SPOKANE VALLEY - RATHDRUM PRAIRIE AQUIFER
WATER QUALITY REPORT
FOR THE PERIOD
JANUARY 1, 2003 – DECEMBER 31, 2003

PREPARED BY
SPOKANE COUNTY UTILITIES – WATER RESOURCES

MARCH 15, 2004

SPOKANE COUNTY PUBLIC WORKS DEPARTMENT
DIVISION OF UTILITIES

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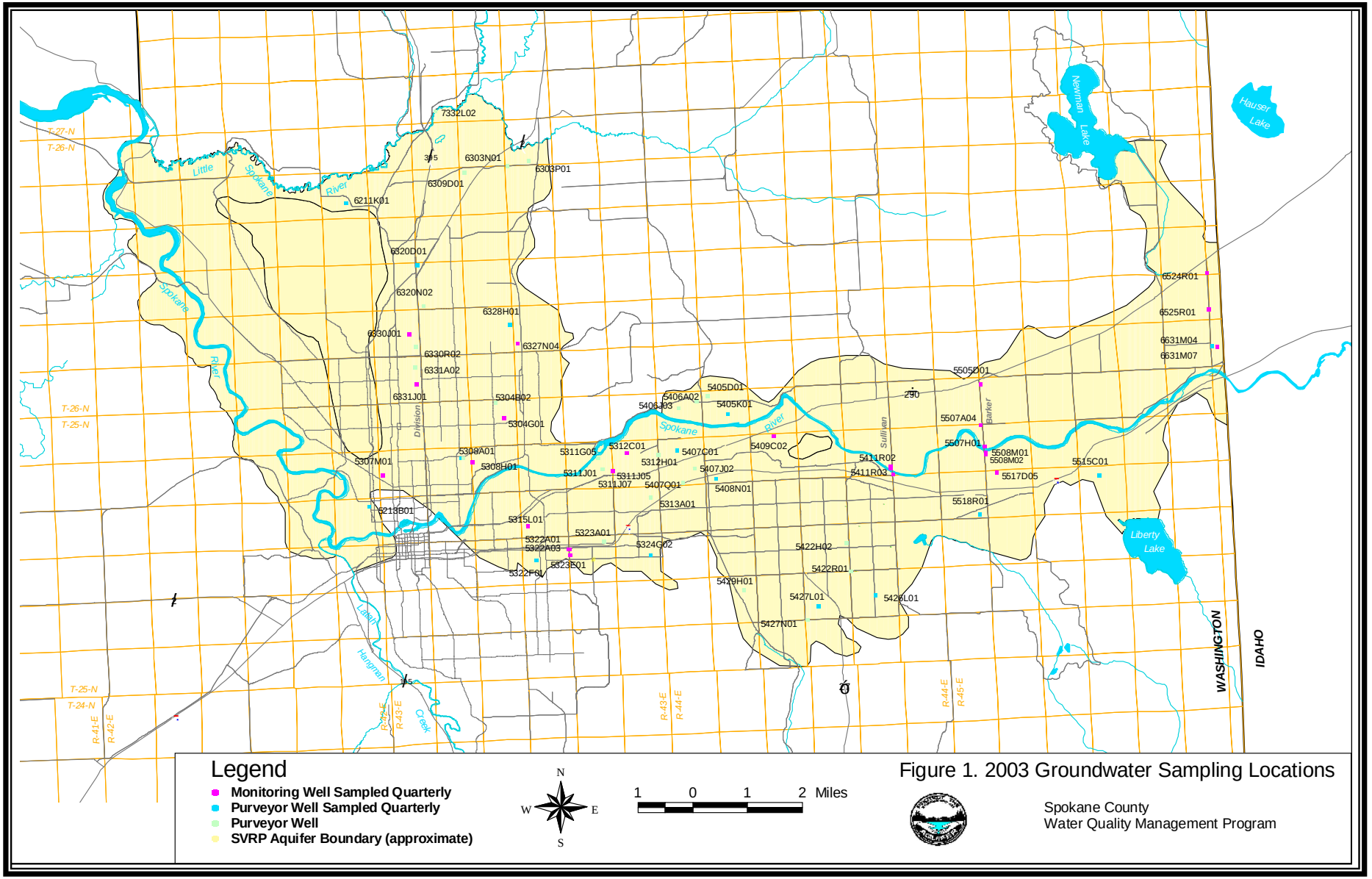
SPOKANE COUNTY WATER QUALITY MONITORING PROGRAM

Spokane County, in cooperation with the Spokane Regional Health District (SRHD), the Panhandle Health District (PHD) and other agencies, has conducted an aquifer quality monitoring program since 1977. An intensive one-year sampling effort during the 1977 water year (1976 in Idaho) provides a baseline of water quality for the region's ground water quality (Esvelt, 1978). This baseline sampling effort let to the development of an aquifer protection strategy, the Water Quality Management Plan (Spokane County Engineers, 1979). Ongoing aquifer monitoring was one of the key recommendations of the plan. Therefore, in 1980 Spokane County began an ongoing aquifer monitoring program, in cooperation with SRHD. Monitoring provides information on the overall quality of the resource. In addition, the collection of long-term data allows water quality trends to be analyzed and used as an indicator of the effectiveness of aquifer protection measures. Between 1980 and 1997 the monitoring program relied heavily on samples collected from water supply wells operated by the regions purveyors. Most historic data (pre –1980) is from water supply wells; these sampling locations provide the best trend information. As these wells also supply water to the public, these data also reflect the water quality of what we drink.

Over the last several years Spokane County's aquifer monitoring program changed significantly. Prior to 1997, the assessment of general water quality and trends in aquifer quality were based on data from a network of public water supply wells. As part of the region's Wellhead Protection Program (WHP), several "sentinel" wells were installed between 1995 and 1998. These wells are completed near the water table with some screens extending forty feet, in contrast to the deeper installations of most public water supply wells. The sentinel wells created the opportunity to include testing of water quality near the surface of the water table where contaminants from the land surface first appear. Since most of these wells are upgradient of public water supply wells, the sentinel wells also provide some "early warning" capability to predict future water quality in purveyor wells. Therefore, in 1997 a transition from sampling purveyor wells exclusively to sampling monitoring wells and purveyor wells for general water quality evaluation began. By 1999 the transition was complete. The sampling network now includes monitoring wells and some purveyor wells used historically for trend analyses. In 1999 the Coordinated Monitoring Program was initiated. Through the Coordinated Monitoring Program, individual purveyors support the regional monitoring effort by "contracting " with the County to collect and have analyzed the water quality samples required for drinking water compliance.

2003 WATER QUALITY MONITORING

Samples were collected quarterly during 2003 for general water quality observation and trend analysis from 27 monitoring wells, 14 purveyor wells, and 2 transient community wells. The locations of the wells included in the monitoring program are shown on **Figure 1**. In addition to the usual quarterly sampling, special compliance monitoring samples were collected from wells operated by purveyors participating in the Coordinated Monitoring Program.



Legend

- Monitoring Well Sampled Quarterly
- Purveyor Well Sampled Quarterly
- Purveyor Well
- SVRP Aquifer Boundary (approximate)

N
W E
S

1 0 1 2 Miles

Figure 1. 2003 Groundwater Sampling Locations

Spokane County
Water Quality Management Program

A private, state certified lab performed the water quality analyses reported in this document. Five different combinations of chemical parameters were used in the program. These include a list of inorganic analytes to replace the "short" and "long" lists used previously - internally referred to as the "2001 list", the complete list of drinking water inorganic analytes, arsenic at a new lower reporting limit required for all drinking water sources in 2003, the nitrate as nitrogen analysis required for drinking water, and the volatile organic chemical package required for drinking water. The most frequently performed set of analyses is the "2001 list". Analytes on this list include the most commonly detected inorganic parameters, including the indicator chemicals sodium, nitrate – nitrogen, and chloride. A complete description of the parameters tested is included in Appendix A.

GENERAL WATER QUALITY OF THE SPOKANE VALLEY AQUIFER

The overall quality of the aquifer is very good. No exceedances of Primary Maximum Contaminant Levels (MCL) defined by USEPA and the State of Washington were measured in any public water supply well during the reporting period. Concentrations of lead and arsenic exceeded state reporting limits or trigger levels in a few samples from public water supply wells.

In general, ground water quality near the margins of the aquifer is lower than that in more central areas of the flow regime. This variation is due, in part, to proximity to hillside recharge zones. Recharge entering the aquifer at the margins from hillside drainages includes contaminants from stormwater runoff and septic system effluent. In addition, groundwater flow near the margins of the aquifer is generally slower, so contaminants are not flushed out or mixed as rapidly.

Historically, nitrate – nitrogen introduced to ground water as a result of human activity, has caused more concern for water purveyors than any other contaminant. Nitrate - nitrogen concentrations continue to be elevated, in wells near the north and south margins of the aquifer. No water samples collected in 2003 exceeded the nitrate trigger concentration of 5 mg/L as nitrogen. This does not necessarily mean there are no parts of the aquifer with nitrate concentrations above 5 mg/L. Some wells near the margins of the aquifer are no longer part of regular quarterly monitoring and some margins have never been sampled.

In 2003, the level of iron and manganese in several groundwater samples from the Spokane Valley - Rathdrum Prairie Aquifer exceeded secondary drinking water standards. Secondary MCLs are based on aesthetic factors rather than health hazards. Numerous samples from both monitoring wells and purveyor wells contained iron concentrations in excess of the 0.3-mg/L secondary MCL and manganese concentrations in excess of the 0.05 mg/L MCL.

Four quarterly monitoring samples had concentrations of lead in exceedance of the state-reporting limit (SRL) of 0.002 mg/L though there is no MCL for the source water. The samples with lead concentrations exceeding 0.002 mg/L came form:

- Whitworth Water District well 2A (6320D01). The water from this well usually has no lead detectable above a concentration of 0.001 mg/L.
- Pasadena Park well #2 (5405K01).
- East Spokane Water District Site 2 (5324G02).
- One monitoring well sample (5507H01) had a lead concentration in excess of 0.002 mg/L in 2003.

Several samples from monitoring wells and purveyor wells contained concentrations of lead between the 0.001 mg/L and the SRL 0.002 mg/L. Spokane County requested the lower reporting limit for lead so that trends approaching the reporting limits can be tracked.

EPA lowered the MCL for arsenic from 50 µg/L to 10 µg/L effective January 22, 2006. Consumer confidence reports (CCR) for 2002 through 2005 are required to report any arsenic detection above 5 µg/L and to report potential health effects associated with elevated arsenic levels for any detections between 10 µg/L and 50 µg/L.

Samples from several wells were consistently above the 5 µg/L reporting limit in 2003. All four samples from the Felts Field monitoring well (5312C01) had arsenic concentrations near or above 7 µg/L with the average of 7.42 µg/L. Arsenic concentrations in the four samples from the Trent & Barker monitoring well ranged from 5.19 to 6.01 µg/L, with an average of 5.58 µg/L. Three of the samples from the CID 11 well had arsenic concentrations over the 5.00 µg/L trigger level and one sample's concentration was just below. The concentrations ranged from 4.9 to 5.96 µg/L, with an average of 5.38 µg/L. The monitoring well at Frederick and Bowdish had two samples with concentrations over the 5.0 µg/L trigger.

The 7/29/2003 samples from the City of Spokane – Nevada well had high turbidity and high iron concentrations. This was probably caused by the blow out and repair of the well that happened shortly before sampling occurred.

WATER QUALITY TRENDS FOR SELECTED CONTAMINANTS

Spokane County initiated a ground water monitoring program in 1980 designed to track the water quality changes that occurred as result of the various aquifer protection measures implemented in the region. Of particular interest is an ongoing evaluation of the benefit of the construction of a regional sewer system to reduce the impact of septic system leachate on groundwater quality.

Nitrate—nitrogen is used as an indicator for septic system waste impact because it is found in high concentrations in drainfield leachate, is found in low concentration street runoff and is not a significant component of agricultural recharge water. Water quality studies conducted in 1977 – 1979 showed that the impact from fertilizer nitrogen in agricultural areas over the aquifer was negligible. Nitrate is also of interest because of its public health significance at concentrations above 10 mg/L, the drinking water MCL for nitrate - nitrogen.

Trend Analysis Graphs

Graphs of water quality at five wellfields illustrate the change in nitrate – nitrogen in the Spokane Valley - Rathdrum Prairie Aquifer over time. The results plotted are annual average nitrate + nitrite – nitrogen or nitrate - nitrogen concentrations based on quarterly monitoring results through September of 2003. Though most of the concentrations reported are for nitrate + nitrite – nitrogen, all values are labeled as "nitrate – nitrogen" or "nitrate" since nitrate is usually the major compound. Overall, the data show the impact residential development using leach fields (septic system drainfields) for sanitary waste disposal has on nitrate—nitrogen concentrations in the aquifer and the impact of the County's ongoing expansion of the sewer service area on nitrate - nitrogen levels.

Under Spokane County's monitoring program quarterly samples are collected near the end of January, April, July and October. The seasonal sampling regime is based on the results of several studies that show considerable seasonal variation in water quality at any given sampling site. The sampling dates were selected to provide data that, for a typical year, produce an average close to what would be obtained from continuous sampling and analysis. The values depicted on the graphs are annual averages of the samples collected during the water year beginning in October. The error bars above and below each plotted point represent the 90% confidence interval for the actual average value based on the variability of the annual data.

Much of the variability in annual averages is a result of variations in precipitation. The nitrate - nitrogen data vary seasonally due to the high precipitation in the fall and high spring and accompanying runoff which carries contaminants accumulated in the soil during the dry summers and cold winters. Accordingly, the combination of precipitation and freezing patterns in the Spokane area typically results in two sample events with higher concentrations and two sample events with lower concentrations each year. However, the timing and magnitude of the annual variations is dependent on climatic conditions. For example, if the winter is warm enough to allow precipitation to infiltrate through the season rather than accumulate as snow and ice, there may be a less pronounced or absent spring "peak" in contaminant levels. The timing of the spring thaw directly impacts the concentrations measured in the April sampling round. If the thaw occurs unusually early or late, the spring sample collection period could miss the spring peak. This would cause the annual average to be lower than actual conditions. Conversely, a large summer storm shortly before the July sampling or a rain event in early January could flush contaminants to the aquifer during these typically lower concentration periods. This would produce an annual average higher than actual conditions. In summary, there will always be variations in annual averages that reflect the aquifer's naturally variable conditions. However, using several years of data for trend analysis dampens these variations and allows reliable analysis of long-term trends.

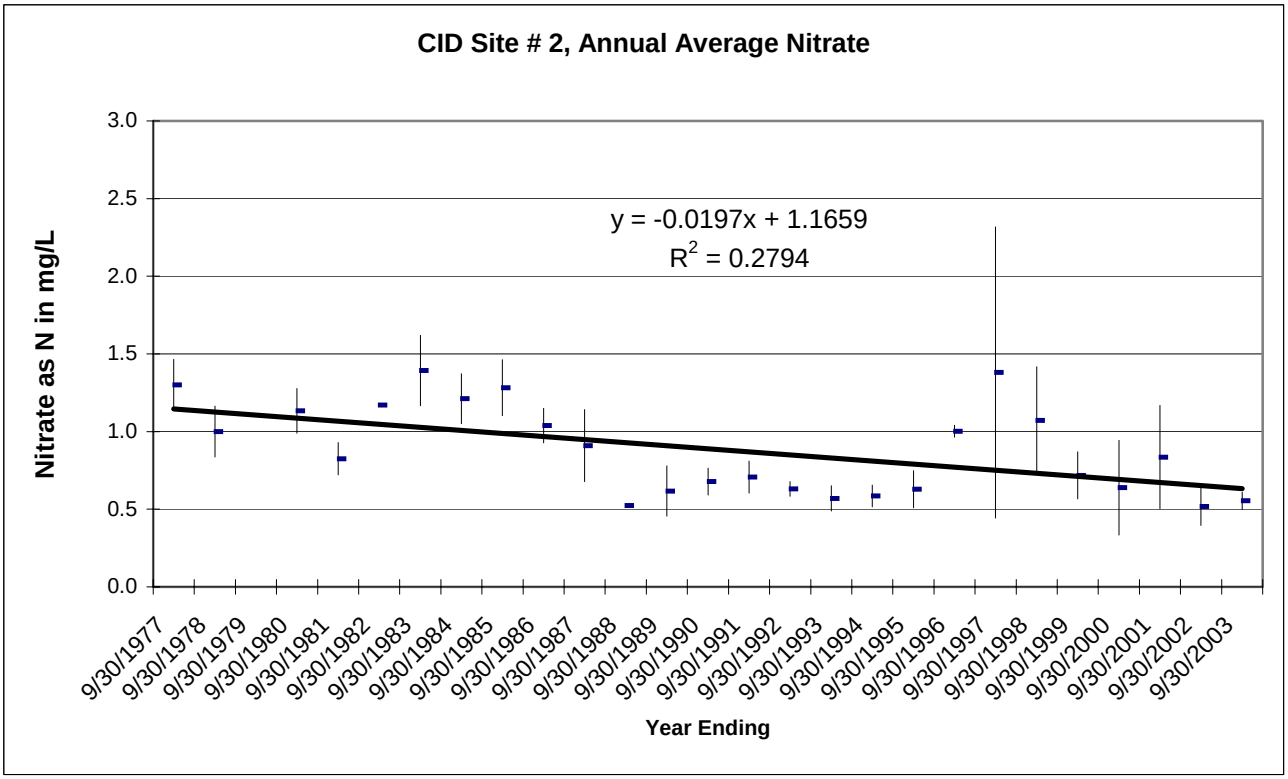


Figure 2. CID Site 2, annual average nitrate concentrations and trends.

The Figure 2 shows the changes in nitrate concentrations in groundwater in the Eastern portion of the Spokane Valley at the Consolidated Irrigation District's (CID) Wellfield #2 (5518R01). This graph illustrates the generally low nitrate concentrations found in relatively undeveloped areas of the aquifer. Sewer service is not scheduled for extension into the vicinity of the wellfield until 2014 – 2015. Nitrate levels have varied significantly over the 26-year record but there is little change in average water quality.

This is consistent with the low level of development found east of the well site and the relatively slow growth occurring in the area.

The following four graphs illustrate the impact of sewer collection system installation on several public water supply wells. Lines are drawn on the graphs to show the trend in nitrate—nitrogen before and after the replacement septic systems with sewers of upgradient of the wells. Though improvement in ground water quality is not expected immediately following sewering,, separate trend lines are shown for the periods before and after sewer connections were made in the area immediately around the well. The examples below clearly illustrate the water quality improvement associated with sewer installation.

Vera Water and Power's Well #4 (5426L01) is located at Adams and 24th within the Vera Crest Utility Local Improvement District (ULID) that connected to sewers in 1991. The community drainfields for the Bella Vista and Timberline subdivisions connected to the sewer system at the same time. Elimination of these drainfields diverted a large volume of wastewater away from the aquifer near this well. Nitrate – nitrogen concentrations in the samples from the Vera #4 well appear to be declining since the elimination nearby subsurface waste discharge (Figure 3). The level of water quality improvement is partly a function of the number of equivalent residential units (ERUs) eliminated via sewering and partly a result of the proximity of the previous wastewater discharge to the well. The elimination of the large drainfield serving Bella Vista, located less than ¼ mile from the Vera #4 well, eliminated the subsurface wastewater discharge from several dozen homes.

