Worden Ballantine
Public Water System
(PWS # MT 0000022)

Source Water Protection Plan

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EXECUTIVE SUMMARY

This Source Water Delineation and Assessment Report (SWDAR) was prepared under the requirements and guidance of the Federal Safe Drinking Water Act and the US Environmental Protection Agency, as well as a detailed Source Water Assessment Plan developed by a statewide citizen's advisory committee here in Montana. The Department of Environmental Quality (DEQ) is conducting these assessments for all public water systems in Montana. The purpose is to provide information so that the public water system staff/operator, consumers, and community citizens can begin developing strategies to protect your source of drinking water. The information that is provided includes the identification of the area most critical to maintaining safe drinking water, i.e., the Inventory Region, an inventory of potential sources of contamination within this area, and an assessment of the relative threat that these potential sources pose to the water system.

As part of this assessment, three types of source water protection management areas were identified for the Worden Ballantine public water system. They are: the control zone, the inventory region, and the recharge region. Potential sources of contamination were identified within each of these three regions and the results are as follows:

- Significant potential contaminant sources identified within the control zone include: sewer mains. The control zone is delineated as a 100-foot radius around the wells and all sources of significant potential contaminants should be excluded in this region.
- Significant potential contaminant sources identified within the inventory region include: irrigated agricultural land, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), sewer mains, private septic lines and drainfields, and wastewater systems. The inventory region should be managed to prevent contaminants from reaching the well before natural processes reduce their concentrations. The inventory region was delineated based on a three-year time of travel estimate.
- Potential contaminant sources identified within the recharge region include: agricultural land and subdivisions. The goal of management in the recharge region is to maintain and improve water quality over long periods of time or increased usage.

The Worden Ballantine public water supply has a high susceptibility to the following potential contaminant sources: the onsite sewage systems and moderate risk from underground storage tanks (UST), moderate septic density, wastewater discharge, and irrigated agricultural land. The wells are not considered to be susceptible to the individual point sources in the recharge region because dispersion and dilution of contaminants should reduce concentration of contaminants below levels associated with adverse health effects. This provides a quick look at the existing potential sources of contamination that could, if improperly managed or released, impact the source water for Worden Ballantine. The susceptibility analysis provides the community and the public water system with information on where the greatest risk occurs and where to focus resources for protection of this valuable drinking water resource.

The costs associated with contaminated drinking water are high, and prevention is preferable to treatment. Public awareness is a powerful tool for protecting drinking water. The information in this report will help increase public awareness about the relationship between land use activities and drinking water quality.

INTRODUCTION

This Source Water Delineation and Assessment Report (SWDAR) was prepared for the Worden Ballantine Public Water Supply (PWS) located in Yellowstone County. It was completed by HydroSolutions Inc., (HSI) Billings, Montana, along with Montana Engineering and Administration, P.C. and edited by Joe Meek of the Source Water Protection Program at the Department of Environmental Quality (DEQ) and intern Bethany Haines.

PURPOSE

The primary purpose of this source water delineation and assessment report is to provide information that helps the Worden Ballantine protect its drinking water sources. A major component of the Montana Source Water Protection Program is '*delineation and assessment*'. Delineation is the process of identifying areas that contribute water to aquifers or surface water bodies used as drinking water supplies. The delineated areas are referred to as source water protection areas. Assessment involves identifying and inventorying potential sources of contamination within the source water protection areas, and then determining the potential for contamination of drinking water by these sources. This report is intended to meet the technical requirements for the completion of a source water delineation and assessment report for the Worden Ballantine public water system, as required by the Montana Source Water Protection Program (DEQ, 1999) and the federal Safe Drinking Water Act (SDWA) Amendments of 1996 (Public Law 104-182). The Montana Source Water Protection Program is intended to be a practical and cost-effective approach to protect public drinking water supplies from contamination.

LIMITATIONS

This report was prepared to assess threats to Worden Ballantine 's public water supply, and is based on published information and information obtained from local residents familiar with the community. The terms '*drinking water supply'* or '*drinking water source'* refer specifically to the source of the Worden Ballantine public water supply, and not to any other public or private water supply. Also, not all potential or existing sources of groundwater or surface water contamination in the vicinity of the Worden Ballantine public water supply are identified. Potential sources of contamination are considered only in areas that contribute water to the source of the public water supply.

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 constituents that do not have MCLs but are considered to potentially represent health threats.

CHAPTER 1
BACKGROUND

THE COMMUNITY

The towns of Worden and Ballantine are predominately agricultural communities, but lie within 30 miles of Billings, permitting easy commuting to work and services there. The Huntley Irrigation Project, constructed in 1907-1909, serves the Yellowstone River valley around these communities with abundant irrigation water. It is one of the oldest and largest irrigation projects in Montana. Irrigation water is diverted from the Yellowstone River near the town of Huntley, about eight miles upstream and serves the valley through the Huntley Main Canal, which hugs the southern margin of the valley.

GEOGRAPHIC SETTING

The towns of Worden and Ballantine, Montana are situated in the un-glaciated high plains of south-central Montana. The project area is located on an alluvial terrace deposit in the Yellowstone River Valley. The climate is cool and semi-arid with a lake evaporation rate of approximately 40-inches per year. At the local scale, the climate and hydrology is modified by irrigation of Yellowstone River valley. The source water area is relatively low relief, with approximately 60 feet of elevation change per square mile. The Yellowstone River is located approximately 4 miles north of the study area. Numerous irrigation canals and ditches and other small streams run through the study area. Sandstone cliffs border the area to the south. The hydrogeologic method was employed to determine the extent of delineation.

CLIMATE

The climate of the Ballantine area is typical of mid-elevation intermontane basins of the Northern Rocky Mountains east of the Continental Divide. Based on Western Regional Climatic Center data for the period of record, annual precipitation in Ballantine averages 12.78 inches. Monthly average precipitation ranges from 0.53 inches in December to 2.06 inches in May. Summer thunderstorms and winter snows provide a majority of the precipitation in the area. The annual mean snowfall in the Ballantine area is 36.9 inches. A summary of the available climatic data for the Ballantine area is presented in Table 1.

Table 1. Period of Record Monthly Climate Summary
BALLANTINE, MONTANA (240432) 4/ 1/1919 to 9/30/2005

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.5	39.8	48.7	61.6	71.5	80.0	90.1	88.0	76.3	64.3	47.2	37.1	61.5
Average Min. Temperature (F)	9.0	13.6	21.7	31.5	41.4	49.7	55.3	52.7	42.6	32.6	21.3	12.8	32.0
Average Total Precipitation (in.)	0.52	0.45	0.76	1.33	2.06	2.37	0.95	0.96	1.29	0.94	0.61	0.53	12.78
Average Total Snow Fall (in.)	7.5	6.8	7.1	2.5	0.2	0.1	0.0	0.0	0.2	0.9	4.2	7.4	36.9
Average Snow Depth (in.)	3	3	1	0	0	0	0	0	0	0	1	2	1

Taken from Western Regional Climate Center, wrcc@dri.edu

GEOLOGIC AND HYDROGEOLOGIC SETTING

The available well log information indicates that the alluvial aquifer consists of sand and gravel up to cobble size, with thickness typically 10 to 25 feet. Silty clay deposits 5 to 15 feet thick generally overlie the aquifer. The depth to shale bedrock ranges from 20 to 55 feet, with the thicker alluvium occurring along the southern valley margin, in the vicinity of the Number 2 Drain that provides the current water supply. The alluvial aquifer in this area is considered semi-confined, based on information obtained from GWIC. The water table elevation is generally above the top of the aquifer, in the clay and sandy clay deposits. In places and during seasonal low water levels the aquifer may be unconfined. Within the area mapped as alluvial fan, including the area of Drain 2, more than one gravel layer may be present, intercalated with sandy clay beds.

The boundaries of the alluvial aquifer are:

- The alluvial valley is bounded by relatively impermeable Bearpaw shale outcrop on the northern and southern sides of the Yellowstone River valley. This shale also underlies the alluvium.
- In most places, the alluvial aquifer is overlain by silty and/or sandy clay deposits.
- The aquifer lacks physical boundaries in the upstream and downstream directions (southwest and northeast). However, open and buried drains, stream channels and the Yellowstone River act as hydraulic boundaries to some degree.

Irrigation canal leakage and on-farm infiltration of irrigation water undoubtedly provides most of the groundwater recharge. The Huntley Main Canal hugs the southern margin of the valley, situated on alluvial fan deposits that are probably underlain by river alluvium or terrace deposits. The canal bottom appears to rest on silt and sandy clay soils. Canal seepage measurements in central and eastern Montana indicate that canal infiltration rates range from 0.4 to 4 ft/day, giving seepage rates of 0.4 to 5 cfs/mile. The canal has an operating depth of 6.5 to 7 feet and a wetted perimeter of approximately 25 feet. On-farm flood irrigation is typically 30 percent efficient. With typical annual irrigation of 3 to 5 feet for corn and sugar beets, 50 percent or more can be expected to infiltrate to groundwater. The construction of agricultural drains in the early history of irrigation demonstrates that the local water table was raised so high that it impeded root development and agricultural operations. The drains are necessary to minimize waterlogging of soils and crops. A report of, “Preliminary Groundwater Resources for the Worden-Ballantine Water System” (HKM Associates, 1981) provided groundwater level hydrographs indicating that the water table rises to within 2 to 3 feet of land surface during portions of the irrigation season.

A generalized Source Water Sensitivity index provided by MDEQ is contained in the following table. This is one of a number of sensitivity and risk devices developed for rating groundwater susceptibility to contamination. Some systems include other important sensitivity factors such as soil properties and aquifer geometry.

The Worden-Ballantine PWS District water source is not considered to be groundwater under the direct influence of surface water (*GWUDISW*), according to the results of microscopic particulate analysis (MPA) classification performed in May 2001. The District had upgraded its point of diversion from Drain 2, installing a stainless steel splitter box with a sealed riser reaching about 1.5-ft above land surface. The MPA score on a sample taken after completion of the upgrade was zero and *GWUDISW* Risk Factor was “Low”. Although groundwater recharge is predominately from irrigation water sources and the residence time within the aquifer is relatively short, the aquifer has significant protection due to

the overlying thick silty clay soil. The aquifer is likely semi-confined over much of the recharge area overlain by alluvial fan deposits, but may be seasonally or locally unconfined. Therefore, the sensitivity of this source is ranked as moderate to high. Factoring in soil criteria may lead to a moderate rank overall.

The most specific hydrogeologic investigation of the PWS area was a preliminary water supply investigation conducted for Worden-Ballantine by HKM Associates. Fieldwork was conducted in 1978 to 1980, with the report published in 1981. The Montana Bureau of Mines and Geology (MBMG) is currently conducting groundwater monitoring in the vicinity, but no specific information or data are currently available. A detailed hydrogeologic study of the "Billings West End" has been completed by the MBMG (2002), and provides a very good benchmark of groundwater sources and occurrence in a setting very similar to Worden-Ballantine. A recent geologic map of the project area has been issued by the MBMG (Lopez, 2000).

Figure 1. Vicinity Map and Well Location

GENERAL DESCRIPTION OF THE SOURCE WATER

The source water for the Worden-Ballantine water system is groundwater, supplied by the unconfined to semi-confined alluvial sand and gravel aquifer of the Yellowstone River valley. In the vicinity of the PWS source area, the river alluvium is overlain by, and inter-bedded with, saturated alluvial fan deposits from Arrow Creek and small tributary drainages. Silty clay topsoil greater than five-feet thick overlies the alluvial aquifer. The relatively impermeable Bearpaw Shale bedrock underlies the aquifer. Some well logs indicate the presence of more than one gravel/sand unit separated by clay units. The town obtains its water supply from a buried drain, called Drain 2, lying along the southern margin of the valley. Drain 2 roughly parallels the Huntley Main Irrigation Canal, which lies about one quarter mile uphill. The drain was initially constructed as an agricultural interceptor drain. Most groundwater originates from recharge of irrigation water, canal seepage and precipitation. Groundwater flow in the vicinity of the water system is generally from the southern margin of the valley, to the north and northeast, discharging to drains, sub-irrigation and to the Yellowstone River on the north end of the valley. All of the private drinking water wells in this region of the Yellowstone River valley obtain water from the shallow alluvial aquifer. The Huntley Main canal is, to some extent, hydraulically connected to the alluvial aquifer, since it is perched high on the alluvial fan along the southern margin of the Yellowstone valley. A spill of contaminants into the river upstream of the canal diversion, could travel downstream, be diverted into the Huntley canal and transported with the flow to the area of Drain 2. It is believed, however, that a serious upstream spill would be detected soon enough to permit the exclusion of contamination from the canal, or its interception before reaching the area of Drain 2.

Figure 2. Geology of the Area

PUBLIC WATER SUPPLY

The population served by the PWS is approximately 693. There are approximately 361 water service connections in Worden-Ballantine, including commercial and residential customers. There are three schools, each with 3-inch meters, two trailer parks with 1-½ inch meters, and several 1-inch meters. Water use averages about 90,000 gallons per day. Since most customers (approx. 90%) have private wells for lawn watering, there is not the normal peak-day spike. The peak water use day in the summer uses less than twice the average day demand.

The principal components of the PWS include Drain 2, which supplies all the water, a splitter box leading to the pump house, the pump house and chlorination house, an elevated storage tank, and the distribution network. There are no community wells on the PWS system. All municipal water is obtained from Drain 2. Microscopic Particulate Analysis (MPA) tests conducted of the source water during the past several years indicate that the water is not classified as Groundwater Under the Direct Influence of Surface Water (GWUDISW), although the MDEQ has not yet officially classified the MPA tests. The MPA results have been on the low side of "Moderate" (13), and have been a "0" for the past two years, respectively. The principal concern with the water supply is surface water backup from the outlet, which is submerged in an open surface drain. There is a direct hydraulic connection enabling small fish to reach the splitter box where the PWS supply is pumped from Drain 2. Although there is an open connection to the surface water, there is always a positive flow from Drain 2 into the submerged drain outlet, which is probably why such low MPA scores have been found. The continuous flow through the drain provides a state of perpetual self-cleaning with groundwater.

Water from Drain 2 can be produced at about 130 to 140 gallons per minute (gpm). Due to the large volume of storage in the surcharged drain, a positive pressure and continued discharge to the outfall is maintained, even if the PWS District draws water at over 200 gpm (as observed in the field). The proposed project will provide a hydraulic air-break to eliminate the potential for aquatic life to enter the splitter box.

The location of Drain 2 is shown on several maps in the attached appendices. The location shown is based on historic maps of the irrigation district. No manholes are known to exist on the active portion of Drain 2. At the splitter box, the depth of the drainpipe is approximately 7-feet to the invert. It is constructed of clay tile pipe laid end to end with a small gap between pipes to admit water. A PWS Site Plan showing the location of mains, valves, water sources, storage tanks, water treatment equipment, etc. is provided in Appendix A.

Table 2. Source information for Worden/Ballantine.

