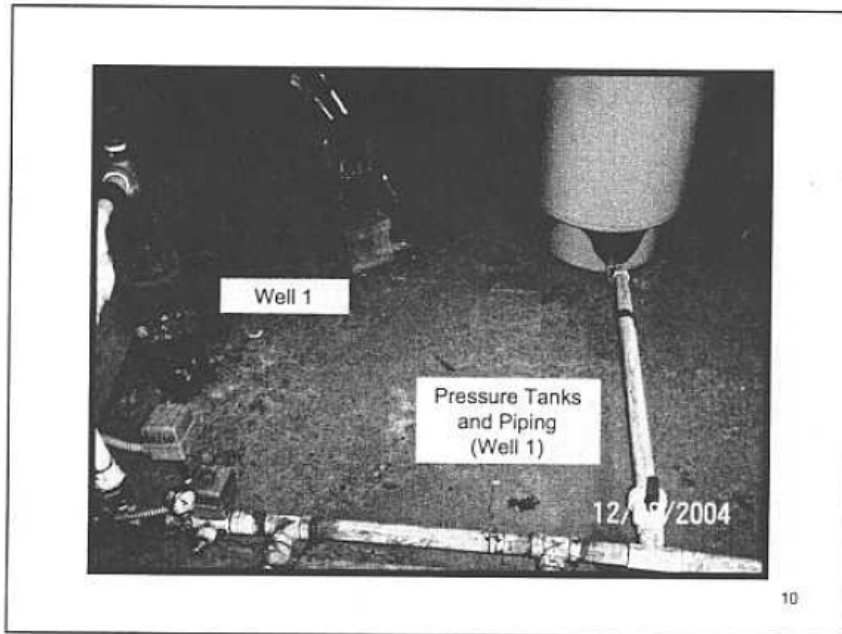


Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102



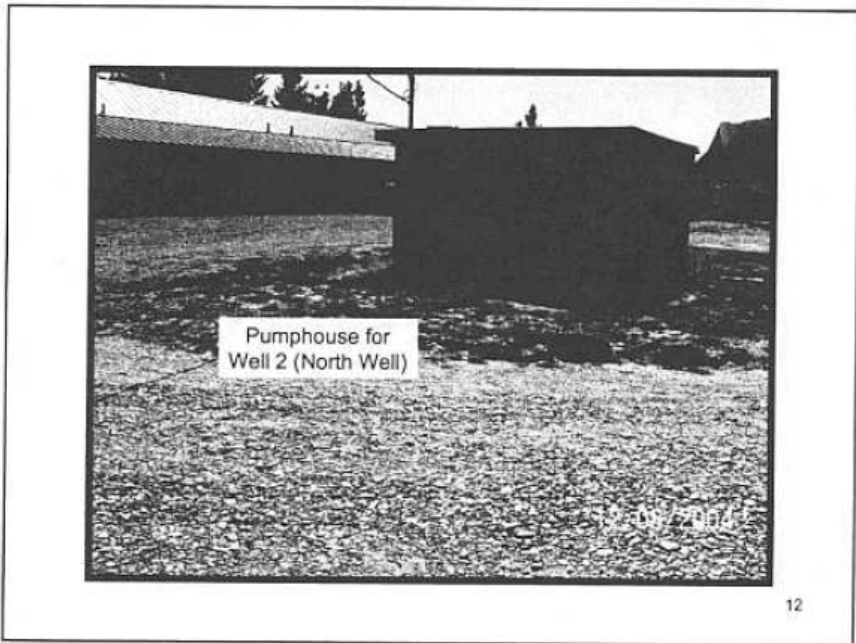
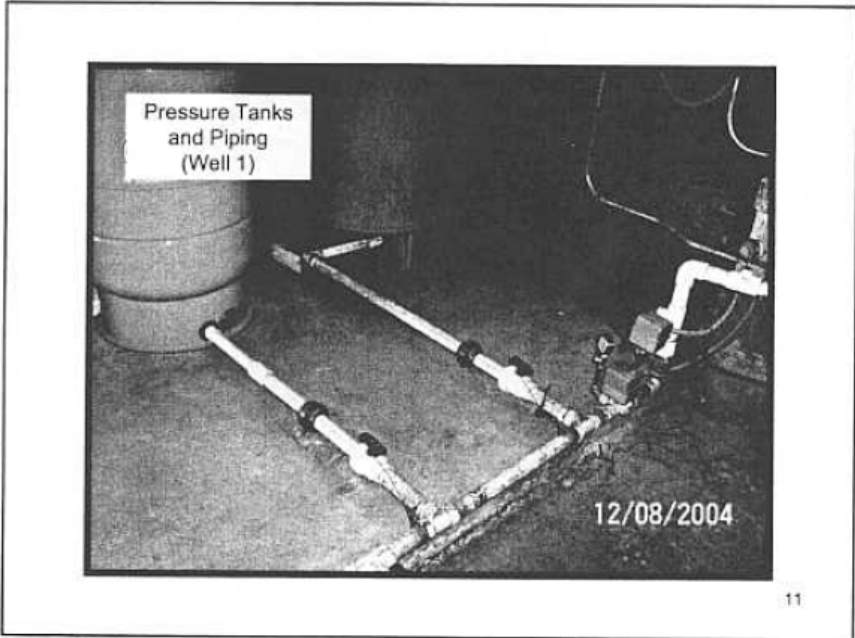
