

2022 Annual Water Quality Monitoring Report
Spokane Valley-Rathdrum Prairie Aquifer
Long Term Monitoring Program

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Introduction

The following report presents the field work, analytical results, and findings from the Spokane Valley Rathdrum Prairie (SVRP) Aquifer Long Term Water Quality Monitoring Program for 2022. Spokane County Water Resources staff collected field data and groundwater samples from 29 dedicated monitoring wells, 15 public supply wells, and 5 springs in 2022.

Background

In 1978 the Environmental Protection Agency (EPA) designated the SVRP Aquifer as a “Sole Source Aquifer” under Section 1424(e) of the Safe Drinking Water Act. From May 1977 to June 1978 the Spokane County Water Quality Management Program conducted a one-year study of the aquifer to determine if surface “recharge” is occurring to carry ground surface pollutants to the aquifer and, if so, the effect of such activities. The study concluded that domestic, municipal, commercial, agricultural, and industrial activities do impact aquifer water quality.

The 1978 Spokane Aquifer Cause and Effect Report determined that on-site sewage systems contribute to water quality degradation in the SVRP aquifer. As a result, the 1979 Spokane Aquifer Water Quality Management Plan included the following:

The recommendations for handling sanitary wastewater and mitigation of its pollution to the groundwater include the collection of all sewage from urbanized areas and treatment for discharge in such manner that the pollutants cannot enter the aquifer. Central sewer planning within the aquifer sensitive area should result in sewerage of areas that have been urbanized or are to be urbanized.

The 1983 update to the Spokane Aquifer Cause and Effect Report found that there was an increasing trend in nitrate concentrations in the aquifer confirming the need to address on-site sewage disposal.

Spokane County Utilities began implementation of the Septic Tank Elimination Program (STEP) to address concerns that onsite sewage systems contribute to water quality degradation in the aquifer. STEP was completed in 2012, though additional areas not included in STEP are still being connected to sewer.

As a result of the 1983 study findings, the *Spokane Aquifer Water Quality Management Plan* was developed. One recommendation of the plan was to develop and implement a long-term ground water quality monitoring program to assess the effectiveness of the STEP. From 1980 to 2000 the Spokane Regional Health District (SRHD) conducted the aquifer monitoring program and in 2000 the Spokane County Water Resources section of the Division of Utilities (formerly the Spokane Water Quality Management Program) undertook the aquifer monitoring program.

The original study included 80 sample locations. Sixty locations were existing water supply wells, both water purveyor and private wells, and 20 locations were dedicated monitoring wells. From 1980 to 1996 all sampling locations were water supply wells. In 1996 dedicated monitoring wells were added to the monitoring network. In 2007, four spring/seep sampling locations were added. Currently the monitoring network is comprised of 29 dedicated monitoring wells, 17 public supply wells and 5 spring locations. Figure 1 shows the current sampling locations.

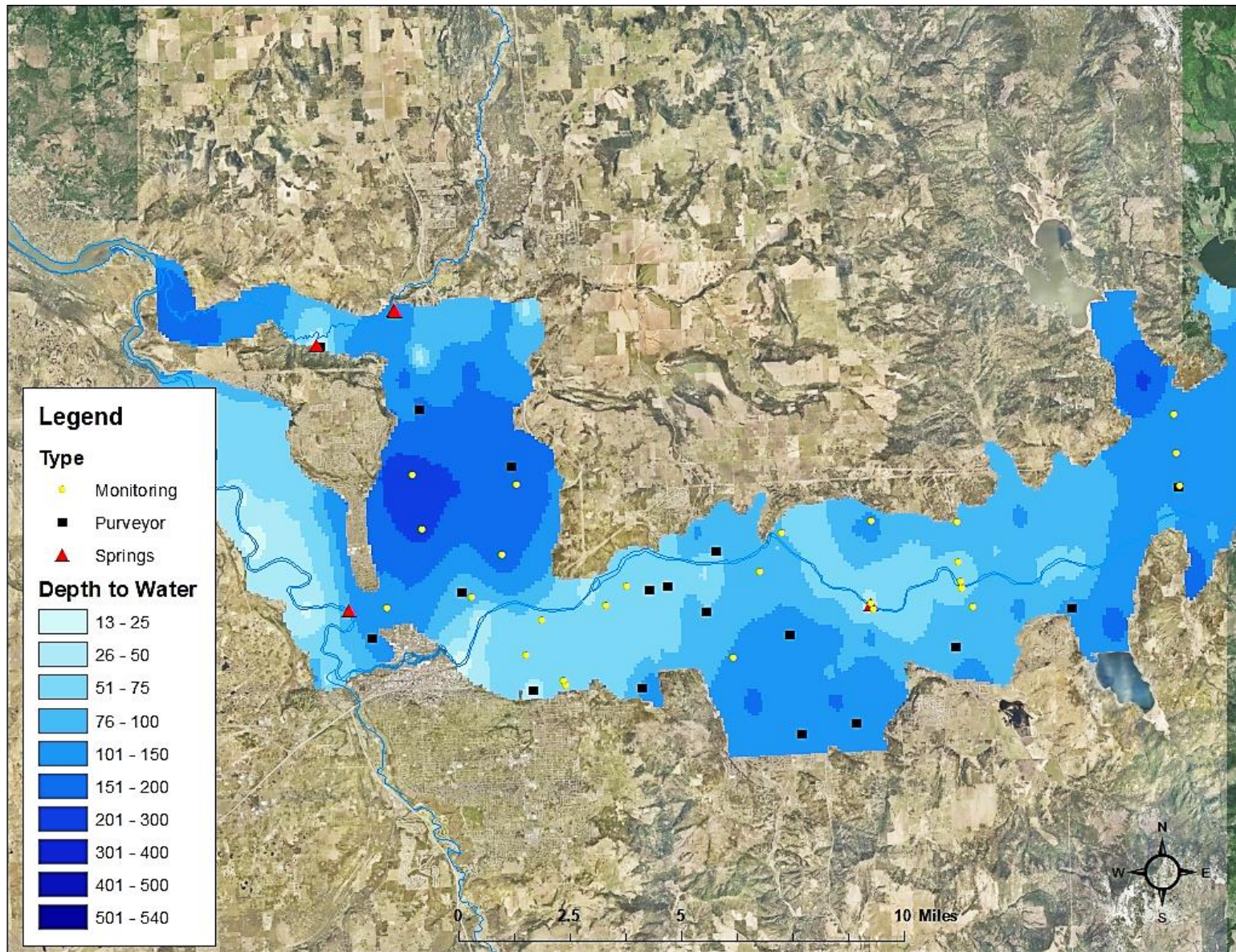


Figure 1. Map of the Spokane Valley Rathdrum Prairie Aquifer monitoring network with depth to water contours in feet.

Program Objectives

The SVRP long term monitoring program has three objectives: 1) Asses the current aquifer water quality; 2) Identify spatial and temporal water quality trends; and 3) Evaluate water quality trends that are related to the Spokane County Septic Tank Elimination Program.

Study Area and Hydrogeologic Setting

Aquifer Hydrology

The SVRP aquifer underlies about 370 square miles of relatively flat, alluvial valley surrounded by bedrock highlands (Kahle and others, 2005). The aquifer consists primarily of coarse-grained sediments including sand, gravels, cobbles, and boulders. There is generally a greater percentage of finer material near the margins of the valley and becomes more coarse near the center throughout the Rathdrum Prairie and Spokane Valley. In the northwest portion of the aquifer, often referred to as the Hillyard Trough, the deposits are finer grained and the aquifer consists of sand with some gravel, silt, and boulders. The aquifer is highly productive. Aquifer wells yield as much as several thousand gallons per minute with relatively little drawdown. The hydraulic conductivity of the aquifer sediments is at the upper end of values measured in the natural environment (Kahle et al, 2005)

Spokane River SVRP Aquifer Interaction

The Spokane River is the largest source of recharge to the aquifer and receives the largest amount of discharge from the aquifer. A groundwater budget for the SVRP Aquifer developed by the USGS in 2007 estimates the Spokane River discharges 718 cubic feet per second (cfs) to the aquifer, representing 49 percent of the total mean annual aquifer inflow of 1,417 cfs. The Spokane River receives an estimated 861 cfs from the aquifer representing 59 percent of the total mean annual outflow of 1,468 cfs. There are two distinct river reaches where the Spokane River receives water from the aquifer: 1) Flora Road to Greene Street; and 2) The Spokane Gage to Nine Mile Dam. These reaches are considered gaining reaches. There are also two distinct river reaches were the Spokane River discharges to the aquifer: 1) Coeur d'Alene Lake to Flora Road; and 2) Green Street to Monroe Street. These reaches are considered losing reaches. Aquifer water quality in the immediate vicinity of the river in the losing reaches is influenced by river water quality.

Monitoring Network

The current monitoring network includes 15 purveyor wells, 31 monitoring wells, and 5 natural springs for a total of 51 monitoring locations. The network is spatially distributed to provide information on water quality throughout the aquifer (Figure 1).

In addition to assessing general water quality, the monitoring network provides data for specific objectives. Four monitoring locations are at the Washington/Idaho border and provide a baseline to which water quality data from down gradient wells can be compared. At Barker Road, there are four monitoring locations that provide data to evaluate the water quality in the vicinity of a losing reach of the Spokane River. At Sullivan Road, there are three monitoring locations that provide data to evaluate water quality in the vicinity of a gaining reach of the Spokane River. The natural springs monitoring locations provide additional water quality information on aquifer water that enters surface water bodies, both the Spokane and Little Spokane Rivers.

Samples are collected in a manner to provide data on water quality at the surface of the aquifer. The rationale for this approach is that impacts to the aquifer will occur first at the surface. There are two locations that have “nested wells” that provide data at the same location but different depths. Many of the water supply wells also withdraw water from greater depths than the dedicated monitoring wells.

Summary of Field Activities

Monitoring Events

In 2022, sampling events occurred quarterly and included measurement of field parameters and sample collection for laboratory analysis. Monitoring locations and sample collection varies each quarter as summarized in Table 1.

There are 27 sites regularly monitored every quarter. Field parameters are collected regularly at every site each quarter. Samples are collected for four nutrient parameters (chloride, nitrate+nitrite, total phosphorus, and soluble reactive phosphorus) at every site each quarter, with Quarter 2 (Spring) sampling being the only exception.

During Quarter 2 (Spring) sampling, five additional monitoring wells are included in the sampling event for a total of 32 sites being sampled during Quarter 2. The samples collected from the five added sites are only analyzed for metals (no nutrient analyses). In addition, a sample for metals analysis is collected at only one of the regular monitoring locations, 5507A04; none of the other regular monitoring locations are sampled for metals during Quarter 2. The metals included in the Quarter 2 analysis are listed in Table 1.

During Quarter 3 (Summer) sampling, all 51 sites are sampled for all parameters (Table 1).

There were several deviations from the standard sampling strategy in 2022. Three flush mount sampling wells were not sampled in Quarter 1 due to snow and ice conditions that prevented access to the wells: 6th and Havana (5323E01), Sullivan Road (5411R06), Balfour Park (5417R02). During Quarter 4, Sullivan Park (5411R03), Sullivan Road (5411R06), and East Valley High School (6436N01) were missed after the tubing on the pump broke and had to be replaced. The Trent and Barker (5505D01) well was sampled only during the first quarter; all other quarters were missed at this location due to construction activities affecting site access.

Table 1. Summary of SVRP monitoring locations and parameters by quarter.