Information	Drain #2
PWS Source Code	PWSID 00022
Well Location (T, R, Sec or lat, long)	**T. 2N. R. 29 E. Sec 6 CDB**
MBMG #	N.A.
Water Right #	N.A. Through U.S. Bureau of Reclamation- Huntley Irrigation Project
Date Drain was Completed	Unknown. Possibly up to 80 years ago.
Total Depth	Drain depth probably ranges from 7 to 10 ft. below ground surface.
Perforated Interval	Believed to be clay tile laid end to end along entire length.
Static Water Level	Estimated to be 5 to 7 ft bgs, but not directly measured.
Pumping Water Level	Estimated 5 to 7 ft bgs. Drain 2 has a surcharge at PWS splitter box
Drawdown	Very minimal due to large water storage in the pipe drain.
Test Pumping Rate	Not tested. Total baseline drain flows approximately 130 gpm in January 2002.
Specific Capacity	Not applicable to drains.

WATER QUALITY

Every PWS is required to perform regular sampling of their water supply to detect any contamination. The analytical parameters include: coliform bacteria and other pathogenic organisms, nitrates, metals, petroleum hydrocarbons, and other organic chemicals. The monitoring schedule depends on factors such as the size and source water of a PWS, the number of supplies (e.g. wells), and the population served. Each PWS has a specific monitoring program tailored to their system that follows the general protocols defined by DEQ for operation of a PWS. PWS monitoring schedules are available at: <http://nris.state.mt.us/wis/swap/swapquery.asp>.

The Worden Ballantine system has had no coliform detections in the past five years. Other compounds detected during Worden Ballantine 's water sampling over the past five years include nitrite + nitrate (1.26 to 3.39 mg/L (milligrams per liter)), calcium (46 to 86 mg/L), sodium (45 to 129 mg/L) and sulfate (48 to 250 mg/L). The compounds detected are all below established EPA primary maximum contaminant levels (MCLs). National secondary drinking water standards (SMCLs) are non-enforceable guidelines that may affect the aesthetic quality of water (i.e. odor, color, etc.) and are not health standards.

Some historic water quality data on the Worden-Ballantine water supply are contained in the HKM Associates report, "*Preliminary Groundwater Resources Investigations for the Worden-Ballantine Water System*" (February 1981). Water quality results were tabulated for samples taken from Drain 2

and other closed (buried) drains in the vicinity of the PWS collection facility, from May 1978 through August 1980. In general, the groundwater was hard to very hard, mixed cation-sulfate type. Total coliform bacteria were not detected in Drain 2, but were detected in the other drains sampled. Total dissolved solids in Drain 2 ranged from 655 to 1010 mg/l, while nitrate ranged from 2 to 7.6 mg/l. HKM concluded that proposed secondary standards for TDS and sulfate were exceeded.

The PWS is required to conduct periodic sampling to comply with MDEQ rules for public water supplies. Complete analyses were performed most recently in November 1998 and November 2001. The 2001 sample results show that the water type was a mixed-cation bicarbonate type, with all metals and inorganic trace elements were below State standards (WQB7, 2002). Nitrate plus nitrite levels were 2.86 and 1.39 mg/l, respectively in 1998 and 2001. Nitrate values average 2.2 mg/L over the past decade at this PWS. Although these concentrations indicate minor anthropogenic influence, they are relatively low for agricultural regions such as the Yellowstone River valley. Organic contaminants analyzed in 2001, including volatiles, semi-volatiles and pesticides were all below respective drinking water standards, and all but four were below respective laboratory detection limits (Amatec Services, Inc.). Very low levels of tri-halomethanes (THMs) including 2-ethylhexy phthalate, bromodichloromethane, chloroform, and dibromochloromethane were detected, and summed to a total of 4.64 ug/l, compared to the national (and Montana) primary drinking water standard of 100 ug/l Total THMs. The analysis was of a treated water sample, indicating that very low levels of trihalomethanes (THMs) are present in the water supply after chlorination. The results of a Microscopic Particulate Analysis (MPA) of a June 2000 sample gave a total score of zero, and a GWUDISW Risk Factor of "Low".

As part of this SWPP, groundwater samples were collected from the R. McElvain and Vogel domestic wells, located within the recharge area of Drain 2. These wells reportedly obtain water from the alluvial aquifer. The inorganic water chemistry types were similar to that of Drain 2 described above. The metals barium, chromium iron and manganese were all below their respective detection limits. Nitrate plus nitrite concentrations were 2.16 and 7.27, respectively for the McElvain and Vogel locations. The McElvain residence is in the middle of an irrigated field. The well at the Vogel residence is just down gradient of their farm headquarters area. The farm supports a cattle feedlot operation, which lies just outside the inventory region on the hills south of the alluvial aquifer. The specific source of the elevated nitrate in this well is not known, but is probably related to one or more of the agricultural land uses in the vicinity.

CHAPTER 2
DELINEATION

This report delineates three source water management areas. The goal of source water management is protecting 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 major land use activities or other significant activities in the recharge region pose minimal threat to the source water.

CONCEPTUAL MODEL AND ASSUMPTIONS

The conceptual model of the alluvial aquifer that provides the source water to this PWS is as follows:

- Groundwater is contained in a 25 to 55-foot thick sequence of one to four inter-bedded silty-sandy clay and sand and gravel beds under semi-confined to unconfined conditions.
- Groundwater recharge occurs primarily from irrigation canal seepage and on-farm percolation of irrigation water. Recharge is through moderately permeable surface soils consisting of loam, clay loam and silty-sandy clay loam greater than 60-inches deep.
- A bi-modal permeability system exists with mostly vertical groundwater flow in the fine-grain deposits and horizontal flow in the sand and gravel units. Drain 2 is supplied by groundwater flow from both types of deposits that probably grade in and out of the immediate drain right-of-way. The fine-grain units provide long-term storage of groundwater while the sand and gravel units permit effective transmission to the drains.
- Groundwater levels and drain flows are driven by the irrigation cycle, superimposed on the peak precipitation months of May and June. These factors produce maximum annual discharge in late summer. Following the peak, groundwater levels and drain flows gradually decline until the following May.

A north-south hydrogeologic cross-section through the Yellowstone River valley alluvial aquifer is provided in Appendix A. It was based on lithologic logs provided in water well logs available through the Montana Ground Water Information Center (GWIC).

DELINEATION

Methods and criteria for delineating source water protection areas are specified in the Montana Source Water Protection Program (DEQ, 1999). The delineated management zones for the wells are shown on Figure 3.

Control Zone – A 100-foot radius control zone is delineated for Worden Ballantine 's is the fenced area immediately surrounding the two pump stations and wet well where the PWS source water is diverted to the municipal system. All sources of potential significant contaminants should be excluded in this region.

Inventory Region – The Inventory Area was defined using a combination of hydrogeologic mapping and analytical equations of groundwater flow to drains. The mapping began with the new MBMG geologic map of the Billings 1x2 degree sheet (Lopez, 2000), was refined with the download and inspection of dozens of private water well logs from the GWIC system, and supplemented with information from other relevant sources such as the 1981 HKM report, the recent "Billings West End Hydrology Report" (MBMG, in press). HSI has over 20-years of experience working in the Yellowstone River valley. Modifications of the Donnan Equation of steady state flow to spaced drains (U.S. Bur. Rec, 1978) were

used with input data from the aforementioned sources to back-calculate the effective horizontal hydraulic conductivity of the alluvial aquifer (Geometric mean of fine-grain and sand/gravel, ranging from 5 to 50 ft/day). Time of travel was estimated for an assumed K of 200 ft/day, which is typical of the clean sand and gravel aquifer in the Billings area. All sources of potential contaminants are inventoried in this region.

Recharge Region – The Recharge Area was taken to be the Inventory Area, plus the surface water drainage basin area lying south of this area that could contribute direct runoff to the alluvial aquifer intercepted by Drain 2. The goal of management in the recharge region is to maintain and improve the long-term quality of groundwater in the aquifer.

MODEL INPUT

Estimates of the hydrogeologic parameters used to develop the source water protection area are given in Table 3.

Table 3. Estimates of input parameters used to delineate the source water protection area.

Input Parameter	Range of Values and units	Drain #2
PWS Source Code		PWSID 00022
Transmissivity	500 – 9,000 ft^2/day	6,000 ft^2/day
Thickness	Sand & Gravel 5 – 30 ft	25 ft
Hydraulic Conductivity	100 – 300 ft/day	Average Estimated for Sand & Gravel: 200 ft/day
Hydraulic Gradient	0.01 - 0.001	Varies along flow line from Huntley Canal, use 0.005
Flow Direction	North to Northeast	Flow is toward the drain within its capture zone, but regionally is north to northeast.
Effective Porosity	0.1 – 0.3	Average Estimate: 0.20
Pumping Rate	40 – 160 gpm	75 gpm
1-Year TOT*		Using values above: 0.3 miles
3-Year TOT*		Using values above: 1.0 miles Except flow system to drain cannot extend 0.5 miles beyond end of drain. Administrative boundary placed along west side of Sec 12.

The hydraulic conductivity used represents that of a typical clean sand and gravel aquifer in the Yellowstone River valley. It is conservative in that it does not include a weight for the much lower K of the sandy clay inter-beds.

DELINEATION RESULTS

The results of the source water delineation are provided on the 1:24,000 scale base map, and the time-of-travel calculations in a table. The delineation is based on a combination of the hydraulics of

groundwater flow to buried drains (U.S. Bur. Rec., 1978), and the setting of the drain in the hydrogeologic environment. The delineation on the south side was dictated by the mapped extent of the alluvial deposits (Lopez, 2000). This line was extended southward where small tributary drainages intercepted highway I-94. On the north side, the limit was controlled by the presence of another parallel drain, Drain 14. On the west, the delineation was extended to the maximum distance that a groundwater flow line could conceivably travel into the up-gradient capture zone of Drain 2. It is believed that the westward extension of the Drain 2 capture zone across Section 12, about 0.6 miles above its westernmost point, is a very conservative interpretation (i.e., erring on the side of safety and uncertainty).

LIMITING FACTORS

Delineation of the source water protection areas for the Worden Ballantine PWS wells is based on a simplified approach. The delineation was completed using conservative assumptions to help ensure that the inventory zone reflects the actual area where contamination to the system may occur. The drain acts as a groundwater interceptor, to potentially the entire thickness of aquifer lying up-gradient. The uncertainties in the delineation include the imprecise knowledge of the drain location, the curvilinear nature of the groundwater flow path, and uncertain extent of capture zone west of the end of the drain. These factors were accounted for in the westward projection of the capture zones for the 1-year and 3-year travel times, as depicted on the accompanying map. The delineation assumes that the drain is fully penetrating and captures the full saturated thickness of the aquifer, when in fact; this may not be the case. The physical boundaries and factors affecting the groundwater flow system constrain the capture zone delineation. These boundaries include the southern mapped extent of the alluvial aquifer, the Huntley canal as a principal recharge feature, the presence of other down-gradient buried tile drains and open drains acting as linear discharge features, and the strong topographic influence (south to north slope) on the shallow groundwater flow direction. The delineated zones are the largest and most conservative approach consistent with the physical boundaries and hydrogeologic factors controlling the flow system to the drain.

CHAPTER 3
INVENTORY

INVENTORY METHOD

Significant potential contaminant sources in the source water management areas were inventoried to assess the susceptibility of Worden Ballantine 's proposed well to contamination, and to provide a foundation for source water protection planning. The inventory for Worden Ballantine focuses on facilities or features that generate, use, store, or transport potential contaminants, as well as certain land uses in the inventory and recharge regions. It is important to remember that the sites and areas identified in this section are only potential sources of contamination to the drinking water. Contamination of drinking water sources is less likely when potential contaminants are properly used and managed.

The inventory focus is slightly different in each of the delineated management areas. The inventory for Worden Ballantine focuses on all activities in the control zones for the wells; certain types of facilities and land uses in the inventory region; potential sources of nitrates and pathogens in the surface water buffer; and general land uses and large facilities in the Recharge Region. Information on facilities and land uses that are potential sources of regulated contaminants was obtained from a number of databases, described below. The process for completing the inventory included several steps, which are summarized as follows:

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

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

Step 3: Montana DEQ databases were queried to identify any of the following in the management areas:

- Underground storage tanks (USTs) <http://www.deq.state.mt.us/UST/USTDownloads.asp>
- Hazardous waste contaminated sites, above ground storage tanks (ASTs), landfills, and abandoned and active mines, including gravel pits <http://nris.state.mt.us/gis/bundler/>

Any information on past releases and present compliance status was noted.

Step 4: Major road and rail transportation routes were identified throughout the inventory region: <http://nris.state.mt.us/gis/gisdatalib/gisDataList.aspx>.

Potential contaminant sources are designated to be significant if they fall into one or more of the following categories:

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

CONTROL ZONE INVENTORY RESULTS

There are no contaminant sources within the Control Zone. The Control Zone consists of the fenced area (approx. 100 x 100 ft) enclosing the wet well, pump house and chlorination unit for the Worden Ballantine water supply, just above the terminus of Drain 2. The wet well accesses a splitter box with one branch leading to the Worden-Ballantine pump house, and the other to the open drain, approximately 50-feet east of the fenced Control Zone. The splitter box consists of a rectangular stainless steel chamber, fitted with a sealed lid that rises about 1.5 feet above the ground surface. The splitter box was installed specifically to preclude the introduction of surface water or contaminants to the water supply intake, and was installed prior to the last MPA analysis. The PWS should be vigilant to ensure that potential sources of contamination are excluded from the control zone and that positive drainage away from the well casing is maintained.

INVENTORY REGION RESULTS

The inventory results for Worden Ballantine 's source water are summarized in Table 4 and are shown on ***Figure 4***. There is an aboveground storage tank (AST) in inventory region. Spills of hazardous materials could cause contaminants to leach into area groundwater.

Land uses within the inventory region are predominantly agricultural cropland. There are also transportation corridors. The amount of irrigated cropland is a potential source of contamination if there is excessive irrigation. Significant potential contamination sources include a railroad corridor and Interstate, both of which have potential of hazardous material spills. The Wet well could be impacted by aquatic borne pathogens originating in the open drain at the outfall of Drain 2. There was a confined animal feeding operation (CAFO) located Up-gradient of Drain 2; however it is of potential concern if there is mismanagement of animal wastes. Additional point sources of potential pollutants (such as businesses or facilities listed on regulatory databases) were not identified in the inventory region.

Table 4. Summary of Potential Contaminant Sources in the Inventory Region

Source Type	*Potential Contaminants*	*Description/Concern*
Land Use Cover (Step 1)		
Surface Water Open Drain Backup	Nitrates, Pathogens	Wet well could be impacted by aquatic-borne pathogens originating in open drain at outfall of Drain 2, approx. 60 ft downstream. Control measures are in planning stage.
Confined Animal Feeding Operation (CAFO)	Nitrates, Pathogens	Up-gradient of Drain 2 Inventory area, but of potential concern. Nitrate loading
Cultivated Cropland	SOCs, Nitrates, Pathogens	Over-application or improper handling of pesticides or fertilizers with excessive irrigation may cause transport of contaminants to ground water
EPA Envirofacts Sites (Step 2)		
None Identified		
DEQ Databases (Step 3)		
Above Storage Tanks (AST)	VOCs, petroleum hydrocarbons	Spills, leaks, or improper handling of stored materials
Miscellaneous Others, including Step 5 and 6		
Burlington Northern Sante Fe Railway and Interstate 94	Contaminants leaching into groundwater	Rail and vehicle usage increases the risks for leaks or spills of fuels and other hazardous materials that my impact drinking water.

Notes: Individual sites identified are evaluated in Chapter 4.

RECHARGE REGION INVENTORY RESULTS

The Recharge Region not included in the Inventory Region is wholly surface drainage area that could contribute runoff water to the surface of the Inventory Area. This area is entirely upland, sparsely utilized rangeland with minor cropland and some scattered residences. No significant contaminant sources are known to exist in the Recharge Region.