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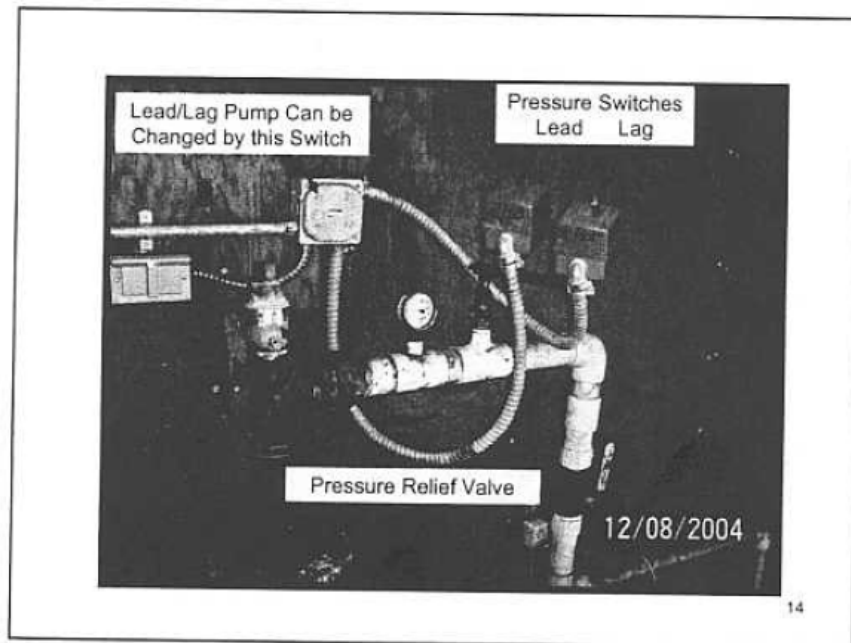
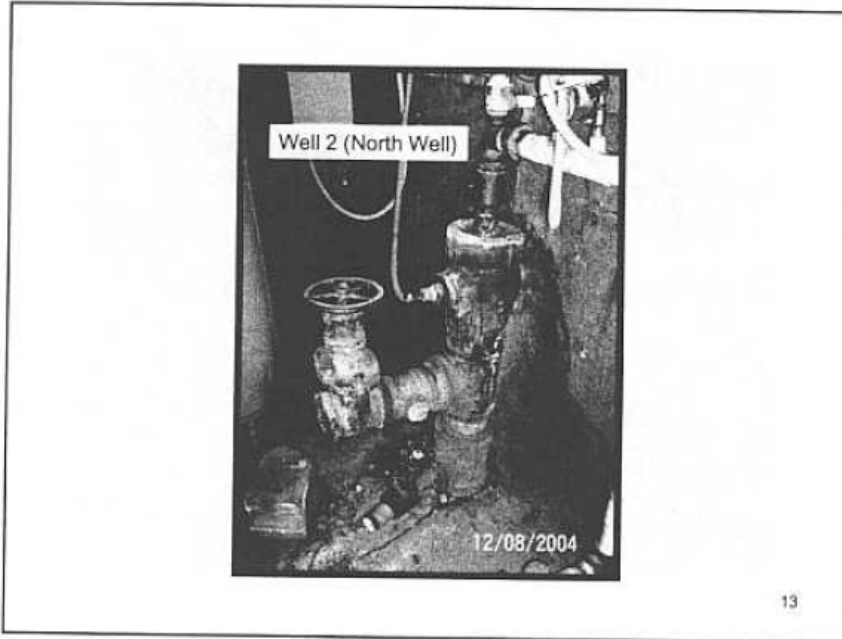
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Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102