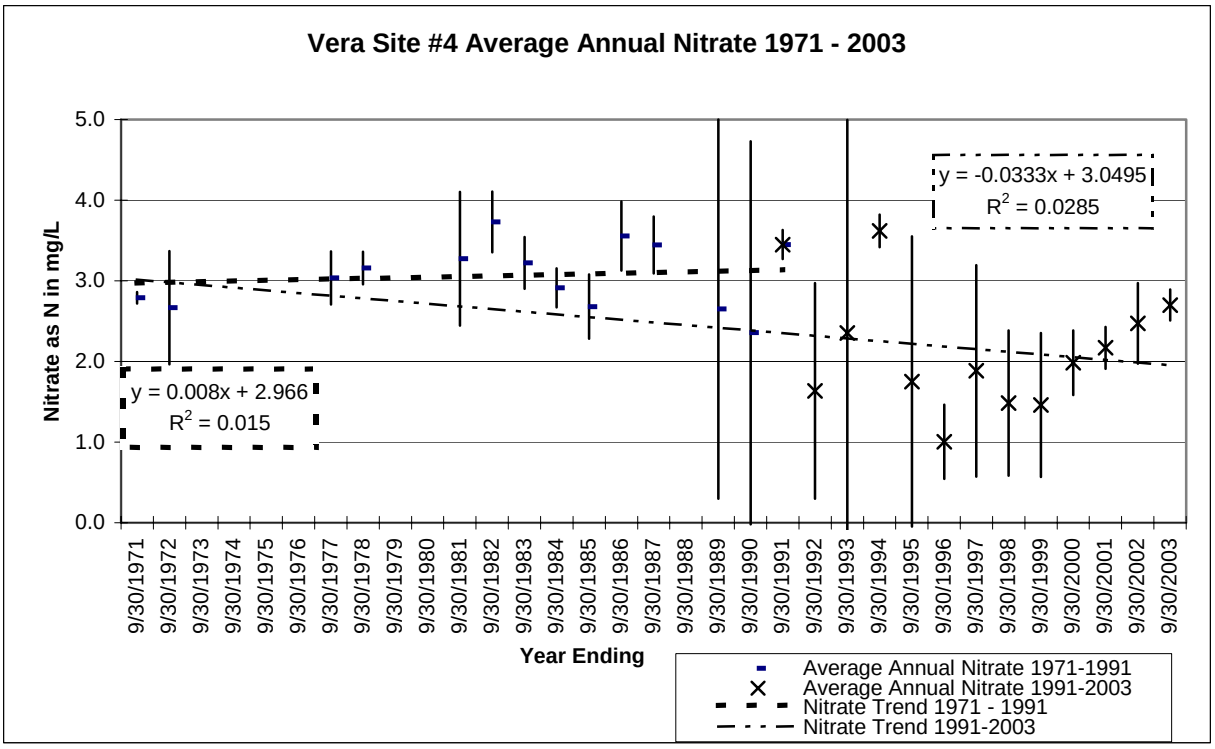


Figure 3. Vera Well #4, annual average nitrate concentrations and trends.

A graph of nitrate data from Orchard Avenue Irrigation District #1 well (5312H01) (Figure 4) shows a reduction in the rate of increase over time in nitrate - nitrogen concentrations. This well is on North Park Road in an area not scheduled for sewer installation until the 2006 – 2009. The slowing of the rate of increase illustrates the cumulative benefit of the overall sewer program. Nevertheless, the continued, gradual increase in nitrate - nitrogen in ground water illustrates the impact of onsite domestic waste disposal on the aquifer.

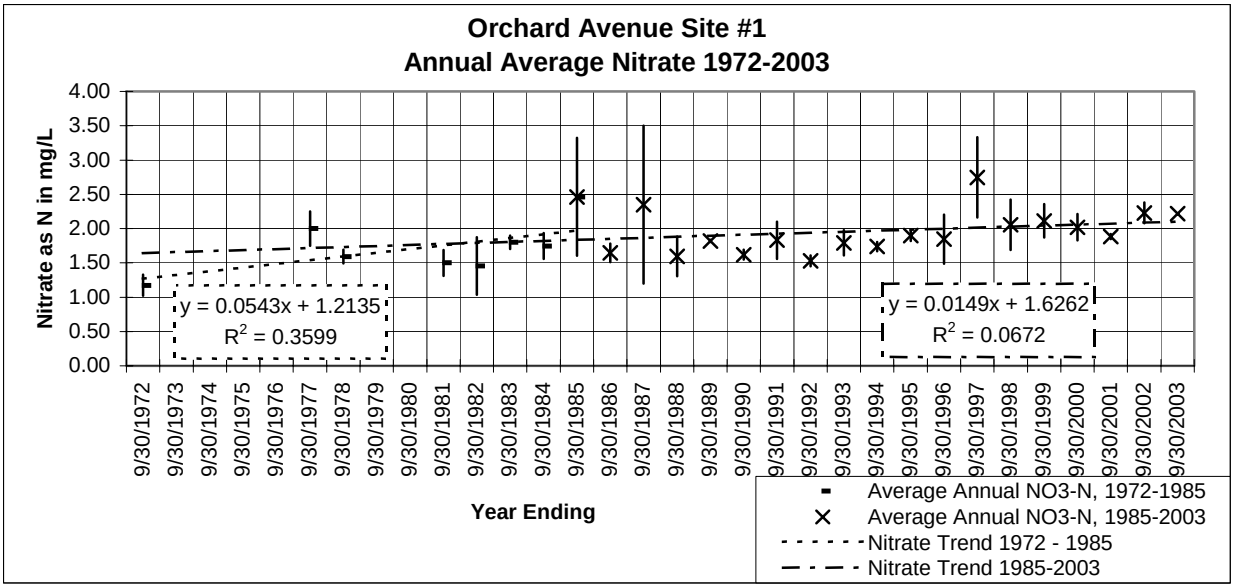


Figure 4. Orchard Avenue Site #1 annual average nitrate concentrations and trends.

The Spokane County Water District 20th and Balfour wellfield (5429H01) is located in the Chester Hills sewer project area, completed in 1995, and adjacent to the Chester Terrace sewer area, completed in 1996, and the North and South Kokomo sewer projects, completed in 1990. The annual average nitrate - nitrogen concentrations tended to increase until a peak in 1996 (Figure 5). The trend since 1996 shows a sharp decrease in nitrate – nitrogen concentrations. However, the high rate of decrease had a set backs in water years 2002 and 2003. This may be due to the small number of samples in the water year 2003 (2) and the lack of purging in the samples in 2002. The increase may continue because a large area of high growth to the south of the well is not scheduled for sewer installation until 2009. A major portion of spring recharge to this part of the aquifer is from the Chester Creek drainage to the south, this recharge will mobilize the septic system discharge and carry it to the vicinity of the wellfield.

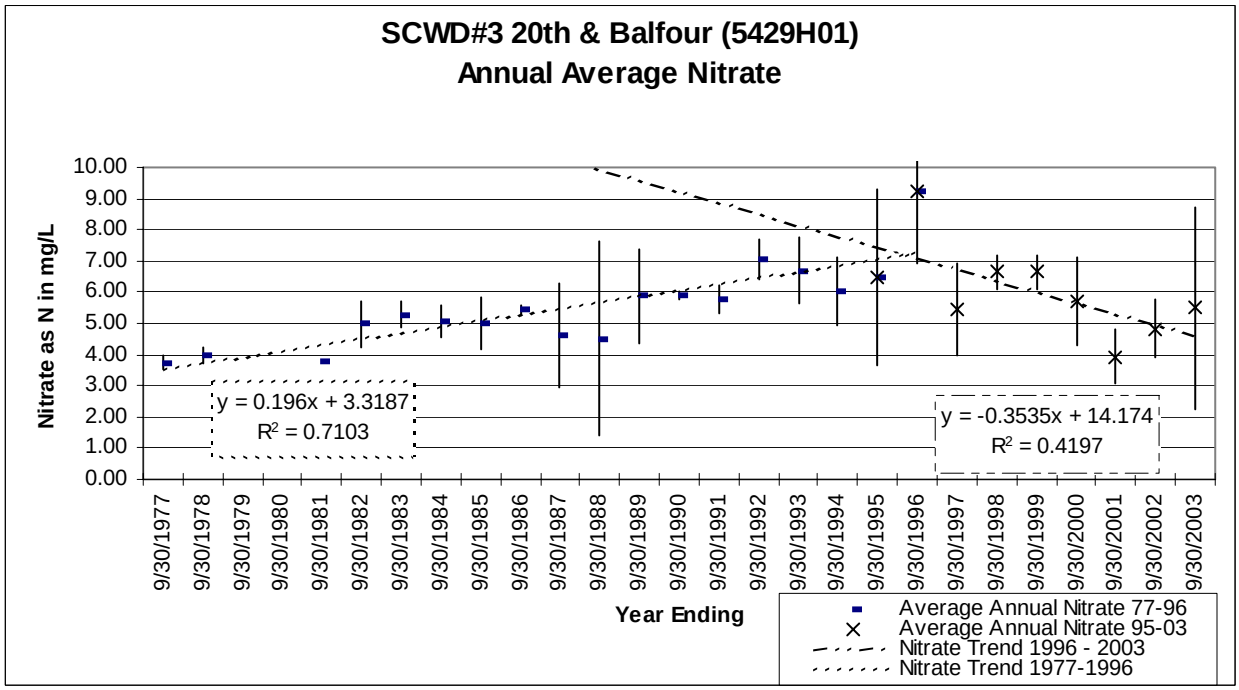


Figure 5. SCWD#3 20th and Balfour well, annual average nitrate concentrations and trends.

North Spokane Irrigation District Site 4 (6328H01) is located in an area that is still on septic systems but does not have much new development. The area is downstream from the sewer construction and connection in the Spokane Valley. The average annual nitrate – nitrogen concentrations (Figure 6) vary between 1 and 3 mg/L during the period of record with a decreasing trend. The slope of the trend line shows a larger decrease than the trend line for the CID #2 well (5518R01).

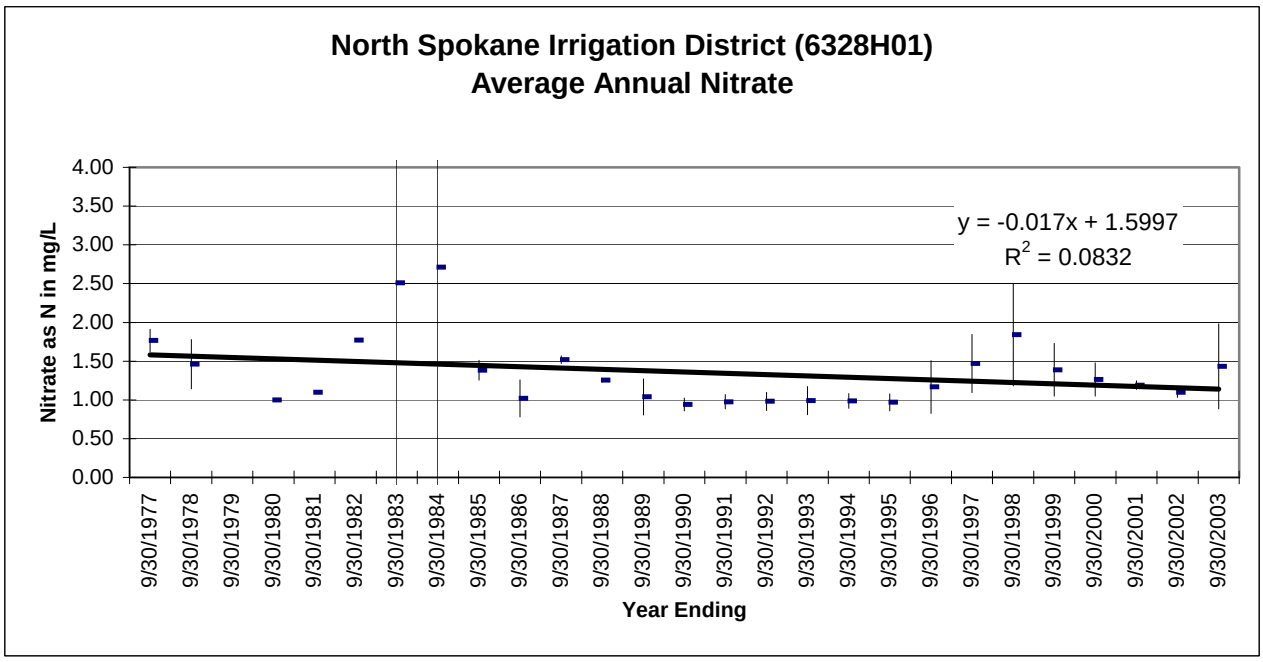


Figure 6. North Spokane Irrigation District Site #4, annual average nitrate concentrations and trends.

COORDINATED MONITORING PROGRAM: COMPLIANCE MONITORING RESULTS

During 2003, five of the regions water purveyors participated in the Coordinated Monitoring Program. Special sampling and water quality analysis consistent with state Department of Health requirements for drinking water sources was conducted for the City of Spokane, Spokane County Water District #3, Pasadena Park Irrigation District, Orchard Avenue Irrigation District # 6, and Vera Water and Power. The scope and results of this work are summarized below.

Water Quality in City of Spokane Wells

Drinking water compliance tests were run for inorganic chemicals on three wells, for volatile organic chemicals on four wells, and for nitrate as nitrogen on seven wells, with quarterly sampling at the Ray Street well. Table 1 is a list of sampling dates for City of Spokane wells and the type of analysis performed. The data for both compliance monitoring and general aquifer quality monitoring are included in Appendix C and D. Official copies of the analytical results were distributed to both the purveyor and the Department of Health at the time of analysis.

The water quality in the City of Spokane wells in the Spokane Valley - Rathdrum Prairie Aquifer is very good. None of the compliance samples exceeded maximum contaminant levels (MCLs) defined by USEPA and the State of Washington. The concentration of nitrate in the water from the Ray Street well did not exceed the trigger level of 5 mg/L in samples collected in 2003, with a maximum concentration of 4.78 mg/L in October of 2003. This well field lies near the margin of the aquifer flow regime. Wells along the edge of the aquifer recharge zone frequently show elevated nitrate – nitrogen concentrations, particularly during recharge periods. One of the quarterly monitoring samples from the Nevada well had a lead concentration slightly over the 0.001 mg/L detection limit at 0.00105 mg/L. The turbidity was 7.65 NTU, which is over the 1.0 NTU MCL. The iron concentration in the same sample was also elevated. There was some unusual source of these analytes, possibly related to work on the well field.

Table 1. Sampling dates and types of analyses for City of Spokane wells January 2003 to December 2003.

Well Name	WQMP ID	DOH Source #	Sample Date	Inorganic	Volatile Organic Drinking Water	Nitrate as nitrogen	Inorganic Drinking Water Compliance
CITY of SPOKANE-Nevada	5308A02	1	4/30/2003	X			
CITY of SPOKANE-Nevada	5308A02	1	5/6/2003		X		
CITY of SPOKANE-Nevada	5308A02	1	7/29/2003	X		X	X
CITY of SPOKANE-Nevada	5308A02	1	10/21/2003	X			
CITY of SPOKANE-Well Electric	5311G05	2	5/6/2003		X		
CITY of SPOKANE-Well Electric	5311G05	2	7/29/2003			X	
CITY of SPOKANE-Parkwater	5311J01	3	5/6/2003		X		
CITY of SPOKANE-Parkwater	5311J01	3	7/29/2003			X	X
CITY of SPOKANE-Ray	5322F01	4	1/28/2003	X	X	X	
CITY of SPOKANE-Ray	5322F01	4	4/30/2003	X		X	
CITY of SPOKANE-Ray	5322F01	4	7/29/2003	X			X
CITY of SPOKANE-Ray	5322F01	4	10/21/2003	X		X	
CITY of SPOKANE-Hoffman	5304B02	5	7/29/2003			X	
CITY of SPOKANE-Grace	5308A01	6	7/29/2003			X	
CITY of SPOKANE-Central	6331A02	8	7/29/2003			X	

Water Quality in Spokane County Water District #3 Wells

During the 2003 calendar year six wells were tested for drinking water compliance of volatile organic compounds and 16 wells were sampled for nitrate drinking water compliance. Table 2 is a list of sampling dates for Spokane County Water District #3 wells and the type of analysis performed. The complete data for both compliance monitoring and general aquifer quality monitoring are included in Appendices C and D. Official copies of the drinking water compliance analytical results were distributed to both the purveyor and the Department of Health at the time of analysis.

Table 2. Sampling activity matrix: Spokane County Water District #3 wells January 2003 to December 2003.

Well Name	WQMP ID	DOH Source #	Sample Date	Quarterly Inorganic	Volatile Organic Drinking Water	Nitrate as N Drinking Water Compliance
Spokane Co Water Dist #3, Knox & Sargent,	5407J02	S05	7/30/2003		X	X
Spokane Co Water Dist #3, Boone & Lily	5313A01	S06	7/30/2003			X
Spokane Co Water Dist #3, Freeway & Vista	5407Q01	S10	7/30/2003			X
Spokane Co Water Dist #3, 2nd & Koran	5323A03	S11	7/30/2003			X
Spokane Co Water Dist #3, 26th & Vercler	5427L01	S15	1/28/2003	X		
Spokane Co Water Dist #3, 26th & Vercler	5427L01	S15	4/30/2003	X		
Spokane Co Water Dist #3, 26th & Vercler	5427L01	S15	7/30/2003	X		X
Spokane Co Water Dist #3, 26th & Vercler	5427L01	S15	10/21/2003	X		
Spokane Co Water Dist #3, Browns Park	5427N01	S16	7/30/2003		X	X
Spokane Co Water Dist #3, 20th & Balfour	5429H01	S18	7/30/2003			X
Spokane Co Water Dist #3, Lyons & Normandie	6330R02	S20	7/31/2003			X
Spokane Co Water Dist #3, Steer Inn	6320N02	S21	7/31/2003		X	X
Spokane Co Water Dist #3, Freya & Farwell	6303P01	S25	7/31/2003		X	X
Spokane Co Water Dist #3, Cherry & Farwell	6303N01	S26	7/31/2003			X
Spokane Co Water Dist #3, Helena & Mead	6309D01	S30	7/31/2003		X	X
Spokane Co Water Dist #3, Pineriver Park	7332L01	S33	7/31/2003			X
Spokane Co Water Dist #3, Colbert, Riverview	7322M01	S34	7/31/2003			X
Spokane Co Water Dist #3, Chattaroy Hills	8323C01	S36	7/31/2003			X
Spokane Co Water Dist #3, Waterview Terrace	7105D01	S38	7/31/2003		X	X

Water quality in the Spokane County Water District #3 wells is generally excellent. No violations of nitrate as nitrogen or volatile organic compound MCLs were observed in 2003. The 7/30/2003 sample from the 20th & Balfour well had a nitrate as nitrogen concentration of 3.51 mg/L. The nitrate concentrations in this well have gone down dramatically in the since 1996 (see Figure 5).

Water Quality in Pasadena Park Irrigation District #17 Wells

During the 2003 calendar year four Pasadena Park Irrigation District #17 wells were sampled for nitrate as nitrogen. Table 3 is a list of sampling dates and the type of analysis performed. The complete data for both compliance monitoring and general aquifer quality monitoring are included in Appendices C and D. Official copies of the drinking water compliance analytical results were distributed to both the purveyor and the Department of Health after reception of the analytical reports.

Pasadena Park site 2 (5405K01) was sampled as part of the quarterly monitoring program. The concentrations of nitrate as nitrogen in the samples from all of the wells were at or below 3.0 mg/L.

Table 3. Sampling activity matrix: Pasadena Park Irrigation District #19 wells 2003.

Well Name	WQMP ID	DOH Source #	Sample Date	Quarterly Inorganic	Nitrate as N Drinking Water Compliance
Pasadena Park Irrigation District #17 Site 2	5405K01	S02	1/28/2003	X	
Pasadena Park Irrigation District #17 Site 2	5405K01	S02	4/30/2003	X	
Pasadena Park Irrigation District #17 Site 2	5405K01	S02	7/30/2003	X	X
Pasadena Park Irrigation District #17 Site 2	5405K01	S02	10/21/2003	X	
Pasadena Park Irrigation District #17 Site 3	5405D01	S03	7/30/2003		X
Pasadena Park Irrigation District #17 Site 4	5406A02	S04	7/30/2003		X
Pasadena Park Irrigation District #17 Site 5	5406J03	S05	7/30/2003		X
Pasadena Park Irrigation District #17 Site 5	5406J03	S05	7/30/2003		X

Water Quality in Vera Water and Power Wells

Vera Water and Power joined the Coordinated Monitoring Program in 2001. During the 2003 calendar year ten wells were sampled for arsenic with analyses with the lower detection level of 1 µg/L. Table 4 is a list of sampling dates for Vera Water and Power wells and the type of analysis performed. The complete data for both compliance monitoring and general aquifer quality monitoring are included in Appendices C and D. Official copies of the drinking water compliance analytical results were distributed to both the purveyor and the Department of Health after reception of the analytical reports.