Inventory Update

To make this SWDAR a useful document for the years to come, the certified water system operator should review the inventory every year. Changes in land uses or potential contaminant sources should be noted and additions made as appropriate. The complete inventory should be submitted to DEQ every five years to ensure the source water delineation and assessment remains current.

Figure 3. Protection Areas

INVENTORY LIMITATIONS

This Source Water Delineation and Assessment Report is intended to meet the technical requirements for delineation and assessment as required by the Montana Source Water Protection Program (DEQ, 1999) and the federal Safe Drinking Water Act (SDWA) Amendments of 1996 [U.S. Code Title 42, Chapter 6A, Subchapter XII, Part E, § 300j-13-(a) Source Water Assessment]. The following limitations should be noted:

- Not every source of contamination to the PWS well has been identified. Consideration was limited to potential sources of contamination within the inventory region. Additionally, sources of contaminants that are not regulated for were not inventoried or assessed.
- No site inspection was performed, and the inventory was developed from available sources of information, including DEQ files and NRIS.
- The potential contaminant sources described in the inventory are identified from readily available information. Consequently, unregulated activities or unreported contaminant releases may have been overlooked. The inventory is not exhaustive.
- Some management recommendations are fairly site-specific and can be implemented by the public water supply. However, other management options can only be implemented by federal, state, county or local governmental entities. When the latter options are mentioned, it is not implied or suggested that this public water supply should lead or spearhead the effort to implement the management option. It is assumed that representatives from this public water supply would participate in the public process sponsored by various governmental entities to develop and implement any of these management options.

Figure 4. Land Use and Potential Sources of Contamination in the Protection Areas

CHAPTER 4
SUSCEPTIBILITY ASSESSMENT

HAZARD DETERMINATION

The threat of contamination is referred to as *hazard*. The degree of hazard is determined either by the proximity of a potential contaminant source to a spring or well intake, potential contaminant migration pathways, or by the density of potential non-point contaminant sources.

DISCUSSION OF SUSCEPTIBILITY

Susceptibility is the degree of likelihood for a public water supply to be impacted by inventoried contaminant sources, at concentrations that would pose a concern. Susceptibility is assessed to prioritize potential pollutant sources for local management, in this case the Worden Ballantine PWS managers and operators. Alternative management approaches that could be used by the PWS managers and operators to reduce susceptibility are recommended in this chapter.

Susceptibility is determined by considering the hazard rating for each potential contaminant source relative to any contaminant barriers. Barriers to contamination are anything that decreases the likelihood that contaminants will reach a spring or well. Barriers can be engineered structures, management actions, or natural conditions. Examples of engineered barriers include spill catchment structures and leak detection for underground storage tanks. Emergency planning and best management practices (BMPs) are considered management barriers. Thick clay-rich soils, a deep water table or a thick unsaturated zone above the well intake are examples of natural barriers. Barriers to direct contamination of the alluvial aquifer from surface sources exist due to the deep fine-grained soil profile over most all of the Inventory Region, and in some areas, clay lenses that inter-finger with the alluvial gravel aquifer. The area over and immediately surrounding Drain 2 consists of two soil types, McRae Loam, and Fort Collins-Turlow Clay Loam (USDA, 1972). Both soils are greater than 60-inches thick and are classified as silt loams or clay loams (ML or CL-ML). They are some of the most productive agricultural soils in the Yellowstone valley. They are moderately permeable (0.2 to 0.63 in/hour), have good moisture retention (16 – 19%), and moderate organic matter content. The relatively large soil thickness, moisture retention capacity and organic content are all factors favoring the adsorption, immobilization and storage of many surface contaminant sources such as fertilizer and pesticides.

The sand and gravel thickness map provided in Appendix A illustrates that some of the domestic well logs had lenses of clay separating two or more sand and gravel beds within the alluvial aquifer. This occurs primarily in the portion of the alluvial aquifer that is covered by, and inter-fingered with the alluvial fan deposits emanating from the hills and drainages on the south side of the Yellowstone River valley. Drain 2 lies entirely within this area of inter-fingered fan sediments. This geologic setting is a positive factor that generally mitigates susceptibility to contamination more than the typical alluvial aquifer setting in the region.

A summary of the susceptibility assessment for Worden Ballantine production well is provided in Table 5. This table only includes the potential contaminant sources (identified in Chapter 3) that were determined to present a significant potential risk to the drinking water supply. Therefore, this list is not

exhaustive, and it is highly recommended that the PWS operator and community members familiar with the nature of businesses and land use in the area enhance the inventory through further research and local input.

MANAGEMENT RECOMMENDATIONS

It should be noted that even small releases of some chemicals in close proximity to a public water supply well can have significant negative impact on water quality, and therefore are a significant threat to the public water supply. Steps can be taken to reduce the likelihood of releases in the source water for the PWS or in the vicinity of the sources. Management recommendations for protecting the Worden Ballantine drinking water supply are detailed in the susceptibility table (Table 5). If these, and other, management recommendations are implemented; they may be considered additional barriers that will reduce the susceptibility of the intake to specific sources and contaminants.

Control Zone Management

The Control Zone is owned outright by the PWS. It is fenced (chain link and barbed wire) with a locked gate, and will continue to be maintained. Access to the Control Zone is obtained only through the PWS manager. The Control Zone does not include Drain 2, which is in the Inventory Region.

INVENTORY REGION MANAGEMENT

The identified potential contaminant sources within the Inventory Region, and the management approach for each, is discussed below.

Nutrients- fertilizer, animal wastes: Reducing the risks of groundwater contamination from inorganic fertilizers and from animal wastes in pastures will focus on Best Management Practices (BMPs) that have been developed by the Montana State University Extension Service, Agricultural Research Center at Huntley, Montana, and practicing soil and agricultural scientists and farmers in the region. Applicable BMPs include matching fertilizer applications to yield history, proper timing of applications, split applications, appropriate use of organic and slow-release fertilizers, soil productivity mapping, and others. Pastured livestock should be distributed and limited to the carrying capacity of the particular tract.

Animal Feeding Operation: The Board of Directors will meet with confined livestock feeders in and around the Inventory Region to explain the purposes and concerns of the PWS regarding potential risks to groundwater quality from active and discontinued confined feeding operations (CFOs). They may enlist the support of MSU-Extension, NRCS or other qualified consultant to participate in these discussions and help formulate any specific management actions that may be warranted. At a minimum, the PWS will obtain an initial inventory of the CFOs including numbers and types of animals, waste handling practices and the physical layout and drainage from each facility. Afterwards, utilizing the sources of expertise identified, the PWS will develop site-specific management recommendations and present them to the operators. The PWS manager will follow-up with each operator within the first year following adoption of the SWPP to document management changes and improvement. If warranted, groundwater monitoring could be initiated, using existing private wells or new monitoring wells.

ASTs: Small ASTs at farms and residences within the Inventory Region have not been specifically identified. The PWS manager with the assistance of the Board and landowners will identify the ASTs in the Inventory Region, ascertaining the size, contents, location, condition and use of each tank. Owners will be given instructional brochures regarding the proper use and care of ASTs, and applicable

regulations. This information is available from the MDEQ. AST owners will be encouraged to discontinue or upgrade old tanks or any that may pose risk to the groundwater.

Pesticides: In conjunction with the meeting with farmers regarding fertilizer and animal wastes, the PWS will query farmers regarding the types, rates and methods of pesticide applications within the Inventory Region. The PWS will obtain the assistance of MSU-Extension, NRCS or other qualified consultants to assist it in evaluating the potential risks to groundwater from the specific pesticides and methods utilized. Following this, the specialist will help the PWS develop any recommendations warranted and present them to the farmers. Possible management tools include the adoption of the Integrated Pest Management (IPM) program. This approach recognizes that pests and weeds can best be controlled with a variety of practices and techniques that are tailored to each locality and crop. IPM stresses the maintenance or improvement of crop yields along with environmental protection. Specialists in IPM or environmental science are generally capable of conducting on-farm inventories of pesticide storage, use, record keeping, and health and safety issues. This tool, if acceptable to the farmers involved, can lead to reductions of risks to farm water supplies as well as the PWS supply.

Spills along ROWs: The Burlington Northern Santa Fe railroad track parallel Drain 2 within 300 feet for most of its length. A spill of hazardous materials in this one-mile reach could threaten and potentially disable the use of Drain 2 for years, if not permanently. A carload of ammonia recently ruptured near Minot, ND, causing a death and serious injury to persons near the right-of-way. Interstate 94 lies outside of the Inventory Region, but also parallels Drain 2. Although less risk than a railroad accident, chemical or fuel spills in this reach could reach the alluvial aquifer through overland or subsurface transport. Management of spills will be handled through traditional law enforcement and emergency response agencies at the state and Yellowstone County levels. Police and fire fighters in Worden and Ballantine will receive training in the communication protocols and management of chemical spills, within the context of existing emergency response plans. The plans by the Worden-Ballantine PWS to develop an alternate water supply will eventually reduce the risk by providing a water supply that is not as vulnerable to ROW spills.

Surface water-Open drain backup: The need for a hydraulic separation between Drain 2 at the wet well, and the outfall at the open drain has been identified as a high priority in consultation with the MDEQ. The PWS has made the construction of new outfall device one of its highest priorities in its budgeting and funding process. The engineer retained by the PWS has advanced preliminary designs. It is anticipated that the project will be completed in 2003, pending grant approval

Table 5. Susceptibility Assessment of Significant Potential Contaminant Sources

Potential Contaminant Source	Potential Contaminants	Hazard	Hazard Rating	Barriers	Susceptibility	Management Recommendations
Inventory Region.						
Surface Water Open Drain Backup	Pathogens,	Back-flow into clear well from stream	***High***	None	***Very HIGH – Until corrected.*** ***Low – After construction complete***	Construct hydraulic Gap-Barrier
Cultivated Cropland About 87% of inventory Region	Fertilizers, pesticides, pathogens, nitrate	Spills, over application, surface runoff	***High***	- None	***Very High***	Provide educational materials and opportunities for land owners on proper application and storage of pesticide and fertilizers; implement agricultural BMPs
Burlington Northern Sante Fe Railway	Variety of hazardous materials including pesticides, fertilizers, and VOCs.	Accidents and spills, storm water runoff, infiltration into ground water	***High***	- County Emergency Response Plan, training and preparation of local response personnel	***High***	Maintain preparedness of local emergency personnel through active training, runoff diversion, continued remediation of former release sites
Confined Animal Feeding Operation (CAFO) **- Located about 1.5 miles southwest of the collection drain 2. The CAFO is near a drainage above the Huntley Main Canal.**	Pathogens, nitrate	Storm water runoff into Huntley Main Canal, Infiltration into ground water	***High***	- Distance from collection drain is likely sufficient to allow dilution and mixing to reduce concentrations of nitrate. - Filtration through the base and sides of the Huntley Canal and the silt layer above the aquifer will likely prevent pathogens from reaching the collection drain.	***Moderate***	- Maintain spill and runoff barriers - Implement animal waste BMPs

Potential Contaminant Source	Potential Contaminants	Hazard	Hazard Rating	Barriers	Susceptibility	Management Recommendations
AST	Benzene, VOCs	Contaminants leaching into groundwater	***Low***	Intake depth of >50 feet below static water level Groundwater monitoring	***Very Low***	Review permit status and ensure proper operation and maintenance, emergency planning, training of local emergency response personnel, groundwater monitoring, spill prevention, and BMPs.

Notes: VOCs - Volatile organic compounds (i.e. solvents, fuel components)
UST - Underground Storage Tank
BMPs - Best Management Practices
AST – Aboveground Storage Tank
RR – Recharge Region
SOCs - Synthetic Organic Compounds (i.e. pesticides, herbicides, plasticizers)
LUST - Leaking Underground Storage Tank
DEQ- Montana Department of Environmental Quality

CHAPTER 5
EMERGENCY PLANNING

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

IDENTIFICATION OF POSSIBLE DISRUPTION THREATS

The principal emergency threats to the PWS has been identified as 1) a power outage, 2) pumping or chlorination equipment failure, 3) a collapse or failure of the Drain 2 pipe, 4) a flood or other event that leads to backup from the open drain to the wet well intake, and 5) a spill, leak, or discharge of hazardous materials anywhere along the ROWs of the railroad or I-94 in the Inventory Region.

Effects of Emergencies on a PWS

Emergency	Well Contaminated	Well out of Service	Storage Tank Damage	Broken Main	Distribution System Contamination	Power Outage
Vandalism	-	+	-	-	-	+
Earthquake	-	-	-	-	-	-
Flood	+	+	-	+	+	+
Chemical Spill	+	+	-	-	+	-
Storm Event	+	+	-	+	+	+
Extreme Temperatures	-	+	-	+	+	+
Power Outage	-	+	-	-	+	+
Hazardous Material Release	+	+	-	-	+	-

DESIGNATION OF AN EMERGENCY COORDINATOR

The emergency coordinator for the Worden-Ballantine PWS is Mr. Dick Miller, PWS manager. The contact phone number is (406) 967-2550. The backup emergency coordinator is Mr. Con Compton (406) 967-2287.

The emergency coordinator is familiar with the county and state DES procedures and is responsible for contacting the appropriate officials should a spill or other threat to the source water occur. The Yellowstone County DES coordinator 24 hour phone number is

(406) 256-2775. The State of Montana 24 hour Spill Hotline phone number is (406) 444-6911.

EQUIPMENT AND MATERIAL RESOURCES

The principal identified threats to the well are power or equipment outages, drainpipe failure, and the spill hazards discussed above. The PWS maintains a cache of typically needed supplies and materials at its water tower yard. Resources that may be needed to respond to a spill are heavy equipment for berm and excavation work and absorbent materials. The PWS has 24-hour access to a backhoe should the need arise. In most cases of spills on I-94 or railroad ROW, state agencies and emergency service contractors will be in charge of emergency response. Should additional resources be needed due to the magnitude or chemical nature of a spill the Worden-Ballantine PWS will contract with an emergency response firm properly trained and equipped. A list of possible contractors is maintained and updated by the DEQ Enforcement Division (406) 444-0379.

PROCEDURES TO SHUT DOWN THE WELL OR INTAKE

The intake to Drain 2 can be isolated from the water supply system at the pump house. Under typical conditions the system can operate without the supply by using water in the water storage tank can for approximately 4-hours in summer and 24-hours in winter. Shut down of the water system is the responsibility of the certified operator or backup.

COORDINATION PROCEDURES

The Worden-Ballantine PWS SWP Plan has been made available to the Yellowstone County DES coordinator. Additionally, reportable spills will be handled as per the mandated reporting requirements as follows:

X Agricultural chemical or fertilizer spills will be reported to the MT Department of Agriculture (406) 444-5400

X Any refined petroleum product such as gasoline, diesel, asphalt, road oil, kerosene, fuel oil, and derivatives of mineral, animal, or vegetable oil spills in excess of 25 gallons will be reported to the DES hotline (406) 841-3911.

PROCEDURES TO COMMUNICATE WITH WATER USERS

The nature of the PWS should allow the source water to be isolated from the distribution system in the event of a spill in the control zone or immediate vicinity of Drain 2, which threatens source water quality. If it is determined that the source water was exposed to a contaminant the well or intake will remain off line until sampling proves the water to be safe, an evaluation done in cooperation with the MT DEQ, PWS Section.

