APRIL 1999 MILTON-FREEWATER GROUNDWATER QUALITY STUDY

AS PART OF THE STATEWIDE GROUNDWATER MONITORING PROGRAM

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REGISTERED PROFESSIONAL GEOLOGIST SEAL

In accordance with Oregon Revised Statutes Chapter 672.505 to 672.705, specifically ORS 672.605 which states:

"All drawings, reports, or other geologic papers or documents, involving geologic work as defined in ORS 672.505 to 672.705 which shall have been prepared or approved by a registered geologist or a subordinate employee under the direction of a registered geologist for the use of or for delivery to any person or for public record within this state shall be signed by the registered geologist and impressed with the seal or the seal of a nonresident practicing under the provisions of ORS 672.505 to 672.705, either of which shall indicate responsibility for them.",

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As Part of the Statewide Groundwater Monitoring Program

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1. 0 PROJECT DESCRIPTION

1.1 Introduction

In October of 1989, the State of Oregon passed the Groundwater Protection Act. The goal of this Act is to "...prevent contamination of Oregon's groundwater resource while striving to conserve and restore this resource and to maintain the high quality of Oregon's groundwater resource for present and future uses." (State of Oregon, 1989).

Section 29 of the Act requires the Department of Environmental Quality (DEQ), the Oregon Water Resources Department (WRD), and Oregon State University (OSU) to cooperate in an "...ongoing statewide monitoring and assessment program of the quality of the groundwater resource of this state." (State of Oregon, 1989).

As part of this program, the DEQ has prioritized areas within the state for further evaluation, based on vulnerability to groundwater contamination, and whether or not a given area had known or suspected groundwater contamination. The prioritization process is outlined in the "Statewide Groundwater Monitoring Program - Master Plan" (ODEQ, 1993).

The Milton-Freewater area was identified as being in need of further groundwater assessment, based primarily on high profile water quantity and water quality issues, and to a lesser degree, on the factors outlined in the Master Plan.

This project was conducted in partial fulfillment of the 1989 Groundwater Protection Act, to satisfy the obligation to characterize the quality of the state's groundwater. The Milton-Freewater area was also identified as being at risk for anthropogenic (*i.e.*, caused by humans) contamination, due to (1) its near surface, coarse-grained aquifer (from which potable drinking water is withdrawn), and (2) the presence of various land uses, industrial activities, and commercial activities, which have a high potential for causing contamination. This study was intended to obtain a "snapshot" of water quality (*i.e.*, determine what kind of groundwater contamination was present in the area, and at what concentration).

The data were used to evaluate if there were any localized or area-wide groundwater contamination problems. If contaminants were found during the initial sampling that exceeded any drinking water standards, then resampling occurred only for those contaminants that exceeded a standard. If area-wide contamination was found, at consistently high enough levels, then the area could have been declared a groundwater area of concern, or a groundwater management area.

The State Health Division will use the water quality results of this sampling event to assist them in determining what, if any, health risks are posed to the residents of the area, who depend on the

groundwater for their potable water supplies.

1.2 Project Organization and Responsibilities

The following is a list of key project personnel and their responsibilities:

Project Officer:	Phil Richerson.
Responsibilities:	Project Supervision.
Field Operations:	David Cole.
Responsibilities:	Sampling Plan Development and Implementation.
Laboratory Operations:	Bob McCoy.
Responsibilities:	Sample Receiving and Tracking.
Data Quality (QA) Review:	Raeann Haynes/Chris Redman: LAB (503-229-5983).
Responsibilities:	Assure that Data Quality Objectives (DQO) are met.

1.3 Study Area and Well Network Selection

Previous groundwater sampling and testing in this area have shown that nitrate and bacteria are present in the groundwater. The presence of nitrate and bacteria indicate that the groundwater may be vulnerable to the presence of other pollutants, such as pesticides.

Additional factors which were used to establish this area as having high priority for groundwater sampling include:

(1) more than 80% of the area is under irrigation (OWRD, 1992),
(2) sensitive aquifers underlie the area (Sweet, 1980), and
(3) land uses in these areas (agriculture, wood products, and manufacturing) are of concern.

The boundary of the study area was determined by evaluating the hydrogeology of the region, results of past water quality investigations, and land use practices. The study area was defined as the sixteen sections (16 square miles) north of the city of Milton-Freewater. The approximate location of the study area within the State of Oregon is indicated in Figure 1. Once the study area was defined, the wells comprising the sampling network were chosen.

The goal of establishing the monitoring well network was to include a sufficient number of wells to adequately represent the area's groundwater quality. To do this, properly constructed and maintained wells from the different land use areas were identified. Well logs on file with the Oregon Water Resources Department were used in determining which wells were properly

constructed and the aquifer depth tapped by each of these wells. Visual observations of the well head area were used to determine which of these wells were properly maintained. Wells were discounted from potential use if improper practices were observed near the well head which might produce results reflecting very local activities and not results typical of regional water quality.

Thirty wells were ultimately chosen as the sampling network. DEQ assigned a six character well identification for each well. The well identification contains the three letters "UMA" representing Umatilla County followed by a three digit number representing a sequential numbering of wells used in DEQ studies. The wells used in this study are designated UMA282 through UMA311. The locations of the wells comprising the sampling network are shown in Figure 2.

1.4 Analyte List Selection

Each sample was analyzed for a list of chemical constituents called the analyte list. The analyte list for this project includes the standard analyte list specified in the Statewide Groundwater Monitoring Program – Master Plan. In addition, specific pesticides were added based on the specific historical pesticide use in the area. Similarly, fecal coliform and *E. Coli* bacteria were added based on historical groundwater quality problems with bacteria. The final analyte list for this project included physical / chemical parameters, common ions, metals, nutrients, pesticides, bacteria, and volatile organic compounds.

2.0 BACKGROUND

2.1 Site Location

The Milton-Freewater study area is located in northern Umatilla County (Figure 1). At the demographic heart of the study area is the town of Milton-Freewater, which is located approximately 5 miles south of the Oregon-Washington border (Figure 2).

2.2 Geography

The Milton-Freewater area is located in a rural agricultural and ranching setting, in the southern part of the Walla Walla River Valley. The population of Milton-Freewater is 6,055, with an additional 9,800 in the surrounding countryside, for a total population in the vicinity of the study area of approximately 15,855.

The study area consists of flat alluvial and lacustrine plains, at an elevation of about 1,100 feet above mean sea level. The principal land use in the study area is agricultural. Umatilla County, which contains the study area, ranks as Oregon's top county for wheat and grain production. Other crops include fruits (apples, plums, peaches, pears, apricots, and cherries), and vegetables

(asparagus). Some areas are used for pasture.

The climate in the study area is semiarid, with cold winters and warm, dry summers. The average annual precipitation in the area is 12 to 16 inches, with approximately 55% of that total falling between November and March. Much of the winter season's precipitation falls as snow.

2.3 Geology

Well logs and geologic reports indicate that sedimentary deposits from 200 to 250 feet thick, uncomformably overlie volcanic rocks of the Columbia River Basalt Group. The topmost unit consists of interbedded alluvial deposits of gravel, sand, silt, and clay. The thickness of this upper unit ranges from 80 to 100 feet. These deposits are the result of coalescing alluvial fan sediments, derived from Mill Creek and the Walla Walla River. Underlying these deposits are fine-grained lacustrine deposits, with local beds of coarser deposits, also known as the Touchet Beds. These lacustrine deposits overlie fine-grained wind blown loess deposits of the Palouse and Ringold Formations. Underlying the Palouse Formation are the rocks of the Columbia River Basalt Group (Newcomb, 1965).

The Walla Walla syncline, developed within the basalt bedrock, forms the basin structure. Bounding the basin on its flanks are anticlinal structures of the Blue Mountains, Horse Heaven Hills, and Divide (Newcomb, 1965).

2.4 Hydrogeology

Because the soils are porous and permeable, drainage rates are high. The local area has an irrigation water distribution system consisting of unlined ditches. These factors combine to yield a large amount of groundwater recharge. In 1965, Newcomb stated that an estimated 60,000 acre-feet of water was taken from the Walla Walla River, mostly just below Milton-Freewater. Newcomb estimated that a large part of that irrigation water, probably half on the average, infiltrates into the shallow groundwater aquifer. These recharge characteristics imply a strong potential for movement of various contaminants into the groundwater.

MacNish et. al. (1973) described the shallow gravel aquifer that underlies the Walla Walla Valley, and that receives the recharge water. The gravel aquifer is coupled intimately with the network of streams, canals, and ditches that web the land surface. The aquifer receives recharge from precipitation, stream leakage, canal leakage, and from infiltration of excess irrigation water. In turn, water from the aquifer discharges to a number of springs and natural streams at lower elevations. The aquifer also contributes water by downward leakage through underlying clay to the basalt aquifer, and where water levels are close to the surface, the aquifer releases water to growing plants. Numerous irrigation and domestic wells draw water from the aquifer. The distribution of coarse and fine materials within the aquifer also influences the movement of groundwater. In the topographically higher locations in the northern part of the Walla Walla

basin, north and east of Walla Walla, Washington, and in the southern part of the Walla Walla basin, just to the north and west of Milton-Freewater the shallow aquifer is composed chiefly of coarse gravel which transmits water quite readily. In the areas where coarse gravels are common, water from the main streams and numerous canals percolates into the gravel aquifer. Downslope from these two areas, water is transmitted less readily because the materials become finer grained, and layers of clay and silt occur locally in the aquifer. As the water in the aquifer moves toward the center of the valley, into lower altitudes, it encounters these finer-grained materials which cannot transmit water as quickly as the coarse materials supplying them. In these areas, the water is forced to discharge from the aquifer as springs. MacNish estimated that the amount of water that flows into and through the aquifer in this manner is about 50,000 acre-feet per year. As of MacNish's report (1973), the estimated total amount of water flowing through the aquifer, including pumpage from all of the irrigation wells tapping this aquifer, and the total spring flow, was at least 75,000 acre-feet per year.

MacNish likened the gravel aquifer to a large surface reservoir that has been filled with rocks. He estimated that between the rocks are gaps or spaces that comprise about 20% of the total volume of the gravel aquifer. In the Walla Walla River Basin, the gravel aquifer is about 20 miles long, 10 miles wide, and averages more than 200 feet in thickness. Even though this reservoir is 80% rock materials, the remaining 20% will accommodate more than 5 million acre-feet of water. The aquifer's total storage capacity cannot be utilized, however, due to practical limitations which prevent the removal of all of the water from the aquifer. MacNish estimated that quantities which more likely approximate the manageable reservoir capacity of the gravel aquifer are perhaps as much as 1 million acre-feet.

Oregon Health Division (1991) summarized hydrogeologic evidence in the area and indicated that the Walla Walla River infiltrates into the subsurface, and although the alluvial aquifer is confined locally, the confining layer is not impermeable nor continuous throughout the region, which implies that conduits from the surface to the aquifer probably exist. Comparison of static water levels (SWLs) in the wells with the river bottom elevation shows that the SWLs are at lower elevations than the river. Additional evidence shows that SWLs decrease away from the river. Both of these observations indicate that groundwater does not support base flow of the Walla Walla River. The river is, in fact, a discharging, or losing, stream at this point.

Other evidence that supports the notion that the river is a losing stream is a conductivity study. The conductivity of a water sample is proportional to the amount of dissolved solids in the water. Generally, the greater the amount of dissolved solids in the water, the greater is the water's conductivity. When solids dissolve in water, they tend to become polarized; that is, they are charged ions, rather than neutral elements or compounds. Because of their charge, ions are able to conduct electricity, so the greater the number of ions in the water, the greater is that water's ability to conduct electricity, and hence its conductivity is high. The total dissolved solid (TDS) load of an aquifer is a function of various factors, including aquifer mineralogy, residence time (i.e., how long the water has been in contact with aquifer materials), and how fast the

groundwater is moving. In a given aquifer, waters with longer residence times, or with lower velocities, will have higher conductivity (TDS).

The conductivity of the Walla Walla River was measured at two locations, and both values were approximately the same (53 μMhos/cm). Wells in close proximity to the river have conductivity values only slightly higher than the river (55 - 75 μMhos/cm). Well water conductivities along lines perpendicular to the river show increasing conductivity away from the river. At a distance of about 2/3 mile west of the river, well water conductivities exceed 100 μMhos/cm, while at about ½ mile east of the river groundwater conductivities exceed 160 μMhos/cm.

There is no evidence to suggest that there is a systematic and significant difference in aquifer mineralogy that occurs in the shallow aquifer that could account for the observed variation in groundwater conductivity. Furthermore, if groundwater was providing base flow to the river, the groundwater closest to the river would have had the greatest residence time, and hence should show the highest conductivity. Such a scenario would imply that groundwater conductivity increases toward the river. Since this is not what is observed, the most probable explanation then is that the Walla Walla River water, with its relatively low TDS, is discharging into the alluvium. As the water migrates away from the river, the TDS of the water progressively increases, and this is what we see. In summary then, hydrogeological and geochemical data are consistent with the hypothesis that discharge from the Walla Walla River significantly influences the shallow aquifer in the Milton-Freewater area.

2.5 Previous Work

In 1976 the Umatilla County Health Department required some public water systems to install chlorination treatment because of coliform bacteria problems.

In 1985 the City of Milton-Freewater conducted a study of well depths in the area, in which 288 wells were surveyed.

In 1988 the OSU Extension Service sampled 40 private wells, 70% of which tested positive for total coliform bacteria.

In a separate OSU 1988 pesticide study, 10 wells were sampled and found to contain nitrate levels ranging from 0.51 ppm to 1.20 ppm.

In 1990 the Health Division required a licensed restaurant to close several times because water quality did not meet standards. Despite a change in ownership and the drilling of a new well, the restaurant still could not operate because the subsurface sewage system was inadequate.

In 1991 the Health Division conducted a health hazard sanitary survey, in which 35 wells were sampled. Seventeen of the wells (49%) tested positive for total coliform bacteria. One of the

wells (3%) tested positive for E-coli bacteria. The study concluded that "Of the 28 wells that we judged to not be vulnerable to surface water contamination, 15 (54%) were positive for total coliform." Another conclusion of the study was that there was no apparent correlation between well depth and the presence of coliform bacteria. Furthermore, the contaminants seemed to be distributed throughout the entire aquifer. According to the study, the aquifer in the region is predisposed to contamination due to the coarse grained nature of the soils, which allows for significant surface water influence, and the presence of confined animal feeding operations (CAFOs), plus individual septic systems. Although some of the wells were free from contamination during the study, it is deemed likely that these wells may be subject to contamination during other seasons of the year.

In 1991 Dennis Nelson of the Health Division summarized the geology of the area, and stated that the combined thickness of the lake derived and wind blown deposits is from 200 to 250 feet. He said that hydrogeologic evidence indicates that the Walla Walla River water infiltrates into the subsurface in the area, and that local confining layers in the area are not continuous, and are not impermeable.

In 1992 - 1993 the Health Division conducted a special microbe study for the EPA. Samples were taken from the Outwest Motel well before any treatment equipment. A sample was taken every month for a year. The results indicated:

- Every sample had coliform bacteria
- 5 showed fecal bacteria and viral indicators
- 6 positive tests for E-coli
- 9 positive tests for Somatic Coliphage
- 4 positive tests for Enterovirus (Reovirus and unknown)

In 1996 the OSU Extension Agents conducted a study titled "Nitrates and Bacteria in Groundwater: a Second Look." Among the highlights pertinent to the Milton-Freewater area are the following:

- Of 29 wells sampled in June 1996, 23 (77%) tested positive for coliform bacteria, and 6 (20%) also tested positive for E-coli bacteria.
- Nitrate levels ranged from 0.80 ppm to 14.00 ppm, with an average of 3.90 ppm.
- Of 15 wells sampled in August 1996, 7 (47%) tested positive for coliform bacteria, while none tested positive for E-coli.

- 30 wells were tested for nitrates in August 1996, with a range of 0.70 ppm to 8.60 ppm, and an average of 4.14 ppm.

- Well depth had no clear influence on the presence of coliform bacteria or nitrates.

- Of 40 wells tested in May 1988, the average nitrate level was 1.00 ppm, and 28 (70%) of these wells tested positive for the presence of coliform bacteria.

- Of 24 wells tested in July 1996, average nitrate levels were 3.70 ppm, and 20 of these wells (83%) tested positive for the presence of coliform bacteria.

- Coliform bacteria appear in most of the wells on a regular basis, but its presence can be erratic.

- Potential sources of contamination in the area are fertilizers, human waste and septic systems, and livestock waste.

2.6 Oregon Health Division Real Estate Transaction Groundwater Testing

Since 1989, the Oregon Groundwater Protection Act (Oregon Revised Statutes 468B.150 through 468B.185) has required that nitrate testing of groundwater from domestic wells during property transactions be conducted. This information is submitted to the OHD. Analytical results from 46 water well tests, sampled from 10/25/89 to 11/20/96, in and around the study area, show that 3 wells had nitrate values that were at or above the drinking water standard of 10 mg/l. Two wells had nitrate values between 5.0 mg/l and 10.0 mg/l. The nitrate values from the remaining 41 wells were below 5.00 mg/l. This data is summarized in Appendix 1.

2.7 Oregon Health Division Public Drinking Water Supply Testing

The OHD requires that testing of public water supplies (PWS) be conducted. This includes restaurants, hotels, mobile home parks, and any drinking water supply that is regularly accessible to the general public. Water samples from 13 Public Water Supply facilities in and around the study area are periodically collected for nitrate and coliform bacteria testing. The nitrate and coliform bacteria discussed here are the data posted on the Oregon Health Division's Drinking Water Program web site. The highest nitrate value from the most recent sample from these PWS facilities was 7.1 mg/l, which is below the drinking water standard of 10.0 mg/l. No coliform bacteria were detected in the most recent sampling event from these 13 facilities. The data summarized above is presented in Appendix 2.

3.0 SAMPLING PROCEDURES

The sampling procedures followed during this project were in accordance with the Oregon Department of Environmental Quality's standard operating procedures. These procedures are described in (ODEQ 1986), (ODEQ 1991), (ODEQ 1995), and (ODEQ 1997).

4.0 REPORTING OF DATA TO WELL OWNERS

After analytical results were received and reviewed, DEQ sent letters to the well owners summarizing the entire sampling event and explaining the analytical results associated with their individual well. A copy of the analytical results for the sample collected from their well was attached to the letter. Examples of these letters are included in Appendix 3.

5.0 SAMPLE RESULTS

5.1 Overview

The groundwater samples collected during the study were analyzed for a wide variety of constituents including physical / chemical parameters, common ions, metals, nutrients, pesticides, bacteria, and volatile organic compounds. Table 1 is a summary of the April 1999 groundwater quality data, grouped by analyte type, for each well tested. Table 2 is an overview of the April 1999 groundwater quality data where, for each constituent analyzed, the maximum value observed, the average of the observed values, the minimum value observed, and the number of times it was detected is indicated. In addition, concentrations (or concentration ranges) from various sources are presented in Table 2 so that comparisons to the observed concentrations can be made. The sources of these comparison values are discussed in the following section. Discussions of specific results are presented in subsequent sections.

Results from duplicate samples (i.e., two samples from one well) were averaged into one number for inclusion in Table 1. Results from duplicate samples were not averaged for inclusion in Table 2. Therefore, the maximum value reported for a parameter in Table 2 might not necessarily be the value reported in Table 1. For example, the maximum Dacthal & Metabolites value in Table 1 is 21.7 ug/l, which is the average of the two values reported for the duplicate samples (18.7 and 24.6 ug/l) while the maximum Dacthal & Metabolites value in Table 2 is 24.6 ug/l.

5.2 Comparison Values

The sources of comparison values presented in Table 2 include Federal Drinking Water Standards[1], health advisory guidance levels[2], OAR 340-40-020 Reference Levels[3], Preliminary

[1] Either primary or secondary drinking water standards

[2] The concentration in drinking water that is not expected to cause adverse noncarcinogenic effects over a lifetime of exposure, with a safety margin.

Remediation Goals[4], naturally occurring levels[5], and water quality criteria protective of fish[6]. Only the Federal Primary Drinking Water Standards and the OAR Reference Levels are enforceable by law. However, not all parameters analyzed have federal drinking water standards or OAR Reference Levels. The other values are presented so that some evaluation of the detected concentrations can be made.

5.3 Physical / Chemical Properties

The physical /chemical properties analyzed included such things as temperature, pH, and hardness. Tables 1 and 2 provide a complete list of physical / chemical properties tested. Total dissolved solids (TDS) and pH are the only two physical / chemical properties analyzed that have water quality standards (Table 2). All of the observed TDS and pH values are within the water quality standards.

The distribution of TDS values detected in April 1999 is shown in Figure 3. As indicated in Figure 3, the lowest concentrations of TDS are located in the eastern and southern portion of the study area while the highest concentrations of TDS are located in the northwestern portion of the study area. As a general observation, lower TDS values were observed in areas close to the Walla Walla River and dominated by flood irrigation while higher TDS values were observed in areas farther from the River and dominated by sprinkler irrigation. A possible explanation for this distribution is a flushing of low TDS water (surface water is often lower in TDS than groundwater) down the soil column and through the aquifer by the relatively large amounts of water leaking from the unlined ditches associated with flood irrigation and the water percolating down from the River into the aquifer.

Other physical / chemical properties tested were either not detected, detected within naturally occurring levels, or detected but are not priority pollutants or carcinogenic (cancer causing). Therefore, no groundwater quality problems associated with physical / chemical properties were identified.

5.4 Common Ions

The common ions analyzed include such things as chloride, sodium, and sulfate. Tables 1 and 2 provide a complete list of common ions analyzed. Chloride, manganese, and sulfate are the only three common ions analyzed that have water quality standards (Table 2). All of the observed chloride, manganese, and sulfate concentrations are below the applicable standards. Other common ions were detected at naturally occurring levels. Therefore, no groundwater quality

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[3] Only presented if lower than federal standards

[4] EPA Region 9 established Preliminary Remediation Goals which are concentrations in water that are considered protective of humans, including sensitive groups, over a lifetime.

[5] Values cited in "Study of the Chemical Characteristics of Natural Water" by J.D. Hem, 1985. USGS Water Supply Paper 2254

[6] Water quality criteria protective of salmonid species of fish from "Quality Criteria for Water ", EPA 440/5-86-001, 1986.

problems associated with common ions were identified.

5.5 Metals

The metals analyzed include such things as arsenic, lead, and copper. Tables 1 and 2 provide a complete list of metals analyzed. Ten metals analyzed have primary drinking water standards (Table 2). Five metals analyzed have secondary drinking water standards (Table 2). With the exception of iron, no metals were detected above water quality standards. Iron was detected at one well (UMA301; Figure 2) at a concentration slightly above the secondary drinking water standard. Secondary drinking water standards are regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) rather than for health effects. Therefore, the iron concentration is not believed to represent a threat to human health or the environment.

With the exception of lanthanum, all other metals were either not detected, or detected at naturally occurring levels. A range of naturally occurring lanthanum in groundwater could not be identified. Because lanthanum is not a priority pollutant or a carcinogen, and because it was detected at relatively low levels, it is not believed to represent a problem to human health or the environment. Therefore, no groundwater quality problems associated with metals were identified.

It is interesting to note, however, that lanthanum was detected only in the 12 southern-most wells in the sampling network. These wells are closest to the location where the Walla Walla River exits the Blue Mountains and the alluvial fan is formed. Lanthanum is a rare-earth element most often found in nature in the mineral monazite. Monazite is an accessory mineral most often found in rocks such as granites, gneisses, and pegmatites. Monazite is often concentrated in the sands formed by erosion of the host rocks. The locations of the wells in which lanthanum was detected (i.e., on the Walla Walla River alluvial fan) suggests the source of lanthanum is naturally occurring and is located up the Walla Walla River valley.

5.6 Nutrients

The nutrients analyzed include phosphate, total organic carbon (TOC), and portions of the nitrogen cycle (ammonia, total kjeldahl nitrogen (TKN), and nitrate / nitrite). Phosphate was detected in all samples at naturally occurring levels and is not believed to represent groundwater quality problems (Table 2). Both ammonia and TKN were detected at very low levels (near their detection limits) and are not believed to represent groundwater quality problems (Table 2). Nitrate is the only nutrient analyzed that has a water quality standard (Table 2). Nitrate was detected in all wells but at concentrations below the 10 milligram per liter (mg/l) drinking water standard. Sources of nitrate can include runoff from fertilizer use, leaching from septic tanks and drainfields, and erosion of natural deposits. The detection of nitrate in all wells tested supports the results of previous studies, which indicated the widespread occurrence of nitrate in

the study area.

The distribution of nitrate detected in April 1999 is shown in Figure 4. As indicated in Figure 4, the lowest concentrations of nitrate are located in the eastern and southern portion of the study area while the highest concentrations of nitrate are located in the northwestern portion of the study area. As a general observation, lower nitrate concentrations were observed in areas close to the Walla Walla River and dominated by flood irrigation while higher nitrate concentrations were observed in areas farther from the River and dominated by sprinkler irrigation. A possible explanation for this distribution is a flushing of nitrate down the soil column and through the aquifer, and/or dilution of nitrate within the aquifer, by the relatively large amounts of water leaking from the unlined ditches associated with flood irrigation and the water percolating down from the River into the aquifer.

5.7 Pesticides

A few pesticides were detected in a few samples but no groundwater quality problems associated with pesticides were identified. A discussion of the ways in which pesticides were analyzed and the associated results is provided below.

Pesticides were analyzed two different ways in this study. In addition to the traditional five pesticide screens, a relatively new method (known as solid phase extraction) was performed. The new method can provide lower detection limits than the traditional analysis and, therefore, can provide better information on the existence of pesticide contamination in the environment. Tables 1 and 2 provide a list of the pesticide screens performed and the specific pesticides detected. A complete list of the pesticides analyzed is provided on the analytical laboratory reports included as Appendix 4.

As indicated in Table 2, two of the pesticides analyzed have water quality standards. These two pesticides (atrazine and simazine) were detected in four samples but at concentrations much less than their standards. Desethyl atrazine (which has no water quality standard) was detected in five samples at concentrations similar to the detected atrazine concentrations. Because the toxicology data for desethyl atrazine are similar to toxicology data for atrazine, it is likely that a water quality standard for desethyl atrazine would be similar to the atrazine standard. Therefore, the concentrations of desethyl atrazine are not believed to represent problems to human health or the environment.

Dacthal and its metabolites[7] were detected in six samples as part of the phenoxyherbicide screen. The maximum concentration detected (24.6 micrograms per liter) was much less than the 4,000 micrograms per liter health advisory level (Table 2). Therefore, the concentration of dacthal and metabolites is not believed to represent problems to human health or the environment.

[7] A metabolite is anything produced by the metabolism of dacthal (i.e., a breakdown product).

Three pesticides (chlorpyrifos, dacthal, and terbacil) analyzed by the solid phase extraction method were estimated to be present at very low levels, actually below the method detection limit. The trace amounts of these pesticides are not believed to represent problems to human health or the environment.

5.8 Bacteria

Bacteria (specifically *E. Coli* and/or fecal coliform) were the only analytes detected at levels of concern in any of the wells sampled. Bacteria were detected in samples collected in April 1999 at the four wells indicated in Figure 5 (UMA285, UMA286, UMA287, and UMA297) at relatively low concentrations (Table 1). *E. Coli* and fecal coliform bacteria are associated with human and animal fecal waste. Therefore, sources of *E. Coli* could include sewage treatment plants, septic systems, agricultural and livestock operations, and wildlife. Based on the relatively low bacteria concentrations and the distribution of the affected wells, a single source of bacteria is not believed to have affected all four wells. Rather, it is more likely that multiple sources of bacteria affected these wells.

As indicated in Section 2.5, bacteria have historically been detected in groundwater in the study area. The locations and concentrations of bacteria have varied widely.

These four wells were resampled on October 28, 1999. Results of the resampling indicate all four samples contained no detectable *E. Coli* or fecal coliform bacteria. These four wells were not shock treated between April 1999 and October 1999. These results are consistent with results from the 1996 OSU study where the presence of coliform bacteria was erratic.

5.9 Volatile Organic Compounds

The groundwater samples were analyzed for 63 volatile organic compounds (VOCs). The specific VOCs tested are indicated on the analytical laboratory reports included as Appendix 4 and include compounds found in petroleum products (*e.g.*, gasoline and diesel) and solvents (*e.g.*, degreasers and dry cleaning operations). No VOCs were detected in any of the samples (Table 2). Although low levels of some VOCs can be naturally occurring, the presence of VOCs in groundwater is usually indicative of contamination from factories, landfills, dry cleaning operations, petroleum storage tanks, etc. Therefore, no groundwater quality problems associated with VOCs were identified.

5.10 Evaluation of Water Quality Results With Respect To Well Construction Details

The well logs for the study area wells were examined by WRD personnel. Based on this examination, three wells were identified which potentially have deficient seals. These wells include UMA285, UMA296, and UMA304. A complete well log for UMA310 was not available

for review. Therefore, it was not possible to evaluate the well seal for this well.

An evaluation of the water quality results was conducted to evaluate potential migration of contaminants along a potentially deficient well seal. A discussion of this evaluation is provided below. It is important to note that each well used in this study was visually inspected for evidence of faulty construction or maintenance prior to collecting groundwater samples, and none was found.

If agricultural land is located near a well, pesticides and nutrients (such as nitrate) are contaminants potentially found at land surface which could be transported to the subsurface along a deficient well seal. If livestock are located near a well, nitrates and bacteria are contaminants potentially found at land surface which could be transported to the subsurface along a deficient well seal.

The groundwater quality data from all wells were evaluated for the presence of the indicator parameters mentioned above. In addition, the well depths were evaluated with respect to presence of the indicator parameters. In summary, these indicator parameters were detected in both the "suspect" wells and the remaining "non-suspect" wells, and no water quality results were found which caused the conclusion that contaminants are being transported along a deficient seal. Details of the evaluation include:

- Pesticides were detected in the 4 suspect wells and 10 of the remaining 26 wells. Of the 7 pesticides detected, the maximum concentration of 3 pesticides was detected in one of the suspect wells.

- As previously mentioned, nitrate was detected in all study area wells. The maximum nitrate concentration detected was in one of the suspect wells. However, the pattern of nitrate distribution throughout the study appears natural and does not suggest the presence of poorly constructed or maintained wells.

- Of the 4 wells in which bacteria were detected, one of these wells is a suspect well. The maximum bacteria concentrations were not detected in a suspect well.

- The four suspect wells are not the shallowest or the deepest wells used in the study. The presence of the indicator parameters in deep wells but not in shallow wells could suggest contaminant migration along a deficient seal. The presence of indicator parameters in shallow wells but not in deep wells could suggest a natural contaminant migration through the subsurface.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Based on the information presented above, the following conclusions were made:

- Bacteria (specifically *E. Coli* and/or fecal coliform) were the only analytes detected at levels of concern in any of the wells sampled in April 1999.

- Bacteria were detected at low levels (< 15 cfu/100 ml) in 4 of 30 wells sampled in April 1999.

- When resampled in October 1999, no bacteria were detected in samples from the 4 wells.

- The presence of low levels of bacteria in April 1999 and absence of bacteria in October 1999 is consistent with the erratic bacteria occurrence noted in previous studies.

- Nitrate was detected in all wells but at concentrations below the 10 mg/l drinking water standard.

- The lowest concentrations of nitrate and TDS were located in the eastern and southern portion of the study area while the highest concentrations of nitrate and TDS were located in the northwestern portion of the study area.

- Lower nitrate and TDS concentrations were observed in areas close to the Walla Walla River and dominated by flood irrigation while higher nitrate and TDS concentrations (as high as 6.6 mg/l nitrate and 310 mg/l TDS) were observed in areas farther from the river and dominated by sprinkler irrigation.

- A possible explanation for the nitrate and TDS distribution is a flushing of low TDS water (surface water is often lower in TDS than groundwater) down the coarse-grained soil column and through the coarse-grained aquifer, and/or dilution of nitrate within the aquifer, by the relatively large amounts of water leaking from the unlined ditches associated with flood irrigation and the water percolating down from the River into the aquifer.

- Although examination of the study area well logs identified four wells with potentially deficient well seals, no water quality results were found which caused the conclusion that contaminants are being transported along a deficient seal.

6.2 Recommendations

Based on the conclusions presented above, the following recommendations were made:

- Due to the erratic occurrence of bacteria and the historical presence of nitrate and bacteria throughout the study area, periodic sampling and analysis of bacteria and nitrate from private drinking water sources is recommended.

- Citizens within the study area interested in learning about the health effects of nitrate and bacteria and/or available technology to treat nitrate and bacteria in their drinking water systems, should contact the Oregon Health Division.

- Citizens in the study area should be aware of, and attempt to minimize, materials and activities, which can contribute to groundwater contamination.

7.0 LIST OF REFERENCES

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Figure 1
Study Area Location Map
April 1999 Milton-Freewater Groundwater Quality Study

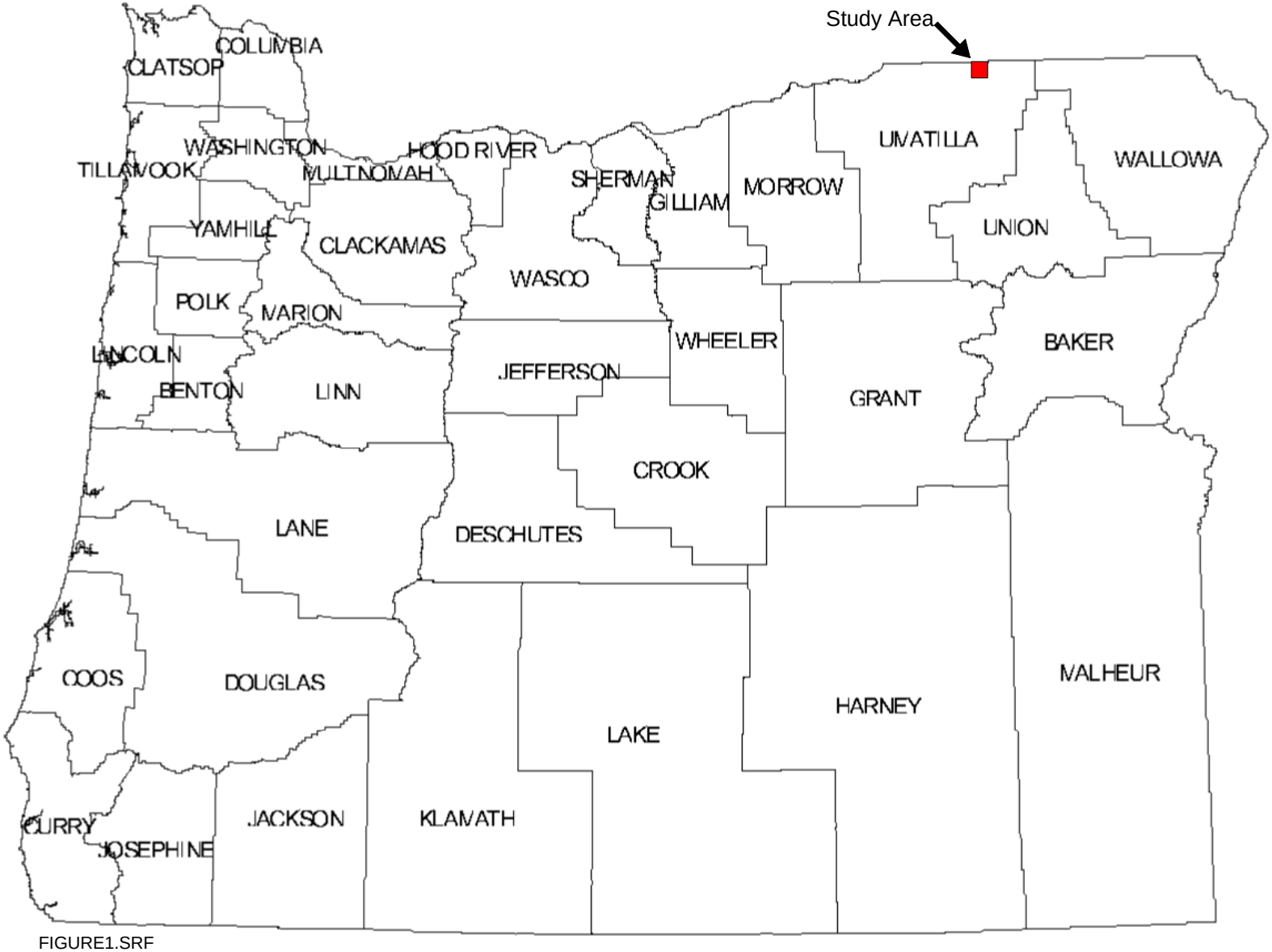
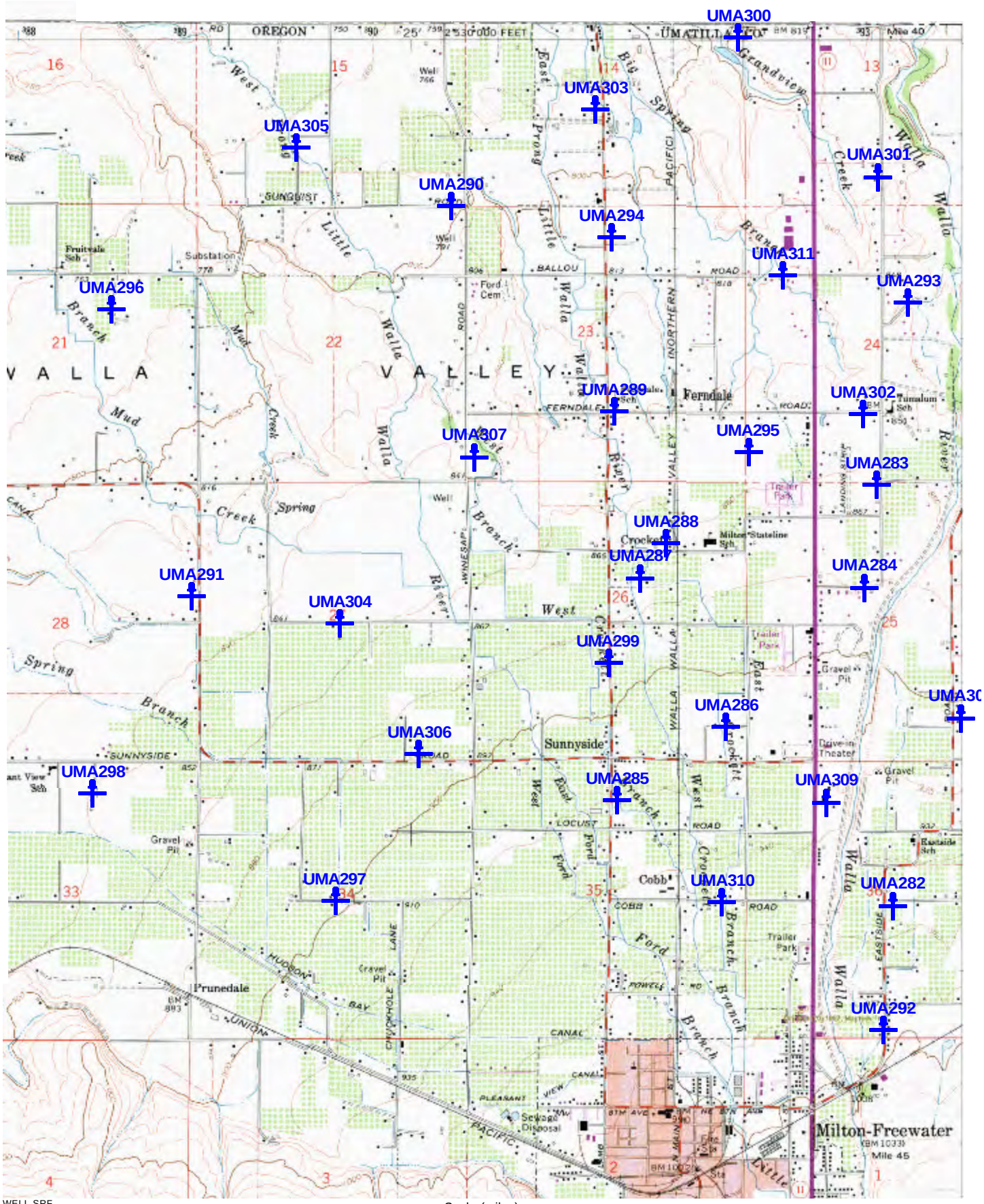


FIGURE1.SRF

Figure 2
Well Location Map
April 1999 Milton-Freewater Groundwater Quality Study



WELL.SRF

Figure 3
Total Dissolved Solids Concentrations
April 1999 Milton-Freewater Groundwater Quality Study

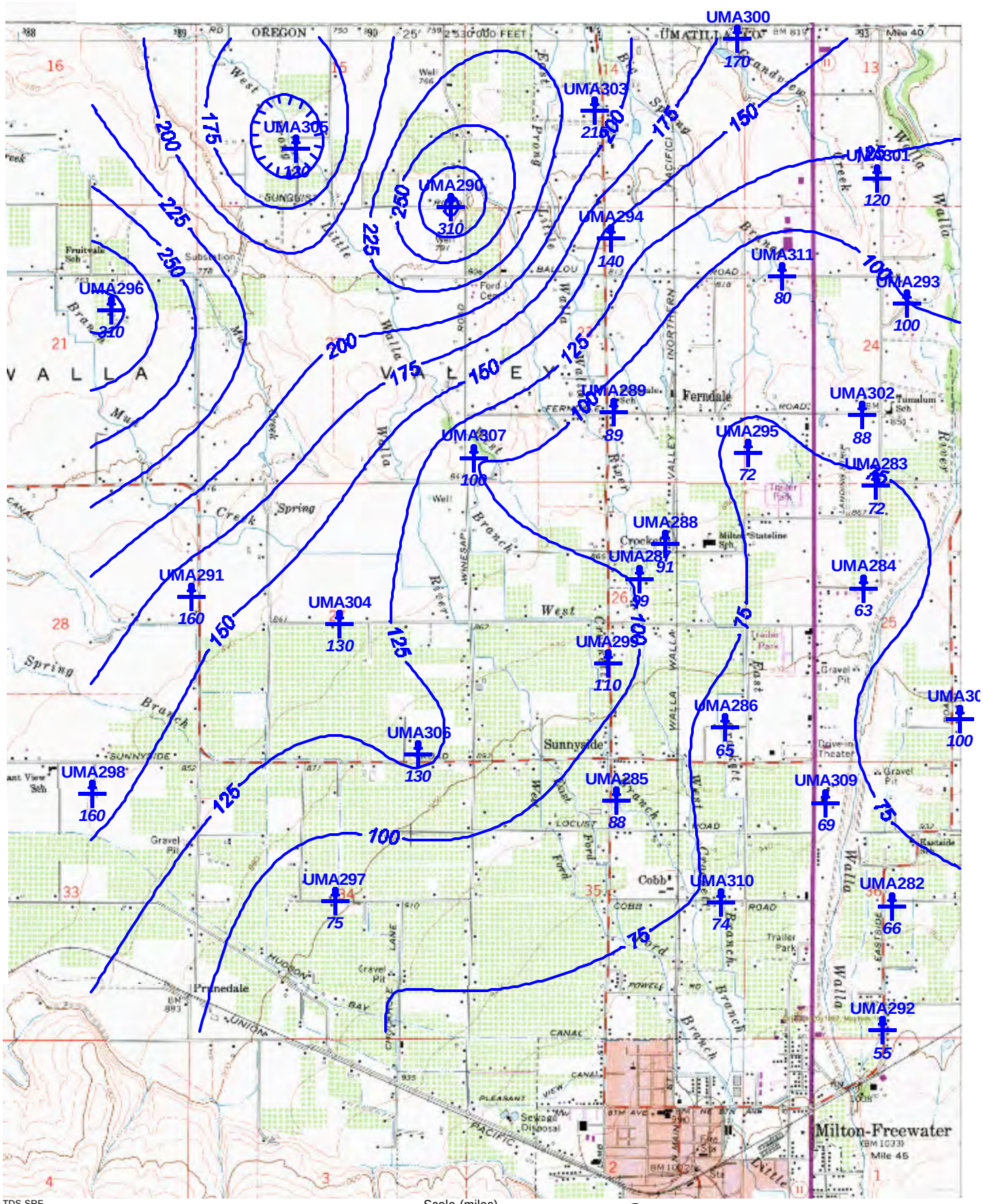


Figure 4
Nitrate Concentrations
April 1999 Milton-Freewater Groundwater Quality Study

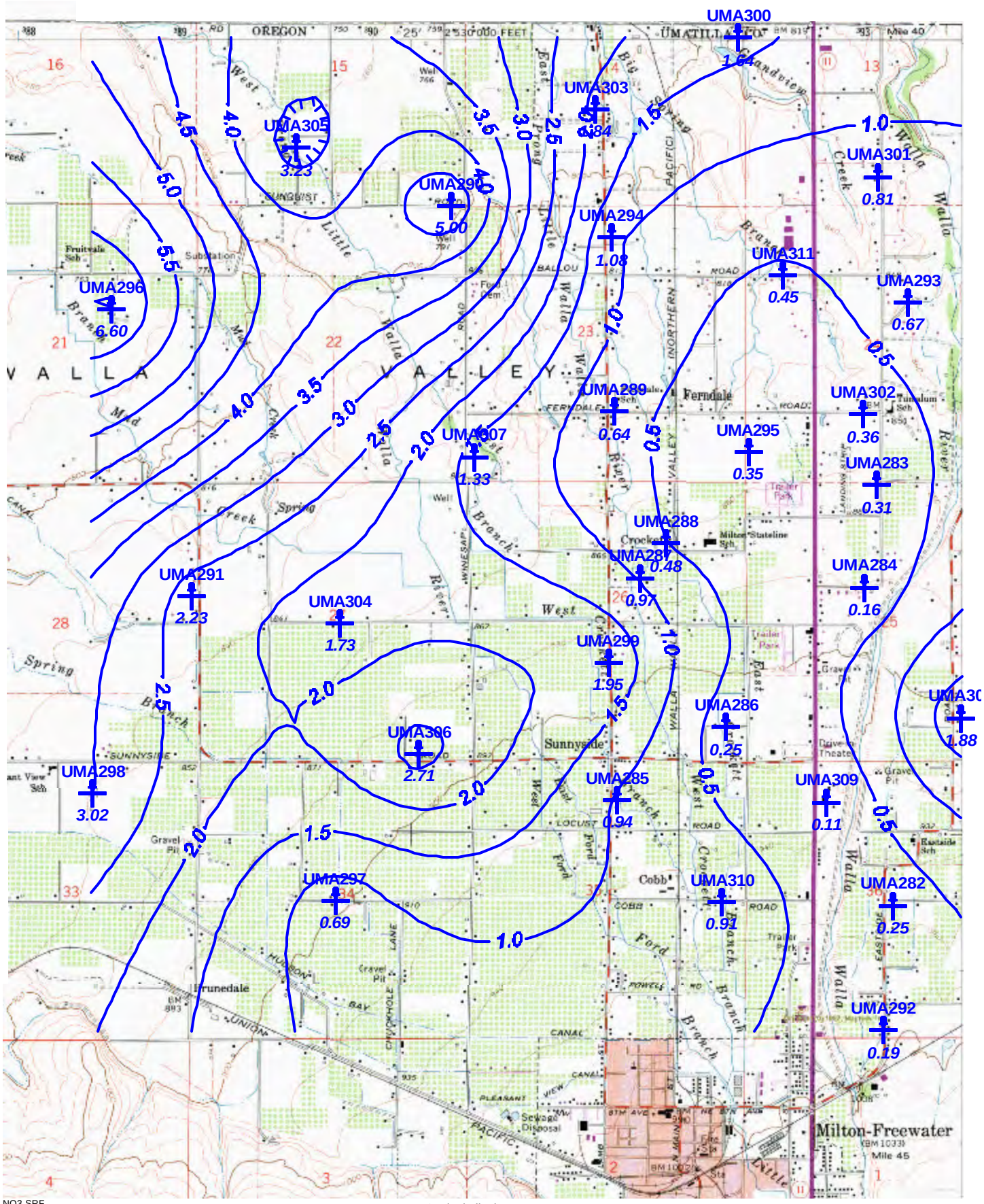
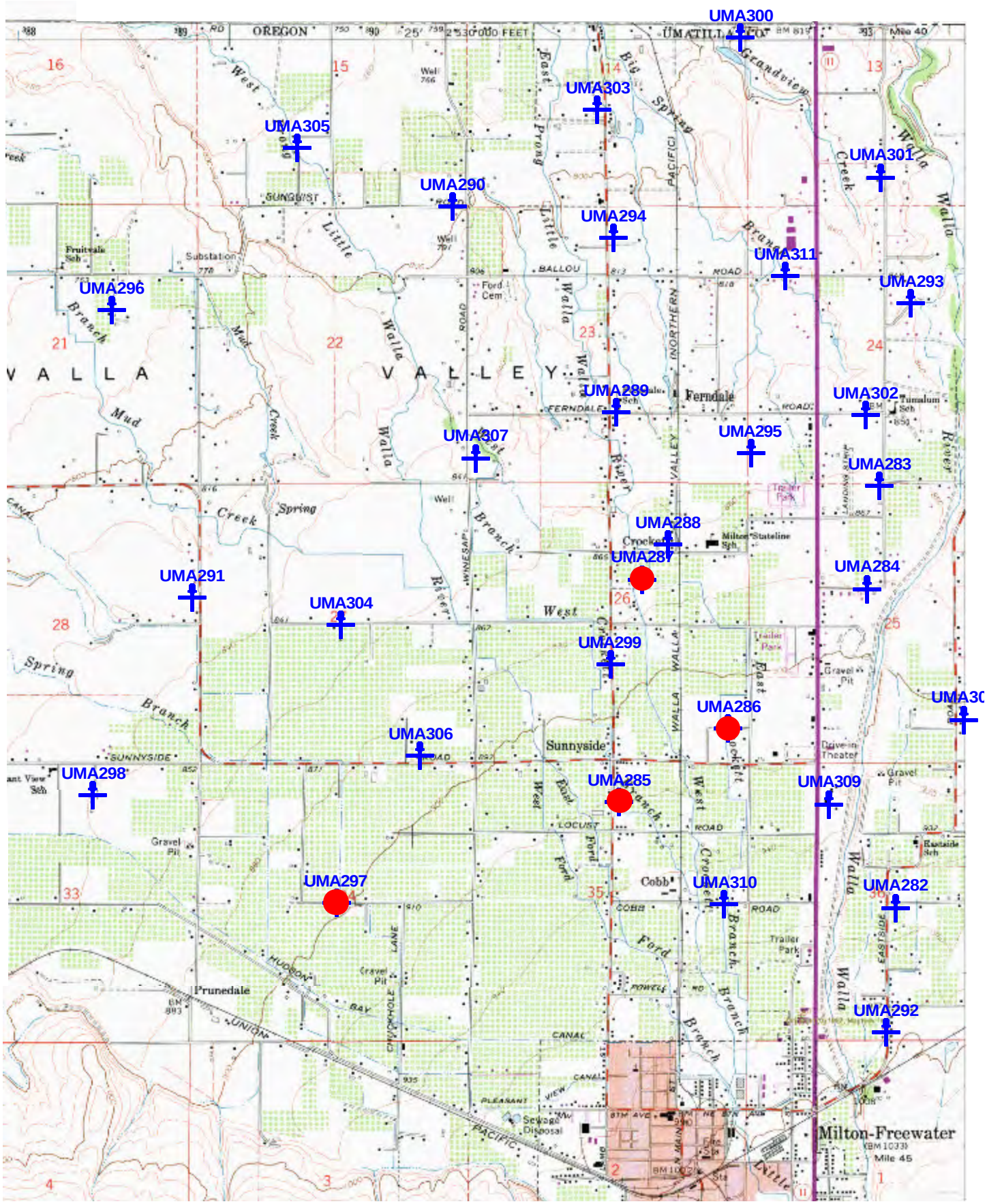


