

Freshwater Ambient Monitoring Report for Wateryear 1992

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Freshwater Ambient Monitoring Report for Wateryear 1992

by
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and Laboratory Services Program
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ABSTRACT

The Washington State Department of Ecology collected monthly water quality information at 78 freshwater monitoring stations during Wateryear 1992 (October 1, 1991 to September 30, 1992). The primary goals of this ongoing monitoring program are to characterize the rivers and streams of Washington State and to track changes in water quality. Statewide water quality for Wateryear 1992 (WY 1992) was generally good with only occasional site specific violations of Washington State Water Quality Standards (WWQS). Fecal coliform bacteria was the most frequently violated standard with 146 violations; temperature standards had 100 violations; and dissolved oxygen and pH standards violations were 52 and 41, respectively. Thirty-three of the 78 (42%) stations monitored in WY 1992 violated WWQS for fecal coliform bacteria at least twice. Of the 146 total fecal coliform violations, 103 were from rivers and streams west of the Cascade Mountains, and 75 of the 103 were in the Puget Sound Drainage Basin (PSDB) specifically. Two rivers in the PSDB in particular; the Sumas and the Sammamish River appear to have continuing fecal coliform problems. In-stream temperature levels for the summer months of June, July, and August showed a high number of violations of WWQS statewide, with 54 of the 78 total stations violating WWQS at least once. Violations of WWQS for dissolved oxygen in WY 1992 were generally infrequent and seasonal in nature, however, 18 of the 78 (23%) of the stations violated WWQS at least once in WY 1992. Three stations, Paradise Creek near the Idaho Border, Chehalis River at Porter, and Silver Creek near Brennan, do have chronically low dissolved oxygen and percent saturation levels. In WY 1992, 16 of the 78 stations or 21% of the stations monitored saw pH levels fall outside the numeric range of the WWQS. However, it was not possible to determine if these changes reflected natural conditions (photosynthesis) or anthropogenic violations.

INTRODUCTION

The Washington State Department of Ecology (Ecology) has operated a long-term Ambient Water Quality Monitoring Program since 1970. The program consists of monthly water quality monitoring for conventional parameters at 78 freshwater stations on rivers and streams within Washington State. The primary objectives of this program are to: 1) provide current water quality information to determine if designated uses are supported (305(b) report), and 2) evaluate spatial and temporal changes in water quality (trends). Within Ecology, the data generated by the Freshwater Ambient Monitoring Program are used to support wasteload allocation models, in the development of water quality based permits, to prepare 305(b) and other management reports, and to provide water quality information necessary for Centennial Clean Water Fund and other grant awards.

This report will: 1) describe the Wateryear 1992 (WY 1992) monitoring program, 2) present the WY 1992 results, 3) evaluate the WY 1992 quality assurance (QA) information, and 4) provide a brief overview of WY 1992 water quality in Washington State.

This report is intended to be primarily a data report with relatively little analysis or interpretation of results. Ecology's transition to a basin approach to water quality monitoring means that we will annually examine long-term trends in water quality, and complete a more detailed examination and interpretation of data for four to five basins in the state each year. The first of these basin reports will be available in June 1994. In the future, we will annually produce a statewide data report and additional detailed (trend) reports for four to five individual basins.

METHODS

Sampling Network

The Ambient Monitoring Network consists of monthly water collection at three types of stations: 1) core/bench mark, 2) rotating, and 3) floating. Core/bench mark stations are monitored every year to track water quality changes over time (trends). Rotating stations are monitored one year in a three year cycle to determine if state and federal Water Quality Standards are being met, and the data are used to support Ecology's waste discharge permitting process. Floating stations are established to address site specific water quality concerns and are monitored for one year only. A more complete discussion of the Ambient Monitoring Network and the rationale for the three station types is presented in the Freshwater Ambient Monitoring Report for Wateryear 1991 (Hopkins, 1993). Appendix 1 lists all stations monitored as part of Ecology's current Freshwater Ambient Monitoring Program according to these station designations. The specific locations for ambient stations monitored during WY 1992 are presented in Figure 1 and listed in Table 1. Appendix 2 lists all monitoring locations and the years they were monitored by Ecology and its predecessor agencies.