Table 4. Sampling activity matrix: Spokane County Water District #3 wells January 2003 to December 2003.

Well Name	WQMP ID	DOH Source #	Sample Date	Quarterly Inorganic	Volatile Organic Drinking Water	Inorganic Drinking Water Compliance
Vera Water & Power, 601 N. Evergreen	5415J01	S01				
Vera Water & Power, 16th & Evergreen NW	5422R01	S03	10/23/2003		X	X
Vera Water & Power, 24th & Adams	5426L01	S04	1/28/2003	X		
Vera Water & Power, 24th & Adams	5426L01	S04	4/30/2003	X		
Vera Water & Power, 24th & Adams	5426L01	S04	7/30/2003	X		
Vera Water & Power, 24th & Adams	5426L01	S04	10/21/2003	X		
Vera Water & Power, 16th, east of Bolivar	5426D01	S05	7/30/2003			
Vera Water & Power, 604 S. Evergreen	5422H02	S06	11/6/2003		X	
Vera Water & Power, 2nd & Best	5423C01	S07				
Vera Water & Power, 15306 E. 8th	5423J01	S08				
Vera Water & Power, 15306 E. 8th	5423J02	S09				
Vera Water & Power, 15300 E. Springfield, # 2	5414J01	S12				
Vera Water & Power, 16th & Evergreen, # 33	5422R02	S13	10/23/2003		X	X

Water quality in the Vera Water and Power wells is generally good to excellent. In addition to the compliance sampling, Vera's well #4 at 24th and Adams (5426L01) is sampled by Spokane County as part of the quarterly monitoring program. No violations of primary drinking water inorganic MCLs were observed in 2003. The sample from the #4 well on 4/30/2003 had an iron concentration (0.580 mg/L)

above the secondary MCL of 0.3 mg/L. This secondary MCL was established for aesthetic reasons so the exceedence does not represent a health hazard.

Water Quality in Orchard Avenue Irrigation District # 6 Wells

Orchard Avenue Irrigation District #6 joined the Coordinated Monitoring Program in 2001. Table 5 is a list of sampling dates for Orchard Avenue wells and the type of analysis performed. The complete data for both compliance monitoring and general aquifer quality monitoring are included in Appendices C and D. Official copies of the drinking water compliance analytical results were distributed to both the purveyor and the Department of Health after reception of the analytical reports.

Water quality in the two Orchard Avenue wells is generally good to excellent. In addition to the compliance sampling, one of Orchard Avenue's wells is sampled by Spokane County as part of the quarterly monitoring program. No violations of primary drinking water inorganic or volatile organic compound MCLs were observed in 2003. The arsenic concentration in the quarterly monitoring sample from Site 1 collected on 10/21/2003 was slightly over the 5.0 µg/L level. This is of concern because beginning with the 2002 Consumer Confidence Report; arsenic concentrations over 5 µg/L must be reported. The potential sources for the arsenic have not been investigated. The sample collected from the Buckeye and Dick well on 1/28/2003 had concentrations above the secondary MCLs of both iron (0.3 mg/L) and manganese (0.05 mg/L). These secondary MCL was established for aesthetic reasons so the exceedence does not represent a health hazard.

Table 5. Sampling activity matrix: Orchard Avenue Irrigation District # 6 wells 2003.

Well Name	WQMP ID	DOH Source #	Sample Date	Quarterly Inorganic	Nitrate as N Drinking Water Compliance
Orchard Avenue Irrig. Dist., Marietta & Park	5312H01	S01	7/29/2003		X
Orchard Avenue Irrig. Dist., Marietta & Park	5312H01	S01	10/21/2003	X	
Orchard Avenue Irrig. Dist., Buckeye & Dick	5407C01	S02	1/28/2003	X	
Orchard Avenue Irrig. Dist., Buckeye & Dick	5407C01	S02	4/30/2003	X	
Orchard Avenue Irrig. Dist., Buckeye & Dick	5407C01	S02	7/29/2003	X	X

EARLY WARNING MONITORING

Early warning of contamination upgradient of a supply well is a goal of the Coordinated Monitoring Program. Table 6 includes a list of sentinel wells in the defined capture zone of the well of concern sampled as part of the monitoring program. Some of the sentinel wells are public supply wells that are sampled as part of the regional monitoring program or for dinking water compliance. However, most sentinel wells are monitoring wells installed for this purpose. The City of Spokane and the Spokane Aquifer Joint Board installed these wells for a variety of uses as part of the development of a Wellhead Protection Plan. The wells were located in capture zones of purveyor wells at distances upgradient equivalent to a few days to a several months travel time. The intent is to detect potential water quality problems in a supply well by examining the data from an upgradient well. This approach assumes that the water in delineated capture zones reflects the quality of the water that will reach a supply well in the near future. The early warning monitoring approach was initiated in 1999. Since that time, indicator water quality parameters of sentinel wells has been compared to downgradient wells. The following sentinel well – supply well pairings have been evaluated:

Denver & Marietta (5308H01) – City of Spokane, Nevada (5308A02)

Hale's Ale (5311J05 & 5311J07) – City of Spokane, Parkwater (5308A02)
Felts Field (5312C01) – City of Spokane, Well Electric (5311G05)
3rd & Havana (5322A01 & 5322A03) - City of Spokane Ray (5322F01)
Fire Station (6327N04) – North Spokane Irrigation District #8 Sites 1 & 4 (6328H01)
Holy Cross (6330J01) – Spokane County Water District #3 Lyons & Normandie (6330R02)
Franklin Park (6331J01) – City of Spokane Central (6331A01)
Monitoring well at CID #11 (6631M07) – CID well #11 at Idaho Road (6631M04)

Nitrate– nitrogen was used as an indicator of urban impacts on groundwater in the Spokane Valley - Rathdrum Prairie Aquifer because of its low natural background level in the aquifer and its prevalence in wastewater and potential for being in lawn irrigation leachate. Nitrate is not common in commercial or industrial spills or stormwater injected to groundwater via drywells. Thus, it is expected that even water impacted by a spill would show similar nitrate concentrations in both a supply well and its corresponding sentinel well.

For the limited data available from the supply wells, the Denver & Marietta (5308H01) – Nevada (5308A02) and Hale's Ale site (5311J05 & 5311J07) – Parkwater (5308A02) pairs showed a good relationship between the water quality of sentinel well and the supply well. The water quality relationships for the other two pairs in the Spokane Valley were not as positive. The downgradient supply well – Well Electric (5311G05) – has water with elevated nitrate concentrations relative to the Felts Field well (5312C01). This pair is near the Spokane River and may be subject to influences from the River. Similarly, the Ray Street supply well (5322F01) water shows consistently higher nitrate concentrations than the water from the 3rd & Havana Street sentinel wells (5322A01 & 5322A03). The Ray Street well is near the southern margin of the aquifer. Historically wells along the periphery of the aquifer have displayed elevated contaminant levels compared to the central flow path. This has been interpreted to illustrate the contribution of poor quality water from "hillside recharge." The proximity of the Havana wells to the aquifer's margin was originally thought to be such that similar recharge effects would be observed as at the Ray Street well. However, the 2000 Water Quality Report compared water quality from the 6th & Havana well (5323E01) with the Ray Street well and found a better correlation, though the source of elevated contaminant levels may be from different hillside basins.

Spokane County collected quarterly samples in 2003 from two City of Spokane supply wells and their sentinel wells. Figure 7 shows nitrate concentrations for the Ray Street well and the nearby monitoring wells. The water from the 6th & Havana well continues to be similar to the Ray Street well water while the samples from wells at 3rd & Havana have lower concentrations of nitrate. Though the 3rd & Havana wells may not be the best indicators of future water quality problems at Ray Street resulting from the impact of hillside recharge, any plume of contaminants moving through the aquifer would probably flow through the vicinity of the 3rd & Havana wells before reaching the Ray Street well.

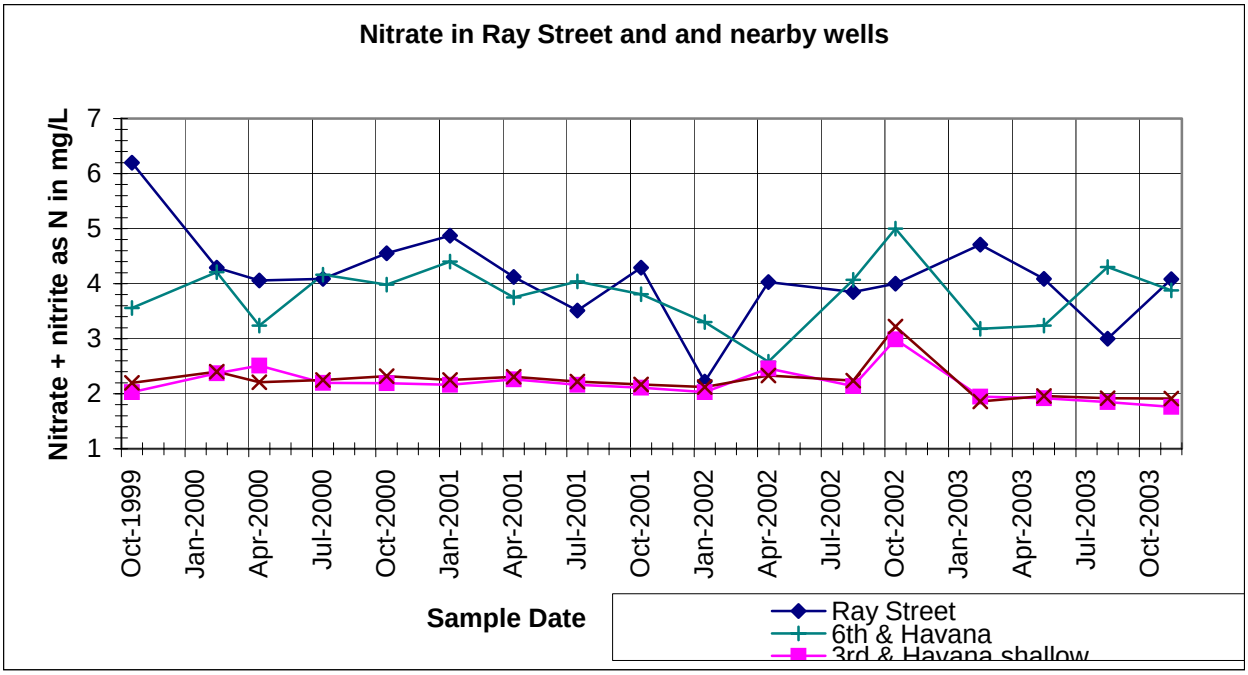


Figure 7. Nitrate + nitrite as nitrogen concentrations in water samples from the City of Spokane's Ray Street well and nearby monitoring wells.

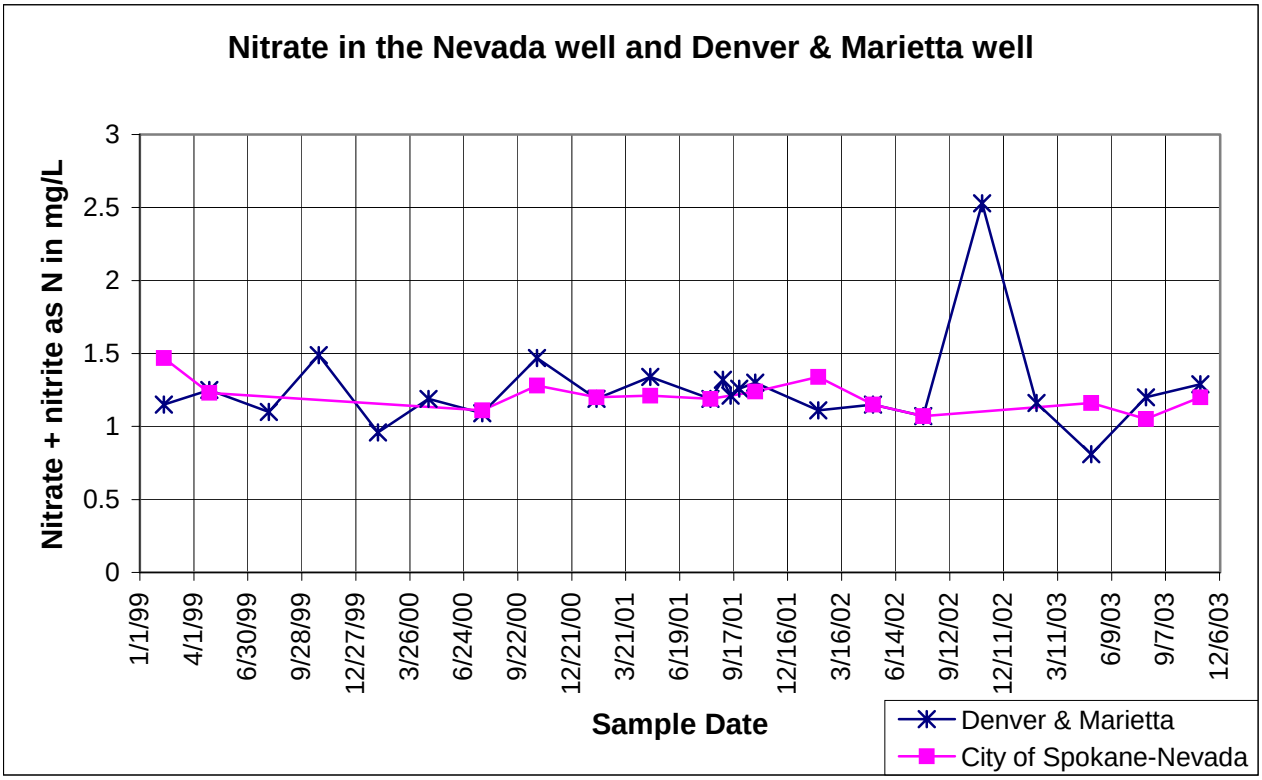


Figure 8. Nitrate + nitrite as nitrogen concentrations in water samples from the City of Spokane's Nevada well and the monitoring well at Denver & Marietta.

Figure 8 shows nitrate concentrations from all samples collected from the Nevada (5308A02) and Denver & Marietta (5308H01) wells since October 1999. Several additional samples were collected from the Denver & Marietta well during the summer of 2001. The total difference in concentration of nitrate shown in these samples is around 0.1 mg/L and could be due to the variability of actual water quality or to the expected variability of analytical results. In general, the water samples from the Denver & Marietta well continue to have nitrate concentrations greater than or similar to samples from the Nevada well. The higher concentrations of nitrate + nitrate - nitrogen in the monitoring well are probably attributable to sample collection near the water table.

In addition to the City wells described above, a similar analysis was completed in 2000 for the additional well pairs listed below.

Fire Station (6327N04) – North Spokane Irrigation District #8 Well 4 (6328H01)
Holy Cross Cemetery (6330J01) – Spokane Co Water District #3, Lyons & Normandie (6330R02)
Franklin Park (6331J01) – City of Spokane Central (6331A01)

Of these, only the North Spokane Irrigation District Well 4 (6328H01) – Fire Station (6327N04) pair shows no correlation between the water quality in the two wells. Data from the other two pairs are consistent with positive supply well – sentinel well water quality relationships. Very few samples were collected from these additional sentinel wells during 2001, but samples were collected from both wells in all four quarters of 2002 and 2003. Figure 9 shows the concentrations of nitrate + nitrite as nitrogen in the North Spokane Irrigation wells and the monitoring well at the Fire Station at Regal and Houston.

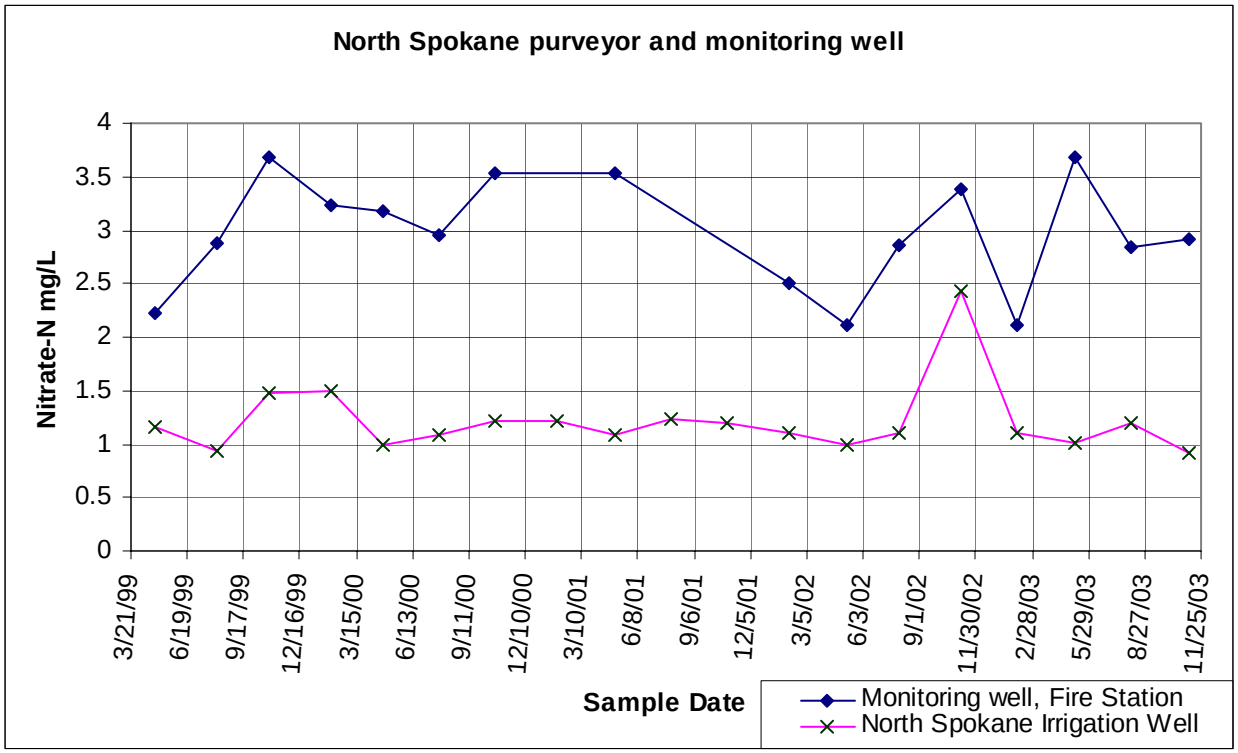


Figure 9. Nitrate + nitrite as nitrogen concentrations in water samples from a North Spokane Irrigation District well and the monitoring well at the Fire Station on north Regal.

Table 6 contains a list of all wells included in the Coordinated Monitoring Program for 2003 and the wells that could potentially serve as “early warning” sentinel wells for supply wells. Using this table the data in the appendices can be referenced to find actual upgradient water quality. The capture zone well list was ascertained by manually overlaying water supply well locations with capture zone delineations. All upgradient sentinel wells within about a one-mile distance are included in the table. The distance upgradient given in the table is the approximate linear distance between the two wells; with the actual ground water flow path not taken into account. A few of the 15 purveyor’s wells sampled quarterly are also potential sentinel wells.