Figure 5
Locations Of Detected Bacteria
April 1999 Milton-Freewater Groundwater Quality Study



● = Well In Which Bacteria Were Detected

Table 1
Groundwater Quality Summary
April 1999 Milton-Freewater Groundwater Quality Study

Analyte (units)	Well ID																													
	UMA282	UMA283	UMA284	UMA285	UMA286	UMA287	UMA288	UMA289	UMA290	UMA291	UMA292	UMA293	UMA294	UMA295	UMA296	UMA297	UMA298	UMA299	UMA300	UMA301	UMA302	UMA303	UMA304	UMA305	UMA306	UMA307	UMA308	UMA309	UMA310	UMA311
Sample Date	4/15/1999	4/13/1999	4/13/1999	4/14/1999	4/14/1999	4/14/1999	4/14/1999	4/13/1999	4/13/1999	4/14/1999	4/15/1999	4/12/1999	4/13/1999	4/13/1999	4/13/1999	4/15/1999	4/14/1999	4/14/1999	4/13/1999	4/12/1999	4/12/1999	4/13/1999	4/14/1999	4/13/1999	4/14/1999	4/13/1999	4/15/1999	4/14/1999	4/15/1999	4/12/1999
Physical / Chemical Properties																														
Alkalinity (mg/l)	30	36	29	41	28	44	34	43	140	73	28	52	68	34	196	39.5	94	45	86	61	39	117	60	59	64	59	58	26	41	38
COD (mg/l)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Conductivity (uMhos/cm)	74	83	67	102	69	107	84	101	482	181	68	120	168	78	474	93.5	234	124	242	153	91	279	151	167	172	142	146	61	101	88
Hardness (mg/l)	27.5	30	23.1	31.1	21.5	35.3	25.3	36.8	185	65.3	24.1	48.4	59.8	28.8	191	35.3	86.3	40.8	84.7	58.2	34.2	108	52.3	63.7	59.2	56.5	61.2	18.9	37.3	33.1
pH (s.u.)	7.1	7.1	7.2	6.7	7.0	6.7	6.9	7.0	7.1	6.9	7.1	7.2	7.2	7.0	7.1	6.9	6.8	6.8	7.3	7.1	6.9	7.2	6.7	6.9	6.9	7.9	7.1	7.1	6.9	7.2
TDS (mg/l)	66	72	63	88	65	99	91	89	310	160	55	100	140	72	310	75	160	110	170	120	88	215	130	120	130	100	100	69	74	80
Temp (C)	10.5	9.9	8.2	15.5	12.3	14.2	12.8	12.9	13.0	14.2	10.2	11.2	12.5	9.2	13.7	11.7	13.7	15.0	11.7	10.9	10.2	12.7	14.5	12.7	14.4	13.5	12.1	8.5	14.4	10.0
TOC (mg/l)	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TSS (mg/l)	<1	1	1	<1	<1	<1	<1	1	1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	2	<1	1	<1	<1	<1	1	<1	<1	2	<1
Common Ions																														
Bromide (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Calcium, Total (mg/l)	6.89	7.32	6.15	8.93	6.09	8.81	6.59	8.58	44.0	15.9	6.63	11.4	15.2	6.67	44.9	8.99	21.8	10.4	20.2	13.6	8.70	25.6	12.2	14.8	15.2	14.0	15.7	5.10	9.72	7.83
Chloride (mg/l)	0.7	0.7	0.6	1.4	0.7	1.5	0.8	1.0	24	1.9	0.7	1.1	2.5	0.8	8.6	0.8	3.3	1.6	7.4	2.8	0.7	4.1	1.6	3.4	2.5	1.4	1.4	0.5	1.1	0.9
Magnesium (mg/l)	2.49	2.92	2.42	3.21	2.15	3.26	2.53	3.47	18.8	6.45	2.28	3.95	6.93	2.70	19.5	3.31	7.96	3.88	8.10	5.72	3.42	11.1	5.01	6.41	5.38	5.45	5.22	1.80	3.36	3.22
Manganese II (mg/l)	0.00090	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00180	<0.00020	<0.00020	0.0008	0.00047	<0.00020	0.00025	<0.00020	0.00046	0.00063	<0.00020	<0.00020	0.00049	0.00254	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00046	<0.00020	0.0004	0.00086
Potassium (mg/l)	1.79	2.32	1.98	2.69	2.12	2.85	2.39	2.83	8.27	3.68	1.80	2.72	4.16	2.28	8.97	2.75	4.40	3.13	4.77	3.55	2.12	5.53	3.43	3.71	3.41	2.61	2.83	1.71	2.87	2.19
Sodium (mg/l)	3.34	3.00	2.55	3.21	2.52	3.32	2.59	3.63	15.80	4.53	2.99	3.65	5.77	2.94	18.50	3.44	5.24	3.51	12.60	6.21	3.21	11.55	3.91	5.00	4.74	4.16	4.57	2.30	3.56	3.40
Sulfate (mg/l)	0.94	1.00	0.84	1.94	1.03	1.89	1.33	1.62	46.3	3.55	0.93	1.86	5.61	1.07	10.3	1.24	4.95	3.87	14.6	4.84	1.13	8.07	2.77	4.43	3.82	2.07	2.24	0.79	1.84	1.27
Metals																														
Aluminum, Total (mg/l)	0.042	<0.010	<0.010	<0.010	0.058	<0.010	<0.010	0.039	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.058	0.064
Antimony, Total (mg/l)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0034	<0.0030	<0.0030	<0.0030	0.0037	<0.0030	0.0052	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0044	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Arsenic, Total (mg/l)	<0.0020	<0.0020	0.0032	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0157	<0.0020	<0.0020	<0.0020	0.0078	<0.0020	0.0167	<0.0020	<0.0020	<0.0020	0.0089	<0.0020	<0.0020	0.0118	<0.0020	0.0027	<0.0020	0.0042	<0.0020	<0.0020	<0.0020	<0.0020
Barium, Total (mg/l)	0.0080	0.0070	0.0045	0.0133	0.0084	0.0127	0.0088	0.0114	0.0523	0.0223	0.0079	0.0149	0.0143	0.0060	0.0617	0.0129	0.0257	0.0161	0.0210	0.0162	0.0109	0.0185	0.0178	0.0161	0.0212	0.0092	0.0148	0.0058	0.0166	0.0070
Beryllium, Total (mg/l)	<0.00001	<0.00001	<0.00001	0.0001	0.0012	<0.00001	0.0001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0001	0.0001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0001	<0.00001	<0.00001	0.0001	<0.00001	<0.00001
Boron, dissolved (mg/l)	0.0161	0.0160	0.0139	0.0288	0.0165	0.0213	0.0180	0.0203	0.0414	0.0296	0.0146	0.0171	0.0259	0.0169	0.0551	0.0167	0.0301	0.0225	0.0242	0.0183	0.0162	0.0383	0.0265	0.0255	0.0283	0.0197	0.0210	0.0137	0.0195	0.0158
Cadmium, Total (mg/l)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium, Total (mg/l)	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0002	<0.0002	0.0002
Cobalt, Total (mg/l)	0.0061	0.0080	0.0082	0.0106	0.0109	0.0124	0.0126	0.0071	0.0060	0.0129	0.0054	0.0012	0.0067	0.0031	0.0056	0.0057	0.0106	0.0119	0.0052	0.0018	0.0025	0.0065	0.0115	0.0043	0.0102	0.0068	0.0051	0.0103	0.0066	0.0028
Copper, Total (mg/l)	0.0107	0.0066	0.0006	0.0352	0.0064	0.0085	0.0102	0.0324	0.0138	0.0088	0.0900	0.0033	0.0069	0.0078	0.0122	0.0227	0.0133	0.0061	0.0064	0.0019	0.0028	0.0125	0.0093	0.0073	0.0099	0.0218	0.0103	0.0060	0.0179	0.0031
Iron, Total (mg/l)	0.114	0.0651	0.125	0.0571	0.129	0.168	0.126	0.135	0.0336	0.0292	0.0664	0.0111	0.0318	0.162	0.0075	0.0659	0.105	0.0620	0.0114	0.316	0.0321	0.0135	0.0557	0.0200	0.0166	0.0282	0.0088	0.0800	0.219	0.0923
Lanthanum, Total (mg/l)	0.0113	<0.0010	<0.0010	0.0176	0.0190	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0135	<0.0010	<0.0010	<0.0010	<0.0010	0.0150	0.0177	0.0088	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0185	<0.0010	0.0132	0.0180	0.0147	<0.0010
Lead, Total (mg/l)	<0.0030	0.0030	0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0030	0.0046	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0031	<0.0030	<0.0030	<0.0030
Lithium, Total (mg/l)	0.0041	0.0010	0.0006	0.0015	0.0021	0.0008	0.0006	0.0005	0.0050	0.0013	0.0034	0.0011	0.0012	0.0006	0.0053	0.0031	0.0014	0.0011	0.0038	0.0010	0.0005	0.0038	0.0017	0.0026	0.0014	0.0016	0.0048	0.0020	0.0033	0.0021
Mercury (mg/l)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum, Total (mg/l)	<0.0004	0.0007	0.0006	0.0009	0.0009	0.0010	0.0008	0.0005	0.0006	0.0007	<0.0004	0.0005	0.0005	<0.0004	0.0006	<0.0004	0.0010	0.0007	0.0006	0.0011	0.0005	0.0006	0.0009	0.0006	0.0007	0.0005	<0.0004	0.0006	<0.0004	0.0006
Nickel, Total (mg/l)	0.0002	0.0002	0.0003	0.0009	0.0008	0.0007	0.0007	0.0003	<0.0002	0.0005	0.0002	0.0006	<0.0002	0.0005	<0.0002	0.0004	0.0009	0.0008	<0.0002	0.0004	0.0003	0.0002	0.0007	0.0004	0.0010	0.0003	0.0004	0.0008	0.0006	0.0004
Selenium, Total (mg/l)	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Silicon as SiO2, (mg/l)	35.7	35.6	33.0	40.1	35.9	43.1	40.8	41.4	48.6	47.3	32	38.3	46.5	35.3	50.1	35.4	46.0	43.5	40.3	38.2	35.6	55.0	46.0	44.8	42.4	34.3	41.8	31.8	39.8	36.0
Silver, Total (mg/l)	0.0005	0.0002	0.0060	0.0006	0.0005	0.0003	0.0004	0.0002	0.0002	0.0003	0.0005	<0.0002	0.0002	0.0002	0.0005	0.0004	0.0009	0.0006	0.0005	<0.0002	<0.0002	0.0004	0.0004	0.0003	0.0007	0.0002	0.0002	0.0008	0.0004	<0.0002
Thallium, Total (mg/l)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Vanadium, Total (mg/l)	0.0035	0.0074	0.0075	0.0038	0.0037	0.0042	0.0048	0.0067	0.0119	0.0066	0.0026	0.0049	0.0109	0.0066	0.0125	0.0024	0.0045	0.0041	0.0095	0.0069	0.0062	0.0251	0.0046	0.0069	0.0046	0.0149	0.0033	0.0022	0.0031	0.0061
Zinc, Total (mg/l)	0.0018	0.0198	0.0755	0.0075	0.0173	0.0037	0.0174	0.0057	0.1150	0.0122	0.0340	0.0331	0.0901	0.0055	0.0025	0.0024	0.2120	0.0017	0.0184	0.0297	0.0548	0.0249	0.0252	0.0083	0.0297	0.0723	0.1120	0.1060	0.0030	0.0059
Nutrients																														
Ammonia-N (mg/l)	0.02	<0.02	<0.02	0.03	<0.02	0.02	0.02	<0.02	0.02	0.03	0.03	0.03	<0.02	<0.02	<0.02	0.02	0.03	0.02	<0.02	0.02	0.04	0.02	0.02	<0.02	0.03	<0.02	0.02	0.02	0.03	<0.02
Nitrate + Nitrite (mg/l)	0.25	0.308	0.164	0.94	0.25	0.97	0.48	0.643	5.00	2.23	0.19	0.674	1.08	0.348	6.60	0.69	3.02	1.95	1.64	0.813	0.363	1.84	1.73	3.23	2.71	1.33	1.88	0.11	0.91	0.445
Phosphate, Total (mg/l)	0.05	0.05	0.05	0.07	0.07	0.05	0.06	0.04	0.08	0.06	0.04	0.04	0.06	0.04	0.08	0.05	0.06	0.06	0.05	0.05	0.04	0.12	0.06	0.05	0.05	0.04	0.04	0.05	0.05	0.04
TKN (mg/l)	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2
Pesticide Screens																														
Carmamate Screen	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
Nitrogen / Phos. Screen	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
Organochlorine Screen	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
Organophosphate Screen	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
Phenoxyherbicide Screen	Positive	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	Positive	None Detected	Positive	None Detected	None Detected	Positive	None Detected	None Detected	None Detected	None Detected	Positive	None Detected	None Detected	None Detected
Dacthal & Metabolites (ug/l)	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.21	<0.1	0.66	<0.1	<0.1	21.7	<0.1	<0.1	<0.1	<0.1	0.26	<0.1	<0.1	<0.1
Pesticides by Solid Phase Extraction																														
Atrazine (ug/l)	<0.01	<0.01	<0.01	0.0070	<0.01	<0.01	<0.01	<0.01	<0.01	0.0110	<0.01	<0.01	<0.01	<0.01	0.0190	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0170	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Atrazine, desethyl (ug/l)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0150	0.0170 E	<0.02	<0.02	<0.02	<0.02	0.0910	<0.02	0.0130 E	0.0090	0.0120	<0.02	<0.02	<0.02	0.0140 E	0.0120	0.0120 E	<0.02	0.0110 E	<0.02	<0.02	<0.02
Chlorpyrifos (ug/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0070 E	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dacthal (ug/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0090 E	<0.01
Simazine (ug/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0910	<0.01	0.0104	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Terbacil (ug/l)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0160 E	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bacteria																														
E. coli (cfu/100ml)	<2	<2	<2	<2	<2	6 est	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Fecal Coliform (cfu/100ml)	<2	<2	<2	2 est	2 est	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	14 est	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Volatile Organic Compounds																														
EPA 8260 VOCs	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected

Notes:
Results from duplicate samples (i.e., two samples from one well) were averaged into one number for inclusion in this table.
E or est = estimate
< = less than

Table 2
Groundwater Quality Overview
April 1999 Milton-Freewater Groundwater Quality Study

Constituent (units)	Maximum Value Observed	Average of Observed Values	Minimum Value Observed	# Times Detected (1)	Federal Primary Drinking Water Standard (2)	Federal Secondary Drinking Water Standard (3)	OAR 340-40-020 Reference Level (4)	Other Comparison Values	Any Problems Identified?
Physical / Chemical Properties									
Alkalinity (mg/l)	196	60	26	34					Probably Not; not a priority pollutant or carcinogen
COD (mg/l)	<5	<5	<5	0					No; not detected
Conductivity (uMhos/cm)	482	152	61	34				50 - 50,000 (7)	Probably Not; within naturally occurring levels
Hardness (mg/l)	191	56	18.9	34					Probably Not; not a priority pollutant or carcinogen
pH (s.u.)	7.9	7.0	6.7	34		6.5 to 8.5			No; within standard
TDS (mg/l)	310	119	55	34		500			No; less than standard
Temp (C)	15.5	12.3	8.2	34					Probably Not; not a priority pollutant or carcinogen
TOC (mg/l)	1	<1	<1	5					Probably Not; not a priority pollutant or carcinogen
TSS (mg/l)	2	<1	<1	11					Probably Not; not a priority pollutant or carcinogen
Common Ions									
Bromide (mg/l)	<0.05	<0.05	<0.05	0					No; not detected
Calcium, Total (mg/l)	44.9	13.7	5.1	34				approx. 300 mg/l in alluvial aquifers (7)	Probably Not; within naturally occurring levels
Chloride (mg/l)	24	2.6	0.5	34		250			No; less than standard
Magnesium (mg/l)	19.5	5.5	1.8	34				generally < 40 (7)	Probably Not; within naturally occurring levels
Manganese (mg/l)	0.00254	0.00081	0.00025	13		0.05			No; less than standard
Potassium (mg/l)	8.97	3.38	1.71	34				up to 50 (7)	Probably Not; within naturally occurring levels
Sodium (mg/l)	18.5	5.3	2.3	34				up to 1,000 (7)	Probably Not; within naturally occurring levels
Sulfate (mg/l)	46.3	4.6	0.79	34		250			No; less than standard
Metals									
Aluminum, Total (mg/l)	0.064	0.038	0.012	8		0.05 to 0.2			No; less than standard
Antimony, Total (mg/l)	0.0052	0.0042	0.0034	4	0.006				No; less than standard
Arsenic, Total (mg/l)	0.0167	0.0092	0.0027	9	0.05				No; less than standard
Barium, Total (mg/l)	0.0617	0.0161	0.0045	34	2		1		No; less than standard
Beryllium, Total (mg/l)	0.0012	0.0003	0.0001	7	0.004				No; less than standard
Boron, dissolved (mg/l)	0.0551	0.0230	0.0137	34				few tenths of mg/l (7)	Probably Not; within naturally occurring levels
Cadmium, Total (mg/l)	<0.0001	<0.0001	<0.0001	0	0.005				No; not detected
Chromium, Total (mg/l)	0.0003	0.0002	0.0002	8	0.1		0.05		No; less than standard
Cobalt, Total (mg/l)	0.0129	0.0072	0.0012	34				2.2 (6)	No; less than guidance concentration
Copper, Total (mg/l)	0.09	0.01	0.0006	34		1.3			No; less than standard
Iron, Total (mg/l)	0.322	0.084	0.0075	34		0.3			**Minor problem at 1 well**
Lanthanum, Total (mg/l)	0.019	0.0152	0.0088	12					Probably Not; not a priority pollutant or carcinogen
Lead, Total (mg/l)	0.0046	0.0033	0.003	6	0.015				No; less than standard
Lithium, Total (mg/l)	0.0053	0.0021	0.0004	34				generally a few mg/l (7)	Probably Not; within naturally occurring levels
Mercury (mg/l)	<0.00001	<0.00001	<0.00001	0	0.002				No; not detected
Molybdenum, Total (mg/l)	0.0014	0.0007	0.0005	27				generally < 0.01 (7)	Probably Not; within naturally occurring levels
Nickel, Total (mg/l)	0.0010	0.0005	0.0002	29				generally a few ug/l (7)	Probably Not; within naturally occurring levels
Selenium, Total (mg/l)	<0.0030	<0.0030	<0.0030	0	0.05		0.01		No; not detected
Silicon as SiO2, diss. (mg/l)	55	41	31.8	34				1 to 100 (7)	Probably Not; within naturally occurring levels
Silver, Total (mg/l)	0.006	0.0006	0.0002	29		0.1	0.05		No; less than standard
Thallium, Total (mg/l)	<0.0020	<0.0020	<0.0020	0	0.02				No; not detected
Vanadium, Total (mg/l)	0.0262	0.0071	0.0022	34				0.26 (6)	No; less than guidance concentration
Zinc, Total (mg/l)	0.212	0.0355	0.0016	34		5			No; less than standard
Nutrients									
Ammonia-N (mg/l)	0.04	0.02	<0.02	19				1.81 (8)	No; less than guidance concentration
Nitrate + Nitrite (mg/l)	6.6	1.4	0.114	34	10				**No concentrations above standard, but some elevated values were detected**
Phosphate, Total (mg/l)	0.12	0.06	0.04	34				generally < 10 (7)	Probably Not; within naturally occurring levels
TKN (mg/l)	0.2	0.2	0.2	5					Probably Not; not a priority pollutant or carcinogen
Pesticide Screens									
Carmamate Screen	None Detected	None Detected	None Detected	0	variable				No; not detected
Nitrogen / Phos. Screen	None Detected	None Detected	None Detected	0	variable				No; not detected
Organochlorine Screen	None Detected	None Detected	None Detected	0	variable				No; not detected
Organophosphate Screen	None Detected	None Detected	None Detected	0	variable				No; not detected
Phenoxyherbicide Screen	Positive	None Detected	None Detected	6	variable				No; none above standards
Dacthal & Metabolites (ug/l)	24.6	7.4	0.2	6				4000 (5)	No; less than guidance concentration
Pesticides By Solid Phase Extraction									
Atrazine (ug/l)	0.019	0.014	0.007	4	3				No; less than standard
Atrazine, desethyl (ug/l)	0.091	<0.02	<0.02	5					Probably Not; toxicology data are similar to Atrazine
Chlorpyrifos (ug/l)	0.0070 E	<0.01	<0.01	2					No; trace amount estimated to be present
Dacthal (ug/l)	0.0090 E	<0.01	<0.01	1				4000 (5)	No; less than guidance concentration
Simazine (ug/l)	0.118	0.0507	0.0097	4	4				No; less than standard
Terbacil (ug/l)	0.0170 E	<0.02	<0.02	2					No; trace amount estimated to be present
Bacteria									
E. coli (cfu/100ml)	6 est	<2	<2	1	presence				**Yes (at 1 well), but resampling was negative**
Fecal Coliform (cfu/100ml)	14 est	<2	<2	3	presence				**Yes (at 3 wells), but resampling was negative**
Volatile Organic Compounds									
EPA 8260 VOCs	None Detected	None Detected	None Detected	0	variable				No; not detected

Notes:

(1) Samples from 30 wells plus 4 duplicate samples were collected totalling 34 samples.

(2) Primary Drinking Water Standards are legally enforceable standards that apply to public water systems for specific contaminants that can adversely affect public health.

(3) Secondary Drinking Water Standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water.

(4) Only presented if lower than the Federal Standard

(5) Lifetime Health Advisory which is the concentration in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety.

(6) The EPA Region 9 Preliminary Remediation Goals presented here are concentrations in water that are considered protective of humans, including sensitive groups, over a lifetime.

(7) Value cited in "Study and Interpretation of the Chemical Characteristics of Natural Water" by J.D. Hem, 1985. USGS Water Supply Paper 2254

(8) There is no drinking water guidance concentration for ammonia relating to human health. There is, however, an ammonia standard for salmonid fish species and is believed to be a lower value than would be necessary to protect human health. This standard is temperature and pH dependant. The value presented in this table is based on the pH and temperature of the sample exhibiting the maximum ammonia concentration.

APPENDIX 1

Oregon Health Division
Real Estate Transactions
Nitrate and Coliform Testing Data

APPENDIX 1
OREGON HEALTH DIVISION PUBLIC WATER SUPPLY
NITRATE AND COLIFORM TESTING DATA

SELLER	ADDRESS	CITY	CNTY CODE	TOWN SHIP	RANGE	SECTION	QT SECT	QT QT SECT	TAXLOT	DATE COLL	DATE RECD	COLLECTED	COLIFORM	NITRATE
DVA	RT1, BOX 203	MLTN-FREEWATER	30	6N	36E	30			100	10/25/89	2/20/90		N	0.1
DVA	RT 1 BO X148 A-2	MILTON-FREEWATE	30	6N	36E	30			6501	10/31/89	11/8/89	WP	N	0.5
DVA	RT3, BOX 20C	MILTON FREEWATE	30	5N	35E	4			300	10/31/89	11/22/89	WP	N	19.3
SNOW	RT3, BOX 157E	MILTON FREEWATE	30	6N	35E	24			1305	2/4/90	3/19/90		N	0.49
FHA	CHUCKHOLE LANE	MILTON FREEWATE	30	6N	35E	34			UNK	8/24/90	12/10/90	OT	P	3.52
REESE	RT2, BOX 77	MILTON-FREEWATE	30	6N	35E	30			1200	9/23/90	12/21/90	SL	N	5.4
STRADLEY	RT4, BOX 610 (BIRCH CREEK RD)	MILTON-FREEWATE	30	5N	37E	6			900	12/5/90	12/24/90	SL	P	5.4
PARSONS	RT3, BOX 158J	MILTON FREEWATE	30	6N	35E	25	B		1900	12/14/90	3/4/91	SL	N	0.5
WEBB	RT3, BOX 201	MILTON FREEWATE	30	6N	35E	23	C		2200	3/8/91	4/8/91	LB	N	0
MOLK	RT3, BOX 231	MILTON FREEWATE	30	6N	35E	25	B		1100	4/18/91	4/25/91	LB	N	0.6
DVA	RT2, BOX 274	MILTON FREEWATE	30	6N	35E	22			700	6/26/91	12/9/91	WP	N	3.2
ODVA	RT 2 BOX 274	MILTON-FREEWATE	30	6N	35E	22			700	6/26/91	10/22/91	WP	N	3.2
HUTCHINSON	RT3, BOX 65-C	MILTON FREEWATE	30	6N	35E	23	C		910	8/3/91	4/21/92	LB	N	2.1
BROADWAY FINANCE	ORCHARD ON WALLA WALLA RIVER	MILTON FREEWATE	30	5N	36E	19			4300	11/21/91	5/6/92	RE	N	1
ALLEN	RT3, BOX 129 H2	MILTON FREEWATE	30	6N	35E	14	D		400	12/5/91	4/13/92	LB	N	0.6
KUDERNA	RT3, BOX 142B	MILTON FREEWATE	30	6N	35E	24	A		208	12/20/91	1/14/92	LB	N	0.9
WHITE	RT2, BOX 154	MILTON FREEWATE	30	6N	35E	19			800	12/20/91	1/14/92	LB	N	2.6
ROBISON	RT3, BOX 208-D	MILTON FREEWATE	30	6N	35E	25	A		2300	2/27/92	3/11/92	LB	N	1
KNOTT	RT4, BOX 177	MILTON FREEWATE	30	6N	35E	35	B		500	4/6/92	5/20/92	LB	P	1.1
YOUTZ	RT3, BOX 194B	MILTON FREEWATE	30	6N	23E	35			1500	4/9/92	4/21/92	SL	N	1.3
WHITE	ROUTE 2 BOX 87-0	MILTON	30	6N	35E	19			1000	5/19/92	6/4/92	LB	N	2.9
SURFACE	RT 3 BOX 19A	MILTEN FREEWAT.	30	6N	35E	32			1300	5/21/92	6/9/92	LB	N	0.3
KIEL	RT 1 BOX 152A	MILTON-FREEWAT.	30	06N	35E	036			02400	7/23/92	8/12/92	LB	N	1.5
S.D.A. CHURCH	RT 1 BOX 157	MILTONFREEWATER	30							8/5/92	8/27/92	LB	U	1.02
LOKE	RT 3 BOX 231 A 1 CROCKETT RD	MILTON-FREEWAT.	30	06N	35E	035			00701	8/6/92	8/17/92	LB	N	1.3
PLEIER	RT 3 BOX 12990	MILTON FREEWATE	30							8/13/92	8/9/93	SL	N	1.3
RON DRENNEN	RT 1 BOX 65	MILTONFREEWATER	30	5N	36R	22			2101	2/12/93	3/30/93	LB	N	0.3
WAGGONER	RT 1 BOX 79	MILTON-FREEWATE	30	05N	36	22	SE	SE	1500	6/8/94	1/13/95	RA	N	0.32
WAGGONER	RT 1 BOX 78	MILTON-FREEWATE	30	05N	36	22	SE	SE	1500	6/8/94	1/13/95	RA	N	0.43
DAVE BREAUX	RT 2 BOX 89	MILTON-FREEWATE	30	06N	34	25			500	10/7/94	11/2/94		N	25
HARVEY SARGENT	RT 1 BOX 84-D	MILTON-FREEWATE	30	05N	36	25	SW	NW	402	12/20/94	1/13/95		N	4
MARIA CABRATES	RT 1 BOX 150-A	MILTON-FREEWATE	30	06N	35	36A			2700+	2/1/95	2/6/95		N	1.3
WILMA FRANK ESTATE	RT 2 BOX 194C	MILTON-FREWATER	30	6N	35	23C			400	2/16/95	3/27/95	RE	N	0.15
OSCAR KALLENBERGER	RT 3 BOX 204C	MILTON-FREEWATE	30	6N	35	26			1801	2/16/95	3/27/95	RE	N	0.96
E. JONES-LANGLEY	RT 3 BOX 231 A-A	MILTONFREEWATER	30	6N	35	25B			701	2/28/95	3/15/95	WP	N	0
SASSER	RT #3 BOX 25A	MILTONFREEWATER	30	6N	35	34B			4600	3/6/95	3/15/95	WP	N	1.41
RICH/VALERIE HAYES	RT 3 BOX 79	MILTON-FREEWATE	30	06N	35E	14C			1701	4/5/95	10/16/95	RE	N	1.86
HENRY WOODARD	RT 2 BOX 230	MILTONFREEWATER	30	6N	35	15			202*	4/21/95	5/1/95	WP	N	0.3
ED KEMMERER	RT 1 BOX 2-A	MILTON FREEWATE	30	05N	36E	7			1902	5/9/95	10/5/95	WP	N	3.46
LEROY WILSON	RT. 2 BOX 332	MILTON-FREEWATE	30	6N	35	34B			2000	5/15/95	8/11/95	LB	P	4.6
JOHNSON ESTATE	RT. 1 BOX 48 A	MILTON FREEWATE	30	5N	36	20			305	8/10/95	8/28/95	LB	N	2.75
RICHARD/MARTHA SMITH	RT 3 BOX 70-F	MILTON-FREEWATE	30	06N	35E	23			803	10/23/95	11/2/95	LB	N	4.3
ODVA	RT 1 BOX 160	MILTON-FREEWATE	30	06N	35E	36	SE		400	1/25/96	4/24/97	WP	N	1.2
N/A FRENCH	RT 1 BOX 12A	MILTON-FREEWATE	30	05N	36E	18	SW	NW	1501	7/11/96	2/25/97	LB	N	1.8
FLESHMAN	RT 3 BOX 4	MILTON-FREEWATE	30	06N	35E	28			401	8/5/96	3/27/97	LB	N	2.8
OSORID	RT 3 BOX 70	MILTON-FREEWATE	30	06N	35E	23B			804	11/20/96	2/25/97	LB	N	20

APPENDIX 2

Oregon Health Division
Public Water Supply
Nitrate and Coliform Testing Data

Appendix 2
Oregon Health Division Public Water Supply
Nitrate and Coliform Testing Data

		Most Recent Nitrate Data		Most Recent Coliform Data	
PWS ID	Public Water System Name	Date	Result (mg/l)	Date	Result
4105944	Brittany Farming, Inc.	23-Apr-97	0.0	23-Feb-97	None
4191243	Kelly's	no data	no data	28-Jul-99	None
4194531	Farmers Produce Outlet Co.	no data	no data	10-Apr-98	None
4190597	Ferndale Elementary	5-Sep-90	1.26	30-Sep-99	None
4100523	Green Acres MHP	8-Sep-98	0.87	6-Oct-99	None
4100524	Locust Mobile Village	21-Dec-95	0.57	4-Oct-99	None
4100522	City of Milton-Freewater	22-Apr-99	0.20	6-Oct-99	None
4194985	Milton-Stateline SDA School	14-Sep-98	0.0	15-Dec-98	None
4191247	The Oasis	17-Dec-98	0.8	18-Aug-99	None
4191237	Outwest Motel	no data	no data	28-Aug-98	None
4194964	Town & Country Deli	no data	no data	no data	no data
4100525	Villadom Mobile Home Park	24-Feb-98	0.3	12-Oct-99	None
4100521	Vincent Water Company	2-Dec-98	7.1	30-Aug-99	None

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **05944**	**BRITTANY FARMING INC**	System Type: S
Contact person: MARVIN HAIR		**Phone: (541)938-7698**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 24	Number of Connections: 1	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 05944 .... BRITTANY FARMING INC

Date		Source	Results mg/l	MCL mg/l
Apr 23, 1997	AA	WELL	0.0	10.0
May 21, 1996	A	EP for WELL	0.0	10.0
Mar 08, 1996	AA	WELL	0.0	10.0

Coliform Test Results

PWS ID: 05944 .... BRITTANY FARMING INC..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Feb 23, 1999	R	1		0	0	
Mar 30, 1998	R	1		0	0	
Nov 04, 1997	R	1		0	0	

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 91243	KELLY'S	System Type: N
Contact person: KATHERINE KELLY		**Phone: (541)938-4247**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by: L
Population: 25	Number of Connections: 1	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: ....

Date	Source	Results mg/l	MCL mg/l

Coliform Test Results

PWS ID: 91243 .... KELLY'S..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Jul 28, 1999	R	1		0	0	
Jan 21, 1999	R	1		0	0	
Nov 13, 1998	R	1		0	0	
Oct 28, 1998	R	1		1	0	KITCHEN TAP

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 94531	**FARMERS PRODUCE OUTLET COMPANY**	System Type: N
Contact person: GERRY REESE		**Phone: (541)938-4668**
County: Umatilla		
Active (1=Yes): 1	Agency: A	Licensed by: A
Population: 100	Number of Connections: 1	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: ....

Date	Source	Results mg/l	MCL mg/l

Coliform Test Results

PWS ID: 94531 .... FARMERS PRODUCE OUTLET COMPANY..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Apr 10, 1998	R	1		0	0	
Jan 06, 1998	R	1		0	0	
Aug 28, 1997	R	1		0	0	DELI

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

PWS ID: 41 **90597**	**FERNDALE ELEMENTARY**	System Type: P
Contact person: RAY CABLE, MAINT. SUP.		**Phone: (509)520-4547**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 250	Number of Connections: 1	
Operating from 09/01 to 06/15		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 90597 .... FERNDALE ELEMENTARY

Date		Source	Results mg/l	MCL mg/l
Sep 05, 1990	A	WELL	1.26	10.0

Coliform Test Results

PWS ID: 90597 .... FERNDALE ELEMENTARY..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Sep 30, 1999	R	1		0	0	
Jun 15, 1999	R	1		0	0	
Mar 31, 1999	R	1		0	0	
Dec 21, 1998	R	1		0	0	
Sep 30, 1998	R	1		0	0	
Jun 24, 1998	R	1		0	0	
Mar 27, 1998	R	1		0	0	
Dec 10, 1997	R	1		0	0	
Sep 10, 1997	R	1		0	0	

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **00523**	**GREEN ACRES MHP**	System Type: C
Contact person: BETTY SMITH		**Phone: (541)938-6979**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 80	Number of Connections: 75	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL #3 (NEW)	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 00523 .... GREEN ACRES MHP

Date	Source	Results mg/l	MCL mg/l
Sep 08, 1998	A EP for WELL #3 (NEW)	0.87	10.0
Sep 03, 1997	A EP for WELL #3 (NEW)	0.85	10.0
Nov 06, 1995	A EP for WELL #3 (NEW)	0.42	10.0
Mar 14, 1995	A EP for WELL #3 (NEW)	0.49	10.0
Sep 14, 1992	A WELL #3 (NEW)	1.1	10.0
Mar 02, 1988	A WELL #3 (NEW)	0.38	10.0
Jun 25, 1986	A WELL #3 (NEW)	1.5	10.0

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

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Coliform Test Results

PWS ID: 00523 .... GREEN ACRES MHP..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Oct 06, 1999	R	1		0	0	
Sep 14, 1999	R	1		0	0	
Jul 06, 1999	R	1		0	0	
Jun 01, 1999	R	1		0	0	
May 03, 1999	R	1		0	0	
Apr 05, 1999	R	1		0	0	
Mar 01, 1999	R	1		0	0	
Feb 01, 1999	R	1		0	0	
Jan 04, 1999	R	1		0	0	
Dec 01, 1998	R	1		0	0	
Nov 02, 1998	R	1		0	0	
Oct 05, 1998	R	1		0	0	
Sep 01, 1998	R	1		0	0	
Aug 03, 1998	P	1	07/06/1998	0	0	56
Jul 27, 1998	P	1	07/06/1998	0	0	16
Jul 20, 1998	P	1	07/06/1998	0	0	#72
Jul 13, 1998	P	1	07/06/1998	0	0	68
Jul 06, 1998	R	1		1	0	#68
Jun 01, 1998	R	1		0	0	
May 04, 1998	R	1		0	0	
Apr 06, 1998	R	1		0	0	
Mar 02, 1998	R	1		0	0	
Feb 02, 1998	R	1		0	0	
Jan 06, 1998	R	1		0	0	
Dec 01, 1997	R	1		0	0	
Nov 03, 1997	R	1		0	0	
Oct 14, 1997	P	1	10/06/1997	0	0	#56
Sep 16, 1997	P	1	08/26/1997	0	0	56
Sep 16, 1997	P	1	08/26/1997	0	0	68
Sep 16, 1997	P	1	08/26/1997	0	0	72
Sep 16, 1997	P	1	08/26/1997	0	0	#16
Sep 16, 1997	P	1	08/26/1997	0	0	WELLHEAD
Aug 26, 1997	P	1	08/06/1997	0	0	16
Aug 26, 1997	P	1	08/06/1997	0	0	54

Aug 26, 1997	P	1	08/06/1997	0	0	68
Aug 26, 1997	P	1	08/06/1997	0	0	72
Aug 11, 1997	R	1		0	0	
Aug 06, 1997	R	1		1	0	#68

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **00524**	**LOCUST MOBILE VILLAGE**	System Type: C
Contact person: DAN/NANCY SHAW		**Phone: (541)938-8806**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 60	Number of Connections: 29	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL (SHALLOW)	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	
1998	Oct 04, 1999	CCR Certification Rcvd
1998	Oct 04, 1999	CCR Received from WS

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 00524 .... LOCUST MOBILE VILLAGE

Date		Source	Results mg/l	MCL mg/l
Dec 21, 1995	A	EP for WELL (SHALLOW)	0.57	10.0
Sep 06, 1990	A	WELL (SHALLOW)	0.0	10.0
Apr 23, 1985	A	WELL (SHALLOW)	0.16	10.0

OREGON DEPARTMENT OF HUMAN RESOURCES

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Drinking Water Program

Coliform Test Results

PWS ID: 00524 .... LOCUST MOBILE VILLAGE..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Oct 04, 1999	R	1		0	0	
Sep 09, 1999	R	1		0	0	
Aug 10, 1999	R	1		0	0	
Jul 12, 1999	R	1		0	0	
Jun 28, 1999	R	1		0	0	
Jun 03, 1999	R	1		0	0	
May 12, 1999	R	5		0	0	
Apr 15, 1999	P	1	04/04/1999	0	0	KITCHEN FAUCET
Apr 15, 1999	P	1	04/04/1999	0	0	KITCHEN FAUCET
Apr 15, 1999	P	1	04/04/1999	0	0	KITCHEN FAUCET
Apr 15, 1999	P	1	04/04/1999	0	0	KITCHEN FAUCET
Apr 04, 1999	R	1		1	0	KITCHEN FAUCET
Mar 15, 1999	R	1		0	0	
Feb 04, 1999	R	1		0	0	
Jan 11, 1999	R	1		0	0	
Dec 08, 1998	R	1		0	0	
Nov 02, 1998	R	1		0	0	
Oct 05, 1998	R	1		0	0	
Aug 12, 1998	R	1		0	0	
Jul 20, 1998	R	1		0	0	
Jun 16, 1998	R	1		0	0	
May 06, 1998	R	1		0	0	
Apr 07, 1998	R	1		0	0	
Mar 05, 1998	R	1		0	0	
Feb 04, 1998	R	1		0	0	
Jan 05, 1998	R	1		0	0	
Dec 08, 1997	R	1		0	0	
Nov 04, 1997	R	1		0	0	
Oct 13, 1997	R	1		0	0	
Sep 08, 1997	R	1		0	0	
Aug 13, 1997	R	1		0	0	
Jul 16, 1997	R	1		0	0	

For further information on this public water system click on the area of interest below.

Oregon Health Division

Drinking Water Program

PWS ID: 41 **00522**	**MILTON-FREEWATER, CITY OF**	System Type: C
Contact person: HOWARD MOSS		**Phone: (541)938-5531**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 6700	Number of Connections: 2400	
Operating from 01/01 to 12/31		
Certified operator required: Y	Treatment class: 1	Distribution class: 2
Number of coliform samples needed each sample period: 7		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	WELLFIELD (WELLS #1 & #2)	G	N
B	WELLFIELD (WELLS #3,#5 & #6)	G	N
C	ENTRY POINT - WELL #8	G	N
D	EP FOR WELL #9	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	.
1998	Oct 08, 1999	CCR Received from WS

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 00522 .... MILTON-FREEWATER, CITY OF

Date		Source	Results mg/l	MCL mg/l
Apr 22, 1999	DA	WELL #9	0.2	10.0
Feb 11, 1998	AA	WELL #1	0.0	10.0
Feb 11, 1998	AB	WELL #2	0.01	10.0
Feb 11, 1998	BB	WELL #5	1.3	10.0
Feb 11, 1998	BC	WELL #6	3.2	10.0
Feb 11, 1998	CA	WELL #8 - COUSE CREEK ROAD	0.0	10.0
May 22, 1996	AA	WELL #1	0.76	10.0
May 22, 1996	AB	WELL #2	0.03	10.0
May 22, 1996	BB	WELL #5	0.0	10.0
May 22, 1996	BC	WELL #6	0.4	10.0
May 22, 1996	C	ENTRY POINT - WELL #8	0.0	10.0
May 22, 1996	CA	WELL #8 - COUSE CREEK ROAD	0.0	10.0
Jan 04, 1995	AA	WELL #1	0.0	10.0
Jan 04, 1995	AB	WELL #2	0.02	10.0
Jan 04, 1995	BB	WELL #5	1.1	10.0
Jan 04, 1995	BC	WELL #6	0.35	10.0
Jan 04, 1995	CA	WELL #8 - COUSE CREEK ROAD	0.0	10.0
Jul 28, 1993	AA	WELL #1	0.0	10.0
Jul 28, 1993	AB	WELL #2	0.04	10.0
Jul 28, 1993	BB	WELL #5	0.32	10.0
Jul 28, 1993	BC	WELL #6	0.33	10.0
Jul 28, 1993	CA	WELL #8 - COUSE CREEK ROAD	0.0	10.0
Apr 14, 1993	AA	WELL #1	0.02	10.0
Apr 14, 1993	AB	WELL #2	0.02	10.0
Apr 14, 1993	BB	WELL #5	0.5	10.0
Apr 14, 1993	BC	WELL #6	0.37	10.0
Mar 25, 1992	A	WELLFIELD (WELLS #1 & #2)	0.0	10.0
Mar 25, 1992	B	WELLFIELD (WELLS #3,#5 & #6)	1.0	10.0
Mar 25, 1992	C	WELL #8	0.0	10.0
Jun 16, 1991	A	WELLFIELD (WELLS #1 & #2)	0.0	10.0
Jun 16, 1991	B	WELLFIELD (WELLS #3,#5 & #6)	0.7	10.0
Jun 16, 1991	C	WELL #8	0.0	10.0
Jun 20, 1988	A	WELLFIELD (WELLS #1 & #2)	0.0	10.0
Jun 20, 1988	B	WELLFIELD (WELLS #3,#5 & #6)	1.97	10.0
Jun 20, 1988	C	WELL #8	0.0	10.0
Jul 16, 1985	A	WELLFIELD (WELLS #1 & #2)	0.38	10.0

Coliform Test Results

PWS ID: 00522 .... MILTON-FREEWATER, CITY OF..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Oct 06, 1999	R	2		0	0	
Sep 22, 1999	R	2		0	0	
Sep 15, 1999	R	2		0	0	
Sep 09, 1999	R	2		0	0	
Sep 01, 1999	R	2		0	0	
Aug 25, 1999	R	2		0	0	
Aug 18, 1999	R	2		0	0	
Aug 11, 1999	R	2		0	0	
Aug 05, 1999	R	2		0	0	
Jul 28, 1999	R	2		0	0	
Jul 21, 1999	R	1		0	0	
Jul 21, 1999	R	1		0	0	
Jul 14, 1999	R	3		0	0	
Jul 08, 1999	R	1		0	0	
Jun 30, 1999	R	2		0	0	
Jun 23, 1999	R	2		0	0	
Jun 16, 1999	R	2		0	0	
Jun 09, 1999	R	3		0	0	
Jun 02, 1999	R	2		0	0	
May 26, 1999	R	2		0	0	
May 20, 1999	R	2		0	0	
May 13, 1999	R	2		0	0	
May 05, 1999	R	2		0	0	
Apr 29, 1999	R	2		0	0	
Apr 21, 1999	R	2		0	0	
Apr 14, 1999	R	2		0	0	
Apr 07, 1999	R	2		0	0	

Mar 24, 1999	R	2	0	0	
Mar 18, 1999	R	2	0	0	
Mar 10, 1999	R	2	0	0	
Mar 03, 1999	R	3	0	0	
Feb 24, 1999	R	2	0	0	
Feb 17, 1999	R	2	0	0	
Feb 17, 1999	R	1	1	0	SYKES BLVD FREIGHT ENTRANCE
Feb 10, 1999	R	2	0	0	
Feb 03, 1999	R	2	0	0	
Jan 27, 1999	R	2	0	0	
Jan 21, 1999	R	2	0	0	
Jan 13, 1999	R	2	0	0	
Jan 07, 1999	R	2	0	0	
Dec 22, 1998	R	2	0	0	
Dec 16, 1998	R	2	0	0	
Dec 09, 1998	R	2	0	0	
Dec 02, 1998	R	2	0	0	
Nov 18, 1998	R	2	0	0	
Nov 12, 1998	R	2	0	0	
Nov 04, 1998	R	2	0	0	
Oct 28, 1998	R	2	0	0	
Oct 21, 1998	R	2	0	0	
Oct 14, 1998	R	2	0	0	
Oct 08, 1998	R	1	0	0	
Oct 08, 1998	R	1	0	0	
Sep 30, 1998	R	2	0	0	
Sep 24, 1998	R	2	0	0	
Sep 16, 1998	R	2	0	0	
Sep 03, 1998	R	2	0	0	
Aug 27, 1998	R	2	0	0	
Aug 19, 1998	R	2	0	0	
Aug 12, 1998	R	2	0	0	
Aug 05, 1998	R	2	0	0	
Jul 29, 1998	R	2	0	0	
Jul 23, 1998	R	2	0	0	
Jul 15, 1998	R	2	0	0	
Jul 08, 1998	R	2	0	0	
Jul 01, 1998	R	2	0	0	
Jun 24, 1998	R	2	0	0	

City of M-F
Coliform Results

Mar 24, 1999	R	2	0	0	
Mar 18, 1999	R	2	0	0	
Mar 10, 1999	R	2	0	0	
Mar 03, 1999	R	3	0	0	
Feb 24, 1999	R	2	0	0	
Feb 17, 1999	R	2	0	0	
Feb 17, 1999	R	1	1	0	SYKES BLVD FREIGHT ENTRANCE
Feb 10, 1999	R	2	0	0	
Feb 03, 1999	R	2	0	0	
Jan 27, 1999	R	2	0	0	
Jan 21, 1999	R	2	0	0	
Jan 13, 1999	R	2	0	0	
Jan 07, 1999	R	2	0	0	
Dec 22, 1998	R	2	0	0	
Dec 16, 1998	R	2	0	0	
Dec 09, 1998	R	2	0	0	
Dec 02, 1998	R	2	0	0	
Nov 18, 1998	R	2	0	0	
Nov 12, 1998	R	2	0	0	
Nov 04, 1998	R	2	0	0	
Oct 28, 1998	R	2	0	0	
Oct 21, 1998	R	2	0	0	
Oct 14, 1998	R	2	0	0	
Oct 08, 1998	R	1	0	0	
Oct 08, 1998	R	1	0	0	
Sep 30, 1998	R	2	0	0	
Sep 24, 1998	R	2	0	0	
Sep 16, 1998	R	2	0	0	
Sep 03, 1998	R	2	0	0	
Aug 27, 1998	R	2	0	0	
Aug 19, 1998	R	2	0	0	
Aug 12, 1998	R	2	0	0	
Aug 05, 1998	R	2	0	0	
Jul 29, 1998	R	2	0	0	
Jul 23, 1998	R	2	0	0	
Jul 15, 1998	R	2	0	0	
Jul 08, 1998	R	2	0	0	
Jul 01, 1998	R	2	0	0	
Jun 24, 1998	R	2	0	0	

Jun 10, 1998	R	2	0	0
Jun 03, 1998	R	2	0	0
May 27, 1998	R	1	0	0
May 27, 1998	R	1	0	0
May 20, 1998	R	2	0	0
May 14, 1998	R	2	0	0
May 06, 1998	R	2	0	0
Apr 29, 1998	R	2	0	0
Apr 23, 1998	R	2	0	0
Apr 15, 1998	R	2	0	0
Apr 08, 1998	R	2	0	0
Apr 01, 1998	R	2	0	0
Mar 25, 1998	R	2	0	0
Mar 18, 1998	R	2	0	0
Mar 11, 1998	R	2	0	0
Mar 04, 1998	R	2	0	0
Feb 25, 1998	R	2	0	0
Feb 18, 1998	R	2	0	0
Feb 11, 1998	R	2	0	0
Feb 04, 1998	R	2	0	0
Jan 29, 1998	R	2	0	0
Jan 22, 1998	R	2	0	0
Jan 15, 1998	R	2	0	0
Jan 07, 1998	R	2	0	0
Dec 29, 1997	R	2	0	0
Dec 17, 1997	R	2	0	0
Dec 10, 1997	R	2	0	0
Dec 03, 1997	R	2	0	0
Nov 25, 1997	R	2	0	0
Nov 19, 1997	R	2	0	0
Nov 12, 1997	R	2	0	0
Nov 05, 1997	R	2	0	0
Oct 29, 1997	R	2	0	0
Oct 22, 1997	R	2	0	0
Oct 15, 1997	R	1	0	0
Oct 15, 1997	R	1	0	0
Oct 08, 1997	R	2	0	0
Oct 01, 1997	R	2	0	0
Sep 24, 1997	R	2	0	0

City of M-F
Coliform Results

Sep 17, 1997	R	2	0	0	
Sep 10, 1997	R	2	0	0	
Sep 04, 1997	R	2	0	0	
Aug 27, 1997	R	3	0	0	1003 N MAIN
Aug 19, 1997	R	2	0	0	
Aug 06, 1997	R	2	0	0	
Jul 30, 1997	R	1	0	0	
Jul 30, 1997	R	1	0	0	
Jul 23, 1997	R	2	0	0	
Jul 16, 1997	R	2	0	0	
Jul 09, 1997	R	2	0	0	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

City of M-F
Coliform Results

Sep 17, 1997	R	2	0	0	
Sep 10, 1997	R	2	0	0	
Sep 04, 1997	R	2	0	0	
Aug 27, 1997	R	3	0	0	1003 N MAIN
Aug 19, 1997	R	2	0	0	
Aug 06, 1997	R	2	0	0	
Jul 30, 1997	R	1	0	0	
Jul 30, 1997	R	1	0	0	
Jul 23, 1997	R	2	0	0	
Jul 16, 1997	R	2	0	0	
Jul 09, 1997	R	2	0	0	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction | Data Search Options | WS Name Look Up | DWP Home Page

PWS ID: 41 94985	MILTON-STATELINE S.D.A. SCHOOL	System Type: P
Contact person: RALPH HOGATE		**Phone: (503)938-7131**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 95	Number of Connections: 1	
Operating from 09/01 to 06/15		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	.