The PWS customers have been notified in a letter that, in the event of a power outage in the area, customers are to immediately begin conserving water, and to continue to do so until power and water service is restored. The PWS manager is known to virtually all water customers, and they know he is accessible through his office, business in Worden, or at home.

In the event of a water emergency, the PWS manager, Mr. Dick Miller, has his office telephone set up with an automated telephone-calling tree. This device automatically

relays a telephone call to four other telephones, including Mr. Miller's home, the two PWS relief operators' homes, and to Board member Mr. Con Compton. These contact telephone numbers are provided in the table below.

SOURCE OF EMERGENCY WATER

If the well is out of service for more than *insert actual value*, an emergency supply of water may need to be arranged. The short-term plan is to haul water using a DEQ approved water hauler from a DEQ approved water source. Should this be necessary, a hauler will be contracted and a short-term plan relating to the source water and disinfection requirements will be submitted to DEQ-PWS Section for approval.

A catastrophic loss of water will require the contracted services of a water hauler, a design engineer, and a well driller. Water haulers in the area include:

- Fisher Water Service (406) 252-5264
- Pioneer Water Service (406) 252-8860
- Reliable Water Service (406) 259-1862

Three stores and one bar in the towns of Worden and Ballantine carry bottled water for over-the-counter purchase by PWS customers who may need to find a temporary source of drinking water in the event of a short duration water service outage.

Should a total loss of water occur, the services of a design engineer and well driller will be retained to assess the options. Plans and specifications for any new well will require DEQ-PWS Section review and approval prior to construction.

DISINFECTION AND RESUMPTION OF WATER SERVICE

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

FUNDS

The PWS will meet the May 2002 grant application deadline for the Treasure State Endowment Program (TSEP) grand. This program may award grants for up to $500,000. The PWS will also submit an application to the DNRC Renewable Resource grant program by its deadline of May 2002. This program awards up to $100,000. It is not yet known however if the DNRC program will be an appropriate source.

Another major funding source may be the Community Development Block Grant (CDBG), which can award up to $500,000 to eligible communities. The CDBG program requires that if a district applies for TSEP funds, it must wait until the next year to apply for a CBDG grant. To bolster its grant application, the District plans to conduct an income survey to show that it serves predominately low to moderate income residents.

The District realizes that it will probably have to raise rates to cover some amount of any loan that will be necessary. At a minimum, this increase will need to establish water plus sewer rates at a total not less than 2.2% of median household income. With a grant and

rate increase, the District should have sufficient funds to cover the planned work.

The District will undertake a project to provide a back-up groundwater source and chlorination facility, a new water storage tank, up-grade some water pipelines, provide an air-break at the drain splitter box, and a back-up generator for the booster station.

Important emergency contacts and phone

CONTACT NAME	TITLE	PHONE	RESPONSIBILITY
Mr. Dick Miller	PWS Operator	(406) 967-2550	Operates PWS system
Mr. Con Compton	PWS Board member	(406) 967-2287	Secondary emergency contact
Mr. Kenny Johannes	Backup operator	(406) 967-2606	Relief operator
Mr. Neil Danielson	Backup operator	(406) 967-2287	Relief operator
Mr. James Kraft	EMS Coordinator	(406) 256-2775	Yellowstone Co. EMS
Montana 24 hr.Spill Hotline"		(406) 841-3911	All reportable spills.
Greg Murfitt	MT Dept of Agriculture	(406) 444-5400	All agricultural chemical or fertilizer spills or response questions
DEQ Enforcement Division		(406)444-0379	Responds to any event that will pollute surface or ground waters.

LONG-TERM OR ALTERNATE WATER SOURCES

The current water supply obtained from Drain 2 has always been adequate during the life of the PWS system, and is adequate today in terms of quantity and quality. However, the Drain is old, now possibly 70 to 80 years old. Based on flow measurements made in January 2002 and those made in 1979 and 1980 by KHM Associates, there may have been a significant reduction in the yield of the drain. This could be due to drain blockages or pipe failures, or a truncation of the drain length. Experience with other old clay tile drain systems has shown that failures are prone to occur beneath roads and vehicle crossings. Use of farm tractors and equipment over the drain could have a similar effect over time. The yield of the drain is highly dependent on leakage of water from the Huntley Main Canal. If the canal were ever lined, Drain 2 could loose 30 to 50 percent of its flow. The drain taps the shallowest portion of the alluvial aquifer and is therefore vulnerable to a decline in the water table for any reason, including canal lining, more efficient irrigation (ie, flood to sprinkler irrigation), changing crop types, or land conversion to other non-irrigated uses.

There is a consensus among the PWS Board members that a new alternative backup water supply and greater water storage capacity are needed. In 1980, the PWS utilized only 7 to 27% of the total flow of Drain 2 (HKM Associates, 1981). Although current data are very limited, it is possible that the PWS is using 50% or more of the flow of Drain 2, even though demand has not changed appreciably since 1980. The limitations and vulnerability of Drain 2 are well known to the PWS Board and they are in the process of finding a site for two new wells. Based on U.S. Census and regional economic information, the growth rate in Worden-Ballantine could be expected to be approximately

1 – 3 % per year. At this rate, the two communities could be expected to increase by 300 to 500 persons in 10 years. The additional water demand from this increase would amount to 30 to 50 gpm, on average.

The search for a new water supply was begun by the Board in 2001, in conjunction with retaining its engineering and hydrologic consultants. Preliminary review of groundwater sources ruled out deep aquifers due to the depth and likely poor water quality. The nearest bedrock aquifer would be sandstone aquifers in the Cretaceous Judith River Formation, 600 feet or more beneath the Yellowstone River valley at this location. This source is anticipated to have high salinity (> 1,000 mg/l TDS) and high SAR (sodium adsorption ratio). Yields from the Judith River sandstone outside of fault zones or other sources of recharge are typically 5 to 20 gpm.

The domestic water well log records in Appendix H give specific capacity data that provide an indication of potential well yields. Specific capacity is the yield in gpm divided by the drawdown in feet that occurs near the end of a pumping test. Specific capacity of screened wells in the Yellowstone River valley alluvium typically ranges from 1.5 to 10 gpm/ft. The yield is dependent on the thickness of saturated sand and gravel, its sorting and subsurface distribution in the vicinity of the well. Preliminary review of hydrogeologic and cultural information on the alluvial aquifer around the two communities suggests that a properly constructed well could yield 50 to 150 gpm. The best locations, based on hydrogeologic and land use patterns would probably be in the vicinity of the existing water tank or in the north half of Section 5, ½-mile north of Ballantine. These areas are favorable for the following reasons:

- The alluvial fan deposits provide thicker soils and multiple gravel lenses, which are positive factors for source water protection,
- The geologic data suggest that there is a reasonable likelihood of encountering 20 to 30 feet of saturated gravel,
- Existing land uses do not appear to pose a significant risks to a municipal water supply well, and
- There may be landowners willing to sell or lease property for the well and control zone.

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GLOSSARY

Acute Health Effect. A negative health effect in which symptoms develop rapidly.

Alkalinity. The capacity of water to neutralize acids.

Aquifer. A water-bearing layer of rock or sediment that will yield water in usable quantity to a well or spring.

Barrier. A physical feature or management plan that reduces the likelihood of contamination of a water source from a potential contaminant source

Best Management Practices (BMPs). Methods for various activities that have been determined to be the most effective, practical means of preventing or reducing non-point source pollution.

Biennial Reporting System (BRS). An EPA database that contains information on hazardous waste sites. The data can be accessed through the EPA Envirofacts website.

Chronic Health Effect. A negative health effect in which symptoms develop over an extended period of time.

Class V Injection Well. Any pit or conduit into the subsurface for disposal of waste waters (e.g. dry well). The receiving unit for an injection well typically represents the aquifer, or water-bearing interval.

Coliform Bacteria. A general type of bacteria found in the intestinal tracts of animals and humans, and also in soils, vegetation and water. Their presence in water is used as an indicator of pollution and possible contamination by pathogens.

Comprehensive Environmental Cleanup and Responsibility Act (CECRA). Passed in 1989 by the Montana State Legislature, CECRA provides the mechanism and responsibility to clean up hazardous waste sites in Montana.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Enacted in 1980. CERCLA provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through the Act, EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup.

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). A database that provides information about specific sites through the EPA Envirofacts website.

Confined Animal Feeding Operation (CAFO). Any agricultural operation that feeds animals within specific areas, not on rangeland. Certain CAFOs require permits for operation.

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 present above a confined aquifer that inhibits the flow of water and maintains the pressure of the groundwater in the aquifer. The physical properties of a confining unit may range from a five-foot thick clay layer to shale that is hundreds of feet thick.

Delineation. The process of determining and mapping source water protection areas.

Glacial. Of or relating to the presence and activities of ice or glaciers. Also, pertaining to distinctive features and materials produced by or derived from glaciers.

Geographic Information Systems (GIS). A computerized database management and mapping system that allows for analysis and presentation of geographic data.

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

Hazard. A relative measure of the potential of a contaminant from a facility or associated with a land use to reach the water source for a public water supply. The location, quantity and toxicity of significant potential contaminant sources determine hazard.

Hydraulic Conductivity. A constant number or coefficient of proportionality that describes the rate water can move through an aquifer material.

Hydrology. The study of water and how it flows in the ground and on the surface.

Hydrogeology. The study of geologic formations and how they effect groundwater flow systems.

Inventory Region. A source water management area for groundwater systems that encompasses the area expected to contribute water to a public water supply within a fixed distance or a specified three year groundwater travel time.

Lacustrine. Pertaining to, produced by, or formed in a lake or lakes.

Large Capacity Septic System. Defined by Underground Injection Control regulations as an on-site septic system serving 20 or more persons.

Leaking Underground Storage Tank (LUST). A release from a UST and/or associated piping into the subsurface.

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 to establish concentrations of contaminants in drinking water that are protective of human health.

Montana Bureau of Mines and Geology – Groundwater Information Center (MBMG/GWIC). The database of information on all well drilled in Montana, including stratigraphic data and well construction data, when available.

Montana Pollutant Discharge Elimination System (MPDES). A permitting system that utilizes a database to track entities that discharge wastewater of any type into waters of the State of Montana.

National Pollutant Discharge Elimination System (NPDES). A national permitting system that utilizes a database to track entities that discharge wastewater into waters of the United States.

Nitrate. An important plant nutrient and type of inorganic fertilizer that can be a potential contaminant in water at high concentrations. In water the major sources of nitrates are wastewater treatment effluent, 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. Examples of nonpoint- source pollution include agriculture, forestry, and run-off from city streets. Nonpoint sources of pollution, such as the use of herbicides, can concentrate low levels of these chemicals into surface and/or groundwaters at increased levels that may exceed MCLs.

Pathogens. A microorganism typically found in the intestinal tracts of mammals, capable of producing disease.

Phase II (and IIb) Rules. EPA updated or created legal limits on 38 contaminants. The rules became effective July 30, 1992 and January 1, 1993. Some of these contaminants are frequently-applied agricultural chemicals such as nitrate and others are industrial solvents.

Phase V Rule. EPA set standards for 23 contaminants in addition to those addressed by the Phase II Rules. The Phase V Rule became effective January 17, 1994. Some of these contaminants include inorganic chemicals such as cyanide and other Phase V contaminants are pesticides that enter water supplies through run-off from fields where farmers have applied them or by leaching through the soil into groundwater. Six are probable cancer-causing agents. Others can cause liver and kidney damage, or problems of the nervous system and brain.

Point Source. A stationary location or a fixed facility from which pollutants are discharged. This includes any single identifiable source of pollution, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fracture, container, rolling stock (tanker truck), or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant. Generally, any substance introduced into the environment that adversely affects the usefulness of a resource (e.g. groundwater used for drinking water).

Permit Compliance System (PCS). An EPA database that provides information on the status of required permits for specific activities for specific facilities. The data can be accessed through the EPA Envirofacts website.

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

Pumping Water Level. Water level elevation in a well when the pump is operating.

Recharge Region. An area in which water is absorbed that eventually reaches the zone of saturation in one or more aquifers. As a source water management region, the term generally describes the entire area that could contribute water to an aquifer used by a public water supply. Includes areas that could contribute water over long time periods or under different water usage patterns.

Resource Conservation and Recovery Act (RCRA). Enacted by Congress in 1976. RCRA's primary goals are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner.

Resource Conservation and Recovery Information System (RCRIS). Is a database that provides information about specific sites through the EPA Envirofacts website.

Secondary Maximum Contaminant Levels (SMCL). The maximum concentration of a substance in water that is recommended to be delivered to users of a public water supply based on aesthetic qualities. SMCLs are non-enforceable guidelines for public water supplies, set by EPA under authority of the Safe Drinking Water Act. Compounds with SMCLs may occur naturally in certain areas, limiting the ability of the public water supply to treat for them.

Section Seven Tracking System (SSTS). SSTS is an automated system EPA uses to track pesticide producing establishments and the amount of pesticides they produce.

Source Water. Any surface water, spring, or groundwater source that provides water to a public water supply.

Source Water Delineation and Assessment Report (SWDAR). A report for a public water supply that delineates source water protection areas, provides an inventory of potential contaminant sources within the delineated areas, and evaluates the relative susceptibility of the source water to contamination from the potential contaminant sources under “worst-case” conditions.

Source Water Protection Areas. For surface water sources, the land and surface drainage network that contributes water to a stream or reservoir used by a public water supply. For groundwater sources, the area within a fixed radius or three-year travel time from a well, and the land area where the aquifer is recharged.

Spill Response Region. A source water management area for surface water systems that encompasses the area expected to contribute water to a public water supply within a fixed distance or a specified four-hour water travel time in a stream or river.

Standard Industrial Classification (SIC) Code. A method of grouping industries with similar products or services and assigning codes to these groups.

Static Water Level (SWL). Water level elevation in a well when the pump is not operating.

Susceptibility (of a PWS). The relative 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. herbicides and 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, nonpoint, and natural sources. The TMDL program was established by section 303(d) of the Clean Water Act to help states implement water quality standards.

Toxicity. The quality or degree of being poisonous or harmful to plants, animals, or humans.

Toxicity Characteristic Leachate Procedure. A test designed to determine whether a waste is hazardous or requires treatment to become less hazardous.

Toxic Release Inventory (TRI). An EPA database that compiles information about permitted industrial releases of chemicals to air and water. Information about specific sites can be obtained through the EPA Envirofacts website.

Transmissivity. A number that describes the ability of an aquifer to transmit water. The transmissivity is determined by multiplying the hydraulic conductivity time the aquifer thickness.

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

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

Underground Storage Tanks (UST). A tank located at least partially underground and designed to hold gasoline or other petroleum products or chemicals, and the associated plumbing system.

Volatile Organic Compounds (VOC). Chemicals such as petroleum hydrocarbons and solvents or other organic chemicals that evaporate readily to the atmosphere.

Watershed. The region drained by, or contributing water to, a stream, lake, or other water body of water.

* With the exception of the definitions for Lacustrine, Phase II and Phase V Rules, and Standard Industrial Classification Code, definitions were adapted from EPA's Term References System (formerly known as Glossary of Selected Terms and Abbreviations) which can be found at: http://www.epa.gov/trs/index.htm . The definitions of glacial and lacustrine were taken from the Glossary of Geology by Robert L. Bates and Julia A. Jackson.