Table 6: Water supply wells and associated upgradient sentinel wells

Purveyor Wells			Capture Zone Well		
WQMP ID	DOH	Purveyor Well Name	WQMP ID	Capture Zone Well Name	Feet Upgradient
5308A02	1	CITY of SPOKANE-Nevada	5308H01	Denver & Marietta, City monitoring well	1,329
5311G05	2	CITY of SPOKANE-Well Electric	5312C01	Felts Field City monitoring well	3,340
5311J01	3	CITY of SPOKANE-Parkwater	5311J05	Hale's Ale Nested Site, east	1,150
5311J01	3	CITY of SPOKANE-Parkwater	5311J07	Hale's Ale Nested Site, mid	1,150
5322F01	4	CITY of SPOKANE-Ray	5322A01	Third & Havana Nested Site, east	3,850
5322F01	4	CITY of SPOKANE-Ray	5322A03	Third & Havana Nested Site, mid	3,850
5322F01	4	CITY of SPOKANE-Ray	5323E01	6th & Havana monitoring well	3,880
5304B02	5	CITY of POKANE-Hoffman	5304G01	NE Community Center, City monitoring well	2,000
5308A01	6	CITY of SPOKANE-Grace	5308H01	Denver & Marietta, City monitoring well	1,166
6331A02	8	CITY of SPOKANE-Central	6331J01	Franklin Park, City monitoring well	1,805
5407J02	S05	Spokane Co Water Dist #3, Knox & Sargent, 1-2	5408N01	Modern Electric Water, Site 6	2,600
5323A03	S11	Spokane Co Water Dist #3, 2nd & Koran	5324G02	East Spokane Water District Well 2	5,190
5427L01	S15	Spokane Co Water Dist #3, Site 2-5, 26th & Vercler	5426L01	Vera Water & Power, Site 4	6,555
5429H01	S18	Spokane Co Water Dist #3, Site 2-4,20th & Balfour	5427L01	Spokane Co Water Dist #3, 26th & Vercler	8,645
6330R02	S20	Spokane Co Water Dist #3, 3-1, Lyons & Normandie	6331A02	CITY of SPOKANE-Central	2,300
6330R02	S20	Spokane Co Water Dist #3, 3-1, Lyons & Normandie	6331J01	Franklin Park, City monitoring well	4,170
6320N02	S21	Spokane Co Water Dist #3, Site 3-2, Steer Inn	6330R02	Spokane Co Water Dist #3, Lyons & Normandie	4,735
5405K01	S02	Pasadena Park Irrigation District #17 Site 2	5507A04	Euclid and Barker monitoring well at CID site 5	14,560
5405K01	S02	Pasadena Park Irrigation District #17 Site 2	5409C02	Monitoring well at Frederick and Bowdish	5,775
5405D01	S03	Pasadena Park Irrigation District #17 Site 3	5505D01	Trent and Barker monitoring well	15,730
5312H01	S01	Orchard Avenue Irrig. Dist., Marietta & Park	5407C01	Orchard Avenue Irrig. Dist., Buckeye & Dick	2,140
5407C01	S02	Orchard Avenue Irrig. Dist., Buckeye & Dick	5411R04	Sullivan Road & Centennial Trail monitoring well	24,700

Table 6 cont: Water supply wells and associated upgradient sentinel wells

Purveyor Wells			Capture Zone Well		
WQMP ID	DOH	Purveyor Well Name	WQMP ID	Capture Zone Well Name	Feet Upgradient
5415J01	S01	Vera Water & Power, 601 N. Evergreen	5411R04	Sullivan Road & Centennial Trail monitoring well	6,415
5422R01	S03	Vera Water & Power, 16th & Evergreen NW	5423J01	Vera Water & Power, 15306 E. 8th, S08	5,400
5422R01	S03	Vera Water & Power, 16th & Evergreen NW	5423J02	Vera Water & Power, 15306 E. 8th, S09	5,415
5422R01	S03	Vera Water & Power, 16th & Evergreen NW	5426D01	Vera Water & Power, 16th, east of Bolivar, S05	705
5426D01	S05	Vera Water & Power, 16th, east of Bolivar	5423J01	Vera Water & Power, 15306 E. 8th, S08	4,820
5426D01	S05	Vera Water & Power, 16th, east of Bolivar	5423J02	Vera Water & Power, 15306 E. 8th, S09	4,850
5422H02	S06	Vera Water & Power, 604 S. Evergreen	5517D05	Mission & Potomac, monitoring well at CID site 5	18,810
5423J01	S08	Vera Water & Power, 15306 E. 8th	5518R01	Consolidated Irrigation District # 19, Site 2	10,670
5423J02	S09	Vera Water & Power, 15306 E. 8th	5518R01	Consolidated Irrigation District # 19, Site 2	10,700
5414J01	S12	Vera Water & Power, 15300 E. Springfield, well 2	5508M01	Barker Road & Centennial Trail, north monitoring	12,890
5414J01	S12	Vera Water & Power, 15300 E. Springfield, well 2	5508M02	Barker Road & Centennial Trail, south monitoring	12,845
5422R02	S13	Vera Water & Power, 16th & Evergreen, well 33	5423J01	Vera Water & Power, 15306 E. 8th, S08	5,400
5422R02	S13	Vera Water & Power, 16th & Evergreen, well 33	5423J02	Vera Water & Power, 15306 E. 8th, S09	5,415
5422R02	S13	Vera Water & Power, 16th & Evergreen, well 33	5426D01	Vera Water & Power, 16th, east of Bolivar, S05	705

SPECIAL AQUIFER QUALITY INVESTIGATIONS 2003

This section contains information on the USGS report "Surface-Water/Ground-Water Interaction of the Spokane River and the Spokane Valley/Rathdrum Prairie Aquifer, Idaho and Washington" (Caldwell and Bowers) was published in 2003.

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Lead and Zinc in the Spokane Valley - Rathdrum Prairie Aquifer

Historical mining in the Coeur d'Alene River Basin of northern Idaho has resulted in elevated concentrations of cadmium, lead, and zinc in the Spokane River. Data from gages along the Spokane River show the river loses water to the SVRP Aquifer at monthly average rates between 69 and 810 cubic feet per second. Losses generally increased with increased streamflow. This recharge of the aquifer with high trace metal river water has caused concern about contamination of the "Sole Source" of drinking water for the Spokane area.

The USGS analyzed water samples from the Spokane River and wells in the SVRP Aquifer for temperature, specific conductance, lead, cadmium, zinc, arsenic, and other trace elements. The temperature and specific conductance data indicate that the river recharge influences extend as far as 3000 feet from the river with the greatest effects within a few hundred feet of the river - groundwater further from the river has higher concentrations of dissolved solids and, therefore, higher specific conductance. Zinc and cadmium transportation from the Spokane River to the SVRP Aquifer appears to be primarily in the dissolved phase. During the 2001 water year, dissolved zinc and cadmium concentrations in near-river groundwater was similar to river water concentrations but the groundwater further from the river did not have detectable concentrations of zinc. Lead and copper concentrations were generally below 1 µg/L in river water and groundwater.

The USGS study also looked at arsenic in the river and groundwater. Arsenic, found to be elevated in groundwater in parts of the aquifer, does not appear to have a river source.

Spokane County analyses all water samples collected for lead and zinc concentrations as well as specific conductance (conductivity). Using conductivity as an indicator of river water influence, Figures 10 and 11 show lead and zinc concentrations as a function of conductivity, which indicates the amount of river water mixed with groundwater. All of the samples were from wells located along Barker and Sullivan Roads in the Spokane Valley. The samples were collected in the years from 2000 through 2003. Most samples had concentrations of lead and zinc near or below the detection limits. Zinc concentrations appreciably above the detection limit (0.01000 mg/L) are found only in the groundwater with large percentages of river water. Lead concentrations above the detection limit (0.00100 mg/L or 1.00µg/L) mostly occurred in the groundwater samples with a lot of river influence but some of the higher concentrations came from water samples further from the river. These indicate a source of lead other than the river.

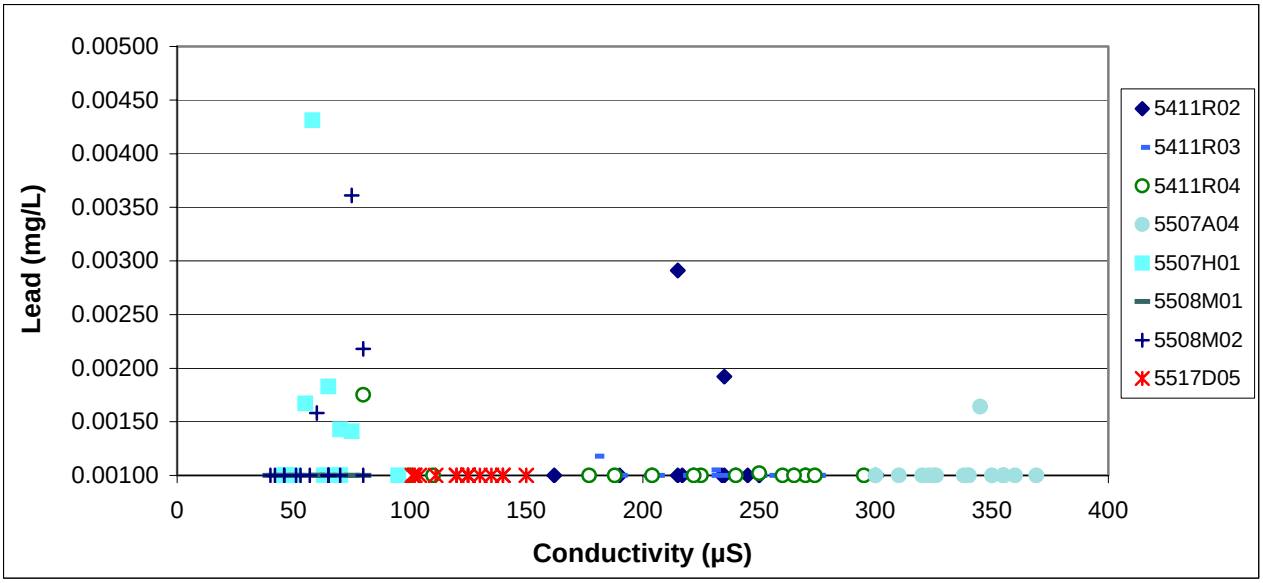

Figure 10. Concentrations of lead in groundwater along Barker Road and Sullivan Road as a function of the amount of river water influence as indicated by conductivity.

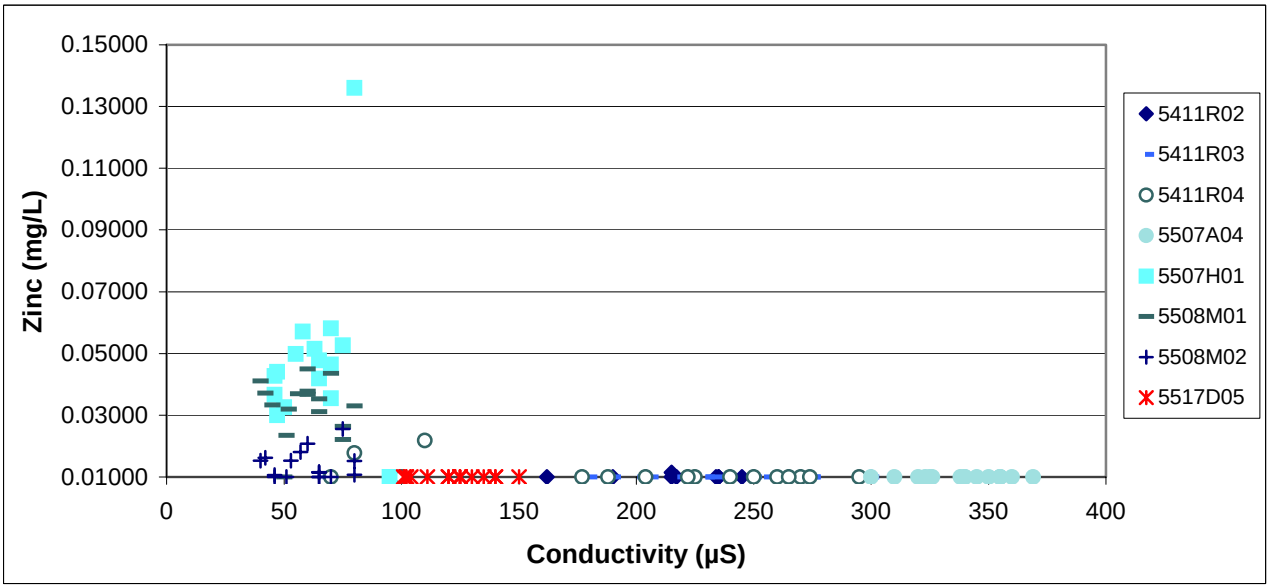

Figure 11. Concentrations of zinc in groundwater along Barker Road and Sullivan Road as a function of the amount of river water influence as indicated by conductivity.

REFERENCES

Caldwell, R. R., and Bowers, C. L., 2003, Surface-Water/Ground-Water Interaction of the Spokane River and the Spokane Valley/Rathdrum Prairie Aquifer, Idaho and Washington, Water-Resources Investigations Report 03-4239

Esvelt, L. A.1978, *Spokane Aquifer Cause and Effect Report*, prepared for Spokane County Office of County Engineer

Spokane County WQMP, 2001, *Spokane Valley - Rathdrum Prairie Aquifer Water Quality Report for the Period October 1, 1999 – December 31, 2000*, prepared for the Spokane Aquifer Joint Board.

APPENDIX A:
Water Quality Test Parameters

2001 LIST OF ANALYTES

Analyte	EPA Method	Reporting limit
Arsenic	200.8	0.00100 mg/L
Cadmium	200.8	0.00100 mg/L
Calcium	200.7	0.250 mg/L
Chloride	300.0	0.400 mg/L
Chromium	200.8	0.00100 mg/L
Copper	200.8	0.00100 mg/L
Fluoride	340.2	0.100 mg/L
Iron	200.7	0.150 mg/L
Lead	200.8	0.00100 mg/L
Magnesium	200.7	0.500 mg/L
Manganese	200.8	0.0100 mg/L
Mercury	245.1	0.00100 mg/L
Ortho-phosphate-phosphorous	365.2	0.00200 mg/L
Potassium	200.7	2.00 mg/L
Sodium	200.7	0.250 mg/L
Sulfate	300.0	0.800 mg/L
Total Dissolved Solids	160.1	10 mg/L
Total Nitrate + Nitrite	353.2	0.010 mg/L as N
Total phosphorus	365.2	0.00500 mg/L
Zinc	200.8	0.0100 mg/L

VOLATILE ORGANIC COMPOUND DRINKING WATER COMPLIANCE (EPA METHOD 524.2)

Analyte	Trigger	State Reporting Limit	MCL	units
1,1,1,2-Tetrachloroethane	0.5	0.5		µg/L
1,1,1-Trichloroethane	0.5	0.5	200	µg/L
1,1,2,2-Tetrachloroethane	0.5	0.5		µg/L
1,1,2-Trichloroethane	0.5	0.5	5	µg/L
1,1-Dichloroethane	0.5	0.5		µg/L
1,1-Dichloroethylene	0.5	0.5	7	µg/L
1,1-Dichloropropene	0.5	0.5		µg/L
1,2,3-Trichlorobenzene	0.5	0.5		µg/L
1,2,3-Trichloropropane	0.5	0.5		µg/L
1,2,4-Trichlorobenzene	0.5	0.5	70	µg/L
1,2,4-Trimethylbenzene	0.5	0.5		µg/L
1,2-Dichlorobenzene	0.5	0.5	600	µg/L
1,2-Dichloroethane	0.5	0.5	5	µg/L
1,2-Dichloropropane	0.5	0.5	5	µg/L
1,3,5-Trimethylbenzene	0.5	0.5		µg/L
1,3-Dichloropropane	0.5	0.5		µg/L
1,3-Dichloropropene	0.5	0.5		µg/L
2,2-Dichloropropane	0.5	0.5		µg/L
Benzene	0.5	0.5	5	µg/L
Bromobenzene	0.5	0.5		µg/L
Bromochloromethane	0.5	0.5		µg/L
Bromodichloromethane	0.5	0.5		µg/L
Bromoform	0.5	0.5		µg/L
Bromomethane	0.5	0.5		µg/L
Carbon Tetrachloride	0.5	0.5	5	µg/L
Chlorobenzene	0.5	0.5	100	µg/L
Chlorodibromomethane	0.5	0.5		µg/L
Chloroethane	0.5	0.5		µg/L
Chloroform	0.5	0.5		µg/L
Chloromethane	0.5	0.5		µg/L
Cis-1,2-Dichloroethylene	0.5	0.5	70	µg/L
cis-1,3-Dichloropropene	0.5	0.5		µg/L
DBCP	0.5	0.5		µg/L
Dibromomethane	0.5	0.5		µg/L
Dichlorodifluoromethane	0.5	0.5		µg/L
Dichloromethane	0.5	0.5	5	µg/L
EDB	0.5	0.5		µg/L
Ethylbenzene	0.5	0.5	700	µg/L
Fluorotrichloromethane	0.5	0.5		µg/L
Hexachlorobutadiene	0.5	0.5		µg/L
Isopropylbenzene	0.5	0.5		µg/L

VOLATILE ORGANIC COMPOUND DRINKING WATER COMPLIANCE (EPA METHOD 524.2)
(cont.)

Analyte	Trigger	State Reporting Limit	MCL	units
m/p-Xylene	0.5	0.5		µg/L
m-Dichorobenzene	0.5	0.5		µg/L
Naphthalene	0.5	0.5		µg/L
n-Butylbenzene	0.5	0.5		µg/L
n-Propylbenzene	0.5	0.5		µg/L
o-Chlorotoluene	0.5	0.5		µg/L
o-Xylene	0.5	0.5		µg/L
para-Dichlorobenzene	0.5	0.5	75	µg/L
p-Chlorotoluene	0.5	0.5		µg/L
p-Isopropyltoluene	0.5	0.5		µg/L
sec-Butylbenzene	0.5	0.5		µg/L
Styrene	0.5	0.5	100	µg/L
tert-Butylbenzene	0.5	0.5		µg/L
Tetrachloroethylene	0.5	0.5	5	µg/L
Toluene	0.5	0.5	1000	µg/L
Total Xylenes	0.5	0.5	10000	µg/L
trans 1,2-Dichloroethylene	0.5	0.5	100	µg/L
trans-1,3-Dichloropropene	0.5	0.5		µg/L
Trichlorothylene	0.5	0.5	5	µg/L
Vinyl Chloride	0.5	0.5	2	µg/L

INORGANIC DRINKING WATER COMPLIANCE TESTS

Analyte	Method	State Reporting limit
Alkalinity	EPA 310.1	10 mg/L as $CaCO_3$
Aluminum	EPA 200.7	0.05 mg/L
Ammonia	EPA 350.3	1 mg/L
Antimony	EPA 200.8	0.005 mg/L
Arsenic	EPA 200.8	0.001 mg/L
Barium	EPA 200.8	0.1 mg/L
Beryllium	EPA 200.8	0.003 mg/L
Cadmium	EPA 200.8	0.002
Calcium	EPA 200.7	0.5 mg/L
Chloride	EPA 300	20 mg/L
Chromium	EPA 200.8	0.01 mg/L
Color	EPA 110.2	5 color units
Conductivity	EPA 120.1	10 µmhos/cm
Copper	EPA 200.8	0.2 mg/L
Cyanide	EPA 335.2	0.05 mg/L
Fluoride	EPA 340.2	0.2 mg/L
Hardness as $CaCO_3$	SM 2340B	145 mg/L
Iron	EPA 200.7	0.1 mg/L
Lead	EPA 200.8	0.002 mg/L
Magnesium	EPA 200.7	0.1 mg/L
Manganese	EPA 200.8	0.01 mg/L
Mercury	EPA 245.1	0.0005 mg/L
Nickel	EPA 200.8	0.04 mg/L
Nitrate + nitrite as nitrogen	EPA 353.2	0.5 mg/L
Nitrate as N	EPA 300.0	0.5 mg/L
Nitrite as N	EPA 300.0	0.5 mg/L
Orthophosphate	EPA 365.2	0.1 mg/L
Selenium	EPA 200.8	0.005 mg/L
Silica	EPA 200.7	1.0 mg/L
Silver	EPA 200.8	0.01 mg/L
Sodium	EPA 200.7	5 mg/L
Sulfate	EPA 300	10 mg/L
Thallium	EPA 200.8	0.002 mg/L
Total Dissolved Solids	EPA 160.1	150 mg/L
Turbidity	EPA 180.1	0.1 NTU
Zinc	EPA 200.8	0.2 mg/L