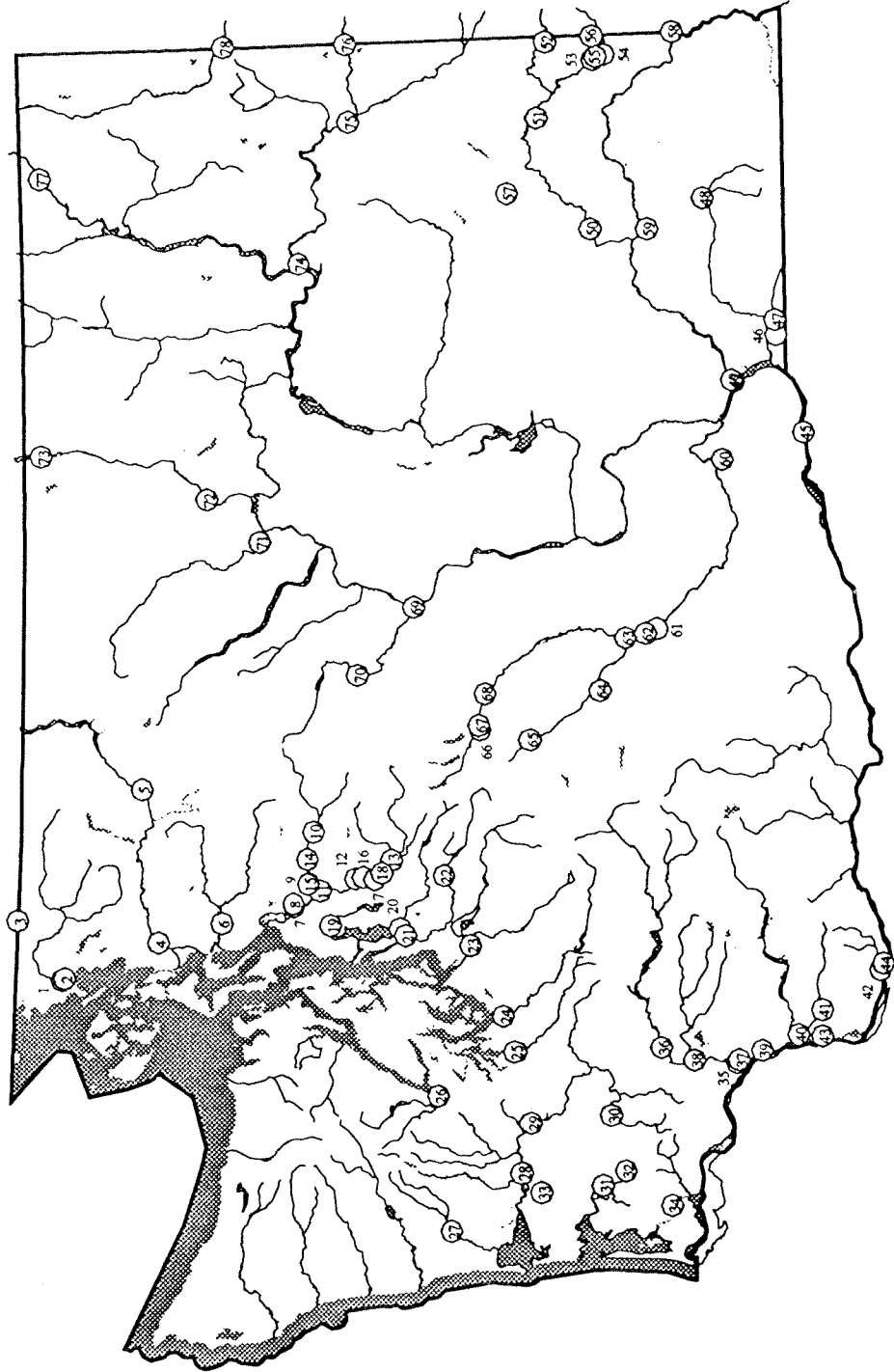


Figure 1. Washington State Department of Ecology Ambient Monitoring Section Rivers and Streams Monitoring Network, Wateryear 1992.