The definitions for Phase II and Phase V Rules were adapted from:

http://www.epa.gov/OGWDW/source/therule.html#PhaseII
http://www.epa.gov/OGWDW/source/therule.html#PhaseV

The definition for Standard Industrial Classification Code was adapted from:
EPA/Office of Enforcement and Compliance Assurance: Guide to Environmental Issues: Glossary of Terms & Acronyms *Term Detail*

Appendix A
Figures from 2002 report

Appendix B
Sanitary Survey

Montana Department of
ENVIRONMENTAL QUALITY
Judy H. Martz, Governor

Airport Business Park • 1371 Rimtop Dr. • Billings, MT 59105-1978

March 31, 2003

WORDEN/BALLENTINE WATER AND SEWER DISTRICT
PO BOX 217
WORDEN, MT 59088

RE: PWSID #00022 - WORDEN/BALLENTINE ROUTINE SANITARY SURVEY

On March 25, 2003, I conducted a routine sanitary survey inspection of the Worden/Ballentine Water and Sewer District with the assistance of Dick Miller. Sanitary Surveys are required in the Administrative Rules of Montana (ARM) Section 17.38.231 to ensure adequate protection of public health through proper construction and maintenance of Public Water Supplies (PWS). In addition, it allows the PWS system owners/operators to be informed of current regulatory requirements. I would like to thank Dick for his assistance and the tour of the infiltration well, storage, and distribution system.

Water is supplied to Worden/Ballentine from one source. This source is best described as a shallow infiltration well that receives its water from the shallow groundwater in the area. The high service pumps for pumping to the distribution system are vertical turbine type pumps in good condition and obviously well maintained. Disinfection is provided by two in-line 150lb chlorine gas cylinders with automatic switchover controls. A 60,000 gallon elevated tank is used for storage to the town of Worden and Ballentine.

The following report contains descriptions of each of the sections of the water system; any recommendations for the system are numbered at the end of the report.

Source

Infiltration Well: Water is gathered through a collection drain and delivered to a collection box located at the west end of the two pumphouses. The collection box has a hydraulic connection through an overflow pipe to an open irrigation drain. Water in the collection box gravity feeds to the clearwell where it is chlorinated and can be pumped to the distribution system. Two pumphouses contain two vertical turbine pumps each. The two pumps in the Worden pumphouse are rated at 91gpm. The pumps in the Ballentine Pumphouse are rated at 120gpm. This would allow for a total capacity of approximately 422gpm.

GWUDISW: Since the last inspection, the shallow infiltration well for Worden/Ballentine has undergone further analysis and has been classified as ground-water however, there is still a hydraulic connection between the irrigation ditch and the wet well of the water system. The system is apparently receiving grant money to fix this problem. As it is now, if the irrigation ditch were to flood, there could be a potential cross connection with the wet well. This has not happened in the past but this situation remains public health.

SDWIS 5-20-03 South Hills

Gas Chlorination Facilities/Disinfection: The storage facility for the gas chlorination system is in good condition. The tanks are equipped with automatic switchover units, and are obviously well maintained. This switchover maintains disinfection in the system should one of the cylinders malfunction. Chlorine is fed at a rate of about 3 lb/day. Residuals throughout the system were a bit higher than normal, but considering the vulnerability of this water to surface water influence, I thought it was a good idea.

Storage: A 60,000 gallon elevated tank provides storage for the town of Worden and Ballentine. A chain link fence provides security and all vents and overflows are screened. The hatch is locked and sealed and the entire tank appears to be in good condition.

Distribution: The distribution systems for the two towns are in relatively good condition with adequate pressure throughout the system and few or no leaks are detected throughout the year. A second storage reservoir is being considered for the towns needs but no definite plans have been made as of yet.

Recommendations

1) An MPA evaluation was conducted after the last inspection, and Steve Kilbreath (Montana DEQ) has since classified the system as groundwater. The main concern is that the hydraulic connection to the irrigation ditch be re-constructed so that there can be no backflow to the public water supply.
2) Apparently, Richard J. Miller is the only certified operator for this system. I strongly recommend that the system have at least one more certified operator in case of emergency. I was told that plans are being made to certify others who are already working for the system.

Aside from the hydraulic connection to the irrigation ditch, there were few deficiencies noted, and the system appears to be in good condition and is operated in a professional and conscientious manner.

Sincerely,

Matt Usuriello
Water Quality Specialist
Department of Environmental Quality
Billings Regional Office

Cc: Worden/Ballentine Water and Sewer District
Yelowstone County Sanitarian
PWS file
Sanitary Survey File

WATER TREATMENT FACILITIES

WSF ID	Treatment Plant Name	Treatment Objective and Code
TP001	Disinfection for WL002	D401

Treatment Description / Comments: Chlorine gas is injected into main lines leaving both pump houses. One pump house uses a vacuum feed system and the other injects with a small centrifugal pump.

PRESSURE CONTROL ASSEMBLY

CAPTIVE AIR TANK(S)

WSF ID _____ Location, Description _____

Is there a pressure relief valve? ☐ Yes ☐ No

Is there an operable pressure gauge? ☐ Yes ☐ No

Does low pressure level provide adequate pressure? ☐ Yes ☐ No

Are there water-logged tanks? ☐ Yes ☐ No

Is the exterior surface of the tanks in good physical condition? ☐ Yes ☐ No

Can tank(s) be by-passed for repair? ☐ Yes ☐ No

Pump run time _____

Time of Day _____ Cut-In _____ psi

Cut-Out _____ psi

Pump Type: _____

Comments: _____

PRESSURE TANK(S)

WSF ID _____ Location, Description _____

Is there an operable pressure gauge? ☐ Yes ☐ No

Does low pressure level provide adequate pressure? ☐ Yes ☐ No

Pump recharge rate _____ Cut-In _____ psi

Time of day _____ Cut-Out _____ psi

Is the tank water logged? ☐ Yes ☐ No

Is air charge system adequate? ☐ Yes ☐ No

Is the exterior surface of the pressure tank in good physical condition? ☐ Yes ☐ No

Is there a water level sight glass? ☐ Yes ☐ No

Is there a bottom drain valve? ☐ Yes ☐ No

Is there a pressure relief valve? ☐ Yes ☐ No

Can tank(s) be by-passed for repair? ☐ Yes ☐ No

Pump type: _____

Comments: _____

STORAGE

SANITARY SURVEY RE-INSPECTION SHORT FORM

DATE OF SURVEY *March 25, 2003*	COUNTY *Yellowstone*	SURVEYOR NAME *Matthew Usuriello*
PWSID *MT0000022*	SYSTEM NAME *Worden/Ballentine Water and Sewer District*	
(SYSTEM REPRESENTATIVE) *Richard J. Miller*	(OTHER REPRESENTATIVE)	

SYSTEM ADDRESS

Addressee *Worden/Ballentine Water and Sewer District* (Primary Address)

Street *PO Box 217*

City *Worden* State *MT* Zip *59088*

System Phone *(406) 967-2550* Fax (____) ____

SYSTEM OWNER

Addressee *Worden/Ballentine Water and Sewer District* (Owners Address)

Street ____

City ____ State ____ Zip ____

Owner Phone (____) ____ Fax (____) ____

OPERATOR OF SYSTEM

Name *Richard J. Miller*

Certified Operator ☐ No ☒ Yes If, yes

Certification # *4752* Phone *(406) 967-2550*

SYSTEM CLASS

☒ **C** = Community ☐ **NTNC** = Non-Transient Non-Community

☐ **NC** = Transient Non-Community

Total Service Connections: Residential / Non-Transient: *361*

Transient: *NA*

Total Active Connections: Residential / Non-Transient: *361*

Transient: *NA*

Service Connections Metered? ☒ Yes ☐ No % *100* (Metered)

Resident Population — Number of permanent residents utilizing PWS daily — Summer: *703* Winter: *NA*

Non-Transient Population — Number of non-transient persons utilizing PWS daily — Summer: *NA* Winter: *NA*

Transient Population — Number of transient persons served by PWS daily — Summer: *NA* Winter: *NA*

WATER SYSTEM FACILITIES SUMMARY (WSF)

WSF ID	Facility Name	Water Type Code	Purchased	Seller PWSID
DS001	Distribution system	GW	☐ Yes ☐ No	
WL002	Well 1 Infiltration Gallery	GW	☐ Yes ☒ No	
ST001	Storage Facility - 40,000 gallon		☐ Yes ☐ No	
TP001	Treatment Plant for Well 1 Infiltration gallery	GW	☐ Yes ☒ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Description of Water System Facility flow: *Water is collected from the Gallery/Well into a central wet well where it is pumped through two pumphouses where chlorine is applied. From this point, high service pumps pump the water to a 40,000-gallon elevated storage tank. From here water is supplied to the town of Worden and Ballentine by gravity.*

Example: Well 1(WL002) 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)

How much treated storage is provided? *40,000* gallons

STORAGE FACILITY

WSF ID *ST001* Location, Description *1 Mile South of Worden on 15th Street South/Steel elevated storage tank.*

Storage Volume? *40,000* gallons

Are overflow lines, air vents, drainage lines or clean out pipes turned downward or covered, screened and terminated a minimum of 3 diameters above the ground or storage tank surface?	☒ Yes ☐ No
Is access hatch sealed properly and locked?	☒ Yes ☐ No
Is site adequately protected against vandalism?	☒ Yes ☐ No
Can tank be isolated from system?	☒ Yes ☐ No

What is cleaning frequency for tanks? *Approximately every 7 yrs*

Comments:

Exterior of the elevated tank appears to be in very good condition.

Appendix C
Monitoring Data

Montana Department of
ENVIRONMENTAL QUALITY
Data Source: Public Water Supply Section

Public Water Supply System

PWSID: MT0000022 **Name:** WORDEN BALLANTINE YELLOWSTONE

City: WORDEN **County:** YELLOWSTONE **Tot Pop:** 693

Pri Src: GW **Class:** C **Last Snty Srv Dt:** 03/25/2003 **Activity Status:** A

Type	Conn's	In Srvc Dts	Eff Begin Dt	Avg Daily Cnt	Type
RS	330	1/1-12/31	01/01/1997	693	R

Administrative Contact
KUST, SANDRA
PO BOX 217
WARDEN, MT 59088
406-670-1530

Financial Contact
KRUM, DANIEL L
PO BOX 217
WORDEN, MT 59088
406-967-3281

Operator
MILLER, RICHARD J
BOX 217
WORDEN, MT 59088
406-967-2550

Owner
WORDEN BALLANTINE WATER AND SEWER
PO BOX 64
WORDEN, MT 59088
406-967-4581

Facilities and Entry Points

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

Smp Pt ID	Status	Description
DBPMAX1	A 01/01/2004	
SP001	A 03/31/2000	

Status: A 03/25/2003 **Fac ID:** ST001 STORAGE FACILITY **Src:** GW
Lat/Long Dec: **DMS:**

Status: P 07/26/2005 **Fac ID:** TM001 TRANSMISSION MAIN FOR WELL 2 **Src:** GW
Lat/Long Dec: **DMS:**

Status: A 03/25/2003 **Fac ID:** TP001 TREATMENT PLANT FOR WELL 1 **Src:** GW
Lat/Long Dec: 45.942396 **DMS:** .00 .00
TP Units: D401

Smp Pt ID	Status	Description
EP502	A 10/17/2000	EP FOR TP001

Status: P 07/26/2005 **Fac ID:** TP002 TREATMENT FOR WELL 2 **Src:** GW
Lat/Long Dec: **DMS:**
TP Units: D423

Smp Pt ID	Status	Description
EP503	P 07/26/2005	EP FOR TP WL 2

PWSID: **MT0000022** **Name: WORDEN BALLANTINE YELLOWSTONE** (continued)

Status: A 04/07/2000 **Fac ID:** WL002 WELL 1 INFILTRATION **Src:** GW
Lat/Long Dec: 45.9424 **DMS:** .00 .00
108.163

Status: P 07/26/2005 **Fac ID:** WL003 WELL 2 **Src:** GW
Lat/Long Dec: **DMS:**

Facility Flows

Activity Status	Flowing From	Activity Status	Flowing To
A	STORAGE FACILITY	A	DISTRIBUTION SYSTEM
A	TREATMENT PLANT FOR WELL 1	A	STORAGE FACILITY
A	WELL 1 INFILTRATION	A	TREATMENT PLANT FOR WELL 1

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	

Group	Name	Schd Beg Date	Seas Coll Per	Requirement
3100	COLIFORM, TOTAL (TCR)	11/01/2005	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	

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
CDBP	CDS DISINFECTANT BPS	01/01/2004	01/01/2004	7/1-9/30	1 RT YR
PBCU	CDS LEAD COPPER ONLY	01/01/2001	01/01/2001	6/1-9/30	10 RT 6M

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Status:** A **Src:** GW

Smp Pt ID	Active	Smp Pt Description
EP502	A	EP FOR TP001

Group	Name	Schd Beg Date	Init MP Beg	Seas Coll Per	Requirement
ARSE	CDS ARSENIC	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
COMB	CDS RADIUMS COMBINED	01/01/2004	01/01/2004	1/1-12/31	1 RT QT
GRAL	CDS RAD GROSS ALPHA	01/01/2008	01/01/2008	1/1-12/31	1 RT 6Y
INO1	CDS P2-5 INORGANICS	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
NITR	CDS NITRATE NITRITE	01/01/2000	01/01/2000	1/1-12/31	1 RT YR
SOC1	CDS SOC	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
VOC1	CDS VOC	01/01/2002	01/01/2002	1/1-12/31	1 RT 3Y

PWSID: **MT0000022** **Name: WORDEN BALLANTINE YELLOWSTONE** (continued)

Bacti Results FROM 01/01/2001 TO 02/28/2006

Collection Dt	Lab Number	Type	Orig Lab #	Code		TCR Presence	Fec/EC Result
01/11/2006	060070	RT		3100	COLIFORM, TOTAL (TCR)	A	-
12/20/2005	052865	RT		3100	COLIFORM, TOTAL (TCR)	A	-
11/15/2005	052647	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/11/2005	052353	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/11/2005	052354	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/11/2005	052355	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/11/2005	052356	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/11/2005	052357	RT		3100	COLIFORM, TOTAL (TCR)	A	-
09/15/2005	052130	RP	052097	3100	COLIFORM, TOTAL (TCR)	A	-
09/15/2005	052131	RP	052097	3100	COLIFORM, TOTAL (TCR)	A	-
09/15/2005	052132	RP	052097	3100	COLIFORM, TOTAL (TCR)	A	-
09/15/2005	052133	RP	052097	3100	COLIFORM, TOTAL (TCR)	A	-
09/13/2005	052097	RT		3100	COLIFORM, TOTAL (TCR)	P	+
08/16/2005	051837	RT		3100	COLIFORM, TOTAL (TCR)	A	-
07/25/2005	051608	RT		3100	COLIFORM, TOTAL (TCR)	A	-
06/08/2005	051127	RT		3100	COLIFORM, TOTAL (TCR)	A	-
05/16/2005	050915	RT		3100	COLIFORM, TOTAL (TCR)	A	-
04/18/2005	050718	RT		3100	COLIFORM, TOTAL (TCR)	A	-
03/14/2005	050491	RT		3100	COLIFORM, TOTAL (TCR)	A	-
02/15/2005	050301	RT		3100	COLIFORM, TOTAL (TCR)	A	-
01/18/2005	050125	RT		3100	COLIFORM, TOTAL (TCR)	A	-
12/15/2004	042720	RT		3100	COLIFORM, TOTAL (TCR)	A	-
11/09/2004	042471	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/12/2004	042255	RT		3100	COLIFORM, TOTAL (TCR)	A	-
09/20/2004	042028	RT		3100	COLIFORM, TOTAL (TCR)	A	-
08/18/2004	041778	RT		3100	COLIFORM, TOTAL (TCR)	A	-
07/14/2004	041459	RT		3100	COLIFORM, TOTAL (TCR)	A	-
06/16/2004	041185	RT		3100	COLIFORM, TOTAL (TCR)	A	-
05/17/2004	040872	RT		3100	COLIFORM, TOTAL (TCR)	A	-
04/13/2004	040640	RT		3100	COLIFORM, TOTAL (TCR)	A	-
03/16/2004	040427	RT		3100	COLIFORM, TOTAL (TCR)	A	-
02/19/2004	040290	RT		3100	COLIFORM, TOTAL (TCR)	A	-
01/14/2004	040075	RT		3100	COLIFORM, TOTAL (TCR)	A	-
12/17/2003	032943	RT		3100	COLIFORM, TOTAL (TCR)	A	-
11/18/2003	032767	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/14/2003	032523	RT		3100	COLIFORM, TOTAL (TCR)	A	-
09/16/2003	032193	RT		3100	COLIFORM, TOTAL (TCR)	A	-
08/14/2003	031830	RT		3100	COLIFORM, TOTAL (TCR)	A	-
07/16/2003	031499	RT		3100	COLIFORM, TOTAL (TCR)	A	-
06/18/2003	031170	RT		3100	COLIFORM, TOTAL (TCR)	A	-