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 94985 .... MILTON-STATELINE S.D.A. SCHOOL

Date		Source	Results mg/l	MCL mg/l
Sep 14, 1998	AA	WELL	0.0	10.0
Sep 11, 1997	AA	WELL	0.5	10.0

Coliform Test Results

PWS ID: 94985 .... MILTON-STATELINE S.D.A. SCHOOL..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Dec 15, 1998	R	1		0	0	
Sep 08, 1998	R	1		0	0	
Apr 14, 1998	R	1		0	0	
Jan 14, 1998	R	1		0	0	

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **91247**	**OASIS, THE**	System Type: N
Contact person: JOHN/PATRICIA KOCH		**Phone: (541)938-4776**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by: L
Population: 25	Number of Connections: 2	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 91247 .... OASIS, THE

Date		Source	Results mg/l	MCL mg/l
Dec 17, 1998	AA	WELL	0.8	10.0
May 09, 1988	A	WELL	0.34	10.0

Coliform Test Results

PWS ID: 91247 .... OASIS, THE..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Aug 18, 1999	R	1		0	0	
May 04, 1999	R	1		0	0	
Dec 16, 1998	R	1		0	0	
Jul 07, 1998	R	1		0	0	
Apr 07, 1998	R	1		0	0	
Jan 05, 1998	R	1		0	0	
Oct 03, 1997	R	1		0	0	

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **91237**	**OUTWEST MOTEL**	System Type: S
Contact person: MIKE LUNDELL		**Phone: (541)938-6647**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 18	Number of Connections: 2	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: ....

Date	Source	Results mg/l	MCL mg/l

Coliform Test Results

PWS ID: 91237 .... OUTWEST MOTEL..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Aug 28, 1998	R	1		0	0	
Mar 06, 1998	R	1		0	0	
Sep 26, 1997	R	1		0	0	

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **94964**	**TOWN & COUNTRY DELI**	System Type: N
Contact person: DELAINA MUNDEN		**Phone: (541)938-0301**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 75	Number of Connections: 4	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP for WELL	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	.

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: ....

Date	Source	Results mg/l	MCL mg/l

Coliform Test Results

PWS ID: .... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **00525**	**VILLADOM MOBILE HOME PARK**	System Type: C
Contact person: TOM DAVIS		**Phone: (541)938-7247**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 96	Number of Connections: 75	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	WELLFIELD (WELLS #1 & #2)	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	
1998	Sep 22, 1999	CCR Certification Rcvd
1998	Sep 22, 1999	CCR Received from WS

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 00525 .... VILLADOM MOBILE HOME PARK

Date	Source	Results mg/l	MCL mg/l
Feb 24, 1998	A WELLFIELD (WELLS #1 & #2)	0.3	10.0
Dec 05, 1995	A WELLFIELD (WELLS #1 & #2)	0.41	10.0
Mar 20, 1991	A WELLFIELD (WELLS #1 & #2)	0.6	10.0
Apr 30, 1985	A WELLFIELD (WELLS #1 & #2)	0.3	10.0

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Coliform Test Results

PWS ID: 00525 .... VILLADOM MOBILE HOME PARK..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Oct 12, 1999	R	1		0	0	
Sep 02, 1999	R	1		0	0	
Aug 10, 1999	R	1		0	0	
Jul 06, 1999	R	1		0	0	
Jun 07, 1999	R	1		0	0	
May 10, 1999	R	1		0	0	
Apr 01, 1999	R	1		0	0	
Mar 11, 1999	R	1		0	0	
Feb 09, 1999	R	1		0	0	
Jan 12, 1999	R	1		0	0	
Dec 07, 1998	R	1		0	0	
Nov 09, 1998	R	1		0	0	
Oct 05, 1998	R	1		0	0	
Sep 02, 1998	R	1		0	0	
Jul 02, 1998	R	1		0	0	
Jun 02, 1998	R	1		0	0	
May 18, 1998	R	1		0	0	
Apr 21, 1998	P	1	04/14/1998	0	0	SP 20
Apr 21, 1998	P	1	04/14/1998	0	0	SP 33
Apr 21, 1998	P	1	04/14/1998	0	0	GRAY HOUSE
Apr 14, 1998	R	1		1	0	GREY HOUSE
Mar 09, 1998	R	1		0	0	
Feb 05, 1998	R	1		0	0	
Jan 08, 1998	R	1		0	0	
Dec 01, 1997	R	1		0	0	
Nov 18, 1997	P	1	11/06/1997	0	0	RV PARK
Nov 18, 1997	P	1	11/06/1997	0	0	SPACE #54
Nov 18, 1997	P	1	11/06/1997	0	0	LAUNDRY ROOM
Nov 10, 1997	P	1	11/06/1997	0	0	GREY HOUSE
Nov 06, 1997	R	1		1	0	PLAYHOUSE
Oct 09, 1997	P	1	10/07/1997	0	0	GRAY HOUSE

Sep 04, 1997	R	1	0	0
Aug 07, 1997	R	1	0	0
Jul 07, 1997	R	1	0	0

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

OREGON DEPARTMENT OF HUMAN RESOURCES

Oregon Health Division

Drinking Water Program

Introduction Data Search Options WS Name Look Up DWP Home Page

PWS ID: 41 **00521**	**VINCENT WATER COMPANY**	System Type: C
Contact person: PATTY GRIMES/OPERATOR		**Phone: (541)938-4992**
County: Umatilla		
Active (1=Yes): 1	Agency: S	Licensed by:
Population: 80	Number of Connections: 45	
Operating from 01/01 to 12/31		
Certified operator required:	Treatment class:	Distribution class:
Number of coliform samples needed each sample period: 1		

Sources of Water

Entry ID	Name	Type	Type of Filtration
A	EP FOR WELLS #1 & #2	G	N

Only regularly used sources are listed. Those classified as emergency or inactive are not listed.

Consumer Confidence Reports

For Year	Date Received	.

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Nitrate Test Summary

PWS ID: 00521 .... VINCENT WATER COMPANY

Date		Source	Results mg/l	MCL mg/l
Dec 02, 1998	A	EP FOR WELLS #1 & #2	7.1	10.0
Nov 30, 1998	A	EP FOR WELLS #1 & #2	4.65	10.0
Dec 18, 1997	A	EP FOR WELLS #1 & #2	3.2	10.0
Aug 29, 1995	A	EP FOR WELLS #1 & #2	7.48	10.0
Sep 20, 1994	AA	WELL #1 (DEEP)	6.7	10.0
Aug 15, 1991	AA	WELL #1 (DEEP)	3.4	10.0
Aug 15, 1991	AB	WELL #2 (SHALLOW)	3.4	10.0
May 15, 1989	AB	WELL #2 (SHALLOW)	5.31	10.0
Mar 06, 1989	AA	WELL #1 (DEEP)	3.58	10.0
Aug 01, 1985	AA	WELL #1 (DEEP)	3.1	10.0

Oregon Health Division

Drinking Water Program

Coliform Test Results

PWS ID: 00521 .... VINCENT WATER COMPANY..... Coliform health information

Sample Date	Type	# Samples	Repeat of	Total Pos. (1=Yes)	Fecal Pos. (1=Yes)	Sample Site
Sep 30, 1999	R	1		0	0	
Aug 23, 1999	R	1		0	0	
Jun 18, 1999	R	1		0	0	
May 05, 1999	R	1		0	0	
Apr 30, 1999	R	1		0	0	
Mar 30, 1999	R	1		0	0	
Feb 12, 1999	R	1		0	0	
Jan 08, 1999	R	1		0	0	
Dec 11, 1998	R	1		0	0	
Nov 18, 1998	R	1		0	0	
Oct 30, 1998	R	1		0	0	
Sep 30, 1998	R	1		0	0	
Aug 26, 1998	R	1		0	0	
Jun 30, 1998	R	1		0	0	
Jun 29, 1998	P	1	05/21/1998	0	0	KITCHEN FAUCET
Jun 18, 1998	P	1	05/21/1998	0	0	KITCHEN FAUCET
Jun 11, 1998	P	1	05/21/1998	0	0	KITCHEN
May 26, 1998	P	1	05/21/1998	0	0	KITCHEN FAUCET
May 21, 1998	R	1		1	1	KITCHEN
Apr 01, 1998	R	1		0	0	
Mar 31, 1998	R	1		0	0	
Feb 18, 1998	R	1		0	0	
Jan 29, 1998	R	1		0	0	
Dec 18, 1997	R	1		0	0	
Nov 25, 1997	R	1		0	0	
Oct 30, 1997	R	1		0	0	
Sep 30, 1997	R	1		0	0	
Aug 20, 1997	R	1		0	0	
Jul 25, 1997	R	1		0	0	

For further information on this public water system click on the area of interest below.

New PWS .. Coliform Summary .. Coliform Results .. Chemical Tests .. Chemical Detections .. Violations .. Public Notice/Enforcements

Lead & Copper .. SWTR .. Contacts .. Nitrates .. Latest Chemical Results

Public Water Systems
Umatilla County
1/15/99 1:51 PM

PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4100001 S	ADAMS, CITY OF WATER DEPT., PO BOX 20; ADAMS, OR 97810	245 G	100 30	C	GILBERTA LIEUALLEN (541)566-9380
4100064 S	ATHENA, CITY OF WATER SYSTEM PO BOX 686; ATHENA, OR 97813	1,005 G	475 30	C	ERIC PICKARD (541)566-3862
4190925 S	BAKER'S BAR M RANCH ROUTE 1, BOX 263; ADAMS, OR 97810	30 G	4 30	N L	EUGENE/HOPE BAKER (541)566-3381
4105944 S	BRITTANY FARMING INC PO BOX 336; MILTON-FREEWATER, OR 97862-	24 G	1 30	S	MARVIN HAIR (541)938-7698
4191240 S	BUFF N BREW ROUTE 1, BOX 1929-A; HERMISTON, OR 97838	100 G	2 30	N L	KARREN COFFMAN (541)567-1812
4190467 S	CHARBURGER, INC., RT. 1, BOX 532; PENDLETON, OR 97801	28 G	1 30	N L	BILL CODE, MGR. (541)276-6154
4100371 S	CHARLES TRACTS WATER COMPANY ROUTE 2 BOX 2578; HERMISTON, OR 97838	80 G	38 30	C	BILL KIK (541)567-7589
4101415 S	CHART SUBDIVISION ROUTE 5, BOX 5600; HERMISTON, OR 97838	85 G	22 30	C	JAY TOMLINSON (541)567-2473
4190178 S	COE McNARY DAM PO BOX 1230; UMATILLA, OR 97882	70 GP	7 30	P	DONNA MARTINDALE (541)922-2219
4101045 S	COUNTRY SQUIRE ESTATES ROUTE 3, BOX 3780-SPACE 26; HERMISTON, OR	85 G	55 30	C	MIKE JEWETT (541)567-4188
4191243 S	COWBOY COUNTRY STEAKHOUSE ROUTE 4, BOX 108; MILTON-FREEWATER, OR 97865	25 G	1 30	N L	KATHY KELLY (541)938-4247
4190228 S	CROSSROADS TRUCK STOP PO BOX 1468; UMATILLA, OR 97882	250 G	3 30	N L	ATTILA KOPPANY (541)922-3297
4101044 S	DUN-ROLLIN MOBILE HOME PARK 445 EAST JENNIE AVENUE; HERMISTON, OR 97838	130 G	101 30	C	DAVID & JO LYNNE HACKLER (541)567-6918
4100270 S	ECHO, CITY OF PO BOX 9; ECHO, OR 97826	515 G	246 30	C	ARNIE NEELY, DIR. OF PUBLIC WORKS (541)376-8411
4101330 S	ELIZABETHAN MANOR ROUTE 1, BOX 35, MISSION HWY; PENDLETON, OR	20 G	1 30	S	STEVE SCHMIDT, MAINTENANCE (541)276-7157
4194531 A	FARMERS PRODUCE OUTLET COMPANY PO BOX 682; MILTON-FREEWATER, OR 97862	100 G	1 30	N A	GERRY REESE (541)938-4668
4190597 S	FERNDALE ELEMENTARY 138 S. MAIN; MILTON-FREEWATER, OR 97862	250 G	1 30	P	RAY CABLE, MAINT. SUP. (509)520-4547
4105257 S	FOUR WINDS GROUP HOME ROUTE 3,BOX 3664; HERMISTON, OR 97838	14 G	2 30	S	FRANK WYNNE (541)567-2402
4100622 S	FRONTIER MOBILE HOME PARK 1220 FAIRVIEW S.E.; SALEM, OR 97302-2535	50 G	25 30	C	GARY BRADLEY (503)363-8022
4100523 S	GREEN ACRES MHP 53752 #68, APPLETON RD; MILTON-FREEWATER, OR	80 G	75 30	C	RALPH STONE (541)938-7556
4100614 S	GREEN MEADOWS WTR CORPORATION 1710 SW MEADOW DRIVE; PENDLETON, OR 97801	95 G	33 30	C	ANNA LEE GUIWITS, SECRETARY (541)276-3413

13 public water systems in M-F

System types: C–Community, N–Transient non-community, P–Non-transient non-communities, S–State-regulated.
License codes: L–licensed by HD, A–licensed by Dept. of Agriculture.
Agency codes: A–Dept. of Agriculture, C–County HD, S–State (i.e., DWS).
Source codes: G–Groundwater, W–Purchased groundwater, P–Purchased surface water, S–Surface water.

Public Water Systems
Umatilla County
1/15/99 1:51 PM

PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4101123	HALL'S TRAILER COURT	60	23	C	JOHN/CAROL HALL
S	73477 MYTINGER LANE; PENDLETON, OR 97801	G	30		(541)276-1563
4191232	HAT ROCK MOBILE COURT	60	28	C	MIKE/KATHY JEWETT
S	ROUTE 3, BOX 3780 #26; HERMISTON, OR 97838	G	30		(541)567-4188
4101309	HAT ROCK WATER COMPANY	80	32	C	BARBARA COMIN, SECRETARY
S	82608 "C" STREET; HERMISTON, OR 97838	G	30		(541)567-7487
4100368	HELIX, CITY OF	155	70	C	CASEY BENSON, OPERATOR
S	PO BOX 325; HELIX, OR 97835	G	30		(541)457-2521
4100615	HERITAGE IMPROVEMENT DISTRICT	125	58	C	CHRIS ALLEN
S	PO BOX 1612; PENDLETON, OR 97801	G	30		(541)276-4791
4194311	HERMISTON DAY CARE CENTER	75	1	P	JANICE BARTON, DIRECTOR
S	ROUTE 2, BOX 2077; HERMISTON, OR 97838	G	30	L	(541)567-5106
4100372	HERMISTON, CITY OF	11,050	3,200	C	PAT NAPOLITANO P.E.,WTR SUPER.
S	180 NE SECOND STREET; HERMISTON, OR 97838	G	30		(541)567-5521
4194289	HINKLE RAILROAD INN	150	2	N	ANDREW NELMES
S	PO BOX 550; STANFIELD, OR 97875	G	30	L	(541)564-3910
4194561	J.R.SIMPLOT COMPANY	800	9	P	ANGELA LINDLEY, OPERATOR
A	PO BOX 850; HERMISTON, OR 97838	GW	30	A	(541)564-5165
4194562	LAMB WESTON - HERMISTON	450	1	P	DAVE NEVIN, MAINTENANCE SUPT.
A	PO BOX 705/EAST WESTLAND ROAD; HERMISTON,	G	30	A	(541)567-2211
4194930	LANGDON LAKE WATER COOPERATIVE	100	64	N	BOB HAWES
S	397 NW JOHNS LANE; PENDLETON, OR 97801-	G	30		(541)276-3456
4194269	LEHMAN DEVELOPMENTAL CORP.,	60	2	N	BOB McDEAN, MANAGER
S	PO BOX 187; UKIAH, OR 97880	G	30		(541)427-3015
4100524	LOCUST MOBILE VILLAGE	60	29	C	DAN/NANCY SHAW
S	1571 N COLUMBIA; MILTON-FREEWATER, OR 97862	G	30		(541)938-8806
4100619	LYDA WATER SYSTEM	60	17	C	RICHARD/LAURIE LYDA
S	4912 SW DOUGLAS DRIVE; PENDLETON, OR 97801	G	30		(541)276-0414
4192075	M-F DRIVE IN THEATRE	50	1	N	LOWELL SPIESS
S	PO BOX 430; PENDLETON, OR 97801	G	30	L	(541)276-5930
4190246	MASONITE PILOT ROCK	195	21	P	NICOLE TAYLOR/OPERATIONS
S	PO BOX "Z"; PILOT ROCK, OR 97868	G	30		(541)443-7621
4100616	McKAY ACRES IMPROVEMENT DIST.	75	27	C	JERRY REDFIELD
S	PO BOX 1803; PENDLETON, OR 97801	G	30		(541)443-6082
4190874	McNARY YACHT CLUB	200	36	N	DENNIS GRAHAM
S	ROUTE 3, BOX 3786; HERMISTON, OR 97838	G	30		(541)567-5603
4190226	MEACHAM TAVERN	10	1	S	VIRGINIA KELSO
S	TODD & MAIN; MEACHAM, OR 97859	G	30	L	(541)983-2251
4191236	MEADOWOOD SPRINGS SPEECH CAMP	100	3	N	KEVIN HETTERLY, CARETAKER
S	PO BOX 1025; PENDLETON, OR 97801	G	30	L	(541)566-2191
4101393	MILL CREEK GLEN	16	8	S	HOWARD LAUGHERY
S	PO BOX 478; WALLA WALLA, WA 99362	G	30		(509)527-4463

System types: C-Community, N-Transient non-community, P-Non-transient non-communities, S-State-regulated.
License codes: L-licensed by HD, A-licensed by Dept. of Agriculture.
Agency codes: A-Dept. of Agriculture, C-County HD, S-State (i.e., DWS).
Source codes: G-Groundwater, W-Purchased groundwater, P-Purchased surface water, S-Surface water.

Public Water Systems
Umatilla County
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PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4100522 S	MILTON-FREEWATER, CITY OF PO BOX 6; MILTON-FREEWATER, OR 97862	6,000 G	2,100 30	C	HOWARD MOSS (541)938-5531
4194985 S	MILTON-STATELINE S.D.A. SCHOOL 53565 CROCKETT RD; MILTON-FREEWATER, OR	95 G	1 30	P	HARRY FLEMMER, PRESIDENT (503)938-7131
4100374 S	NORTH HILL WATER CORPORATION 31005 JOY LANE; HERMISTON, OR 97838	90 G	30 30	C	GEORGE BENNETT (541)567-6764
4193624 S	NORTHWESTERN LIVESTOCK COMM., PO BOX 134; HERMISTON, OR 97838	50 G	1 30	N L	ROSENBERG INC., (541)567-6649
4191247 S	OASIS, THE 85698 HWY 339; MILTON-FREEWATER, OR 97862	25 G	2 30	N L	JOHN/PATRICIA KOCH (541)938-4776
4105668 S	ODOT HD MEACHAM MAINTENANCE PO BOX 26; MEACHAM, OR 97858	20 G	3 30	S	MIKE HAZLEWOOD (541)276-1241
4191122 S	ODOT HD STANFIELD REST AREA 1216 SE BYERS AVENUE; PENDLETON, OR 97801	200 G	4 30	N	BOB LEE, MAINTENANCE SUPT., (541)276-6728
4191070 S	OPRD BATTLE MOUNTAIN STATE PK PO BOX 85/EMIGRANT SPRINGS; MEACHAM, OR	187 G	9 30	N	LARRY GRAIS (541)983-2277
4193656 S	OPRD DEADMAN'S PASS REST AREA PO BOX 85, EMIGRANT SPRINGS; MEACHAM, OR	500 G	8 30	N	LARRY GRUIS, MANAGER (541)983-2277
4191071 S	OPRD EMIGRANT SPRINGS STATE PK PO BOX 85, EMIGRANT SPRINGS; MEACHAM, OR	200 G	41 30	N	LARRY GRUIS (541)983-2277
4191072 S	OPRD HAT ROCK STATE PARK ROUTE 3, BOX 3783; HERMISTON, OR 97838	800 G	15 30	N	LARRY GRUIS, MANAGER (541)938-2277
4191073 S	OPRD UKIAH-DALE FOREST WAYSIDE PO BOX 85, %EMIGRANT SPRINGS; MEACHAM, OR	75 G	9 30	N	LARRY GRAIS (541)983-2277
4191245 S	OREGON TRAIL CAFE MEACHAM CIRCLE-OLD HWY 395; MEACHAM, OR	25 G	1 30	N L	LOREN CALDWELL (541)983-2520
4194498 S	OREGON TRAIL COUNCIL-CAMP FIRE PO BOX 115; PENDLETON, OR 97801	50 G	1 30	N	PAT STEFFANSON (541)276-6181
4100623 S	OREGON TRAIL MHP 2424 MANOR WAY; EVERETT, WA 98204	12 G	6 30	S	DENNIS BURNELL (206)355-4460
4106002 S	OSU COLUMBIA BASIN AG RESEARCH PO BOX 370; PENDLETON, OR 97801-	12 G	5 30	S	RICHARD SMILEY, DIRECTOR (541)278-4186
4191237 S	OUTWEST MOTEL no MB 84040 HWY 11; MILTON-FREEWATER, OR 97862	18 G	2 30	S	MIKE LUNDELL (541)938-6647
4101274 S	PAPOOSE WOODLANDS WATER CO., 8615 SW JAMIESON ROAD; PORTLAND, OR 97225	30 G	15 30	N	DENNIS NYE, SEC/TREASURER (541)983-2221
4190240 S	PENDLETON COUNTRY CLUB ROUTE 2, BOX 94; PENDLETON, OR 97801	100 G	2 30	N	ROSEMARY HYNEMAN, MANAGER (541)278-0355
4100613 S	PENDLETON, CITY OF 500 SW DORION AVE; PENDLETON, OR 97801	16,200 G	6,500 30	C	JERRY ODMAN (541)276-1811
4190241 S	PGG FEEDVILLE 300 WEST FEEDVILLE RD; HERMISTON, OR 97838	15 G	5 30	S	JIM O'GRADY, OPERATOR (541)276-7611

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Agency codes: A–Dept. of Agriculture, C–County HD, S–State (i.e., DWS).
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Public Water Systems
Umatilla County
1/15/99 1:51 PM

PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4194726 S	PGG PUMP & IRRIGATION BLDG., PO BOX 1248; PENDLETON, OR 97801	15 G	3 30	S	JIM O'GRADY, OPERATOR (541)276-7611
4100626 S	PILOT ROCK, CITY OF PO BOX 130; PILOT ROCK, OR 97868	1,500 G	600 30	C	STEVE DRAPER, WASTEWATER SUPT. (541)443-2811
4194982 S	PILOT TRAVEL CENTER-STANFIELD 2115 HWY 395; STANFIELD, OR 97875-	950 G	1 30	N	DON NELSON (541)449-1403
4105859 S	PINE GROVE WATER CO-OP RT. 2 BOX 87; PENDLETON, OR 97801	15 G	5 30	S	STEVEN MERRILL (541)276-1737
4100375 S	POWER CITY WATER CO-OP 205 NE FOURTH ST; HERMISTON, OR 97838	70 G	35 30	C	MILISSA BENSEN (541)567-2018
4191241 S	RANCH MOTEL & CAFE 1-84, EXIT 202, BARNHART RD.; PENDLETON, OR	25 G	1 30	N L	FLOYD & DENISE LAMBERSON (541)278-2233
4100617 S	RIETH WATER DISTRICT 73755 HILL ST; PENDLETON, OR 97801	240 G	75 30	C	MILDRED TURNER (541)276-6882
4105842 S	SAND BURR WATER ASSOCIATION PO BOX 1527; UMATILLA, OR 97882	20 G	10 30	S	ELMER REYNOLDS (541)922-3859
4105921 S	SEVEN HUNDRED, INC. 1621 RD 80; PASCO, WA 99301-	21 G	7 30	S	THOMAS L. BOSCH - PRESIDENT (509)547-6709
4101214 S	SHADY REST MOBILE HOME PARK ROUTE 1, BOX 240; UMATILLA, OR 97882	60 G	57 30	C	ANITA HARWELL, MANAGER (541)922-5041
4105499 S	SMEDBURG ADDITION STAR ROUTE, BOX 270; PENDLETON, OR 97801	24 G	7 30	S	BUD REIMAN (541)276-2494
4190234 A	SMITH FROZEN FOODS, INC., PO BOX 68; WESTON, OR 97886	250 G	1 30	N A	MORRIS HANSEN/BILL CUMMINS (541)566-3515
4100842 S	STANFIELD, CITY OF PO BOX 369; STANFIELD, OR 97875	1,800 G	600 30	C	SHELLEY BONNETT, CITY RECORDER (541)449-3831
4105250 S	SUNDALE WATER CO-OP 4203 SW BROADLANE; PENDLETON, OR 97801	20 G	8 30	S	FRED FRASER, PRESIDENT (541)276-6147
4105798 S	SUNRIDGE WATER INC., 8326 MIDDLE WAY; VANCOUVER, WA 98664	90 G	30 30	C	MARY HAAGEN (206)694-7084
4191238 S	TOLLGATE MOUNTAIN CHALET 60477 HWY 204; WESTON, OR 97886	20 G	14 30	S L	ROSE ANN HUMBERT (541)566-2243
4190245 A	TOLLGATE SHOPPING CENTER ROUTE 1, BOX 77; WESTON, OR 97886	20 G	1 30	S A	KEN QUAST (541)566-3681
4194964 S	TOWN & COUNTRY DELI no NO3 at Rect RT 4, BOX 99, SUITE 5; MILTON-FREEWTER, OR 97862-	75 G	4 30	N	DELAINA MUNDEN (541)938-0301
4100913 S	UKIAH, CITY OF PO BOX 265; UKIAH, OR 97880	230 G	100 30	C	CLINTON BARBER, OPERATOR (541)427-3271
4105748 S	UMATILLA CO.PKS-HARRIS PARK 3920 WESTGATE; PENDLETON, OR 97801	30 G	16 30	N	BETTY BRANSTETTER (541)276-7111
4105182 S	UMATILLA COUNTY HEADSTART-EAST 721 SE THIRD; PENDLETON, OR 97801	23 G	1 30	S L	SUE WHEELER (541)278-0770

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Public Water Systems
Umatilla County
1/15/99 1:51 PM

PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4190873	UMATILLA MARINA	100	5	N	STEVE AND JAMIE MUNKERS
S	PO BOX 277, 1710 QUINCY; UMATILLA, OR 97882	P	30		(541)922-3939
4100914	UMATILLA, CITY OF	3,080	1,400	C	ROGER FRANCES, PUBLIC WKS SUPT
S	PO BOX 130; UMATILLA, OR 97882	G	30		(541)922-3226
4193426	UNION PACIFIC RR-HINKLE YARD	150	10	P	ANDREW NELMES
S	PO BOX 550; STANFIELD, OR 97875	G	30		(541)564-9310
4105955	UPS-HERMISTON	10	1	S	JOE HUI, UPS
S	6707 N. BASIN AVE.; PORTLAND, OR 97217-	G	30		(503)283-6533
4105919	US WEST COMMUNICATIONS -	10	1	S	MARVIN POWELL
S	112 E10TH, ROOM P10; EUGENE, OR 97401	G	30		(541)484-8543
4195021	USDA AG RESEARCH STATION	30	1	P	DALE WILKINS, DIRECTOR
S	PO BOX 370; PENDLETON, OR 97801-4380	W	30		(541)278-4380
4192740	USFS BUCK CREEK	30	2	N	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4105454	USFS CORPORATION WORK CENTER	17	3	S	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4192752	USFS TARGET MEADOWS CAMPGROUND	10	5	S	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4192746	USFS TOLLGATE GUARD STATION	50	9	N	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4194270	USFS UMATILLA FORKS CAMPGROUND	25	2	N	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4192753	USFS WOODWARD CAMPGROUND	48	1	N	WALT EDWARDS - ENGINEER
S	2517 SW HAILEY AVENUE; PENDLETON, OR 97801	G	30		(541)278-3779
4100525	VILLADOM MOBILE HOME PARK	96	75	C	TOM DAVIS
S	53785 CROCKETT RD; MILTON-FREEWATER, OR 97862	G	30		(541)938-7247
4100521	VINCENT WATER COMPANY	80	45	C	PATTY GRIMES/OPERATOR
S	51568 HWY 332; MILTON-FREEWATER, OR 97862	G	30		(541)938-4992
4101099	VISTA HOME PARK	270	101	C	CHARLES BEACH
S	1800 NE 10TH SP 78; HERMISTON, OR 97838	G	30		(541)567-9555
4100376	WESTLAND ESTATES WATER SYSTEM	60	20	C	MILISSA BENSEN
S	205 NE FOURTH STREET; HERMISTON, OR 97838	G	30		(541)567-2018
4100949	WESTON, CITY OF	700	305	C	DUANE DELPH
S	PO BOX 427; WESTON, OR 97886	G	30		(541)566-3313
4194341	WHEATLAND DAIRY & CAFE	25	3	N	GARY GEORGE
S	2100 HWY 395 S; STANFIELD, OR 97875	G	30	L	(541)449-3755

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Agency codes: A-Dept. of Agriculture, C-County HD, S-State (i.e., DWS).
Source codes: G-Groundwater, W-Purchased groundwater, P-Purchased surface water, S-Surface water.

Public Water Systems
Union County
1/15/99 1:51 PM

PWS Agency	PWSName Mailing Address	Pop. Sources	Conn. County	Type Lic.	Contact Phone
4194471 S	BOISE CASCADE PLYWOOD-ELGIN 90 SOUTH 21st STREET; ELGIN, OR 97827	180 G	1 31	P	MARY LYNN TOWNSEND (541)437-2611
4190251 S	CAMP ELKANAH PO BOX 150; LA GRANDE, OR 97850	60 G	1 31	N L	MERLE MILLER (541)963-3911
4101243 S	COVE, CITY OF PO BOX 8; COVE, OR 97824	480 G	215 31	C	SANDY BRADEN, RECORDER (541)568-4566
4100273 S	ELGIN WATER DEPARTMENT PO BOX 128; ELGIN, OR 97827	1,765 G	650 31	C	KYLE BOYLEN (541)437-2253
4100455 S	FLYING "K" TRAILER RANCH PO BOX 989; LA GRANDE, OR 97850	96 G	64 31	C	DAVEHALLMARK (541)963-2136
4105803 S	HOT LAKE RV RESORT 65182 HOT LAKE LANE; LA GRANDE, OR 97850	24 G	27 31	S L	BRIAN WALKER (541)963-5253
4190601 S	IMBLER HIGH/ELEMENTARY, SD #11 PO BOX 164; IMBLER, OR 97841	365 G	2 31	P	TERRY HUFFMAN, TRANSPORTATION (541)534-5331
4101418 S	IMBLER, CITY OF PO BOX 40; IMBLER, OR 978410040	310 G	130 31	C	STACEY FEIK/W.S. OPERATOR (541)534-6305
4191255 S	INTERMOUNTAIN LIVESTOCK 60654 LIVESTOCK ROAD; LA GRANDE, OR 97850	250 G	1 31	N L	DON COOTE (541)963-2158
4100454 S	ISLAND CITY 10605 ISLAND AVE; ISLAND CITY, OR 97851	865 G	390 31	C	STAN THOMPSON, SUPERINTENDENT (541)963-5017
4100453 S	LA GRANDE, CITY OF PO BOX 670; LA GRANDE, OR 97850	12,070 G	4,250 31	C	LEE MANNOR, WATER SUPERINTENDENT (541)962-1325
4101140 S	MT.EMILY WATER ASSOCIATION 63696 OWSLEY CYN. RD.; LA GRANDE, OR 97850	23 G	11 31	S	NORMA KIGHTLINGER (541)963-3057
4100577 S	NORTH POWDER WATER DISTRICT PO BOX 309; NORTH POWDER, OR 97867	455 G	190 31	C	JIM GORDON, OPERATOR (541)898-2185
4105907 S	ODF/WL LOOKINGGLASS HATCHERY 76657 LOOKINGGLASS RD; ELGIN, OR 97827-	12 G	5 31	S	ROBIN CRISLER (541)437-9723
4191123 S	ODOT HD CHARLES REYNOLDS I80-N 3014 ISLAND AVENUE, DIST. #13; LA GRANDE, OR	200 G	2 31	N	HAROLD ANDERSON, MAINTENANCE (541)963-6210
4191074 S	OPRD CATHERINE CREEK STATE PK PO BOX 85, EMIGRANT SPRINGS; MEACHAM, OR	150 G	13 31	N	LARRY GRAIS (541)983-2277
4191075 S	OPRD HILGARD JUNCTION STATE PK PO BOX 85, EMIGRANT SPRINGS; MEACHAM, OR	645 G	13 31	N	LARRY GRAIS (541)983-2277
4191076 S	OPRD RED BRIDGE STATE PARK PO BOX 85, %EMIGRANT SPRINGS; MEACHAM, OR	257 G	2 31	N	LARRY GRAIS (541)983-2277
4101375 S	SACAJAWEA MOBILE HOME PARK 2403 RIDDLE ROAD, SPACE #52; LA GRANDE, OR	90 G	40 31	C	BARBARA APPLEBEE, MANAGER (541)963-3383
4193453 S	SPOUT SPRINGS WATER BOARD 201 CLOVER LANE; PASCO, WA 99301	100 G	45 31	N	GARY BRAUN (509)547-3507
4105731 A	SUMMERVILLE STORE/TAVERN 301 MAIN; SUMMERVILLE, OR 97876	20 G	1 31	S A	JIM ROGERS (541)534-6701

System types: C–Community, N–Transient non-community, P–Non-transient non-communities, S–State-regulated.
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Agency codes: A–Dept. of Agriculture, C–County HD, S–State (i.e., DWS).
Source codes: G–Groundwater, W–Purchased groundwater, P–Purchased surface water, S–Surface water.

APPENDIX 3

Examples of Letters to Well Owners

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
Eastern Region
700 SE Emigrant
Suite 330
Pendleton, OR 97801
(541) 276-4063 Voice/TTY
FAX (541) 278-0168

September 24, 1999

RE: April 1999 Groundwater Sampling Results

Milton-Freewater, OR 97862

Dear

The Oregon Department of Environmental Quality (DEQ) thanks you for your participation in the April 1999 groundwater quality study conducted in the area north of Milton-Freewater. The purpose of this letter is to provide you with a brief overview of the entire sampling project and the specific results of the sample collected from your well. A copy of the sampling results from your well (designated UMA308) is attached to this letter.

The groundwater samples collected during the study were analyzed for a wide variety of constituents including physical parameters, common ions, metals, nutrients, pesticides, bacteria, and volatile organic compounds. Once completed, a copy of the report will be available for review at the Milton-Freewater library. Bacteria (specifically *E. Coli* and/or fecal coliform) was the only analyte detected at levels of concern in any of the wells sampled. Nitrate was detected in all wells but at concentrations below the drinking water standard. Similarly, other analytes were detected at concentrations not considered a concern.

Results of the sample collected from your well **did not** identify the presence of bacteria or any other analyte at a concentration high enough to be a concern.

Because bacteria and nitrate in groundwater have been a concern in the Milton-Freewater area in the past, I have included the following information. Common treatment devices for nitrate and bacteria include ion exchange units or reverse osmosis units to remove nitrates, and ultraviolet units or chlorination units to treat bacteria. This information is being provided for educational purposes only and should not be considered as endorsement for any particular product by DEQ or the Oregon Health Division. The Oregon Health Division does recommend the use of water treatment devices displaying a sticker indicating the device is in accordance with NSF Standard 61. For more information on this topic, you can contact the Oregon Health Division at (541) 276-8006 or (503) 731-4010.

Additional information on NSF Standard 61 and drinking water treatment units can be obtained at the NSF International Consumer Information web site. The Internet address for this web site is http://www.nsf.org/consumer/consumerinfo.html. The North Carolina Cooperative Extension Service web site contains articles discussing home drinking water treatment systems as well as articles on other drinking water related topics. These articles can be obtained at the web site http://www5.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/drwtr.html.

Due to the detection of bacteria at four wells during this study, DEQ plans to resample, at a minimum, those four wells. Due to the potential influence of irrigation water in April 1999, a comprehensive sampling event (similar to the April 1999 sampling event) may be conducted in the future.

A public meeting will be held in the near future for the purpose of discussing this groundwater sampling project and other related topics such as water treatment technologies, how to protect your groundwater, and health concerns of nitrate and bacteria.

If you have any questions regarding this letter, your sample results, or the study itself, please feel free to contact me at (541) 278-4604.

Sincerely,

Phil Richerson

Phil Richerson
Nonpoint Source Hydrogeologist

Enclosure

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
Eastern Region
700 SE Emigrant
Suite 330
Pendleton, OR 97801
(541) 276-4063 Voice/TTY
FAX (541) 278-0168

September 24, 1999

RE: April 1999 Groundwater Sampling Results

Milton-Freewater, OR 97862

Dear

The Oregon Department of Environmental Quality (DEQ) thanks you for your participation in the April 1999 groundwater quality study conducted in the area north of Milton-Freewater. The purpose of this letter is to provide you with a brief overview of the entire sampling project and the specific results of the sample collected from your well. A copy of the sampling results from your well (designated UMA285) is attached to this letter.

The groundwater samples collected during the study were analyzed for a wide variety of constituents including physical parameters, common ions, metals, nutrients, pesticides, bacteria, and volatile organic compounds. Once completed, a copy of the report will be available for review at the Milton-Freewater library. Bacteria (specifically *E. Coli* and/or fecal coliform) was the only analyte detected at levels of concern in any of the wells sampled. Nitrate was detected in all wells but at concentrations below the drinking water standard. Similarly, other analytes were detected at concentrations not considered a concern.

Results of the sample collected from your well revealed the presence of the fecal coliform bacteria at an estimated concentration of 2 cfu/100 ml (colony forming units per 100 milliliters of sample)[1]. The federal drinking water standard for total coliforms (including fecal coliform and *E. Coli*) is zero cfu/100 ml. In other words, the presence of any coliform bacteria is considered too much. Typical sources of coliform bacteria include human and animal fecal waste.

Common treatment devices for nitrate and bacteria include ion exchange units or reverse osmosis units to remove nitrates, and ultraviolet units or chlorination units to treat bacteria. This information is being provided for educational purposes only and should not be considered as endorsement for any particular product by DEQ or the Oregon Health Division. The Oregon Health Division does recommend the use of water treatment devices displaying a sticker indicating the device is in accordance with NSF Standard 61. For more information on this topic, you can contact the Oregon Health Division at (541) 276-8006 or (503) 731-4010.

[1] The standard reporting method for bacteria counts of less than 20 cfu/100 ml is to qualify that concentration as an estimate.

Additional information on NSF Standard 61 and drinking water treatment units can be obtained at the NSF International Consumer Information web site. The Internet address for this web site is http://www.nsf.org/consumer/consumerinfo.html. The North Carolina Cooperative Extension Service web site contains articles discussing home drinking water treatment systems as well as articles on other drinking water related topics. These articles can be obtained at the web site http://www5.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/drwtr.html.

Due to the detection of bacteria at four wells during this study, DEQ plans to resample, at a minimum, those four wells. Due to the potential influence of irrigation water in April 1999, a comprehensive sampling event (similar to the April 1999 sampling event) may be conducted in the future.

A public meeting will be held in the near future for the purpose of discussing this groundwater sampling project and other related topics such as water treatment technologies, how to protect your groundwater, and health concerns of nitrate and bacteria.

I will contact you within the next few weeks to arrange a time that we can resample your well to confirm the presence of bacteria. If you have any questions regarding this letter, your sample results, or the study itself, please feel free to contact me at (541) 278-4604.

Sincerely,

Phil Richerson

Phil Richerson
Nonpoint Source Hydrogeologist

Enclosure

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
Eastern Region
700 SE Emigrant
Suite 330
Pendleton, OR 97801
(541) 276-4063 Voice/TTY
FAX (541) 278-0168

September 24, 1999

RE: April 1999 Groundwater Sampling Results

Milton-Freewater, OR 97862

Dear

The Oregon Department of Environmental Quality (DEQ) thanks you for your participation in the April 1999 groundwater quality study conducted in the area north of Milton-Freewater. The purpose of this letter is to provide you with a brief overview of the entire sampling project and the specific results of the sample collected from your well. A copy of the sampling results from your well (designated UMA301) is attached to this letter.

The groundwater samples collected during the study were analyzed for a wide variety of constituents including physical parameters, common ions, metals, nutrients, pesticides, bacteria, and volatile organic compounds. Once completed, a copy of the report will be available for review at the Milton-Freewater library. Bacteria (specifically *E. Coli* and/or fecal coliform) was the only analyte detected at levels of concern in any of the wells sampled. Nitrate was detected in all wells but at concentrations below the drinking water standard. Similarly, other analytes were detected at concentrations not considered a concern.

Results of the sample collected from your well **did not** identify the presence of bacteria or any other analyte at a concentration high enough to be a significant concern. However, the iron level in your well water (0.322 milligrams per liter) slightly exceeds the 0.3 mg/l federal secondary drinking water standard and Oregon groundwater quality guidance level[1].

Because bacteria and nitrate in groundwater have been a concern in the Milton-Freewater area, I have included the following information. Common treatment devices for nitrate and bacteria include ion exchange units or reverse osmosis units to remove nitrates, and ultraviolet units or chlorination units to treat bacteria. This information is being provided for educational purposes only and should not be considered as endorsement for any particular product by DEQ or the Oregon Health Division. The Oregon Health Division does recommend the use of water treatment devices displaying a sticker indicating the device is in accordance with NSF Standard 61. For more information on this topic, you can contact the Oregon Health Division at (541) 276-8006 or (503) 731-4010.

Additional information on NSF Standard 61 and drinking water treatment units can be obtained at the NSF International Consumer Information web site. The Internet address for

[1] These standards are guidelines for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

this web site is http://www.nsf.org/consumer/consumerinfo.html. The North Carolina Cooperative Extension Service web site contains articles discussing home drinking water treatment systems as well as articles on other drinking water related topics. These articles can be obtained at the web site http://www5.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/drwtr.html.

Due to the detection of bacteria at four wells during this study, DEQ plans to resample, at a minimum, those four wells. Due to the potential influence of irrigation water in April 1999, a comprehensive sampling event (similar to the April 1999 sampling event) may be conducted in the future.

A public meeting will be held in the near future for the purpose of discussing this groundwater sampling project and other related topics such as water treatment technologies, how to protect your groundwater, and health concerns of nitrate and bacteria.

If you have any questions regarding this letter, your sample results, or the study itself, please feel free to contact me at (541) 278-4604.