Table 1. Ecology's ambient river and stream monitoring stations for Wateryear 1992.

Map. Number	Station Number	Station Name
1	01A050	Nooksack River @ Brennan
2	01B050	Silver Creek near Brennan
3	01D070	Sumas River near Huntingdon BC
4	03A060	Skagit River near Mount Vernon
5	04A100	Skagit River @ Marblemount
6	05A070	Stillaguamish River near Silvana
7	07A090	Snohomish River @ Snohomish
8	07B055	Pilchuck River @ Snohomish
9	07C070	Skykomish River @ Monroe
10	07C120	Skykomish River near Gold Bar
11	07D050	Snoqualmie River near Monroe
12	07D070	Snoqualmie River near Carnation
13	07D130	Snoqualmie River @ Snoqualmie
14	07E055	Sultan River @ Sultan
15	07F055	Woods Creek @ Monroe
16	07G070	Tolt River near Carnation
17	07P070	Patterson Creek near Fall City
18	07Q070	Raging River @ Fall City
19	08B070	Sammamish River @ Bothell
20	08C070	Cedar River @ Logan Street/Renton
21	09A080	Green River @ Tukwila
22	09A190	Green River @ Kanaskat
23	10A070	Puyallup River @ Meridian St
24	11A070	Nisqually River @ Nisqually
25	13A060	Deschutes River @ E St Bridge
26	16A070	Skokomish River near Potlatch
27	22A070	Humtulsips River near Humtulsips
28	22C050	Chehalis River near Montesano
29	23A070	Chehalis River @ Porter
30	23A160	Chehalis River @ Dryad
31	24B090	Willapa River near Willapa
32	24B130	Willapa River @ Leham
33	24D090	North River @ Artic
34	24F070	Naselle River near Naselle
35	26B070	Cowlitz River @ Kelso
36	26B150	Cowlitz River @ Toledo
37	26C070	Coweeman River @ Kelso
38	26D070	Toutle River near Castle Rock
39	27B070	Kalama River near Kalama
40	27C080	Lewis River @ County Rd 16
41	27D090	EF Lewis River near Dollar Corner
42	28B070	Washougal River @ Washougal
43	28F070	Lake River near Ridgefield
44	28G070	Gibbons Creek near Washougal
45	31A070	Columbia River @ Umatilla
46	32A070	Walla Walla River near Touchet
47	32B070	Touchet River @ Touchet
48	32B130	Touchet River @ Dayton
49	33A050	Snake River @ Burbank
50	34A070	Palouse River @ Hooper
51	34A085	Palouse River @ Shields Road Bridge
52	34A170	Palouse River @ Palouse
53	34B110	SF Palouse River @ Pullman
54	34B140	SF Palouse River @ Busby
55	34C060	Paradise Creek @ Mouth
56	34C100	Paradise Creek @ Idaho Border
57	34E070	Rock Creek @ Revere
58	35A150	Snake River @ Interstate Br
59	35B060	Tucannon River @ Powers
60	37A090	Yakima River @ Kiona
61	37A190	Yakima River @ Parker
62	37E070	Wide Hollow Creek @ Union Gap
63	38A050	Naches River @ Yakima on U.S. Hwy 97
64	38B070	Tieton River @ Oak Creek
65	38F070	Little Naches near Cliffdell
66	39A090	Yakima River near Cle Elum
67	39B090	Cle Elum River near Roslyn
68	39D070	Teanaway River near Cle Elum
69	45A070	Wenatchee River @ Wenatchee
70	45A110	Wenatchee River near Leavenworth
71	48A070	Methow River near Pateros
72	49A070	Okanogan River @ Malott
73	49B070	Similkameen River @ Oroville
74	54A050	Spokane River @ Mouth
75	54A120	Spokane River @ Riverside State Pk
76	57A150	Spokane River @ Stateline Br
77	61A070	Columbia River @ Northport
78	62A150	Pend Oreille River @ Newport