	All Quarters	Added during Quarter 2 (Spring)	Added during Quarter 3 (Summer)
Sites			
Purveyor Wells	5322F01 5324G01 5312H01 5407C01 5405K01 5427L01 5426L03		5308A02 5213B01 5408N01 5415E03 5518R01 5515C01 6328H01 6320D01
Monitoring Wells	5417R02 5411R06 6631M07 5311J05 6524R01 5322A01 6525R01 5323E01 5505D01 5315L01 5507A04 5310Q01 6436N01 5308H01 5411R03 6327N04	5312C01 5507H01 5508M01 5508M02 5517D05	*Quarter 2 Wells 6331M04 5307M01 5304G01 6330J01 6331J01 6211K01 6311J07 5322A03 5409C02 5404A01
Springs	6306P01s 6306P01s2 6211J01s 5212F01s		5411R05s
Parameters			
Field Parameters	Water Temperature pH Dissolved Oxygen Specific Conductance		
Nutrients	Chloride Nitrate+Nitrite Total Phosphorus Soluble Reactive Phosphorus (SRP)		Fluoride
Metals		Arsenic (As) Cadmium (Cd) Copper (Cu) Lead (Pb) Mercury (Hg) Zinc (Zn)	*Quarter 2 metals Calcium (Ca) Chromium (Cr) Magnesium (Mg) Manganese (Mn) Potassium (K) Sodium (Na)

Field Methods

Dedicated monitoring wells were sampled in the following manner. The depth to groundwater in the well was measured and recorded on field sheets. The pump intake was rinsed with deionized water and then lowered to the appropriate sampling depth: the top of the screened interval or, if the water level was below the top of the screened interval, the pump was set 1 to 1.5 feet below the water table

surface. The monitoring wells were purged utilizing low-flow sampling techniques per EPA guidelines. Those techniques are described in the *Spokane County Water Resources Long Term Monitoring Program Quality Assurance Project Plan (QAPP)*, August 2007. Water supply wells used for groundwater monitoring are run a minimum of five minutes before the sample is collected to obtain a representative sample. Groundwater samples are collected from spigots on the purveyor well discharge lines as close to the pump as possible. The field parameters such as depth-to-water, temperature, pH, and specific conductance are recorded on field sheets. Groundwater samples are delivered to the laboratory under Chain-of-Custody procedures. Copies of the Chain-of-Custody forms are available on request.

Analytical Methods

Analytical services were provided by SVL Analytical in Kellogg, ID and IEH Aquatic Research in Seattle, WA as summarized in Table 2.

Table 2. Analytical methods

Lab	Parameter/Analyte	Method
SVL Analytical	Chloride, Fluoride	EPA 300
	Nitrate+Nitrite	EPA 353.2
	Mercury	EPA 245.1
	Metals	EPA 200.7 and 200.8
IEH Aquatic Research	Total Phosphorus	SM18 4500PF
	Soluble Reactive Phosphorus (SRP)	SM18 4500PF

Data Quality Assurance/Quality Control

Analytical results were validated to ensure data quality objectives including precision, accuracy, representativeness, and completeness as outlined in the QAPP were met.

Anomalies were noted across three sampling events during the data validation process, resulting from detectable concentrations of analytes in a single field blank and three equipment blanks (Table 3).

Table 3. Field and Equipment Blank Detections

Sampling Event	Field Blank Detections (mg/L)	Equipment Blank Detections (mg/L)
Qtr 1	---	Nitrate (0.077)
Qtr 2	Nitrate (0.157)	Nitrate (0.155) Zinc (0.006)
Qtr 3	---	Arsenic (0.00146) Chromium (0.002) Sodium (1.64) Magnesium (4.28) Potassium (0.77) Manganese (0.005) Calcium (12.60)

QA/QC procedures require qualifying sample data with an “R” (Reject) if the concentration of an analyte detected in a blank is greater than 10 percent of the sample’s concentration of that analyte. The threshold sample concentration at which the blank concentration would be 10 percent is calculated by the following equation:

$$\text{Threshold Concentration (mg/L)} = 10 \times \text{Blank Concentration (mg/L)}$$

A sample's concentration must be above the calculated threshold for the blank's concentration to account for less than 10 percent of the analyte in the sample. Therefore, samples at the threshold level or below could be rejected per the QA/QC procedures. However, with field and equipment blank contamination, professional judgement was also exercised by examining the sample data against historic data before rejecting the results. Results from the Quarter 1, 2, and 3 sampling events were examined to determine whether there were any potential anomalies in sample concentrations for analytes with detections in the associated blank(s).

During the Quarter 1 sampling event, the equipment blank prepared on Feb. 3, 2022 had a detectable level of nitrate resulting in a threshold concentration of 0.77 mg/L. Three Quarter 1 samples had concentrations below the threshold; however, these data were within normal ranges for each location (Table 4). Therefore, sample results for nitrates from Quarter 1 samples are deemed of sufficient quality for reporting and analytical purposes and are not rejected.

Table 4. Quarter 1 samples with nitrate concentrations at or below the calculated threshold level of 0.77 mg/L considered for rejection based on blank contamination and whether data was rejected based on historic values.

Sample ID/Location	Nitrate (mg/L)	Historic Nitrate Data through 2020 (min, median, max (mg/L))	Reject?
5310Q01/5310Q01a	0.732/0.736	0.70, 0.97, 2.46	No
5308H01	0.774	0.72, 1.09, 2.53	No

During the Quarter 2 sampling, the field and equipment blank had detectable levels of nitrate, resulting in a threshold concentration of 1.55 mg/L. Thirteen Quarter 2 samples had concentrations below the threshold. However, nitrate results for samples collected this quarter were within normal ranges for each location (Table 5). Therefore, sample results for nitrates from Quarter 2 samples are deemed of sufficient quality for reporting and analytical purposes and are not rejected.

Table 5. Quarter 2 samples with nitrate concentrations at or below the calculated threshold level of 1.55 mg/L considered for rejection based on blank contamination and whether data was rejected based on historic values.

Sample ID/Location	Nitrate (mg/L)	Historic Nitrate Data through 2020 (min, median, max (mg/L))	Reject?
6211J01s	1.530	1.36, 1.60, 2.73	No
5322A01	1.270	0.14, 1.63, 3.90	No
6631M07	1.170	1.16, 1.67, 2.30	No
5405K01	1.080	0.84, 1.37, 3.15	No
6525R01	0.955	0.71, 1.02, 2.56	No
5310Q01/5310Q01a	0.947/0.934	0.70, 0.97, 2.46	No
5315L01	0.936	0.93, 1.16, 2.46	No
5212F01s	0.931	1.71, 2.16, 2.79	No
5411R03	0.925	0.07, 0.98, 1.50	No
5417R02	0.820	0.75, 0.93, 1.21	No
5411R06	0.749	0.20, 1.14, 1.28	No
5308H01	0.644	0.72, 1.09, 2.53	No

During the Quarter 2 sampling, the equipment blank had detectable levels of zinc, resulting in a threshold concentration of 0.06 mg/L. All Quarter 2 samples analyzed for zinc were below this threshold. However, only one sample collected for 5517D05 appears to have an unusually high concentration compared to the site's historic range (Table 6). Therefore, this is the only Quarter 2 data that is rejected per the QA procedures.

Table 6. Quarter 2 samples with zinc concentrations at or below the calculated threshold level of 0.06 mg/L considered for rejection based on blank contamination and whether data was rejected based on historic values.

Sample ID/Location	Zinc (mg/L)	Historic Zinc Data through 2020 (min, median, max (mg/L))	Reject?
5508M01	0.0263	ND, 0.0307, 0.0496	No
5517D05	0.0232	ND, ND, 0.0192	YES
5312H01	0.0179	ND, 0.0146, 0.0755	No
5508M02	0.0140	ND, 0.0104, 0.0280	No
5507H01	0.0137	ND, 0.0303, 0.1360	No
5312C01	<0.005, or ND	ND, ND, 0.0520	No
5507A04/A04a	<0.005, or ND	ND, ND, 0.0129	No

ND = non-detect

During Quarter 3 sampling, the equipment blank prepared on Aug. 1, 2022 had detectable levels for arsenic, chromium, sodium, magnesium, potassium, and calcium resulting in the following threshold concentrations: arsenic, 0.0146 mg/L; chromium, 0.02 mg/L; sodium, 16.4 mg/L; magnesium, 42.8 mg/L; potassium, 7.7 mg/L; manganese, 0.05 mg/L; and calcium, 126 mg/L.

All Quarter 3 samples analyzed for these constituents could require rejection per the QA procedures because sample concentrations are below the threshold concentration for each analyte. However, analysis of the Quarter 3 sample data shows that the results for calcium, magnesium, potassium, sodium, and arsenic are near the 20-year medians for each site (Appendix B). This demonstrates that these results were not biased by any potential equipment contamination and do not require rejection.

Most samples (n=43) had non-detects for chromium during Quarter 3, as expected given the 20-year median concentration is non-detect for the associated sites. Another four samples have results for chromium that are near the associated site's median or 3rd Quartile (Q3) concentration, meaning these measurements are not unusual for the site. This demonstrates that these 47 results were not biased by any potential equipment contamination and do not require rejection. However, the remaining three results for chromium are statistical outliers given these concentrations are above the associated site's 20-year maximum concentration. These are also close to the concentration found in the equipment blank. This suggests these three results may have been biased by potential equipment blank contamination and should be rejected.

Most samples (n=40) had non-detects for manganese during Quarter 3, as expected given the 20-year median concentration is non-detect for the associated sites. Another five samples have results for manganese that fall within the associated site's median, Q3, and/or maximum concentrations, meaning these measurements are not unusual for the site. This demonstrates that these 45 results were not biased by any potential equipment contamination and do not require rejection. The remaining five results for manganese are statistical outliers given these concentrations are above the associated site's 20-year maximum concentration.

When field and lab blanks for a sampling event do not have detectable concentrations of analytes detected in an equipment blank, this suggests solely an equipment contamination problem. The equipment blank detections may be the result of an inadequate rinse of the pump prior to sampling the rinsate. It is also important to note that the equipment blank from the 2021 Quarter 3 sampling event also had detections of the same analytes, but at higher levels. Therefore, the process of preparing the equipment blank has improved but still requires additional volume of rinse water. Staff have been informed to adequately allow rinse water to run through the equipment before sampling the rinsate. The reason sample results are not affected is that a larger volume of water runs through the pump during a 10-minute well purge prior to the collection of aquifer samples.

Despite the potential equipment blank contamination, it does not appear most of the groundwater sampling results were biased by handling procedures or the equipment. Results for these parameters from the three sampling events were largely within normal ranges for each location. Therefore, while the blank contamination is noted, only one anomalous result was rejected during the QA/QC process.

Water Quality Results

The following section summarizes the 2022 analytical results for all water quality parameters. Quarterly analytical and field results are presented in Appendix A.

Only certain parameters have Primary Maximum Contaminant Levels (MCL) and Secondary drinking water standards defined by the EPA (40 CFR Chapter 1 Part 141) and State of Washington (WAC 246-290-310) (Table 7).

Primary MCLs are standards set for the protection of human health. Secondary Drinking Water Regulations (secondary standards) are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The EPA recommends secondary standards to water systems but does not require systems to comply. The State of Washington has also identified “trigger levels” for some contaminants (Table 7). Trigger levels are analyte concentrations that trigger additional sampling requirements for public water purveyors.

Table 7. Washington State Drinking Water Standards

Analytes	Drinking Water Standards		
	MCL	Trigger Level	Secondary
Nitrate+Nitrite	10	5	-
Arsenic	0.01	0.005	-
Lead	0.015	-	-
Copper	1.3	-	-
Mercury	0.002	0.0004	-
Cadmium	0.005	0.005	-
Chromium	0.1	0.02	-
Fluoride	4	0.5	2
Chloride	-	250	250
Zinc	-	5	5
Manganese	-	0.05	0.05

During 2022 there were no exceedances of the Primary MCLs; however, there were exceedances of the state trigger levels for two analytes: arsenic and manganese. In regulation, these standards apply to source sampling performed by public water purveyors as prescribed in State of Washington Drinking Water regulations. These standards provide a basis for comparison for the Long-Term Monitoring Program results and exceedances of these standards are noted in this report. However, such

exceedances do not constitute a basis for regulatory action, as this is a non-regulatory monitoring program.

Several analytes (lead, copper, manganese, mercury, cadmium, chromium, zinc, and fluoride) are generally not detectable in samples, having more than 75 percent of samples reported as below the laboratory detection limits.

A detailed discussion regarding the results for each analyte follows.

Arsenic

Arsenic occurs naturally as a trace element in many types of rock and sediment. Therefore, it can enter groundwater through natural biogeochemical processes depending on conditions in the aquifer and the chemical form of the arsenic. Natural groundwater may contain trace levels (0.1 mg/L or less) of arsenic. Arsenic can also enter groundwater through discharges from agricultural and industrial practices.