Sincerely,

Phil Richerson

Phil Richerson
Nonpoint Source Hydrogeologist

Enclosure

APPENDIX 4

Laboratory Analytical Reports

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

RECEIVED
AUG 6 1999
State of Oregon
Dept. of Environmental Quality
Eastern Region - Pendleton

CASE # 990303

Date Sampled 4/12/99

Date Received

Date Reported JUL 29 1999

pH Meter 51683 SCT Meter 50693

Agency Code : DIORWELL
Fund Code : 3650

Collected By: DLC/RJM

SAMPLES: Relinquished by _____ Date _____

Accepted by _____ Date _____

	STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic	T.Met	Nutr	VOC	Pest.	Bact.	TIME	Temp (°C)	Cond (µMhos/cm)	Alk. (mg/L)	pH (SU)
			D.Ions	D.Met	T.Hg	SPE Pest.	Carb.						
1	UMA 302		P 016	TM 711	R 1614	B 2704	1101	C 1522	13:25	10.2	91	39	6.9
			DP 359	DM 297	TH 356	X 6982	5223						
2	UMA 293		P 002	TM 382	R 105	B 2712	1100	C 862	13:50	11.2	120	52	7.2
			DP 1571	DM 295	TH 329	X 6977	5219						
3	UMA 311		P 025	TM 653	R 1534	B 2720	1103	C 085	14:20	10.0	88	38	7.2
			DP 1550	DM 277	TH 371	X 6868	5215						
4	UMA 301		P 013	TM 681	R 1650	B 2728	1102	C 1404	14:45	10.9	153	7.0	61
			DP 1184	DM 240	TH 338	X 6970	1518						
5	UMA 301		P 018	TM 759	R 1722	B 2736	1104	C 1508	14:46	10.9	152	7.1	61
			DP 1759	DM 244	TH 366	X 6976	1522						
			P	TM	R	B	(5222)	C					
			DP	DM	TH	X							
			P	TM	R	B		C					
			DP	DM	TH	X							
			P	TM	R	B		C					
			DP	DM	TH	X							
			P	TM	R	B		C					
			DP	DM	TH	X							
			P	TM	R	B		C					
			DP	DM	TH	X							

X6972 spike

Ambient Temperature (°C):
@ 08:00 Hrs. —
@ 10:00 Hrs. —
@ 12:00 Hrs. 15° cloudy
@ 14:00 Hrs. 15° sprinkles
@ 16:00 Hrs. _____

Comments:

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

BROMIDE BY ION CHROMATOGRAPHY

QA/QC REPORT

CASE No.: 990303

CASE NAME: Milton Freewater Groundwater

Samples/Matrix 5,Water

ANALYSIS DATE: 5/5/99

ANALYST(s): WRC

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value mg/L	Measured Value mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC STANDARD	0.850	0.858	101 %
ACCUSTANDARD	1.000	0.999	100 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.3 mg/L Br	0.300		
III. ZERO-CHECK SAMPLE(s) [MRL = 0.05 mg/L]	NA		Nondetectable (<1/2 MRL)

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value mg/L	Nondetectable (<1/2 MRL)
		NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)	
3	BROMIDE	DP1550	0.000	DP1550	0.000	0.0 %	Below MDL

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	mg/L	Known mg/L	Resul mg/L	Percent Recovery (80-120%)	
2	BROMIDE	DP1571	0.000	0.15	0.144	96 %	~~Below MDL~~

NA - Not Applicable

Method conforms to method 300.0 Determination of Inorganic Anions by Ion Chromatography in Standard Methods for the Examination of Water and Wastewater.

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORIES AND APPLIED RESEARCH
INORGANIC/METALS SECTION
QUANTITATIVE ANALYSIS FOR 25 ELEMENTS
by
Inductively Coupled Plasma (ICP)

SUMMARY QA/ QC REPORT

990303 MILTON-FREEWATER G.W. DATE: JUNE 28, 1999

SAMPLE # 10 WATER ANALYST: DLL/

ELEMENT	MDL (mg/L)	QC REFERENCE % RECOVERY (95-105%)	CALIBRATION CHECK % RECOVERY (95-105%)	ZERO CHECK (<MDL)	LAB REAGENT BLANK (<MDL)	LAB REPLICATES %DIFFERENCE (0+/- 20%)	LAB SPIKED SAMPLE % RECOVERY (80-120%)	LAB SPIKED BLANK % RECOVERY (90-110%)
		SPEX 1563				ITEM 1 - DM297	ITEM 3 - DM277	
Iron	0.0020	94	97	Acceptable	Acceptable	-4.1	97	93
Manganese	0.00020	100	95	Acceptable	Acceptable	-9.4	100	96
Potassium	0.010	111	105	Acceptable	Acceptable	-7.2	110	108
Aluminum	0.010	103	99	Acceptable		53.8	105	102
Lithium	0.00040	100	96			-5.2	105	103
Calcium	0.010	102	93	Acceptable		1.4	98	95
Sodium	0.100	102	93	Acceptable	Acceptable	-0.1	100	97
Magnesium	0.010	100	96	Acceptable		-1.6	101	97
Lanthanum	0.0010	101	92	Acceptable	Acceptable	200.0	97	95
Silver	0.00010	102	102	Acceptable	Acceptable	-200.0	108	104
Molybdenum	0.00040	109	105	Acceptable		21.1	110	106
Cadmium	0.00010	106	103	Acceptable	Acceptable	-3.6	106	102
Barium	0.00010	105	101	Acceptable	Acceptable	-0.7	104	98
Beryllium	0.000010	110	101	Acceptable	Acceptable	-21.5	112	109
Nickel	0.00020	108	102	Acceptable		-60.3	104	100
Cobalt	0.00020	110	113			11.1	115	110
Chromium	0.00020	107	102	Acceptable	Acceptable	0.0	108	103
Vanadium	0.00010	109	101	Acceptable	Acceptable	7.3	110	107
Copper	0.00030	105	101		Acceptable	-4.5	113	109
Zinc	0.00050	117	104	Acceptable		-2.9	109	105
Antimony	0.0030	108	103	Acceptable	Acceptable	66.7	108	104
Arsenic	0.0020	110	93	Acceptable	Acceptable	12.0	104	100
Lead	0.0030	99	103	Acceptable	Acceptable	33.3	97	93
Thallium	0.0020	100	103	Acceptable	Acceptable	200.0	97	94
Selenium	0.0030	100	97	Acceptable	Acceptable	-33.1	102	99

Below or near MD | Spike too small

Method conforms to methods 6010 & 3050 in SW846 EPA-RCRA Manual,

Method also conforms to methods 200.7 in EPA Water & Waste water Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
CHLORIDE BY AUTOMATED FLOW INJECTION
QA/QC REPORT

CASE NO: **990303**
FUND CODE: **3560**
CASE NAME: **MILTON - FREEWATER GROUNDWATER**
SAMPLES/CASE--MATRIX 5--Water

ANALYSIS DATE: 4/27/99
ANALYST(s): LKM / GDS

TYPE: 1.000 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value	mg/L	Percent Recovery (95-105%):
I. QC REFERENCE SAMPLE(s)				
QC #4 1/500 CHLORIDE	2.400		2.495	104 %
II. CALIBRATION CHECK SAMPLE(s)				
5.0 mg/l CHLORIDE	5.000		5.059	101 %
	5.000		4.987	100 %

TYPE: 2.000 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value	mg/L	Nondetectable (<1/2 MRL):
H2O	CHLORIDE	0.000		0.000	Acceptable
		0.000		0.000	Acceptable

TYPE: 3.000 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%):
2	CHLORIDE	DP1571A	1.082	DP1571B	1.036	-4.3 %

TYPE: 4.000 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE # - (A)	mg/L	Known Addition	Results	Percent Recovery (80-120%):
2	CHLORIDE	DP1571	1.064	1.000	2.203	114 %
II. REAGENT BLANK		**MATRIX**				**Percent Recovery (95-105%):**

NA - Not Applicable
Method conforms to methods ???? in SW846 EPA-RCRA Manual.
Method also conforms to method 325.2 in EPA-600 Water and Wastes Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

SULFATE BY ION CHROMATOGRAPHY ANALYSIS

QA/QC REPORT

CASE No.: 990303
CASE NAME: MILTON-FREEWATER GROUNDWATER
Samples/Matrix 5, WATERS

ANALYSIS DATE: April 16, 1999
ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC #4 1/50 SULFATE	3.00	2.83	94 %
	3.00	2.81	94 %
II. CALIBRATION CHECK SAMPLE(s)			
20.0 mg/L SULFATE	20.00	19.92	100 %
	20.00	19.54	98 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]			**Nondetectable (<1/2 MRL)**
SULFATE	<0.2	0.00	Acceptable
	<0.2	0.02	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	SULFATE	<0.2	0.01	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
2	SULFATE	DP1571 A	1.92	Water	DP1571 B	1.80	-6.0 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
3	SULFATE	DP1550	1.268	2.00	3.106	92 %

NA - Not Applicable

Method conforms to method 4500-SO4 F in Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 300 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
AMMONIA BY AUTOMATED PHENATE METHOD
QA/QC REPORT

CASE No.: 990303
CASE NAME: Milton Freewater Groundwater
Samples/Matrix 5-water

ANALYSIS DATE: 4/22/99
ANALYST(s): KHA

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
ACCUSTANDARD #6	0.388	0.385	99 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.5 mg/L NH3-N	0.500	0.479	96 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			**Nondetectable (<1/2 MRL)**
AMMONIA-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	AMMONIA-N	NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
2	AMMONIA-N	R105	0.027		R105	0.034	23.0 % at MRL

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
	AMMONIA-N			0.20		

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 350.1 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
NO3+NO2 BY AUTOMATED FLOW INJECTION Cd REDUCTION
QA/QC REPORT

CASE No.: 990303
FUND CODE: 3560
CASE NAME: MILTON - FREEWATER GROUNDWATER
Samples/Matrix 5/water

ANALYSIS DATE 4/23/99
ANALYST(s): LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
1. QC H: 0.050 mgN/L NO3-N	0.050		
	0.050		
1. 0.2 mg N/L NO2-N	0.200		
	0.200		
2. QC H:, 2.0 mgN/L NO3-N	2.000	2.082	104 %
	2.000		
2. 10.0 mgn /L NO2-N	10.000	10.28	103 %
	10.000		
II. CALIBRATION CHECK SAMPLE(s)			
0.2 mgN/L NO3-N	0.200		
	0.200		
10.0 mgN/L NO3-N	10.00	10.09	101 %
	10.00	10.22	102 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			Nondetectable (<1/2 MRL)
NO3-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
	NO3+NO2-N	NA		
	"			

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
002	NO3+NO2-	R105 A	0.665	Water	R105 B	0.683	2.6 %
	"						
	"						
	"						

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
005	NO3+NO2-N	R1722	0.820	1.00	1.823	100 %
	"					
	"					
	"					

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 353.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".
QC REFERENCE SAMPLE RANGES: 1. is 0.02-0.5mg/L, 2. is 0.5-5.0 mg/L & 3. is 5.0-50 mg/L

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

TOTAL KJELDAHL NITROGEN (TK-N) BY SEMI-AUTOMATED PHENATE; LACHAT/FIA

QA/QC REPORT

CASE No.: 990303
CASE NAME: MILTON - FREEWATER GROUNDWATER
Samples/Matrix 5, WATERS

ANALYSIS DATE: 20-Apr-99
ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC 1/50 GLYCINE	2.000	2.025	101 %
	2.000	2.010	101 %
QC 1/50 NICOTINIC ACID	2.000	1.955	98 %
	2.000	1.999	100 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD H 5.0 mg/L TK-N	4.000	3.953	99 %
"	3.000	2.962	99 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]			Nondetectable (<1/2 MRL)
TK-N	<0.1	0.008	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	TK-N	<0.1	0.003	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/ml	Percent Difference (RPD 0+/-20%)
2	TK-N	R105 A	0.077	Water	R105 B	0.147	62.2 % Less than detection limit.

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
I. SAMPLES						
3	TK-N	R1534	0.026	0.50	0.507	96 %
5	TK-N	R1722	0.091	0.50	0.496	81 %

NA - Not Applicable

Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 351.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
TOTAL PHOSPHORUS BY SPECTROPHOTOMETRY
QA/QC REPORT

CASE No.: 990303
CASE NAME: MILTON - FREEWATER GROUNDWATER (4/12/99)
SAMPLES/CASE--MATRIX 5--Water

ANALYSIS DATE 4/19/99
ANALYST(s): GDS

TYPE: 1 CALIBRATION VERIFICATIONS				
ANALYTE	True Value -- mg/L	Measured Value --	mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)				
WP1188 (1/5) TOTAL PHOSPHORUS	0.300		0.302	101 %
II. CALIBRATION CHECK SAMPLE(s)				
TOTAL PHOSPHORUS STANDARD 0.400 mg/L	0.400		0.401	100 %
III. ZERO-CHECK SAMPLES(s) (MRL=0.010mg/L)				Nondetectable (<MRL)
TOTAL PHOSPHORUS	<0.010		0.001	Acceptable

TYPE: 2 LAB REAGENT BLANKS				
MATRIX ANALYTE	Expected Value -- mg/L	Measured Value --	mg/L	Nondetectable (<MRL)
Water TOTAL PHOSPHORUS	<0.010		0.003	Acceptable

TYPE: 3 LAB REPLICATES					
ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
2	TPO4P	R105A	0.038	Water R105B	0.039	2.6 %

TYPE: 4 LAB SPIKED SAMPLES:						
ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (90-110%)
I. SAMPLES						
3	TP04P	R1534	0.040	0.120	0.162	102 %

NA - Not Applicable

Method conforms to method 4500-P E, "Standard Methods for the Examination of Water and Wastewater," 19th Edition,1995.

Method also conforms to method 365.2, US EPA-600, "Methods for the Chemical Analysis of Water and Wastes."

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

MERCURY BY COLD VAPOR AAS INTERIM LOW LEVEL

QA/QC REPORT

CASE No.: 990303 | ANALYSIS DATE: 4/21/99

CASE NAME:. Milton-Freewater Groundwater | # Samples: 5 groundwater | ANALYST(s): GAD

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- ng/L	True Value -- mg/L	Measured Value -- ng/L	Measured Value -- mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)					
Mercury	250	0.00025	253	0.00025	101 %
II. CALIBRATION CHECK SAMPLE(s)					
200 ppt Mercury	200	0.00020	200	0.00020	100 %
" "	200	0.00020	196	0.00020	98 %
" "	200	0.00020	198	0.00020	99 %
III. ZERO-CHECK SAMPLE(s) [MRL = 10.0 ng/L = 0.000010 mg/L]					Nondetectable (<1/2 MRL)
Mercury	<5.0	<0.000005	0.22	0.000000	Acceptable
"	"	"	-0.33	0.000000	Acceptable
"	"	"	0.43	0.000000	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- ng/L	Expected Value -- mg/L	Measured Value -- ng/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	Mercury	<5.0	<0.000005	4.62	0.000005	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	ng/L	mg/L	Matrix	DUPLICATE # (B)	ng/L	mg/L	Percent Difference (RPD 0+/-10%)
2	Mercury	TH329	1.38	0.000001	Water		1.07	0.000001	-25.3 % Below MRL

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	ng/L	mg/L	Known Addition ng/L =>	Known Addition mg/L	Results -- ng/L	Results -- mg/L	Percent Recovery (90-110%)
I. SAMPLES									
3	Mercury	TH371	1.74	0.000002	125.0	0.000125	125.00	0.000125	99 %
II. REAGENT BLANK		MATRIX							Percent Recovery (90-110%)
	Mercury	Water	4.62	0.000005	250.0	0.000250	250.00	0.000250	98 %

NA - Not Applicable

Method conforms to methods 7470 & 7471 in SW846 EPA's RCRA Manual-Physical/Chemical Methods.

Method also conforms to method 245.2 & 245.5 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

QUALITY ASSURANCE REPORT: ORGANICS

Case Name: Milton-Freewater
Case #: 990303

Fund Code: 3560

Sample date: 15-Apr-99
QA report date: 28-Jul-99

VOLATILE ORGANICS: Method 524.2/8260

mg/L

Item	Well	Analyte	Replicate	Sample (A)	Sample (B)	Duplicate (A)	Duplicate (B)	Report Sample	Report Duplicat	Diff.	Range	Standard eviation	RPD RSD
*				NA	NS	NS	NS	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

* No volatile compounds were identified above the forward search detection limit.
Data appearing in shaded boxes do not meet QA criteria, refer to analytical report. Data is for information only!
**: Exceeds calibration range.
***: Probable lab contamination.
DBNC: Detected But Not Confirmed.
NA = Not Applicable, NS = No sample
RPD: Relative Percent Difference is computed only when two results are compared.
RSD: Relative Standard Deviation is computed if more than two results are compared.
Data which is reported as "less than" (<) is used at 80% the numerical value to calculate difference and RPD.

Surrogate Spike Recovery		D6-Benzene Percent Recovery		2-Bromo-1-Chloropropane Percent Recovery		4-Bromofluorobenzene Percent Recovery	
Item	Well	(A)	(B)	(A)	(B)	(A)	(B)
1	Copeland	91%		105%		97%	
2	Mauer	94%		103%		93%	
3	LaRue	102%		102%		105%	
4	Jordan	100%		102%		104%	
5	QA Jordan	103%		105%		98%	
	Lab blank						
	Average Spike Recovery:	98%		103%		99%	

Q A R E P O R T
Groundwater Monitoring

Lab# 990303
RUN: MILTON-FREEWATER GROUNDWATER

CODE#: 3560
DATE: 04/12/99
QA RATIO: 25%

PARAMETER	FIELD BLANK*	SITE	QA	DIFFERENCE	RPD
STATION					
STORET#					
TIME		14:45	14:46		
Groundwater field parameters.					
Field Alkalinity as CaCO3		61	61	0.	0
Field Conductivity		153	152	-1.	-1
Field Sample Temperature		10.9	10.9	0.0	0
Field pH		7.0	7.1	0.1	NA
~~QA Type Identification~~		~~12~~	~~11~~	~~1.~~	
Microbiological data performed by OSHD.					
E. coli		<2	<2	NA	NA
Fecal Coliform		<2	<2	NA	NA
Indicator Metals by Inductively Coupled Plasma #1					
Indicator Metals by Inductively Coupled Plasma #1					
Aluminum, Dissolved		<0.010	<0.010	NA	NA
Aluminum, Total Recoverable		<0.010	<0.010	NA	NA
Calcium, Dissolved		13.6	14.0	0.4	[illegible]
Calcium, Total Recoverable		13.3	13.9	0.6	[illegible]
Hardness as CaCO3 (calculated), Dissolved		57.5	58.8	1.3	[illegible]
Hardness as CaCO3 (calculated), Total Reco		56.2	58.9	2.7	[illegible]
Iron, Dissolved		0.0115	0.0084	-0.0031	-3[illegible]
Iron, Total Recoverable		0.309	0.322	0.013	[illegible]
Lanthanum, Dissolved		<0.0010	<0.0010	NA	NA
Lanthanum, Total Recoverable		<0.0010	<0.0010	NA	NA
Lithium, Dissolved		0.0021	0.0026	0.0005	2[illegible]
Lithium, Total Recoverable		0.0011	0.0008	-0.0003	-3[illegible]
Magnesium, Dissolved		5.72	5.81	0.09	[illegible]
Magnesium, Total Recoverable		5.57	5.87	0.30	[illegible]
Manganese, Dissolved		0.0004	<0.0002	NA	NA
Manganese, Total Recoverable		0.0064	0.0055	-0.0009	-1[illegible]
Potassium, Dissolved		3.58	3.51	-0.07	-[illegible]
Potassium, Total Recoverable		3.51	3.64	0.13	[illegible]
Sodium, Dissolved		6.08	6.33	0.25	[illegible]
Sodium, Total Recoverable		6.01	6.43	0.42	[illegible]
Indicator Metals by Inductively Coupled Plasma #2					
Boron, Dissolved		0.0181	0.0185	0.0004	[illegible]
Silicon as SiO2, Dissolved		38.0	38.4	0.4	[illegible]
Miscellaneous tests performed by contract	Attached	Attached		NA	NA
Primary Pollutant Metals by ICP #1					
Primary Pollutant Metals by ICP #1					
Barium, Dissolved		0.0162	0.0167	0.0005	[illegible]
Barium, Total Recoverable		0.0160	0.0164	0.0004	[illegible]
Beryllium, Dissolved		<0.0000	<0.0000	NA	NA
Beryllium, Total Recoverable		<0.0000	<0.0000	NA	NA
Cadmium, Dissolved		<0.0001	<0.0001	NA	NA
Cadmium, Total Recoverable		<0.0001	<0.0001	NA	NA
Chromium, Dissolved		<0.0002	<0.0002	NA	NA
Chromium, Total Recoverable		0.0002	<0.0002	NA	NA
Cobalt, Dissolved		0.0018	0.0017	-0.0001	-[illegible]
Cobalt, Total Recoverable		0.0026	0.0034	0.0008	2[illegible]
Copper, Dissolved		0.0019	0.0018	-0.0001	-[illegible]
Copper, Total Recoverable		0.0031	0.0038	0.0007	2[illegible]
Molybdenum, Dissolved		0.0008	0.0014	0.0006	5[illegible]
Molybdenum, Total Recoverable		0.0006	0.0008	0.0002	2[illegible]
Nickel, Dissolved		0.0004	0.0005	0.0001	2[illegible]
Nickel, Total Recoverable		0.0004	0.0003	-0.0001	-2[illegible]
Silver, Dissolved		<0.0002	<0.0002	NA	NA
Silver, Total Recoverable		<0.0002	<0.0002	NA	NA
Vanadium, Dissolved		0.0061	0.0058	-0.0003	-[illegible]
Vanadium, Total Recoverable		0.0062	0.0076	0.0014	2[illegible]
Zinc, Dissolved		0.0223	0.0211	-0.0012	-[illegible]
Zinc, Total Recoverable		0.0318	0.0276	-0.0042	-1[illegible]
Primary Pollutant Metals by ICP #2					
Primary Pollutant Metals by ICP #2					
Antimony, Dissolved		<0.0030	<0.0030	NA	NA

Q A R E P O R T
Groundwater Monitoring

Lab# 990303
RUN: MILTON-FREEWATER GROUNDWATER

CODE#: 3560
DATE: 04/12/99
QA RATIO: 25%

PARAMETER	FIELD BLANK*	SITE	QA	DIFFERENCE	RPD
STATION					
STORET#					
TIME		14:45	14:46		
Antimony, Total Recoverable		<0.0030	<0.0030	NA	N/
Arsenic, Dissolved		<0.0020	<0.0020	NA	N/
Arsenic, Total Recoverable		<0.0020	0.0061	NA	N/
Lead, Dissolved		<0.0030	<0.0030	NA	N/
Lead, Total Recoverable		<0.0030	<0.0030	NA	N/
Selenium, Dissolved		<0.0030	<0.0030	NA	N/
Selenium, Total Recoverable		<0.0030	<0.0030	NA	N/
Thallium, Dissolved		<0.0020	<0.0020	NA	N/
Thallium, Total Recoverable		<0.0020	<0.0020	NA	N/
Ammonia as N		0.02	<0.02	NA	N/
Bromide		<0.05	<0.05	NA	N/
Carbamate analysis by Dept. of Ag.	Attached	Attached		NA	N/
Chemical Oxygen Demand (mg/l)		<5	<5	NA	N/
Chloride		2.7	2.8	0.1	
GC/MS Volatiles	Attached	Attached		NA	N/
Mercury		<0.0000	<0.0000	NA	N/
Nitrate & Nitrite as N		0.805	0.820	0.015	
Pesticide/Herbicide analysis by Dept. of A	Attached	Attached		NA	N/
Sulfate by Ion Chromatography		4.99	4.68	-0.31	
Total Dissolved Solids		120	120	0.	
Total Kjeldahl Nitrogen		<0.2	<0.2	NA	N/
Total Organic Carbon		<1	<1	NA	N/
Total Phosphate as P		0.05	0.05	0.00	
Total Suspended Solids		<1	2	NA	N/

	FIELD	LAB	DIFFERENCE	RPD
Alkalinity as CaCO3	61	59 Est	2.	
Conductivity	152	152 Est	0.	
pH	7.1	7.2 E	-0.1	N/

: Results are estimates; past holding time :

* No data available.

Fecal and Enterococcus results are transformed to log values prior to calculating DIFFERENCE and RPD.

CLR
7-23-99

Department of Environmental Quality
Organic Lab

Solids Data QA Data Comparison

Case #: **990303**
Case: **Milton Freewater LF**

Analyst: **JFS**

Matrix: **GW**

Factor: **0.6**

GW	Ground Water
SE	Surface Water - East Side
SW	Surface Water - West Side

OK

Item No.	Sample No.	COND	TSS	TDS	TDS+TSS	TS	(TDS+TSS)/TS		Conductivity vs Solids *					Comments
							Recovery		Expected TDS		TDS		TS-TSS	
			mg/L	mg/L	mg/L	mg/L								
1	P016	91	1	88	89				54.6	1.0	**<100**	-0.01		
2	P002	120	1	100	101				72.0	0.8	**RERUN**	-0.01		
3	P025	88	1	80	81				52.8	0.9	**<100**	-0.01		
4	P013	153	1	120	121				91.8	0.8	**RERUN**	-0.01		
5	P018	152	2	120	122				91.2	0.8	**RERUN**	-0.01		
6					0									
7					0									
8					0									
9					0									
10					0									
11					0									
12					0									
13					0									
14					0									
15					0									
16					0									
17					0									
18					0									
19					0									
20					0									
21					0									
22					0									
23					0									
24					0									
25					0									
26					0									
27					0									
28					0									
29					0									
30					0									

* Note when conductivity <100, COND/TDS difficult to predict.

OREGON HEALTH DIVISION

MEMBRANE FILTRATION 990303 CENTER FOR PUBLIC HEALTH LABORATORIES DATE/TIME RECEIVED AT PHL

Done

MICROBIOLOGICAL EXAMINATION OF ENVIRONMENTAL WATER

Requesting Agency: X DEQ ___County ___Other

Tests requested ___ Total coliforms X Fecal coliforms X E. coli ___ Enterococci

APR 13 PM 3:46

Survey _____ Collection Date 4-12-99 Time 1:25- am (pm) By RJM/DLC

Analysis date 4-13-99 Time 4:00 am (pm) Completion Date 4-14-99 Time 4:00 am (pm)

Reported by tzh Date 4-14-99 Reviewed by B Date 4-14-99

PHL #	Bottle #	Storet #	Sample Point	RESULTS: CFU\100ml			
				Total coliforms	Fecal coliforms	E. coli	Enterococci
604	c1522	uMA302			<2	<2	
605	c802	uMA293			<2	<2	
606	c085	uMA311			<2	<2	
607	c1401	uMA301			<2	<2	
608	c1508	uMA301			<2	<2	

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990303
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area)
SAMPLING DATE: 04/12/1999

DATE: 06/09/1999
INITIALS: RMM
Sampled by: DLC/RJM

ITEM: 1 SITE: (45 deg 58.818'/118 deg 23.033') UMA302

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	34.2	0.68	Alkalinity	39	0.78
Sodium	3.21	0.14	Chloride	0.7	0.02
Potassium	2.12	0.05	Bromide	<0.05	0.00
Iron II	0.0173	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00254	0.00	Sulfate	1.13	0.02
Ammonia-N	0.04	0.00	Nitrate&Nitrite-N	0.363	0.03

Cation Total: 0.87 meq/L
Anion Total: 0.85 meq/L
Relative Deviation: 2.3 %
Conductivity: 91
METER: 50683

ITEM: 2 SITE: (45 deg 59.110'/118 deg 22.470') UMA293

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	48.4	0.96	Alkalinity	52	1.03
Sodium	3.65	0.16	Chloride	1.1	0.03
Potassium	2.72	0.07	Bromide	<0.05	0.00
Iron II	0.0023	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00047	0.00	Sulfate	1.86	0.04
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	0.674	0.05

Cation Total: 1.19 meq/L
Anion Total: 1.15 meq/L
Relative Deviation: 3.4 %
Conductivity: 120

ITEM: 3 SITE: (45 deg 59.162'/118 deg 23.511') UMA311

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	33.1	0.66	Alkalinity	38	0.76
Sodium	3.40	0.15	Chloride	0.9	0.03
Potassium	2.19	0.06	Bromide	<0.05	0.00
Iron II	0.0649	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00086	0.00	Sulfate	1.27	0.03
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.445	0.03

Cation Total: 0.87 meq/L
Anion Total: 0.85 meq/L
Relative Deviation: 2.3 %
Conductivity: 88

ITEM: 4 SITE: (45 deg 59.584'/118 deg 23.016') UMA301

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	57.5	1.14	Alkalinity	61	1.21
Sodium	6.08	0.26	Chloride	2.7	0.08
Potassium	3.58	0.09	Bromide	<0.05	0.00
Iron II	0.0115	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00049	0.00	Sulfate	4.99	0.10
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.805	0.06

Cation Total: 1.49 meq/L
Anion Total: 1.45 meq/L
Relative Deviation: 2.7 %
Conductivity: 153

ITEM: 5 SITE: (45 deg 59.584'/118 deg 23.016') UMA301

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	58.8	1.17	Alkalinity Lab = 59 Estimat	61	1.21
Sodium	6.33	0.28	Chloride	2.8	0.08
Potassium	3.51	0.09	Bromide	<0.05	0.00
Iron II	0.0084	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	4.68	0.10
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.820	0.06

Cation Total: 1.54 meq/L
Anion Total: 1.45 meq/L
Relative Deviation: 6.0 %
Conductivity: 152
Lab = 152

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990303
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area)
SAMPLING DATE: 04/12/1999

DATE: 06/09/1999
INITIALS: RMM
Sampled by: DLC/RJM

ITEM:	SITE: MDL's				NA		
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L	Cation Total:	0.00 meq/L
Hardness	<0.10	0.00	Alkalinity	<1	0.00	Anion Total:	0.00 meq/L
Sodium	<0.10	0.00	Chloride	<0.5	0.00		
Potassium	<0.010	0.00	Bromide	<0.05	0.00	Relative Deviation:	0.0 %
Iron II	<0.0020	0.00	Orthophosphate-P	NA	0.00		
Manganese II	<0.00020	0.00	Sulfate	<0.10	0.00	Conductivity:	<1
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	<0.0050	0.00		

COMMENTS: Cations are | | "Total Recoverable" or | X | "Dissolved.

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATOR

Analytical Records Report

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001	UMA302 04/12/99 @ 15:22		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.052	mg/L	Aluminum, Dissolved
	0.014	mg/L	Aluminum, Total Recoverable
	8.47	mg/L	Calcium, Dissolved
	8.70	mg/L	Calcium, Total Recoverable
	34.2	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	35.8	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0173	mg/L	Iron, Dissolved
	0.0321	mg/L	Iron, Total Recoverable
	0.0030	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0030	mg/L	Lithium, Dissolved
	0.0005	mg/L	Lithium, Total Recoverable
	3.18	mg/L	Magnesium, Dissolved
	3.42	mg/L	Magnesium, Total Recoverable
	0.0025	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.12	mg/L	Potassium, Dissolved
	2.37	mg/L	Potassium, Total Recoverable
	3.21	mg/L	Sodium, Dissolved
	3.25	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0108	mg/L	Barium, Dissolved
	0.0109	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0011	mg/L	Cobalt, Dissolved
	0.0025	mg/L	Cobalt, Total Recoverable
	0.0020	mg/L	Copper, Dissolved
	0.0028	mg/L	Copper, Total Recoverable
	0.0009	mg/L	Molybdenum, Dissolved
	0.0005	mg/L	Molybdenum, Total Recoverable
	0.0007	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0049	mg/L	Vanadium, Dissolved
	0.0062	mg/L	Vanadium, Total Recoverable
	0.0523	mg/L	Zinc, Dissolved
	0.0548	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved

Analytical Records Report

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001			
	Continued...		
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0162	mg/L	Boron, Dissolved
	35.6	mg/L	Silicon as Silica (SiO2), Dissolved
	0.04	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.7	mg/L	Chloride
	0.363	mg/L	Nitrate & Nitrite as N
	1.13	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	88	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	39	mg/L	Field alkalinity as CaCO3.
	91	umhos/cm	Field conductivity.
	10.2	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
002	UMA293 04/12/99 @ 13:50		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	12.3	mg/L	Calcium, Dissolved
	11.4	mg/L	Calcium, Total Recoverable
	48.4	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	44.7	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0023	mg/L	Iron, Dissolved
	0.0111	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0023	mg/L	Lithium, Dissolved
	0.0011	mg/L	Lithium, Total Recoverable
	4.27	mg/L	Magnesium, Dissolved
	3.95	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.72	mg/L	Potassium, Dissolved
	2.57	mg/L	Potassium, Total Recoverable
	3.65	mg/L	Sodium, Dissolved
	3.35	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0161	mg/L	Barium, Dissolved
	0.0149	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
002			
	Continued...		
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0015	mg/L	Cobalt, Dissolved
	0.0012	mg/L	Cobalt, Total Recoverable
	0.0014	mg/L	Copper, Dissolved
	0.0033	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0005	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0006	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0057	mg/L	Vanadium, Dissolved
	0.0049	mg/L	Vanadium, Total Recoverable
	0.0391	mg/L	Zinc, Dissolved
	0.0331	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0171	mg/L	Boron, Dissolved
	38.3	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.1	mg/L	Chloride
	0.674	mg/L	Nitrate & Nitrite as N
	1.86	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	100	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	52	mg/L	Field alkalinity as CaCO3.
	120	umhos/cm	Field conductivity.
	11.2	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003	UMA311 04/12/99 @ 14:20		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.094	mg/L	Aluminum, Dissolved
	0.064	mg/L	Aluminum, Total Recoverable
	7.93	mg/L	Calcium, Dissolved
	7.83	mg/L	Calcium, Total Recoverable
	33.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	32.8	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0649	mg/L	Iron, Dissolved
	0.0923	mg/L	Iron, Total Recoverable
	0.0043	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0021	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	3.23	mg/L	Magnesium, Dissolved
	3.22	mg/L	Magnesium, Total Recoverable
	0.0008	mg/L	Manganese, Dissolved
	0.0016	mg/L	Manganese, Total Recoverable
	2.19	mg/L	Potassium, Dissolved
	2.30	mg/L	Potassium, Total Recoverable
	3.40	mg/L	Sodium, Dissolved
	3.29	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0077	mg/L	Barium, Dissolved
	0.0070	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0013	mg/L	Cobalt, Dissolved
	0.0028	mg/L	Cobalt, Total Recoverable
	0.0019	mg/L	Copper, Dissolved
	0.0031	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0004	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0051	mg/L	Vanadium, Dissolved
	0.0061	mg/L	Vanadium, Total Recoverable
	0.0072	mg/L	Zinc, Dissolved
	0.0059	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003			
	Continued...		
	0.0158	mg/L	Boron, Dissolved
	36.0	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.9	mg/L	Chloride
	0.445	mg/L	Nitrate & Nitrite as N
	1.27	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	80	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	38	mg/L	Field alkalinity as CaCO3.
	88	umhos/cm	Field conductivity.
	10.0	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
004	UMA301		
	04/12/99 @ 14:45		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	13.6	mg/L	Calcium, Dissolved
	13.3	mg/L	Calcium, Total Recoverable
	57.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	56.2	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0115	mg/L	Iron, Dissolved
	0.309	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0021	mg/L	Lithium, Dissolved
	0.0011	mg/L	Lithium, Total Recoverable
	5.72	mg/L	Magnesium, Dissolved
	5.57	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	0.0064	mg/L	Manganese, Total Recoverable
	3.58	mg/L	Potassium, Dissolved
	3.51	mg/L	Potassium, Total Recoverable
	6.08	mg/L	Sodium, Dissolved
	6.01	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0162	mg/L	Barium, Dissolved
	0.0160	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003			
	Continued...		
	0.0158	mg/L	Boron, Dissolved
	36.0	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.9	mg/L	Chloride
	0.445	mg/L	Nitrate & Nitrite as N
	1.27	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P.
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	80	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	38	mg/L	Field alkalinity as CaCO3.
	88	umhos/cm	Field conductivity.
	10.0	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
004	UMA301		
	04/12/99 @ 14:45		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	13.6	mg/L	Calcium, Dissolved
	13.3	mg/L	Calcium, Total Recoverable
	57.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	56.2	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0115	mg/L	Iron, Dissolved
	0.309	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0021	mg/L	Lithium, Dissolved
	0.0011	mg/L	Lithium, Total Recoverable
	5.72	mg/L	Magnesium, Dissolved
	5.57	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	0.0064	mg/L	Manganese, Total Recoverable
	3.58	mg/L	Potassium, Dissolved
	3.51	mg/L	Potassium, Total Recoverable
	6.08	mg/L	Sodium, Dissolved
	6.01	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0162	mg/L	Barium, Dissolved
	0.0160	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
004			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0018	mg/L	Cobalt, Dissolved
	0.0026	mg/L	Cobalt, Total Recoverable
	0.0019	mg/L	Copper, Dissolved
	0.0031	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0004	mg/L	Nickel, Dissolved
	0.0004	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0061	mg/L	Vanadium, Dissolved
	0.0062	mg/L	Vanadium, Total Recoverable
	0.0223	mg/L	Zinc, Dissolved
	0.0318	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0181	mg/L	Boron, Dissolved
	38.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.7	mg/L	Chloride
	0.805	mg/L	Nitrate & Nitrite as N
	4.99	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	120	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	61	mg/L	Field Alkalinity as CaCO3
	153	umhos/cm	Field conductivity.
	10.9	C	Field sample temperature.
	7.0	SU	Field pH
	12		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005	UMA301 04/12/99 @ 14:46		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	14.0	mg/L	Calcium, Dissolved
	13.9	mg/L	Calcium, Total Recoverable
	58.8	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	58.9	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0084	mg/L	Iron, Dissolved
	0.322	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0026	mg/L	Lithium, Dissolved
	0.0008	mg/L	Lithium, Total Recoverable
	5.81	mg/L	Magnesium, Dissolved
	5.87	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	0.0055	mg/L	Manganese, Total Recoverable
	3.51	mg/L	Potassium, Dissolved
	3.64	mg/L	Potassium, Total Recoverable
	6.33	mg/L	Sodium, Dissolved
	6.43	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0167	mg/L	Barium, Dissolved
	0.0164	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0017	mg/L	Cobalt, Dissolved
	0.0034	mg/L	Cobalt, Total Recoverable
	0.0018	mg/L	Copper, Dissolved
	0.0038	mg/L	Copper, Total Recoverable
	0.0014	mg/L	Molybdenum, Dissolved
	0.0008	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0058	mg/L	Vanadium, Dissolved
	0.0076	mg/L	Vanadium, Total Recoverable
	0.0211	mg/L	Zinc, Dissolved
	0.0276	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	0.0061	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005			
	Continued...		
	0.0185	mg/L	Boron, Dissolved
	38.4	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.8	mg/L	Chloride
	0.820	mg/L	Nitrate & Nitrite as N
	4.68	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	59 Est	mg/L	Alkalinity as CaCO3
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	152 Est	umhos/cm	Conductivity
	120	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	2	mg/L	Total Suspended Solids
	7.2 Est	SU	pH
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
			Intra-Laboratory QA report.
	Attached		QA Report: Summary of duplicate samples.
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	61	mg/L	Field Alkalinity as CaCO3
	152	umhos/cm	Field conductivity.
	10.9	C	Field sample temperature.
	7.1	SU	Field pH
	11		QA Type Identification

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
004			1.
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0018	mg/L	Cobalt, Dissolved
	0.0026	mg/L	Cobalt, Total Recoverable
	0.0019	mg/L	Copper, Dissolved
	0.0031	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0004	mg/L	Nickel, Dissolved
	0.0004	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0061	mg/L	Vanadium, Dissolved
	0.0062	mg/L	Vanadium, Total Recoverable
	0.0223	mg/L	Zinc, Dissolved
	0.0318	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0181	mg/L	Boron, Dissolved
	38.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.7	mg/L	Chloride
	0.805	mg/L	Nitrate & Nitrite as N
	4.99	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	120	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	61	mg/L	Field Alkalinity as CaCO3
	153	umhos/cm	Field conductivity.
	10.9	C	Field sample temperature.
	7.0	SU	Field pH
	12		QA Type Identification

Analytical Records Report

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005	UMA301 04/12/99 @ 14:46		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	14.0	mg/L	Calcium, Dissolved
	13.9	mg/L	Calcium, Total Recoverable
	58.8	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	58.9	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0084	mg/L	Iron, Dissolved
	0.322	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0026	mg/L	Lithium, Dissolved
	0.0008	mg/L	Lithium, Total Recoverable
	5.81	mg/L	Magnesium, Dissolved
	5.87	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	0.0055	mg/L	Manganese, Total Recoverable
	3.51	mg/L	Potassium, Dissolved
	3.64	mg/L	Potassium, Total Recoverable
	6.33	mg/L	Sodium, Dissolved
	6.43	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0167	mg/L	Barium, Dissolved
	0.0164	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0017	mg/L	Cobalt, Dissolved
	0.0034	mg/L	Cobalt, Total Recoverable
	0.0018	mg/L	Copper, Dissolved
	0.0038	mg/L	Copper, Total Recoverable
	0.0014	mg/L	Molybdenum, Dissolved
	0.0008	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0058	mg/L	Vanadium, Dissolved
	0.0076	mg/L	Vanadium, Total Recoverable
	0.0211	mg/L	Zinc, Dissolved
	0.0276	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	0.0061	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 15th, 1999

CASE NAME: 990303 MILTON-FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005			
	Continued...		
	0.0185	mg/L	Boron, Dissolved
	38.4	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.8	mg/L	Chloride
	0.820	mg/L	Nitrate & Nitrite as N
	4.68	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	59 Est	mg/L	Alkalinity as CaCO3
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	152 Est	umhos/cm	Conductivity
	120	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	2	mg/L	Total Suspended Solids
	7.2 Est	SU	pH
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag Intra-Laboratory QA report.
	Attached		QA Report: Summary of duplicate samples.
	Attached		Miscellaneous tests performed by contract lab Groundwater field parameters.
	61	mg/L	Field Alkalinity as CaCO3
	152	umhos/cm	Field conductivity.
	10.9	C	Field sample temperature.
	7.1	SU	Field pH
	11		QA Type Identification

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990303		
Sample No:	B2704	**Analysis Date:**	16 April 1999
Item No:	1		

UMA 302

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0091	91
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0097	97

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990303		
Sample No:	B2712	**Analysis Date:**	16 April 1999
Item No:	2		

UMA 293

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0094	94
	2-Bromo-1-Chloropropane	0.0100	0.0103	103
	4-Bromofluorobenzene	0.0100	0.0093	93

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/l.