PWSID: **MT0000022** Name: **WORDEN BALLANTINE YELLOWSTONE** (continued)

Collection Dt	Lab Number	Type	Orig Lab #	Code		TCR Presence	Fec/EC Result
05/20/2003	030873	RT		3100	COLIFORM, TOTAL (TCR)	A	-
04/16/2003	030621	RT		3100	COLIFORM, TOTAL (TCR)	A	-
03/18/2003	030406	RT		3100	COLIFORM, TOTAL (TCR)	A	-
02/11/2003	030239	RT		3100	COLIFORM, TOTAL (TCR)	A	-
01/20/2003	030127	RT		3100	COLIFORM, TOTAL (TCR)	A	-
12/11/2002	022743	RT		3100	COLIFORM, TOTAL (TCR)	A	-
11/19/2002	022604	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/15/2002	022383	RT		3100	COLIFORM, TOTAL (TCR)	A	-
09/17/2002	022077	RT		3100	COLIFORM, TOTAL (TCR)	A	-
08/20/2002	021836	RT		3100	COLIFORM, TOTAL (TCR)	A	-
07/17/2002	021512	RT		3100	COLIFORM, TOTAL (TCR)	A	-
06/18/2002	021255	RT		3100	COLIFORM, TOTAL (TCR)	A	-
05/20/2002	020997	RT		3100	COLIFORM, TOTAL (TCR)	A	-
04/17/2002	020714	RT		3100	COLIFORM, TOTAL (TCR)	A	-
03/19/2002	020506	RT		3100	COLIFORM, TOTAL (TCR)	A	-
02/20/2002	020316	RT		3100	COLIFORM, TOTAL (TCR)	A	-
01/16/2002	020112	RT		3100	COLIFORM, TOTAL (TCR)	A	-
12/17/2001	012830	RT		3100	COLIFORM, TOTAL (TCR)	A	-
11/13/2001	012580	RT		3100	COLIFORM, TOTAL (TCR)	A	-
10/17/2001	012413	RT		3100	COLIFORM, TOTAL (TCR)	A	-
09/18/2001	012144	RT		3100	COLIFORM, TOTAL (TCR)	A	-
08/21/2001	011818	RT		3100	COLIFORM, TOTAL (TCR)	A	-
07/17/2001	011501	RT		3100	COLIFORM, TOTAL (TCR)	A	-
06/18/2001	011176	RT		3100	COLIFORM, TOTAL (TCR)	A	-
05/15/2001	010877	RT		3100	COLIFORM, TOTAL (TCR)	A	-
04/10/2001	010623	RT		3100	COLIFORM, TOTAL (TCR)	A	-
03/20/2001	010464	RT		3100	COLIFORM, TOTAL (TCR)	A	-
02/13/2001	010253	RT		3100	COLIFORM, TOTAL (TCR)	A	-
01/16/2001	010098	RT		3100	COLIFORM, TOTAL (TCR)	A	-

Chemical Results FROM 01/01/2001 TO 02/28/2006

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

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
IOC	1332-21-4	1094	ASBESTOS	RT	08/18/2004	35	04-21905	< MDL .01 MFL

Smp Pt ID: DBPMAX1 **Status:** A **Description:** **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result	
OC	75-27-4	2943	BROMODICHLOROMETHANE	RT	08/31/2005	06	00022082005	5.8	UG/L
OC	75-25-2	2942	BROMOFORM	RT	08/31/2005	06	00022082005	1.3	UG/L
OC	124-48-1	2944	CHLORODIBROMOMETHANE	RT	08/31/2005	06	00022082005	6.0	UG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: DS001 **Fac Name:** DISTRIBUTION SYSTEM **Avl:** P **Status:** A **Src:**
Smp Pt ID: DBPMAX1 **Status:** A **Description:** **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result	
OC	67-66-3	2941	CHLOROFORM	RT	08/31/2005	06	00022082005	3.4	UG/L
OC	631-64-1	2454	DIBROMOACETIC ACID	RT	08/31/2005	06	00022082005	2.5	UG/L
OC	79-43-6	2451	DICHLOROACETIC ACID	RT	08/31/2005	06	00022082005	3.1	UG/L
OC	79-08-3	2453	MONOBROMOACETIC ACID	RT	08/31/2005	06	00022082005	1.0	UG/L
OC	79-11-8	2450	MONOCHLOROACETIC ACID	RT	08/31/2005	06	00022082005	2.0	UG/L
OC		2456	TOTAL HALOACETIC ACIDS (HAA5)	RT	08/31/2005	06	00022082005	8.3	UG/L
OC		2950	TOTAL TRIHALOMETHANES (TTHM)	RT	08/31/2005	06	00022082005	16.5	UG/L
OC	76-03-9	2452	TRICHLOROACETIC ACID	RT	08/31/2005	06	00022082005	1.0	UG/L
OC	75-27-4	2943	BROMODICHLOROMETHANE	RT	08/30/2004	21	2004080295-1	8.2	UG/L
OC	75-25-2	2942	BROMOFORM	RT	08/30/2004	21	2004080295-1	< MDL .5	UG/L
OC	124-48-1	2944	CHLORODIBROMOMETHANE	RT	08/30/2004	21	2004080295-1	5.1	UG/L
OC	67-66-3	2941	CHLOROFORM	RT	08/30/2004	21	2004080295-1	9.2	UG/L
OC	631-64-1	2454	DIBROMOACETIC ACID	RT	08/30/2004	21	2004080295-1	3.1	UG/L
OC	79-43-6	2451	DICHLOROACETIC ACID	RT	08/30/2004	21	2004080295-1	7.2	UG/L
OC	79-08-3	2453	MONOBROMOACETIC ACID	RT	08/30/2004	21	2004080295-1	1	UG/L
OC	79-11-8	2450	MONOCHLOROACETIC ACID	RT	08/30/2004	21	2004080295-1	2	UG/L
OC		2456	TOTAL HALOACETIC ACIDS (HAA5)	RT	08/30/2004	21	2004080295-1	19.8	UG/L
OC		2950	TOTAL TRIHALOMETHANES (TTHM)	RT	08/30/2004	21	2004080295-1	22.5	UG/L
OC	76-03-9	2452	TRICHLOROACETIC ACID	RT	08/30/2004	21	2004080295-1	4.3	UG/L

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Avl:** P **Status:** A **Src:** GW
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR TP001 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result	
OC	5589-96-3	2455	BROMOCHLOROACETIC ACID	RT	08/31/2005	21	200508032301	2.7	UG/L
OC	75-27-4	2943	BROMODICHLOROMETHANE	RT	08/31/2005	21	200508032301	5.8	UG/L
OC	75-25-2	2942	BROMOFORM	RT	08/31/2005	21	200508032301	1.3	UG/L
OC	124-48-1	2944	CHLORODIBROMOMETHANE	RT	08/31/2005	21	200508032301	6.0	UG/L
OC	67-66-3	2941	CHLOROFORM	RT	08/31/2005	21	200508032301	3.4	UG/L
OC	631-64-1	2454	DIBROMOACETIC ACID	RT	08/31/2005	21	200508032301	2.5	UG/L
OC	79-43-6	2451	DICHLOROACETIC ACID	RT	08/31/2005	21	200508032301	3.1	UG/L
OC	79-08-3	2453	MONOBROMOACETIC ACID	RT	08/31/2005	21	200508032301	< MRL 1	UG/L
OC	79-11-8	2450	MONOCHLOROACETIC ACID	RT	08/31/2005	21	200508032301	< MRL 2	UG/L
OC		2456	TOTAL HALOACETIC ACIDS (HAA5)	RT	08/31/2005	21	200508032301	8.3	UG/L
OC	76-03-9	2452	TRICHLOROACETIC ACID	RT	08/31/2005	21	200508032301	< MRL 1	UG/L
IOC	7440-36-0	1074	ANTIMONY	RT	03/29/2005	21	200503023101	< MRL .002	MG/L
IOC	7440-38-2	1005	ARSENIC	RT	03/29/2005	21	200503023101	< MRL .001	MG/L
IOC	7440-39-3	1010	BARIUM	RT	03/29/2005	21	200503023101	0.03	MG/L
IOC	7440-41-7	1075	BERYLLIUM	RT	03/29/2005	21	200503023101	< MRL .001	MG/L
IOC	7440-43-9	1015	CADMIUM	RT	03/29/2005	21	200503023101	< MRL .0001	MG/L
IOC	7440-70-2	1016	CALCIUM	RT	03/29/2005	21	200503023101	52	MG/L
IOC	16887-00-6	1017	CHLORIDE	RT	03/29/2005	21	200503023101	15	MG/L
IOC	7440-47-3	1020	CHROMIUM	RT	03/29/2005	21	200503023101	< MRL .001	MG/L
IOC	16984-48-8	1025	FLUORIDE	RT	03/29/2005	21	200503023101	0.49	MG/L
IOC	7439-89-6	1028	IRON	RT	03/29/2005	21	200503023101	< MRL .01	MG/L
IOC	7439-95-4	1031	MAGNESIUM	RT	03/29/2005	21	200503023101	27	MG/L
IOC	7439-96-5	1032	MANGANESE	RT	03/29/2005	21	200503023101	< MRL .005	MG/L
IOC	7439-97-6	1035	MERCURY	RT	03/29/2005	21	200503023101	< MRL .0002	MG/L
IOC	7440-02-0	1036	NICKEL	RT	03/29/2005	21	200503023101	< MRL .02	MG/L
IOC	14797-55-8	1040	NITRATE (AS N)	RT	03/29/2005	21	200503023101	2.98	MG/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	03/29/2005	21	200503023101	3.01	MG/L
IOC	14797-65-0	1041	NITRITE (AS N)	RT	03/29/2005	21	200503023101	0.03	MG/L
IOC	7782-49-2	1045	SELENIUM	RT	03/29/2005	21	200503023101	< MRL .001	MG/L
IOC	7440-23-5	1052	SODIUM	RT	03/29/2005	21	200503023101	45	MG/L
IOC	14808-79-8	1055	SULFATE	RT	03/29/2005	21	200503023101	155	MG/L
IOC	7440-28-0	1085	THALLIUM	RT	03/29/2005	21	200503023101	< MRL .001	MG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Avl:** P **Status:** A **Src:**
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR TP001 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC	630-20-6	2986	1,1,1,2-TETRACHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	71-55-6	2981	1,1,1-TRICHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	79-34-5	2988	1,1,2,2-TETRACHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	79-00-5	2985	1,1,2-TRICHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	75-34-3	2978	1,1-DICHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	75-35-4	2977	1,1-DICHLOROETHYLENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	563-58-6	2410	1,1-DICHLOROPROPENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	87-61-6	2420	1,2,3-TRICHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	96-18-4	2414	1,2,3-TRICHLOROPROPANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	120-82-1	2378	1,2,4-TRICHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	95-63-6	2418	1,2,4-TRIMETHYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	107-06-2	2980	1,2-DICHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	78-87-5	2983	1,2-DICHLOROPROPANE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	108-67-8	2424	1,3,5-TRIMETHYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	142-28-9	2412	1,3-DICHLOROPROPANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	594-20-7	2416	2,2-DICHLOROPROPANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	93-72-1	2110	2,4,5-TP (SILVEX)	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	94-75-7	2105	2,4-D	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	16655-82-6	2066	3-HYDROXYCARBOFURAN	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	15972-60-8	2051	ALACHLOR (LASSO)	RT	03/29/2005	21	200503023101	< MRL .2 UG/L
OC	116-06-3	2047	ALDICARB	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	1646-88-4	2044	ALDICARB SULFONE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	1646-87-3	2043	ALDICARB SULFOXIDE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	309-00-2	2356	ALDRIN	RT	03/29/2005	21	200503023101	< MRL .2 UG/L
OC	1912-24-9	2050	ATRAZINE	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	71-43-2	2990	BENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	50-32-8	2306	BENZO (A) PYRENE	RT	03/29/2005	21	200503023101	< MRL .02 UG/L
OC	58-89-9	2010	BHC-GAMMA (LINDANE)	RT	03/29/2005	21	200503023101	< MRL .02 UG/L
OC	108-86-1	2993	BROMOBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	74-97-5	2430	BROMOCHLOROMETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	75-27-4	2943	BROMODICHLOROMETHANE	RT	03/29/2005	21	200503023101	2.6 UG/L
OC	75-25-2	2942	BROMOFORM	RT	03/29/2005	21	200503023101	1.0 UG/L
OC	74-83-9	2214	BROMOMETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	23184-66-9	2076	BUTACHLOR (MACHETE)	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	63-25-2	2021	CARBARYL	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	1563-66-2	2046	CARBOFURAN	RT	03/29/2005	21	200503023101	< MRL .9 UG/L
OC	56-23-5	2982	CARBON TETRACHLORIDE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	57-74-9	2959	CHLORDANE	RT	03/29/2005	21	200503023101	< MRL .2 UG/L
OC	124-48-1	2944	CHLORODIBROMOMETHANE	RT	03/29/2005	21	200503023101	3.5 UG/L
OC	75-00-3	2216	CHLOROETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	67-66-3	2941	CHLOROFORM	RT	03/29/2005	21	200503023101	1.3 UG/L
OC	156-59-2	2380	CIS-1,2-DICHLOROETHYLENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	10061-02-6	2228	CIS-1,3-DICHLOROPROPENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	75-99-0	2031	DALAPON	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	103-23-1	2035	DI(2-ETHYLHEXYL) - ADIPATE	RT	03/29/2005	21	200503023101	< MRL .6 UG/L
OC	117-81-7	2039	DI(2-ETHYLHEXYL) - PHTHALATE	RT	03/29/2005	21	200503023101	< MRL .6 UG/L
OC	96-12-8	2931	DIBROMOCHLOROPROPANE (DBCP)	RT	03/29/2005	21	200503023101	< MRL 5 UG/L
OC	74-95-3	2408	DIBROMOMETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	1918-00-9	2440	DICAMBA	RT	03/29/2005	21	200503023101	< MRL 2 UG/L
OC	75-71-8	2212	DICHLORODIFLUOROMETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	75-09-2	2964	DICHLOROMETHANE	RT	03/29/2005	21	200503023101	< MRL 2 UG/L
OC	60-57-1	2070	DIELDRIN	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	88-85-7	2041	DINOSEB	RT	03/29/2005	21	200503023101	< MRL .2 UG/L
OC	72-20-8	2005	ENDRIN	RT	03/29/2005	21	200503023101	< MRL .01 UG/L
OC	100-41-4	2992	ETHYLBENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	106-93-4	2946	ETHYLENE DIBROMIDE (EDB)	RT	03/29/2005	21	200503023101	< MRL 1 UG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Avl:** P **Status:** A **Src:**
Smp Pt ID: EP502 **Status:** A **Description:**EP FOR TP001 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC	76-44-8	2065	HEPTACHLOR	RT	03/29/2005	21	200503023101	< MRL .04 UG/L
OC	1024-57-3	2067	HEPTACHLOR EPOXIDE	RT	03/29/2005	21	200503023101	< MRL .02 UG/L
OC	118-74-1	2274	HEXACHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	87-68-3	2246	HEXACHLOROBUTADIENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	77-47-4	2042	HEXACHLOROCYCLOPENTADIENE	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	98-82-8	2994	ISOPROPYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	541-73-1	2967	M-DICHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	16752-77-5	2022	METHOMYL	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	72-43-5	2015	METHOXYCHLOR	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC	1634-04-4	2251	METHYL TERT-BUTYL ETHER (MTBE)	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	51218-45-2	2045	METOLACHLOR	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	21087-64-9	2595	METRIBUZIN (SENCOR)	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	108-90-7	2989	MONOCHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	104-51-8	2422	N-BUTYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	103-65-1	2998	N-PROPYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	91-20-3	2248	NAPHTHALENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	95-49-8	2965	O-CHLOROTOLUENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	95-50-1	2968	O-DICHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	23135-22-0	2036	OXAMYL (VYDATE)	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	106-43-4	2966	P-CHLOROTOLUENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	106-46-7	2969	P-DICHLOROBENZENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	87-86-5	2326	PENTACHLOROPHENOL	RT	03/29/2005	21	200503023101	< MRL .04 UG/L
OC	1918-02-1	2040	PICLORAM	RT	03/29/2005	21	200503023101	< MRL .1 UG/L
OC		2029	PROMETON (P-CYMENE)	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	1918-16-7	2077	PROPACHLOR	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	135-98-8	2428	SEC-BUTYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	122-34-9	2037	SIMAZINE	RT	03/29/2005	21	200503023101	< MRL .07 UG/L
OC	100-42-5	2996	STYRENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	98-06-6	2426	TERT-BUTYLBENZENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	127-18-4	2987	TETRACHLOROETHYLENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	108-88-3	2991	TOLUENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	8001-35-2	2020	TOXAPHENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	156-60-5	2979	TRANS-1,2-DICHLOROETHYLENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	10061-02-6	2224	TRANS-1,3-DICHLOROPROPENE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	79-01-6	2984	TRICHLOROETHYLENE	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	75-69-4	2218	TRICHLOROFLUOROMETHANE	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
OC	108-38-3	2995	XYLENE, META	RT	03/29/2005	21	200503023101	< MRL .5 UG/L
OC	1330-20-7	2955	XYLENES	RT	03/29/2005	21	200503023101	< MRL 1 UG/L
WQ	471-34-1	1928	ALKALINITY, BICARBONATE	RT	03/29/2005	21	200503023101	218 MG/L
WQ	471-34-1	1929	ALKALINITY, CARBONATE	RT	03/29/2005	21	200503023101	0 MG/L
WQ	471-34-1	1927	ALKALINITY, TOTAL	RT	03/29/2005	21	200503023101	179 MG/L
WQ		1064	CONDUCTIVITY	RT	03/29/2005	21	200503023101	667 UMHOS/CM
WQ		1925	PH	RT	03/29/2005	21	200503023101	7.7 SU
IOC		1038	NITRATE+NITRITE (AS N)	RT	06/16/2004	21	2004060217	2.28 MG/L
RA		4000	GROSS ALPHA, INCLDNG RA, EXCLDNG RN	RT	03/31/2004	39	L49296-03	6.08 PIC/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	10/14/2003	21	032524-N502	1.41 MG/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	12/11/2002	21	2002120087-1-N502	1.26 MG/L
IOC	7440-36-0	1074	ANTIMONY	RT	12/05/2001	06	2001120030-1I502	< MRL .003 MG/L
IOC	7440-38-2	1005	ARSENIC	RT	12/05/2001	06	2001120030-1I502	< MRL .005 MG/L
IOC	7440-39-3	1010	BARIUM	RT	12/05/2001	06	2001120030-1I502	0.02 MG/L
IOC	7440-41-7	1075	BERYLLIUM	RT	12/05/2001	06	2001120030-1I502	< MRL .001 MG/L
IOC	7440-43-9	1015	CADMIUM	RT	12/05/2001	06	2001120030-1I502	< MRL .001 MG/L
IOC	7440-70-2	1016	CALCIUM	RT	12/05/2001	06	2001120030-1I502	46.0 MG/L
IOC	16887-00-6	1017	CHLORIDE	RT	12/05/2001	06	2001120030-1I502	14.0 MG/L
IOC	7440-47-3	1020	CHROMIUM	RT	12/05/2001	06	2001120030-1I502	< MRL .02 MG/L
IOC	16984-48-8	1025	FLUORIDE	RT	12/05/2001	06	2001120030-1I502	0.48 MG/L