APPENDIX B:
Quarterly Water Quality Monitoring Data from all wells
January 2003 through December 2003

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5213B01	I.E. Cold Storage	1/28/2003	343	6.43	14.40	2.32	0.0047	16.10	200.00	0.0089
5213B01	I.E. Cold Storage	4/30/2003	338	6.95	14.80	2.23	0.0200	18.80	205.00	0.0109
5213B01	I.E. Cold Storage	7/29/2003	297	6.91	8.99	1.69	0.0078	8.72	166.00	0.0110
5213B01	I.E. Cold Storage	10/21/2003	314	7.19	12.90	2.10	0.0075	15.20	173.00	0.0109
5304G01	NE Community Center, monitoring	2/5/2003	292	7.46	4.57	1.69	0.0097	15.50	200.00	0.0105
5304G01	NE Community Center, monitoring	5/7/2003	263	7.73	5.68	1.26	0.0200	13.00	152.00	< 0.005
5304G01	NE Community Center, monitoring	8/6/2003	269	7.70	2.92	1.29	0.0026	12.00	127.00	< 0.005
5304G01	NE Community Center, monitoring	11/5/2003	298	7.43	6.47	1.72	0.0022	13.80	171.00	< 0.005
5307M01	Trinity School, Adams & Carlisle	2/5/2003	273	7.29	4.28	1.58	0.0020	12.50	160.00	0.0056
5307M01	Trinity School, Adams & Carlisle	5/7/2003	257	7.05	3.67	1.43	0.0200	11.70	166.00	0.0085
5307M01	Trinity School, Adams & Carlisle	8/6/2003	256	7.13	3.82	1.35	0.0034	12.30	145.00	< 0.005
5307M01	Trinity School, Adams & Carlisle	11/5/2003	271	7.09	7.82	1.48	<0.0020	11.40	155.00	< 0.005
5308A02	CITY of SPOKANE-Nevada	4/30/2003	220	7.17	4.95	1.16	0.0200	12.40	141.00	0.0070
5308A02	CITY of SPOKANE-Nevada	7/29/2003	208	7.02	3.37	1.05	0.0033	10.50	151.00	0.0149
5308A02	CITY of SPOKANE-Nevada	10/21/2003	240	7.08	3.52	1.20	<0.0020	12.10	104.00	0.0076
5308H01	Denver & Marietta, monitoring	2/4/2003	246	6.52	3.47	1.16	0.0060	10.60	150.00	< 0.005
5308H01	Denver & Marietta, monitoring	5/6/2003	186	7.05	2.62	0.81	0.0200	8.34	141.00	< 0.005
5308H01	Denver & Marietta, monitoring	8/5/2003	213	7.08	4.14	1.20	0.0043	10.70	145.00	0.0055
5308H01	Denver & Marietta, monitoring	11/4/2003	250	7.31	3.48	1.29	0.0027	11.60	194.00	0.0210

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Inorganics Water Quality Data by Well

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5310Q01	monitoring well at SCC	2/4/2003	243	7.63	2.99	1.13	0.0032	9.98	140.00	< 0.005
5310Q01	monitoring well at SCC	5/6/2003	252	7.65	5.40	1.44	0.0200	12.20	168.00	0.0063
5310Q01	monitoring well at SCC	8/5/2003	214	7.74	3.01	1.01	0.0028	10.00	138.00	0.0058
5310Q01	monitoring well at SCC	11/4/2003	233	7.34	3.20	1.04	0.0021	9.93	127.00	0.0114
5311J05	Hale's Ale Nested Site, east	2/4/2003	313	7.71	3.53	1.55	0.0052	15.20	190.00	< 0.005
5311J05	Hale's Ale Nested Site, east	5/6/2003	309	7.56	4.23	1.72	0.0200	14.40	212.00	< 0.005
5311J05	Hale's Ale Nested Site, east	8/5/2003	306	7.54	4.25	1.52	0.0038	13.60	208.00	0.0060
5311J05	Hale's Ale Nested Site, east	11/4/2003	298	7.32	4.00	1.55	0.0029	14.60	198.00	0.0076
5311J07	Hale's Ale Nested Site, mid	2/4/2003	318	7.65	3.30	1.38	0.0040	15.30	180.00	0.0072
5311J07	Hale's Ale Nested Site, mid	5/6/2003	311	7.58	3.63	1.65	0.0200	14.10	217.00	< 0.005
5311J07	Hale's Ale Nested Site, mid	8/5/2003	322	7.56	4.10	1.50	0.0038	14.40	189.00	< 0.005
5311J07	Hale's Ale Nested Site, mid	11/4/2003	312	7.31	3.95	1.52	0.0027	14.00	189.00	0.0051
5312C01	Felts Field City monitoring well	2/4/2003	207	7.73	2.10	1.00	0.0195	19.70	130.00	0.0190
5312C01	Felts Field City monitoring well	5/6/2003	183	7.78	2.17	0.82	0.0200	7.95	125.00	0.0168
5312C01	Felts Field City monitoring well	8/5/2003	168	7.73	2.83	0.89	0.0187	8.46	82.00	0.0237
5312C01	Felts Field City monitoring well	11/4/2003	210	7.45	2.40	1.27	0.0162	11.60	125.00	0.0165
5312H01	Orchard Ave Irrig Dist, Site 1	10/21/2003	257	7.33	2.48	1.48	0.0137	9.59	206.00	0.0206
5315L01	Olive & Fiske monitoring well	2/4/2003	246	7.21	5.91	1.34	0.0121	10.10	150.00	0.0069
5315L01	Olive & Fiske monitoring well	5/6/2003	249	7.71	6.97	1.36	0.0200	10.30	171.00	0.0066
5315L01	Olive & Fiske monitoring well	8/5/2003	228	7.68	3.47	1.24	0.0048	9.71	301.00	0.0088
5315L01	Olive & Fiske monitoring well	11/4/2003	233	7.27	4.19	1.28	0.0032	11.30	142.00	0.0144

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Inorganics Water Quality Data by Well

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5322A01	Third & Havana Nested Site, east	2/4/2003	296	7.41	9.30	1.95	0.092	11.70	180.00	0.0085
5322A01	Third & Havana Nested Site, east	5/6/2003	271	7.54	5.21	1.92	0.0200	10.60	197.00	0.0193
5322A01	Third & Havana Nested Site, east	8/5/2003	286	7.53	5.35	1.85	0.0079	10.30	191.00	0.0201
5322A01	Third & Havana Nested Site, east	11/4/2003	273	7.26	5.51	1.76	0.0077	10.10	170.00	0.0213
5322A03	Third & Havana Nested Site, mid	2/4/2003	279	7.59	6.84	1.86	0.0089	11.40	170.00	0.0069
5322A03	Third & Havana Nested Site, mid	5/6/2003	273	7.60	6.23	1.96	0.0200	12.00	187.00	0.0082
5322A03	Third & Havana Nested Site, mid	8/5/2003	283	7.58	5.77	1.92	0.0079	11.40	216.00	0.0143
5322A03	Third & Havana Nested Site, mid	11/4/2003	285	7.32	5.76	1.91	0.0072	10.80	182.00	0.0114
5322F01	CITY of SPOKANE-Ray	1/28/2003	472	6.67	14.60	4.71	0.0126	17.80	300.00	0.0233
5322F01	CITY of SPOKANE-Ray	4/30/2003	430	6.97	12.50	4.09	0.0200	18.90	244.00	0.0298
5322F01	CITY of SPOKANE-Ray	7/29/2003	337	6.88	10.10	3.00	0.0179	12.90	231.00	0.0231
5322F01	CITY of SPOKANE-Ray	10/21/2003	450	6.94	13.40	4.08	0.0186	17.10	297.00	0.0302
5323E01	6th & Havana monitoring well	2/4/2003	371	7.32	9.92	3.18	0.0124	14.50	230.00	0.0132
5323E01	6th & Havana monitoring well	5/6/2003	357	7.50	8.69	3.24	0.0200	13.90	204.00	0.0235
5323E01	6th & Havana monitoring well	8/5/2003	422	7.44	12.60	4.30	0.0127	16.50	278.00	0.0223
5323E01	6th & Havana monitoring well	11/4/2003	403	7.19	11.70	3.88	0.0128	12.00	252.00	0.029
5324G02	East Spokane Water Dist, Site2	1/28/2003	459	6.57	16.90	4.31	0.0295	16.70	150.00	0.0452
5324G02	East Spokane Water Dist, Site2	4/30/2003	464	7.00	16.40	4.38	0.0290	18.70	288.00	0.0401
5324G02	East Spokane Water Dist, Site2	7/29/2003	299	7.08	5.30	2.44	0.0089	10.80	201.00	0.0381
5324G02	East Spokane Water Dist, Site2	10/21/2003	444	6.84	16.80	4.58	0.0493	18.00	329.00	0.0557

Ground Water Monitoring Data Report
Inorganics Water Quality Data by Well

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phos-phate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5405K01	Pasadena Park Irrigation Dist #2	1/28/2003	191	6.65	2.96	1.58	0.0052	9.37	48.00	0.0074
5405K01	Pasadena Park Irrigation Dist #2	4/30/2003	172	7.46	3.26	1.37	0.0200	7.70	109.00	0.0120
5405K01	Pasadena Park Irrigation Dist #2	7/30/2003	177	7.56	3.18	1.32	0.0070	8.40	103.00	0.0095
5405K01	Pasadena Park Irrigation Dist #2	10/21/2003	189	7.21	2.33	1.08	0.0043	10.10	180.00	0.0056
5407C01	Orchard Ave Irrig Dist, Site 2	1/28/2003	284	7.26	3.31	0.62	0.0100	10.80	95.00	0.0086
5407C01	Orchard Ave Irrig Dist, Site 2	4/30/2003	297	7.57	5.26	1.70	0.0200	13.20	175.00	0.0162
5407C01	Orchard Ave Irrig Dist, Site 2	7/29/2003	284	7.89	3.96	1.15	0.0089	11.30	166.00	0.0112
5408N01	Modern Electric Water Co, Site 6	1/28/2003	278	7.01	2.42	1.57	0.0023	13.80	95.00	< 0.005
5408N01	Modern Electric Water Co, Site 6	4/30/2003	286	7.54	4.66	1.54	0.0200	16.00	157.00	0.0070
5408N01	Modern Electric Water Co, Site 6	7/29/2003	270	7.92	2.68	1.42	0.0025	12.70	179.00	< 0.005
5408N01	Modern Electric Water Co, Site 6	10/21/2003	271	7.32	2.43	1.33	0.0026	12.50	225.00	< 0.005
5409C02	monitoring well Frederick & Bowdish	2/4/2003	277	7.85	2.65	1.57	0.0082	10.50	170.00	0.0072
5409C02	monitoring well Frederick & Bowdish	5/6/2003	273	7.56	2.13	1.49	0.0200	8.46	157.00	0.0107
5409C02	monitoring well Frederick & Bowdish	8/6/2003	268	7.63	2.13	1.45	0.0062	11.10	158.00	< 0.005
5409C02	monitoring well Frederick & Bowdish	11/4/2003	262	7.34	2.30	1.58	0.0051	10.80	164.00	0.0058
5411R02	Sullivan Park North, monitoring well	2/3/2003	162	7.00	1.63	0.47	0.0273	8.56	110.00	0.0116
5411R02	Sullivan Park North, monitoring well	5/5/2003	204	7.40	4.62	0.80	0.0200	13.40	167.00	0.0127
5411R02	Sullivan Park North, monitoring well	8/4/2003	217	7.26	1.69	0.77	0.0043	11.10	113.00	0.0198
5411R02	Sullivan Park North, monitoring well	11/3/2003	215	7.04	2.00	0.80	0.0023	10.90	116.00	0.0111
5411R03	Sullivan Park South, monitoring well	2/3/2003	67	7.21	0.82	0.15	0.0101	4.78	59.00	0.1840
5411R03	Sullivan Park South, monitoring well	5/5/2003	201	7.45	2.07	0.79	0.0200	9.46	178.00	0.0077
5411R03	Sullivan Park South, monitoring well	8/4/2003	206	7.52	1.47	0.78	0.0061	10.80	110.00	0.0217
5411R03	Sullivan Park South, monitoring well	11/3/2003	218	7.10	1.69	0.80	0.0033	11.70	114.00	0.0055

Ground Water Monitoring Data Report
Inorganics Water Quality Data by Well

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5411R04	Sullivan Road and Centennial Trail	2/3/2003	70	7.38	0.84	0.11	0.0122	4.69	56.00	0.0068
5411R04	Sullivan Road and Centennial Trail	5/5/2003	204	7.60	1.81	0.81	0.0200	9.69	167.00	0.0149
5411R04	Sullivan Road and Centennial Trail	8/4/2003	222	7.56	1.64	0.94	0.0056	12.40	125.00	0.0247
5411R04	Sullivan Road and Centennial Trail	11/3/2003	188	7.24	1.59	0.71	0.0039	13.20	121.00	0.0096
5426L01	Vera Water & Power, Well 4	1/28/2003	386	7.26	5.29	2.46	0.0063	14.80	110.00	0.0089
5426L01	Vera Water & Power, Well 4	4/30/2003	376	7.24	9.14	2.54	0.0200	25.20	223.00	0.0079
5426L01	Vera Water & Power, Well 4	7/29/2003	324	7.60	5.57	2.92	0.0081	15.50	253.00	0.0104
5426L01	Vera Water & Power, Well 4	10/21/2003	382	7.58	5.14	2.46	0.0079	15.50	251.00	0.0280
5427L01	Spokane Co Water Dist #3, Site 2-5	1/28/2003	384	7.32	5.61	2.28	0.0052	14.60	150.00	< 0.005
5427L01	Spokane Co Water Dist #3, Site 2-5	4/30/2003	354	7.28	16.80	2.57	0.0200	17.90	200.00	0.0115
5427L01	Spokane Co Water Dist #3, Site 2-5	7/30/2003	370	7.39	5.55	2.64	0.0067	15.20	213.00	0.0115
5427L01	Spokane Co Water Dist #3, Site 2-5	10/21/2003	364	7.28	5.10	2.42	0.0029	15.40	280.00	0.0081
5505D01	Trent & Barker, monitoring well	2/3/2003	331	7.50	3.78	2.91	0.0077	11.10	180.00	0.0100
5505D01	Trent & Barker, monitoring well	5/5/2003	319	7.57	4.20	2.87	0.0200	14.40	236.00	0.0121
5505D01	Trent & Barker, monitoring well	8/4/2003	353	7.53	4.49	2.98	0.0122	12.30	210.00	0.0322
5505D01	Trent & Barker, monitoring well	11/3/2003	345	7.23	4.73	2.80	0.0114	12.20	223.00	0.0141
5507A04	Euclid & Barker, monitoring well	2/3/2003	338	7.28	1.38	1.27	0.0020	16.40	190.00	< 0.005
5507A04	Euclid & Barker, monitoring well	5/5/2003	323	7.52		1.43	0.0200	13.00	237.00	< 0.005
5507A04	Euclid & Barker, monitoring well	8/4/2003	325	7.49	1.56	1.27	0.0038	14.00	191.00	0.0138
5507A04	Euclid & Barker, monitoring well	11/3/2003	369	7.25	1.56	1.26	<0.0020	17.00	218.00	< 0.005

Ground Water Monitoring Data Report
Inorganics Water Quality Data by Well

Spokane County Public Works, Water Quality Management Program

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WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
5507H01	Barker Road north of river, monitoring	2/3/2003	63	6.71	1.34	0.27	0.0080	5.58	43.00	0.0110
5507H01	Barker Road north of river, monitoring	5/5/2003	46	7.73	1.30	0.22	0.0200	4.62	100.00	0.0127
5507H01	Barker Road north of river, monitoring	8/4/2003	58	7.58	1.36	0.30	0.0101	3.90	35.00	0.0355
5507H01	Barker Road north of river, monitoring	11/3/2003	47	7.52	0.74	0.11	0.0084	4.03		0.0111
5508M01	Barker Road Centennial Trail North	2/3/2003	50	7.63	0.75	0.63	0.0064	4.89	42.00	0.0082
5508M01	Barker Road Centennial Trail North	5/5/2003	42	7.62	1.15	0.14	0.0200	4.68	101.00	0.0099
5508M01	Barker Road Centennial Trail North	8/4/2003	52	7.41	1.28	0.18	0.0086	3.87	34.00	0.0228
5508M01	Barker Road Centennial Trail North	11/3/2003	56	7.33	0.86	0.14	0.0084	4.09	36.00	0.0121
5508M02	Barker Road Centennial Trail South	2/3/2003	46	7.24	0.78	0.13	0.0059	4.21	44.00	0.0079
5508M02	Barker Road Centennial Trail South	5/5/2003	42	7.60	0.79	0.12	0.0200	4.58	88.00	0.0415
5508M02	Barker Road Centennial Trail South	8/4/2003	53	7.42	1.25	0.25	0.0076	3.92	25.00	0.0269
5508M02	Barker Road Centennial Trail South	11/3/2003	57	7.24	0.80	0.15	0.0068	4.35	40.00	0.0113
5515C01	Liberty Lake S & W, Mission Well	1/28/2003	254	6.86	2.66	1.33	0.0116	9.45	95.00	0.0128
5515C01	Liberty Lake S & W, Mission Well	4/30/2003	262	7.59	3.89	1.41	0.0200	11.10	143.00	0.0137
5515C01	Liberty Lake S & W, Mission Well	7/29/2003	228	7.63	2.48	1.29	0.0102	9.40	161.00	0.0135
5515C01	Liberty Lake S & W, Mission Well	10/21/2003	228	7.39	2.96	1.19	0.0118	10.90	190.00	0.0146
5517D05	Mission & Barker monitoring well	2/3/2003	125	7.03	1.50	1.15	0.0109	6.24	89.00	0.005
5517D05	Mission & Barker monitoring well	5/5/2003	102	7.26	1.06	0.53	0.0200	4.94	120.00	0.0079
5517D05	Mission & Barker monitoring well	8/4/2003	101	7.29	1.24	0.58	0.0043	5.50	47.00	0.0151
5517D05	Mission & Barker monitoring well	11/3/2003	111	7.08	1.34	0.61	0.0023	5.52	11.00	0.0055
5518R01	Consolidated Irrig. Dist, Site 2	1/28/2003	145	7.40	1.51	0.58	0.0021	6.20	36.00	< 0.005
5518R01	Consolidated Irrig. Dist, Site 2	4/30/2003	139	7.64	2.31	0.47	0.0200	6.72	99.00	0.0181
5518R01	Consolidated Irrig. Dist, Site 2	7/29/2003	135	7.97	1.47	0.54	0.0025	5.59	104.00	< 0.005
5518R01	Consolidated Irrig. Dist, Site 2	10/21/2003	131	7.60	1.73	0.44	< 0.0020	5.64	173.00	0.0051

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Inorganics Water Quality Data by Well