Sample Collection and Analysis

The majority of the water samples were collected as single surface grab samples from highway bridges using a stainless steel sampler similar to the dissolved oxygen (D.O.) sampler design presented on page 4-151 of the 17th Edition of Standard Methods (APHA, 17th edition, 1985). Water samples for fecal coliform bacteria, total suspended solids (TSS), and metals analysis were collected as discrete samples directly in the sample containers. Samples for fecal coliform bacteria and metals determination were collected in a flow orientating sampler specifically designed to hold the sample bottle. The TSS bottle was attached as a passenger to the D.O. sampler. All water samples were collected approximately 15 cm below the water surface. Table 2a lists the water quality parameters analyzed for at all stations in WY 1992.

Concurrent with collection of water samples, on-site measurements were taken for barometric pressure, time of day, *in-situ* temperature, pH, conductivity and stage height (for flow determination by USGS (if required)).

At two stations (Columbia River at Northport and Silver Creek near Brennan) the additional parameters listed in Table 2b were also measured in WY 1992. All water samples collected in WY 1992 were submitted to Ecology's Manchester Environmental Laboratory for subsequent analysis. Laboratory methods, detection limits, holding times, and other information for each of the above parameters is presented in Appendix 3.

Table 2a. Conventional water quality parameters monitored monthly at all stations as part of Ecology's Freshwater Ambient Monitoring Program in Wateryear 1992.

Specific Conductivity	Total Suspended Solids	pH
Nitrate + Nitrite	Dissolved Oxygen	Turbidity
Dissolved Nitrite	Fecal Coliform Bacteria	Total Phosphorus
Ammonia	Dissolved Ortho-phosphate	
Temperature		

Table 2b. Total recoverable metals and related parameters monitored at the Columbia River at Northport and Silver Creek near Brennan in Wateryear 1992 in addition to those listed in Table 2a.

<u>Northport Only</u>	<u>Silver Creek Only</u>
Total Hardness	Total Hardness
Cadmium	Nickel
Copper	Copper
Zinc	Zinc
Mercury	
Chromium	
Lead	

Data Management

Data generated as part of the Freshwater Ambient Monitoring Program were entered into two independent computer systems by monitoring staff and laboratory personnel. Monitoring staff entered temperature, dissolved oxygen, barometric pressure, pH, conductivity, and discharge data into the ambient monitoring database. Laboratory data were entered into the laboratory computer system and then downloaded via modem to the ambient monitoring database system. All data were checked for compliance with quality control criteria. Data of acceptable quality were verified manually for transcription errors and uploaded to PCSTORET (a micro-computer analog to STORET) and EPA's STORET database.

Quality Assurance

The quality assurance (QA) program for field sampling consisted of three parts:

1) adherence to a procedural manual for sample/data collection and periodic evaluation of sampling personnel, 2) instrument calibration methods and schedules, and 3) the collection of a quality control (QC) sample each day of the sampling run for all parameters. These QC samples consisted of either a field replicate, blank, or a field split. The following are the working definition of the QC sample types.

- Field Replicate - The entire sampling procedure is repeated.
- Field Blank - A sample of deionized water is prepared under field conditions.
- Field Split - Samples are processed, split, and submitted to the laboratory as two independent samples. To ensure enough sample is collected for sample splitting, two sampling buckets are attached in parallel. All samples for nutrients are split from one sampling bucket and for general chemistry from the other. Samples for fecal coliform and TSS cannot be split. Only co-located field replicates are collected for these parameters.

QC samples were submitted blind to the laboratory. Field QC data were used in conjunction with the laboratory QC data to ascertain overall data quality.

Manchester Laboratory's QA program includes the use of quality control samples, control charts, and quarterly performance audits. Laboratory QC includes the analyses of check standards, blanks, duplicates, and matrix samples as appropriate for, or as required by, the analytical method (Huntamer, 1991)

Laboratory and field data were passed through a "level one" QC check prior to updating the ambient monitoring database. Data were checked to ensure holding times were met and that field QC sample results were within acceptable limits. Each result was assigned a quality code based on this "level one" check. The "level two" QC check involved a manual review

of the data that failed the "level one" QC check and re-coding those data from one through nine (one = data meets all QC requirements, nine = the data are unusable). For a more complete discussion of methods, see Hopkins (1993).