PWSID: **MT0000022** **Name: WORDEN BALLANTINE YELLOWSTONE** (continued)

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Avl:** P **Status:** A **Src:**
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR TP001 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
IOC	7439-89-6	1028	IRON	RT	12/05/2001	06	2001120030-1I502	0.05 MG/L
IOC	7439-95-4	1031	MAGNESIUM	RT	12/05/2001	06	2001120030-1I502	26.0 MG/L
IOC	7439-97-6	1035	MERCURY	RT	12/05/2001	06	2001120030-1I502	< MRL .0002 MG/L
IOC	7440-02-0	1036	NICKEL	RT	12/05/2001	06	2001120030-1I502	< MRL .02 MG/L
IOC	14797-55-8	1040	NITRATE (AS N)	RT	12/05/2001	06	2001120030-1I502	1.39 MG/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	12/05/2001	06	2001120030-1I502	1.39 MG/L
IOC	14797-65-0	1041	NITRITE (AS N)	RT	12/05/2001	06	2001120030-1I502	< MRL .5 MG/L
IOC	7782-49-2	1045	SELENIUM	RT	12/05/2001	06	2001120030-1I502	< MRL .005 MG/L
IOC	7440-23-5	1052	SODIUM	RT	12/05/2001	06	2001120030-1I502	48.0 MG/L
IOC	14808-79-8	1055	SULFATE	RT	12/05/2001	06	2001120030-1I502	125.0 MG/L
IOC	7440-28-0	1085	THALLIUM	RT	12/05/2001	06	2001120030-1I502	< MRL .001 MG/L
OC	1746-01-6	2063	2,3,7,8 TCDD (DIOXIN)	RT	12/05/2001	06	2001120030-1S502	< MDL 0 MG/L
OC	93-72-1	2110	2,4,5-TP (SILVEX)	RT	12/05/2001	06	2001120030-1S502	< MDL .0002 MG/L
OC	94-75-7	2105	2,4-D	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	16655-82-6	2066	3-HYDROXYCARBOFURAN	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	15972-60-8	2051	ALACHLOR (LASSO)	RT	12/05/2001	06	2001120030-1S502	< MDL .0002 MG/L
OC	116-06-3	2047	ALDICARB	RT	12/05/2001	06	2001120030-1S502	< MDL .0005 MG/L
OC	1646-88-4	2044	ALDICARB SULFONE	RT	12/05/2001	06	2001120030-1S502	< MDL .0005 MG/L
OC	1646-87-3	2043	ALDICARB SULFOXIDE	RT	12/05/2001	06	2001120030-1S502	< MDL .0008 MG/L
OC	309-00-2	2356	ALDRIN	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	1912-24-9	2050	ATRAZINE	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	50-32-8	2306	BENZO (A) PYRENE	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	58-89-9	2010	BHC-GAMMA (LINDANE)	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	23184-66-9	2076	BUTACHLOR (MACHETE)	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	63-25-2	2021	CARBARYL	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	1563-66-2	2046	CARBOFURAN	RT	12/05/2001	06	2001120030-1S502	< MDL .0009 MG/L
OC	57-74-9	2959	CHLORDANE	RT	12/05/2001	06	2001120030-1S502	< MDL .0002 MG/L
OC	75-99-0	2031	DALAPON	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	103-23-1	2035	DI(2-ETHYLHEXYL) - ADIPATE	RT	12/05/2001	06	2001120030-1S502	< MDL .0006 MG/L
OC	117-81-7	2039	DI(2-ETHYLHEXYL) - PHTHALATE	RT	12/05/2001	06	2001120030-1S502	< MDL .0006 MG/L
OC	96-12-8	2931	DIBROMOCHLOROPROPANE (DBCP)	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	1918-00-9	2440	DICAMBA	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	60-57-1	2070	DIELDRIN	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	88-85-7	2041	DINOSEB	RT	12/05/2001	06	2001120030-1S502	< MDL .0002 MG/L
OC	85-00-7	2032	DIQUAT	RT	12/05/2001	06	2001120030-1S502	< MDL .0004 MG/L
OC	145-73-3	2033	ENDOTHALL	RT	12/05/2001	06	2001120030-1S502	< MDL .009 MG/L
OC	72-20-8	2005	ENDRIN	RT	12/05/2001	06	2001120030-1S502	< MDL .00001 MG/L
OC	106-93-4	2946	ETHYLENE DIBROMIDE (EDB)	RT	12/05/2001	06	2001120030-1S502	< MDL .00001 MG/L
OC	1071-83-6	2034	GLYPHOSATE	RT	12/05/2001	06	2001120030-1S502	< MDL .006 MG/L
OC	76-44-8	2065	HEPTACHLOR	RT	12/05/2001	06	2001120030-1S502	< MDL .00004 MG/L
OC	1024-57-3	2067	HEPTACHLOR EPOXIDE	RT	12/05/2001	06	2001120030-1S502	< MDL .00002 MG/L
OC	118-74-1	2274	HEXACHLOROBENZENE	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	77-47-4	2042	HEXACHLOROCYCLOPENTADIENE	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	16752-77-5	2022	METHOMYL	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	72-43-5	2015	METHOXYCHLOR	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	51218-45-2	2045	METOLACHLOR	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	21087-64-9	2595	METRIBUZIN (SENCOR)	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	23135-22-0	2036	OXAMYL (VYDATE)	RT	12/05/2001	06	2001120030-1S502	< MDL .002 MG/L
OC	87-86-5	2326	PENTACHLOROPHENOL	RT	12/05/2001	06	2001120030-1S502	< MDL .00004 MG/L
OC	1918-02-1	2040	PICLORAM	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	1336-36-3	2383	POLYCHLORINATED BIPHENYLS (PCB)	RT	12/05/2001	06	2001120030-1S502	< MDL .0001 MG/L
OC	1918-16-7	2077	PROPACHLOR	RT	12/05/2001	06	2001120030-1S502	< MDL .1 MG/L
OC	122-34-9	2037	SIMAZINE	RT	12/05/2001	06	2001120030-1S502	< MDL .00007 MG/L
OC	8001-35-2	2020	TOXAPHENE	RT	12/05/2001	06	2001120030-1S502	< MDL .001 MG/L
OC	630-20-6	2986	1,1,1,2-TETRACHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL 0 MG/L
OC	71-55-6	2981	1,1,1-TRICHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: TP001 **Fac Name:** TREATMENT PLANT FOR WELL 1 **Avl:** P **Status:** A **Src:**
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR TP001 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC	79-34-5	2988	1,1,2,2-TETRACHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	79-00-5	2985	1,1,2-TRICHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-34-3	2978	1,1-DICHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-35-4	2977	1,1-DICHLOROETHYLENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	563-58-6	2410	1,1-DICHLOROPROPENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC		2419	1,2,3 - TRIMETHYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	87-61-6	2420	1,2,3-TRICHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	96-18-4	2414	1,2,3-TRICHLOROPROPANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	120-82-1	2378	1,2,4-TRICHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	107-06-2	2980	1,2-DICHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	78-87-5	2983	1,2-DICHLOROPROPANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	108-67-8	2424	1,3,5-TRIMETHYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	142-28-9	2412	1,3-DICHLOROPROPANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	594-20-7	2416	2,2-DICHLOROPROPANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	71-43-2	2990	BENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	108-86-1	2993	BROMOBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-27-4	2943	BROMODICHLOROMETHANE	RT	12/05/2001	06	2001120030-1V502	1.4 UG/L
OC	75-25-2	2942	BROMOFORM	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	74-83-9	2214	BROMOMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	56-23-5	2982	CARBON TETRACHLORIDE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	124-48-1	2944	CHLORODIBROMOMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-00-3	2216	CHLOROETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	67-66-3	2941	CHLOROFORM	RT	12/05/2001	06	2001120030-1V502	0.8 UG/L
OC	74-87-3	2210	CHLOROMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	156-59-2	2380	CIS-1,2-DICHLOROETHYLENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	10061-02-6	2228	CIS-1,3-DICHLOROPROPENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	74-95-3	2408	DIBROMOMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-71-8	2212	DICHLORODIFLUOROMETHANE	RT	12/05/2001	06	2001120030-1V502	1.5 UG/L
OC	75-09-2	2964	DICHLOROMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	100-41-4	2992	ETHYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	87-68-3	2246	HEXACHLOROBUTADIENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	98-82-8	2994	ISOPROPYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	541-73-1	2967	M-DICHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	108-90-7	2989	MONOCHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	104-51-8	2422	N-BUTYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	103-65-1	2998	N-PROPYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	91-20-3	2248	NAPHTHALENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	95-49-8	2965	O-CHLOROTOLUENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	95-50-1	2968	O-DICHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	106-43-4	2966	P-CHLOROTOLUENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	106-46-7	2969	P-DICHLOROBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	99-87-6	2030	P-ISOPROPYLTOLUENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	100-42-5	2996	STYRENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	98-06-6	2426	TERT-BUTYLBENZENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	127-18-4	2987	TETRACHLOROETHYLENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	108-88-3	2991	TOLUENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	156-60-5	2979	TRANS-1,2-DICHLOROETHYLENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	10061-02-6	2224	TRANS-1,3-DICHLOROPROPENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	79-01-6	2984	TRICHLOROETHYLENE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-69-4	2218	TRICHLOROFLUOROMETHANE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	75-01-4	2976	VINYL CHLORIDE	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	108-38-3	2995	XYLENE, META	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	95-47-6	2997	XYLENE, ORTHO	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	106-42-3	2962	XYLENE, PARA	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
OC	1330-20-7	2955	XYLENES	RT	12/05/2001	06	2001120030-1V502	< MDL .0005 MG/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	10/20/2001	06	012414N	1.26 MG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: TP002 **Fac Name:** TREATMENT FOR WELL 2 **Avl:** P **Status:** P **Src:** GW
Smp Pt ID: EP503 **Status:** P **Description:** EP FOR TP WL 2 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
WQ	471-34-1	1928	ALKALINITY, BICARBONATE	RT	01/08/2005	08	B05010314-001-G503	458.0 MG/L
WQ	471-34-1	1929	ALKALINITY, CARBONATE	RT	01/08/2005	08	B05010314-001-G503	0 MG/L
WQ	471-34-1	1927	ALKALINITY, TOTAL	RT	01/08/2005	08	B05010314-001-G503	375.0 MG/L
WQ		1925	PH	RT	01/08/2005	08	B05010314-001-G503	7.6 SU
IOC	7440-36-0	1074	ANTIMONY	RT	01/08/2005	08	B05010314-001-I503	< MDL .003 MG/L
IOC	7440-38-2	1005	ARSENIC	RT	01/08/2005	08	B05010314-001-I503	< MDL .005 MG/L
IOC	7440-39-3	1010	BARIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .1 MG/L
IOC	7440-41-7	1075	BERYLLIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .001 MG/L
IOC	7440-43-9	1015	CADMIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .001 MG/L
IOC	7440-70-2	1016	CALCIUM	RT	01/08/2005	08	B05010314-001-I503	86.0 MG/L
IOC	16887-00-6	1017	CHLORIDE	RT	01/08/2005	08	B05010314-001-I503	18.0 MG/L
IOC	7440-47-3	1020	CHROMIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .01 MG/L
IOC	16984-48-8	1025	FLUORIDE	RT	01/08/2005	08	B05010314-001-I503	0.52 MG/L
IOC	7439-89-6	1028	IRON	RT	01/08/2005	08	B05010314-001-I503	3.48 MG/L
IOC	7439-95-4	1031	MAGNESIUM	RT	01/08/2005	08	B05010314-001-I503	45.0 MG/L
IOC	7439-97-6	1035	MERCURY	RT	01/08/2005	08	B05010314-001-I503	< MDL .0002 MG/L
IOC	7440-02-0	1036	NICKEL	RT	01/08/2005	08	B05010314-001-I503	< MDL .01 MG/L
IOC	14797-55-8	1040	NITRATE (AS N)	RT	01/08/2005	08	B05010314-001-I503	3.39 MG/L
IOC		1038	NITRATE+NITRITE (AS N)	RT	01/08/2005	08	B05010314-001-I503	3.39 MG/L
IOC	14797-65-0	1041	NITRITE (AS N)	RT	01/08/2005	08	B05010314-001-I503	< MDL .05 MG/L
IOC	7782-49-2	1045	SELENIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .005 MG/L
IOC	7440-23-5	1052	SODIUM	RT	01/08/2005	08	B05010314-001-I503	129.0 MG/L
IOC	14808-79-8	1055	SULFATE	RT	01/08/2005	08	B05010314-001-I503	250 MG/L
IOC	7440-28-0	1085	THALLIUM	RT	01/08/2005	08	B05010314-001-I503	< MDL .001 MG/L
OC	93-72-1	2110	2,4,5-TP (SILVEX)	RT	01/08/2005	08	B05010314-001-S503	< MDL .0002 MG/L
OC	94-75-7	2105	2,4-D	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	16655-82-6	2066	3-HYDROXYCARBOFURAN	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	15972-60-8	2051	ALACHLOR (LASSO)	RT	01/08/2005	08	B05010314-001-S503	< MDL .0002 MG/L
OC	116-06-3	2047	ALDICARB	RT	01/08/2005	08	B05010314-001-S503	< MDL .0005 MG/L
OC	1646-88-4	2044	ALDICARB SULFONE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0005 MG/L
OC	1646-87-3	2043	ALDICARB SULFOXIDE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0008 MG/L
OC	309-00-2	2356	ALDRIN	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	1912-24-9	2050	ATRAZINE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	50-32-8	2306	BENZO (A) PYRENE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	58-89-9	2010	BHC-GAMMA (LINDANE)	RT	01/08/2005	08	B05010314-001-S503	< MDL .00002 MG/L
OC	23184-66-9	2076	BUTACHLOR (MACHETE)	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	63-25-2	2021	CARBARYL	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	1563-66-2	2046	CARBOFURAN	RT	01/08/2005	08	B05010314-001-S503	< MDL .0009 MG/L
OC	57-74-9	2959	CHLORDANE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0002 MG/L
OC	75-99-0	2031	DALAPON	RT	01/08/2005	08	B05010314-001-S503	< MDL .1 MG/L
OC	103-23-1	2035	DI(2-ETHYLHEXYL) - ADIPATE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0006 MG/L
OC	117-81-7	2039	DI(2-ETHYLHEXYL) - PHTHALATE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0006 MG/L
OC	1918-00-9	2440	DICAMBA	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	60-57-1	2070	DIELDRIN	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	88-85-7	2041	DINOSEB	RT	01/08/2005	08	B05010314-001-S503	< MDL .0002 MG/L
OC	72-20-8	2005	ENDRIN	RT	01/08/2005	08	B05010314-001-S503	< MDL .00001 MG/L
OC	76-44-8	2065	HEPTACHLOR	RT	01/08/2005	08	B05010314-001-S503	< MDL .00004 MG/L
OC	1024-57-3	2067	HEPTACHLOR EPOXIDE	RT	01/08/2005	08	B05010314-001-S503	< MDL .00002 MG/L
OC	118-74-1	2274	HEXACHLOROBENZENE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	77-47-4	2042	HEXACHLOROCYCLOPENTADIENE	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	16752-77-5	2022	METHOMYL	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	72-43-5	2015	METHOXYCHLOR	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	51218-45-2	2045	METOLACHLOR	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	21087-64-9	2595	METRIBUZIN (SENCOR)	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	23135-22-0	2036	OXAMYL (VYDATE)	RT	01/08/2005	08	B05010314-001-S503	< MDL .002 MG/L
OC	87-86-5	2326	PENTACHLOROPHENOL	RT	01/08/2005	08	B05010314-001-S503	< MDL .00004 MG/L