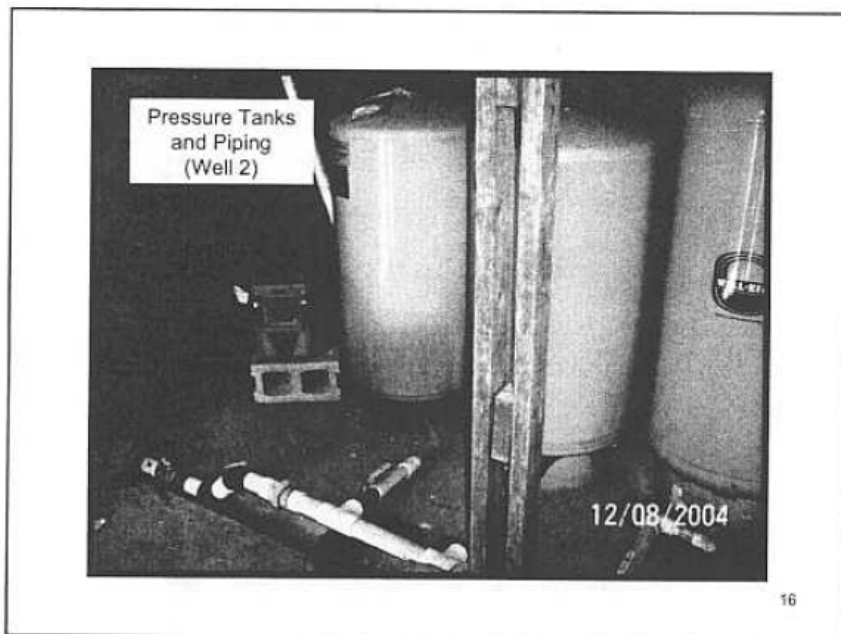
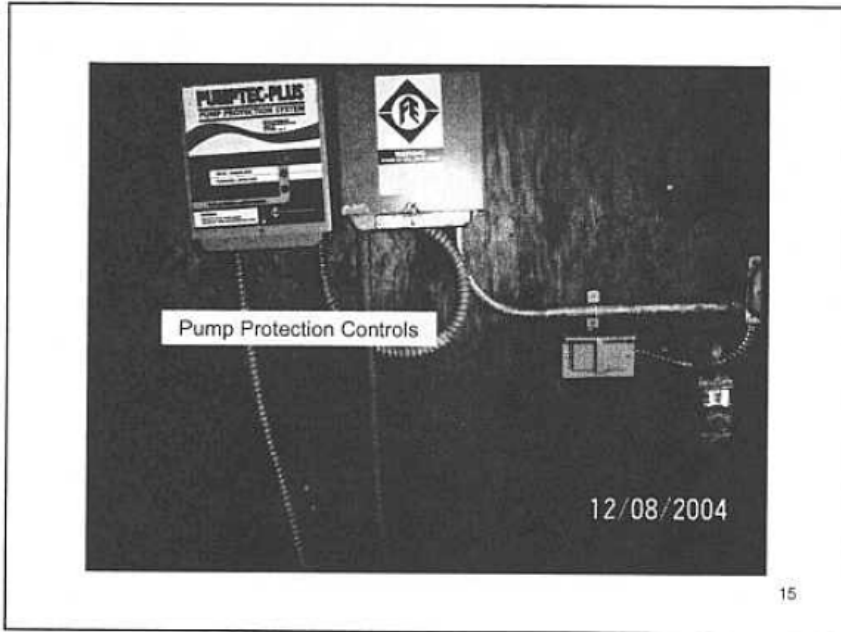