RESULTS AND DISCUSSION

The following discussion is divided into two major sections: overall WY 1992 QA review, and general water quality for WY 1992 in Washington State. The general water quality section is further divided into statewide water quality, water quality east of the Cascade Mountains, and water quality west of the Cascade Mountains. Water quality west of the Cascade Mountains is broken out into rivers and streams within the Puget Sound Drainage Basin (PSDB), and water quality outside of the PSDB.

Wateryear 1992 QA Review

As mentioned above in the Methods Section, a QC sample was collected on each day of the sampling "run." The majority of these QC samples were replicates, but some blanks and splits were also included. The results of these field replicate pairs provide an estimate of total variability (in-stream+field processing+laboratory). If the total variability becomes excessive when compared to laboratory variability, the QC sample design can be altered to address each component independently. Deionized water blanks address the issue of cross contamination between stations due to field cleaning techniques. Field splits address laboratory precision.

Field Replicates

We have established acceptable ranges of percent coefficient of variation (%CV) for specific parameters. (The %CV is defined as the standard deviation relative to the mean.) These ranges are used as internal flags to address current data quality. The goal of our QA program is to have 90% of the replicate pair data fall within the assigned ranges. Table 3 is a summary of the QC replicate pairs collected in WY 1992 with a comparison to WY 1991 results. For WY 1992, fecal coliform bacteria, TSS, ammonia, and total phosphorus had > 20% of the replicate pairs outside of our target %CV range.

Fecal coliform bacteria, TSS, and total phosphorus are typically patchy in nature and high total variability is expected. Ammonia, however, is a dissolved constituent and should be more evenly distributed and less patchy. In general, the total variability for most of the nutrients, except dissolved nitrite, increased in WY 1992 (as reflected in a lower percent of replicate pairs within acceptable ranges).

Table 4 summarizes the replicate pairs data for pH, D.O., and temperature for WY 1991 and WY 1992. Dissolved oxygen, temperature, and pH were compared against a ± 0.1 standard unit range instead of %CV for ease of field tracking.

Table 3. Summary of QA replicate pairs data collected in Wateryear 1992.

	Target Range of %CV < 20%		Target Range of %CV < 10%		
	WY 1991	WY 1992	WY 1991	WY 1992	
Conductivity	98%	97%	Ammonia	77%	71%
Fecal Coliform	49%	68%	Nitrate + Nitrite	97%	94%
Total Suspended Solids	64%	66%	Dissolved Nitrite	94%	100%
Turbidity	88%	88%	Total Phosphorus	90%	80%
			Dissolved Ortho-phosphate	93%	87%

Table 4. Summary of QA replicate pairs within ± 0.1 unit of each other.

Parameter	WY 1991	WY 1992
Dissolved Oxygen (mg/L)	90%	90%
pH (Standard Units)	70%	93%
Temperature ($^{\circ}$ C)	92%	98%

Temperature, D.O., and pH were all within the target range of 90% of the replicate pairs within ± 0.1 of each other. The biggest improvement between WY 1991 and WY 1992 was evident in the summary of pH replicate pairs. This dramatic drop in replicate pairs outside of the ± 0.1 unit criteria was probably a result of updating instrumentation and the development of a more stringent pH protocol (see Appendix 4).

Field Blanks

Results of deionized blanks for most parameters were at detection limits in WY 1992. Turbidity and TSS were the only parameters to have more than 20% of their blanks results above detection limits. Of the nine blanks collected in WY 1992 for turbidity, eight had detectable levels ranging from .2 - 1.2 NTU (Detection Limit = 0.1 NTU). It should be noted that the sensitivity of the turbidity meter requires laboratory personnel to average meter readings below 1 NTU (Bickle, 1994). This combined with the possibility of air entrainment in the sample cell may be a possible source of variability near the detection limit. For TSS,

four of the nine blanks showed levels in the range from 1-2 mg/L (Detection Limit = 1.0 mg/L). Of the remaining parameters, only one blank each for ammonia and total phosphorus were above detection limits. The ammonia blank was 0.052 mg/L (Detection Limit = 0.010 mg/L) and the total phosphorus was 0.011 mg/L (Detection Limit = 0.010 mg/L). Improved handling of deionized process water for blanks may reduce most of the blank problems.