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990303		
Sample No:	B2720	**Analysis Date:**	16 April 1999
Item No:	3		

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0102	102
	2-Bromo-1-Chloropropane	0.0100	0.0102	102
	4-Bromofluorobenzene	0.0100	0.0105	105

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990303		
Sample No:	B2728	**Analysis Date:**	16 April 1999
Item No:	4		

Pwd UMA 301

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0102	102
	4-Bromofluorobenzene	0.0100	0.0104	104

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990303	**Analysis Date:**	16 April 1999
Sample No:	B2736		
Item No:	5		

UMA 301 (duplicate)

CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873
<0.0005	Vinyl Chloride	39175	75014
<0.0005	Bromomethane	34413	74839
<0.0005	Chloroethane	34311	75003
<0.0005	Trichlorofluoromethane	34488	75694
<0.0015	Acrolein (2-Propenal)	34210	107028
<0.0005	1,1-Dichloroethylene	34501	75354
<0.0005	Methylene Chloride	34423	75092
<0.0005	trans-1,2-Dichloroethylene	34546	156605
<0.0005	1,1-Dichloroethane	34496	75343
<0.0005	2,2-Dichloropropane	77170	594207
<0.0005	cis-1,2-Dichloroethylene	77093	156592
<0.05	2-Butanone (MEK)	81595	78933
<0.0005	Bromochloromethane	73085	74975
<0.0005	Chloroform	32106	67663
<0.0005	1,1,1-Trichloroethane	34506	71556
<0.0005	Carbon Tetrachloride	32102	56235
<0.0005	Benzene	78124	71432
<0.0005	1,2-Dichloroethane	34531	107062
<0.0005	Trichloroethylene	39180	79016
<0.0005	1,2-Dichloropropane	34541	78875
<0.0005	Bromodichloromethane	32101	75274
<0.005	2-Chloroethyl Vinyl Ether	34576	110758
<0.0005	cis-1,3-Dichloropropene	34704	10061015
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101
<0.0005	Toluene	78131	108883
<0.0005	trans-1,3-Dichloropropene	34699	10061026
<0.0005	1,1,2-Trichloroethane	34511	79005
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184
<0.0005	1,3-Dichloropropane	77173	142289
<0.0005	Dibromochloromethane	32105	124481

CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Chlorobenzene	34301	108907
<0.0005	Ethyl Benzene	34371	100414
<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0005	Styrene	77128	100425
<0.0005	Bromoform	32104	75252
<0.0005	Bromobenzene	81555	108861
<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	n-Propylbenzene	77224	103651
<0.0005	2-Chlorotoluene	38680	95498
<0.0005	4-Chlorotoluene	77277	106434
<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	n-butybenzene	77342	104518
<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	1,1-Dichloropropene	77168	563586
<0.0005	Dibromomethane	77596	74953
<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	sec-Butylbenzene	77350	135988
<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	Naphthalene	34696	91203
<0.0005	1,2,3-Trichlorobenzene	77613	87616
<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0103	103
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0098	98

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

990303

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Laws And Regulations Administered By:
Department of Environmental Quality
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:25
Time Received : 15:00

ANALYTICAL REPORT

Sample Number: 5223
Laboratory Number: 99-B343
Product Description: DEQ Groundwater: UMA302,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5219
Laboratory Number: 99-B344
Product Description: DEQ Groundwater: UMA293,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: RBV KLichtman

Date: 4/27/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:20
Time Received : 15:00

ANALYTICAL REPORT

Sample Number 5215 — Laboratory Number 99-B345 — Product Description DEQ Groundwater: UMA311,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 1518 — Laboratory Number 99-B346 — Product Description DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: K Wickman

Date: 4/27/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:25
Time Received : 15:00

ANALYTICAL REPORT

Sample Number 5223 — Laboratory Number 99-B343 — Product Description DEQ Groundwater: UMA302,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 5219 — Laboratory Number 99-B344 — Product Description DEQ Groundwater: UMA293,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: RBV KWhetsman Date: 4/27/99

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Date Sampled : 4/12/99
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Time Sampled : 14:20
Time Received : 15:00

ANALYTICAL REPORT

Sample Number 5215 — Laboratory Number 99-B345 — Product Description DEQ Groundwater: UMA311,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 1518 — Laboratory Number 99-B346 — Product Description DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: K Uchiyama Date: 4/27/99

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Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

990303

Sample Number	Laboratory Number	Product Description
1522	99-B347	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

990305

Sample Number	Laboratory Number	Product Description
5214	99-B366	DEQ Groundwater: UMA300,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Lil Kohman

Date: 4/27/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

990303

Sample Number	Laboratory Number	Product Description
1522	99-B347	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

990305

Sample Number	Laboratory Number	Product Description
5214	99-B366	DEQ Groundwater: UMA300,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: [illegible]

Date: 4/27/99

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Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:25
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1101	99-B338	DEQ Groundwater: UMA302,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Christian

Date: 6/30/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:50
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1100	99-B339	DEQ Groundwater: UMA293,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:20
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1103	99-B340	DEQ Groundwater: UMA311,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrstan

Date: 6/30/99

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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:45
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1102	99-B341	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

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Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1104	99-B342	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

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1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:25
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6982	99-B348	DEQ Groundwater: UMA302,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

990303

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:25
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6982	99-B348	DEQ Groundwater: UMA302,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:50
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6977	99-B349	DEQ Groundwater: UMA293,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KU Jickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

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1712 SW 11th Ave.
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 13:50
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6977	99-B349	DEQ Groundwater: UMA293,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman Date: 6/21/99

Form 2055 (Rev. 3/95)

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:20
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6868	99-B350	DEQ Groundwater: UMA311,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

990303

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Date Sampled : 4/12/99
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Time Sampled : 14:20
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6868	99-B350	DEQ Groundwater: UMA311,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wechsman

Date: 6/21/99

Form 2055 (Rev. 3/95)

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

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Sampled by : dlc/rjm
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Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:45
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6970	99-B351	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

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Contact: Greg Pettit
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Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:45
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6970	99-B351	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6976	99-B352	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickamow Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6976	99-B352	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman

Date: 6/21/99

990303

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6972	99-B353	DEQ Groundwater: UMA301, Spiked Sample

Analysis Requested	Analytical Results	Analysts
Atrazine	0.0990 ug/L Recovery = 99%	MWP
Benfluralin	0.0850 ug/L Recovery = 85%	MWP
Butylate	0.0990 ug/L Recovery = 99%	MWP
Carbaryl	0.1360 ug/L Recovery = 136%	MWP
Carbofuran	0.1080 ug/L Recovery = 108%	MWP
Chlorpyrifos	0.1140 ug/L Recovery = 114%	MWP
Cyanazine	0.1160 ug/L Recovery = 116%	MWP
Dacthal	0.1150 ug/L Recovery = 115%	MWP
DDE	0.0670 ug/L Recovery = 67%	MWP
Diazinon	0.1110 ug/L Recovery = 111%	MWP
Dieldrin	0.1280 ug/L Recovery = 128%	MWP
Dimethoate	0.0380 ug/L Recovery = 38%	MWP
Disulfoton	0.0550 ug/L Recovery = 55%	MWP
Eptam	0.1100 ug/L Recovery = 110%	MWP
Ethoprop	0.1210 ug/L Recovery = 121%	MWP
Fonophos	0.1070 ug/L Recovery = 107%	MWP
HCH, alpha	0.0960 ug/L Recovery = 96%	MWP
Lindane	0.0970 ug/L Recovery = 97%	MWP
Linuron	0.1400 ug/L Recovery = 140%	MWP
Malathion	0.1230 ug/L Recovery = 123%	MWP
Metolachlor	0.1290 ug/L Recovery = 129%	MWP
Napropamide	0.1420 ug/L Recovery = 142%	MWP
Parathion	0.1430 ug/L Recovery = 143%	MWP
Parathion, Methyl	0.1370 ug/L Recovery = 137%	MWP
Pebulate	0.1010 ug/L Recovery = 101%	MWP
Pendimethalin	0.1260 ug/L Recovery = 126%	MWP
Permethrin, cis	0.0520 ug/L Recovery = 52%	MWP
Phorate	0.0710 ug/L Recovery = 71%	MWP
Prometon	0.0370 ug/L Recovery = 37%	MWP
Pronamide	0.1280 ug/L Recovery = 128%	MWP
Propachlor	0.1090 ug/L Recovery = 109%	MWP
Propanil	0.1370 ug/L Recovery = 137%	MWP
Propargite	0.1270 ug/L Recovery = 127%	MWP
Simazine	0.1020 ug/L Recovery = 102%	MWP
Tebuthiuron	0.1080 ug/L Recovery = 108%	MWP
Terbacil	0.1250 ug/L Recovery = 125%	MWP
Terbufos	0.0810 ug/L Recovery = 81%	MWP
Triallate	0.1120 ug/L Recovery = 112%	MWP
Trifluralin	0.0900 ug/L Recovery = 90%	MWP
Atrazine, desethyl	0.0720 ug/L Recovery = 72%	MWP

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6972	99-B353	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	0.1760 ug/L Recovery = 176%	MWP
Diethylanaline, 2,6-	0.0910 ug/L Recovery = 91%	MWP
Ethalfluralin	0.0950 ug/L Recovery = 95%	MWP
Metribuzin	0.1090 ug/L Recovery = 109%	MWP
Molinate	0.1070 ug/L Recovery = 107%	MWP
Thiobencarb	0.1470 ug/L Recovery = 147%	MWP
Alachlor	0.1260 ug/L Recovery = 126%	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

RECEIVED
AUG 6 1999
State of Oregon
Dept. of Environmental Quality
Eastern Region - Pendleton

CASE # 990305

Date Sampled 4-13-99

Date Received

Date Reported JUL 29 1999

pH Meter 50693 SCT Meter 50693

Agency Code : 210RWELL
Fund Code : 3650

Collected By: DLC/RJM

SAMPLES: Relinquished by _____ Date _____

Accepted by _____ Date _____

	STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic / D.Ions	T.Met / D.Met	Nutr / T.Hg	VOC / SPE Pest.	Pest. / Carb.	Bact.	TIME	Temp (°C)	Cond (µMhos/cm)	Alk. (mg/L)	pH (SU)
1	UMA300		P 018 / DP 1751	TM 795 / DM 259	R 1023 / TH 384	B 2671 / X 6978	1105 / 5214	C 1311	8:10	11.7	242	86	7.3
2	UMA296		P 017 / DP 885	TM 793 / DM 265	R 1482 / TH 398	B 2679 / X 6867	L7004 / 5213	C 957	8:50	13.7	474	196	7.1
3	UMA 305		P 093 / DP 888	TM 690 / DM 254	R 1306 / TH 397	B 2687 / X 6981	7089 / 5217	C 934	9:20	12.7	167	59	6.9
4	UMA290		P 056 / DP 1721	TM 757 / DM 307	R 430 / TH 364	B 2695 / X 6983	L7005 / 5221	C 1615	9:45	13.0	482	140	7.1
5	UMA303		P 033 / DP 1276	TM 725 / DM 246	R 241 / TH 360	B 2703 / X 6975	L7088 / 5216	C 1534	10:25	12.7	279	117	7.1
6	UMA303		P 042 / DP 1188	TM 783 / DM 296	R 1343 / TH 390	B 2711 / X 6873	L7009 / 5220	C 1353	10:26	12.7	279	117	7.2
7	UMA294		P 001 / DP 1105	TM 788 / DM 249	R 1348 / TH 369	B 2719 / X 6869	L7006 / 5212	C 1351	11:25	12.5	168	68	7.2
8	UMA307		P 021 / DP 577	TM 656 / DM 256	R 930 / TH 350	B 2727 / X 6865	L7027 / 5280	C 1514	11:55	13.5	142	59	7.9
9	UMA289		P 096 / DP 1623	TM 716 / DM 268	R 1291 / TH 387	B 2735 / X 6871	L7026 / 5281	C 1323	12:20	12.9	101	43	7.0
10	UMA295		P 089 / DP 994	TM 784 / DM 266	R 1796 / TH 382	B 2670 / X 6875	L7024 / 5282	C 1398	12:40	9.2	78	34	7.0

X 0870 spike

Ambient Temperature (°C):
@ 08:00 Hrs. 4° sunny, breezy SW
@ 10:00 Hrs. 6° sunny, windy
@ 12:00 Hrs. 10° sunny, SW breeze
@ 14:00 Hrs. _____
@ 16:00 Hrs. _____

Comments:

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

CASE # 990305

Agency Code : 21ORWELL
Fund Code : 3650

Collected By: DLC/RJM

Date Sampled 4-13-99

Date Received

Date Reported

pH Meter 50683 SCT Meter 50693

SAMPLES: Relinquished by _____ Date _____

Accepted by _____ Date _____

STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic	T.Met	Nutr	VOC	Pest.	Bact.	TIME	Temp (°C)	Cond (µMhos/cm)	Alk. (mg/L)	pH (SU)
		D.Ions	D.Met	T.Hg	SPE Pest.	Carb.						
(11) 4MA 283		P 0887	TM 673	R 1637	B 2678	L7025	C 1322	13:08	9.9	83	36	7.1
		DP 1019	DM 302	TH 396	X 6862	5283						
(12) 4MA 284		P 088	TM 726	R 389	B 2686	L7023	C 822	13:35	8.2	67	29	7.2
		DP 1735	DM 288	TH 372	X 6864	5276						
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							

Ambient Temperature (°C):
@ 08:00 Hrs. _____
@ 10:00 Hrs. _____
@ 12:00 Hrs. _____
@ 14:00 Hrs. 15° sunny, breeze
@ 16:00 Hrs. _____

Comments:

990305

LABORATORY SERVICES DIVISION
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SALEM, OREGON 97310-0110

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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:50
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6867	99-B379	DEQ Groundwater: UMA296,

Analysis Requested	Analytical Results	Analysts
Atrazine	0.0190 ug/L MDL = 0.010 ug/L	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	0.0910 ug/L MDL = 0.020 ug/L	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman

Date: 6/21/99

Form 2055 (Rev. 3/95)

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:50
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6867	99-B379	DEQ Groundwater: UMA296,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6869	99-B385	DEQ Groundwater: UMA294,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: K Wickerman Date: 6/21/99

Form 2055 (Rev. 3/95)

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:55
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6865	99-B386	DEQ Groundwater: UMA307,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: K Wickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:55
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6865	99-B386	DEQ Groundwater: UMA307,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

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FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6869	99-B385	DEQ Groundwater: UMA294,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

990305

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6871	99-B387	DEQ Groundwater: UMA289,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
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FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6871	99-B387	DEQ Groundwater: UMA289,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:40
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6875	99-B388	DEQ Groundwater: UMA295,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: GWickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:40
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6875	99-B388	DEQ Groundwater: UMA295,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:08
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6862	99-B389	DEQ Groundwater: UMA283, broken lid

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: M Wickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:35
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6864	99-B390	DEQ Groundwater: UMA284,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl,	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:35
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6864	99-B390	DEQ Groundwater: UMA284,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:08
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6862	99-B389	DEQ Groundwater: UMA283,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Weckerman Date: 6/21/99

Done 990305

MEMBRANE FILTRATION

OREGON HEAL DIVISION
CENTER FOR PUBLIC HEALTH LABORATORIES
MICROBIOLOGICAL EXAMINATION OF ENVIRONMENTAL WATER

DATE/TIME RECEIVED AT PHL

Requesting Agency: X DEQ ___County ___Other

Tests requested ___ Total coliforms X Fecal coliforms X E. coli ___ Enterococci

APR 14 AM 9:25

Survey Milton-Freewater Groundwater

Collection Date 4-13-99 Time 830- am pm By RJM/DLC

Analysis date 4-14-99 Time 11:30 am pm

Completion Date 4-15-99 Time 12:30 am pm

Reported by [illegible] Date 4-15-99

Reviewed by [illegible] Date 4-15-99

****

PHL #	Bottle #	Storet #	Sample Point	RESULTS: CFU\100ml Total coliforms	Fecal coliforms	E. coli	Enterococci
609	C1311	UMA308			<2	<2	
610	C957	UMA 296			<2	<2	
611	C934	UMA 305			<2	<2	
612	C1615	UMA 290			<2	<2	
613	C1534	UMA303			<2	<2	
614	C1353	UMA 303			<2	<2	
615	C1351	UMA 294			<2	<2	
616	C1514	UMA307			<2	<2	
617	C1323	UMA 289			<2	<2	
618	C1398	UMA 295			<2	<2	
619	C1322	UMA283			<2	<2	
620	C822	UMA 284			<2	<2	

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990305 | DATE: 06/09/1999
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area) | INITIALS: RMM
SAMPLING DATE: 04/13/1999 | Sampled by: DLC/RJM

ITEM: 1 SITE: (46 deg 00.014'/118 deg 23.618') UMA300

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness (Ca+Mg)	84.7	1.69	Alkalinity	86	1.71	Cation Total:	2.36	meq/L
Sodium	12.6	0.55	Chloride	7.4	0.21	Anion Total:	2.34	meq/L
Potassium	4.77	0.12	Bromide	<0.05	0.00	Relative Deviation:	0.9	%
Iron II	0.0045	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	14.6	0.30	Conductivity:	242	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	1.64	0.12	METER: 50683		

ITEM: 2 SITE: (45 deg 59.070'/118 deg 26.240') UMA296

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	191	3.80	Alkalinity	196	3.90	Cation Total:	4.84	meq/L
Sodium	18.5	0.81	Chloride	8.6	0.24	Anion Total:	4.82	meq/L
Potassium	8.97	0.23	Bromide	<0.05	0.00	Relative Deviation:	0.4	%
Iron II	0.0072	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	10.3	0.21	Conductivity:	474	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	6.60	0.47			

ITEM: 3 SITE: (45 deg 59.634'/118 deg 25.602') UMA305

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	63.7	1.27	Alkalinity	59	1.17	Cation Total:	1.58	meq/L
Sodium	5.00	0.22	Chloride	3.4	0.10	Anion Total:	1.59	meq/L
Potassium	3.71	0.09	Bromide	<0.05	0.00	Relative Deviation:	-0.6	%
Iron II	0.0045	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	4.43	0.09	Conductivity:	167	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	3.23	0.23			

ITEM: 4 SITE: (deg .'/ deg .') UMA290

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	185	3.68	Alkalinity	140	2.79	Cation Total:	4.58	meq/L
Sodium	15.8	0.69	Chloride	24	0.68	Anion Total:	4.79	meq/L
Potassium	8.27	0.21	Bromide	<0.05	0.00	Relative Deviation:	-4.5	%
Iron II	0.0122	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	46.3	0.96	Conductivity:	482	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	5.00	0.36			

ITEM: 5 SITE: (45 deg 59.718'/118 deg 24.315') UMA303

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	107	2.13	Alkalinity	117	2.33	Cation Total:	2.77	meq/L
Sodium	11.5	0.50	Chloride	4.1	0.12	Anion Total:	2.75	meq/L
Potassium	5.44	0.14	Bromide	<0.05	0.00	Relative Deviation:	0.7	%
Iron II	0.0032	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	8.06	0.17	Conductivity:	279	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	1.81	0.13			

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990305 | DATE: 06/09/1999
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area) | INITIALS: RMM
SAMPLING DATE: 04/13/1999 | Sampled by: DLC/RJM

ITEM: 6 SITE: (45 deg 59.718'/118 deg 24.315') UMA303

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	109	2.17	Alkalinity Lab = 114	117	2.33	Cation Total:	2.81	meq/L
Sodium	11.6	0.50	Chloride	4.1	0.12	Anion Total:	2.75	meq/L
Potassium	5.62	0.14	Bromide	<0.05	0.00	Relative Deviation:	2.2	%
Iron II	0.0047	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	8.08	0.17	Conductivity:	279	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	1.87	0.13		Lab = 282	

ITEM: 7 SITE: (45 deg 59.210'/118 deg 24.080') UMA294

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	59.8	1.19	Alkalinity	68	1.35	Cation Total:	1.55	meq/L
Sodium	5.77	0.25	Chloride	2.5	0.07	Anion Total:	1.62	meq/L
Potassium	4.16	0.11	Bromide	<0.05	0.00	Relative Deviation:	-4.4	%
Iron II	0.0054	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	5.61	0.12	Conductivity:	168	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	1.08	0.08			

ITEM: 8 SITE: (45 deg 58.748'/118 deg 24.732') UMA307

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	56.5	1.12	Alkalinity	59	1.17	Cation Total:	1.37	meq/L
Sodium	4.16	0.18	Chloride	1.4	0.04	Anion Total:	1.35	meq/L
Potassium	2.61	0.07	Bromide	<0.05	0.00	Relative Deviation:	1.5	%
Iron II	0.0138	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	2.07	0.04	Conductivity:	142	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	1.33	0.10			

ITEM: 9 SITE: (deg .'/ deg .') UMA289

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	36.8	0.73	Alkalinity	43	0.86	Cation Total:	0.96	meq/L
Sodium	3.63	0.16	Chloride	1.0	0.03	Anion Total:	0.97	meq/L
Potassium	2.83	0.07	Bromide	<0.05	0.00	Relative Deviation:	-1.0	%
Iron II	0.0889	0.00	Orthophosphate-P	NA	0.00			
Manganese II	0.00180	0.00	Sulfate	1.62	0.03	Conductivity:	101	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.643	0.05			

ITEM: 10 SITE: (45 deg 58.400'/118 deg 23.310') UMA295

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	28.8	0.57	Alkalinity	34	0.68	Cation Total:	0.76	meq/L
Sodium	2.94	0.13	Chloride	0.8	0.02	Anion Total:	0.74	meq/L
Potassium	2.28	0.06	Bromide	<0.05	0.00	Relative Deviation:	2.7	%
Iron II	0.1070	0.00	Orthophosphate-P	NA	0.00			
Manganese II	0.00025	0.00	Sulfate	1.07	0.02	Conductivity:	78	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.348	0.02			

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990305 | DATE: 06/09/1999
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area) | INITIALS: RMM
SAMPLING DATE: 04/13/1999 | Sampled by: DLC/RJM

ITEM: 11 SITE: (45 deg 58.350'/118 deg 22.580') UMA283

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	30	0.60	Alkalinity	36	0.72	Cation Total:	0.79	meq/L
Sodium	3.0	0.13	Chloride	0.7	0.02	Anion Total:	0.78	meq/L
Potassium	2.32	0.06	Bromide	<0.05	0.00	Relative Deviation:	1.3	%
Iron II	0.0429	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	1.00	0.02	Conductivity:	83	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.308	0.02			

ITEM: 12 SITE: (deg .'/ deg .') UMA284

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	23.1	0.46	Alkalinity	29	0.58	Cation Total:	0.62	meq/L
Sodium	2.55	0.11	Chloride	0.6	0.02	Anion Total:	0.63	meq/L
Potassium	1.98	0.05	Bromide	<0.05	0.00	Relative Deviation:	-1.6	%
Iron II	0.0816	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	0.84	0.02	Conductivity:	67	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.164	0.01			

ITEM: 13 SITE: MDL's NA

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	<0.10	0.00	Alkalinity	<1	0.00	Cation Total:	0.00	meq/L
Sodium	<0.10	0.00	Chloride	<0.5	0.00	Anion Total:	0.00	meq/L
Potassium	<0.010	0.00	Bromide	<0.05	0.00	Relative Deviation:	0.0	%
Iron II	<0.0020	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	<0.20	0.00	Conductivity:	<1	
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	<0.0050	0.00			

COMMENTS: Cations are | | "Total Recoverable" or | X | "Dissolved.

990305

LABORATORY SERVICES DIVISION
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7026	99-B362	DEQ Groundwater: UMA289,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:08
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7025	99-B364	DEQ Groundwater: UMA283,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrstan

Date: 6/30/99

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:40
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7024	99-B363	DEQ Groundwater: UMA295,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BM
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

990305

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

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1712 SW 11th Ave.
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:10
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1105	99-B354	DEQ Groundwater: UMA300, [illegible]

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	0.66 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrustan

Date: 6/30/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
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1712 SW 11th Ave.
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:50
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7004	99-B355	DEQ Groundwater: UMA296,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Coonstan

Date: 6/30/99

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7089	99-B356	DEQ Groundwater: UMA305,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:45
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7005	99-B357	DEQ Groundwater: UMA290,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: RCourston Date: 6/30/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7088	99-B358	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	24.6 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

990305

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7009	99-B359	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	18.7 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

990305

LABORATORY SERVICES DIVISION
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7006	99-B360	DEQ Groundwater: UMA294,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:35
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7023	99-B365	DEQ Groundwater: UMA284,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Courstan

Date: 6/30/99

990305

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6981	99-B380	DEQ Groundwater: UMA305,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0120 ug/L MDL=0.020	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: Kilickmann

Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:20
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6981	99-B380	DEQ Groundwater: UMA305,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:45
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6983	99-B381	DEQ Groundwater: UMA290,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0150 ug/L MDL=0.020	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: K Vickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:45
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6983	99-B381	DEQ Groundwater: UMA290,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6975	99-B382	DEQ Groundwater: UMA303, broken lid

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: K Wickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6870	99-B384	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	0.1250 ug/L Recovery = 125%	MWP
Diethylanaline, 2,6-	0.0710 ug/L Recovery = 71%	MWP
Ethalfluralin	0.0720 ug/L Recovery = 72%	MWP
Metribuzin	0.0650 ug/L Recovery = 65%	MWP
Molinate	0.0810 ug/L Recovery = 81%	MWP
Thiobencarb	0.1030 ug/L Recovery = 103%	MWP
Alachlor	0.0910 ug/L Recovery = 91%	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries
broken lid

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6873	99-B383	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: KWiseman

Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6873	99-B383	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6870	99-B384	DEQ Groundwater: UMA303, [illegible] field spike

Analysis Requested	Analytical Results	Analysts
Atrazine	0.0680 ug/L Recovery = 68%	MWP
Benfluralin	0.0630 ug/L Recovery = 63%	MWP
Butylate	0.0750 ug/L Recovery = 75%	MWP
Carbaryl	0.1000 ug/L Recovery = 100%	MWP
Carbofuran	0.0640 ug/L Recovery = 64%	MWP
Chlorpyrifos	0.0810 ug/L Recovery = 81%	MWP
Cyanazine	0.0840 ug/L Recovery = 84%	MWP
Dacthal	0.0830 ug/L Recovery = 83%	MWP
DDE	0.0560 ug/L Recovery = 56%	MWP
Diazinon	0.0830 ug/L Recovery = 83%	MWP
Dieldrin	0.0870 ug/L Recovery = 87%	MWP
Dimethoate	0.031 ug/L Recovery = 31%	MWP
Disulfoton	0.0550 ug/L Recovery = 55%	MWP
Eptam	0.0850 ug/L Recovery = 85%	MWP
Ethoprop	0.0720 ug/L Recovery = 72%	MWP
Fonophos	0.0800 ug/L Recovery = 80%	MWP
HCH, alpha	0.0810 ug/L Recovery = 81%	MWP
Lindane	0.0720 ug/L Recovery = 72%	MWP
Linuron	0.1040 ug/L Recovery = 104%	MWP
Malathion	0.0850 ug/L Recovery = 85%	MWP
Metolachlor	0.0860 ug/L Recovery = 86%	MWP
Napropamide	0.1050 ug/L Recovery = 105%	MWP
Parathion	0.1000 ug/L Recovery = 100%	MWP
Parathion, Methyl	0.0930 ug/L Recovery = 93%	MWP
Pebulate	0.0760 ug/L Recovery = 76%	MWP
Pendimethalin	0.0840 ug/L Recovery = 84%	MWP
Permethrin, cis	0.0460 ug/L Recovery = 46%	MWP
Phorate	0.0560 ug/L Recovery = 56%	MWP
Prometon	0.0660 ug/L Recovery = 66%	MWP
Pronamide	0.0980 ug/L Recovery = 98%	MWP
Propachlor	0.0860 ug/L Recovery = 86%	MWP
Propanil	0.0950 ug/L Recovery = 95%	MWP
Propargite	0.0920 ug/L Recovery = 92%	MWP
Simazine	0.0840 ug/L Recovery = 84%	MWP
Tebuthiuron	0.0740 ug/L Recovery = 74%	MWP
Terbacil	0.0860 ug/L Recovery = 86%	MWP
Terbufos	0.0640 ug/L Recovery = 64%	MWP
Triallate	0.0820 ug/L Recovery = 82%	MWP
Trifluralin	0.0670 ug/L Recovery = 67%	MWP
Atrazine, desethyl	0.0430 ug/L Recovery = 43%	MWP

Reviewed by: KWickman Date: 6/21/99

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:25
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6975	99-B382	DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

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LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:10
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6978	99-B378	DEQ Groundwater: UMA300,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0120 ug/L MDL=0.020	MWP
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP

Reviewed by: K Wickman Date: 6/21/99

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Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:10
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6978	99-B378	DEQ Groundwater: UMA300,

Analysis Requested	Analytical Results	Analysts
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATOR

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001	UMA300 04/13/99 @ 08:10		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	20.3	mg/L	Calcium, Dissolved
	20.2	mg/L	Calcium, Total Recoverable
	84.7	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	83.8	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0045	mg/L	Iron, Dissolved
	0.0114	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0015	mg/L	Lithium, Dissolved
	0.0038	mg/L	Lithium, Total Recoverable
	8.30	mg/L	Magnesium, Dissolved
	8.10	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	4.77	mg/L	Potassium, Dissolved
	4.87	mg/L	Potassium, Total Recoverable
	12.6	mg/L	Sodium, Dissolved
	12.5	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0224	mg/L	Barium, Dissolved
	0.0210	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	0.0003	mg/L	Chromium, Total Recoverable
	0.0033	mg/L	Cobalt, Dissolved
	0.0052	mg/L	Cobalt, Total Recoverable
	0.0029	mg/L	Copper, Dissolved
	0.0064	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0082	mg/L	Vanadium, Dissolved
	0.0095	mg/L	Vanadium, Total Recoverable
	0.0193	mg/L	Zinc, Dissolved
	0.0184	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	0.0044	mg/L	Antimony, Total Recoverable
	0.0051	mg/L	Arsenic, Dissolved
	0.0089	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001			
	Continued...		
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0242	mg/L	Boron, Dissolved
	40.3	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	7.4	mg/L	Chloride
	1.64	mg/L	Nitrate & Nitrite as N
	14.6	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	170	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	86	mg/L	Field alkalinity as CaCO3.
	242	umhos/cm	Field conductivity.
	11.7	C	Field sample temperature.
	7.3	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
002	UMA296		
	04/13/99 @ 08:50		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	44.0	mg/L	Calcium, Dissolved
	44.9	mg/L	Calcium, Total Recoverable
	191	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	192	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0072	mg/L	Iron, Dissolved
	0.0075	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0025	mg/L	Lithium, Dissolved
	0.0053	mg/L	Lithium, Total Recoverable
	19.7	mg/L	Magnesium, Dissolved
	19.5	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	8.97	mg/L	Potassium, Dissolved
	9.26	mg/L	Potassium, Total Recoverable
	18.5	mg/L	Sodium, Dissolved
	19.0	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0617	mg/L	Barium, Dissolved
	0.0617	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
002			
	Continued...		
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0052	mg/L	Cobalt, Dissolved
	0.0056	mg/L	Cobalt, Total Recoverable
	0.0083	mg/L	Copper, Dissolved
	0.0122	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0002	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0114	mg/L	Vanadium, Dissolved
	0.0125	mg/L	Vanadium, Total Recoverable
	0.0116	mg/L	Zinc, Dissolved
	0.0025	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	0.0034	mg/L	Antimony, Dissolved
	0.0052	mg/L	Antimony, Total Recoverable
	0.0159	mg/L	Arsenic, Dissolved
	0.0167	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	0.0046	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0551	mg/L	Boron, Dissolved
	50.1	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	8.6	mg/L	Chloride
	6.60	mg/L	Nitrate & Nitrite as N
	10.3	mg/L	Sulfate by Ion Chromatography
	0.2	mg/L	Total Kjeldahl Nitrogen
	0.08	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	310	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	196	mg/L	Field alkalinity as CaCO3.
	474	umhos/cm	Field conductivity.
	13.7	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003	UMA305 04/13/99 @ 09:34		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	14.9	mg/L	Calcium, Dissolved
	14.8	mg/L	Calcium, Total Recoverable
	63.7	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	63.4	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0045	mg/L	Iron, Dissolved
	0.0200	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0005	mg/L	Lithium, Dissolved
	0.0026	mg/L	Lithium, Total Recoverable
	6.46	mg/L	Magnesium, Dissolved
	6.41	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.71	mg/L	Potassium, Dissolved
	3.77	mg/L	Potassium, Total Recoverable
	5.00	mg/L	Sodium, Dissolved
	5.07	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0169	mg/L	Barium, Dissolved
	0.0161	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0038	mg/L	Cobalt, Dissolved
	0.0043	mg/L	Cobalt, Total Recoverable
	0.0051	mg/L	Copper, Dissolved
	0.0073	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0004	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0003	mg/L	Silver, Total Recoverable
	0.0067	mg/L	Vanadium, Dissolved
	0.0069	mg/L	Vanadium, Total Recoverable
	0.0072	mg/L	Zinc, Dissolved
	0.0083	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	0.0045	mg/L	Arsenic, Dissolved
	0.0027	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003			
	Continued...		
	0.0255	mg/L	Boron, Dissolved
	44.8	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	3.4	mg/L	Chloride
	3.23	mg/L	Nitrate & Nitrite as N
	4.43	mg/L	Sulfate by Ion Chromatography
	0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	120	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	59	mg/L	Field alkalinity as CaCO3.
	167	umhos/cm	Field conductivity.
	12.7	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
004	UMA290 04/13/99 @ 16:15		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	43.5	mg/L	Calcium, Dissolved
	44.0	mg/L	Calcium, Total Recoverable
	185	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	187	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0122	mg/L	Iron, Dissolved
	0.0336	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0015	mg/L	Lithium, Dissolved
	0.0050	mg/L	Lithium, Total Recoverable
	18.5	mg/L	Magnesium, Dissolved
	18.8	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	8.27	mg/L	Potassium, Dissolved
	8.40	mg/L	Potassium, Total Recoverable
	15.8	mg/L	Sodium, Dissolved
	16.5	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0525	mg/L	Barium, Dissolved
	0.0523	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
004			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0049	mg/L	Cobalt, Dissolved
	0.0060	mg/L	Cobalt, Total Recoverable
	0.0101	mg/L	Copper, Dissolved
	0.0138	mg/L	Copper, Total Recoverable
	0.0011	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0002	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	0.0003	mg/L	Silver, Dissolved
	0.0002	mg/L	Silver, Total Recoverable
	0.0109	mg/L	Vanadium, Dissolved
	0.0119	mg/L	Vanadium, Total Recoverable
	0.112	mg/L	Zinc, Dissolved
	0.115	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	0.0031	mg/L	Antimony, Dissolved
	0.0034	mg/L	Antimony, Total Recoverable
	0.0133	mg/L	Arsenic, Dissolved
	0.0157	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0414	mg/L	Boron, Dissolved
	48.6	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	24	mg/L	Chloride
	5.00	mg/L	Nitrate & Nitrite as N
	46.3	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.08	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	310	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	140	mg/L	Field alkalinity as CaCO3.
	482	umhos/cm	Field conductivity.
	13.0	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005	UMA303 04/13/99 @ 15:34		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	25.1	mg/L	Calcium, Dissolved
	24.7	mg/L	Calcium, Total Recoverable
	107	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	106	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0032	mg/L	Iron, Dissolved
	0.0122	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0150	mg/L	Lithium, Dissolved
	0.0036	mg/L	Lithium, Total Recoverable
	10.9	mg/L	Magnesium, Dissolved
	10.7	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	5.44	mg/L	Potassium, Dissolved
	5.60	mg/L	Potassium, Total Recoverable
	11.5	mg/L	Sodium, Dissolved
	11.3	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0187	mg/L	Barium, Dissolved
	0.0179	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0035	mg/L	Cobalt, Dissolved
	0.0060	mg/L	Cobalt, Total Recoverable
	0.0105	mg/L	Copper, Dissolved
	0.0119	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	0.0005	mg/L	Molybdenum, Total Recoverable
	0.0004	mg/L	Nickel, Dissolved
	0.0002	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0231	mg/L	Vanadium, Dissolved
	0.0239	mg/L	Vanadium, Total Recoverable
	0.0256	mg/L	Zinc, Dissolved
	0.0242	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	0.0044	mg/L	Antimony, Dissolved
	0.0045	mg/L	Antimony, Total Recoverable
	0.0078	mg/L	Arsenic, Dissolved
	0.0096	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005			
	Continued...		
	0.0380	mg/L	Boron, Dissolved
	55.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	4.1	mg/L	Chloride
	1.81	mg/L	Nitrate & Nitrite as N
	8.06	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.12	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	210	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	117	mg/L	Field alkalinity as CaCO3.
	279	umhos/cm	Field conductivity.
	12.7	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	12		QA Type Identification
006	UMA303 QA 04/13/99 @ 10:26		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	25.4	mg/L	Calcium, Dissolved
	26.4	mg/L	Calcium, Total Recoverable
	109	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	113	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0047	mg/L	Iron, Dissolved
	0.0147	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0105	mg/L	Lithium, Dissolved
	0.0039	mg/L	Lithium, Total Recoverable
	11.1	mg/L	Magnesium, Dissolved
	11.4	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	5.62	mg/L	Potassium, Dissolved
	5.98	mg/L	Potassium, Total Recoverable
	11.6	mg/L	Sodium, Dissolved
	12.1	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0187	mg/L	Barium, Dissolved
	0.0190	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
006			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0042	mg/L	Cobalt, Dissolved
	0.0069	mg/L	Cobalt, Total Recoverable
	0.0104	mg/L	Copper, Dissolved
	0.0131	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0006	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0003	mg/L	Silver, Total Recoverable
	0.0237	mg/L	Vanadium, Dissolved
	0.0262	mg/L	Vanadium, Total Recoverable
	0.0247	mg/L	Zinc, Dissolved
	0.0256	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	0.0055	mg/L	Antimony, Total Recoverable
	0.0078	mg/L	Arsenic, Dissolved
	0.0140	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0385	mg/L	Boron, Dissolved
	54.9	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	4.1	mg/L	Chloride
	1.87	mg/L	Nitrate & Nitrite as N
	8.08	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.12	mg/L	Total Phosphate as P
	114	mg/L	Alkalinity as CaCO3
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	282	umhos/cm	Conductivity
	220	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	<1	NTU	Turbidity
	7.2	SU	pH
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
			Intra-Laboratory QA report.
	Attached		QA Report: Summary of duplicate samples.
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	117	mg/L	Field alkalinity as CaCO3.
	279	umhos/cm	Field conductivity.
	12.7	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	11		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007	UMA294 04/13/99 @ 11:25		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	13.7	mg/L	Calcium, Dissolved
	15.2	mg/L	Calcium, Total Recoverable
	59.8	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	66.5	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0054	mg/L	Iron, Dissolved
	0.0318	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0055	mg/L	Lithium, Dissolved
	0.0012	mg/L	Lithium, Total Recoverable
	6.24	mg/L	Magnesium, Dissolved
	6.93	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	4.16	mg/L	Potassium, Dissolved
	4.67	mg/L	Potassium, Total Recoverable
	5.77	mg/L	Sodium, Dissolved
	6.43	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0138	mg/L	Barium, Dissolved
	0.0143	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0029	mg/L	Cobalt, Dissolved
	0.0067	mg/L	Cobalt, Total Recoverable
	0.0042	mg/L	Copper, Dissolved
	0.0069	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	0.0005	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0002	mg/L	Silver, Total Recoverable
	0.0082	mg/L	Vanadium, Dissolved
	0.0109	mg/L	Vanadium, Total Recoverable
	0.0793	mg/L	Zinc, Dissolved
	0.0901	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	0.0037	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	0.0078	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007			
	Continued...		
	0.0259	mg/L	Boron, Dissolved
	46.5	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.5	mg/L	Chloride
	1.08	mg/L	Nitrate & Nitrite as N
	5.61	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	140	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	68	mg/L	Field alkalinity as CaCO3.
	168	umhos/cm	Field conductivity.
	12.5	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
008	UMA307		
	04/13/99 @ 11:55		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	13.7	mg/L	Calcium, Dissolved
	14.0	mg/L	Calcium, Total Recoverable
	56.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	57.3	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0138	mg/L	Iron, Dissolved
	0.0282	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0039	mg/L	Lithium, Dissolved
	0.0016	mg/L	Lithium, Total Recoverable
	5.41	mg/L	Magnesium, Dissolved
	5.45	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.61	mg/L	Potassium, Dissolved
	2.74	mg/L	Potassium, Total Recoverable
	4.16	mg/L	Sodium, Dissolved
	4.16	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0092	mg/L	Barium, Dissolved
	0.0092	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
008			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0006	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0033	mg/L	Cobalt, Dissolved
	0.0068	mg/L	Cobalt, Total Recoverable
	0.0061	mg/L	Copper, Dissolved
	0.0218	mg/L	Copper, Total Recoverable
	0.0005	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0137	mg/L	Vanadium, Dissolved
	0.0149	mg/L	Vanadium, Total Recoverable
	0.0776	mg/L	Zinc, Dissolved
	0.0723	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	0.0042	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0197	mg/L	Boron, Dissolved
	34.3	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.4	mg/L	Chloride
	1.33	mg/L	Nitrate & Nitrite as N
	2.07	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	100	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	59	mg/L	Field alkalinity as CaCO3.
	142	umhos/cm	Field conductivity.
	13.5	C	Field sample temperature.
	7.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
009	UMA289 04/13/99 @ 12:20		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.023	mg/L	Aluminum, Dissolved
	0.039	mg/L	Aluminum, Total Recoverable
	8.84	mg/L	Calcium, Dissolved
	8.58	mg/L	Calcium, Total Recoverable
	36.8	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	35.7	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0889	mg/L	Iron, Dissolved
	0.135	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0030	mg/L	Lithium, Dissolved
	0.0005	mg/L	Lithium, Total Recoverable
	3.58	mg/L	Magnesium, Dissolved
	3.47	mg/L	Magnesium, Total Recoverable
	0.0018	mg/L	Manganese, Dissolved
	0.0021	mg/L	Manganese, Total Recoverable
	2.83	mg/L	Potassium, Dissolved
	2.83	mg/L	Potassium, Total Recoverable
	3.63	mg/L	Sodium, Dissolved
	3.51	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0118	mg/L	Barium, Dissolved
	0.0114	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0033	mg/L	Cobalt, Dissolved
	0.0071	mg/L	Cobalt, Total Recoverable
	0.0308	mg/L	Copper, Dissolved
	0.0324	mg/L	Copper, Total Recoverable
	0.0005	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0004	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	0.0004	mg/L	Silver, Dissolved
	0.0002	mg/L	Silver, Total Recoverable
	0.0059	mg/L	Vanadium, Dissolved
	0.0067	mg/L	Vanadium, Total Recoverable
	0.0079	mg/L	Zinc, Dissolved
	0.0057	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	0.0030	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
009			
	Continued...		
	0.0203	mg/L	Boron, Dissolved
	41.4	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.0	mg/L	Chloride
	0.643	mg/L	Nitrate & Nitrite as N
	1.62	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	89	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	43	mg/L	Field alkalinity as CaCO3.
	101	umhos/cm	Field conductivity.
	12.9	C	Field sample temperature.
	7.0	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
010	UMA295		
	04/13/99 @ 12:40		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	6.93	mg/L	Calcium, Dissolved
	6.67	mg/L	Calcium, Total Recoverable
	28.8	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	27.7	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.107	mg/L	Iron, Dissolved
	0.162	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0022	mg/L	Lithium, Dissolved
	0.0006	mg/L	Lithium, Total Recoverable
	2.79	mg/L	Magnesium, Dissolved
	2.70	mg/L	Magnesium, Total Recoverable
	0.0002	mg/L	Manganese, Dissolved
	0.0007	mg/L	Manganese, Total Recoverable
	2.28	mg/L	Potassium, Dissolved
	2.25	mg/L	Potassium, Total Recoverable
	2.94	mg/L	Sodium, Dissolved
	2.86	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0067	mg/L	Barium, Dissolved
	0.0060	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
010			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0031	mg/L	Cobalt, Dissolved
	0.0070	mg/L	Cobalt, Total Recoverable
	0.0064	mg/L	Copper, Dissolved
	0.0078	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0005	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0002	mg/L	Silver, Total Recoverable
	0.0059	mg/L	Vanadium, Dissolved
	0.0066	mg/L	Vanadium, Total Recoverable
	0.0073	mg/L	Zinc, Dissolved
	0.0055	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0169	mg/L	Boron, Dissolved
	35.3	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.8	mg/L	Chloride
	0.348	mg/L	Nitrate & Nitrite as N
	1.07	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	72	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	34	mg/L	Field alkalinity as CaCO3.
	78	umhos/cm	Field conductivity.
	9.2	C	Field sample temperature.
	7.0	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
011	UMA283 04/13/99 @ 13:08		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	7.27	mg/L	Calcium, Dissolved
	7.32	mg/L	Calcium, Total Recoverable
	30.4	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	30.3	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0429	mg/L	Iron, Dissolved
	0.0651	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0027	mg/L	Lithium, Dissolved
	0.0010	mg/L	Lithium, Total Recoverable
	2.99	mg/L	Magnesium, Dissolved
	2.92	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.32	mg/L	Potassium, Dissolved
	2.40	mg/L	Potassium, Total Recoverable
	2.98	mg/L	Sodium, Dissolved
	2.97	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0073	mg/L	Barium, Dissolved
	0.0070	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0034	mg/L	Cobalt, Dissolved
	0.0080	mg/L	Cobalt, Total Recoverable
	0.0052	mg/L	Copper, Dissolved
	0.0066	mg/L	Copper, Total Recoverable
	0.0005	mg/L	Molybdenum, Dissolved
	0.0007	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0002	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0006	mg/L	Silver, Total Recoverable
	0.0065	mg/L	Vanadium, Dissolved
	0.0074	mg/L	Vanadium, Total Recoverable
	0.0167	mg/L	Zinc, Dissolved
	0.0198	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
011			
	Continued...		
	0.0160	mg/L	Boron, Dissolved
	35.6	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.7	mg/L	Chloride
	0.308	mg/L	Nitrate & Nitrite as N
	1.00	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	72	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	36	mg/L	Field alkalinity as CaCO3.
	83	umhos/cm	Field conductivity.
	9.9	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
012	UMA284		
	04/13/99 @ 13:35		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.014	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	5.53	mg/L	Calcium, Dissolved
	6.15	mg/L	Calcium, Total Recoverable
	23.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	25.3	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0816	mg/L	Iron, Dissolved
	0.125	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0018	mg/L	Lithium, Dissolved
	0.0006	mg/L	Lithium, Total Recoverable
	2.26	mg/L	Magnesium, Dissolved
	2.42	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	0.0009	mg/L	Manganese, Total Recoverable
	1.98	mg/L	Potassium, Dissolved
	2.24	mg/L	Potassium, Total Recoverable
	2.55	mg/L	Sodium, Dissolved
	2.78	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0043	mg/L	Barium, Dissolved
	0.0045	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	<0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990305 MILTON FREEWATER GROUNDWATER
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
012			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0040	mg/L	Cobalt, Dissolved
	0.0082	mg/L	Cobalt, Total Recoverable
	0.0057	mg/L	Copper, Dissolved
	0.0111	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0002	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	<0.0002	mg/L	Silver, Total Recoverable
	0.0060	mg/L	Vanadium, Dissolved
	0.0075	mg/L	Vanadium, Total Recoverable
	0.0612	mg/L	Zinc, Dissolved
	0.0755	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	0.0024	mg/L	Arsenic, Dissolved
	0.0032	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0139	mg/L	Boron, Dissolved
	33.0	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.6	mg/L	Chloride
	0.164	mg/L	Nitrate & Nitrite as N
	0.84	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	63	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	29	mg/L	Field alkalinity as CaCO3.
	67	umhos/cm	Field conductivity.
	8.2	C	Field sample temperature.
	7.2	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305			
Sample No:	B2671	UMA300	**Analysis Date:**	16 April 1999
Item No:	1			

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0102	102
	2-Bromo-1-Chloropropane	0.0100	0.0102	102
	4-Bromofluorobenzene	0.0100	0.0100	100

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2679	**Analysis Date:**	16 April 1999
Item No:	2		

UMA 296

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0100	100

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2687	**Analysis Date:**	16 April 1999
Item No:	3		

Pwd UMA305

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0096	96
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0103	103

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2695	**Analysis Date:**	16 April 1999
Item No:	4		

UMA 290

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0112	112
	4-Bromofluorobenzene	0.0100	0.0104	104

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305	**Analysis Date:**	16 April 1999
Sample No:	B2703		
Item No:	5		

UMA 303

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0112	112
	2-Bromo-1-Chloropropane	0.0100	0.0108	108
	4-Bromofluorobenzene	0.0100	0.0102	102

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2711	**Analysis Date:**	16 April 1999
Item No:	6		

UMA303 (Duplicate)

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0108	108
	2-Bromo-1-Chloropropane	0.0100	0.0103	103
	4-Bromofluorobenzene	0.0100	0.0102	102

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2719	**Analysis Date:**	16 April 1999
Item No:	7		

PWD UMA 294

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0109	109
	2-Bromo-1-Chloropropane	0.0100	0.0107	107
	4-Bromofluorobenzene	0.0100	0.0107	107

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2727	**Analysis Date:**	16 April 1999
Item No:	8		

UMA 307

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0107	107
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0108	108

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2735	**Analysis Date:**	16 April 1999
Item No:	9		

UMA 2.89

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0096	96
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0105	105

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2670	**Analysis Date:**	16 April 1999
Item No:	10		

UMA 295

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0103	103
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0105	105

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2678	**Analysis Date:**	16 April 1999
Item No:	11		

UMA 283

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0090	90
	2-Bromo-1-Chloropropane	0.0100	0.0102	102
	4-Bromofluorobenzene	0.0100	0.0102	102

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990305		
Sample No:	B2686	**Analysis Date:**	16 April 1999
Item No:	12		

UMA 284

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0102	102
	2-Bromo-1-Chloropropane	0.0100	0.0112	112
	4-Bromofluorobenzene	0.0100	0.0103	103

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

990305

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
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FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 8:50
Time Received : 9:00

ANALYTICAL REPORT

Sample Number: 5213
Laboratory Number: 99-B367
Product Description: DEQ Groundwater: UMA296,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5217
Laboratory Number: 99-B368
Product Description: DEQ Groundwater: UMA305,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: [illegible] Date: 4/27/99

990305

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 9:45
Time Received : 9:00

ANALYTICAL REPORT

Sample Number 5221 — Laboratory Number 99-B369 — Product Description: DEQ Groundwater: UMA290,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 5216 — Laboratory Number 99-B370 — Product Description: DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Kirchman

Date: 4/27/99

990305

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 10:26
Time Received : 9:00

ANALYTICAL REPORT

Sample Number: 5220
Laboratory Number: 99-B371
Product Description: DEQ Groundwater: UMA303,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5212
Laboratory Number: 99-B372
Product Description: DEQ Groundwater: UMA294,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: RBVoelker

Date: 4/27/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:55
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
5280	99-B373	DEQ Groundwater: UMA307,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number	Laboratory Number	Product Description
5281	99-B374	DEQ Groundwater: UMA289,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: KWickman

Date: 4/27/99

990305

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 12:40
Time Received : 9:00

ANALYTICAL REPORT

Sample Number: 5282
Laboratory Number: 99-B375
Product Description: DEQ Groundwater: UMA295,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5283
Laboratory Number: 99-B376
Product Description: DEQ Groundwater: UMA283,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: [illegible]

Date: 4/27/99

990305

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:35
Time Received : 9:00

ANALYTICAL REPORT

Sample Number 5276 — Laboratory Number 99-B377 — Product Description DEQ Groundwater: UMA284,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

990307

Sample Number 5277 — Laboratory Number 99-B402 — Product Description DEQ Groundwater: UMA291,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: KWickman

Date: 4/27/99

LABORATORY SERVICES DIVISION
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Department of Environmental Quality
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Nels D. Pedersen

Date Sampled : 4/12/99
Date Received : 4/13/99

Time Sampled : 14:46
Time Received : 15:00

ANALYTICAL REPORT

990303

Sample Number	Laboratory Number	Product Description
1522	99-B347	DEQ Groundwater: UMA301,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

990305

Sample Number	Laboratory Number	Product Description
5214	99-B366	DEQ Groundwater: UMA300,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Kil Wickman

Date: 4/27/99

990305

LABORATORY SERVICES DIVISION
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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 11:55
Time Received : 9:00

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7027	99-B361	DEQ Groundwater: UMA307,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: [signature]

Date: 6/30/99

Department of Environmental Quality
Organic Lab

Solids Data QA Data Comparison

Case #: **990305**
Case: **Milton Freewater GW**

Analyst: **JFS**

Matrix: **GW**

Factor: **0.6**
0.8

GW	Ground Water
SE	Surface Water - East Side
SW	Surface Water - West Side

Item No.	Sample No.	COND	TSS	TDS	TDS+TSS	TS	(TDS+TSS)/TS		Conductivity vs Solids *					Comments
							Recovery		Expected TDS		TDS		TS-TSS	
			mg/L	mg/L	mg/L	mg/L								
1	P010	242	1	170	171				145.2	0.7	**OK**	0.00		
2	P017	474	1	310	311				284.4	0.7	**OK**	0.00		
3	P093	167	1	120	121				100.2	0.7	**OK**	-0.01		
4	P086	482	1	310	311				289.2	0.6	**OK**	0.00		
5	P033	279	1	210	211				167.4	0.8	**RERUN**	0.00		
6	P042	279	1	220	221				167.4	0.8	**RERUN**	0.00		
7	P001	168	1	140	141				100.8	0.8	**RERUN**	-0.01		
8	P021	142	1	100	101				85.2	0.7	**OK**	-0.01		
9	P096	101	1	89	90				60.6	0.9	**RERUN**	-0.01		
10	P009	78	1	72	73				46.8	0.9	**<100**	-0.01		
11	P087	83	1	72	73				49.8	0.9	**<100**	-0.01		
12	P008	67	1	63	64				40.2	0.9	**<100**	0.0		
13					0									
14					0									
15					0									
16					0									
17					0									
18					0									
19					0									
20					0									
21					0									
22					0									
23					0									
24					0									
25					0									
26					0									
27					0									
28					0									
29					0									
30					0									

* Note when conductivity <100, COND/TDS difficult to predict.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORIES AND APPLIED RESEARCH
INORGANIC/METALS SECTION
QUANTITATIVE ANALYSIS FOR 25 ELEMENTS
by
Inductively Coupled Plasma (ICP)

SUMMARY QA/ QC REPORT

990305 MILTON-FREEWATER G.W.

SAMPLE # 24 WATER

DATE: JUNE 28, 1999

ANALYST: DLL/

ELEMENT	MDL (mg/L)	QC REFERENCE % RECOVERY (95-105%)	CALIBRATION CHECK % RECOVERY (95-105%)	ZERO CHECK (<MDL)	LAB REAGENT BLANK (<MDL)	LAB REPLICATES %DIFFERENCE (0+/- 20%)	LAB SPIKED SAMPLE % RECOVERY (80-120%)	LAB SPIKED BLANK % RECOVERY (90-110%)
		SPEX 1563				ITEM 3 - DM254	ITEM 4 - DM307	
Iron	0.0020	94	97	Acceptable	Acceptable	-2.2	103	93
Manganese	0.00020	100	95	Acceptable	Acceptable	62.7	104	96
Potassium	0.010	111	105	Acceptable	Acceptable	-1.7	121	108
Aluminum	0.010	103	99	Acceptable		-14.5	109	102
Lithium	0.00040	100	96			-5.9	107	103
Calcium	0.010	102	93	Acceptable		-2.4	106	95
Sodium	0.100	102	93	Acceptable	Acceptable	-2.9	103	97
Magnesium	0.010	100	96	Acceptable		-3.6	114	97
Lanthanum	0.0010	101	92	Acceptable	Acceptable	-8.8	100	95
Silver	0.00010	102	102	Acceptable	Acceptable	-10.5	111	104
Molybdenum	0.00040	109	105	Acceptable		-9.1	114	106
Cadmium	0.00010	106	103	Acceptable	Acceptable	5.4	108	102
Barium	0.00010	105	101	Acceptable	Acceptable	-2.6	109	98
Beryllium	0.000010	110	101	Acceptable	Acceptable	-3.8	117	109
Nickel	0.00020	108	102	Acceptable		-46.2	105	100
Cobalt	0.00020	110	113			-9.1	115	110
Chromium	0.00020	107	102	Acceptable	Acceptable	-169.2	111	103
Vanadium	0.00010	109	101	Acceptable	Acceptable	-7.7	115	107
Copper	0.00030	105	101		Acceptable	8.4	115	109
Zinc	0.00050	117	104	Acceptable		5.4	117	105
Antimony	0.0030	108	103	Acceptable	Acceptable	200.0	114	104
Arsenic	0.0020	110	93	Acceptable	Acceptable	-15.4	109	100
Lead	0.0030	99	103	Acceptable	Acceptable	-200.0	99	93
Thallium	0.0020	100	103	Acceptable	Acceptable	0.0	98	94
Selenium	0.0030	100	97	Acceptable	Acceptable	9.0	105	99