Yellowtail Water & Sewer District
PWSID MT0000102



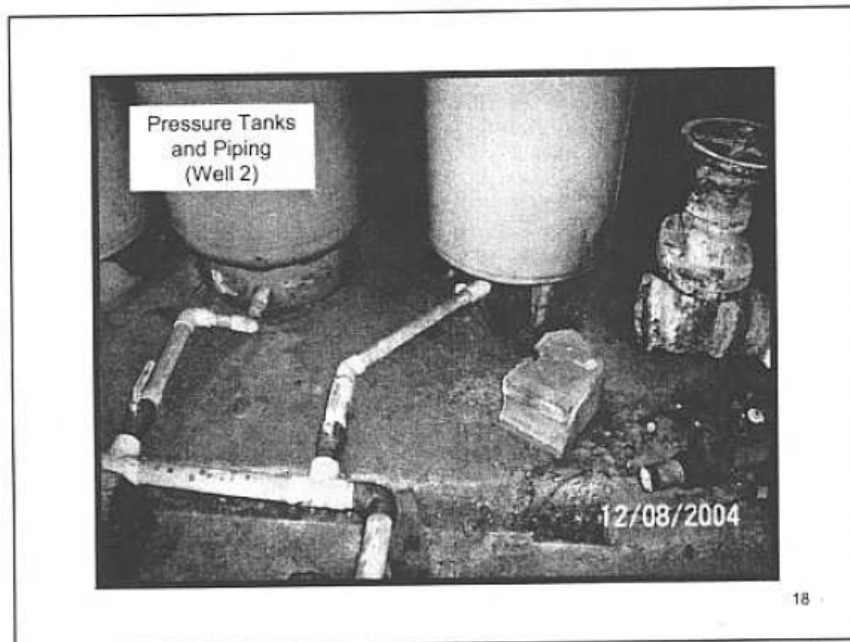
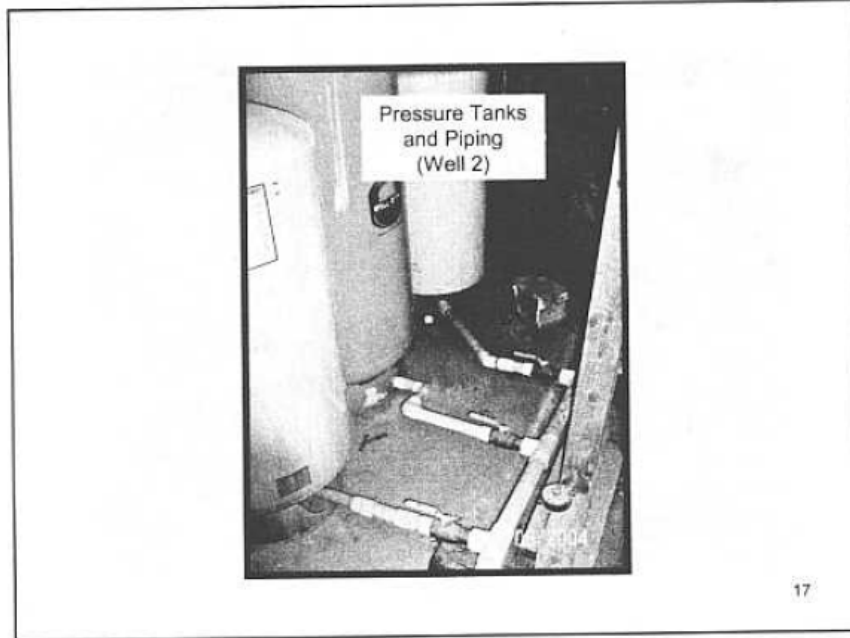
Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102



Sanitary Survey 8-12-2004

Yellowtail Water & Sewer District
PWSID MT0000102



Sanitary Survey 8-12-2004

APPENDIX D - Concurrence Letter & Other Correspondence