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
6211K01	Spokane Fish Hatchery well	2/5/2003	281	7.80	4.73	1.61	0.0028	15.80	170.00	0.0072
6211K01	Spokane Fish Hatchery well	5/7/2003	289	7.77	5.12	1.70	0.0340	15.30	164.00	0.0102
6211K01	Spokane Fish Hatchery well	8/6/2003	282	7.87	4.81	1.63	0.0068	16.30	156.00	< 0.005
6211K01	Spokane Fish Hatchery well	11/5/2003	272	7.42	5.82	1.67	0.0037	14.60	165.00	0.0064
6320D01	Whitworth Water Dist. #2, Site 2A	2/5/2003	239	7.78	2.51	1.17	0.0020	14.50	150.00	< 0.005
6320D01	Whitworth Water Dist. #2, Site 2A	5/7/2003	246	7.81	4.95	1.15	0.0200	13.50	137.00	0.0072
6320D01	Whitworth Water Dist. #2, Site 2A	8/6/2003	242	7.96	3.20	1.20	0.0049	15.40	138.00	< 0.005
6320D01	Whitworth Water Dist. #2, Site 2A	11/5/2003	227	7.45	3.15	1.10	< 0.0020	13.50	133.00	< 0.005
6327N04	Fire Station, Houston & Regal	2/5/2003	373	7.41	11.40	2.11	0.0065	17.50	230.00	0.0080
6327N04	Fire Station, Houston & Regal	5/7/2003	379	7.41	7.70	3.68	0.0200	17.90	235.00	0.0080
6327N04	Fire Station, Houston & Regal	8/6/2003	414	7.56	11.10	2.84	0.0031	20.10	218.00	< 0.005
6327N04	Fire Station, Houston & Regal	11/5/2003	415	7.42	17.40	2.92	< 0.0020	13.40	245.00	0.0271
6328H01	North Spokane Irrig. Dist #4, Site 4	2/5/2003	226	7.91	5.84	1.10	0.0030	12.70	140.00	0.0055
6328H01	North Spokane Irrig. Dist #4, Site 4	5/7/2003	230	7.84	6.15	1.01	0.0200	11.30	163.00	0.0069
6328H01	North Spokane Irrig. Dist #4, Site 4	8/6/2003	243	7.88	4.98	1.19	0.0039	12.90	128.00	< 0.005
6328H01	North Spokane Irrig. Dist #4, Site 4	11/5/2003	204	7.73	6.67	0.92	0.0029	11.00	127.00	< 0.005
6330J01	Holy Cross, Rhoades & Washington	2/5/2003	257	7.50	3.13	1.45	0.0020	13.90	150.00	< 0.005
6330J01	Holy Cross, Rhoades & Washington	5/7/2003	263	7.64	3.11	1.43	0.0200	13.50	169.00	0.0077
6330J01	Holy Cross, Rhoades & Washington	8/6/2003	263	7.66	3.22	1.31	0.0034	14.90	142.00	< 0.005
6330J01	Holy Cross, Rhoades & Washington	11/5/2003	263	7.55	5.85	1.64	< 0.0020	13.70	147.00	0.0061

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Inorganics Water Quality Data by Well

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Chloride (mg/L)	Nitrate + Nitrite (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Phosphorus (mg/L)
6331J01	Franklin Park, City monitoring well	2/5/2003	251	7.54	3.07	1.16	0.0028	11.90	140.00	< 0.005
6331J01	Franklin Park, City monitoring well	5/7/2003	241	7.66	4.06	1.20	0.0200	19.00	153.00	0.0165
6331J01	Franklin Park, City monitoring well	8/6/2003	253	7.56	3.19	1.19	0.0039	12.50	137.00	0.0076
6331J01	Franklin Park, City monitoring well	11/5/2003	231	7.17	4.77	1.14	<0.0020	13.00	145.00	0.0186
6524R01	Idaho Road 1000 ft south of Trent,	2/3/2003	282	7.15	1.86	2.02	0.0146	9.53	180.00	< 0.005
6524R01	Idaho Road 1000 ft south of Trent,	5/5/2003	277	7.56	1.68	2.30	0.0200	8.99	231.00	< 0.005
6524R01	Idaho Road 1000 ft south of Trent,	8/4/2003	278	7.58	1.78	1.98	0.0048	9.81	153.00	0.0151
6524R01	Idaho Road 1000 ft south of Trent,	11/3/2003	284	7.31	2.84	2.12	0.0033	10.20	167.00	< 0.005
6525R01	Idaho Road 300 ft south of pipeline,	2/3/2003	290	6.88	1.14	0.90	0.0020	16.10	140.00	< 0.005
6525R01	Idaho Road 300 ft south of pipeline,	5/5/2003	282	7.57	1.10	0.84	0.0200	14.70	271.00	< 0.005
6525R01	Idaho Road 300 ft south of pipeline,	8/4/2003	286	7.51	1.28	0.71	0.0043	17.80	153.00	0.0140
6525R01	Idaho Road 300 ft south of pipeline,	11/3/2003	301	7.21	1.38	0.83	<0.0020	14.80	212.00	0.0050
6631M04	Consolidated Irrig. Dist, Site 11	2/3/2003	243	6.43	2.58	1.44	0.0020	11.30	140.00	< 0.005
6631M04	Consolidated Irrig. Dist, Site 11	5/5/2003		7.58	2.52	1.56	0.0200	11.50	263.00	0.0068
6631M04	Consolidated Irrig. Dist, Site 11	8/4/2003	233	7.31	2.73	1.43	0.0510	12.20	135.00	0.0072
6631M04	Consolidated Irrig. Dist, Site 11	11/3/2003	251	7.65	3.03	1.49	0.0033	12.00	154.00	0.0068
6631M07	Idaho Road - East Farms monitoring	2/3/2003	281	7.05	2.71	1.96	0.0020	12.50	180.00	< 0.005
6631M07	Idaho Road - East Farms monitoring	5/5/2003	280	7.28	2.71	1.91	0.0200	12.40	295.00	0.0051
6631M07	Idaho Road - East Farms monitoring	8/4/2003	271	7.27	3.03	1.87	0.0059	13.90	154.00	0.0187
6631M07	Idaho Road - East Farms monitoring	11/3/2003	298	7.54	2.80	2.00	0.0033	13.30	205.00	< 0.005

Ground Water Monitoring Data Report
Quarterly Monitoring Inorganics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5213B01	I.E. Cold Storage	1/28/2003	41.60	< 0.10	<0.150	13.40	<0.010	2.18	8.58
5213B01	I.E. Cold Storage	4/30/2003	43.70	< 0.10	<0.010	14.90	<0.010	2.98	8.68
5213B01	I.E. Cold Storage	7/29/2003	35.80	< 0.10	<0.010	12.30	<0.010	2.65	8.26
5213B01	I.E. Cold Storage	10/21/2003	39.30	< 0.10	<0.010	13.20	<0.010	2.43	8.07
5304G01	NE Community Center, monitoring	2/5/2003	38.60	0.10	0.212	15.70	<0.010	2.35	5.13
5304G01	NE Community Center, monitoring	5/7/2003	34.70	0.11	0.015	14.30	<0.010	1.82	4.25
5304G01	NE Community Center, monitoring	8/6/2003	33.40	< 0.10	0.138	14.00	<0.010	1.87	6.86
5304G01	NE Community Center, monitoring	11/5/2003	40.70	< 0.10	0.139	17.90	<0.010	2.44	6.76
5307M01	Trinity School, Adams & Carlisle	2/5/2003	32.90	< 0.10	<0.150	11.40	<0.010	2.20	3.60
5307M01	Trinity School, Adams & Carlisle	5/7/2003	35.10	< 0.10	<0.010	12.60	<0.010	0.50	3.95
5307M01	Trinity School, Adams & Carlisle	8/6/2003	33.70	< 0.10	<0.010	11.80	<0.010	1.70	4.65
5307M01	Trinity School, Adams & Carlisle	11/5/2003	35.00	< 0.10	0.022	12.30	<0.010	2.03	4.70
5308A02	CITY of SPOKANE-Nevada	4/30/2003	31.80	< 0.10	<0.010	11.60	<0.010	0.50	3.22
5308A02	CITY of SPOKANE-Nevada	7/29/2003	29.70	< 0.10	1.160	11.30	<0.010	2.08	3.74
5308A02	CITY of SPOKANE-Nevada	10/21/2003	32.40	< 0.10	<0.010	11.90	<0.010	1.80	3.35
5308H01	Denver & Marietta, monitoring	2/4/2003	28.70	0.12	<0.150	10.40	<0.010	2.00	3.12
5308H01	Denver & Marietta, monitoring	5/6/2003	24.30	< 0.10	<0.010	8.95	<0.010	0.50	2.86
5308H01	Denver & Marietta, monitoring	8/5/2003	27.40	< 0.10	0.033	10.40	<0.010	1.75	3.78
5308H01	Denver & Marietta, monitoring	11/4/2003	33.70	< 0.10	0.232	12.10	<0.010	2.11	4.42

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5310Q01	monitoring well at SCC	2/4/2003	28.40	< 0.10	<0.150	10.50	<0.010	2.00	2.82
5310Q01	monitoring well at SCC	5/6/2003	34.50	< 0.10	<0.010	12.70	<0.010	0.50	3.24
5310Q01	monitoring well at SCC	8/5/2003	28.10	< 0.10	0.335	10.60	<0.010	1.86	3.58
5310Q01	monitoring well at SCC	11/4/2003	42.10	< 0.10	0.065	19.80	<0.010	2.51	4.93
5311J05	Hale's Ale Nested Site, east	2/4/2003	36.40	< 0.10	<0.150	16.80	<0.010	2.08	3.64
5311J05	Hale's Ale Nested Site, east	5/6/2003	40.40	< 0.10	<0.010	19.00	<0.010	2.16	4.07
5311J05	Hale's Ale Nested Site, east	8/5/2003	38.80	< 0.10	0.017	18.50	<0.010	2.35	4.78
5311J05	Hale's Ale Nested Site, east	11/4/2003	41.40	< 0.10	<0.010	19.20	<0.010	2.44	5.06
5311J07	Hale's Ale Nested Site, mid	2/4/2003	36.20	< 0.10	<0.150	17.10	<0.010	2.05	3.56
5311J07	Hale's Ale Nested Site, mid	5/6/2003	39.00	< 0.10	<0.010	18.80	<0.010	2.11	3.90
5311J07	Hale's Ale Nested Site, mid	8/5/2003	38.70	< 0.10	<0.010	18.80	<0.010	2.33	4.78
5311J07	Hale's Ale Nested Site, mid	11/4/2003	31.30	< 0.10	0.405	11.30	<0.010	2.03	3.90
5312C01	Felts Field City monitoring well	2/4/2003	28.80	< 0.10	0.294	7.98	<0.010	2.00	4.02
5312C01	Felts Field City monitoring well	5/6/2003	27.30	< 0.10	<0.010	7.48	<0.010	1.52	3.62
5312C01	Felts Field City monitoring well	8/5/2003	23.30	< 0.10	<0.010	6.63	<0.010	1.56	4.09
5312C01	Felts Field City monitoring well	11/4/2003	31.60	< 0.10	0.040	8.70	<0.010	1.77	4.71
5312H01	Orchard Ave Irrig Dist, Site 1	10/21/2003	33.90	< 0.10	<0.010	13.30	<0.010	2.09	4.17
5315L01	Olive & Fiske monitoring well	2/4/2003	30.20	< 0.10	<0.150	10.50	<0.010	2.00	3.51
5315L01	Olive & Fiske monitoring well	5/6/2003	34.40	< 0.10	<0.010	11.60	<0.010	1.83	3.66
5315L01	Olive & Fiske monitoring well	8/5/2003	30.90	< 0.10	0.018	10.80	<0.010	1.97	4.25
5315L01	Olive & Fiske monitoring well	11/4/2003	33.20	< 0.10	0.564	11.30	<0.010	2.14	4.57

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5322A01	Third & Havana Nested Site, east	2/4/2003	37.90	< 0.10	<0.150	12.60	<0.010	2.08	5.34
5322A01	Third & Havana Nested Site, east	5/6/2003	38.10	< 0.10	0.073	12.90	<0.010	2.05	5.40
5322A01	Third & Havana Nested Site, east	8/5/2003	37.80	< 0.10	0.063	13.40	<0.010	2.31	5.93
5322A01	Third & Havana Nested Site, east	11/4/2003	39.80	< 0.10	0.435	13.60	<0.010	2.39	6.01
5322A03	Third & Havana Nested Site, mid	2/4/2003	36.50	< 0.10	<0.150	12.50	<0.010	2.00	5.39
5322A03	Third & Havana Nested Site, mid	5/6/2003	38.10	< 0.10	<0.010	13.30	<0.010	2.03	5.48
5322A03	Third & Havana Nested Site, mid	8/5/2003	38.50	< 0.10	0.011	13.70	<0.010	2.32	6.38
5322A03	Third & Havana Nested Site, mid	11/4/2003	40.00	< 0.10	0.055	13.80	<0.010	2.43	6.71
5322F01	CITY of SPOKANE-Ray	1/28/2003	58.40	< 0.10	<0.150	19.20	<0.010	2.76	11.70
5322F01	CITY of SPOKANE-Ray	4/30/2003	57.70	< 0.10	<0.010	19.50	<0.010	3.12	11.00
5322F01	CITY of SPOKANE-Ray	7/29/2003	45.30	< 0.10	<0.010	15.80	<0.010	2.83	8.46
5322F01	CITY of SPOKANE-Ray	10/21/2003	59.50	< 0.10	<0.010	20.10	<0.010	3.20	11.00
5323E01	6th & Havana monitoring well	2/4/2003	46.20	0.12	<0.150	16.20	<0.010	2.93	8.09
5323E01	6th & Havana monitoring well	5/6/2003	47.50	< 0.10	0.199	17.00	<0.010	2.71	8.18
5323E01	6th & Havana monitoring well	8/5/2003	53.30	< 0.10	0.041	19.70	<0.010	3.19	10.70
5323E01	6th & Havana monitoring well	11/4/2003	55.60	< 0.10	0.118	19.60	<0.010	3.33	11.30
5324G02	East Spokane Water Dist, Site2	1/28/2003	58.70	< 0.10	<0.150	18.50	<0.010	3.07	12.60
5324G02	East Spokane Water Dist, Site2	4/30/2003	63.70	< 0.10	<0.010	21.60	<0.010	3.56	12.20
5324G02	East Spokane Water Dist, Site2	7/29/2003	41.20	< 0.10	0.933	14.70	<0.010	2.60	7.10
5324G02	East Spokane Water Dist, Site2	10/21/2003	60.50	< 0.10	0.042	19.00	<0.010	3.16	13.60

Ground Water Monitoring Data Report
Quarterly Monitoring Inorganics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5405K01	Pasadena Park Irrigation Dist #2	1/28/2003	24.50	< 0.10	<0.150	7.74	<0.010	2.00	3.88
5405K01	Pasadena Park Irrigation Dist #2	4/30/2003	23.20	< 0.10	0.038	7.29	<0.010	1.93	4.24
5405K01	Pasadena Park Irrigation Dist #2	7/30/2003	23.80	< 0.10	<0.010	7.90	<0.010	2.17	4.67
5405K01	Pasadena Park Irrigation Dist #2	10/21/2003	26.90	< 0.10	<0.010	8.62	<0.010	2.13	4.12
5407C01	Orchard Ave Irrig Dist, Site 2	1/28/2003	34.60	< 0.10	0.401	14.80	0.175	2.00	4.22
5407C01	Orchard Ave Irrig Dist, Site 2	4/30/2003	39.00	< 0.10	0.146	16.60	0.031	2.27	4.49
5407C01	Orchard Ave Irrig Dist, Site 2	7/29/2003	37.90	< 0.10	0.118	16.50	<0.010	2.41	5.29
5408N01	Modern Electric Water Co, Site 6	1/28/2003	34.20	< 0.10	<0.150	15.20	<0.010	2.00	3.52
5408N01	Modern Electric Water Co, Site 6	4/30/2003	36.50	< 0.10	<0.010	16.50	<0.010	2.09	3.66
5408N01	Modern Electric Water Co, Site 6	7/29/2003	34.90	< 0.10	<0.010	16.20	<0.010	2.23	4.36
5408N01	Modern Electric Water Co, Site 6	10/21/2003	35.30	< 0.10	<0.010	16.00	<0.010	2.02	3.56
5409C02	monitoring well Frederick & Bowdish	2/4/2003	36.50	< 0.10	0.358	13.60	0.013	2.29	3.53
5409C02	monitoring well Frederick & Bowdish	5/6/2003	37.00	< 0.10	0.169	14.10	0.014	1.86	3.63
5409C02	monitoring well Frederick & Bowdish	8/6/2003	38.30	< 0.10	0.755	14.40	0.059	1.88	4.89
5409C02	monitoring well Frederick & Bowdish	11/4/2003	40.00	< 0.10	1.330	15.10	0.023	2.28	4.73
5411R02	Sullivan Park North, monitoring well	2/3/2003	18.10	< 0.10	0.246	7.94	<0.010	2.00	2.34
5411R02	Sullivan Park North, monitoring well	5/5/2003	27.30	< 0.10	0.115	12.20	<0.010	1.63	3.19
5411R02	Sullivan Park North, monitoring well	8/4/2003	26.40	< 0.10	0.099	12.10	<0.010	1.92	3.49
5411R02	Sullivan Park North, monitoring well	11/3/2003	29.00	< 0.10	0.184	12.80	<0.010	1.85	2.89
5411R03	Sullivan Park South, monitoring well	2/3/2003	6.94	0.11	<0.150	3.30	<0.010	2.00	1.41
5411R03	Sullivan Park South, monitoring well	5/5/2003	27.10	< 0.10	0.054	12.20	<0.010	1.61	3.09
5411R03	Sullivan Park South, monitoring well	8/4/2003	26.40	< 0.10	0.025	12.00	<0.010	1.97	3.76
5411R03	Sullivan Park South, monitoring well	11/3/2003	28.60	< 0.10	0.050	12.40	<0.010	1.78	2.74

Ground Water Monitoring Data Report
Quarterly Monitoring Inorganics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5411R04	Sullivan Road and Centennial Trail,	2/3/2003	7.62	0.10	<0.150	3.51	<0.010	2.00	1.33
5411R04	Sullivan Road and Centennial Trail,	5/5/2003	27.10	< 0.10	0.227	12.40	<0.010	1.63	2.85
5411R04	Sullivan Road and Centennial Trail,	8/4/2003	29.40	< 0.10	0.014	13.70	<0.010	1.91	3.54
5411R04	Sullivan Road and Centennial Trail,	11/3/2003	25.00	< 0.10	0.194	11.20	<0.010	1.71	2.56
5426L01	Vera Water & Power, Well 4	1/28/2003	52.60	0.12	<0.150	14.70	<0.010	2.48	7.22
5426L01	Vera Water & Power, Well 4	4/30/2003	55.60	< 0.10	0.580	16.50	<0.010	2.98	7.24
5426L01	Vera Water & Power, Well 4	7/29/2003	53.80	0.11	0.012	15.30	<0.010	3.09	7.86
5426L01	Vera Water & Power, Well 4	10/21/2003	54.10	0.11	<0.010	15.10	<0.010	2.99	7.07
5427L01	Spokane Co Water Dist #3, Site 2-5	1/28/2003	48.90	< 0.10	<0.150	17.40	<0.010	2.02	7.36
5427L01	Spokane Co Water Dist #3, Site 2-5	4/30/2003	53.40	< 0.10	<0.010	19.30	<0.010	2.76	7.35
5427L01	Spokane Co Water Dist #3, Site 2-5	7/30/2003	48.50	< 0.10	<0.010	18.20	<0.010	2.90	8.03
5427L01	Spokane Co Water Dist #3, Site 2-5	10/21/2003	48.90	< 0.10	<0.010	17.40	<0.010	2.54	7.11
5505D01	Trent & Barker, monitoring well	2/3/2003	43.20	< 0.10	<0.150	13.60	<0.010	2.64	6.12
5505D01	Trent & Barker, monitoring well	5/5/2003	50.70	< 0.10	0.032	15.70	<0.010	2.50	6.31
5505D01	Trent & Barker, monitoring well	8/4/2003	50.50	< 0.10	0.177	16.20	<0.010	2.78	7.16
5505D01	Trent & Barker, monitoring well	11/3/2003	54.80	0.10	0.080	16.60	<0.010	2.73	6.75
5507A04	Euclid & Barker, monitoring well	2/3/2003	41.30	< 0.10	<0.150	18.10	<0.010	2.48	3.34
5507A04	Euclid & Barker, monitoring well	5/5/2003	45.30	< 0.10	<0.010	19.90	<0.010	2.15	3.27
5507A04	Euclid & Barker, monitoring well	8/4/2003	44.70	< 0.10	0.019	19.90	<0.010	2.38	4.10
5507A04	Euclid & Barker, monitoring well	11/3/2003	51.70	< 0.10	0.100	22.00	<0.010	2.45	3.53