PWSID: MT0000022 Name: WORDEN BALLANTINE YELLOWSTONE (continued)

Fac ID: TP002 **Fac Name:** TREATMENT FOR WELL 2 **Avl:** P **Status:** P **Src:**
Smp Pt ID: EP503 **Status:** P **Description:** EP FOR TP WL 2 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result
OC	1918-02-1	2040	PICLORAM	RT	01/08/2005	08	B05010314-001-S503	< MDL .0001 MG/L
OC	1918-16-7	2077	PROPACHLOR	RT	01/08/2005	08	B05010314-001-S503	< MDL 0 MG/L
OC	122-34-9	2037	SIMAZINE	RT	01/08/2005	08	B05010314-001-S503	< MDL .00007 MG/L
OC	8001-35-2	2020	TOXAPHENE	RT	01/08/2005	08	B05010314-001-S503	< MDL .001 MG/L
OC	630-20-6	2986	1,1,1,2-TETRACHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	71-55-6	2981	1,1,1-TRICHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	79-34-5	2988	1,1,2,2-TETRACHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	79-00-5	2985	1,1,2-TRICHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	75-34-3	2978	1,1-DICHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	75-35-4	2977	1,1-DICHLOROETHYLENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	563-58-6	2410	1,1-DICHLOROPROPENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	87-61-6	2420	1,2,3-TRICHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	96-18-4	2414	1,2,3-TRICHLOROPROPANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	120-82-1	2378	1,2,4-TRICHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	95-63-6	2418	1,2,4-TRIMETHYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	107-06-2	2980	1,2-DICHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	78-87-5	2983	1,2-DICHLOROPROPANE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	108-67-8	2424	1,3,5-TRIMETHYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	142-28-9	2412	1,3-DICHLOROPROPANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	594-20-7	2416	2,2-DICHLOROPROPANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	71-43-2	2990	BENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	108-86-1	2993	BROMOBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	74-97-5	2430	BROMOCHLOROMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	74-83-9	2214	BROMOMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	56-23-5	2982	CARBON TETRACHLORIDE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	75-00-3	2216	CHLOROETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	74-87-3	2210	CHLOROMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	156-59-2	2380	CIS-1,2-DICHLOROETHYLENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	10061-02-6	2228	CIS-1,3-DICHLOROPROPENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	74-95-3	2408	DIBROMOMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	75-71-8	2212	DICHLORODIFLUOROMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	75-09-2	2964	DICHLOROMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	100-41-4	2992	ETHYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	87-68-3	2246	HEXACHLOROBUTADIENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	98-82-8	2994	ISOPROPYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	541-73-1	2967	M-DICHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	108-90-7	2989	MONOCHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	104-51-8	2422	N-BUTYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	103-65-1	2998	N-PROPYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	91-20-3	2248	NAPHTHALENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	95-49-8	2965	O-CHLOROTOLUENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	95-50-1	2968	O-DICHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	106-43-4	2966	P-CHLOROTOLUENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	106-46-7	2969	P-DICHLOROBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	99-87-6	2030	P-ISOPROPYLTOLUENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	135-98-8	2428	SEC-BUTYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	100-42-5	2996	STYRENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	98-06-6	2426	TERT-BUTYLBENZENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	127-18-4	2987	TETRACHLOROETHYLENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	108-88-3	2991	TOLUENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	156-60-5	2979	TRANS-1,2-DICHLOROETHYLENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	10061-02-6	2224	TRANS-1,3-DICHLOROPROPENE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	79-01-6	2984	TRICHLOROETHYLENE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	75-69-4	2218	TRICHLOROFLUOROMETHANE	RT	01/08/2005	08	B05010314-001-V503	< MDL 0 MG/L
OC	75-01-4	2976	VINYL CHLORIDE	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L
OC	1330-20-7	2955	XYLENES	RT	01/08/2005	08	B05010314-001-V503	< MDL .0005 MG/L

PWSID: **MT0000022** **Name: WORDEN BALLANTINE YELLOWSTONE** (continued)

Fac ID: TP002 **Fac Name:** TREATMENT FOR WELL 2 **Avl:** P **Status:** P **Src:**
Smp Pt ID: EP503 **Status:** P **Description:** EP FOR TP WL 2 **Src Typ:** FN

Analyte/CAS No		Code	Analyte Name	Type	Collection Dt	Lab	Sample Number	Result	
RA		4000	GROSS ALPHA, INCLDNG RA, EXCLDNG RN	RT	01/08/2005	08	C05010296-001-R503	6.8	PIC/L
RA		4010	RADIUM, COMBINED (226, 228)	RT	01/08/2005	08	C05010296-001-R503	< MDL 1	PIC/L
RA	13982-63-3	4020	RADIUM-226	RT	01/08/2005	08	C05010296-001-R503	< MDL 1	PIC/L
RA	15262-20-1	4030	RADIUM-228	RT	01/08/2005	08	C05010296-001-R503	< MDL 1	PIC/L
RA	7440-61-1	4006	URANIUM, COMBINED	RT	01/08/2005	08	C05010296-001-R503	0.013	MG/L

Violations & Enforcements

FROM 01/01/2001 TO 02/28/2006

Viol Date	Comp Beg	Comp End	Fed FY	Viol No	Type	Sev	Cate	Code	Name
02/15/2006	07/01/2005	12/31/2005	2006	3	51		MON	5000	LEAD & COPPER RULE
08/12/2005	01/01/2005	06/30/2005	2005	3	51		MON	5000	LEAD & COPPER RULE
	2006	26	10/26/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	25	08/19/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	24	08/19/2005	SIA	ST VIOLATION/REMINDER NOTICE				
04/07/2005	01/01/2002	12/31/2004	2005	3	03	MJ	MON	INO1	CDS P2-5 INORGANICS
	2005	23	07/06/2005	SOX	ST COMPLIANCE ACHIEVED				
	2005	29	03/30/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	15	04/14/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	14	04/14/2005	SIA	ST VIOLATION/REMINDER NOTICE				
04/07/2005	01/01/2002	12/31/2004	2005	3	03	MJ	MON	SOC1	CDS SOC
	2005	23	07/06/2005	SOX	ST COMPLIANCE ACHIEVED				
	2005	30	03/31/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	18	04/14/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	17	04/14/2005	SIA	ST VIOLATION/REMINDER NOTICE				
04/07/2005	01/01/2002	12/31/2004	2005	3	03	MJ	MON	VOC1	CDS VOC
	2005	23	07/06/2005	SOX	ST COMPLIANCE ACHIEVED				
	2005	31	03/31/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	21	04/14/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	20	04/14/2005	SIA	ST VIOLATION/REMINDER NOTICE				
04/06/2005	01/01/2002	12/31/2004	2005	3	03	MJ	MON	ARSE	CDS ARSENIC
	2005	23	07/06/2005	SOX	ST COMPLIANCE ACHIEVED				
	2005	28	03/31/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	12	04/13/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	11	04/13/2005	SIA	ST VIOLATION/REMINDER NOTICE				
12/28/2004	07/01/2003	12/31/2003	2005	3	51		MON	5000	LEAD & COPPER RULE
	2005	5	03/13/2005	SIF	ST PUBLIC NOTIF RECEIVED				
	2005	4	01/04/2005	SIE	ST PUBLIC NOTIF REQUESTED				
	2005	3	01/04/2005	SIA	ST VIOLATION/REMINDER NOTICE				
12/28/2004	01/01/2004	06/30/2004	2005	3	51		MON	5000	LEAD & COPPER RULE
	2005	5	03/13/2005	SIF	ST PUBLIC NOTIF RECEIVED				

PWSID: **MT0000022** **Name: WORDEN BALLANTINE YELLOWSTONE** (continued)

Viol Date	Comp Beg	Comp End	Fed FY	Viol No	Type	Sev	Cate	Code	Name
	2005 4	01/04/2005	SIE		ST PUBLIC NOTIF REQUESTED				
	2005 3	01/04/2005	SIA		ST VIOLATION/REMINDER NOTICE				
12/28/2004	07/01/2004	12/31/2004	2005	3	51		MON	5000	LEAD & COPPER RULE
	2005 5	03/13/2005	SIF		ST PUBLIC NOTIF RECEIVED				
	2005 4	01/04/2005	SIE		ST PUBLIC NOTIF REQUESTED				
	2005 3	01/04/2005	SIA		ST VIOLATION/REMINDER NOTICE				
01/14/2004	01/01/2001	06/30/2001	2004	3	51		MON	5000	LEAD & COPPER RULE
	2004 1	02/04/2004	SOX		ST COMPLIANCE ACHIEVED				
01/14/2004	07/01/2001	12/31/2001	2004	3	51		MON	5000	LEAD & COPPER RULE
	2004 1	02/04/2004	SOX		ST COMPLIANCE ACHIEVED				
01/14/2004	01/01/2002	06/30/2002	2004	3	51		MON	5000	LEAD & COPPER RULE
	2004 1	02/04/2004	SOX		ST COMPLIANCE ACHIEVED				
01/14/2004	07/01/2002	12/31/2002	2004	3	51		MON	5000	LEAD & COPPER RULE
	2004 1	02/04/2004	SOX		ST COMPLIANCE ACHIEVED				
01/14/2004	01/01/2003	06/30/2003	2004	3	51		MON	5000	LEAD & COPPER RULE
	2004 1	02/04/2004	SOX		ST COMPLIANCE ACHIEVED				