Below or near MD | Spike too small

Method conforms to methods 6010 & 3050 in SW846 EPA-RCRA Manual,
Method also conforms to methods 200.7 in EPA Water & Waste water Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

BROMIDE BY ION CHROMATOGRAPHY

QA/QC REPORT

CASE No.: 990305

CASE NAME: Milton Freewater Groundwater — ANALYSIS DATE: 5/5/99

Samples/Matrix 12,Water — ANALYST(s): WRC

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value mg/L	Measured Value mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC STANDARD	0.850	0.858	101 %
ACCUSTANDARD	1.000	0.999	100 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.3 mg/L Br	0.300		
III. ZERO-CHECK SAMPLE(s) [MRL = 0.05 mg/L]	NA		Nondetectable (<1/2 MRL)

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value mg/L	Nondetectable (<1/2 MRL)
		NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)	
1	BROMIDE	DP1751	0.026	DP1751	0.025	-3.9 %	Below MDL

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	mg/L	Known mg/L	Resul mg/L	Percent Recovery (80-120%)	
1	BROMIDE	DP1571	0.026	0.15	0.149	82 %	~~Below MDL~~

NA - Not Applicable

Method conforms to method 300.0 Determination of Inorganic Anions by Ion Chromatography in Standard Methods for the Examination of Water and Wastewater.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
CHLORIDE BY AUTOMATED FLOW INJECTION
QA/QC REPORT

CASE NO: **990305**
FUND CODE: **3560**
CASE NAME: **MILTON - FREEWATER GROUNDWATER**
SAMPLES/CASE–MATRIX 12–Water

ANALYSIS DATE: 4/13/99
ANALYST(s): LKM / GDS

TYPE: 1.000 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value	mg/L	Percent Recovery (95-105%):
I. QC REFERENCE SAMPLE(s)				
QC #4 1/500 CHLORIDE	2.400		2.495	104 %
QC #4 I/50 CHLORIDE	24.000		24.056	100 %
II. CALIBRATION CHECK SAMPLE(s)				
5.0 mg/l CHLORIDE	5.000		5.068	101 %
	5.000		4.987	100 %
50 mg/L CHLORIDE	50.000		49.664	99 %
	50.000		49.635	99 %

TYPE: 2.000 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value	mg/L	Nondetectable (<1/2 MRL):
H2O	CHLORIDE	0.000		0.000	Acceptable
		0.000		0.000	Acceptable

TYPE: 3.000 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L		DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%):
7	CHLORIDE	DP1105A	2.559	#	DP1105B	2.504	-2.2 %

TYPE: 4.000 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE # - (A)	mg/L	Known Addition	Results	Percent Recovery (80-120%):
8	CHLORIDE	DP577	1.381	1.000	2.407	103 %
II. REAGENT BLANK		**MATRIX**				**Percent Recovery (95-105%):**

NA - Not Applicable
Method conforms to methods ???? in SW846 EPA-RCRA Manual.
Method also conforms to method 325.2 in EPA-600 Water and Wastes Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
AMMONIA BY AUTOMATED PHENATE METHOD
QA/QC REPORT

CASE No.: 990305
CASE NAME: Milton Freewater Groundwater
Samples/Matrix 12-water

ANALYSIS DATE: 4/22/99
ANALYST(s): KHA

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
ACCUSTANDARD #6	0.388	0.385	99 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.5 mg/L NH3-N	0.500	0.479	96 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			Nondetectable (<1/2 MRL)
AMMONIA-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	AMMONIA-N	NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
4	AMMONIA-N	R430	0.020		R430	0.023	14.0 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
	AMMONIA-N			0.20		

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 350.1 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
NO3+NO2 BY AUTOMATED FLOW INJECTION Cd REDUCTION
QA/QC REPORT

CASE No.: 990305 — ANALYSIS DATE 4/23/99
FUND CODE: 3560
CASE NAME: MILTON FREEWATER GROUNDWATER — ANALYST(s): LKM
Samples/Matrix 11/water

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
1. QC H: 0.050 mgN/L NO3-N	0.050		
	0.050		
1. 0.2 mg N/L NO2-N	0.200		
	0.200		
2. QC H:, 2.0 mgN/L NO3-N	2.000	2.082	104 %
	2.000		
2. 10.0 mgn /L NO2-N	10.000	10.28	103 %
	10.000		
II. CALIBRATION CHECK SAMPLE(s)			
0.2 mgN/L NO3-N	0.200		
	0.200		
10.0 mgN/L NO3-N	10.00	10.09	101 %
	10.00	10.22	102 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			Nondetectable (<1/2 MRL)
NO3-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
	NO3+NO2-N	NA		
	"			

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
004	NO3+NO2-	R430 A	4.936	Water	R430 B	5.065	2.6 %
	"						
	"						
	"						

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
003	NO3+NO2-N	R1306	3.226	5.00	8.208	100 %
	"					
	"					
	"					

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 353.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".
QC REFERENCE SAMPLE RANGES: 1. is 0.02-0.5mg/L, 2. is 0.5-5.0 mg/L & 3. is 5.0-50 mg/L

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

TOTAL KJELDAHL NITROGEN (TK-N) BY SEMI-AUTOMATED PHENATE; LACHAT/FIA

QA/QC REPORT

CASE No.: 990305
CASE NAME: MILTON FREEWATER GROUNDWATER
Samples/Matrix 12, WATERS

ANALYSIS DATE: 4/20/22/1999
ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value --	mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)				
QC 1/50 GLYCINE	2.000		2.156	108 %
	2.000		2.048	102 %
QC 1/50 NICOTINIC ACID	2.000		1.877	94 %
	2.000		1.860	93 %
II. CALIBRATION CHECK SAMPLE(s)				
STANDARD H 5.0 mg/L TK-N	5.000		5.054	101 %
"	5.000		4.965	99 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]				Nondetectable (<1/2 MRL)
TK-N	<0.1		0.059	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value --	mg/L	Nondetectable (<1/2 MRL)
Water	TK-N	<0.1		0.074	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/ml	Percent Difference (RPD 0+/-20%)	
2	TK-N	R1482 A	0.201	Water	R1482 B	0.218	8.4 %	
8	TK-N	R930 A	0.188	Water	R930 B	0.078	-82.7 %	Less than detection limit. (R)
8	TK-N	R930 A	0.046	Water	R930 B	0.000	-200.0 %	Less than detection limit.

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
I. SAMPLES						
4	TK-N	R430	0.106	0.50	0.528	84 %
10	TK-N	R1796	0.069	0.50	0.589	104 %

NA - Not Applicable

Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 351.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
TOTAL PHOSPHORUS BY SPECTROPHOTOMETRY
QA/QC REPORT

CASE No.: 990305
CASE NAME: MILTON FREEWATER GROUNDWATER (4/13/99)
SAMPLES/CASE--MATRIX 12--Water

ANALYSIS DATE 4/21/99
ANALYST(s): GDS

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)			
WP1188 (1/5) TOTAL PHOSPHORUS	0.300	0.306	102 %
II. CALIBRATION CHECK SAMPLE(s)			
TOTAL PHOSPHORUS STANDARD 0.400 mg/L	0.400	0.407	102 %
III. ZERO-CHECK SAMPLES(s) (MRL=0.010mg/L)			
TOTAL PHOSPHORUS	<0.010	0.001	Nondetectable (<MRL) Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<MRL)
Water	TOTAL PHOSPHORUS	<0.010	0.002	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
2	TPO4P	R1482A	0.082	Water	R1482B	0.085	3.6 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (90-110%)
I. SAMPLES						
3	TP04P	R1306	0.050	0.120	0.168	98 %

NA - Not Applicable
Method conforms to method 4500-P E, "Standard Methods for the Examination of Water and Wastewater," 19th Edition,1995.
Method also conforms to method 365.2, US EPA-600, "Methods for the Chemical Analysis of Water and Wastes."

QUALITY ASSURANCE REPORT: ORGANICS

Case Name: Milton-Freewater Groundwater Fund Code: 3560
Case #: 990305

Sample date: 13-Apr-99 C-LR
QA report date: 27-Jul-99 RHH

VOLATILE ORGANICS: Method 524.2/8260

mg/L

Item	Samples	Analyte	Replicate	Sample (A)	Sample (B)	Duplicate (A)	Duplicate (B)	Report Sample	Report Duplicat	Diff.	Range	Standard eviation	RPD RSD
*				NA	NS	NS	NS	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

* No volatile compounds were identified above the forward search detection limit.
Data appearing in shaded boxes do not meet QA criteria, refer to analytical report. Data is for information only!
**: Exceeds calibration range.
**: Probable lab contamination.
DBNC: Detected But Not Confirmed.
NA = Not Applicable, NS = No sample
RPD: Relative Percent Difference is computed only when two results are compared.
RSD: Relative Standard Deviation is computed if more than two results are compared.
Data which is reported as "less than" (<) is used at 80% the numerical value to calculate difference and RPD.

Surrogate Spike Recovery		D6-Benzene Percent Recovery			2-Bromo-1-Chloropropane Percent Recovery			4-Bromofluorobenzene Percent Recovery	
Item	Samples	(A)	(B)	Avg.	(A)	(B)	Avg.	(A)	(B)
1	Watts	102%			102%			100%	
2	Parent	100%			105%			100%	
3	Roemer	96%			105%			103%	
4	Hobson	100%			112%			104%	
5	Brown	112%			108%			102%	
6	QA Brown	108%			103%			102%	
7	Lund	109%			107%			107%	
8	Ostby	107%			104%			108%	
9	Pannacione	92%	101%	97%	102%	105%	104%	100%	110%
10	Walker	101%	104%	103%	105%	104%	105%	101%	109%
11	Elkington	90%			102%			102%	
12	Brooks	102%			112%			103%	
	Lab blank								
	Average Spike Recovery:		102%			105%			104%

Q A R E P O R T
Groundwater Monitoring

Lab# 990305
RUN: MILTON FREEWATER GROUNDWATER

CODE#: 3560
DATE: 04/13/99
QA RATIO: 9%

primary sample / duplicate

PARAMETER	FIELD BLANK*	SITE	QA	DIFFERENCE	RPD
STATION					
STORET# UMA303					
TIME		15:34	10:26		
Groundwater field parameters.					
Field Alkalinity as CaCO3		117	117	0.	0
Field Conductivity		279	279	0.	0
Field Sample Temperature		12.7	12.7	0.0	0
Field pH		7.1	7.2	0.1	NA
~~QA Type Identification~~		~~12~~	~~11~~	~~-1.~~	~~-9~~
Microbiological data performed by OSHD.					
E. coli		<2	<2	NA	NA
Fecal Coliform		<2	<2	NA	NA
Indicator Metals by Inductively Coupled Plasma #1					
Indicator Metals by Inductively Coupled Plasma #1					
Aluminum, Dissolved		<0.010	<0.010	NA	NA
Aluminum, Total Recoverable		<0.010	<0.010	NA	NA
Calcium, Dissolved		25.1	25.4	0.3	
Calcium, Total Recoverable		24.7	26.4	1.7	7
Hardness as CaCO3 (calculated), Dissolved		107	109	2.	2
Hardness as CaCO3 (calculated), Total Reco		106	113	7.	6
Iron, Dissolved		0.0032	0.0047	0.0015	38
Iron, Total Recoverable		0.0122	0.0147	0.0025	19
Lanthanum, Dissolved		<0.0010	<0.0010	NA	NA
Lanthanum, Total Recoverable		<0.0010	<0.0010	NA	NA
Lithium, Dissolved		0.0150	0.0105	-0.0045	-35
Lithium, Total Recoverable		0.0036	0.0039	0.0003	8
Magnesium, Dissolved		10.9	11.1	0.2	2
Magnesium, Total Recoverable		10.7	11.4	0.7	6
Manganese, Dissolved		<0.0002	<0.0002	NA	NA
Manganese, Total Recoverable		<0.0002	<0.0002	NA	NA
Potassium, Dissolved		5.44	5.62	0.18	3
Potassium, Total Recoverable		5.60	5.98	0.38	7
Sodium, Dissolved		11.5	11.6	0.1	1
Sodium, Total Recoverable		11.3	12.1	0.8	7
Indicator Metals by Inductively Coupled Plasma #2					
Boron, Dissolved		0.0380	0.0385	0.0005	1
Silicon as SiO2, Dissolved		55.0	54.9	-0.1	0
Miscellaneous tests performed by contract	Attached		Attached	NA	NA
Primary Pollutant Metals by ICP #1					
Primary Pollutant Metals by ICP #1					
Barium, Dissolved		0.0187	0.0187	0.0000	0
Barium, Total Recoverable		0.0179	0.0190	0.0011	6
Beryllium, Dissolved		<0.0000	<0.0000	NA	NA
Beryllium, Total Recoverable		<0.0000	<0.0000	NA	NA
Cadmium, Dissolved		<0.0001	<0.0001	NA	NA
Cadmium, Total Recoverable		<0.0001	<0.0001	NA	NA
Chromium, Dissolved		0.0002	0.0002	0.0000	0
Chromium, Total Recoverable		<0.0002	<0.0002	NA	NA
Cobalt, Dissolved		0.0035	0.0042	0.0007	18
Cobalt, Total Recoverable		0.0060	0.0069	0.0009	14
Copper, Dissolved		0.0105	0.0104	-0.0001	-1
Copper, Total Recoverable		0.0119	0.0131	0.0012	10
Molybdenum, Dissolved		0.0006	0.0007	0.0001	15
Molybdenum, Total Recoverable		0.0005	0.0006	0.0001	18
Nickel, Dissolved		0.0004	0.0006	0.0002	40
Nickel, Total Recoverable		0.0002	<0.0002	NA	NA
Silver, Dissolved		0.0002	<0.0002	NA	NA
Silver, Total Recoverable		0.0004	0.0003	-0.0001	-29
Vanadium, Dissolved		0.0231	0.0237	0.0006	3
Vanadium, Total Recoverable		0.0239	0.0262	0.0023	9
Zinc, Dissolved		0.0256	0.0247	-0.0009	-4
Zinc, Total Recoverable		0.0242	0.0256	0.0014	6
Primary Pollutant Metals by ICP #2					
Primary Pollutant Metals by ICP #2					
Antimony, Dissolved		0.0044	<0.0030	NA	NA

P1/2 (3) Phil ~~Richardson~~ Richerson

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

CASE # 990307

Date Sampled 4-14-99

Date Received

Date Reported JUL 30 1999

pH Meter 58683 SCT Meter 50693

50619 (UMA287→)

Agency Code : 21ORWELD
Fund Code : 3650

Collected By: DLC/RJM

SAMPLES: Relinquished by _____ Date _____

Accepted by _____ Date _____

	STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic / D.Ions	T.Met / D.Met	Nutr / T.Hg	VOC / SPE Pest.	Pest. / Carb.	Bact.	TIME	Temp (°C)	Cond (µMhos/cm)	Alk. (mg/L)	pH (SU)
(1)	UMA 291		P 0012	TM 671	R 578	B 2694	L 7022	C 1403	7:55	14.2	181	73	6.9
			DP 1026	DM 247	TH 374	X 6879	5277						
(2)	UMA 304		P 094	TM 734	R 1544	B 2702	L 7021	C 1309	8:30	14.5	151	60	6.7
			DP 1112	DM 270	TH 383	X 6805	5268						
(3)	UMA 288		P 004	TM 728	R 311	B 2710	L 7018	C 1018	8:55	12.8	84	34	6.9
			DP 262	DM 293	TH 381	X 6806	5264						
(4)	UMA 287	B2726 →	P 023	TM 727	R 1594	B ~~7626~~	L 7020	C 1349	9:45	14.2	107	44	6.7
			DP 1581	DM 300	TH 378	X 6966	5278						
(5)	UMA 299		P 011	TM 732	R 532	B 2718	L 7017	C 1603	10:20	15.0	124	45	6.7
			DP 869	DM 291	TH 394	X 6858	5275						
(6)	UMA 299		P 037	TM 710	R 1841	B 2734	L 7019	C 1429	10:21	15.0	124	45	6.8
			DP 906	DM 303	TH 399	X 6915	5279						
(7)	UMA 286	P245	P 048	TM 777	R ~~1756~~	B 2733	L 7016	C 1405	11:15	12.3	69	28	7.0
			DP 283	DM 260	TH 388	X 6857	5274						
(8)	UMA 309		P 019	TM 711	R 391	B 2725	1094	C 1510	11:40	8.5	61	26	7.1
			DP 879	DM 271	TH 389	X 6815	5273						
(9)	UMA 285		P 014	TM 729	R 1582	B 2717	1096	C 1095	12:10	15.5	102	41	6.7
			DP 1085	DM 289	TH 340	X 6813	5272						
(10)	UMA 306		P 007	TM 659	R 603	B 2709	1095	C 1616	12:30	14.4	172	64	6.9
			DP 1752	DM 306	TH 395	X 6807	5260						

Ambient Temperature (°C):
@ 08:00 Hrs. 6° sunny, calm
@ 10:00 Hrs. 8° sunny, calm
@ 12:00 Hrs. 12° sunny, calm
@ 14:00 Hrs. _____
@ 16:00 Hrs. _____

Comments:

P2/2

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

CASE # 990307

Agency Code : 210RWELL
Func Code : 3650

Collected By: DLC/RJM

Date Sampled 4-14-99

Date Received

Date Reported

pH Meter 50619 SCT Meter 50693

SAMPLES: Relinquished by Date

Accepted by Date

STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic	T.Met	Nutr	VOC	Pest.	Bact.	TIME	Temp (°C)	Cond (µMhos/cm)	Alk. (mg/L)	pH (SU)
		D.Ions	D.Met	T.Hg	SPE Pest.	Carb.						
(11) UMA298		P 0400	TM 762	R 1803	B 2701	1097	C 1414	12:50	13.7	234	94	6.8
		DP 555	DM 267	TH 391	X 6859	5269						
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							
		P	TM	R	B		C					
		DP	DM	TH	X							

Ambient Temperature (°C):
@ 08:00 Hrs.
@ 10:00 Hrs.
@ 12:00 Hrs. 12° sunny, calm
@ 14:00 Hrs.
@ 16:00 Hrs.

Comments:

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATOR

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001	UMA291 04/14/99 @ 07:55		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	15.7	mg/L	Calcium, Dissolved
	15.9	mg/L	Calcium, Total Recoverable
	65.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	66.1	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0154	mg/L	Iron, Dissolved
	0.0292	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0048	mg/L	Lithium, Dissolved
	0.0013	mg/L	Lithium, Total Recoverable
	6.38	mg/L	Magnesium, Dissolved
	6.45	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.68	mg/L	Potassium, Dissolved
	3.85	mg/L	Potassium, Total Recoverable
	4.53	mg/L	Sodium, Dissolved
	4.69	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0218	mg/L	Barium, Dissolved
	0.0223	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0086	mg/L	Cobalt, Dissolved
	0.0129	mg/L	Cobalt, Total Recoverable
	0.0078	mg/L	Copper, Dissolved
	0.0088	mg/L	Copper, Total Recoverable
	0.0012	mg/L	Molybdenum, Dissolved
	0.0007	mg/L	Molybdenum, Total Recoverable
	0.0008	mg/L	Nickel, Dissolved
	0.0005	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0003	mg/L	Silver, Total Recoverable
	0.0053	mg/L	Vanadium, Dissolved
	0.0066	mg/L	Vanadium, Total Recoverable
	0.0182	mg/L	Zinc, Dissolved
	0.0122	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001			
	Continued...		
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0296	mg/L	Boron, Dissolved
	47.3	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.9	mg/L	Chloride
	2.23	mg/L	Nitrate & Nitrite as N
	3.55	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	160	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	73	mg/L	Field alkalinity as CaCO3.
	181	umhos/cm	Field conductivity.
	14.2	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
002	UMA304		
	04/14/99 @ 08:30		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	12.5	mg/L	Calcium, Dissolved
	12.2	mg/L	Calcium, Total Recoverable
	52.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	51.0	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0362	mg/L	Iron, Dissolved
	0.0557	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0040	mg/L	Lithium, Dissolved
	0.0017	mg/L	Lithium, Total Recoverable
	5.11	mg/L	Magnesium, Dissolved
	5.01	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.43	mg/L	Potassium, Dissolved
	3.32	mg/L	Potassium, Total Recoverable
	3.91	mg/L	Sodium, Dissolved
	3.86	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0180	mg/L	Barium, Dissolved
	0.0178	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
002			
	Continued...		
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0089	mg/L	Cobalt, Dissolved
	0.0115	mg/L	Cobalt, Total Recoverable
	0.0097	mg/L	Copper, Dissolved
	0.0093	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0009	mg/L	Molybdenum, Total Recoverable
	0.0009	mg/L	Nickel, Dissolved
	0.0007	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0049	mg/L	Vanadium, Dissolved
	0.0046	mg/L	Vanadium, Total Recoverable
	0.0276	mg/L	Zinc, Dissolved
	0.0252	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0265	mg/L	Boron, Dissolved
	46.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.6	mg/L	Chloride
	1.73	mg/L	Nitrate & Nitrite as N
	2.77	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	130	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	60	mg/L	Field alkalinity as CaCO3.
	151	umhos/cm	Field conductivity.
	14.5	C	Field sample temperature.
	6.7	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003	UMA288		
	04/14/99 @ 08:55		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	6.15	mg/L	Calcium, Dissolved
	6.59	mg/L	Calcium, Total Recoverable
	25.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	26.8	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.108	mg/L	Iron, Dissolved
	0.126	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0029	mg/L	Lithium, Dissolved
	0.0006	mg/L	Lithium, Total Recoverable
	2.42	mg/L	Magnesium, Dissolved
	2.53	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.39	mg/L	Potassium, Dissolved
	2.58	mg/L	Potassium, Total Recoverable
	2.59	mg/L	Sodium, Dissolved
	2.75	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0086	mg/L	Barium, Dissolved
	0.0088	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0082	mg/L	Cobalt, Dissolved
	0.0126	mg/L	Cobalt, Total Recoverable
	0.0080	mg/L	Copper, Dissolved
	0.0102	mg/L	Copper, Total Recoverable
	0.0011	mg/L	Molybdenum, Dissolved
	0.0008	mg/L	Molybdenum, Total Recoverable
	0.0010	mg/L	Nickel, Dissolved
	0.0007	mg/L	Nickel, Total Recoverable
	0.0003	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0034	mg/L	Vanadium, Dissolved
	0.0048	mg/L	Vanadium, Total Recoverable
	0.0177	mg/L	Zinc, Dissolved
	0.0174	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003			
	Continued...		
	0.0180	mg/L	Boron, Dissolved
	40.8	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.8	mg/L	Chloride
	0.484	mg/L	Nitrate & Nitrite as N
	1.33	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	91	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	34	mg/L	Field alkalinity as CaCO3.
	84	umhos/cm	Field conductivity.
	12.8	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
004	UMA287		
	04/14/99 @ 09:45		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	6 Est	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	8.59	mg/L	Calcium, Dissolved
	8.81	mg/L	Calcium, Total Recoverable
	35.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	35.4	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.108	mg/L	Iron, Dissolved
	0.168	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0033	mg/L	Lithium, Dissolved
	0.0008	mg/L	Lithium, Total Recoverable
	3.38	mg/L	Magnesium, Dissolved
	3.26	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	0.0006	mg/L	Manganese, Total Recoverable
	2.85	mg/L	Potassium, Dissolved
	2.95	mg/L	Potassium, Total Recoverable
	3.32	mg/L	Sodium, Dissolved
	3.27	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0127	mg/L	Barium, Dissolved
	0.0127	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
004			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0098	mg/L	Cobalt, Dissolved
	0.0124	mg/L	Cobalt, Total Recoverable
	0.0079	mg/L	Copper, Dissolved
	0.0085	mg/L	Copper, Total Recoverable
	0.0006	mg/L	Molybdenum, Dissolved
	0.0010	mg/L	Molybdenum, Total Recoverable
	0.0009	mg/L	Nickel, Dissolved
	0.0007	mg/L	Nickel, Total Recoverable
	0.0003	mg/L	Silver, Dissolved
	0.0003	mg/L	Silver, Total Recoverable
	0.0040	mg/L	Vanadium, Dissolved
	0.0042	mg/L	Vanadium, Total Recoverable
	0.0042	mg/L	Zinc, Dissolved
	0.0037	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0213	mg/L	Boron, Dissolved
	43.1	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.5	mg/L	Chloride
	0.974	mg/L	Nitrate & Nitrite as N
	1.89	mg/L	Sulfate by Ion Chromatography
	0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	99	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	44	mg/L	Field alkalinity as CaCO3.
	107	umhos/cm	Field conductivity.
	14.2	C	Field sample temperature.
	6.7	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005	UMA299 04/14/99 @ 10:20		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	9.73	mg/L	Calcium, Dissolved
	9.83	mg/L	Calcium, Total Recoverable
	40.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	40.2	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0446	mg/L	Iron, Dissolved
	0.0605	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	<0.0010	mg/L	Lanthanum, Total Recoverable
	0.0027	mg/L	Lithium, Dissolved
	0.0004	mg/L	Lithium, Total Recoverable
	3.85	mg/L	Magnesium, Dissolved
	3.80	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.06	mg/L	Potassium, Dissolved
	3.13	mg/L	Potassium, Total Recoverable
	3.46	mg/L	Sodium, Dissolved
	3.52	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0162	mg/L	Barium, Dissolved
	0.0158	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0083	mg/L	Cobalt, Dissolved
	0.0124	mg/L	Cobalt, Total Recoverable
	0.0048	mg/L	Copper, Dissolved
	0.0064	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0008	mg/L	Molybdenum, Total Recoverable
	0.0010	mg/L	Nickel, Dissolved
	0.0008	mg/L	Nickel, Total Recoverable
	0.0004	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0031	mg/L	Vanadium, Dissolved
	0.0045	mg/L	Vanadium, Total Recoverable
	0.0021	mg/L	Zinc, Dissolved
	0.0017	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005			
	Continued...		
	0.0223	mg/L	Boron, Dissolved
	43.5	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.6	mg/L	Chloride
	1.90	mg/L	Nitrate & Nitrite as N
	3.87	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	110	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	45	mg/L	Field alkalinity as CaCO3.
	124	umhos/cm	Field conductivity.
	15.0	C	Field sample temperature.
	6.7	S.U.	pH measured in field with ion specific probe.
	12		QA Type Identification
006	UMA299 QA 04/14/99 @ 10:21		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	10.1	mg/L	Calcium, Dissolved
	10.9	mg/L	Calcium, Total Recoverable
	41.4	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	43.5	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0394	mg/L	Iron, Dissolved
	0.0635	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0088	mg/L	Lanthanum, Total Recoverable
	0.0018	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	3.91	mg/L	Magnesium, Dissolved
	3.96	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.20	mg/L	Potassium, Dissolved
	3.28	mg/L	Potassium, Total Recoverable
	3.56	mg/L	Sodium, Dissolved
	3.60	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0161	mg/L	Barium, Dissolved
	0.0164	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
006			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0101	mg/L	Cobalt, Dissolved
	0.0113	mg/L	Cobalt, Total Recoverable
	0.0061	mg/L	Copper, Dissolved
	0.0058	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0007	mg/L	Nickel, Dissolved
	0.0008	mg/L	Nickel, Total Recoverable
	0.0005	mg/L	Silver, Dissolved
	0.0007	mg/L	Silver, Total Recoverable
	0.0044	mg/L	Vanadium, Dissolved
	0.0036	mg/L	Vanadium, Total Recoverable
	0.0025	mg/L	Zinc, Dissolved
	0.0016	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0226	mg/L	Boron, Dissolved
	43.4	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.6	mg/L	Chloride
	2.00	mg/L	Nitrate & Nitrite as N
	3.87	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	43	mg/L	Alkalinity as CaCO3
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	123	umhos/cm	Conductivity
	110	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	6.7	SU	pH
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
			Intra-Laboratory QA report.
	Attached		QA Report: Summary of duplicate samples.
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	45	mg/L	Field alkalinity as CaCO3.
	124	umhos/cm	Field conductivity.
	15.0	C	Field sample temperature.
	6.8	S.U.	pH measured in field with ion specific probe.
	11		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007	UMA286 04/14/99 @ 11:15		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	2 Est	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	0.058	mg/L	Aluminum, Total Recoverable
	5.20	mg/L	Calcium, Dissolved
	6.09	mg/L	Calcium, Total Recoverable
	21.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	24.0	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0892	mg/L	Iron, Dissolved
	0.129	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0190	mg/L	Lanthanum, Total Recoverable
	0.0021	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	2.07	mg/L	Magnesium, Dissolved
	2.15	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.12	mg/L	Potassium, Dissolved
	2.33	mg/L	Potassium, Total Recoverable
	2.52	mg/L	Sodium, Dissolved
	2.83	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0076	mg/L	Barium, Dissolved
	0.0084	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0012	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0092	mg/L	Cobalt, Dissolved
	0.0109	mg/L	Cobalt, Total Recoverable
	0.0055	mg/L	Copper, Dissolved
	0.0064	mg/L	Copper, Total Recoverable
	0.0010	mg/L	Molybdenum, Dissolved
	0.0009	mg/L	Molybdenum, Total Recoverable
	0.0009	mg/L	Nickel, Dissolved
	0.0008	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0036	mg/L	Vanadium, Dissolved
	0.0037	mg/L	Vanadium, Total Recoverable
	0.0164	mg/L	Zinc, Dissolved
	0.0173	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007			
	Continued...		
	0.0165	mg/L	Boron, Dissolved
	35.9	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.7	mg/L	Chloride
	0.248	mg/L	Nitrate & Nitrite as N
	1.03	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.07	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	65	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	28	mg/L	Field alkalinity as CaCO3.
	69	umhos/cm	Field conductivity.
	12.3	C	Field sample temperature.
	7.0	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
008	UMA309		
	04/14/99 @ 11:40		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	0.042	mg/L	Aluminum, Total Recoverable
	4.55	mg/L	Calcium, Dissolved
	5.10	mg/L	Calcium, Total Recoverable
	18.9	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	20.1	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0745	mg/L	Iron, Dissolved
	0.0800	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0180	mg/L	Lanthanum, Total Recoverable
	0.0020	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	1.84	mg/L	Magnesium, Dissolved
	1.80	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	1.71	mg/L	Potassium, Dissolved
	1.86	mg/L	Potassium, Total Recoverable
	2.30	mg/L	Sodium, Dissolved
	2.36	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0052	mg/L	Barium, Dissolved
	0.0058	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
008			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	0.0002	mg/L	Chromium, Total Recoverable
	0.0100	mg/L	Cobalt, Dissolved
	0.0103	mg/L	Cobalt, Total Recoverable
	0.0055	mg/L	Copper, Dissolved
	0.0060	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0006	mg/L	Molybdenum, Total Recoverable
	0.0007	mg/L	Nickel, Dissolved
	0.0008	mg/L	Nickel, Total Recoverable
	0.0006	mg/L	Silver, Dissolved
	0.0008	mg/L	Silver, Total Recoverable
	0.0033	mg/L	Vanadium, Dissolved
	0.0022	mg/L	Vanadium, Total Recoverable
	0.105	mg/L	Zinc, Dissolved
	0.106	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0137	mg/L	Boron, Dissolved
	31.8	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.5	mg/L	Chloride
	0.114	mg/L	Nitrate & Nitrite as N
	0.79	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	69	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	26	mg/L	Field alkalinity as CaCO3.
	61	umhos/cm	Field conductivity.
	8.5	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
009	UMA285		
	04/14/99 @ 12:10		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	2 Est	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	7.55	mg/L	Calcium, Dissolved
	8.93	mg/L	Calcium, Total Recoverable
	31.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	35.5	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0400	mg/L	Iron, Dissolved
	0.0571	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0176	mg/L	Lanthanum, Total Recoverable
	0.0015	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	2.99	mg/L	Magnesium, Dissolved
	3.21	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.69	mg/L	Potassium, Dissolved
	2.98	mg/L	Potassium, Total Recoverable
	3.21	mg/L	Sodium, Dissolved
	3.57	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0124	mg/L	Barium, Dissolved
	0.0133	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0097	mg/L	Cobalt, Dissolved
	0.0106	mg/L	Cobalt, Total Recoverable
	0.0317	mg/L	Copper, Dissolved
	0.0352	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0009	mg/L	Molybdenum, Total Recoverable
	0.0011	mg/L	Nickel, Dissolved
	0.0009	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0006	mg/L	Silver, Total Recoverable
	0.0041	mg/L	Vanadium, Dissolved
	0.0038	mg/L	Vanadium, Total Recoverable
	0.0095	mg/L	Zinc, Dissolved
	0.0075	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
009			
	Continued...		
	0.0288	mg/L	Boron, Dissolved
	40.1	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.4	mg/L	Chloride
	0.944	mg/L	Nitrate & Nitrite as N
	1.94	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.07	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	88	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	41	mg/L	Field alkalinity as CaCO3.
	102	umhos/cm	Field conductivity.
	15.5	C	Field sample temperature.
	6.7	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
010	UMA306		
	04/14/99 @ 12:30		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	14.2	mg/L	Calcium, Dissolved
	15.2	mg/L	Calcium, Total Recoverable
	59.2	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	59.9	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0142	mg/L	Iron, Dissolved
	0.0166	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0185	mg/L	Lanthanum, Total Recoverable
	0.0014	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	5.76	mg/L	Magnesium, Dissolved
	5.38	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	3.41	mg/L	Potassium, Dissolved
	3.36	mg/L	Potassium, Total Recoverable
	4.74	mg/L	Sodium, Dissolved
	4.79	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0223	mg/L	Barium, Dissolved
	0.0212	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
010			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0120	mg/L	Cobalt, Dissolved
	0.0102	mg/L	Cobalt, Total Recoverable
	0.0062	mg/L	Copper, Dissolved
	0.0099	mg/L	Copper, Total Recoverable
	0.0007	mg/L	Molybdenum, Dissolved
	0.0007	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0010	mg/L	Nickel, Total Recoverable
	0.0003	mg/L	Silver, Dissolved
	0.0007	mg/L	Silver, Total Recoverable
	0.0073	mg/L	Vanadium, Dissolved
	0.0046	mg/L	Vanadium, Total Recoverable
	0.0380	mg/L	Zinc, Dissolved
	0.0297	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0283	mg/L	Boron, Dissolved
	42.4	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	2.5	mg/L	Chloride
	2.71	mg/L	Nitrate & Nitrite as N
	3.82	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	130	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	64	mg/L	Field alkalinity as CaCO3.
	172	umhos/cm	Field conductivity.
	14.4	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
011	UMA298 04/14/99 @ 12:50		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	21.0	mg/L	Calcium, Dissolved
	21.8	mg/L	Calcium, Total Recoverable
	86.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	87.2	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0046	mg/L	Iron, Dissolved
	0.105	mg/L	Iron, Total Recoverable
	<0.0010	mg/L	Lanthanum, Dissolved
	0.0177	mg/L	Lanthanum, Total Recoverable
	0.0014	mg/L	Lithium, Dissolved
	<0.0004	mg/L	Lithium, Total Recoverable
	8.25	mg/L	Magnesium, Dissolved
	7.96	mg/L	Magnesium, Total Recoverable
	0.0006	mg/L	Manganese, Dissolved
	0.0010	mg/L	Manganese, Total Recoverable
	4.40	mg/L	Potassium, Dissolved
	4.16	mg/L	Potassium, Total Recoverable
	5.24	mg/L	Sodium, Dissolved
	5.43	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0264	mg/L	Barium, Dissolved
	0.0257	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0001	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0122	mg/L	Cobalt, Dissolved
	0.0106	mg/L	Cobalt, Total Recoverable
	0.0136	mg/L	Copper, Dissolved
	0.0133	mg/L	Copper, Total Recoverable
	0.0008	mg/L	Molybdenum, Dissolved
	0.0010	mg/L	Molybdenum, Total Recoverable
	0.0007	mg/L	Nickel, Dissolved
	0.0009	mg/L	Nickel, Total Recoverable
	0.0002	mg/L	Silver, Dissolved
	0.0009	mg/L	Silver, Total Recoverable
	0.0065	mg/L	Vanadium, Dissolved
	0.0045	mg/L	Vanadium, Total Recoverable
	0.211	mg/L	Zinc, Dissolved
	0.212	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990307 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
011			
	Continued...		
	0.0301	mg/L	Boron, Dissolved
	46.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	3.3	mg/L	Chloride
	3.02	mg/L	Nitrate & Nitrite as N
	4.95	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.06	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	160	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	94	mg/L	Field alkalinity as CaCO3.
	234	umhos/cm	Field conductivity.
	13.7	C	Field sample temperature.
	6.8	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2694	**Analysis Date:**	19 April 1999
Item No:	1		

UMA 291

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0101	101
	2-Bromo-1-Chloropropane	0.0100	0.0102	102
	4-Bromofluorobenzene	0.0100	0.0106	106

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2702	**Analysis Date:**	19 April 1999
Item No:	2		

UMA 304

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0098	98
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0103	103

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2710	**Analysis Date:**	19 April 1999
Item No:	3		

Pwd UMA 288

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0098	98
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0109	109

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2726	**Analysis Date:**	19 April 1999
Item No:	4		

PWS UMA 287

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0094	94
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0105	105

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2718	**Analysis Date:**	19 April 1999
Item No:	5		

PWD UMA 299

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0107	107
	4-Bromofluorobenzene	0.0100	0.0107	107

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2734	**Analysis Date:**	19 April 1999
Item No:	6	UMA 299 (duplicate)	

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0109	109

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2733	**Analysis Date:**	19 April 1999
Item No:	7		

PWS UMA 286

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0108	108
	4-Bromofluorobenzene	0.0100	0.0108	108

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2725	**Analysis Date:**	19 April 1999
Item No:	8		

UMA 309

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0110	110

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2717	**Analysis Date:**	19 April 1999
Item No:	9		

PWD UMA 285

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0111	111

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2709	**Analysis Date:**	19 April 1999
Item No:	10		

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0098	98
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0111	111

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2701	**Analysis Date:**	19 April 1999
Item No:	11		

UMA 298

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0098	98
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0117	117

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

990307

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number 5268 — Laboratory Number 99-B403 — Product Description DEQ Groundwater: UMA304,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 5264 — Laboratory Number 99-B404 — Product Description DEQ Groundwater: UMA288,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Kirkeman

Date: 4/27/99

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 9:45
Time Received : 10:30

ANALYTICAL REPORT

Sample Number: 5278
Laboratory Number: 99-B405
Product Description: DEQ Groundwater: UMA287,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5275
Laboratory Number: 99-B406
Product Description: DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: KWickman

Date: 4/27/99

990307

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:21
Time Received : 10:30

ANALYTICAL REPORT

Sample Number: 5279
Laboratory Number: 99-B407
Product Description: DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5274
Laboratory Number: 99-B408
Product Description: DEQ Groundwater: UMA286,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Kilkenny

Date: 4/27/99

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:40
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
5273	99-B409	DEQ Groundwater: UMA309,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number	Laboratory Number	Product Description
5272	99-B410	DEQ Groundwater: UMA285,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: M Uchiman

Date: 4/27/99

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Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number: 5260
Laboratory Number: 99-B411
Product Description: DEQ Groundwater: UMA306,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number: 5269
Laboratory Number: 99-B412
Product Description: DEQ Groundwater: UMA298,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: Kirkman

Date: 4/27/99

990305

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Rodger B. Voelker

Date Sampled : 4/13/99
Date Received : 4/14/99

Time Sampled : 13:35
Time Received : 9:00

ANALYTICAL REPORT

Sample Number: 5276
Laboratory Number: 99-B377
Product Description: DEQ Groundwater: UMA284,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

990307

Sample Number: 5277
Laboratory Number: 99-B402
Product Description: DEQ Groundwater: UMA291,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: KWickman

Date: 4/27/99

990307

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 7:55
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7022	99-B391	DEQ Groundwater: UMA291,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR Bur
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV KBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrustan

Date: 6/30/99

990307

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Requesting Agency/Division/Firm

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Groundwater Project
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Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7021	99-B392	DEQ Groundwater: UMA304,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corristan Date: 6/30/99

990307

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Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:55
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7018	99-B393	DEQ Groundwater: UMA288,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Courstan

Date: 6/30/99

990301

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 9:45
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7020	99-B394	DEQ Groundwater: UMA287,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrstan

Date: 6/30/99

990307

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:20
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7017	99-B395	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR bur
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corristan

Date: 6/30/99

990309

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:21
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7019	99-B396	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

990307

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Contact: Greg Pettit
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Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:15
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7016	99-B397	DEQ Groundwater: UMA286,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrustan

Date: 6/30/99

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Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:40
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1094	99-B398	DEQ Groundwater: UMA309,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: R Corristan

Date: 6/30/99

990307

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Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:10
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1096	99-B399	DEQ Groundwater: UMA285,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

990307

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Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1095	99-B400	DEQ Groundwater: UMA306,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV KBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Cornstan

Date: 6/30/99

990307

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Requesting Agency/Division/Firm

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Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:50
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1097	99-B401	DEQ Groundwater: UMA298,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	0.21 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corriston

Date: 6/30/99

990307

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 7:55
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6879	99-B413	DEQ Groundwater: UMA291,

Analysis Requested	Analytical Results	Analysts
Atrazine	0.0110 ug/L MDL = 0.010 ug/L	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0170 ug/L MDL=0.020	MWP

Reviewed by: KWickman

Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

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1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm **Date Sampled : 4/14/99** **Time Sampled : 7:55**
Received by : Beth L. Read **Date Received : 4/15/99** **Time Received : 10:30**

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6879	99-B413	DEQ Groundwater: UMA291,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman Date: 6/21/99

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Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6805	99-B414	DEQ Groundwater: UMA304,

Analysis Requested	Analytical Results	Analysts
Atrazine	0.0170 ug/L MDL = 0.010 ug/L	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	0.0150 ug/L MDL = 0.010 ug/L	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0140 ug/L MDL=0.020	MWP

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6805	99-B414	DEQ Groundwater: UMA304,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:55
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6806	99-B415	DEQ Groundwater: UMA288,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 8:55
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6806	99-B415	DEQ Groundwater: UMA288,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: M Wickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 9:45
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6966	99-B416	DEQ Groundwater: UMA287,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm **Date Sampled : 4/14/99** **Time Sampled : 9:45**
Received by : Beth L. Read **Date Received : 4/15/99** **Time Received : 10:30**

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6966	99-B416	DEQ Groundwater: UMA287,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:20
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6858	99-B417	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	0.0110 ug/L MDL = 0.010 ug/L	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0070 ug/L MDL=0.020	MWP

Reviewed by: K Wickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:20
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6858	99-B417	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:21
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6915	99-B418	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	(E) 0.0097 ug/L MDL=0.010	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0090 ug/L MDL=0.020	MWP

Reviewed by: K Wickemose Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 10:21
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6915	99-B418	DEQ Groundwater: UMA299,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

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LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:15
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6857	99-B419	DEQ Groundwater: UMA286,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:15
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6857	99-B419	DEQ Groundwater: UMA286,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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Laws And Regulations Administered By:
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:40
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6815	99-B420	DEQ Groundwater: UMA309,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

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Requesting Agency/Division/Firm

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 11:40
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6815	99-B420	DEQ Groundwater: UMA309,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Weckman Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:10
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6813	99-B421	DEQ Groundwater: UMA285,

Analysis Requested	Analytical Results	Analysts
Atrazine	(E) 0.0070 ug/L MDL=0.010	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: M Wickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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Laws And Regulations Administered By:
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:10
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6813	99-B421	DEQ Groundwater: UMA285,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

LABORATORY SERVICES DIVISION
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6807	99-B422	DEQ Groundwater: UMA306,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0120 ug/L MDL=0.020	MWP

Reviewed by: K Wickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:30
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6807	99-B422	DEQ Groundwater: UMA306,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/21/99

990307

LABORATORY SERVICES DIVISION
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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:50
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6859	99-B423	DEQ Groundwater: UMA298,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0130 ug/L MDL=0.020	MWP

Reviewed by: K Wickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

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Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/14/99
Date Received : 4/15/99

Time Sampled : 12:50
Time Received : 10:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6859	99-B423	DEQ Groundwater: UMA298,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman Date: 6/21/99

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990307 | DATE: 06/09/1999
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area) | INITIALS: RMM
SAMPLING DATE: 04/14/1999 | Sampled by: DLC/RJM

ITEM: 1 SITE: (deg ./ deg .') UMA291

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	65.3	1.30	Alkalinity	73	1.45	Cation Total:	1.59	meq/L
Sodium	4.53	0.20	Chloride	1.9	0.05	Anion Total:	1.73	meq/L
Potassium	3.68	0.09	Bromide	<0.05	0.00	Relative Deviation:	-8.4	%
Iron II	0.0154	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	3.55	0.07	Conductivity:	181	
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	2.23	0.16	METER: 50693		

ITEM: 2 SITE: (45 deg 58.280'/118 deg 25.442') UMA304

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	52.3	1.04	Alkalinity	60	1.19	Cation Total:	1.30	meq/L
Sodium	3.91	0.17	Chloride	1.6	0.05	Anion Total:	1.42	meq/L
Potassium	3.43	0.09	Bromide	<0.05	0.00	Relative Deviation:	-8.8	%
Iron II	0.0362	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	2.77	0.06	Conductivity:	151	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	1.73	0.12			

ITEM: 3 SITE: (deg '/ deg ') UMA288

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	25.3	0.50	Alkalinity	34	0.68	Cation Total:	0.67	meq/L
Sodium	2.59	0.11	Chloride	0.8	0.02	Anion Total:	0.76	meq/L
Potassium	2.39	0.06	Bromide	<0.05	0.00	Relative Deviation:	-12.6	%
Iron II	0.108	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	1.33	0.03	Conductivity:	84	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.484	0.03			

ITEM: 4 SITE: (deg ./ deg .') UMA287

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	35.3	0.70	Alkalinity	44	0.88	Cation Total:	0.91	meq/L
Sodium	3.32	0.14	Chloride	1.5	0.04	Anion Total:	1.03	meq/L
Potassium	2.85	0.07	Bromide	<0.05	0.00	Relative Deviation:	-12.4	%
Iron II	0.108	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	1.89	0.04	Conductivity:	107	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.974	0.07			

ITEM: 5 SITE: (45 deg 58.010'/118 deg 24.188') UMA299

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L			
Hardness	40.1	0.80	Alkalinity	45	0.90	Cation Total:	1.03	meq/L
Sodium	3.46	0.15	Chloride	1.6	0.05	Anion Total:	1.17	meq/L
Potassium	3.06	0.08	Bromide	<0.05	0.00	Relative Deviation:	-12.7	%
Iron II	0.0446	0.00	Orthophosphate-P	NA	0.00			
Manganese II	<0.00020	0.00	Sulfate	3.87	0.08	Conductivity:	124	
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	1.90	0.14			

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990307
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area)
SAMPLING DATE: 04/14/1999

DATE: 06/09/1999
INITIALS: RMM
Sampled by: DLC/RJM

ITEM: 6 SITE: (45 deg 58.010'/118 deg 24.188') UMA299

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	41.4	0.82	Alkalinity Lab = 43	45	0.90
Sodium	3.56	0.15	Chloride	1.6	0.05
Potassium	3.20	0.08	Bromide	<0.05	0.00
Iron II	0.0394	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	3.87	0.08
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	2.00	0.14

Cation Total: 1.05 meq/L
Anion Total: 1.17 meq/L
Relative Deviation: -10.8 %
Conductivity: 124 Lab = 123

ITEM: 7 SITE: (deg .'/ deg .') UMA286

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	21.5	0.43	Alkalinity	28	0.56
Sodium	2.52	0.11	Chloride	0.7	0.02
Potassium	2.12	0.05	Bromide	<0.05	0.00
Iron II	0.0892	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	1.03	0.02
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.248	0.02