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
5507H01	Barker Road north of river, monitoring	2/3/2003	7.45	< 0.10	<0.150	2.34	<0.010	2.00	2.22
5507H01	Barker Road north of river, monitoring	5/5/2003	6.36	< 0.10	0.059	2.01	<0.010	0.68	2.05
5507H01	Barker Road north of river, monitoring	8/4/2003	6.84	< 0.10	0.439	2.21	<0.010	1.21	3.14
5507H01	Barker Road north of river, monitoring	11/3/2003	6.20	< 0.10	0.060	1.86	<0.010	0.89	1.87
5508M01	Barker Road Centennial Trail North	2/3/2003	6.07	< 0.10	<0.150	1.79	<0.010	2.00	1.60
5508M01	Barker Road Centennial Trail North	5/5/2003	6.03	< 0.10	<0.010	1.84	<0.010	0.58	1.71
5508M01	Barker Road Centennial Trail North	8/4/2003	6.74	< 0.10	0.042	2.03	<0.010	1.01	2.97
5508M01	Barker Road Centennial Trail North	11/3/2003	7.02	< 0.10	0.118	2.05	<0.010	1.02	2.23
5508M02	Barker Road Centennial Trail South	2/3/2003	4.93	< 0.10	<0.150	1.58	<0.010	2.00	1.65
5508M02	Barker Road Centennial Trail South	5/5/2003	6.19	< 0.10	0.927	2.39	0.020	0.84	1.71
5508M02	Barker Road Centennial Trail South	8/4/2003	6.68	< 0.10	0.028	2.03	<0.010	0.99	2.93
5508M02	Barker Road Centennial Trail South	11/3/2003	7.29	< 0.10	0.076	2.11	<0.010	0.99	2.27
5515C01	Liberty Lake S & W, Mission Well	1/28/2003	33.20	< 0.10	0.300	11.50	<0.010	2.00	3.56
5515C01	Liberty Lake S & W, Mission Well	4/30/2003	36.40	< 0.10	<0.010	13.00	<0.010	1.94	4.33
5515C01	Liberty Lake S & W, Mission Well	7/29/2003	32.70	0.11	<0.010	10.20	<0.010	2.10	5.61
5515C01	Liberty Lake S & W, Mission Well	10/21/2003	32.30	< 0.10	<0.010	11.10	<0.010	1.83	3.50
5517D05	Mission & Barker monitoring well	2/3/2003	14.00	< 0.10	< 0.150	5.12	<0.010	2.00	3.06
5517D05	Mission & Barker monitoring well	5/5/2003	13.90	< 0.10	0.022	4.99	<0.010	1.14	2.12
5517D05	Mission & Barker monitoring well	8/4/2003	13.20	< 0.10	0.034	4.80	<0.010	1.28	2.94
5517D05	Mission & Barker monitoring well	11/3/2003	15.20	< 0.10	0.088	5.42	<0.010	1.30	2.38
5518R01	Consolidated Irrig. Dist, Site 2	1/28/2003	20.60	< 0.10	<0.150	4.98	<0.010	2.00	2.11
5518R01	Consolidated Irrig. Dist, Site 2	4/30/2003	20.70	< 0.10	<0.010	5.04	<0.010	1.12	2.48
5518R01	Consolidated Irrig. Dist, Site 2	7/29/2003	21.20	< 0.10	<0.010	5.36	<0.010	1.39	3.03
5518R01	Consolidated Irrig. Dist, Site 2	10/21/2003	20.00	< 0.10	<0.010	4.83	<0.010	1.18	2.17

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
6211K01	Spokane Fish Hatchery well	2/5/2003	32.00	< 0.10	<0.150	16.90	<0.010	2.32	4.67
6211K01	Spokane Fish Hatchery well	5/7/2003	34.40	< 0.10	<0.010	18.60	<0.010	2.07	4.02
6211K01	Spokane Fish Hatchery well	8/6/2003	34.10	< 0.10	<0.010	18.30	<0.010	2.12	5.33
6211K01	Spokane Fish Hatchery well	11/5/2003	34.70	< 0.10	0.041	18.60	<0.010	2.50	5.27
6320D01	Whitworth Water Dist. #2, Site 2A	2/5/2003	27.40	< 0.10	<0.150	15.20	<0.010	2.00	3.34
6320D01	Whitworth Water Dist. #2, Site 2A	5/7/2003	29.00	< 0.10	<0.010	16.50	0.019	1.72	2.77
6320D01	Whitworth Water Dist. #2, Site 2A	8/6/2003	30.00	< 0.10	<0.010	16.80	<0.010	1.79	4.25
6320D01	Whitworth Water Dist. #2, Site 2A	11/5/2003	28.50	< 0.10	<0.010	16.00	<0.010	2.03	3.97
6327N04	Fire Station, Houston & Regal	2/5/2003	34.30	0.10	0.300	22.20	<0.010	3.70	16.10
6327N04	Fire Station, Houston & Regal	5/7/2003	38.00	< 0.10	<0.010	27.90	<0.010	3.56	10.30
6327N04	Fire Station, Houston & Regal	8/6/2003	37.50	< 0.10	0.321	26.70	<0.010	3.77	14.80
6327N04	Fire Station, Houston & Regal	11/5/2003	43.40	< 0.10	0.493	27.60	<0.010	4.21	15.20
6328H01	North Spokane Irrig. Dist #4, Site 4	2/5/2003	25.90	0.11	<0.150	11.40	<0.010	2.44	5.11
6328H01	North Spokane Irrig. Dist #4, Site 4	5/7/2003	28.40	0.10	<0.010	12.60	<0.010	2.14	4.44
6328H01	North Spokane Irrig. Dist #4, Site 4	8/6/2003	28.10	< 0.10	<0.010	12.80	<0.010	2.16	6.23
6328H01	North Spokane Irrig. Dist #4, Site 4	11/5/2003	26.80	< 0.10	0.021	11.30	<0.010	2.46	5.57
6330J01	Holy Cross, Rhoades & Washington	2/5/2003	28.80	< 0.10	<0.150	15.50	<0.010	2.00	3.57
6330J01	Holy Cross, Rhoades & Washington	5/7/2003	31.70	< 0.10	0.074	17.50	<0.010	1.86	3.34
6330J01	Holy Cross, Rhoades & Washington	8/6/2003	30.40	< 0.10	0.051	16.60	<0.010	1.83	4.38
6330J01	Holy Cross, Rhoades & Washington	11/5/2003	32.90	< 0.10	0.142	18.00	<0.010	2.21	4.38

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Calcium (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Sodium (mg/L)
6331J01	Franklin Park, City monitoring well	2/5/2003	27.40	< 0.10	<0.150	13.50	<0.010	2.00	3.16
6331J01	Franklin Park, City monitoring well	5/7/2003	30.50	< 0.10	<0.010	15.20	<0.010	0.50	3.26
6331J01	Franklin Park, City monitoring well	8/6/2003	29.70	< 0.10	0.477	14.70	<0.010	1.79	4.25
6331J01	Franklin Park, City monitoring well	11/5/2003	28.80	< 0.10	0.797	14.20	0.014	2.03	3.86
6524R01	Idaho Road 1000 ft south of Trent,	2/3/2003	32.00	< 0.10	<0.150	13.60	<0.010	2.34	3.49
6524R01	Idaho Road 1000 ft south of Trent,	5/5/2003	38.90	< 0.10	0.020	16.10	<0.010	2.13	3.53
6524R01	Idaho Road 1000 ft south of Trent,	8/4/2003	35.80	< 0.10	0.021	15.30	<0.010	2.27	4.29
6524R01	Idaho Road 1000 ft south of Trent,	11/3/2003	41.60	< 0.10	0.059	16.80	<0.010	2.35	3.74
6525R01	Idaho Road 300 ft south of pipeline,	2/3/2003	31.60	< 0.10	<0.150	16.10	<0.010	2.29	3.14
6525R01	Idaho Road 300 ft south of pipeline,	5/5/2003	36.60	< 0.10	<0.010	18.80	<0.010	2.02	3.14
6525R01	Idaho Road 300 ft south of pipeline,	8/4/2003	34.90	< 0.10	0.107	17.70	<0.010	2.17	4.01
6525R01	Idaho Road 300 ft south of pipeline,	11/3/2003	39.90	< 0.10	0.135	19.60	<0.010	2.17	3.42
6631M04	Consolidated Irrig. Dist, Site 11	2/3/2003	26.80	< 0.10	<0.150	12.20	<0.010	2.42	2.77
6631M04	Consolidated Irrig. Dist, Site 11	5/5/2003	31.50	< 0.10	<0.010	14.40	<0.010	2.24	2.84
6631M04	Consolidated Irrig. Dist, Site 11	8/4/2003	29.60	< 0.10	<0.010	14.00	<0.010	2.27	3.76
6631M04	Consolidated Irrig. Dist, Site 11	11/3/2003	34.60	< 0.10	0.063	15.20	<0.010	2.31	3.09
6631M07	Idaho Road - East Farms monitoring	2/3/2003	31.20	< 0.10	<0.150	14.20	<0.010	2.75	3.12
6631M07	Idaho Road - East Farms monitoring	5/5/2003	36.40	< 0.10	<0.010	16.90	<0.010	2.61	3.14
6631M07	Idaho Road - East Farms monitoring	8/4/2003	33.60	< 0.10	0.075	15.60	<0.010	2.45	3.80
6631M07	Idaho Road - East Farms monitoring	11/3/2003	40.70	< 0.10	0.057	18.00	<0.010	2.55	3.36

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5213B01	I.E. Cold Storage	1/28/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5213B01	I.E. Cold Storage	4/30/2003	0.0020	<0.00100	0.00199	0.0013	<0.00100	<0.0005	<0.01000
5213B01	I.E. Cold Storage	7/29/2003	0.0021	<0.00100	<0.00100	0.0011	<0.00100	<0.0005	<0.01000
5213B01	I.E. Cold Storage	10/21/2003	0.0027	<0.00100	<0.00100	0.0013	<0.00100	<0.0005	<0.01000
5304G01	NE Community Center, monitoring	2/5/2003	0.0027	<0.00100	0.00479	< 0.0010	<0.00100	<0.0010	0.03850
5304G01	NE Community Center, monitoring	5/7/2003	0.0024	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5304G01	NE Community Center, monitoring	8/6/2003	0.0025	<0.00100	0.00133	< 0.0010	<0.00100	<0.0005	<0.01000
5304G01	NE Community Center, monitoring	11/5/2003	0.0024	<0.00100	0.00118	< 0.0010	<0.00100	<0.0005	<0.01000
5307M01	Trinity School, Adams & Carlisle	2/5/2003	0.0022	<0.00100	0.00117	< 0.0010	<0.00100	<0.0010	<0.01000
5307M01	Trinity School, Adams & Carlisle	5/7/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5307M01	Trinity School, Adams & Carlisle	8/6/2003	0.0021	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5307M01	Trinity School, Adams & Carlisle	11/5/2003	0.0020	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5308A02	CITY of SPOKANE-Nevada	4/30/2003	0.0021	<0.00100	<0.00100	0.0012	<0.00100	<0.0005	<0.01000
5308A02	CITY of SPOKANE-Nevada	7/29/2003	0.0024	<0.00100	<0.00100	0.0014	0.00105	<0.0005	<0.01000
5308A02	CITY of SPOKANE-Nevada	10/21/2003	0.0021	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5308H01	Denver & Marietta, monitoring	2/4/2003	0.0024	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5308H01	Denver & Marietta, monitoring	5/6/2003	0.0020	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5308H01	Denver & Marietta, monitoring	8/5/2003	0.0023	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5308H01	Denver & Marietta, monitoring	11/4/2003	0.0026	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5310Q01	monitoring well at SCC	2/4/2003	0.0023	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5310Q01	monitoring well at SCC	5/6/2003	0.0021	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5310Q01	monitoring well at SCC	8/5/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5310Q01	monitoring well at SCC	11/4/2003	0.0026	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5311J05	Hale's Ale Nested Site, east	2/4/2003	0.0030	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5311J05	Hale's Ale Nested Site, east	5/6/2003	0.0026	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5311J05	Hale's Ale Nested Site, east	8/5/2003	0.0031	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5311J05	Hale's Ale Nested Site, east	11/4/2003	0.0027	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5311J07	Hale's Ale Nested Site, mid	2/4/2003	0.0028	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5311J07	Hale's Ale Nested Site, mid	5/6/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.02700
5311J07	Hale's Ale Nested Site, mid	8/5/2003	0.0027	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5311J07	Hale's Ale Nested Site, mid	11/4/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5312C01	Felts Field City monitoring well	2/4/2003	0.0074	<0.00100	<0.00100	0.0013	<0.00100	<0.0010	<0.01000
5312C01	Felts Field City monitoring well	5/6/2003	0.0072	<0.00100	<0.00100	0.0010	<0.00100	<0.0005	<0.01000
5312C01	Felts Field City monitoring well	8/5/2003	0.0081	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5312C01	Felts Field City monitoring well	11/4/2003	0.0070	<0.00100	<0.00100	0.0020	<0.00100	<0.0005	<0.01000
5312H01	Orchard Ave Irrig Dist, Site 1	10/21/2003	0.0057	<0.00100	<0.00100	0.0012	<0.00100	<0.0005	<0.01000
5315L01	Olive & Fiske monitoring well	2/4/2003	0.0023	<0.00100	0.00139	< 0.0010	<0.00100	<0.0010	<0.01000
5315L01	Olive & Fiske monitoring well	5/6/2003	0.0018	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.02250
5315L01	Olive & Fiske monitoring well	8/5/2003	0.0021	<0.00100	0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5315L01	Olive & Fiske monitoring well	11/4/2003	0.0020	<0.00100	0.00148	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5322A01	Third & Havana Nested Site, east	2/4/2003	0.0023	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5322A01	Third & Havana Nested Site, east	5/6/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5322A01	Third & Havana Nested Site, east	8/5/2003	0.0020	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5322A01	Third & Havana Nested Site, east	11/4/2003	0.0024	<0.00100	0.00141	0.0032	<0.00100	<0.0005	<0.01000
5322A03	Third & Havana Nested Site, mid	2/4/2003	0.0026	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5322A03	Third & Havana Nested Site, mid	5/6/2003	0.0024	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5322A03	Third & Havana Nested Site, mid	8/5/2003	0.0027	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5322A03	Third & Havana Nested Site, mid	11/4/2003	0.0026	<0.00100	0.00111	< 0.0010	<0.00100	<0.0005	<0.01000
5322F01	CITY of SPOKANE-Ray	1/28/2003	0.0040	<0.00100	<0.00100	0.0010	<0.00100	<0.0010	0.01830
5322F01	CITY of SPOKANE-Ray	4/30/2003	0.0039	<0.00100	<0.00100	0.0011	<0.00100	<0.0005	0.02650
5322F01	CITY of SPOKANE-Ray	7/29/2003	0.0043	<0.00100	<0.00100	0.0014	<0.00100	<0.0005	0.02470
5322F01	CITY of SPOKANE-Ray	10/21/2003	0.0040	<0.00100	<0.00100	0.0012	<0.00100	<0.0005	0.01640
5323E01	6th & Havana monitoring well	2/4/2003	0.0037	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5323E01	6th & Havana monitoring well	5/6/2003	0.0033	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5323E01	6th & Havana monitoring well	8/5/2003	0.0034	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5323E01	6th & Havana monitoring well	11/4/2003	0.0037	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5324G02	East Spokane Water Dist, Site2	1/28/2003	0.0035	<0.00100	<0.00100	0.0132	0.00122	<0.0010	<0.01000
5324G02	East Spokane Water Dist, Site2	4/30/2003	0.0037	<0.00100	<0.00100	0.0018	<0.00100	<0.0005	<0.01000
5324G02	East Spokane Water Dist, Site2	7/29/2003	0.0036	<0.00100	<0.00100	0.0044	0.00349	<0.0005	0.01220
5324G02	East Spokane Water Dist, Site2	10/21/2003	0.0039	<0.00100	<0.00100	0.0031	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5405K01	Pasadena Park Irrigation Dist #2	1/28/2003	0.0013	<0.00100	<0.00100	0.0021	<0.00100	<0.0010	0.01200
5405K01	Pasadena Park Irrigation Dist #2	4/30/2003	< 0.0010	<0.00100	<0.00100	0.1250	0.00808	<0.0005	0.14000
5405K01	Pasadena Park Irrigation Dist #2	7/30/2003	0.0013	<0.00100	<0.00100	0.0037	<0.00100	<0.0005	<0.01000
5405K01	Pasadena Park Irrigation Dist #2	10/21/2003	0.0015	<0.00100	<0.00100	0.0062	<0.00100	<0.0005	0.01510
5407C01	Orchard Ave Irrig Dist, Site 2	1/28/2003	0.0023	<0.00100	<0.00100	0.0028	<0.00100	<0.0010	<0.01000
5407C01	Orchard Ave Irrig Dist, Site 2	4/30/2003	0.0022	<0.00100	<0.00100	0.0179	<0.00100	<0.0005	0.01650
5407C01	Orchard Ave Irrig Dist, Site 2	7/29/2003	0.0029	<0.00100	<0.00100	0.0090	<0.00100	<0.0005	0.01150
5408N01	Modern Electric Water Co, Site 6	1/28/2003	0.0020	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5408N01	Modern Electric Water Co, Site 6	4/30/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5408N01	Modern Electric Water Co, Site 6	7/29/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5408N01	Modern Electric Water Co, Site 6	10/21/2003	0.0022	<0.00100	<0.00100	0.0011	<0.00100	<0.0005	<0.01000
5409C02	monitoring well Frederick & Bowdish	2/4/2003	0.0047	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5409C02	monitoring well Frederick & Bowdish	5/6/2003	0.0046	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5409C02	monitoring well Frederick & Bowdish	8/6/2003	0.0054	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5409C02	monitoring well Frederick & Bowdish	11/4/2003	0.0051	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R02	Sullivan Park North, monitoring well	2/3/2003	0.0026	<0.00100	0.00102	< 0.0010	<0.00100	<0.0010	<0.01000
5411R02	Sullivan Park North, monitoring well	5/5/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R02	Sullivan Park North, monitoring well	8/4/2003	0.0029	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R02	Sullivan Park North, monitoring well	11/3/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R03	Sullivan Park South, monitoring well	2/3/2003	0.0033	<0.00100	<0.00100	< 0.0010	<0.00100	< 0.001	<0.01000
5411R03	Sullivan Park South, monitoring well	5/5/2003	0.0028	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R03	Sullivan Park South, monitoring well	8/4/2003	0.0029	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R03	Sullivan Park South, monitoring well	11/3/2003	0.0029	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5411R04	Sullivan Road and Centennial Trail,	2/3/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5411R04	Sullivan Road and Centennial Trail,	5/5/2003	0.0018	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R04	Sullivan Road and Centennial Trail,	8/4/2003	0.0021	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5411R04	Sullivan Road and Centennial Trail,	11/3/2003	0.0020	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5426L01	Vera Water & Power, Well 4	1/28/2003	0.0038	<0.00100	<0.00100	0.0014	<0.00100	<0.0010	<0.01000
5426L01	Vera Water & Power, Well 4	4/30/2003	0.0042	<0.00100	<0.00100	0.0062	0.00182	<0.0005	0.02640
5426L01	Vera Water & Power, Well 4	7/29/2003	0.0040	<0.00100	<0.00100	0.0016	<0.00100	<0.0005	0.02130
5426L01	Vera Water & Power, Well 4	10/21/2003	0.0046	<0.00100	<0.0100	< 0.0010	<0.00100	<0.0005	<0.20000
5427L01	Spokane Co Water Dist #3, Site 2-5	1/28/2003	0.0037	<0.00100	<0.00100	0.0014	<0.00100	<0.0010	<0.01000
5427L01	Spokane Co Water Dist #3, Site 2-5	4/30/2003	0.0038	<0.00100	<0.00100	0.0040	<0.00100	<0.0005	<0.01000
5427L01	Spokane Co Water Dist #3, Site 2-5	7/30/2003	0.0037	<0.00100	<0.00100	0.0014	<0.00100	<0.0005	<0.01000
5427L01	Spokane Co Water Dist #3, Site 2-5	10/21/2003	0.0048	<0.00100	<0.00100	0.0015	<0.00100	<0.0005	<0.01000
5505D01	Trent & Barker, monitoring well	2/3/2003	0.0060	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5505D01	Trent & Barker, monitoring well	5/5/2003	0.0053	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5505D01	Trent & Barker, monitoring well	8/4/2003	0.0052	<0.00100	0.00113	< 0.0010	<0.00100	<0.0005	<0.01000
5505D01	Trent & Barker, monitoring well	11/3/2003	0.0058	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5507A04	Euclid & Barker, monitoring well	2/3/2003	0.0025	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5507A04	Euclid & Barker, monitoring well	5/5/2003	0.0017	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5507A04	Euclid & Barker, monitoring well	8/4/2003	0.0018	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5507A04	Euclid & Barker, monitoring well	11/3/2003	0.0016	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
5507H01	Barker Road north of river, monitoring	2/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	0.05150
5507H01	Barker Road north of river, monitoring	5/5/2003	< 0.0010	<0.00100	<0.00100	0.0010	<0.00100	<0.0005	0.04270
5507H01	Barker Road north of river, monitoring	8/4/2003	< 0.0010	<0.00100	<0.00100	0.0010	0.00431	<0.0005	0.05710
5507H01	Barker Road north of river, monitoring	11/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.04410
5508M01	Barker Road Centennial Trail North	2/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5508M01	Barker Road Centennial Trail North	5/5/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.03710
5508M01	Barker Road Centennial Trail North	8/4/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.03200
5508M01	Barker Road Centennial Trail North	11/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.03690
5508M02	Barker Road Centennial Trail South	2/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	0.01060
5508M02	Barker Road Centennial Trail South	5/5/2003	< 0.0010	<0.00100	0.00116	0.0018	<0.00100	<0.0005	0.01620
5508M02	Barker Road Centennial Trail South	8/4/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.01530
5508M02	Barker Road Centennial Trail South	11/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.01810
5515C01	Liberty Lake S & W, Mission Well	1/28/2003	0.0028	<0.00100	<0.00100	0.0018	<0.00100	<0.0010	<0.01000
5515C01	Liberty Lake S & W, Mission Well	4/30/2003	0.0026	<0.00100	<0.00100	0.0028	<0.00100	<0.0005	<0.01000
5515C01	Liberty Lake S & W, Mission Well	7/29/2003	0.0032	<0.00100	<0.00100	0.0011	<0.00100	<0.0005	<0.01000
5515C01	Liberty Lake S & W, Mission Well	10/21/2003	0.0033	<0.00100	<0.00100	0.0018	<0.00100	<0.0005	<0.01000
5517D05	Mission & Barker monitoring well	2/3/2003	0.0015	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5517D05	Mission & Barker monitoring well	5/5/2003	0.0012	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5517D05	Mission & Barker monitoring well	8/4/2003	0.0012	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5517D05	Mission & Barker monitoring well	11/3/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5518R01	Consolidated Irrig. Dist, Site 2	1/28/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
5518R01	Consolidated Irrig. Dist, Site 2	4/30/2003	0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5518R01	Consolidated Irrig. Dist, Site 2	7/29/2003	< 0.0010	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
5518R01	Consolidated Irrig. Dist, Site 2	10/21/2003	0.0013	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
6211K01	Spokane Fish Hatchery well	2/5/2003	0.0036	<0.00100	<0.00100	0.0011	<0.00100	<0.0010	0.02000
6211K01	Spokane Fish Hatchery well	5/7/2003	0.0033	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.01170
6211K01	Spokane Fish Hatchery well	8/6/2003	0.0030	<0.00100	<0.00100	0.0019	<0.00100	<0.0005	0.01640
6211K01	Spokane Fish Hatchery well	11/5/2003	0.0034	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	0.01560
6320D01	Whitworth Water Dist. #2, Site 2A	2/5/2003	0.0034	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
6320D01	Whitworth Water Dist. #2, Site 2A	5/7/2003	0.0035	<0.00100	<0.00100	0.0050	0.02870	<0.0005	0.10600
6320D01	Whitworth Water Dist. #2, Site 2A	8/6/2003	0.0031	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6320D01	Whitworth Water Dist. #2, Site 2A	11/5/2003	0.0031	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6327N04	Fire Station, Houston & Regal	2/5/2003	0.0018	<0.00100	0.00151	< 0.0010	<0.00100	<0.0010	<0.01000
6327N04	Fire Station, Houston & Regal	5/7/2003	0.0015	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6327N04	Fire Station, Houston & Regal	8/6/2003	0.0015	<0.00100	0.00110	< 0.0010	<0.00100	<0.0005	<0.01000
6327N04	Fire Station, Houston & Regal	11/5/2003	0.0019	<0.00100	0.00148	< 0.0010	<0.00100	<0.0005	<0.01000
6328H01	North Spokane Irrig. Dist #4, Site 4	2/5/2003	0.0026	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0010	<0.01000
6328H01	North Spokane Irrig. Dist #4, Site 4	5/7/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6328H01	North Spokane Irrig. Dist #4, Site 4	8/6/2003	0.0022	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6328H01	North Spokane Irrig. Dist #4, Site 4	11/5/2003	0.0021	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6330J01	Holy Cross, Rhoades & Washington	2/5/2003	0.0033	<0.00100	0.00101	< 0.0010	<0.00100	<0.0010	<0.01000
6330J01	Holy Cross, Rhoades & Washington	5/7/2003	0.0032	<0.00100	0.00103	< 0.0010	<0.00100	<0.0005	<0.01000
6330J01	Holy Cross, Rhoades & Washington	8/6/2003	0.0028	<0.00100	<0.00100	< 0.0010	<0.00100	<0.0005	<0.01000
6330J01	Holy Cross, Rhoades & Washington	11/5/2003	0.0035	<0.00100	0.00110	< 0.0010	<0.00100	<0.0005	<0.01000