Arsenic in drinking water is a health hazard. It is toxic at low levels and is a known carcinogen. Exposure can cause skin damage, circulatory system problems, and increased risk of cancer. For this reason, arsenic has a primary MCL of 0.010 mg/L and a trigger level of 0.005 mg/L.

During 2022, 63 samples were analyzed for arsenic. Arsenic levels detected across all samples range from below the analytical method reporting limit (0.001 mg/L) to 0.0059 mg/L. There were four samples with arsenic concentrations above the state trigger level. Eight samples (or approximately 13 percent) were non-detect.

Cadmium

Cadmium is a naturally occurring element often associated with lead, copper and zinc ores. Therefore, it can enter groundwater from erosion of natural deposits in the earth. Natural groundwater may contain trace levels (0.1 mg/L or less) of cadmium. Anthropogenic sources include discharges from metal refineries, corrosion of galvanized pipes, and runoff from wastes from batteries and paints.

Cadmium in drinking water is a health hazard. Exposure through consumption can adversely affect the kidneys and bone. Cadmium has a primary MCL of 0.005 mg/L, which is also the State trigger level.

During 2022, 63 samples were analyzed for cadmium. Cadmium levels were below the analytical method reporting limit (0.0002 mg/L) for all but one sample, which had a concentration of 0.00021 mg/L. Therefore, there is little risk of cadmium reaching or exceeding the MCL.

Calcium

Calcium is naturally very abundant, occurring in rocks, bones and shells. Natural sources of calcium include feldspars, gypsum, dolomite, aragonite, calcite, amphiboles, and pyroxenes. Calcium is major constituent in natural groundwater. Calcium, along with magnesium, can contribute to water hardness. Hardness is a characteristic of water which can enhance its palatability. Calcium is not a health hazard in drinking water and therefore no drinking water standards are established. During 2022, 55 samples were analyzed for calcium. Calcium levels detected across all samples range from 5.68 mg/L to 63.7 mg/L.

Chloride

Natural sources of chloride are primarily sedimentary rocks (e.g. halite or sylvite) with some igneous rocks. Chloride minerals from sedimentary rocks are highly soluble in water, resulting in chloride being present in all natural waters. Concentrations of chloride varies greatly, with sea water having the maximum level at ~35,000 mg/L. It is a major constituent of natural groundwater. Anthropogenic sources of chloride include sewage, some industrial effluents, and deicers.

Chloride does not pose a health hazard. Chloride is an aesthetic contaminant and has a secondary water quality of 250 mg/L to maintain palatability and use. The State trigger level is also 250 mg/L. Levels above 250 mg/L will cause water to taste salty. High chloride levels may also make water unsuitable for uses such as agriculture.

During 2022, 136 samples were analyzed for chloride. Chloride levels across all samples range from 1.73 mg/L to 34 mg/L. Therefore, the secondary water quality standard and State trigger level were not exceeded.

Chromium

Chromium is naturally occurring metal found in rocks and soil. Therefore, it can enter groundwater through erosion of natural deposits. Natural groundwater contains trace levels (0.1 mg/L or less) of chromium. Anthropogenic sources include discharges from pulp and steel mills, and other industrial processes.

There are two forms of chromium that may be present in natural waters: trivalent chromium (chromium-3) and hexavalent chromium (chromium-6). Chromium-6 is the form that presents a health concern. Exposure to chromium-6 can cause allergic dermatitis. However, since chromium can change forms in water and in the body, the drinking water standards are set for total chromium. Chromium has a Primary MCL of 0.1 mg/L and a state trigger level of 0.02 mg/L.

In 2022, 55 samples were analyzed for total chromium. Chromium levels across all samples ranged from below the analytical method reporting limit (0.0015 mg/L) to 0.00369 mg/L; this includes the three sample results from quarter 3 that were rejected due to bias from equipment contamination. Most samples (n = 48, or 87 percent) were non-detect. Therefore, the drinking water standards were met.

Copper

Copper is found naturally in rocks and soil. Copper can be found naturally as a pure metal as well as in copper sulfides, oxides, carbonates, and in complex copper minerals containing iron, nickel, cobalt, lead, zinc, silver or other elements. Natural groundwater contains trace levels of copper. Levels over 0.05 mg/L are not naturally encountered in groundwater, so levels about this may indicate pollution. Sources of contamination to groundwater are industrial discharges. Corrosion of household plumbing systems can lead to excess copper in drinking water, and cause metallic taste and blue-green staining.

While some copper intake is necessary for human health, exposure above certain levels can cause a variety of symptoms related to copper poisoning. Concentrations between 2.8 and 7.8 mg/L can cause signs of gastrointestinal distress such as vomiting or diarrhea. More severe cases of copper poisoning result in anemia, liver or kidney damage. To prevent adverse health effects associated with copper, the primary MCL is 1.3 mg/L and the secondary standard is 1.0 mg/L.

During 2022, 63 samples were analyzed for copper. Copper levels across all samples ranged from below the analytical method reporting limit (0.001 mg/L) to 0.0085 mg/L. Most samples (n = 49, or 77 percent) were non-detect. The copper MCL and secondary standard was never reached or exceeded.

Fluoride

Fluoride is classified as any binary compound of another element bonded with fluorine. Fluorine is a natural trace element that exists in almost all soils. Natural sources of fluoride include amphiboles (hornblende), apatite, fluorite, fluorspar, cryolite, and mica. Fluoride is considered a secondary constituent of natural groundwater; secondary constituents are generally present in groundwater in concentrations between 0.01 to 10 mg/L.

Though fluoride salt is often added to drinking water at about 1 mg/L for the purposes of preventing tooth decay, fluoride in drinking water at higher concentrations is a health hazard. Fluoride at concentrations of more than 2 mg/L can result in a condition called mottling or discoloration of permanent teeth in children. Exposure to 4 mg/L or more for many years can cause skeletal fluorosis, where bones become extremely brittle. To prevent such adverse health effects, fluoride has a primary MCL of 4 mg/L and a State trigger level of 0.5 mg/L.

During 2022, 55 samples were analyzed for fluoride. Fluoride levels across all samples ranged from below the analytical method reporting limit (0.1 mg/L) to 0.318 mg/L. Most samples (n = 52, or 94.5 percent) were non-detect. The MCL and secondary standard was never reached or exceeded.

Lead

Lead is a naturally occurring metal found in rocks and soils. However, naturally occurring lead in a pure metallic form is rare and it is often found in combination with other minerals. The most common source of lead is sulphide, or galena. Lead tends to bind to soils and sediments which limits its presence in water. For this reason, natural groundwater only contains trace levels (0.1 mg/L or less) of lead. Levels above this may indicate pollution is occurring. Sources of contamination to groundwater may include industrial and mine discharges.

Any exposure to lead can cause adverse health effects including damage to the nervous system, kidneys, and bone marrow. In children, lead can cause delays in physical and mental developments leading to decreased attention span and learning disabilities. For this reason, lead has a federal action level of 0.015 mg/L.

During 2022, 63 samples were analyzed for lead. Lead levels were below the analytical method reporting limit (0.001 mg/L) for all samples. Therefore, the federal action level was never reached or exceeded.

Manganese

Manganese is naturally found in soils, ores and rock, and is common in many groundwater sources. Natural sources of manganese include metamorphic and sedimentary rocks, mica biotite, amphibole hornblende. Natural groundwater contains trace levels of manganese (0.1 mg/L or less).

Manganese is not a health hazard in drinking water and therefore no primary MCL was established. Manganese is an aesthetic contaminant and has a secondary water quality standard of 0.05 mg/L. At this level and above, water may be cloudy, form black precipitates, contribute to mineral depositing in pipes or cause difficulty in sudsing and darkening of clothing during washing.

In 2022, 55 samples were analyzed for manganese. Manganese levels across all samples range from below the analytical method reporting limit (0.001 mg/L) to 0.316 mg/L; this includes the five sample results that were rejected due to bias from equipment contamination. There was one exceedance of the secondary water quality standard: a sample from Plante's Ferry Park, which had the highest concentration measured (0.316 mg/L). However, this monitoring location is within a confined aquifer that has unique water quality characteristics. Most samples (n = 44, or 80 percent) were non-detect. Samples with detectable levels of manganese are generally below 0.003 mg/L.

Magnesium

Magnesium is a naturally occurring mineral found in rocks and soils. Natural sources of magnesium include dolomite, magnesite, amphiboles, olivine, pyroxenes and clay minerals. It is a primary constituent of natural groundwater. Magnesium does not have applicable drinking water quality standards. Like calcium, magnesium contributes to water hardness. Hardness is a characteristic of water which can enhance its palatability. Magnesium is not a health hazard in drinking water and, therefore, there are no drinking water standards. In 2022, 55 samples were analyzed for magnesium. Magnesium levels across all samples range from 1.78 to 26.3 mg/L.

Mercury

Mercury is a naturally occurring metal, but it is rare in pure metallic form. However, mercury can be found in inorganic and organic forms. Natural sources of inorganic mercury include cinnabar ore (mercuric sulfide) and calomel. The most common organic form of mercury is methylmercury. Mercury has the highest solubility in water of any metal. Some microorganisms and natural processes can change mercury from one form to the other. Both organic and inorganic forms of mercury can be found in groundwater. Sources of contamination to groundwater may include discharge from refineries and factories and runoff from agricultural land and landfills.

Exposure to all forms of mercury at high levels can permanently damage the brain and kidneys. In pregnant women, mercury can also adversely affect the fetus. Methylmercury is more harmful than other forms, because it can bioaccumulate in tissues. To protect against adverse health effects, the primary MCL for mercury is 0.002 mg/L and the state trigger level is 0.0004 mg/L. This is for total mercury in water.

In 2022, 63 samples were analyzed for mercury. Mercury was not detected in any of the samples, as sample concentrations were below the analytical method reporting limit (0.0002 mg/L). Both the mercury MCL and the state trigger level were never reached or exceeded.

Nitrate

Nitrogen is a naturally occurring element that exists in many forms in the environment including nitrate, nitrite, and ammonia. Natural sources of nitrogen include atmospheric nitrogen, legumes, plant debris, decaying organic matter, animal excrement, and soils. Most nitrogenous materials are quickly converted to nitrate in natural waters, which is the final oxidation product of nitrogen. Nitrite is an intermediate form that occurs in the nitrogen cycle, and is not usually present in high concentrations. Past monitoring efforts confirmed this for the SVRP, which found that nitrite is typically negligible in groundwater samples. For this reason, the analytic method tests for both nitrate and nitrite (nitrate+nitrite), but is assumed to be and is reported as nitrate.

Nitrate is a secondary constituent of natural groundwater and may be present in concentrations between 0.1 to 10 mg/L. Concentrations higher than the local average may suggest pollution is occurring. Sources of nitrate contamination in groundwater include septic tanks, nitrogen-rich fertilizers, and agricultural processes.

Nitrate may present a health hazard in drinking water. Nitrate is especially harmful to infants, who consume a large quantity of water relative to their body weight. Nitrate concentrations above the MCL can lead to methemoglobinemia, a condition that reduces the oxygen carrying capacity of blood. To prevent such adverse health effects, nitrate has a primary MCL of 10 mg/L and a trigger level of 5 mg/L.

In 2022, 136 samples were analyzed for nitrates. Nitrate across all samples range from non-detect (below the analytical method reporting limit of 0.05 mg/L) to 4.40 mg/L. Only one sample was non-detect. Therefore, the drinking water standards for nitrate were met.

Phosphorus

Phosphorus is a naturally occurring mineral that is rare in its pure elemental form. Phosphorus is usually found as organic and inorganic phosphate, and will change forms as it cycles through the environment. Natural groundwater usually contains trace levels (0.1 mg/L or less) of phosphate. Anthropogenic sources of phosphate to groundwater include septic systems, agricultural run-off, and run-off from fertilized lawns.

Phosphorus does not have applicable drinking water quality standards, but can be a concern for general surface water quality. Phosphorus is often limited in freshwater systems and excessive phosphorus can cause accelerated plant and algae growth, which can lead to low dissolved oxygen and fish kills.

Since different forms of phosphate may be present in groundwater, samples are analyzed for both total phosphorus and soluble reactive phosphorus (SRP). Analysis for total phosphorus, like it sounds, measures all forms of phosphorus present in the water sample. Analysis for SRP measures the dissolved portion of inorganic phosphorus within the water sample.