Cation Total: 0.59 meq/L
Anion Total: 0.62 meq/L
Relative Deviation: -5.0 %
Conductivity: 69

ITEM: 8 SITE: (45 deg 57.596'/118 deg 23.167') UMA309

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	18.9	0.38	Alkalinity	26	0.52
Sodium	2.30	0.10	Chloride	0.5	0.01
Potassium	1.71	0.04	Bromide	<0.05	0.00
Iron II	0.0745	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	0.79	0.02
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.114	0.01

Cation Total: 0.52 meq/L
Anion Total: 0.56 meq/L
Relative Deviation: -7.4 %
Conductivity: 61

ITEM: 9 SITE: (deg .'/ deg .') UMA285

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	31.1	0.62	Alkalinity	41	0.82
Sodium	3.21	0.14	Chloride	1.4	0.04
Potassium	2.69	0.07	Bromide	<0.05	0.00
Iron II	0.0400	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	1.94	0.04
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	0.944	0.07

Cation Total: 0.83 meq/L
Anion Total: 0.97 meq/L
Relative Deviation: -15.6 %
Conductivity: 102

ITEM: 10 SITE: (45 deg 57.733'/118 deg 25.068') UMA306

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	59.2	1.18	Alkalinity	64	1.27
Sodium	4.74	0.21	Chloride	2.5	0.07
Potassium	3.41	0.09	Bromide	<0.05	0.00
Iron II	0.0142	0.00	Orthophosphate-P	NA	0.00
Manganese II	<0.00020	0.00	Sulfate	3.82	0.08
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	2.71	0.19

Cation Total: 1.48 meq/L
Anion Total: 1.61 meq/L
Relative Deviation: -8.4 %
Conductivity: 172

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORIES AND APPLIED RESEARCH
INORGANIC/METALS SECTION
QUANTITATIVE ANALYSIS FOR 25 ELEMENTS
by
Inductively Coupled Plasma (ICP)

SUMMARY QA/ QC REPORT

990307 MILTON-FREEWATER G.W. DATE: JUNE 28, 1999

SAMPLE # 22 WATER ANALYST: DLL/

ELEMENT	MDL (mg/L)	QC REFERENCE % RECOVERY (95-105%)	CALIBRATION CHECK % RECOVERY (95-105%)	ZERO CHECK (<MDL)	LAB REAGENT BLANK (<MDL)	LAB REPLICATES %DIFFERENCE (0+/- 20%)	LAB SPIKED SAMPLE % RECOVERY (80-120%)	LAB SPIKED BLANK % RECOVERY (90-110%)
		SPEX 1563				ITEM 2 - DM270	ITEM 5 - DM291	
Iron	0.0020	94	97	Acceptable	Acceptable	-11.0	86	93
Manganese	0.00020	100	95	Acceptable	Acceptable	-1.5	87	96
Potassium	0.010	111	105	Acceptable	Acceptable	-7.5	102	108
Aluminum	0.010	103	99	Acceptable		50.0	104	102
Lithium	0.00040	100	96			38.6	89	103
Calcium	0.010	102	93	Acceptable		-7.6	102	95
Sodium	0.100	102	93	Acceptable	Acceptable	-4.8	90	97
Magnesium	0.010	100	96	Acceptable		-4.1	90	97
Lanthanum	0.0010	101	92	Acceptable	Acceptable	6.6	100	95
Silver	0.00010	102	102	Acceptable	Acceptable	138.5	98	104
Molybdenum	0.00040	109	105	Acceptable		34.3	99	106
Cadmium	0.00010	106	103	Acceptable	Acceptable	7.1	94	102
Barium	0.00010	105	101	Acceptable	Acceptable	-3.3	91	98
Beryllium	0.000010	110	101	Acceptable	Acceptable	35.6	100	109
Nickel	0.00020	108	102	Acceptable		34.3	92	100
Cobalt	0.00020	110	113			-17.4	111	110
Chromium	0.00020	107	102	Acceptable	Acceptable	120.0	96	103
Vanadium	0.00010	109	101	Acceptable	Acceptable	-20.8	98	107
Copper	0.00030	105	101		Acceptable	-27.2	102	109
Zinc	0.00050	117	104	Acceptable		-24.3	99	105
Antimony	0.0030	108	103	Acceptable	Acceptable	-200.0	98	104
Arsenic	0.0020	110	93	Acceptable	Acceptable	-39.8	89	100
Lead	0.0030	99	103	Acceptable	Acceptable	-151.0	88	93
Thallium	0.0020	100	103	Acceptable	Acceptable	-109.1	86	94
Selenium	0.0030	100	97	Acceptable	Acceptable	1.8	88	99

Below or near MD | Spike too small

Method conforms to methods 6010 & 3050 in SW846 EPA-RCRA Manual,

Method also conforms to methods 200.7 in EPA Water & Waste water Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
CHLORIDE BY AUTOMATED FLOW INJECTION
QA/QC REPORT

CASE NO: **990307**
FUND CODE: **3560**
CASE NAME: **MILTON - FREEWATER GROUNDWATER**
SAMPLES/CASE–MATRIX 11–Water

ANALYSIS DATE: 4/13/99
ANALYST(s): LKM / GDS

TYPE: 1.000 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value mg/L	Percent Recovery (95-105%):
I. QC REFERENCE SAMPLE(s)			
QC #4 1/500 CHLORIDE	2.400	2.495	104 %
II. CALIBRATION CHECK SAMPLE(s)			
5.0 mg/l CHLORIDE	5.000	5.068	101 %
	5.000	4.987	100 %

TYPE: 2.000 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value mg/L	Nondetectable (<1/2 MRL):
H2O	CHLORIDE	0.000	0.000	Acceptable
		0.000	0.000	Acceptable

TYPE: 3.000 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%):
1	CHLORIDE	DP1026A	1.889	DP1026B	1.879	-0.5 %

TYPE: 4.000 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE # - (A)	mg/L	Known Addition	Results	Percent Recovery (80-120%):
2	CHLORIDE	DP1112	1.601	1.000	2.670	107 %
II. REAGENT BLANK		**MATRIX**				**Percent Recovery (95-105%):**

NA - Not Applicable
Method conforms to methods ???? in SW846 EPA-RCRA Manual.
Method also conforms to method 325.2 in EPA-600 Water and Wastes Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

SULFATE BY ION CHROMATOGRAPHY ANALYSIS

QA/QC REPORT

CASE No.: **990307**

CASE NAME: **MILTON FREEWATER GROUNDWATER** ANALYSIS DATE: April 26, 1999

Samples/Matrix 11, WATERS ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC #4 1/50 SULFATE	3.00	2.86	95 %
	3.00	2.93	98 %
II. CALIBRATION CHECK SAMPLE(s)			
20.0 mg/L SULFATE	20.00	19.93	100 %
	20.00	19.93	100 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]			**Nondetectable (<1/2 MRL)**
SULFATE	<0.2	0.02	Acceptable
	<0.2	0.01	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	SULFATE	<0.2	0.00	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
2	SULFATE	DP1112 A	2.77	Water	DP1112 B	2.77	0.1 %
9	SULFATE	DP1685 A	1.94	Water	DP1685 B	1.95	0.8

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
4	SULFATE	DP1581	1.894	3.00	4.898	100 %
10	SULFATE	DP1752	3.819	3.00	6.948	104 %

NA - Not Applicable

Method conforms to method 4500-SO4 F in Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 300 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
AMMONIA BY AUTOMATED PHENATE METHOD
QA/QC REPORT

CASE No.: 990307
CASE NAME: Milton Freewater Groundwater
Samples/Matrix 11-water

ANALYSIS DATE: 4/22/99
ANALYST(s): KHA

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
ACCUSTANDARD #6	0.388	0.385	99 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.5 mg/L NH3-N	0.500	0.479	96 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			**Nondetectable (<1/2 MRL)**
AMMONIA-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	AMMONIA-N	NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
3	AMMONIA-N	R311	0.024		R311	0.013	-59.5 % at MRL

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
10	AMMONIA-N	R603	0.027	0.20	0.208	91 %

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 350.1 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
NO3+NO2 BY AUTOMATED FLOW INJECTION Cd REDUCTION
QA/QC REPORT

CASE No.: **990307** ANALYSIS DATE 4/23/99
FUND CODE: **3560**
CASE NAME: MILTON - FREEWATER G.W. ANALYST(s): LKM
Samples/Matrix **11/water**

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
1. QC H: 0.050 mgN/L NO3-N	0.050	0.0481	96 %
	0.050		
1. 0.2 mg N/L NO2-N	0.200	0.2107	105 %
	0.200		
2. QC H:, 2.0 mgN/L NO3-N	2.000	2.082	104 %
	2.000		
2. 10.0 mgn /L NO2-N	10.000	10.28	103 %
	10.000		
II. CALIBRATION CHECK SAMPLE(s)			
0.2 mgN/L NO3-N	0.200	0.2009	100 %
	0.200	0.1967	98 %
10.0 mgN/L NO3-N	10.00	10.09	101 %
	10.00	10.22	102 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			Nondetectable (<1/2 MRL)
NO3-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
	NO3+NO2-N	NA		
	"			

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
003	NO3+NO2-	R311 A	0.479	Water	R311 B	0.489	1.9 %
	"						
	"						
	"						

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
011	NO3+NO2-N	R1803	3.020	5.00	8.349	107 %
	"					
	"					
	"					

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 353.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".
QC REFERENCE SAMPLE RANGES: 1. is 0.02-0.5mg/L, 2. is 0.5-5.0 mg/L & 3. is 5.0-50 mg/L

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

TOTAL KJELDAHL NITROGEN (TK-N) BY SEMI-AUTOMATED PHENATE; LACHAT/FIA

QA/QC REPORT

CASE No.: 990307
CASE NAME: MILTON FREEWATER GROUNDWATER
Samples/Matrix 11, WATERS

ANALYSIS DATE: 22-Apr-99
ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC 1/50 GLYCINE	2.000	2.089	104 %
	2.000	2.080	104 %
QC 1/50 NICOTINIC ACID	2.000	2.048	102 %
	2.000	2.013	101 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD H 5.0 mg/L TK-N	5.000	5.014	100 %
"	5.000	5.059	101 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]			Nondetectable (<1/2 MRL)
TK-N	<0.1	0.010	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	TK-N	<0.1	0.000	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/ml	Percent Difference (RPD 0+/-20%)	
1	TK-N	R578 A	0.045	Water	R578 B	0.036	-22.2 %	Less than detection limit.
8	TK-N	R391 A	0.007	Water	R391 B	0.051	151.7 %	Less than detection limit.

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
I. SAMPLES						
3	TK-N	R311	0.100	1.00	1.085	99 %
10	TK-N	R603	0.168	1.00	1.044	88 %

NA - Not Applicable

Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 351.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
TOTAL PHOSPHORUS BY SPECTROPHOTOMETRY

CASE No.: **990307** — **QA/QC REPORT** — ANALYSIS DATE **4/21/99**

CASE NAME: **MILTON FREEWATER GROUNDWATER (4/14/99)** — ANALYST(s): **GDS**

SAMPLES/CASE--MATRIX **11--Water**

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)			
WP1188 (1/5) TOTAL PHOSPHORUS	0.300	0.306	102 %
II. CALIBRATION CHECK SAMPLE(s)			
TOTAL PHOSPHORUS STANDARD 0.400 mg/L	0.400	0.407	102 %
III. ZERO-CHECK SAMPLES(s) (MRL=0.010mg/L)			
TOTAL PHOSPHORUS	<0.010	0.001	Nondetectable (<MRL) Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<MRL)
Water	TOTAL PHOSPHORUS	<0.010	0.002	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
2	TPO4P	R1544A	0.064	Water	R1544B	0.064	0.0 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results mg/L	Percent Recovery (90-110%)
I. SAMPLES						
3	TP04P	R311	0.058	0.120	0.179	101 %

NA - Not Applicable

Method conforms to method 4500-P E, "Standard Methods for the Examination of Water and Wastewater," 19th Edition,1995.

Method also conforms to method 365.2, US EPA-600, "Methods for the Chemical Analysis of Water and Wastes."

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

MERCURY BY COLD VAPOR AAS INTERIM LOW LEVEL

QA/QC REPORT

CASE No.: 990307
CASE NAME: Milton-Freewater Groundwater
Samples: 11 groundwater
ANALYSIS DATE: 4/21/99
ANALYST(s): GAD

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- ng/L	True Value -- mg/L	Measured Value -- ng/L	Measured Value -- mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)					
Mercury	250	0.00025	253	0.00025	101 %
II. CALIBRATION CHECK SAMPLE(s)					
200 ppt Mercury	200	0.00020	198	0.00020	99 %
" "	200	0.00020	198	0.00020	99 %
" "	200	0.00020	193	0.00019	97 %
" "	200	0.00020			
III. ZERO-CHECK SAMPLE(s) [MRL = 10.0 ng/L = 0.000010 mg/L]					Nondetectable (<1/2 MRL)
Mercury	<5.0	<0.000005	0.43	0.000000	Acceptable
"	"	"	0.57	0.000001	Acceptable
"	"	"	0.25	0.000000	Acceptable
"	"	"			

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- ng/L	Expected Value -- mg/L	Measured Value -- ng/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	Mercury	<5.0	<0.000005	4.62	0.000005	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	ng/L	mg/L	Matrix	DUPLICATE # (B)	ng/L	mg/L	Percent Difference (RPD 0+/-10%)
3	Mercury	TH381	0.09	0.000000	Water		0.66	0.000001	152.0 % Below MRL
7	"	TH388	-0.28	0.000000			-1.60	-0.000002	-140.4 % Below MRL

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	ng/L	mg/L	Known Addition ng/L =>	Known Addition mg/L	Results -- ng/L	Results -- mg/L	Percent Recovery (90-110%)
I. SAMPLES									
4	Mercury	TH378	-2.55	-0.000003	125.0	0.000125	126.00	0.000126	103 %
8	"	TH389	1.00	0.000001	125.0	0.000125	124.00	0.000124	98 %
II. REAGENT BLANK		MATRIX							Percent Recovery (90-110%)
	Mercury	Water	4.62	0.000005	250.0	0.000250	250.00	0.000250	98 %

NA - Not Applicable

Method conforms to methods 7470 & 7471 in SW846 EPA's RCRA Manual-Physical/Chemical Methods.

Method also conforms to method 245.2 & 245.5 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

Department of Environmental Quality
Organic Lab

Solids Data QA Data Comparison

Case #: **990307**
Case: **Milton Freewater GW**

Analyst: **JFS**

Matrix: **GW**

Factor: **0.6** 0.9

GW	Ground Water
SE	Surface Water - East Side
SW	Surface Water - West Side

Item No.	Sample No.	COND	TSS	TDS	TDS+TSS	TS	(TDS+TSS)/TS		Conductivity vs Solids *					Comments
							Recovery		Expected TDS		TDS		TS-TSS	
			mg/L	mg/L	mg/L	mg/L								
1	P0012	181	1	160	161				108.6	0.88	**RERUN**	-0.01		
2	P094	151	1	130	131				90.6	0.86	**RERUN**	-0.01		
3	P004	84	1	91	92				50.4	1.08	**<100**	-0.01		
4	P023	107	1	99	100				64.2	0.93	**RERUN**	-0.01		
5	P011	124	1	110	111				74.4	0.89	**RERUN**	-0.01		
6	P037	124	1	110	111				74.4	0.89	**RERUN**	-0.01		
7	P048	69	1	65	66				41.4	0.94	**<100**	-0.01		
8	P019	61	1	69	70				36.6	1.13	**<100**	-0.02		
9	P014	102	1	88	89				61.2	0.86	**RERUN**	-0.01		
10	P007	172	1	130	131				103.2	0.76	**RERUN**	-0.01		
11	P040	234	1	160	161				140.4	0.68	**OK**	0.00		
12					0									
13					0									
14					0									
15					0									
16					0									
17					0									
18					0									
19					0									
20					0									
21					0									
22					0									
23					0									
24					0									
25					0									
26					0									
27					0									
28					0									
29					0									
30					0									

* Note when conductivity <100, COND/TDS difficult to predict.

QUALITY ASSURANCE REPORT: ORGANICS

Case Name: Milton-Freewater Groundwater Fund Code: 3560
Case #: 990307

Sample date: 14-Apr-99 CLR
QA report date: 27-Jul-99 RAH

VOLATILE ORGANICS: Method 524.2/8260

mg/L

Item	Samples	Analyte	Replicate	Sample (A)	Sample (B)	Duplicate (A)	Duplicate (B)	Report Sample	Report Duplicat	Diff.	Range	Standard eviation	RPD RSD
*				NA	NS	NS	NS	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

* No volatile compounds were identified above the forward search detection limit.
Data appearing in shaded boxes do not meet QA criteria, refer to analytical report. Data is for information only!
**: Exceeds calibration range.
***: Probable lab contamination.
DBNC: Detected But Not Confirmed.
NA = Not Applicable, NS = No sample
RPD: Relative Percent Difference is computed only when two results are compared.
RSD: Relative Standard Deviation is computed if more than two results are compared.
Data which is reported as "less than" (<) is used at 80% the numerical value to calculate difference and RPD.

Surrogate Spike Recovery		D6-Benzene Percent Recovery			2-Bromo-1-Chloropropane Percent Recovery			4-Bromofluorobenzene Percent Recovery		
Item	Samples	(A)	(B)	Avg.	(A)	(B)	Avg.	(A)	(B)	Avg.
1	Jones	101%	100%	101%	105%	99%	102%	108%	103%	106%
2	Ringering	98%			109%			103%		
3	Didion	98%			109%			109%		
4	White	94%			109%			105%		
5	Peterson	100%			107%			107%		
6	QA Peterson	98%	101%	100%	104%	103%	104%	109%	109%	
7	Carson	99%			108%			108%		
8	Kilmer	99%			109%			110%		
9	Remboldt	100%			109%			111%		
10	Kerby	98%			104%			111%		
11	Knopf	98%			104%			117%		
	Lab blank									
	Average Spike Recovery:		99%			106%			108%	

Q A R E P O R T
Groundwater Monitoring

Lab# 990307 CODE#: 3560
RUN: MILTON-FREEWATER G.W. DATE: 04/14/99
QA RATIO: 10%

PARAMETER	FIELD BLANK*	SITE	QA	DIFFERENCE	RPD
STATION					
STORET# UMA299					
TIME		10:20	10:21		
Groundwater field parameters.					
Field Alkalinity as CaCO3		45	45	0.	
Field Conductivity		124	124	0.	
Field Sample Temperature		15.0	15.0	0.0	
Field pH		6.7	6.8	0.1	NA
~~QA Type Identification~~		~~12~~	~~11~~	~~-1.~~	
Microbiological data performed by OSHD.					
E. coli		<2	<2	NA	NA
Fecal Coliform		<2	<2	NA	NA
Indicator Metals by Inductively Coupled Plasma #1					
Indicator Metals by Inductively Coupled Plasma #1					
Aluminum, Dissolved		<0.010	<0.010	NA	NA
Aluminum, Total Recoverable		<0.010	<0.010	NA	NA
Calcium, Dissolved		9.73	10.1	0.37	
Calcium, Total Recoverable		9.83	10.9	1.07	1
Hardness as CaCO3 (calculated), Dissolved		40.1	41.4	1.3	
Hardness as CaCO3 (calculated), Total Reco		40.2	43.5	3.3	
Iron, Dissolved		0.0446	0.0394	-0.0052	-1
Iron, Total Recoverable		0.0605	0.0635	0.0030	
Lanthanum, Dissolved		<0.0010	<0.0010	NA	NA
Lanthanum, Total Recoverable		<0.0010	0.0088	NA	NA
Lithium, Dissolved		0.0027	0.0018	-0.0009	-4
Lithium, Total Recoverable		0.0004	<0.0004	NA	NA
Magnesium, Dissolved		3.85	3.91	0.06	
Magnesium, Total Recoverable		3.80	3.96	0.16	
Manganese, Dissolved		<0.0002	<0.0002	NA	NA
Manganese, Total Recoverable		<0.0002	<0.0002	NA	NA
Potassium, Dissolved		3.06	3.20	0.14	
Potassium, Total Recoverable		3.13	3.28	0.15	
Sodium, Dissolved		3.46	3.56	0.10	
Sodium, Total Recoverable		3.52	3.60	0.08	
Indicator Metals by Inductively Coupled Plasma #2					
Boron, Dissolved		0.0223	0.0226	0.0003	
Silicon as SiO2, Dissolved		43.5	43.4	-0.1	
Miscellaneous tests performed by contract	Attached	Attached		NA	NA
Primary Pollutant Metals by ICP #1					
Primary Pollutant Metals by ICP #1					
Barium, Dissolved		0.0162	0.0161	-0.0001	-
Barium, Total Recoverable		0.0158	0.0164	0.0006	
Beryllium, Dissolved		0.0000	0.0000	NA	NA
Beryllium, Total Recoverable		0.0000	0.0001	NA	NA
Cadmium, Dissolved		<0.0001	<0.0001	NA	NA
Cadmium, Total Recoverable		<0.0001	<0.0001	NA	NA
Chromium, Dissolved		<0.0002	<0.0002	NA	NA
Chromium, Total Recoverable		<0.0002	<0.0002	NA	NA
Cobalt, Dissolved		0.0083	0.0101	0.0018	2
Cobalt, Total Recoverable		0.0124	0.0113	-0.0011	-9
Copper, Dissolved		0.0048	0.0061	0.0013	2
Copper, Total Recoverable		0.0064	0.0058	-0.0006	-1
Molybdenum, Dissolved		0.0007	0.0008	0.0001	1
Molybdenum, Total Recoverable		0.0008	0.0006	-0.0002	-2
Nickel, Dissolved		0.0010	0.0007	-0.0003	-3
Nickel, Total Recoverable		0.0008	0.0008	0.0000	
Silver, Dissolved		0.0004	0.0005	0.0001	2
Silver, Total Recoverable		0.0005	0.0007	0.0002	3
Vanadium, Dissolved		0.0031	0.0044	0.0013	3
Vanadium, Total Recoverable		0.0045	0.0036	-0.0009	-2
Zinc, Dissolved		0.0021	0.0025	0.0004	1
Zinc, Total Recoverable		0.0017	0.0016	-0.0001	-
Primary Pollutant Metals by ICP #2					
Primary Pollutant Metals by ICP #2					
Antimony, Dissolved		<0.0030	<0.0030	NA	NA

Q A R E P O R T
Groundwater Monitoring

Lab# 990307
RUN: MILTON-FREEWATER G.W.

CODE#: 3560
DATE: 04/14/99
QA RATIO: 10%

PARAMETER	FIELD BLANK*	SITE	QA	DIFFERENCE	RPD
STATION					
STORET# UMA299					
TIME		10:20	10:21		
Antimony, Total Recoverable		<0.0030	<0.0030	NA	NA
Arsenic, Dissolved		<0.0020	<0.0020	NA	NA
Arsenic, Total Recoverable		<0.0020	<0.0020	NA	NA
Lead, Dissolved		<0.0030	<0.0030	NA	NA
Lead, Total Recoverable		<0.0030	<0.0030	NA	NA
Selenium, Dissolved		<0.0030	<0.0030	NA	NA
Selenium, Total Recoverable		<0.0030	<0.0030	NA	NA
Thallium, Dissolved		<0.0020	<0.0020	NA	NA
Thallium, Total Recoverable		<0.0020	<0.0020	NA	NA
Ammonia as N		0.02	<0.02	NA	NA
Bromide		<0.05	<0.05	NA	NA
Carbamate analysis by Dept. of Ag.	Attached		Attached	NA	NA
Chemical Oxygen Demand (mg/l)		<5	<5	NA	NA
Chloride		1.6	1.6	0.0	(
GC/MS Volatiles	Attached		Attached	NA	NA
Mercury		<0.0000	<0.0000	NA	NA
Nitrate & Nitrite as N		1.90	2.00	0.10	
Pesticide/Herbicide analysis by Dept. of A	Attached		Attached	NA	NA
Sulfate by Ion Chromatography		3.87	3.87	0.00	(
Total Dissolved Solids		110	110	0.	(
Total Kjeldahl Nitrogen		<0.2	<0.2	NA	NA
Total Organic Carbon		<1	<1	NA	NA
Total Phosphate as P		0.06	0.06	0.00	(
Total Suspended Solids		<1	<1	NA	NA

	FIELD	LAB	DIFFERENCE	RPD
Alkalinity as CaCO3	45	43	2.	
Conductivity	124	123	1.	
pH	6.8	6.7	0.1	NA

* No data available.

Fecal and Enterococcus results are transformed to log values prior to calculating DIFFERENCE and RPD.

7-22-99

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990307		
Sample No:	B2694	**Analysis Date:**	19 April 1999
Item No:	1A		

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0101	101
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0108	108

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

BROMIDE BY ION CHROMATOGRAPHY

QA/QC REPORT

CASE No.: 990307

CASE NAME: Milton Freewater Groundwater

Samples/Matrix 11,Water

ANALYSIS DATE: 5/6/99

ANALYST(s): WRC

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value mg/L	Measured Value mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC STANDARD	0.850	0.863	102 %
ACCUSTANDARD	1.000	0.999	100 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.3 mg/L Br	0.300		
III. ZERO-CHECK SAMPLE(s) [MRL = 0.05 mg/L]	NA		Nondetectable (<1/2 MRL)

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value mg/L	Nondetectable (<1/2 MRL)
		NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)	
1	BROMIDE	DP1026	0.010	DP1026	0.011	9.5 %	Below MDL

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known mg/L	Resul mg/L	Percent Recovery (80-120%)	
1	BROMIDE	DP1026	0.010	0.15	0.128	79 %	~~Below MDL~~

NA - Not Applicable

Method conforms to method 300.0 Determination of Inorganic Anions by Ion Chromatography in Standard Methods for the Examination of Water and Wastewater.

MEMBRANE FILTRATION 990307

OREGON HEALTH DIVISION
CENTER FOR PUBLIC HEALTH LABORATORIES
MICROBIOLOGICAL EXAMINATION OF ENVIRONMENTAL WATER

DATE/TIME RECEIVED AT PHL

APR 15 AM 11:15

Requesting Agency: X DEQ ___County ___Other

Tests requested ___ Total coliforms X Fecal coliforms X E. coli ___ Enterococci

Survey Milton-Freewater Groundwater

Collection Date 4-14-99 Time 7:55-12:50 (am) (pm) By RJM/AI

Analysis date 4/15/99 Time 12:20 am (pm)

Completion Date 4/16/99 Time 12:20 am (pm)

Reported by 4/16/99 Date tah

Reviewed by [illegible] Date 4-16-99

****

PHL #	Bottle #	Storet #	Sample Point	RESULTS: CFU\100ml			
				Total coliforms	Fecal coliforms	E. coli	Enterococci
639	C1403	UMA 291			<2	<2	
640	C1309	UMA 304			<2	<2	
641	C1018	UMA 288			<2	<2	
642	C1344	UMA 287			<2	6a	
643	C1003	UMA 299			<2	<2	
644	C1429	UMA 299	Duplicate		<2	<2	
645	C1405	UMA 284			2e	<2	
646	C1516	UMA 309			<2	<2	
647	C1095	UMA 285			2e	<2	
648	C1616	UMA 306			<2	<2	
649	C1414	UMA 298			<2	<2	

(3)

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Milton-Freewater Groundwater

CASE # 990308

Phil ~~Richardson~~ Richersen

Date Sampled 4-15-99

Date Received

Date Reported JUL 30 1999

pH Meter 50619 SCT Meter 50693

Agency Code : 210RWELL
Fund Code : 3650

Collected By: DLC/RJM

SAMPLES: Relinquished by _____ Date _____

Accepted by _____ Date _____

STORET #	SAMPLE LOCATION INFORMATION (circled if new station)	Basic	T.Met	Nutr	VOC	Pest.	Bact.	TIME	Temp (°C)	Cond (µmhos/cm)	Alk. (mg/L)	pH (SU)	
		D.Ions	D.Met	T.Hg	SPE Pest.	Carb.							
UMA288		P 005	TM 753	R 657	B 2613	1098	C 1367	7:55	12.1	146	58	7.1	
		DP 1140	DM 298	TH 375	X 6878	5270							
UMA282		P 086	TM 708	R 1092	B 2685	L7011	C 1477	8:30	10.5	74	30	7.1	
		DP 1764	DM 283	TH 380	X 6874	5271							
UMA292		P 059	TM 772	R 1361	B 2677	L7010	C 1471	9:00	10.2	68	28	7.1	
		DP 950	DM 248	TH 370	X 6818	5265							
UMA310		P 014	TM 780	R 1155	B 2669	L7012	C 1448	9:30	14.4	101	41	6.9	
		DP 1132	DM 299	TH 339	X 6817	5266							
UMA297		P 027	TM 812	R 243	B 2724	L7013	C 1296	10:00	11.6	94	40	6.9	
		DP 1086	DM 293	TH 377	X 6866	5261							
UMA297	Duplicate	P 069	TM 827	R 1725	B 2732	L7014	C 1455	10:01	11.7	93	39	6.9	SPIKE X6877
		DP 1779	DM 294	TH 393	X 6876	5262							
—	Field Transfer Blank	P 034	TM 828	R 214	B 2716	L7015	C	10:25	8.3	2	<1	5.9	
		DP 867	DM 286	TH 379	X 6971	2920							
—	Transport Blank	P	TM	R	B 2696	1110	C						
		DP	DM	TH	X 6968	2922							
—	Lab Blank	P	TM	R	B 2688		C						
		DP	DM	TH	X								
		P	TM	R	B		C						
		DP	DM	TH	X								

Ambient Temperature (°C):
@ 08:00 Hrs. 4° sunny, calm @ 12:00 Hrs. _____ @ 16:00 Hrs. _____
@ 10:00 Hrs. 10° sunny, calm @ 14:00 Hrs. _____

Comments:

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 7:55
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6878	99-B440	DEQ Groundwater: UMA308,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	(E) 0.0110 ug/L MDL=0.020	MWP

Reviewed by: KWickerman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 7:55
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6878	99-B440	DEQ Groundwater: UMA308,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
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Laws And Regulations Administered By:
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 8:30
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6874	99-B441	DEQ Groundwater: UMA282,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/21/99

LABORATORY SERVICES DIVISION
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Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 8:30
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6874	99-B441	DEQ Groundwater: UMA282,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/21/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6818	99-B442	DEQ Groundwater: UMA292,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: K Wickman Date: 6/18/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6818	99-B442	DEQ Groundwater: UMA292,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/18/99

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:30
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6817	99-B443	DEQ Groundwater: UMA310,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	(E) 0.0090 ug/L MDL=0.010	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: K Wickman Date: 6/18/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm | **Date Sampled : 4/15/99** | **Time Sampled : 9:30**
Received by : Beth L. Read | **Date Received : 4/16/99** | **Time Received : 17:30**

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6817	99-B443	DEQ Groundwater: UMA310, [illegible]

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/18/99

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Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6866	99-B444	DEQ Groundwater: UMA297, [illegible]

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	(E) 0.0070 ug/L MDL=0.010	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	0.1180 ug/L MDL=0.010 ug/L	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	(E) 0.0150 ug/L MDL=0.020	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/18/99

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6866	99-B444	DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/18/99

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:01
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6876	99-B445	DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	(E) 0.0070 ug/L MDL=0.010	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	0.0640 ug/L MDL=0.010 ug/L	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	(E) 0.0170 ug/L MDL=0.020	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman

Date: 6/18/99

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:01
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6876	99-B445	DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: K Wickman

Date: 6/18/99

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Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:25
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6971	99-B446	DEQ Groundwater: TRANSFER BLANK, Transfer Blank

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: K Wickman Date: 6/18/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm | **Date Sampled : 4/15/99** | **Time Sampled : 10:25**
Received by : Beth L. Read | **Date Received : 4/16/99** | **Time Received : 17:30**

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6971	99-B446	DEQ Groundwater: TRANSFER BLANK, Transfer Blank

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/18/99

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled :
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6968	99-B447	DEQ Groundwater: TRANSPORT BLANK, Transport Blank

Analysis Requested	Analytical Results	Analysts
Atrazine	< 0.01 ug/L None Detected	MWP
Benfluralin	< 0.01 ug/L None Detected	MWP
Butylate	< 0.015 ug/L None Detected	MWP
Carbaryl	< 0.05 ug/L (E) None Detected	MWP
Carbofuran	< 0.01 ug/L None Detected	MWP
Chlorpyrifos	< 0.01 ug/L None Detected	MWP
Cyanazine	< 0.02 ug/L (E) None Detected	MWP
Dacthal	< 0.01 ug/L None Detected	MWP
DDE	< 0.01 ug/L None Detected	MWP
Diazinon	< 0.01 ug/L None Detected	MWP
Dieldrin	< 0.01 ug/L None Detected	MWP
Dimethoate	< 0.05 ug/L (E) None Detected	MWP
Disulfoton	< 0.05 ug/L None Detected	MWP
Eptam	< 0.01 ug/L None Detected	MWP
Ethoprop	< 0.01 ug/L None Detected	MWP
Fonophos	< 0.01 ug/L None Detected	MWP
HCH, alpha	< 0.01 ug/L None Detected	MWP
Lindane	< 0.015 ug/L None Detected	MWP
Linuron	< 0.05 ug/L (E) None Detected	MWP
Malathion	< 0.01 ug/L None Detected	MWP
Metolachlor	< 0.01 ug/L None Detected	MWP
Napropamide	< 0.01 ug/L None Detected	MWP
Parathion	< 0.01 ug/L None Detected	MWP
Parathion, Methyl	< 0.01 ug/L None Detected	MWP
Pebulate	< 0.01 ug/L None Detected	MWP
Pendimethalin	< 0.01 ug/L None Detected	MWP
Permethrin, cis	< 0.01 ug/L None Detected	MWP
Phorate	< 0.05 ug/L (E) None Detected	MWP
Prometon	< 0.01 ug/L (E) None Detected	MWP
Pronamide	< 0.01 ug/L None Detected	MWP
Propachlor	< 0.01 ug/L None Detected	MWP
Propanil	< 0.02 ug/L (E) None Detected	MWP
Propargite	< 0.05 ug/L (E) None Detected	MWP
Simazine	< 0.01 ug/L None Detected	MWP
Tebuthiuron	< 0.01 ug/L None Detected	MWP
Terbacil	< 0.02 ug/L None Detected	MWP
Terbufos	< 0.05 ug/L None Detected	MWP
Triallate	< 0.01 ug/L None Detected	MWP
Trifluralin	< 0.01 ug/L None Detected	MWP
Atrazine, desethyl	< 0.02 ug/L None Detected	MWP

Reviewed by: KWickman Date: 6/18/99

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REPORT OF LABORATORY ANALYSIS - WATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled :
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
6968	99-B447	DEQ Groundwater: TRANSPORT BLANK, Transport Blank

Analysis Requested	Analytical Results	Analysts
Azinphos-Methyl	< 0.02 ug/L (E) None Detected	MWP MWP
Diethylanaline, 2,6-	< 0.01 ug/L None Detected	MWP
Ethalfluralin	< 0.01 ug/L None Detected	MWP
Metribuzin	< 0.01 ug/L None Detected	MWP
Molinate	< 0.01 ug/L None Detected	MWP
Thiobencarb	< 0.01 ug/L None Detected	MWP
Alachlor	< 0.01 ug/L None Detected	MWP

Remarks: (E) = Estimated
Reported concentrations not adjusted for spike recoveries

Reviewed by: KWickman Date: 6/18/99

Done

MEMBRANE FILTRATION

990308

OREGON HEAL T DIVISION
CENTER FOR PUBLIC HEALTH LABORATORIES
MICROBIOLOGICAL EXAMINATION OF ENVIRONMENTAL WATER

DATE/TIME RECEIVED AT PHL

APR 16 AM10:58

Requesting Agency: X DEQ ___County ___Other

Tests requested ___ Total coliforms X Fecal coliforms X E. coli ___ Enterococci

Survey Milton-Freewater Groundwater

Collection Date 4-15-99 Time 7:55-10:25 (am) pm By RJM/DLC

Analysis date 4/16/99 Time 11:45 (am) pm

Completion Date 4-17-99 Time 11:3 (am) pm

Reported by [illegible] Date 4-19-99

Reviewed by [illegible] Date 4-19-99

****

PHL #	Bottle #	Storet #	Sample Point	RESULTS: CFU\100ml Total coliforms	Fecal coliforms	E. coli	Enterococci
650	C1367	UMA308			<2	<2	
651	C1477	UMA282			<2	<2	
652	C1471	UMA292			<2	<2	
653	C1448	UMA310			<2	<2	
654	C1296	UMA297			<2	<2	
655	C1455	UMA297	Duplicate		14e	<2	

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990308
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area)
SAMPLING DATE: 04/15/1999

DATE: 06/09/1999
INITIALS: RMM
Sampled by: DLC/RJM

ITEM: 1 SITE: (45 deg 57.874'/118 deg 22.623') UMA308

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	61.2	1.22	Alkalinity	58	1.15
Sodium	4.57	0.20	Chloride	1.4	0.04
Potassium	2.83	0.07	Bromide	<0.05	0.00
Iron II	<0.0020	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00046	0.00	Sulfate	2.24	0.05
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	1.88	0.13

Cation Total: 1.49 meq/L
Anion Total: 1.37 meq/L
Relative Deviation: 8.4 %
Conductivity: 146
METER: 50683

ITEM: 2 SITE: (45 deg 57'.21"/118 deg 22'53") UMA282

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	27.5	0.55	Alkalinity	30	0.60
Sodium	3.34	0.15	Chloride	0.7	0.02
Potassium	1.79	0.05	Bromide	<0.05	0.00
Iron II	0.0709	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00090	0.00	Sulfate	0.94	0.02
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.251	0.02

Cation Total: 0.75 meq/L
Anion Total: 0.66 meq/L
Relative Deviation: 12.8 %
Conductivity: 74

ITEM: 3 SITE: (45 deg 56'51"/118 deg 22'59") UMA292

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	24.1	0.48	Alkalinity	28	0.56
Sodium	2.99	0.13	Chloride	0.7	0.02
Potassium	1.80	0.05	Bromide	<0.05	0.00
Iron II	0.0477	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.0008	0.00	Sulfate	0.93	0.02
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	0.194	0.01

Cation Total: 0.66 meq/L
Anion Total: 0.61 meq/L
Relative Deviation: 7.9 %
Conductivity: 68

ITEM: 4 SITE: (45 deg 57.266'/118 deg 23.694') UMA310

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	37.3	0.74	Alkalinity	41	0.82
Sodium	3.56	0.15	Chloride	1.1	0.03
Potassium	2.87	0.07	Bromide	<0.05	0.00
Iron II	0.0291	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.0004	0.00	Sulfate	1.84	0.04
Ammonia-N	0.03	0.00	Nitrate&Nitrite-N	0.909	0.06

Cation Total: 0.96 meq/L
Anion Total: 0.95 meq/L
Relative Deviation: 1.0 %
Conductivity: 101

ITEM: 5 SITE: (45 deg 57.266'/ 118 deg 23.694') UMA297

CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Hardness	35.1	0.70	Alkalinity	40	0.80
Sodium	3.41	0.15	Chloride	0.8	0.02
Potassium	2.73	0.07	Bromide	<0.05	0.00
Iron II	0.0282	0.00	Orthophosphate-P	NA	0.00
Manganese II	0.00048	0.00	Sulfate	1.24	0.03
Ammonia-N	0.02	0.00	Nitrate&Nitrite-N	0.688	0.05

Cation Total: 0.92 meq/L
Anion Total: 0.90 meq/L
Relative Deviation: 2.2 %
Conductivity: 94

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
ION-BALANCE REPORT

CASE No.: 990308
CASE NAME: MILTON FREEWATER GROUNDWATER (Umatilla Area)
SAMPLING DATE: 04/15/1999

DATE: 06/09/1999
INITIALS: RMM
Sampled by: DLC/RJM

ITEM: 6	SITE:	(45 deg 57.266'/ 118 deg 23.694') UMA297					
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L	Cation Total:	0.93 meq/L
Hardness	35.5	0.71	Alkalinity Lab = NA	39	0.78	Anion Total:	0.88 meq/L
Sodium	3.46	0.15	Chloride	0.8	0.02		
Potassium	2.76	0.07	Bromide	<0.05	0.00	Relative Deviation:	5.5 %
Iron II	0.0252	0.00	Orthophosphate-P	NA	0.00		
Manganese II	0.00043	0.00	Sulfate	1.23	0.03	Conductivity:	93
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	0.690	0.05		Lab = NA

ITEM: 7	SITE:	BLANK, Transfer			NA		
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L	Cation Total:	0.02 meq/L
Hardness	0.22	0.00	Alkalinity	<1	0.00	Anion Total:	0.00 meq/L
Sodium	0.119	0.01	Chloride	<0.5	0.00		
Potassium	0.20	0.01	Bromide	<0.05	0.00	Relative Deviation:	200.0 %
Iron II	<0.0020	0.00	Orthophosphate-P	NA	0.00		
Manganese II	<0.00020	0.00	Sulfate	<0.10	0.00	Conductivity:	2
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	<0.0050	0.00	Ca = 0.083.	

ITEM: 8	SITE:	MDL's			NA		
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L	Cation Total:	0.00 meq/L
Hardness	<0.10	0.00	Alkalinity	<1	0.00	Anion Total:	0.00 meq/L
Sodium	<0.10	0.00	Chloride	<0.5	0.00		
Potassium	<0.010	0.00	Bromide	<0.05	0.00	Relative Deviation:	0.0 %
Iron II	<0.0020	0.00	Orthophosphate-P	NA	0.00		
Manganese II	<0.00020	0.00	Sulfate	<0.10	0.00	Conductivity:	<1
Ammonia-N	<0.02	0.00	Nitrate&Nitrite-N	<0.0050	0.00		

COMMENTS: Cations are | | "Total Recoverable" or | X | "Dissolved.