Field Splits

Table 5 presents the pooled standard deviation and pooled %CV for field split samples and the pooled %CV for the field duplicates for WY 1992. Also included in Table 5 is the %CV root mean squared for replicate pairs. The results for field splits for WY 1992 were good. The pooled %CVs for the field split samples for most parameters were significantly smaller than the pooled %CVs for the corresponding field duplicates. This indicates that, for most parameters, sampling variability was the major component of the total variability.

Table 5. Pooled standard deviation and %CV root mean squared for field splits for Wateryear 1992.

Parameter	Field Split Pooled Standard Deviation	Data Range	Field Split Root Mean Squared %CV	Replicate Pr Root Mean Squared %CV
Fecal Coliform* (org. per 100 mL)	21.02	6- 620	25.54	31.89
Ammonia (mg/L)	0.0006	0.01 - 0.046	0.95	16.24
Dissolved Nitrite (mg/L)	0.00	0.01	0.0	1.81
Nitrate + Nitrite (mg/L)	0.01	0.021-1.97	5.55	9.12
Dissolved Oxygen (mg/L)	0.0	10.8-13.5	0.0	1.36
Ortho Phosphate (mg/L)	0.0003	0.01-0.099	4.07	9.90
Total Phosphorus (mg/L)	0.001	0.01-0.186	1.59	14.44
Total Susp. Solids* (mg/L)	0.32	2.0-35.0	15.01	37.30
Turbidity (NTU)	0.32	0.5-29.0	5.94	20.19

Number of field split = 5

* Co-located samples not true field splits

The remaining element of the QA program, laboratory variability, was assessed by laboratory staff via manual review of laboratory quality control charts, check standards, in-house matrix spikes, and laboratory blanks, and was within acceptable ranges.

To help summarize the QA information, the 95th percent confidence intervals for each parameter are presented in Appendix 5. These confidence intervals were calculated based on the pooled standard deviation of replicate pair QC samples. The confidence intervals are provided as a tool to address the variability within given data ranges and should not be assigned to a particular result.

General Water Quality for Wateryear 1992

The tabular data for WY 1992 program and summary statistics for the last six years are included in Appendices 6 and 7, respectively. The following discussion of general water quality for WY 1992 is divided into three areas: 1) statewide, 2) east of the Cascade Mountains, and 3) west of the Cascade Mountains. Selected water quality parameters in each of these areas are presented graphically as box plots. Figure 2 is provided to show how to interpret these box plots. These plots also display Class "A" Washington State Water Quality Standards for those parameters where standards are established (the criteria line for fecal coliform bacteria is included even though the water quality standard permits up to 10% of the samples to be greater than 200 organisms per 100 mL). Note that some of the rivers and streams in this study are classified as "AA" or "B" and the criteria for violations of Water Quality Standards will differ from those of class "A" waterbodies. For more information on the current WWQS and the specific freshwater classifications see Appendix 8. Appendix 9 lists the number of site specific WWQS violations recorded in WY 1992 by Ecology Region, for temperature, dissolved oxygen, pH, and fecal coliform bacteria.