In 2022, 136 samples were analyzed for total phosphorus and for SRP. Total phosphorus levels across all samples ranged from below the analytical method reporting limit (0.002 mg/L) to 0.175 mg/L. SRP levels across all samples ranged from below the analytical method reporting limit (0.001 mg/L) to 0.042 mg/L. One sample had non-detectable levels for total phosphorus and 10 samples (7 percent) had non-detectable levels for SRP.

Potassium

Potassium is a natural mineral found in feldspars (orthoclase and microcline), feldspathoids, some micas, and clay minerals. Potassium is considered a secondary constituent of groundwater, meaning it may be present in groundwater at concentrations between 0.1 and 10 mg/L. Potassium is not a health hazard for drinking water. Therefore, no drinking water standards have been set. In 2022, 55 samples were analyzed for potassium. Potassium levels across all samples ranged from 0.77 to 5.47 mg/L.

Sodium

Sodium is a naturally abundant mineral in rocks and soils such as feldspars (albite), clay minerals, and evaporates such as halite. Sodium is a primary constituent of natural groundwater. There are no applicable drinking water quality standards for sodium. In 2022, 55 samples were analyzed for sodium. Sodium levels across all samples ranged from 2.25 mg/L to 11.90 mg/L.

Zinc

Zinc is a naturally occurring metal that is often found with lead, copper, and silver ores. Zinc also forms salts and zinc compounds by combining with other elements such as chlorine, oxygen, and sulfur.

Natural groundwater contains trace levels (0.1 mg/L or less) of zinc.

Zinc is an aesthetic contaminant and has a secondary water quality of 5 mg/L to maintain palatability and use. The State trigger level is also 5 mg/L. Above this concentration, zinc can cause metallic taste and can add to corrosion and staining of pipes and fixtures.

In 2022, 63 samples were analyzed for zinc. Zinc levels across all samples ranged from below the analytical method reporting limit (0.005 mg/L) to 0.116 mg/L. However, most samples (n = 47, or 75 percent) were non-detect.

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Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		I.E. COLD STORAGE	Denver & Marietta, City monitoring well				CITY of SPOKANE-Nevada	Franklin Park, City monitoring well	Holy Cross, Rhoades & Washington monitoring well	WHITWORTH WATER DIST. #2, Well 2A	NORTH SPOKANE IRRIG. DIST. # 4, Site 4		
WQMP Well ID		5213B01	5308H01				5308A02	6331J01	6330J01	6320D01	6328H01		
SampleID/Comment		5213B01	5308H01	5308H01	5308H01	5308H01	5308A02	6331J01	6330J01	6320D01	6328H01		
Quarter		3	1	2	3	4	3	3	3	3	3		
Sample Date		7/26/22	2/1/22	5/3/22	8/1/22	11/3/22	7/26/22	8/2/22	8/2/22	8/2/22	8/2/22		
Static Water Level (ft)		---	83.10	76.78	82.00	80.37	---	205.41	208.88	---	---		
Sample Depth (ft)		---	86	82	86	86	---	208.5	210	---	---		
Conductivity (µS/cm)		395.80	184.50	168.10	169.20	213.00	209.20	282.00	290.50	269.40	212.30		
Water Temperature (C°)		12.10	13.80	13.60	12.80	13.50	13.70	15.10	14.80	13.90	11.10		
pH		7.94	8.06	7.74	8.08	8.08	8.29	8.16	8.15	7.86	8.32		
Analytes	Washington Drinking Water Standards												
	MCL ¹	Trigger Level ²	Secondary										
Phosphorus	-	-	-	0.009	0.003	0.003	0.005	0.005	0.008	0.005	0.004	0.003	0.005
SRP ³	-	-	-	0.008	0.002	0.002	0.004	0.002	0.003	0.002	0.002	0.001	0.003
Nitrate+Nitrite	10	5	-	1.780	0.774	0.644	0.556	1.000	0.757	0.825	0.878	0.800	0.804
Arsenic	0.01	0.005	-	0.00259	---	---	0.00225	---	0.00265	0.00371	0.00334	0.00361	0.00259
Lead ⁴	0.015	-	-	<0.001	---	---	<0.001	---	<0.001	<0.001	<0.001	<0.001	<0.001
Copper ⁴	1.3	-	-	<0.001	---	---	<0.001	---	0.00166	<0.001	<0.001	<0.001	0.00158
Mercury	0.002	0.0004	-	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Cadmium	0.005	0.005	-	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium	0.10	0.02	-	<0.0015	---	---	<0.0015	---	0.00369*	0.00172	0.00161	<0.0015	<0.0015
Fluoride	4	0.5	2	<0.1	---	---	<0.1	---	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	-	250	250	34.00	6.14	5.90	5.33	7.40	6.09	8.11	5.34	4.44	3.68
Sodium	-	-	-	10.80	---	---	3.32	---	3.29	3.33	3.57	2.95	3.45
Zinc	-	5	5	<0.005	---	---	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005
Magnesium	-	-	-	13.40	---	---	6.17	---	8.08	13.50	14.60	13.70	10.50
Potassium	-	-	-	2.71	---	---	1.27	---	1.49	1.75	1.87	1.78	1.84
Manganese	-	0.05	0.05	<0.001	---	---	<0.001	---	0.00112*	<0.001	<0.001	<0.001	<0.001
Calcium	-	-	-	41.90	---	---	17.70	---	25.30	28.40	27.20	25.50	25.80

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Fire Station Houston & Regal, No. Spokane WD					Trinity School, Adams & Carlisle, City monitoring well	NE Community Center, City monitoring well	Hale's Ale Nested Site, east				Hale's Ale Nested Site, mid	Felts Field City monitoring well			
WQMP Well ID		6327N04					5307M01	5304G01	5311J05				5311J07	5312C01			
SampleID/Comment		6327N04	6327N04	6327N04	6327N04a	6327N04	5307M01	5304G01	5311J05	5311J05	5311J05	5311J05	5311J07	5312C01	5312C01		
Quarter		1	2	3	3	4	3	3	1	2	3	4	3	2	3		
Sample Date		2/1/22	5/3/22	8/2/22	8/2/22	11/3/22	8/1/22	8/2/22	2/1/22	5/3/22	8/5/22	11/3/22	8/5/22	5/3/22	8/2/22		
Static Water Level (ft)		188.25	185.76	186.33	---	189.25	137.10	178.75	65.56	61.58	67.21	66.40	67.42	58.35	62.08		
Sample Depth (ft)		190	187	188	---	190	148	182	67	62.5	69	68	105.1	68	68		
Conductivity (µS/cm)		334.20	395.30	514.50	---	335.40	278.10	324.40	281.90	316.30	368.90	318.00	365.70	199.40	218.20		
Water Temperature (C°)		13.10	14.20	14.90	---	14.20	17.10	15.20	11.00	12.60	12.10	11.10	11.80	13.50	14.70		
pH		8.10	7.69	7.82	---	7.98	8.39	8.03	8.22	7.82	7.89	7.52	7.87	8.08	8.17		
Analytes	Washington Drinking Water Standards																
	MCL ¹	Trigger Level ²	Secondary														
Phosphorus	-	-	-	0.002	0.003	0.004	0.004	0.007	0.005	0.012	0.004	0.009	0.005	0.004	0.005	0.013	
SRP ³	-	-	-	0.002	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.002	0.002	0.002	0.002	0.013	
Nitrate+Nitrite	10	5	-	2.190	3.410	3.330	3.370	2.070	1.080	1.200	1.460	1.650	1.760	1.570	1.750	0.918	
Arsenic	0.01	0.005	-	---	---	0.00148	0.00149	---	0.00259	0.00346	---	---	0.00309	---	0.00303	0.00585	0.00573
Lead ⁴	0.015	-	-	---	---	<0.001	<0.001	---	<0.001	<0.001	---	---	<0.001	---	<0.001	<0.001	<0.001
Copper ⁴	1.3	-	-	---	---	0.00121	<0.001	---	<0.001	0.0011	---	---	<0.001	---	<0.001	0.00177	<0.001
Mercury	0.002	0.0004	-	---	---	<0.0002	<0.0002	---	<0.0002	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002	<0.0002
Cadmium	0.005	0.005	-	---	---	<0.0002	<0.0002	---	<0.0002	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002	<0.0002
Chromium	0.10	0.02	-	---	---	<0.0015	<0.0015	---	<0.0015	0.00239	---	---	<0.0015	---	<0.0015	---	<0.0015
Fluoride	4	0.5	2	---	---	<0.1	<0.1	---	<0.1	0.12	---	---	<0.1	---	0.10	---	<0.1
Chloride	-	250	250	10.20	10.10	11.40	11.10	9.38	8.62	8.83	7.95	9.02	9.65	8.92	9.25	---	4.19
Sodium	-	-	-	---	---	11.90	11.80	---	4.25	4.67	---	---	5.31	---	5.08	---	3.59
Zinc	-	5	5	---	---	<0.005	<0.005	---	<0.005	0.018	---	---	<0.005	---	0.012	<0.005	<0.005
Magnesium	-	-	-	---	---	26.30	26.10	---	10.60	14.70	---	---	16.40	---	16.60	---	6.96
Potassium	-	-	-	---	---	3.86	3.80	---	1.82	1.96	---	---	2.14	---	2.16	---	1.48
Manganese	-	0.05	0.05	---	---	<0.001	<0.001	---	<0.001	0.0135*	---	---	<0.001	---	<0.001	---	<0.001
Calcium	-	-	-	---	---	39.90	39.60	---	30.60	32.70	---	---	38.10	---	37.20	---	25.10

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		ORCHARD AVE IRRIG DIST, Site 1				Orchard Ave Irrig Dist, Site 2 Buckeye & Dick			Plantes Ferry Park monitoring well	PASADENA PARK #2				monitoring well Frederick & Bowdish	MODERN ELECT WATER, Site 6		
WQMP Well ID		5312H01				5407C01			5404A01	5405K01				5409C02	5408N01		
SampleID/Comment		5312H01	5312H01	5312H01	5312H01	5407C01	5407C01	5407C01	5404A01	5405K01	5405K01	5405K01	5405K01	5409C02	5408N01		
Quarter		1	2	3	4	2	3	4	3	1	2	3	4	3	3		
Sample Date		1/25/22	4/26/22	7/26/22	10/25/22	4/26/22	7/26/22	10/25/22	8/5/22	1/25/22	4/26/22	7/26/22	10/25/22	8/1/22	7/26/22		
Static Water Level (ft)		---	---	---	---	---	---	---	47.30	---	---	---	---	90.75	---		
Sample Depth (ft)		---	---	---	---	---	---	---	109.5	---	---	---	---	92	---		
Conductivity (µS/cm)		305.60	316.60	360.30	261.30	312.10	367.70	261.90	319.20	223.60	192.90	215.00	191.20	332.00	276.40		
Water Temperature (C°)		10.40	10.50	10.80	10.50	16.00	21.90	10.40	13.50	11.00	9.90	11.10	10.00	12.00	11.50		
pH		8.13	7.90	7.94	7.68	7.89	7.91	7.72	6.60	8.23	7.55	7.72	7.40	7.86	8.12		
Analytes	Washington Drinking Water Standards																
	MCL ¹	Trigger Level ²	Secondary														
Phosphorus	-	-	-	0.012	0.008	0.010	0.013	0.008	0.010	0.013	0.175	0.008	0.009	0.006	0.007	0.005	0.006
SRP ³	-	-	-	0.012	0.007	0.010	0.013	0.008	0.010	0.012	0.025	0.006	0.007	0.006	0.005	0.004	0.003
Nitrate+Nitrite	10	5	-	1.560	1.800	2.010	1.400	1.670	1.720	1.390	<0.05	1.470	1.080	1.220	1.010	1.510	1.120
Arsenic	0.01	0.005	-	---	0.00481	0.00451	---	---	0.00318	---	<0.001	---	---	0.00139	---	0.00426	0.00297
Lead ⁴	0.015	-	-	---	<0.001	<0.001	---	---	<0.001	---	<0.001	---	---	<0.001	---	<0.001	<0.001
Copper ⁴	1.3	-	-	---	<0.001	<0.001	---	---	0.00195	---	0.01040	---	---	<0.001	---	<0.001	0.00333
Mercury	0.002	0.0004	-	---	<0.0002	<0.0002	---	---	<0.0002	---	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002
Cadmium	0.005	0.005	-	---	<0.0002	<0.0002	---	---	<0.0002	---	<0.0002	---	---	<0.0002	---	<0.0002	<0.0002
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	<0.0015	---	<0.0015	---	---	<0.0015	---	<0.0015	<0.0015
Fluoride	4	0.5	2	---	---	<0.1	---	---	<0.1	---	0.32	---	---	<0.1	---	<0.1	<0.1
Chloride	-	250	250	5.69	7.26	8.18	5.30	7.14	8.49	5.31	1.77	4.93	6.26	4.96	3.87	6.91	5.05
Sodium	-	-	-	---	---	5.07	---	---	5.38	---	10.40	---	---	3.91	---	4.39	3.06
Zinc	-	5	5	---	0.018	0.008	---	---	0.017	---	0.116	---	---	<0.005	---	<0.005	<0.005
Magnesium	-	-	-	---	---	14.80	---	---	15.90	---	13.60	---	---	7.76	---	14.10	12.50
Potassium	-	-	-	---	---	2.40	---	---	2.40	---	5.47	---	---	2.14	---	2.13	1.85
Manganese	-	0.05	0.05	---	---	<0.001	---	---	<0.001	---	0.31600	---	---	<0.001	---	0.02560	<0.001
Calcium	-	-	-	---	---	44.10	---	---	42.60	---	24.30	---	---	24.70	---	37.90	31.30