Ground Water Monitoring Data Report

Spokane County Public Works, Water Quality Management Program

Quarterly Monitoring Inorganics Water Quality

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Arsenic (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Zinc (mg/L)
6331J01	Franklin Park, City monitoring well	2/5/2003	0.0034	<0.00100	< 0.001	< 0.0010	<0.00100	< 0.001	<0.01000
6331J01	Franklin Park, City monitoring well	5/7/2003	0.0030	<0.00100	0.00121	< 0.0010	<0.00100	<0.0005	<0.01000
6331J01	Franklin Park, City monitoring well	8/6/2003	0.0033	<0.00100	0.00154	< 0.0010	<0.00100	<0.0005	<0.01000
6331J01	Franklin Park, City monitoring well	11/5/2003	0.0037	<0.00100	0.00207	< 0.0010	<0.00100	<0.0005	<0.01000
6524R01	Idaho Road 1000 ft south of Trent,	2/3/2003	0.0044	<0.00100	< 0.001	< 0.0010	<0.00100	< 0.001	<0.01000
6524R01	Idaho Road 1000 ft south of Trent,	5/5/2003	0.0031	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6524R01	Idaho Road 1000 ft south of Trent,	8/4/2003	0.0033	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6524R01	Idaho Road 1000 ft south of Trent,	11/3/2003	0.0033	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6525R01	Idaho Road 300 ft south of pipeline,	2/3/2003	0.0034	<0.00100	< 0.001	< 0.0010	<0.00100	< 0.001	<0.01000
6525R01	Idaho Road 300 ft south of pipeline,	5/5/2003	0.0025	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6525R01	Idaho Road 300 ft south of pipeline,	8/4/2003	0.0026	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6525R01	Idaho Road 300 ft south of pipeline,	11/3/2003	0.0026	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6631M04	Consolidated Irrig. Dist, Site 11	2/3/2003	0.0060	<0.00100	< 0.001	0.0025	<0.00100	< 0.001	0.03140
6631M04	Consolidated Irrig. Dist, Site 11	5/5/2003	0.0049	<0.00100	< 0.001	0.0012	<0.00100	<0.0005	0.01040
6631M04	Consolidated Irrig. Dist, Site 11	8/4/2003	0.0053	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6631M04	Consolidated Irrig. Dist, Site 11	11/3/2003	0.0053	<0.00100	< 0.001	0.0022	<0.00100	<0.0005	<0.01000
6631M07	Idaho Road - East Farms monitoring	2/3/2003	0.0041	<0.00100	< 0.001	< 0.0010	<0.00100	< 0.001	<0.01000
6631M07	Idaho Road - East Farms monitoring	5/5/2003	0.0041	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	<0.01000
6631M07	Idaho Road - East Farms monitoring	8/4/2003	0.0040	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	0.01030
6631M07	Idaho Road - East Farms monitoring	11/3/2003	0.0042	<0.00100	< 0.001	< 0.0010	<0.00100	<0.0005	0.01080

Appendix C:
Inorganic Water Quality Data from Purveyor Wells
for Department of Health compliance
January 2003 through December 2003

Ground Water Monitoring Data Report
2003 Inorganics DOH Compliance Data

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Conductivity (µmhos/cm)	pH	Alkalinity (mg/L as N)	Ammonia-N (mg/L as N)	Chloride (mg/L)	Color (Color units)	Cyanide(total) (mg/L)
5308A02	City of Spokane-Nevada	7/29/2003	236				3.19	6	< 0.005
5311J01	City of Spokane-Parkwater	7/29/2003	333				4.09	<5	< 0.005
5322F01	City of Spokane-Ray	7/29/2003	365				8.76	<5	< 0.005
5422R01	Vera Water & Power, Well 3	10/23/2003	204	7.53	96.8	<0.1	2.81	<5	< 0.005
5422R02	Vera Water & Power, Well 33	10/23/2003	177	7.48	85.2	<0.1	2.12	<5	< 0.005

WQMP Well ID	WELL NAME	Sample Date	Hardness (mg/L as $CaCO_3$)	Nitrate + Nitrite (mg/L as N)	Nitrate-N (mg/L as N)	Ortho-Phosphate (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Turbidity (NTU)
5308A02	City of Spokane-Nevada	7/29/2003	135		2.39		8.65	135.00	7.65
5311J01	City of Spokane-Parkwater	7/29/2003	179		1.73		15.20	192.00	<0.10
5322F01	City of Spokane-Ray	7/29/2003	186		3.03		15.40	216.00	<0.10
5422R01	Vera Water & Power, Well 3	10/23/2003	113	1.19	1.19	0.0024	8.57	110.00	< 1.0
5422R02	Vera Water & Power, Well 33	10/23/2003	98.3	0.86	0.862	0.0021	7.50	99.00	< 1.0

WQMP Well ID	WELL NAME	Sample Date	Aluminum (mg/L)	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chromium (mg/L)
5308A02	City of Spokane-Nevada	7/29/2003		< 0.003	0.0036	0.0275	< 0.003	<0.00200		< 0.0085
5311J01	City of Spokane-Parkwater	7/29/2003		< 0.003	0.0040	0.0313	< 0.003	<0.00200		< 0.0085
5322F01	City of Spokane-Ray	7/29/2003		< 0.003	0.0045	0.0517	< 0.003	<0.00200		< 0.0085
5422R01	Vera Water & Power, Well 3	10/23/2003	< 0.2	< 0.001	<0.0020	<0.100	<0.0008	<0.00100	30.00	< 0.010
5422R02	Vera Water & Power, Well 33	10/23/2003	< 0.2	< 0.001	<0.0020	<0.100	<0.0008	<0.00100	26.60	< 0.010

Ground Water Monitoring Data Report
2003 Inorganics DOH Compliance Data

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Copper (mg/L)	Fluoride (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Nickel (mg/L)
5308A02	City of Spokane-Nevada	7/29/2003	< 0.0075	< 0.10	0.497	<0.00100		0.018	< 0.0005	< 0.03
5311J01	City of Spokane-Parkwater	7/29/2003	< 0.0075	< 0.10	< 0.010	<0.00100		< 0.010	< 0.0005	< 0.03
5322F01	City of Spokane-Ray	7/29/2003	< 0.0075	< 0.10	< 0.010	0.00200		< 0.010	< 0.0005	< 0.03
5422R01	Vera Water & Power, Well 3	10/23/2003	0.0031	< 0.10	< 0.150	0.00193	8.81	< 0.010	0.00028	< 0.04
5422R02	Vera Water & Power, Well 33	10/23/2003	< 0.0010	< 0.10	< 0.150	<0.00100	7.31	< 0.010	< 0.0002	< 0.04

WQMP Well ID	WELL NAME	Sample Date	Selenium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Thallium (mg/L)	Zinc (mg/L)
5308A02	City of Spokane-Nevada	7/29/2003	< 0.001		< 0.01000	3.71	< 0.002	< 0.01000
5311J01	City of Spokane-Parkwater	7/29/2003	< 0.001		< 0.01000	5.02	< 0.002	< 0.01000
5322F01	City of Spokane-Ray	7/29/2003	< 0.001		< 0.01000	8.97	< 0.002	0.01190
5422R01	Vera Water & Power, Well 3	10/23/2003	< 0.005	12.7	< 0.00100	3.26	<0.0004	< 0.20000
5422R02	Vera Water & Power, Well 33	10/23/2003	< 0.005	12.1	< 0.00100	2.77	<0.0004	< 0.20000

Ground Water Monitoring Data Report
2003 Inorganics DOH Compliance Data

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Nitrate-N (mg/L as N)
5304B02	City Of Spokane-Hoffman	7/29/2003	2.99
5308A01	City Of Spokane-Grace	7/29/2003	1.43
5308A02	City Of Spokane-Nevada	7/29/2003	2.39
5311G05	City Of Spokane-Well Electric	7/29/2003	1.81
5311J01	City Of Spokane-Parkwater	7/29/2003	1.73
5322F01	City Of Spokane-Ray	1/28/2003	4.23
5322F01	City Of Spokane-Ray	5/6/2003	3.95
5322F01	City Of Spokane-Ray	10/21/2003	4.78
6331A02	City Of Spokane-Central	7/29/2003	1.61
5312H01	Orchard Ave Irrig Dist, Site 1	7/29/2003	2.22
5407C01	Orchard Ave Irrig Dist, Site 2	7/29/2003	2.28
5405D01	Pasadena Park Irrig Dist #3	7/30/2003	2.81
5405K01	Pasadena Park Irrig Dist #2	7/30/2003	1.43
5406A02	Pasadena Park Irrig Dist, #4	7/30/2003	1.23
5406J03	Pasadena Park Irrig Dist #5	7/30/2003	3.00
5313A01	Spokane Co Water Dist #3, Boone & Lily	7/30/2003	2.01
5323A03	Spokane Co Water Dist #3, 2nd & Koren	7/30/2003	2.97
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	1.25
5407Q01	Spokane Co Water Dist #3, Freeway & Vista	7/30/2003	1.60
5427L01	Spokane Co Water Dist #3, 26th & Vercler	7/30/2003	2.73

Ground Water Monitoring Data Report
2003 Inorganics DOH Compliance Data

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Nitrate-N (mg/L as N)
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	3.97
5429H01	Spokane Co Water Dist #3, 20th & Balfour	7/30/2003	3.51
6303N01	Spokane Co Water Dist #3, Cherry & Farwell	7/31/2003	3.62
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	1.30
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	0.92
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	1.22
6330R02	Spokane Co Water Dist #3, Lyons & Normandy	7/31/2003	1.37
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	0.50
7322M01	Spokane Co Water Dist #3, Riverview	7/31/2003	4.53
7332L01	Spokane Co Water Dist #3, Pineriver Park	7/31/2003	1.27
8323C01	Spokane Co Water Dist #3, Chattaroy	7/31/2003	0.50

Appendix D:
Volatile Organic Compound Water Quality Data from Purveyor Wells
for Department of Health compliance
January 2003 through December 2003

Ground Water Monitoring Data Report
2003 DOH Compliance Organics Water Quality

Spokane County Public Works, Water Quality Management Program

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WQMP Well ID	WELL NAME	Sample Date	Dichlorodifluoromethane (µg/L)	Chloromethane (µg/L)	Vinyl Chloride (µg/L)	Bromomethane (µg/L)	Chloroethane (µg/L)	Trichlorofluoromethane (µg/L)
5308A02	City of Spokane-Nevada	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311G05	City of Spokane-Well Electric	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311J01	City of Spokane-Parkwater	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5322F01	City of Spokane-Ray	1/28/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422H02	Vera Water & Power, Well 6	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R01	Vera Water & Power, Well 3	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R02	Vera Water & Power, Well 33	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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Ground Water Monitoring Data Report
2003 DOH Compliance Organics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	1,1-Dichloro-ethylene (µg/L)	Methylene Chloride (µg/L)	trans-1,2-Dichloro-ethylene (µg/L)	1,1-Dichloroethane (µg/L)	Chloroform (µg/L)	1,1,1-Trichloro-ethane (µg/L)
5308A02	City of Spokane-Nevada	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311G05	City of Spokane-Well Electric	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311J01	City of Spokane-Parkwater	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5322F01	City of Spokane-Ray	1/28/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422H02	Vera Water & Power, Well 6	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R01	Vera Water & Power, Well 3	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R02	Vera Water & Power, Well 33	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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Ground Water Monitoring Data Report
2003 DOH Compliance Organics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Carbon Tetrachloride (µg/L)	1,2-Dichloro-ethane (µg/L)	Trichloro-ethylene (µg/L)	1,2-Dichloro-propane (µg/L)	Bromodichloro-ethane (µg/L)	trans-1,3 Dichloro-propylene (µg/L)
5308A02	City of Spokane-Nevada	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311G05	City of Spokane-Well Electric	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311J01	City of Spokane-Parkwater	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5322F01	City of Spokane-Ray	1/28/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422H02	Vera Water & Power, Well 6	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R01	Vera Water & Power, Well 3	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R02	Vera Water & Power, Well 33	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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Ground Water Monitoring Data Report
2003 DOH Compliance Organics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	cis-1,3-Dichloro-propylene (µg/L)	1,1,2-Trichloro-ethane (µg/L)	1,1,2,2-Tetrachloro-ethane (µg/L)	Dibromochloro-methane (µg/L)	Chlorobenzene (µg/L)
5308A02	City of Spokane-Nevada	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311G05	City of Spokane-Well Electric	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311J01	City of Spokane-Parkwater	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5322F01	City of Spokane-Ray	1/28/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422H02	Vera Water & Power, Well 6	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R01	Vera Water & Power, Well 3	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R02	Vera Water & Power, Well 33	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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Ground Water Monitoring Data Report
2003 DOH Compliance Organics Water Quality

Spokane County Public Works, Water Quality Management Program

Unreviewed Data: Subject to Verification

WQMP Well ID	WELL NAME	Sample Date	Bromoform (µg/L)	Tetrachloro--ethylene (µg/L)	1,3-Dichlorobenzene (µg/L)	1,4-Dichlorobenzen (µg/L)	1,2-Dichlorobenzene (µg/L)
5308A02	City of Spokane-Nevada	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311G05	City of Spokane-Well Electric	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5311J01	City of Spokane-Parkwater	5/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5322F01	City of Spokane-Ray	1/28/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422H02	Vera Water & Power, Well 6	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R01	Vera Water & Power, Well 3	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5422R02	Vera Water & Power, Well 33	11/6/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5407J02	Spokane Co Water Dist #3, Knox & Sargent	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
5427N01	Spokane Co Water Dist #3, Browns Park	7/30/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6303P01	Spokane Co Water Dist #3, Freya & Farwell	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6309D01	Spokane Co Water Dist #3, Helena & Mead	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
6320N02	Spokane Co Water Dist #3, Steer Inn	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7105D01	Spokane Co Water Dist #3, Waterview	7/31/2003	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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