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 7:55
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1098	99-B424	DEQ Groundwater: UMA308,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	0.26 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corrustan

Date: 6/30/99

990304

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 8:30
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7011	99-B425	DEQ Groundwater: UMA282,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Nitrogen/Phos. Screen	None Detected	SFS SFS
Phenoxyherbicide Screen	Positive	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	0.20 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Courstan

Date: 6/30/99

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7010	99-B426	DEQ Groundwater: UMA292,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	SFS
Methidathion	< 0.1 ppb	BLR
Azinphos-Methyl	< 0.4 ppb	SFS
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.1 ppb	BLR
Malathion	< 0.4 ppb	SFS
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	BLR
Endosulfan sulfate	< 0.1 ppb	SFS
Endosulfan II	< 0.6 ppb	SFS
Lindane	< 0.1 ppb	SFS
Glyphosate	< 0.1 ppb	BLR RBV
2,4-D	< 5 ppb	RBV
Dicamba	< 0.2 ppb	BLR
Dinoseb	< 0.1 ppb	SFS
Pentachlorophenol	< 1.2 ppb	SFS
Silvex	< 0.1 ppb	SFS
	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

990308

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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:30
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7012	99-B427	DEQ Groundwater: UMA310,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: H Corrstan

Date: 6/30/99

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7013	99-B428	DEQ Groundwater: UMA297, [illegible]

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV KBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: N Corristan

Date: 6/30/99

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:01
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7014	99-B429	DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corristan

Date: 6/30/99

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Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:25
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
7015	99-B430	DEQ Groundwater: TRANSFER BLANK, Transfer Blank

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

M Corristan 6/30/99

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Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled :
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
1110	99-B431	DEQ Groundwater: TRANSPORT BLANK, Transport Blank

Analysis Requested	Analytical Results	Analysts
OCl Screen	None Detected	BLR BLR
OrganoPhosphate Screen	None Detected	BLR
Phenoxyherbicide Screen	None Detected	SFS SFS
Nitrogen/Phos. Screen	None Detected	SFS
Chlorpyrifos	< 0.1 ppb	SFS
Dacthal & Metabolites	< 0.1 ppb	SFS
Diazinon	< 0.1 ppb	BLR
Methidathion	< 0.4 ppb	SFS
Azinphos-Methyl	< 0.1 ppb	BLR
Napropamide	< 0.1 ppb	BLR
Phosmet	< 0.1 ppb	BLR
Phosphamidon	< 0.4 ppb	SFS
Malathion	< 0.1 ppb	BLR
DDE	< 0.1 ppb	BLR
DDT	< 0.1 ppb	BLR
Endosulfan I	< 0.1 ppb	SFS
Endosulfan sulfate	< 0.6 ppb	SFS
Endosulfan II	< 0.1 ppb	SFS
Lindane	< 0.1 ppb	BLR
Glyphosate	< 5 ppb	RBV RBV
2,4-D	< 0.2 ppb	BLR
Dicamba	< 0.1 ppb	SFS
Dinoseb	< 1.2 ppb	SFS
Pentachlorophenol	< 0.1 ppb	SFS
Silvex	< 0.1 ppb	SFS

Reviewed by: M Corristan

Date: 6/30/99

Department of Environmental Quality
Organic Lab

Solids Data QA Data Comparison

Case #: **990308**
Case: **Milton Freewater GW**

Analyst: **JFS**

Matrix: ~~SW~~ GW

Factor: **0.8**

GW	Ground Water
SE	Surface Water - East Side
SW	Surface Water - West Side

Item No.	Sample No.	COND	TSS	TDS	TDS+TSS	TS	(TDS+TSS)/TS		Conductivity vs Solids *					Comments
							Recovery		Expected TDS		TDS		TS-TSS	
			mg/L	mg/L	mg/L	mg/L								
1	P005	146	1	100	101				116.8	0.7	**OK**	-0.01		
2	P006	74	1	66	67				59.2	0.9	**<100**	-0.01		
3	P059	68	1	55	56				54.4	0.8	**<100**	-0.01		
4	P014	101	2	74	76				80.8	0.7	**OK**	-0.02		
5	P027	94	1	71	72				75.2	0.8	**<100**	-0.01		
6	P069	93	1	79	80				74.4	0.8	**<100**	-0.01		
7	P034	2	1	4	5				1.6	2.0	**<100**	-0.50		
8					0									
9					0									
10					0									
11					0									
12					0									
13					0									
14					0									
15					0									
16					0									
17					0									
18					0									
19					0									
20					0									
21					0									
22					0									
23					0									
24					0									
25					0									
26					0									
27					0									
28					0									
29					0									
30					0									

* Note when conductivity <100, COND/TDS difficult to predict.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORIES AND APPLIED RESEARCH
INORGANIC/METALS SECTION
QUANTITATIVE ANALYSIS FOR 25 ELEMENTS
by
Inductively Coupled Plasma (ICP)

SUMMARY QA/ QC REPORT

990308 MILTON-FREEWATER G.W.

SAMPLE # 14 WATER

DATE: JUNE 09, 1999

ANALYST: DLL/

ELEMENT	MDL (mg/L)	QC REFERENCE % RECOVERY (95-105%)	CALIBRATION CHECK % RECOVERY (95-105%)	ZERO CHECK (<MDL)	LAB REAGENT BLANK (<MDL)	LAB REPLICATES %DIFFERENCE (0+/- 20%)	LAB SPIKED SAMPLE % RECOVERY (80-120%)	LAB SPIKED BLANK % RECOVERY (90-110%)
		SPEX 1563				ITEM 3 - DM248	ITEM 5 - DM293	
Iron	0.0020	98	100	Acceptable	Acceptable	9.0	93	86
Manganese	0.00020	101	93	Acceptable	Acceptable	32.0	94	88
Potassium	0.010	102	91	Acceptable	Acceptable	-22.1	110	97
Aluminum	0.010	106	107			200.0	113	99
Lithium	0.00040	104	98			57.4	100	100
Calcium	0.010	107	105	Acceptable	Acceptable	2.4	104	97
Sodium	0.100	105	105	Acceptable	Acceptable	14.7	95	99
Magnesium	0.010	99	93	Acceptable	Acceptable	1.8	93	88
Lanthanum	0.0010	105	104			90.0	105	101
Silver	0.00010	99	100			200.0	99	94
Molybdenum	0.00040	104	99	Acceptable	Acceptable	9.0	97	94
Cadmium	0.00010	103	101	Acceptable	Acceptable	-4.1	96	93
Barium	0.00010	103	101			1.5	98	94
Beryllium	0.000010	107	100			15.4	103	99
Nickel	0.00020	105	100	Acceptable		2.7	94	91
Cobalt	0.00020	104	99			-2.8	93	87
Chromium	0.00020	104	100	Acceptable	Acceptable	57.1	98	94
Vanadium	0.00010	105	102	Acceptable	Acceptable	24.0	89	98
Copper	0.00030	102	83	Acceptable	Acceptable	0.8	85	85
Zinc	0.00050	112	100	Acceptable	Acceptable	3.6	99	95
Antimony	0.0030	108	98	Acceptable	Acceptable	44.2	104	97
Arsenic	0.0020	106	100	Acceptable	Acceptable	192.2	97	93
Lead	0.0030	96	101	Acceptable	Acceptable	-40.0	88	84
Thallium	0.0020	99	104			166.7	90	87
Selenium	0.0030	101	100	Acceptable	Acceptable	66.7	94	91

Below or near MD | Spike too small

Method conforms to methods 6010 & 3050 in SW846 EPA-RCRA Manual,
Method also conforms to methods 200.7 in EPA Water & Waste water Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

BROMIDE BY ION CHROMATOGRAPHY

QA/QC REPORT

CASE No.: 990308

CASE NAME: Milton Freewater Groundwater — ANALYSIS DATE: 5/6/99

Samples/Matrix 7,Water — ANALYST(s): WRC

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value mg/L	Measured Value mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC STANDARD	0.850	0.863	102 %
ACCUSTANDARD	1.000	0.999	100 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.3 mg/L Br	0.300		
III. ZERO-CHECK SAMPLE(s) [MRL = 0.05 mg/L]	NA		Nondetectable (<1/2 MRL)

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value - mg/L	Measured Value mg/L	Nondetectable (<1/2 MRL)
		NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)	
3	BROMIDE	DP950	0.000	DP950	0.000	0.0 %	Below MDL

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Resul mg/L	mg/L	Percent Recovery (80-120%)	
4	BROMIDE	DP1132	0.000	0.15	0.140	93 %	~~Below MDL~~

NA - Not Applicable

Method conforms to method 300.0 Determination of Inorganic Anions by Ion Chromatography in Standard Methods for the Examination of Water and Wastewater.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
CHLORIDE BY AUTOMATED FLOW INJECTION
QA/QC REPORT

CASE NO: **990308**
FUND CODE: **3560**
CASE NAME: **MILTON - FREEWATER GROUNDWATER**
SAMPLES/CASE--MATRIX 7--Water

ANALYSIS DATE: 4/13/99
ANALYST(s): LKM / GDS

TYPE: 1.000 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value	mg/L	Percent Recovery (95-105%):
I. QC REFERENCE SAMPLE(s)				
QC #4 1/500 CHLORIDE	2.400		2.495	104 %
II. CALIBRATION CHECK SAMPLE(s)				
5.0 mg/l CHLORIDE	5.000		5.068	101 %
	5.000		4.987	100 %

TYPE: 2.000 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value	mg/L	Nondetectable (<1/2 MRL):
H2O	CHLORIDE	0.000		0.000	Acceptable
		0.000		0.000	Acceptable

TYPE: 3.000 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%):
1	CHLORIDE	DP1140A	1.416	DP1140B	1.431	1.1 %

TYPE: 4.000 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE # - (A)	mg/L	Known Addition	Results	Percent Recovery (80-120%):
1	CHLORIDE	DP1140	1.424	1.000	2.421	100 %
II. REAGENT BLANK		**MATRIX**				**Percent Recovery (95-105%):**

NA - Not Applicable
Method conforms to methods ???? in SW846 EPA-RCRA Manual.
Method also conforms to method 325.2 in EPA-600 Water and Wastes Manual.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

SULFATE BY ION CHROMATOGRAPHY ANALYSIS

QA/QC REPORT

CASE No.: **990308**

CASE NAME: **MILTON FREEWATER GROUNDWATER** — ANALYSIS DATE: April 26, 1999

Samples/Matrix 7, WATERS — ANALYST(s): SSO / LKM

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
QC #4 1/50 SULFATE	3.00	2.86	95 %
	3.00	2.93	98 %
II. CALIBRATION CHECK SAMPLE(s)			
20.0 mg/L SULFATE	20.00	19.93	100 %
	20.00	19.93	100 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.2 mg/L]			**Nondetectable (<1/2 MRL)**
SULFATE	<0.2	0.02	Acceptable
	<0.2	0.01	Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	SULFATE	<0.2	0.00	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
2	SULFATE	DP1764 A	0.94	Water	DP1764 B	0.95	0.7 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
4	SULFATE	DP1132	1.844	3.00	4.926	103 %

NA - Not Applicable

Method conforms to method 4500-SO4 F in Standard Methods for the Examination of Water and Wastewater

Method also conforms to method 300 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION
AMMONIA BY AUTOMATED PHENATE METHOD
QA/QC REPORT

CASE No.: 990308
CASE NAME: Milton Freewater Groundwater
Samples/Matrix 7-water

ANALYSIS DATE: 4/22/99
ANALYST(s): KHA

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
ACCUSTANDARD #6	0.388	0.385	99 %
II. CALIBRATION CHECK SAMPLE(s)			
STANDARD 0.5 mg/L NH3-N	0.500	0.479	96 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			**Nondetectable (<1/2 MRL)**
AMMONIA-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
Water	AMMONIA-N	NA		

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-20%)
1	AMMONIA-N	R657	0.015		R657	0.024	46.2 % at MRL

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (80-120%)
	AMMONIA-N			0.20		

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 350.1 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
NO3+NO2 BY AUTOMATED FLOW INJECTION Cd REDUCTION
QA/QC REPORT

CASE No.: **990308** ANALYSIS DATE 4/23/99
FUND CODE: **3560**
CASE NAME: MILTON - FREEWATER G.W. ANALYST(s): LKM
Samples/Matrix **7/water**

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (90-110%)
I. QC REFERENCE SAMPLE(s)			
1. QC H: 0.050 mgN/L NO3-N	0.050	0.0481	96 %
	0.050		
1. 0.2 mg N/L NO2-N	0.200	0.2101	105 %
	0.200		
2. QC H:, 2.0 mgN/L NO3-N	2.000	2.109	105 %
	2.000		
2. 10.0 mgn /L NO2-N	10.000	10.64	106 %
	10.000		
II. CALIBRATION CHECK SAMPLE(s)			
0.2 mgN/L NO3-N	0.200	0.2009	100 %
	0.200	0.1967	98 %
10.0 mgN/L NO3-N	10.00	10.48	105 %
	10.00	10.22	102 %
III. ZERO-CHECK SAMPLE(s) [MRL = 0.02 mg/L]			Nondetectable (<1/2 MRL)
NO3-N	NA		

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	Measured Value -- mg/L	Nondetectable (<1/2 MRL)
	NO3+NO2-N	NA		
	"			

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
001	NO3+NO2-	R657 A	1.845	Water	R657 B	1.912	3.6 %
	"						
	"						
	"						

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results -- mg/L	Percent Recovery (80-120%)
I. SAMPLES						
001	NO3+NO2-N	R657 B	1.912	2.00	4.079	108 %
	"					
	"					
	"					

NA - Not Applicable
Method conforms to method 4500-N, Standard Methods for the Examination of Water and Wastewater
Method also conforms to method 353.2 in EPA's "Methods for the Chemical Analysis of Water and Wastes".
QC REFERENCE SAMPLE RANGES: 1. is 0.02-0.5mg/L, 2. is 0.5-5.0 mg/L & 3. is 5.0-50 mg/L

DEPARTMENT OF ENVIRONMENTAL QUALITY
LABORATORY DIVISION/INORGANIC SECTION
TOTAL PHOSPHORUS BY SPECTROPHOTOMETRY

CASE No.: **990308** **QA/QC REPORT** ANALYSIS DATE **4/21/99**

CASE NAME: **MILTON FREEWATER GROUNDWATER (4/15/99)** ANALYST(s): **GDS**

SAMPLES/CASE--MATRIX **7--Water**

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- mg/L	Measured Value -- mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)			
WP1188 (1/5) TOTAL PHOSPHORUS	0.300	0.306	102 %
II. CALIBRATION CHECK SAMPLE(s)			
TOTAL PHOSPHORUS STANDARD 0.400 mg/L	0.400	0.407	102 %
III. ZERO-CHECK SAMPLES(s) (MRL=0.010mg/L)			
TOTAL PHOSPHORUS	<0.010	0.001	Nondetectable (<MRL) Acceptable

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- mg/L	mg/L	Measured Value -- mg/L	Nondetectable (<MRL)
Water	TOTAL PHOSPHORUS		<0.010	0.002	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	mg/L	Matrix	DUPLICATE # (B)	mg/L	Percent Difference (RPD 0+/-10%)
2	TPO4P	R1092A	0.047	Water	R1092B	0.047	0.0 %

TYPE: 4 LAB SPIKED SAMPLES:

ITEM #	ANALYTE	SAMPLE #	mg/L	Known Addition mg/L	Results - mg/L	Percent Recovery (90-110%)
I. SAMPLES						
3	TP04P	R1361	0.045	0.120	0.166	101 %

NA - Not Applicable

Method conforms to method 4500-P E, "Standard Methods for the Examination of Water and Wastewater," 19th Edition,1995.

Method also conforms to method 365.2, US EPA-600, "Methods for the Chemical Analysis of Water and Wastes."

DEPARTMENT OF ENVIRONMENTAL QUALITY

LABORATORY DIVISION/INORGANIC SECTION

MERCURY BY COLD VAPOR AAS INTERIM LOW LEVEL

CASE No.: 990308 — QA/QC REPORT — ANALYSIS DATE: 4/21/99

CASE NAME: Milton-Freewater Groundwater — # Samples: 7 groundwater — ANALYST(s): GAD

TYPE: 1 CALIBRATION VERIFICATIONS

ANALYTE	True Value -- ng/L	mg/L	Measured Value -- ng/L	mg/L	Percent Recovery (95-105%)
I. QC REFERENCE SAMPLE(s)					
Mercury	250	0.00025	253	0.00025	101 %
II. CALIBRATION CHECK SAMPLE(s)					
200 ppt Mercury	200	0.00020	198	0.00020	99 %
" "	200	0.00020	193	0.00019	97 %
" "	200	0.00020	196	0.00020	98 %
" "	200	0.00020			
III. ZERO-CHECK SAMPLE(s) [MRL = 10.0 ng/L = 0.000010 mg/L]					**Nondetectable (<1/2 MRL)**
Mercury	<5.0	<0.000005	0.57	0.000001	Acceptable
"	"	"	0.25	0.000000	Acceptable
"	"	"	0.27	0.000000	Acceptable
"	"	"			

TYPE: 2 LAB REAGENT BLANKS

MATRIX	ANALYTE	Expected Value -- ng/L	mg/L	Measured Value -- ng/L	mg/L	Nondetectable (<1/2 MRL)
Water	Mercury	<5.0	<0.000005	4.62	0.000005	Acceptable

TYPE: 3 LAB REPLICATES

ITEM #	ANALYTE	SAMPLE # (A)	ng/L	mg/L	Matrix	DUPLICATE # (B)	ng/L	mg/L	Percent Difference (RPD 0+/-10%)
2	Mercury	TH380	0.06	0.000000	Water		1.07	0.000001	178.8 % Below MRL

TYPE: 4 LAB SPIKED SAMPLES

ITEM #	ANALYTE	SAMPLE #	ng/L	mg/L	Known Addition ng/L =>	mg/L	Results -- ng/L	mg/L	Percent Recovery (90-110%)
I. SAMPLES									
3	Mercury	TH370	-0.71	-0.000001	125.0	0.000125	122.00	0.000122	98 %
II. REAGENT BLANK		**MATRIX**							**Percent Recovery (90-110%)**
	Mercury	Water	4.62	0.000005	250.0	0.000250	250.00	0.000250	98 %

NA - Not Applicable

Method conforms to methods 7470 & 7471 in SW846 EPA's RCRA Manual-Physical/Chemical Methods.

Method also conforms to method 245.2 & 245.5 in EPA's "Methods for the Chemical Analysis of Water and Wastes".

QUALITY ASSURANCE REPORT: ORGANICS

Case Name: Milton-Freewater Groundwater Fund Code: 3560
Case #: 990308

Sample date: 15-Apr-99
QA report date: 27-Jul-99

VOLATILE ORGANICS: Method 524.2/8260

mg/L

Item	Samples	Analyte	Replicate	Sample (A)	Sample (B)	Duplicate (A)	Duplicate (B)	Report Sample	Report Duplicat	Diff.	Range	Standard eviation	RPD RSD
*				NA	NS	NS	NS	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

* No volatile compounds were identified above the forward search detection limit.
Data appearing in shaded boxes do not meet QA criteria, refer to analytical report. Data is for information only!
**: Exceeds calibration range.
***: Probable lab contamination.
DBNC: Detected But Not Confirmed.
NA = Not Applicable, NS = No sample
RPD: Relative Percent Difference is computed only when two results are compared.
RSD: Relative Standard Deviation is computed if more than two results are compared.
Data which is reported as "less than" (<) is used at 80% the numerical value to calculate difference and RPD.

Surrogate Spike Recovery		D6-Benzene Percent Recovery			2-Bromo-1-Chloropropane Percent Recovery			4-Bromofluorobenzene Percent Recovery	
Item	Samples	(A)	(B)	Avg.	(A)	(B)	Avg.	(A)	(B)
1	McMunn	99%			110%			109%	
2	Wing	99%			106%			111%	
3	Brumbach	100%	99%	100%	104%	107%	106%	112%	112%
4	Larson	99%	100%	100%	107%	104%	106%	105%	111%
5	Arnzen	100%			105%			112%	
6	QA Arnzen	99%			109%			108%	
7	Transfer Blank	100%			105%			110%	
8	Transport Blank	100%			104%			112%	
9	Lab Blank	101%			110%			109%	
	Lab blank								
	Average Spike Recovery:		100%			106%			110%

Q A R E P O R T
Groundwater Monitoring

Lab# 990308 CODE#: 3560
RUN: MILTON-FREEWATER G.W. DATE: 04/15/99
QA RATIO: 14%

PARAMETER					
STATION					
STORET# UMA297					
TIME	10:25	10:00	10:01		
	FIELD BLANK	SITE	QA	DIFFERENCE	RPD
Groundwater field parameters.					
Field Alkalinity as CaCO3	<1	40	39	-1.	-3
Field Conductivity	2	94	93	-1.	-1
Field Sample Temperature	8.3	11.6	11.7	0.1	1
Field pH	5.9	6.9	6.9	0.0	NA
~~QA Type Identification~~	~~10~~	~~12~~	~~11~~	~~-1.~~	~~-9~~
Microbiological data performed by OSHD.					
E. coli	*	<2	<2	NA	NA
Fecal Coliform	*	<2	14 Est	NA	NA
Indicator Metals by Inductively Coupled Plasma #1					
Indicator Metals by Inductively Coupled Plasma #1					
Aluminum, Dissolved	<0.010	<0.010	<0.010	NA	NA
Aluminum, Total Recoverable	<0.010	0.012	0.012	0.000	0
Calcium, Dissolved	0.083	8.66	8.73	0.07	1
Calcium, Total Recoverable	0.074	9.08	8.89	-0.19	-2
Hardness as CaCO3 (calculated), Dissol	0.22	35.1	35.5	0.4	1
Hardness as CaCO3 (calculated), Total	0.18	36.4	35.7	-0.7	-2
Iron, Dissolved	<0.002	0.0282	0.0252	-0.0030	-11
Iron, Total Recoverable	0.004	0.0663	0.0654	-0.0009	-1
Lanthanum, Dissolved	0.010	0.0116	0.0107	-0.0009	-8
Lanthanum, Total Recoverable	0.008	0.0154	0.0146	-0.0008	-5
Lithium, Dissolved	0.004	0.0065	0.0048	-0.0017	-30
Lithium, Total Recoverable	0.002	0.0033	0.0029	-0.0004	-13
Magnesium, Dissolved	<0.010	3.27	3.34	0.07	2
Magnesium, Total Recoverable	<0.010	3.33	3.29	-0.04	-1
Manganese, Dissolved	<0.000	0.0004	0.0004	0.0000	0
Manganese, Total Recoverable	<0.000	0.0012	0.0012	0.0000	0
Potassium, Dissolved	0.202	2.73	2.76	0.03	1
Potassium, Total Recoverable	0.195	2.83	2.77	-0.06	-2
Sodium, Dissolved	0.119	3.41	3.46	0.05	1
Sodium, Total Recoverable	0.138	3.55	3.49	-0.06	-2
Indicator Metals by Inductively Coupled Plasma #2					
Boron, Dissolved	<0.003	0.0168	0.0165	-0.0003	-2
Silicon as SiO2, Dissolved	<0.030	35.5	35.3	-0.2	-1
Miscellaneous tests performed by contr	Attached	Attached	Attached	NA	NA
Primary Pollutant Metals by ICP #1					
Primary Pollutant Metals by ICP #1					
Barium, Dissolved	0.000	0.0126	0.0127	0.0001	1
Barium, Total Recoverable	0.000	0.0130	0.0128	-0.0002	-2
Beryllium, Dissolved	0.000	0.0000	0.0000	NA	NA
Beryllium, Total Recoverable	0.000	0.0000	0.0000	NA	NA
Cadmium, Dissolved	<0.000	<0.0001	<0.0001	NA	NA
Cadmium, Total Recoverable	<0.000	<0.0001	<0.0001	NA	NA
Chromium, Dissolved	<0.000	<0.0002	<0.0002	NA	NA
Chromium, Total Recoverable	<0.000	<0.0002	<0.0002	NA	NA
Cobalt, Dissolved	0.006	0.0056	0.0071	0.0015	24
Cobalt, Total Recoverable	0.006	0.0056	0.0058	0.0002	4
Copper, Dissolved	0.007	0.0200	0.0197	-0.0003	-2
Copper, Total Recoverable	0.009	0.0223	0.0230	0.0007	3
Molybdenum, Dissolved	<0.000	<0.0004	<0.0004	NA	NA
Molybdenum, Total Recoverable	<0.000	<0.0004	<0.0004	NA	NA
Nickel, Dissolved	<0.000	0.0005	0.0006	0.0001	18
Nickel, Total Recoverable	<0.000	0.0005	0.0003	-0.0002	-50
Silver, Dissolved	0.000	<0.0002	0.0004	NA	NA
Silver, Total Recoverable	0.000	0.0004	0.0004	0.0000	0
Vanadium, Dissolved	<0.000	0.0041	0.0040	-0.0001	-2
Vanadium, Total Recoverable	<0.000	0.0025	0.0023	-0.0002	-8
Zinc, Dissolved	<0.000	0.0034	0.0022	-0.0012	-43
Zinc, Total Recoverable	<0.000	0.0024	0.0024	0.0000	0
Primary Pollutant Metals by ICP #2					
Primary Pollutant Metals by ICP #2					
Antimony, Dissolved	<0.003	<0.0030	<0.0030	NA	NA

Q A R E P O R T
Groundwater Monitoring

Lab# 990308
RUN: MILTON-FREEWATER G.W.

CODE#: 3560
DATE: 04/15/99
QA RATIO: 14%

PARAMETER					
STATION					
STORET#	UMA297				
TIME	10:25	10:00	10:01		
	FIELD BLANK	SITE	QA	DIFFERENCE	RPD
Antimony, Total Recoverable	<0.003	<0.0030	<0.0030	NA	NA
Arsenic, Dissolved	<0.002	<0.0020	<0.0020	NA	NA
Arsenic, Total Recoverable	<0.002	<0.0020	<0.0020	NA	NA
Lead, Dissolved	<0.003	<0.0030	<0.0030	NA	NA
Lead, Total Recoverable	<0.003	<0.0030	<0.0030	NA	NA
Selenium, Dissolved	<0.003	<0.0030	<0.0030	NA	NA
Selenium, Total Recoverable	<0.003	<0.0030	<0.0030	NA	NA
Thallium, Dissolved	<0.002	<0.0020	<0.0020	NA	NA
Thallium, Total Recoverable	<0.002	<0.0020	<0.0020	NA	NA
Ammonia as N	<0.02	0.02	<0.02	NA	NA
Bromide	<0.05	<0.05	<0.05	NA	NA
Carbamate analysis by Dept. of Ag.	Attached	Attached	Attached	NA	NA
Chemical Oxygen Demand (mg/l)	<5	<5	<5	NA	NA
Chloride	<0.5	0.8	0.8	0.0	0
GC/MS Volatiles	Attached	Attached	Attached	NA	NA
Mercury	<0.000	<0.0000	<0.0000	NA	NA
Nitrate & Nitrite as N	<0.005	0.688	0.690	0.002	0
Pesticide/Herbicide analysis by Dept. of	Attached	Attached	Attached	NA	NA
Sulfate by Ion Chromatography	<0.10	1.24	1.23	-0.01	-1
Total Dissolved Solids	4	71	79	8.	11
Total Kjeldahl Nitrogen	<0.2	<0.2	<0.2	NA	NA
Total Organic Carbon	<1	1	1	0.	0
Total Phosphate as P	<0.01	0.05	0.05	0.00	0
Total Suspended Solids	<1	<1	<1	NA	NA

	FIELD	LAB	DIFFERENCE	RPD

* No data available.

Fecal and Enterococcus results are transformed to log values prior to calculating DIFFERENCE and RPD.

OVR
7-27-99

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATOR

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001	UMA308		
	04/15/99 @ 07:55		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.155	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	16.0	mg/L	Calcium, Dissolved
	15.7	mg/L	Calcium, Total Recoverable
	61.2	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	60.8	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	<0.0020	mg/L	Iron, Dissolved
	0.0088	mg/L	Iron, Total Recoverable
	0.0325	mg/L	Lanthanum, Dissolved
	0.0132	mg/L	Lanthanum, Total Recoverable
	0.0156	mg/L	Lithium, Dissolved
	0.0048	mg/L	Lithium, Total Recoverable
	5.19	mg/L	Magnesium, Dissolved
	5.22	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	2.83	mg/L	Potassium, Dissolved
	3.45	mg/L	Potassium, Total Recoverable
	4.57	mg/L	Sodium, Dissolved
	4.04	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0154	mg/L	Barium, Dissolved
	0.0148	mg/L	Barium, Total Recoverable
	<0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0028	mg/L	Cobalt, Dissolved
	0.0051	mg/L	Cobalt, Total Recoverable
	0.0078	mg/L	Copper, Dissolved
	0.0103	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0004	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0002	mg/L	Silver, Total Recoverable
	0.0086	mg/L	Vanadium, Dissolved
	0.0033	mg/L	Vanadium, Total Recoverable
	0.117	mg/L	Zinc, Dissolved
	0.112	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	0.0031	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
001			
	Continued...		
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0210	mg/L	Boron, Dissolved
	41.8	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.4	mg/L	Chloride
	1.88	mg/L	Nitrate & Nitrite as N
	2.24	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	100	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	58	mg/L	Field alkalinity as CaCO3.
	146	umhos/cm	Field conductivity.
	12.1	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
002	UMA282 04/15/99 @ 08:30		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.206	mg/L	Aluminum, Dissolved
	0.042	mg/L	Aluminum, Total Recoverable
	6.96	mg/L	Calcium, Dissolved
	6.89	mg/L	Calcium, Total Recoverable
	27.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	27.5	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0709	mg/L	Iron, Dissolved
	0.114	mg/L	Iron, Total Recoverable
	0.0311	mg/L	Lanthanum, Dissolved
	0.0113	mg/L	Lanthanum, Total Recoverable
	0.0141	mg/L	Lithium, Dissolved
	0.0041	mg/L	Lithium, Total Recoverable
	2.47	mg/L	Magnesium, Dissolved
	2.49	mg/L	Magnesium, Total Recoverable
	0.0009	mg/L	Manganese, Dissolved
	0.0010	mg/L	Manganese, Total Recoverable
	1.79	mg/L	Potassium, Dissolved
	2.32	mg/L	Potassium, Total Recoverable
	3.34	mg/L	Sodium, Dissolved
	2.99	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0081	mg/L	Barium, Dissolved
	0.0080	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
002			
	Continued...		
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0043	mg/L	Cobalt, Dissolved
	0.0061	mg/L	Cobalt, Total Recoverable
	0.0070	mg/L	Copper, Dissolved
	0.0107	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0002	mg/L	Nickel, Total Recoverable
	0.0003	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0076	mg/L	Vanadium, Dissolved
	0.0035	mg/L	Vanadium, Total Recoverable
	0.0043	mg/L	Zinc, Dissolved
	0.0018	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0161	mg/L	Boron, Dissolved
	35.7	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.7	mg/L	Chloride
	0.251	mg/L	Nitrate & Nitrite as N
	0.94	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	66	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	30	mg/L	Field alkalinity as CaCO3.
	74	umhos/cm	Field conductivity.
	10.5	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORI

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003	UMA292 04/15/99 @ 09:00		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	0.083	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	6.15	mg/L	Calcium, Dissolved
	6.63	mg/L	Calcium, Total Recoverable
	24.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	25.9	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0477	mg/L	Iron, Dissolved
	0.0664	mg/L	Iron, Total Recoverable
	0.0205	mg/L	Lanthanum, Dissolved
	0.0135	mg/L	Lanthanum, Total Recoverable
	0.0096	mg/L	Lithium, Dissolved
	0.0034	mg/L	Lithium, Total Recoverable
	2.13	mg/L	Magnesium, Dissolved
	2.28	mg/L	Magnesium, Total Recoverable
	0.0007	mg/L	Manganese, Dissolved
	0.0008	mg/L	Manganese, Total Recoverable
	1.80	mg/L	Potassium, Dissolved
	2.19	mg/L	Potassium, Total Recoverable
	2.99	mg/L	Sodium, Dissolved
	3.03	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0075	mg/L	Barium, Dissolved
	0.0079	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0049	mg/L	Cobalt, Dissolved
	0.0054	mg/L	Cobalt, Total Recoverable
	0.0795	mg/L	Copper, Dissolved
	0.0900	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0003	mg/L	Nickel, Dissolved
	0.0002	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0005	mg/L	Silver, Total Recoverable
	0.0049	mg/L	Vanadium, Dissolved
	0.0026	mg/L	Vanadium, Total Recoverable
	0.0333	mg/L	Zinc, Dissolved
	0.0340	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
003			
	Continued...		
	0.0146	mg/L	Boron, Dissolved
	32.0	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.7	mg/L	Chloride
	0.194	mg/L	Nitrate & Nitrite as N
	0.93	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.04	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	55	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	28	mg/L	Field alkalinity as CaCO3.
	68	umhos/cm	Field conductivity.
	10.2	C	Field sample temperature.
	7.1	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
004	UMA310		
	04/15/99 @ 09:30		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	0.058	mg/L	Aluminum, Total Recoverable
	9.26	mg/L	Calcium, Dissolved
	9.72	mg/L	Calcium, Total Recoverable
	37.3	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	38.1	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0291	mg/L	Iron, Dissolved
	0.219	mg/L	Iron, Total Recoverable
	0.0034	mg/L	Lanthanum, Dissolved
	0.0147	mg/L	Lanthanum, Total Recoverable
	0.0076	mg/L	Lithium, Dissolved
	0.0033	mg/L	Lithium, Total Recoverable
	3.43	mg/L	Magnesium, Dissolved
	3.36	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	0.0040	mg/L	Manganese, Total Recoverable
	2.87	mg/L	Potassium, Dissolved
	2.95	mg/L	Potassium, Total Recoverable
	3.56	mg/L	Sodium, Dissolved
	3.60	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0161	mg/L	Barium, Dissolved
	0.0166	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
004			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0052	mg/L	Cobalt, Dissolved
	0.0066	mg/L	Cobalt, Total Recoverable
	0.0116	mg/L	Copper, Dissolved
	0.0179	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0006	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0048	mg/L	Vanadium, Dissolved
	0.0031	mg/L	Vanadium, Total Recoverable
	0.0023	mg/L	Zinc, Dissolved
	0.0030	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0195	mg/L	Boron, Dissolved
	39.8	mg/L	Silicon as Silica (SiO2), Dissolved
	0.03	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	1.1	mg/L	Chloride
	0.909	mg/L	Nitrate & Nitrite as N
	1.84	mg/L	Sulfate by Ion Chromatography
	0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	74	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	2	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	41	mg/L	Field alkalinity as CaCO3.
	101	umhos/cm	Field conductivity.
	14.4	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATORIE

Analytical Records Report

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005	UMA297 04/15/99 @ 10:00		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	0.012	mg/L	Aluminum, Total Recoverable
	8.66	mg/L	Calcium, Dissolved
	9.08	mg/L	Calcium, Total Recoverable
	35.1	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	36.4	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0282	mg/L	Iron, Dissolved
	0.0663	mg/L	Iron, Total Recoverable
	0.0116	mg/L	Lanthanum, Dissolved
	0.0154	mg/L	Lanthanum, Total Recoverable
	0.0065	mg/L	Lithium, Dissolved
	0.0033	mg/L	Lithium, Total Recoverable
	3.27	mg/L	Magnesium, Dissolved
	3.33	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	0.0012	mg/L	Manganese, Total Recoverable
	2.73	mg/L	Potassium, Dissolved
	2.83	mg/L	Potassium, Total Recoverable
	3.41	mg/L	Sodium, Dissolved
	3.55	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0126	mg/L	Barium, Dissolved
	0.0130	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0056	mg/L	Cobalt, Dissolved
	0.0056	mg/L	Cobalt, Total Recoverable
	0.0200	mg/L	Copper, Dissolved
	0.0223	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0005	mg/L	Nickel, Dissolved
	0.0005	mg/L	Nickel, Total Recoverable
	<0.0002	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0041	mg/L	Vanadium, Dissolved
	0.0025	mg/L	Vanadium, Total Recoverable
	0.0034	mg/L	Zinc, Dissolved
	0.0024	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
005			
	Continued...		
	0.0168	mg/L	Boron, Dissolved
	35.5	mg/L	Silicon as Silica (SiO2), Dissolved
	0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.8	mg/L	Chloride
	0.688	mg/L	Nitrate & Nitrite as N
	1.24	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	71	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	40	mg/L	Field alkalinity as CaCO3.
	94	umhos/cm	Field conductivity.
	11.6	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	12		QA Type Identification
006	UMA297 QA		
	04/15/99 @ 10:01		
	<0.0000	mg/L	Mercury
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	14 Est	CFU/0.1L	Fecal Coliform by Membrane Filtration.
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	0.012	mg/L	Aluminum, Total Recoverable
	8.73	mg/L	Calcium, Dissolved
	8.89	mg/L	Calcium, Total Recoverable
	35.5	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	35.7	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	0.0252	mg/L	Iron, Dissolved
	0.0654	mg/L	Iron, Total Recoverable
	0.0107	mg/L	Lanthanum, Dissolved
	0.0146	mg/L	Lanthanum, Total Recoverable
	0.0048	mg/L	Lithium, Dissolved
	0.0029	mg/L	Lithium, Total Recoverable
	3.34	mg/L	Magnesium, Dissolved
	3.29	mg/L	Magnesium, Total Recoverable
	0.0004	mg/L	Manganese, Dissolved
	0.0012	mg/L	Manganese, Total Recoverable
	2.76	mg/L	Potassium, Dissolved
	2.77	mg/L	Potassium, Total Recoverable
	3.46	mg/L	Sodium, Dissolved
	3.49	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0127	mg/L	Barium, Dissolved
	0.0128	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
006			
	Continued...		
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0071	mg/L	Cobalt, Dissolved
	0.0058	mg/L	Cobalt, Total Recoverable
	0.0197	mg/L	Copper, Dissolved
	0.0230	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	0.0006	mg/L	Nickel, Dissolved
	0.0003	mg/L	Nickel, Total Recoverable
	0.0004	mg/L	Silver, Dissolved
	0.0004	mg/L	Silver, Total Recoverable
	0.0040	mg/L	Vanadium, Dissolved
	0.0023	mg/L	Vanadium, Total Recoverable
	0.0022	mg/L	Zinc, Dissolved
	0.0024	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	0.0165	mg/L	Boron, Dissolved
	35.3	mg/L	Silicon as Silica (SiO2), Dissolved
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	0.8	mg/L	Chloride
	0.690	mg/L	Nitrate & Nitrite as N
	1.23	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	0.05	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	79	mg/L	Total Dissolved Solids
	1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
			Intra-Laboratory QA report.
	Attached		QA Report: Summary of duplicate samples.
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	39	mg/L	Field alkalinity as CaCO3.
	93	umhos/cm	Field conductivity.
	11.7	C	Field sample temperature.
	6.9	S.U.	pH measured in field with ion specific probe.
	11		QA Type Identification

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007	TRANSFER BLANK		
	04/15/99 @ 10:25		
	<0.0000	mg/L	Mercury
			Indicator Metals by Inductively Coupled Plasma #1
	<0.010	mg/L	Aluminum, Dissolved
	<0.010	mg/L	Aluminum, Total Recoverable
	0.083	mg/L	Calcium, Dissolved
	0.074	mg/L	Calcium, Total Recoverable
	0.22	mg/L	Hardness as Ca(CO3)2, calculated, Dissolved
	0.18	mg/L	Hardness as Ca(CO3)2, calculated, Total Recoverable
	<0.0020	mg/L	Iron, Dissolved
	0.0048	mg/L	Iron, Total Recoverable
	0.0105	mg/L	Lanthanum, Dissolved
	0.0088	mg/L	Lanthanum, Total Recoverable
	0.0040	mg/L	Lithium, Dissolved
	0.0024	mg/L	Lithium, Total Recoverable
	<0.010	mg/L	Magnesium, Dissolved
	<0.010	mg/L	Magnesium, Total Recoverable
	<0.0002	mg/L	Manganese, Dissolved
	<0.0002	mg/L	Manganese, Total Recoverable
	0.202	mg/L	Potassium, Dissolved
	0.195	mg/L	Potassium, Total Recoverable
	0.119	mg/L	Sodium, Dissolved
	0.138	mg/L	Sodium, Total Recoverable
			Primary Pollutant Metals by ICP #1
	0.0002	mg/L	Barium, Dissolved
	0.0002	mg/L	Barium, Total Recoverable
	0.0000	mg/L	Beryllium, Dissolved
	0.0000	mg/L	Beryllium, Total Recoverable
	<0.0001	mg/L	Cadmium, Dissolved
	<0.0001	mg/L	Cadmium, Total Recoverable
	<0.0002	mg/L	Chromium, Dissolved
	<0.0002	mg/L	Chromium, Total Recoverable
	0.0061	mg/L	Cobalt, Dissolved
	0.0065	mg/L	Cobalt, Total Recoverable
	0.0078	mg/L	Copper, Dissolved
	0.0094	mg/L	Copper, Total Recoverable
	<0.0004	mg/L	Molybdenum, Dissolved
	<0.0004	mg/L	Molybdenum, Total Recoverable
	<0.0002	mg/L	Nickel, Dissolved
	<0.0002	mg/L	Nickel, Total Recoverable
	0.0004	mg/L	Silver, Dissolved
	0.0003	mg/L	Silver, Total Recoverable
	<0.0001	mg/L	Vanadium, Dissolved
	<0.0001	mg/L	Vanadium, Total Recoverable
	<0.0005	mg/L	Zinc, Dissolved
	<0.0005	mg/L	Zinc, Total Recoverable
			Primary Pollutant Metals by ICP #2
	<0.0030	mg/L	Antimony, Dissolved
	<0.0030	mg/L	Antimony, Total Recoverable
	<0.0020	mg/L	Arsenic, Dissolved
	<0.0020	mg/L	Arsenic, Total Recoverable
	<0.0030	mg/L	Lead, Dissolved
	<0.0030	mg/L	Lead, Total Recoverable
	<0.0030	mg/L	Selenium, Dissolved
	<0.0030	mg/L	Selenium, Total Recoverable
	<0.0020	mg/L	Thallium, Dissolved
	<0.0020	mg/L	Thallium, Total Recoverable
			Indicator Metals by Inductively Coupled Plasma #2
	<0.0030	mg/L	Boron, Dissolved
	<0.030	mg/L	Silicon as Silica (SiO2), Dissolved

THURSDAY JULY 8th, 1999

CASE NAME: 990308 MILTON-FREEWATER G.W.
SUBMITTER: Cole, David L. COLLECTOR: Cole, David L.
FUND CODE: 3560 Groundwater Monitoring

ITEM #	RESULT	UNITS	TEST
007	TRANSFER BLANK		
	Continued...		
	<0.02	mg/L	Ammonia as N
	<0.05	mg/L	Bromide
	<0.5	mg/L	Chloride
	<0.0050	mg/L	Nitrate & Nitrite as N
	<0.10	mg/L	Sulfate by Ion Chromatography
	<0.2	mg/L	Total Kjeldahl Nitrogen
	<0.01	mg/L	Total Phosphate as P
	<5	mg/L	Chemical Oxygen Demand (mg/l)
	4	mg/L	Total Dissolved Solids
	<1	mg/L	Total Organic Carbon
	<1	mg/L	Total Suspended Solids
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	<1	mg/L	Field alkalinity as CaCO3.
	2	umhos/cm	Field conductivity.
	8.3	C	Field sample temperature.
	5.9	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
008	TRANSPORT BLANK		
	04/15/99		
	Attached		GC/MS Volatiles
	Attached		Carbamate analysis by Dept. of Ag.
	Attached		Pesticide/Herbicide analysis by Dept. of Ag
	Attached		Miscellaneous tests performed by contract lab
			Groundwater field parameters.
	NOT	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification
009	LAB BLANK		
	04/15/99		
	Attached		GC/MS Volatiles
			Groundwater field parameters.
	NOT	S.U.	pH measured in field with ion specific probe.
	10		QA Type Identification

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308			
Sample No:	B2693	PWD UMA 308	**Analysis Date:**	19 April 1999
Item No:	1			

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0110	110
	4-Bromofluorobenzene	0.0100	0.0109	109

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2685	**Analysis Date:**	19 April 1999
Item No:	2		

PW UMA 282

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0106	106
	4-Bromofluorobenzene	0.0100	0.0111	111

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2677	**Analysis Date:**	19 April 1999
Item No:	3		

UMA 292

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0106	106
	4-Bromofluorobenzene	0.0100	0.0112	112

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2669	**Analysis Date:**	19 April 1999
Item No:	4		

PWD UMA 310

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0106	106
	4-Bromofluorobenzene	0.0100	0.0108	108

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2724	**Analysis Date:**	19 April 1999
Item No:	5		

UMA 297

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0112	112

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2732	**Analysis Date:**	19 April 1999
Item No:	6		

UMA 297 (duplicate)

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0099	99
	2-Bromo-1-Chloropropane	0.0100	0.0109	109
	4-Bromofluorobenzene	0.0100	0.0108	108

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308			
Sample No:	B2716		**Analysis Date:**	19 April 1999
Item No:	7	Field Transfer Blank		

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0105	105
	4-Bromofluorobenzene	0.0100	0.0110	110

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308		
Sample No:	B2696	**Analysis Date:**	19 April 1999
Item No:	8		

Transport Blank

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0100	100
	2-Bromo-1-Chloropropane	0.0100	0.0104	104
	4-Bromofluorobenzene	0.0100	0.0112	112

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

Department of Environmental Quality
Laboratory Division
GC/MS

Volatile Organic Compounds
Complies with DW Method 524.2 and RCRA SW846 Method 8260

Lab No:	990308			
Sample No:	B2688	Lab Blank	**Analysis Date:**	19 April 1999
Item No:	9			

CONC mg/L	COMPOUND	STORET #	CAS #	CONC mg/L	COMPOUND	STORET #	CAS #
<0.0005	Chloromethane	34418	74873	<0.0005	1,2-Dibromoethane (EDB)	77651	106934
<0.0005	Vinyl Chloride	39175	75014	<0.0005	Chlorobenzene	34301	108907
<0.0005	Bromomethane	34413	74839	<0.0005	Ethyl Benzene	34371	100414
<0.0005	Chloroethane	34311	75003	<0.0005	1,4/1,3-Dimethylbenzene	77133	106423/108383
<0.0005	Trichlorofluoromethane	34488	75694	<0.0005	1,2-Dimethylbenzene	77135	95476
<0.0015	Acrolein (2-Propenal)	34210	107028	<0.0005	Styrene	77128	100425
<0.0005	1,1-Dichloroethylene	34501	75354	<0.0005	Bromoform	32104	75252
<0.0005	Methylene Chloride	34423	75092	<0.0005	Bromobenzene	81555	108861
<0.0005	trans-1,2-Dichloroethylene	34546	156605	<0.0005	1,1,2,2-Tetrachloroethane	34516	79345
<0.0005	1,1-Dichloroethane	34496	75343	<0.0005	n-Propylbenzene	77224	103651
<0.0005	2,2-Dichloropropane	77170	594207	<0.0005	2-Chlorotoluene	38680	95498
<0.0005	cis-1,2-Dichloroethylene	77093	156592	<0.0005	4-Chlorotoluene	77277	106434
<0.05	2-Butanone (MEK)	81595	78933	<0.0005	1,2,4-Trimethylbenzene	77222	95636
<0.0005	Bromochloromethane	73085	74975	<0.0005	1,3-Dichlorobenzene	34566	541731
<0.0005	Chloroform	32106	67663	<0.0005	4-isopropyltoluene	77356	99876
<0.0005	1,1,1-Trichloroethane	34506	71556	<0.0005	1,4-Dichlorobenzene	34571	95501
<0.0005	Carbon Tetrachloride	32102	56235	<0.0005	1,2-Dichlorobenzene	34536	106467
<0.0005	Benzene	78124	71432	<0.0005	n-butybenzene	77342	104518
<0.0005	1,2-Dichloroethane	34531	107062	<0.0005	1,2,4-Trichlorobenzene	34551	120821
<0.0005	Trichloroethylene	39180	79016	<0.0005	Hexachloro-1,3-Butadiene	39702	87683
<0.0005	1,2-Dichloropropane	34541	78875	<0.0005	Dichlorodifluoromethane	34668	75718
<0.0005	Bromodichloromethane	32101	75274	<0.0005	1,1-Dichloropropene	77168	563586
<0.005	2-Chloroethyl Vinyl Ether	34576	110758	<0.0005	Dibromomethane	77596	74953
<0.0005	cis-1,3-Dichloropropene	34704	10061015	<0.0005	1,1,1,2-Tetrachloroethane	77562	630206
<0.005	4-Methyl-2-Pentanone (MIBK)	78133	108101	<0.0005	Isopropylbenzene (Cumene)	77223	98828
<0.0005	Toluene	78131	108883	<0.0005	1,3,5-Trimethylbenzene	77226	108678
<0.0005	trans-1,3-Dichloropropene	34699	10061026	<0.0005	sec-Butylbenzene	77350	135988
<0.0005	1,1,2-Trichloroethane	34511	79005	<0.0005	tert-Butylbenzene	77353	98066
<0.0005	1,1,2,2-Tetrachloroethylene	34475	127184	<0.0005	1,2-Dibromo-3-chloropropane	49146	96128
<0.0005	1,3-Dichloropropane	77173	142289	<0.0005	Naphthalene	34696	91203
<0.0005	Dibromochloromethane	32105	124481	<0.0005	1,2,3-Trichlorobenzene	77613	87616
				<0.0005	Methyl-t-butyl ether	46491	1634044

QA	SURROGATE	Expected mg/L	Actual mg/L	Percent Recovery
	D6-Benzene	0.0100	0.0101	101
	2-Bromo-1-Chloropropane	0.0100	0.0110	110
	4-Bromofluorobenzene	0.0100	0.0109	109

TIC's: No other volatile compounds were identified above the forward search practical reporting limit of 0.005 mg/L

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 7:55
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
5270	99-B432	DEQ Groundwater: UMA308,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number	Laboratory Number	Product Description
5271	99-B433	DEQ Groundwater: UMA282,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: [illegible]

Date: 4/27/99

990308

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OREGON DEPARTMENT OF AGRICULTURE
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SALEM, OREGON 97310-0110

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Laws And Regulations Administered By:
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REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 9:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
5265	99-B434	DEQ Groundwater: UMA292,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number	Laboratory Number	Product Description
5266	99-B435	DEQ Groundwater: UMA310,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: K Wickman

Date: 4/27/99

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:00
Time Received : 17:30

ANALYTICAL REPORT

Sample Number 5261 — Laboratory Number 99-B436 — Product Description DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number 5262 — Laboratory Number 99-B437 — Product Description DEQ Groundwater: UMA297,

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: KLickman

Date: 4/27/99

990308

LABORATORY SERVICES DIVISION
OREGON DEPARTMENT OF AGRICULTURE
635 CAPITOL STREET NE
SALEM, OREGON 97310-0110

Phone (503) 986-4565
FAX (503) 986-4751

Laws And Regulations Administered By:
Department of Environmental Quality
(503) 229-5696

REPORT OF LABORATORY ANALYSIS - GROUNDWATER SAMPLES

Requesting Agency/Division/Firm

Dept. of Environmental Quality
Groundwater Project
1712 SW 11th Ave.
Portland, OR 97201

Contact: Greg Pettit
Phone: (503) 229-5983

Sampled by : dlc/rjm
Received by : Beth L. Read

Date Sampled : 4/15/99
Date Received : 4/16/99

Time Sampled : 10:25
Time Received : 17:30

ANALYTICAL REPORT

Sample Number	Laboratory Number	Product Description
2920	99-B438	DEQ Groundwater: TRANSFER BLANK, Transfer Blank

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Sample Number	Laboratory Number	Product Description
2922	99-B439	DEQ Groundwater: TRANSPORT BLANK, Transport Blank

Analysis Requested	Analytical Results	Analysts
Carbamate Screen	None Detected	RBV
Propoxur	< 1 ppb	RBV
Aldicarb	< 1 ppb	RBV
Aldicarb sulfone	< 1 ppb	RBV
Aldicarb sulfoxide	< 1 ppb	RBV
1-Naphthol	< 1 ppb	RBV
Carbaryl	< 1 ppb	RBV
Carbofuran	< 1 ppb	RBV
3-Hydroxycarbofuran	< 1 ppb	RBV
Methiocarb	< 1 ppb	RBV
Methomyl	< 1 ppb	RBV
Oxamyl	< 1 ppb	RBV

Reviewed by: K. Kirchman

Date: 4/27/99

DEPARTMENT OF ENVIRONMENTAL QUALITY
Request for Analysis

(2)

Case No. 110186

Location/Site: Milton-Freewater

Date Sampled: 10/28/99

Date Received in Lab: OCT 29 1999

Collected by: Phil Richerson

Fund Code: 01-82820-72036-W00105-00 1008

Date Reported: NOV 26 1999

Purpose: Resample 4 wells in which bacteria was detected in April 1999

Report Data to: Phil Richerson in Pendleton

Comments:

Item #	Sampling Point Description (include time)	Sample container according to test(s) requested: Nutrients / Basic	DO / BOD	Metals / Organic	Bacteria: Misc. / Misc.	Test(s) Required
1					C976	~~Total coliform~~ (pa.) ; fecal coliform ; E. coli
2					C1677	Fecal coliform ; E. coli
3					C1770	Fecal coliform ; E. coli
4					C1436	Fecal coliform ; E. coli
5						
6						

RECEIVED
DEC - 2 1999
State of Oregon
Dept. of Environmental Quality
Eastern Region - Pendleton

Laboratory Comments:

Contact Sample Tracker for proper sampling containers and preservation procedure. (503) 229-5983

OREGON HEALTH DIVISION

MEMBRANE FILTRATION 990986 CENTER FOR PUBLIC HEALTH LABORATORIES

MICROBIOLOGICAL EXAMINATION OF ENVIRONMENTAL WATER

DATE/TIME RECEIVED AT PHL

Done

UMA297 OCT 29 PM 12:13
UMA285 10:41 AM
UMA286 10:07 AM
UMA297 OCT 29 PM 12:13

Requesting Agency: (DEQ) ___County ___Other

Tests requested ___ Total coliforms ___ (Fecal coliforms) ___ (E. coli) ___ Enterococci

Survey Milton-Freewater Resample

Collection Date 10/28/99 Time _____ am pm By PMR

Analysis date 10-29-99 Time 1:00 am (pm)

Completion Date 10-30-99 Time 2:00 am (pm)

Reported by [illegible] Date 11-1-99

Reviewed by [illegible] Date 11/1/99

****

PHL #	Bottle #	Storet #	Sample Point	RESULTS: CFU\100ml Total coliforms	Fecal coliforms	E. coli	Enterococci
2335	C976	UMA297			<2	<2	
2336	C1677	UMA285			<2	<2	
2337	C1770	UMA286			<2	<2	
2338	C1136	UMA287			<2	<2	

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Dept. of Environmental Quality
Eastern Region - Pendleton

DEPARTMENT OF ENVIRONMENTAL QUALITY LABORATOR

Analytical Records Report

THURSDAY NOVEMBER 18th, 1999

ASE NAME: 990986 Milton-Freewater
UBMITTER: Myzak, Rich
UND CODE: 3560 Groundwater Monitoring

COLLECTOR: Myzak, Rich

ITEM #	RESULT	UNITS	TEST
001	UMA297 10/28/99 @ 11:21		
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by membrane filtration.
002	UMA285 10/28/99 @ 11:41		
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by membrane filtration.
003	UMA286 10/28/99 @ 12:07		
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by membrane filtration.
004	UMA287 10/28/99 @ 12:32		
			Microbiological data performed by OSHD.
	<2	CFU/0.1L	E. coli by membrane filtration.
	<2	CFU/0.1L	Fecal Coliform by membrane filtration.

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