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

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Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		MODERN ELECT WATER, Site 11	East Valley High School monitoring well				monitoring well at SCC									
WQMP Well ID		5415E03	6436N01				5310Q01									
SampleID/Comment		5415E03	6436N01	6436N01	6436N01	6436N01	5310Q01	5310Q01a	5310Q01	5310Q01a	5310Q01	5310Q01a	5310Q01	5310Q01a		
Quarter		3	1	2	3	4	1	1	2	2	3	3	4	4		
Sample Date		7/26/22	2/3/22	5/3/22	8/5/22	---	2/1/22	2/1/22	5/3/22	5/3/22	8/1/22	8/1/22	11/3/22	11/3/22		
Static Water Level (ft)		---	115.49	112.45	116.13	---	37.50	---	33.76	---	39.38	---	38.72	---		
Sample Depth (ft)		---	117	114	118	---	41	---	41	---	41	---	41	---		
Conductivity (µS/cm)		234.90	509.90	466.30	555.70	---	178.90	---	212.60	---	240.10	---	184.40	---		
Water Temperature (C°)		12.00	13.20	14.40	14.70	---	13.00	---	12.80	---	13.70	---	12.90	---		
pH		8.29	7.66	7.56	7.56	---	8.46	---	8.27	---	8.27	---	8.09	---		
Analytes	Washington Drinking Water Standards															
	MCL ¹	Trigger Level ²	Secondary													
Phosphorus	-	-	-	0.007	0.035	0.042	0.043		0.003	0.003	0.007	0.007	0.004	0.004	0.006	0.006
SRP ³	-	-	-	0.003	0.033	0.042	0.039		0.003	0.003	0.002	0.002	0.003	0.003	0.002	0.002
Nitrate+Nitrite	10	5	-	0.818	3.530	4.400	3.130		0.736	0.732	0.947	0.934	0.796	0.792	0.680	0.682
Arsenic	0.01	0.005	-	0.00330	---	---	0.00244	---	---	---	---	---	0.00307	0.00302	---	---
Lead ⁴	0.015	-	-	<0.001	---	---	<0.001	---	---	---	---	---	<0.001	<0.001	---	---
Copper ⁴	1.3	-	-	<0.001	---	---	<0.001	---	---	---	---	---	<0.001	<0.001	---	---
Mercury	0.002	0.0004	-	<0.0002	---	---	<0.0002	---	---	---	---	---	<0.0002	<0.0002	---	---
Cadmium	0.005	0.005	-	<0.0002	---	---	<0.0002	---	---	---	---	---	<0.0002	<0.0002	---	---
Chromium	0.10	0.02	-	<0.0015	---	---	0.00157	---	---	---	---	---	<0.0015	<0.0015	---	---
Fluoride	4	0.5	2	<0.1	---	---	0.14	---	---	---	---	---	<0.1	<0.1	---	---
Chloride	-	250	250	4.45	14.70	12.90	12.50	---	5.88	5.89	8.09	8.07	7.33	7.36	5.31	5.29
Sodium	-	-	-	2.88	---	---	11.90	---	---	---	---	---	3.54	3.57	---	---
Zinc	-	5	5	<0.005	---	---	<0.005	---	---	---	---	---	<0.005	<0.005	---	---
Magnesium	-	-	-	10.40	---	---	24.30	---	---	---	---	---	9.15	9.29	---	---
Potassium	-	-	-	1.66	---	---	3.76	---	---	---	---	---	1.64	1.66	---	---
Manganese	-	0.05	0.05	<0.001	---	---	0.00164	---	---	---	---	---	0.00199	0.00185	---	---
Calcium	-	-	-	26.10	---	---	60.50	---	---	---	---	---	27.20	27.40	---	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Olive & Fiske monitoring well				Third & Havana Nested Site, east				Third & Havana Nested Site, mid	6th & Havana monitoring well (MW-2)					
WQMP Well ID		5315L01				5322A01				5322A03	5323E01					
SampleID/Comment		5315L01	5315L01	5315L01	5315L01	5322A01	5322A01	5322A01	5322A01	5322A03	5323E01	5323E01	5323E01	5323E01		
Quarter		1	2	3	4	1	2	3	4	3	1	2	3	4		
Sample Date		2/1/22	5/3/22	8/2/22	11/3/22	2/1/22	5/3/22	8/1/22	11/3/22	8/1/22	---	5/3/22	8/1/22	11/3/22		
Static Water Level (ft)		67.21	64.15	68.93	68.38	49.66	46.60	51.40	50.90	51.26	---	47.21	51.85	51.45		
Sample Depth (ft)		68	68	70	69	51	47.5	53	52	90	---	48	53	53		
Conductivity (µS/cm)		217.70	235.60	279.90	160.00	254.20	262.10	298.40	259.90	301.50	---	315.10	416.00	277.40		
Water Temperature (C°)		13.00	14.00	13.90	12.20	12.40	14.20	14.90	12.80	14.30	---	13.50	14.90	12.40		
pH		8.26	8.05	8.12	8.22	8.03	7.84	8.27	8.27	8.30	---	7.79	7.91	8.16		
Analytes	Washington Drinking Water Standards															
	MCL ¹	Trigger Level ²	Secondary													
Phosphorus	-	-	-	0.006	0.008	0.006	0.004	0.007	0.011	0.009	0.006	0.009		0.010	0.011	0.010
SRP ³	-	-	-	0.003	0.003	0.004	0.003	0.006	0.007	0.009	0.005	0.008		0.009	0.011	0.009
Nitrate+Nitrite	10	5	-	0.861	0.936	0.961	0.810	1.230	1.270	1.260	1.200	1.310		1.840	2.170	2.250
Arsenic	0.01	0.005	-	---	---	0.00237	---	---	---	0.00250	---	0.00284	---	---	0.00353	---
Lead ⁴	0.015	-	-	---	---	<0.001	---	---	---	<0.001	---	<0.001	---	---	<0.001	---
Copper ⁴	1.3	-	-	---	---	<0.001	---	---	---	<0.001	---	<0.001	---	---	<0.001	---
Mercury	0.002	0.0004	-	---	---	<0.0002	---	---	---	<0.0002	---	<0.0002	---	---	<0.0002	---
Cadmium	0.005	0.005	-	---	---	<0.0002	---	---	---	0.0002	---	<0.0002	---	---	<0.0002	---
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	---	<0.0015	---	<0.0015	---	---	0.00251*	---
Fluoride	4	0.5	2	---	---	<0.1	---	---	---	<0.1	---	<0.1	---	---	<0.1	---
Chloride	-	250	250	11.00	11.10	13.10	6.05	15.90	10.90	9.18	9.48	9.71	---	12.80	16.30	17.00
Sodium	-	-	-	---	---	3.56	---	---	---	5.46	---	5.94	---	---	7.65	---
Zinc	-	5	5	---	---	<0.005	---	---	---	0.013	---	<0.005	---	---	<0.005	---
Magnesium	-	-	-	---	---	10.20	---	---	---	10.80	---	11.20	---	---	15.40	---
Potassium	-	-	-	---	---	1.71	---	---	---	1.89	---	1.98	---	---	2.58	---
Manganese	-	0.05	0.05	---	---	<0.001	---	---	---	<0.001	---	0.00286*	---	---	<0.001	---
Calcium	-	-	-	---	---	29.90	---	---	---	33.20	---	33.90	---	---	46.10	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		CITY of SPOKANE-Ray				E. SPOKANE WTR DIST, Site 1				Sullivan Road and Krispy Kreme, monitoring well				
WQMP Well ID		5322F01				5324G01				5411R06				
SampleID/Comment		5322F01	5322F01	5322F01	5322F01	5324G01	5324G01	5324G01	5324G01	5411R06	5411R06	5411R06	5411R06	
Quarter		1	2	3	4	1	2	3	4	1	2	3	4	
Sample Date		1/25/22	4/26/22	7/26/22	10/25/22	1/25/22	4/26/22	7/26/22	10/25/22		5/3/22	8/5/22		
Static Water Level (ft)		---	---	---	---	---	---	---	---	---	44.80	51.00	---	
Sample Depth (ft)		---	---	---	---	---	---	---	---	---	46	52	---	
Conductivity (µS/cm)		417.20	443.00	440.10	447.10	470.40	437.80	492.40	449.30	---	197.40	269.20	---	
Water Temperature (C°)		11.80	12.00	12.10	11.80	10.90	11.30	11.70	11.10	---	10.00	11.50	---	
pH		7.83	7.68	7.66	7.34	7.87	7.58	7.77	7.34	---	8.07	8.20	---	
Analytes	Washington Drinking Water Standards													
	MCL ¹	Trigger Level ²	Secondary											
Phosphorus	-	-	-	0.021	0.017	0.016	0.021	0.020	0.013	0.017	0.023		0.005	0.007
SRP ³	-	-	-	0.020	0.015	0.015	0.020	0.019	0.004	0.016	0.022		0.002	0.002
Nitrate+Nitrite	10	5	-	3.090	2.720	2.610	3.100	2.980	2.760	2.930	2.970		0.749	0.996
Arsenic	0.01	0.005	-	---	---	0.00385	---	---	---	0.00447	---	---	---	0.00216
Lead ⁴	0.015	-	-	---	---	<0.001	---	---	---	<0.001	---	---	---	<0.001
Copper ⁴	1.3	-	-	---	---	0.00494	---	---	---	0.00137	---	---	---	<0.001
Mercury	0.002	0.0004	-	---	---	<0.0002	---	---	---	<0.0002	---	---	---	<0.0002
Cadmium	0.005	0.005	-	---	---	<0.0002	---	---	---	<0.0002	---	---	---	<0.0002
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	---	<0.0015	---	---	---	<0.0015
Fluoride	4	0.5	2	---	---	<0.1	---	---	---	<0.1	---	---	---	<0.1
Chloride	-	250	250	24.10	21.90	21.50	25.80	19.60	19.40	20.20	20.60	---	2.96	3.27
Sodium	-	-	-	---	---	9.65	---	---	---	10.60	---	---	---	2.76
Zinc	-	5	5	---	---	<0.005	---	---	---	0.006	---	---	---	<0.005
Magnesium	-	-	-	---	---	16.20	---	---	---	19.00	---	---	---	12.40
Potassium	-	-	-	---	---	2.82	---	---	---	3.30	---	---	---	1.57
Manganese	-	0.05	0.05	---	---	<0.001	---	---	---	<0.001	---	---	---	<0.001
Calcium	-	-	-	---	---	52.80	---	---	---	58.90	---	---	---	27.80

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Sullivan Park South, monitoring well					Sullivan Spring	New Balfour Park monitoring well			
WQMP Well ID		5411R03					5411R05s	5417R02			
SampleID/Comment		5411R03	5411R03	5411R03	5411R03a	5411R03	5411R05S	5417R02	5417R02	5417R02	5417R02
Quarter		1	2	3	3	4	3	1	2	3	4
Sample Date		2/3/2022	5/3/2022	8/5/2022	8/5/2022	---	8/5/22	---	5/5/22	8/5/22	11/1/22
Static Water Level (ft)		32.01	26.95	34.87	---	---	---	---	82.23	70.91	71.66
Sample Depth (ft)		33	28	36	---	---	---	---	85.5	72	73
Conductivity (µS/cm)		223.40	227.30	270.90	---	---	267.70	---	96.40	220.70	192.90
Water Temperature (C°)		8.80	11.30	13.40	---	---	12.40	---	14.60	15.90	13.70
pH		8.30	8.03	7.76	---	---	8.02	---	7.21	8.19	7.40
Analytes	Washington Drinking Water Standards										
	MCL ¹	Trigger Level ²	Secondary								
Phosphorus	-	-	-	0.005	0.006	0.007	0.006	0.007	0.010	0.022	0.006
SRP ³	-	-	-	0.003	0.003	0.002	0.002	0.005	0.007	0.006	0.005
Nitrate+Nitrite	10	5	-	0.976	0.925	0.976	0.967	0.946	0.820	0.831	0.770
Arsenic	0.01	0.005	-	---	---	0.00282	0.00292	0.00307	---	---	0.00291
Lead ⁴	0.015	-	-	---	---	<0.001	<0.001	<0.001	---	---	<0.001
Copper ⁴	1.3	-	-	---	---	<0.001	<0.001	<0.001	---	---	<0.001
Mercury	0.002	0.0004	-	---	---	<0.0002	<0.0002	<0.0002	---	---	<0.0002
Cadmium	0.005	0.005	-	---	---	<0.0002	<0.0002	<0.0002	---	---	<0.0002
Chromium	0.10	0.02	-	---	---	<0.0015	<0.0015	<0.0015	---	---	<0.0015
Fluoride	4	0.5	2	---	---	<0.1	<0.1	<0.1	---	---	<0.1
Chloride	-	250	250	3.15	3.31	3.28	3.25	3.03	5.69	6.17	6.25
Sodium	-	-	-	---	---	3.25	3.06	3.21	---	---	3.09
Zinc	-	5	5	---	---	<0.005	<0.005	<0.005	---	---	<0.005
Magnesium	-	-	-	---	---	12.90	12.10	12.40	---	---	7.74
Potassium	-	-	-	---	---	1.86	1.76	1.86	---	---	1.47
Manganese	-	0.05	0.05	---	---	<0.001	<0.001	0.00142*	---	---	<0.001
Calcium	-	-	-	---	---	29.80	28.00	28.60	---	---	25.00

All results reported in mg/L (ppm)

¹ Maximum Contaminant Levels

² Trigger level identified on WA Dept of Health analytical results forms.

³ Soluble Reactive Phosphorus

⁴ Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Spokane Co Water Dist #3, Site 2-5, 26th & Vercler						VERA WATER & POWER, New Well 4				Mission Well, LIBERTY LAKE SEWER DIST	CONSOLIDATED IRRIG DIST 19, Site 2A				
WQMP Well ID		5427L01						5426L03				5515C01	5518R01				
SampleID/Comment		5427L01	5427L01a	5427L01	5427L01	5427L01a	5427L01	5427L01a	5426L03	5426L03	5426L03	5426L03	5515C01	5518R01			
Quarter		1	1	2	3	3	4	4	1	2	3	4	3	3			
Sample Date		1/25/22	1/25/22	5/3/22	7/26/22	7/26/22	10/25/22	10/25/22	1/25/22	4/26/22	7/26/22	10/25/22	7/26/22	7/26/22			
Static Water Level (ft)		---	---	---	---	---	---	---	---	---	---	---	---	---			
Sample Depth (ft)		---	---	---	---	---	---	---	---	---	---	---	---	---			
Conductivity (µS/cm)		400.00	---	362.00	451.60	---	362.10	---	406.80	430.70	490.10	426.10	332.50	167.40			
Water Temperature (C°)		11.10	---	11.30	11.70	---	11.10	---	11.10	11.00	11.30	11.00	13.20	13.10			
pH		8.19	---	7.71	7.79	---	7.55	---	8.13	7.60	7.68	7.55	7.82	8.60			
Analytes	Washington Drinking Water Standards																
	MCL ¹	Trigger Level ²	Secondary														
Phosphorus	-	-	-	0.006	0.005	0.008	0.007	0.006	0.007	0.007	0.007	0.007	0.009	0.007	0.010	0.011	0.005
SRP ³	-	-	-	0.005	0.004	0.003	0.006	0.005	0.004	0.005	0.007	0.008	0.007	0.007	0.007	0.011	0.002
Nitrate+Nitrite	10	5	-	2.070	2.020	1.980	2.260	2.220	1.970	1.980	2.720	2.650	2.730	2.880	1.310	0.576	
Arsenic	0.01	0.005	-	---	---	---	0.00417	0.00409	---	---	---	---	0.00400	---	0.00301	0.00133	
Lead ⁴	0.015	-	-	---	---	---	<0.001	<0.001	---	---	---	---	<0.001	---	<0.001	<0.001	
Copper ⁴	1.3	-	-	---	---	---	0.00118	0.00106	---	---	---	---	0.00138	---	0.00287	<0.001	
Mercury	0.002	0.0004	-	---	---	---	<0.0002	<0.0002	---	---	---	---	<0.0002	---	<0.0002	<0.0002	
Cadmium	0.005	0.005	-	---	---	---	<0.0002	<0.0002	---	---	---	---	<0.0002	---	<0.0002	<0.0002	
Chromium	0.10	0.02	-	---	---	---	<0.0015	<0.0015	---	---	---	---	<0.0015	---	<0.0015	<0.0015	
Fluoride	4	0.5	2	---	---	---	<0.1	<0.1	---	---	---	---	<0.1	---	<0.1	<0.1	
Chloride	-	250	250	11.60	11.30	11.30	11.80	11.10	10.60	10.60	12.20	11.60	12.20	12.70	6.95	5.31	
Sodium	-	-	-	---	---	---	7.04	7.04	---	---	---	---	8.96	---	5.23	2.70	
Zinc	-	5	5	---	---	---	<0.005	<0.005	---	---	---	---	0.010	---	<0.005	<0.005	
Magnesium	-	-	-	---	---	---	18.70	18.80	---	---	---	---	17.40	---	12.90	5.28	
Potassium	-	-	-	---	---	---	2.87	2.90	---	---	---	---	3.48	---	2.23	1.24	
Manganese	-	0.05	0.05	---	---	---	<0.001	<0.001	---	---	---	---	<0.001	---	<0.001	<0.001	
Calcium	-	-	-	---	---	---	54.00	54.00	---	---	---	---	63.70	---	39.80	21.00	

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

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Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Mission & Barker monitoring well at CID 4		Euclid & Barker monitoring well at CID5						Trent & Barker Road, monitoring well					
WQMP Well ID		5517D05		5507A04						5505D01					
SampleID/Comment		5517D05	5517D05	5507A04	5507A04a	5507A04	5507A04a	5507A04	5507A04	5507A04a	5505D01	5505D01	5505D01	5505D01	
Quarter		2	3	1	1	2	2	3	4	4	1	2	3	4	
Sample Date		5/5/22	8/4/22	2/3/22	2/3/22	5/5/22	5/5/22	8/4/22	11/1/22	11/1/22	2/3/22	---	---	---	
Static Water Level (ft)		82.23	84.31	70.53	---	67.75	---	69.74	69.22	---	93.45	---	---	---	
Sample Depth (ft)		85.5	86	87	---	69.5	---	71	71	---	95	---	---	---	
Conductivity (µS/cm)		96.40	111.50	307.00	---	352.20	---	379.20	326.60	---	337.50	---	---	---	
Water Temperature (C°)		14.60	13.90	9.40	---	11.00	---	11.80	10.40	---	11.20	---	---	---	
pH		7.21	8.22	8.17	---	7.74	---	7.89	7.40	---	8.13	---	---	---	
Analytes	Washington Drinking Water Standards														
	MCL ¹	Trigger Level ²	Secondary												
Phosphorus	-	-	-	0.003	0.003	0.003	0.003	0.003	0.004	0.002	0.003	0.010			
SRP ³	-	-	-	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.009			
Nitrate+Nitrite	10	5	-	0.377	1.400	1.410	1.650	1.580	1.620	1.470	1.480	3.080			
Arsenic	0.01	0.005	-	0.00151	<0.001	---	---	0.00219	0.00207	0.00201	---	---	---	---	---
Lead ⁴	0.015	-	-	<0.001	<0.001	---	---	<0.001	<0.001	<0.001	---	---	---	---	---
Copper ⁴	1.3	-	-	<0.001	<0.001	---	---	<0.001	<0.001	<0.001	---	---	---	---	---
Mercury	0.002	0.0004	-	<0.0002	<0.0002	---	---	<0.0002	<0.0002	<0.0002	---	---	---	---	---
Cadmium	0.005	0.005	-	<0.0002	<0.0002	---	---	<0.0002	<0.0002	<0.0002	---	---	---	---	---
Chromium	0.10	0.02	-	---	<0.0015	---	---	---	---	<0.0015	---	---	---	---	---
Fluoride	4	0.5	2	---	<0.1	---	---	---	---	<0.1	---	---	---	---	---
Chloride	-	250	250	---	2.43	3.17	3.12	3.12	3.12	3.28	3.68	3.45	7.66	---	---
Sodium	-	-	-	---	2.25	---	---	---	---	3.10	---	---	---	---	---
Zinc	-	5	5	0.0232*	<0.005	---	---	<0.005	<0.005	<0.005	---	---	---	---	---
Magnesium	-	-	-	---	3.79	---	---	---	---	18.20	---	---	---	---	---
Potassium	-	-	-	---	0.93	---	---	---	---	2.02	---	---	---	---	---
Manganese	-	0.05	0.05	---	<0.001	---	---	---	---	<0.001	---	---	---	---	---
Calcium	-	-	-	---	11.10	---	---	---	---	39.20	---	---	---	---	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Barker Road north of river, monitoring well		Barker Road Centennial Trail North, monitoring well		Barker Road Centennial Trail South, monitoring well		CONSOLIDATED IRRIG DIST 19, Site 11B	Idaho Road - East Farms monitoring well at CID11					
WQMP Well ID		5507H01		5508M01		5508M02		6631M04	6631M07					
SampleID/Comment		5507H01	5507H01	5508M01	5508M01	5508M02	5508M02	6631M04	6631M07	6631M07	6631M07	6631M07		
Quarter		2	3	2	3	2	3	3	1	2	3	4		
Sample Date		5/5/22	8/4/22	5/5/22	8/4/22	5/5/22	8/4/22	8/4/22	2/3/22	5/5/22	8/4/22	11/1/22		
Static Water Level (ft)		45.99	48.25	64.35	66.75	65.45	67.66	---	116.97	115.33	114.38	113.68		
Sample Depth (ft)		50	50	65.5	68	66.5	69	---	118	116	116	115		
Conductivity (µS/cm)		67.30	69.60	61.10	67.10	62.00	66.90	250.40	225.50	261.50	285.80	237.50		
Water Temperature (C°)		7.00	23.40	7.90	20.10	7.60	16.60	13.40	14.30	15.10	15.60	15.10		
pH		6.64	6.78	6.93	7.09	6.78	6.92	8.13	8.16	7.94	8.04	7.21		
Analytes	Washington Drinking Water Standards													
	MCL ¹	Trigger Level ²	Secondary											
Phosphorus	-	-	-		0.016		0.011		0.010	0.074	0.006	0.003	0.008	0.005
SRP ³	-	-	-		0.015		0.010		0.008	0.004	0.003	0.002	0.004	0.003
Nitrate+Nitrite	10	5	-		0.274		0.275		0.271	0.950	1.140	1.170	1.200	1.080
Arsenic	0.01	0.005	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00560	---	---	0.00506	---
Lead ⁴	0.015	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	---	---	<0.001	---
Copper ⁴	1.3	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	---	---	<0.001	---
Mercury	0.002	0.0004	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	---	<0.0002	---
Cadmium	0.005	0.005	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	---	<0.0002	---
Chromium	0.10	0.02	-	---	<0.0015	---	<0.0015	---	<0.0015	<0.0015	---	---	0.00154*	---
Fluoride	4	0.5	2	---	<0.1	---	<0.1	---	<0.1	<0.1	---	---	<0.1	---
Chloride	-	250	250	---	1.91	---	1.81	---	1.73	5.18	5.80	5.42	5.40	5.69
Sodium	-	-	-	---	2.67	---	2.49	---	2.63	2.84	---	---	2.94	---
Zinc	-	5	5	0.014	0.012	0.026	0.019	0.014	0.010	<0.005	---	---	<0.005	---
Magnesium	-	-	-	---	1.84	---	1.78	---	1.88	11.60	---	---	13.00	---
Potassium	-	-	-	---	0.90	---	0.83	---	0.77	1.89	---	---	2.03	---
Manganese	-	0.05	0.05	---	0.00110	---	<0.001	---	<0.001	<0.001	---	---	<0.001	---
Calcium	-	-	-	---	5.68	---	5.75	---	6.10	24.80	---	---	28.40	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Idaho Road 300 ft south of pipeline, monitoring well				Idaho Road 1000 ft south of Trent, monitoring well						
WQMP Well ID		6525R01				6524R01						
SampleID/Comment		6525R01	6525R01	6525R01	6525R01	6524R01	6524R01	6524R01	6524R01a	6524R01		
Quarter		1	2	3	4	1	2	3	3	4		
Sample Date		2/3/22	5/5/22	8/4/22	11/1/22	2/3/22	5/5/22	8/4/22	8/4/22	11/1/22		
Static Water Level (ft)		106.18	104.61	103.53	102.95	128.13	126.64	125.5	---	125.00		
Sample Depth (ft)		107	106	105	104	129	128	127	---	126		
Conductivity (µS/cm)		279.90	327.80	351.80	305.50	289.40	348.00	373.90	---	301.90		
Water Temperature (C°)		10.20	12.30	11.40	11.10	10.80	12.10	12.50	---	11.60		
pH		8.11	7.80	7.92	7.14	8.14	7.71	7.92	---	7.26		
Analytes	Washington Drinking Water Standards											
	MCL ¹	Trigger Level ²	Secondary									
Phosphorus	-	-	-	0.004	0.002	0.006	<0.002	0.004	0.003	0.007	0.007	0.002
SRP ³	-	-	-	0.002	<0.001	0.002	<0.001	0.003	0.001	0.003	0.002	0.001
Nitrate+Nitrite	10	5	-	0.929	0.955	0.967	0.890	2.070	2.270	2.350	2.300	1.780
Arsenic	0.01	0.005	-	---	---	0.00219	---	---	---	0.00263	0.00272	---
Lead ⁴	0.015	-	-	---	---	<0.001	---	---	---	<0.001	<0.001	---
Copper ⁴	1.3	-	-	---	---	<0.001	---	---	---	<0.001	<0.001	---
Mercury	0.002	0.0004	-	---	---	<0.0002	---	---	---	<0.0002	<0.0002	---
Cadmium	0.005	0.005	-	---	---	<0.0002	---	---	---	<0.0002	<0.0002	---
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	---	<0.0015	<0.0015	---
Fluoride	4	0.5	2	---	---	<0.1	---	---	---	<0.1	<0.1	---
Chloride	-	250	250	2.37	2.20	2.34	2.41	4.95	4.87	4.64	4.64	4.32
Sodium	-	-	-	---	---	3.03	---	---	---	3.44	3.49	---
Zinc	-	5	5	---	---	<0.005	---	---	---	<0.005	<0.005	---
Magnesium	-	-	-	---	---	17.60	---	---	---	16.40	16.50	---
Potassium	-	-	-	---	---	1.87	---	---	---	2.09	2.10	---
Manganese	-	0.05	0.05	---	---	<0.001	---	---	---	<0.001	<0.001	---
Calcium	-	-	-	---	---	35.50	---	---	---	40.20	40.70	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Three Springs					Spokane Fish Hatchery well	SPOKANE FISH HATCHERY, GRIFFITH SPR					
WQMP Well ID		5212F01s					6211K01	6211J01s					
SampleID/Comment		5212F01S	5212F01S	5212F01sa	5212F01s	5212F01sa	6211K01	6211J01s	6211J01S	6211J01S	6211J01s		
Quarter		1	2	2	3	4	3	1	2	3	4		
Sample Date		1/25/22	4/26/22	4/26/22	8/1/22	10/25/22	8/2/22	1/25/22	4/26/22	8/2/22	10/25/22		
Static Water Level (ft)		---	---	---	---	---	---	---	---	---	---		
Sample Depth (ft)		---	---	---	---	---	---	---	---	---	---		
Conductivity (µS/cm)		297.50	324.10	---	358.40	332.60	339.00	307.50	342.00	372.00	322.10		
Water Temperature (C°)		11.20	11.60	---	11.80	11.50	12.00	11.20	11.30	11.40	11.30		
pH		8.38	7.96	---	7.96	7.86	8.11	8.11	7.94	8.04	7.75		
Analytes	Washington Drinking Water Standards												
	MCL ¹	Trigger Level ²	Secondary										
Phosphorus	-	-	-	0.004	0.005	0.005	0.006	0.016	0.006	0.005	0.006	0.008	0.011
SRP ³	-	-	-	0.003	0.004	0.004	0.006	0.004	0.005	0.004	0.005	0.008	0.004
Nitrate+Nitrite	10	5	-	1.940	1.750	0.931	1.760	2.420	1.320	1.530	1.530	1.510	1.570
Arsenic	0.01	0.005	-	---	---	---	0.00321	---	0.00330	---	---	0.00284	---
Lead ⁴	0.015	-	-	---	---	---	<0.001	---	<0.001	---	---	<0.001	---
Copper ⁴	1.3	-	-	---	---	---	<0.001	---	<0.001	---	---	<0.001	---
Mercury	0.002	0.0004	-	---	---	---	<0.0002	---	<0.0002	---	---	<0.0002	---
Cadmium	0.005	0.005	-	---	---	---	<0.0002	---	<0.0002	---	---	<0.0002	---
Chromium	0.10	0.02	-	---	---	---	<0.0015	---	<0.0015	---	---	<0.0015	---
Fluoride	4	0.5	2	---	---	---	<0.1	---	<0.1	---	---	<0.1	---
Chloride	-	250	250	12.10	12.80	12.90	17.10	16.40	9.73	11.50	10.10	12.00	11.00
Sodium	-	-	-	---	---	---	6.96	---	4.18	---	---	4.80	---
Zinc	-	5	5	---	---	---	<0.005	---	<0.005	---	---	<0.005	---
Magnesium	-	-	-	---	---	---	13.80	---	17.30	---	---	18.70	---
Potassium	-	-	-	---	---	---	2.26	---	2.23	---	---	2.44	---
Manganese	-	0.05	0.05	---	---	---	<0.001	---	<0.001	---	---	<0.001	---
Calcium	-	-	-	---	---	---	38.70	---	32.60	---	---	35.00	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name		Waikiki Springs				Waikiki Springs-new location					
WQMP Well ID		6306P01s				6306P01s2					
SampleID/Comment		6306P01s	6306P01s	6306P01s	6306P01s	6306P01s2	6306P01s2	6306P01s2	6306P01s2		
Quarter		1	2	3	4	1	2	3	4		
Sample Date		1/25/22	4/26/22	8/2/22	10/25/22	1/25/22	4/26/22	8/2/22	10/25/22		
Static Water Level (ft)		---	---	---	---	---	---	---	---		
Sample Depth (ft)		---	---	---	---	---	---	---	---		
Conductivity (µS/cm)		347.60	406.70	448.50	321.10	303.30	342.00	366.80	317.80		
Water Temperature (C°)		10.50	10.80	11.20	10.80	10.40	10.70	11.20	10.70		
pH		8.46	8.01	8.01	7.93	8.43	8.22	8.32	8.06		
Analytes	Washington Drinking Water Standards										
	MCL ¹	Trigger Level ²	Secondary								
Phosphorus	-	-	-	0.005	0.004	0.003	0.005	0.004	0.004	0.004	0.006
SRP ³	-	-	-	0.001	0.002	<0.001	0.002	0.001	0.001	0.001	0.004
Nitrate+Nitrite	10	5	-	3.240	2.980	3.280	3.510	1.980	1.950	2.100	2.180
Arsenic	0.01	0.005	-	---	---	0.00210	---	---	---	0.00256	---
Lead ⁴	0.015	-	-	---	---	<0.001	---	---	---	<0.001	---
Copper ⁴	1.3	-	-	---	---	<0.001	---	---	---	<0.001	---
Mercury	0.002	0.0004	-	---	---	<0.0002	---	---	---	<0.0002	---
Cadmium	0.005	0.005	-	---	---	<0.0002	---	---	---	<0.0002	---
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	---	<0.0015	---
Fluoride	4	0.5	2	---	---	<0.1	---	---	---	<0.1	---
Chloride	-	250	250	12.90	15.10	15.40	17.60	8.51	8.16	9.56	9.48
Sodium	-	-	-	---	---	6.38	---	---	---	4.60	---
Zinc	-	5	5	---	---	<0.005	---	---	---	<0.005	---
Magnesium	-	-	-	---	---	22.90	---	---	---	19.90	---
Potassium	-	-	-	---	---	2.54	---	---	---	2.40	---
Manganese	-	0.05	0.05	---	---	<0.001	---	---	---	0.0021*	---
Calcium	-	-	-	---	---	37.30	---	---	---	33.30	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

Results above the trigger level are in red.

*Rejected due to sample contamination, see 2022 Annual Report

Spokane County Water Resources - Spokane Valley Rathdrum Prairie Aquifer Monitoring
2022 Quarterly Results

Well Name				Blank				Equipment Blank			
WQMP Well ID				Blank				Equipment Blank			
SampleID/Comment				BLANK	BLANK	BLANK	BLANK	EQUIP BLANK	EQUIP BLANK	EQUIP BLANK	EQUIP BLANK
Quarter				1	2	3	4	1	2	3	4
Sample Date				2/1/22	5/5/22	8/1/22	11/3/22	2/3/22	5/5/22	8/1/22	11/3/22
Static Water Level (ft)				---	---	---	---	---	---	---	---
Sample Depth (ft)				---	---	---	---	---	---	---	---
Conductivity (µS/cm)				---	---	---	---	---	---	---	---
Water Temperature (C°)				---	---	---	---	---	---	---	---
pH				---	---	---	---	---	---	---	---
Analytes	Washington Drinking Water Standards										
	MCL ¹	Trigger Level ²	Secondary								
Phosphorus	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
SRP ³	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate+Nitrite	10	5	-	<0.05	0.157	<0.05	<0.05	0.077	0.155	<0.05	<0.05
Arsenic	0.01	0.005	-	---	<0.001	<0.001	---	---	<0.001	0.00146	---
Lead ⁴	0.015	-	-	---	<0.001	<0.001	---	---	<0.001	<0.001	---
Copper ⁴	1.3	-	-	---	<0.001	<0.001	---	---	<0.001	<0.001	---
Mercury	0.002	0.0004	-	---	<0.0002	<0.0002	---	---	<0.0002	<0.0002	---
Cadmium	0.005	0.005	-	---	<0.0002	<0.0002	---	---	<0.0002	<0.0002	---
Chromium	0.10	0.02	-	---	---	<0.0015	---	---	---	0.00195	---
Fluoride	4	0.5	2	---	---	<0.1	---	---	---	<0.1	---
Chloride	-	250	250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	-	-	-	---	---	<0.5	---	---	---	1.64	---
Zinc	-	5	5	---	<0.005	<0.005	---	---	0.006	<0.005	---
Magnesium	-	-	-	---	---	<0.5	---	---	---	4.28	---
Potassium	-	-	-	---	---	<0.5	---	---	---	0.77	---
Manganese	-	0.05	0.05	---	---	<0.001	---	---	---	0.00513	---
Calcium	-	-	-	---	---	<0.1	---	---	---	12.60	---

All results reported in mg/L (ppm)

1 Maximum Contaminant Levels

2 Trigger level identified on WA Dept of Health analytical results forms.

3 Soluble Reactive Phosphorus

4 Federal Action Levels established for distribution systems.

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Parameter (Equip Blank Detection)

Well ID	Well Name	Calcium (12.60)		Magnesium (4.28)		Potassium (0.77)		Sodium (1.64)		Arsenic (0.00146)		Chromium (0.002)				Manganese (0.005)					
		QTR 3		20-yr		QTR 3		20-yr		QTR 3		20-yr		20-yr				QTR 3			
		Result (mg/L)	median (mg/L)	Result (mg/L)	median (mg/L)	Result (mg/L)	median (mg/L)	Result (mg/L)	median (mg/L)	Result (mg/L)	median (mg/L)	Result (mg/L)	median (mg/L)	Q3 (mg/L)	Max (mg/L)	Hi Outlier (mg/L)	Result (mg/L)	median (mg/L)	Q3 (mg/L)	Max (mg/L)	Hi Outlier (mg/L)
5323 E01	6th & Havana monitoring well (MW-2)	46.1	47.45	15.4	16.55	2.58	2.715	7.65	8.14	0.00353	0.0035	0.00251	0	0	0	0.003	0	0	0	0	0.0033
5508M01	Barker Road Centennial Trail North, monitoring well	5.75	5.87	1.78	1.71	0.83	0.84	2.49	1.87	0	0	0	0	0	0	0.002	0	0	0	0	0.003
5508M02	Barker Road Centennial Trail South, monitoring well	6.1	6.13	1.88	1.76	0.77	0.845	2.63	1.9	0	0	0	0	0	0	0.0055	0	0	0	0	0.109
5507H01	Barker Road north of river, monitoring well	5.68	6.13	1.84	1.86	0.90	0.9	2.67	2.07	0	0	0	0	0	0	0.0186	0.00110	0	0.001	0.0023	0.117
6631M04	CONSOLIDATED IRRIG DIST 19, Site 11B	24.8	28.35	11.60	12.85	1.89	2.035	2.84	2.8	0.0056	0.00525	0	0	0	0	0.002	0	0	0	0	0
5518R01	CONSOLIDATED IRRIG DIST 19, Site 2A	21	20.05	5.28	4.92	1.24	1.22	2.70	2.205	0.0013	0.0011	0	0	0	0	0	0	0	0	0	0
5308A02	CITY of SPOKANE-Nevada	25.3	29.4	8.08	10.1	1.49	1.68	3.29	3.14	0.0027	0.0021	0.00369	0	0	0	0.0027	0.00112	0	0	0	0.009
5322F01	CITY of SPOKANE-Ray	52.8	51.9	16.20	17.05	2.82	2.89	9.65	9.375	0.0039	0.00405	0	0	0	0	0.0014	0	0	0	0	0.001
5308H01	Denver & Marietta, City monitoring well	17.7	26.9	6.17	9.47	1.27	1.69	3.32	3.12	0.0023	0.0022	0	0	0	0	0	0	0	0	0	0.032
6436N01	East Valley High School monitoring well	60.5	65.4	24.30	28.9	3.76	4	11.90	9.46	0.0024	0.0025	0.00157	0	0.0021	0.0035	0.008	0.00164	0.0019	0.0049	0.0107	0.0294
5324G01	E. SPOKANE WTR DIST, Site 1	58.9	56.15	19.00	18.35	3.30	3.1	10.60	10.9	0.0045	0.0037	0	0	0	0	0.0016	0	0	0	0	0.0148
5507A04	Euclid & Barker monitoring well at CID5	39.2	42.3	18.2	18.5	2.02	2.14	3.1	3.18	0.00201	0.0018	0	0	0	0	0.003	0	0	0	0	0.0323
5312C01	Felts Field City monitoring well	25.1	26.9	6.96	7.14	1.48	1.54	3.59	3.54	0.00573	0.0067	0	0	0	0	0.0014	0	0	0	0	0.0066
6327N04	Fire Station Houston & Regal, No. Spokane WD	39.9	36.2	26.3	25.35	3.86	3.7	11.9	11.8	0.00148	0.0017	0	0	0.00115	0.0028	0.0048	0	0	0	0	0.0188
6331J01	Franklin Park, City monitoring well	28.4	27.6	13.50	13.4	1.75	1.785	3.33	3.03	0.0037	0.0035	0.00172	0.0011	0.002	0.005	0.0383	0	0	0.0014	0.0026	0.432
5409C02	monitoring well Frederick & Bowdish	37.90	36.2	14.1	13.5	2.13	1.92	4.39	3.72	0.0043	0.0048	0	0	0	0	0.0052	0.02560	0.0100	0.014	0.0312	0.059
6211J01s	SPOKANE FISH HATCHERY, GRIFFITH SPR	35.00	34.75	18.7	18.2	2.44	2.335	4.80	4.52	0.0028	0.0031	0	0	0	0	0	0	0	0	0	0.0043
5311J05	Hale's Ale Nested Site, east	38.1	38.1	16.40	17.1	2.14	2.16	5.31	4.24	0.0031	0.0028	0	0	0	0	0.0027	0	0	0	0	0
5311J07	Hale's Ale Nested Site, mid	37.2	37.4	16.60	17.35	2.16	2.135	5.08	4.17	0.0030	0.0028	0	0	0	0	0.0016	0	0	0	0	0.0014
6211K01	Spokane Fish Hatchery well	32.60	32.35	17.30	17	2.23	2.13	4.18	4.15	0.0033	0.0034	0	0	0	0	0.0024	0	0	0	0	0.0007
6330M01	Holy Cross, Rhoades & Washington monitoring well	27.20	28.875	14.60	15.5	1.87	1.89	3.57	3.38	0.0033	0.0032	0.00161	0	0.0012	0.0029	0.0077	0	0	0	0	0.0235
6524R01	Idaho Road 1000 ft south of Trent, monitoring well	40.20	36	16.40	14.9	2.09	2.11	3.44	3.34	0.0026	0.0033	0	0	0.0011	0.0025	0.0053	0	0	0	0	0.0314
6525R01	Idaho Road 300 ft south of pipeline, monitoring well	35.50	34.35	17.60	17.5	1.87	2	3.03	3.04	0.0022	0.0023	0	0	0	0	0.005	0	0	0	0	0.016
6631M07	Idaho Road - East Farms monitoring well at CID11	28.40	32.3	13.00	14.45	2.03	2.24	2.94	2.91	0.0051	0.0043	0.00154	0	0	0	0.0028	0	0	0	0	0.0473
5213B01	I.E. COLD STORAGE	41.90	38.25	13.40	12.7	2.71	2.435	10.80	8.095	0.0026	0.0023	0	0	0	0	0.0058	0	0	0	0	0
5515C01	Mission Well, LIBERTY LAKE SEWER DIST	39.80	32.4	12.90	10.7	2.23	1.94	5.23	4.48	0.0030	0.0031	0	0	0	0	0	0	0	0	0	0.015
5517D05	Mission & Barker monitoring well at CID 4	11.10	12.9	3.79	4.59	0.93	1.14	2.25	2.08	0.0000	0.001	0	0	0	0	0.0015	0	0	0	0	0.0218
5415 E03	MODERN ELECT WATER, Site 11	26.10	24.5	10.40	10.3	1.66	1.62	2.88	2.475	0.0033	0.00305	0	0	0	0	0	0	0	0	0	0
5408N01	MODERN ELECT WATER, Site 6	31.30	32.3	12.50	14	1.85	1.91	3.06	3.155	0.0030	0.0023	0	0	0	0	0.0011	0	0	0	0	0
5304G01	NE Community Center, City monitoring well	32.70	33.4	14.70	14.5	1.96	2.02	4.67	4.82	0.00346	0.0026	0.00239	0.0011	0.0019	0.0047	0.0069	0.01350	0	0	0	0.0396
5417R02	New Balfour Park monitoring well	25.00	25.9	7.74	7.98	1.47	1.55	3.09	2.68	0.00291	0.0026	0	0	0.0005	0.001	0.0098	0	0	0.0009	0.0019	0.0588
6328H01	NORTH SPOKANE IRRIG. DIST. # 4, Site 4	25.80	26.15	10.50	11.45	1.84	2.18	3.45	4.9	0.00259	0.0023	0	0	0	0	0.001	0	0	0	0	0
5315L01	Olive & Fiske monitoring well	29.9	30.7	10.20	10.5	1.71	1.835	3.56	3.46	0.00237	0.0021	0	0	0.0012	0.0018	0.0102	0	0	0	0	0.122
5312H01	ORCHARD AVE IRRIG DIST, Site 1	44.1	38	14.80	14.45	2.4	2.15	5.07	4.535	0.00451	0.0052	0	0	0	0	0	0	0	0	0	0
5407C01	Orchard Ave Irrig Dist, Site 2 Buckeye & Dick	42.6	37.1	15.90	15.1	2.4	2.2	5.38	4.24	0.00318	0.0036	0	0	0	0	0.0015	0	0	0	0	0.175
5405K01	PASADENA PARK #2	24.70	24.2	7.76	7.745	2.14	2	3.91	3.85	0.0014	0.0013	0	0	0	0	0.0019	0	0	0	0	0
5404A01	Plantes Ferry Park monitoring well	24.30	26.15	13.60	13.275	5.47	5.34	10.40	10.95	0.00	0	0	0	0	0	0	0.31600	0.3590	0.37675	0.4305	1.11
5310Q01	monitoring well at SCC	27.40	27.375	9.29	9.505	1.66	1.675	3.57	2.88	0.0030	0.0025	0	0	0	0	0.0017	0.00185	0.0036	0.01045	0.0249	0.0309
5427L01	Spokane Co Water Dist #3, Site 2-5, 26th & Vercler	54.00	48.9	18.80	17.675	2.9	2.64	7.04	6.75	0.0041	0.0041	0	0	0	0	0.0013	0	0	0	0	0
5411R03	Sullivan Park South, monitoring well	29.80	27.9	12.90	12.25	2.86	1.75	3.25	2.815	0.0028	0.0028	0	0	0	0	0.0047	0	0	0	0	0.0298
5411R05s	Springs at Sullivan Park	28.60	29	12.40	12.3	1.86	1.87	3.21	2.95	0.0031	0.0031	0	0	0	0	0	0.00142	0	0	0	0.0054
5411R06	Sullivan Road and Krispy Krems, monitoring well	27.80	30	12.40	13.3	1.57	1.85	2.76	3.11	0.0022	0.0024	0	0	0	0	0	0	0	0	0	0
5322A01	Third & Havana Nested Site, east	33.20	34.85	10.80	11.6	1.89	2.01	5.46	4.985	0.0025	0.0025	0	0	0	0	0.0056	0	0	0	0	0.0328
5322A03	Third & Havana Nested Site, mid	33.90	34.85	11.20	11.8	1.98	2.02	5.94	5.105	0.0028	0.0026	0	0	0	0	0.0044	0.00286	0	0	0	0.0033
5212F01s	Three Springs	38.70	36.35	13.80	13.05	2.26	2.155	6.96	5.92	0.0032	0.00315	0	0	0	0	0	0	0	0	0	0
5505D01	Trent & Barker Road, monitoring well	Not Sampled	48.2	Not Sampled	14.2	Not Sampled	2.43	Not Sampled	6.15	Not Sampled	0.005	Not Sampled	0	0	0	0.0041	Not Sampled	0	0	0	0.03
5307M01	Trinity School, Adams & Carlisle, City monitoring well	30.6	32.45	10.60	11.05	1.82	1.81	4.25	3.8	0.0026	0.0023	0	0	0.0011	0.0022	0.0053	0	0	0	0	0.0014
5426L03	VERA WATER & POWER, New Well 4	63.7	52.5	17.40	14.4	3.48	3.3	8.96	7.78	0.0040	0.0042	0	0	0	0	0	0	0	0	0	0
6306P01s	Waikiki Springs	37.3	36.4	22.90	21.45	2.54	2.59	6.38	6.445	0.0021	0.0022	0	0	0	0	0	0	0	0	0	0.0019
6306P01s2	Waikiki Springs-new location	33.3	33.2	19.90	19	2.40	2.425	4.60	4.445	0.0026	0.00255	0	0	0	0	0	0.00210	0	0	0	0
6320D01	WHITWORTH WATER DIST. #2, Well 2A	25.50	27.1	13.70	14.9	1.78	1.85	2.95	3.07	0.0036	0.0034	0	0	0	0	0.0011	0	0	0	0	0.0185