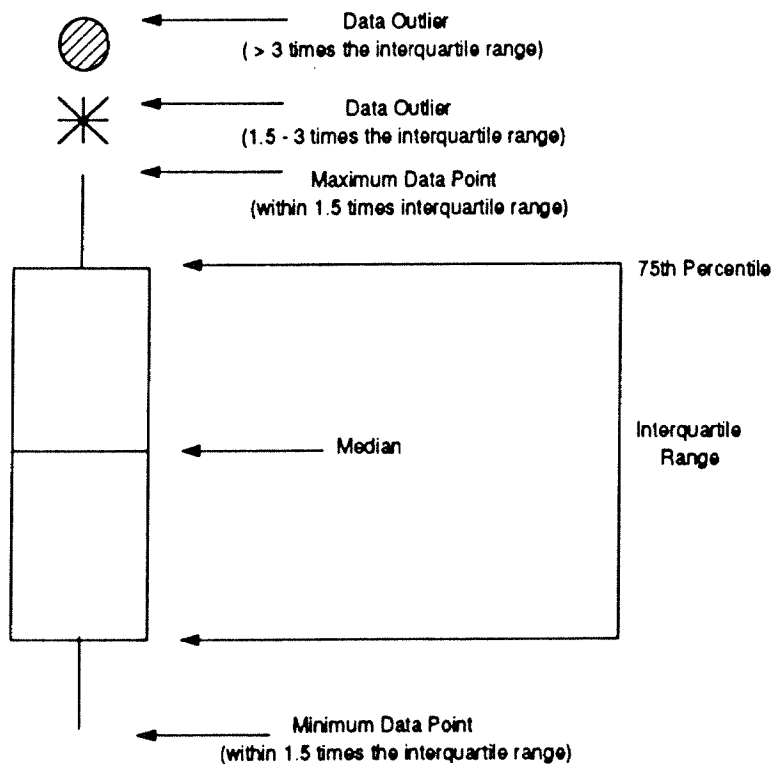


Figure 2. How to interpret a box plot (modeled after figure in Coots, 1991).

Statewide Water Quality

Figure 3 presents temperature, dissolved oxygen, total suspended solids, total phosphorus, nitrate+nitrite, and fecal coliform bacteria levels on a statewide basis. Fecal coliform bacteria violations occurred in every month of WY 1992, and was the most frequently violated WWQS with 16% of all samples collected violating standards. Of the 146 total statewide fecal coliform violations recorded in WY 1992, 103 were from rivers and stream west of the Cascades (56% of the stations account for 70% violations), and 75 of these violations were on rivers and streams within the Puget Sound Drainage Basin (PSDB) (73% of violations west of the Cascades were from 60% of the stations). Temperature was the second most frequently violated WWQS in WY 1992 with 11% of the in-stream measurements violating standards. As expected, temperature standards were most frequently violated in June, July, and August. Dissolved oxygen and pH violations were infrequent in WY 1992, with six and four percent of the total measurements taken in violation of standards, respectively.

Water Quality East of the Cascades

Of the 78 total stations monitored in WY 1992, 34 are located east of the Cascades. For WY 1992 water quality at these stations was generally good with only occasional and somewhat seasonal water quality violations (Figure 4). Appendix 9 (East and Central Regions) shows the most numerous of these violations involved temperature and fecal coliform bacteria, however, D.O. and pH water quality standards were also violated.

The majority of temperature violations occurred during the months of June, July, and August. In July, 50% of the in-stream temperature measurements taken did not meet Class "A" water quality standards. In August, almost 75% of the in-stream temperatures violated Class "A" standards.

In WY 1992, fecal coliform bacteria violations were recorded 41 times east of the Cascades. Of these 41 violations, 23 (56%) were from four floating stations: Wide Hollow Creek at Union Gap, the South Fork of the Palouse River at Busby, Paradise Creek at the Idaho border, and Paradise Creek at the mouth. When the violations on the South Fork of the Palouse River at Pullman are included with these floating stations, these five locations account for 31 (76%) of the 41 total fecal coliform violations east of the Cascades. It should be noted, however, that the criteria for floating stations placement (floating stations are established in areas of known water quality problems) may, and in this case does, skew the number of water quality violations, especially for fecal coliform and D.O. Thus these results do not necessarily reflect an overall degradation of general ambient water quality.

Dissolved oxygen violations were recorded 32 times east of the Cascades in WY 1992. Twelve (38%) of the D.O. violations were measured at the floating station on Paradise Creek near the Idaho Border representing a 100% violation of WWQS. Of the remaining 20 D.O. violations, the Yakima River accounted for six, and the Spokane River five.

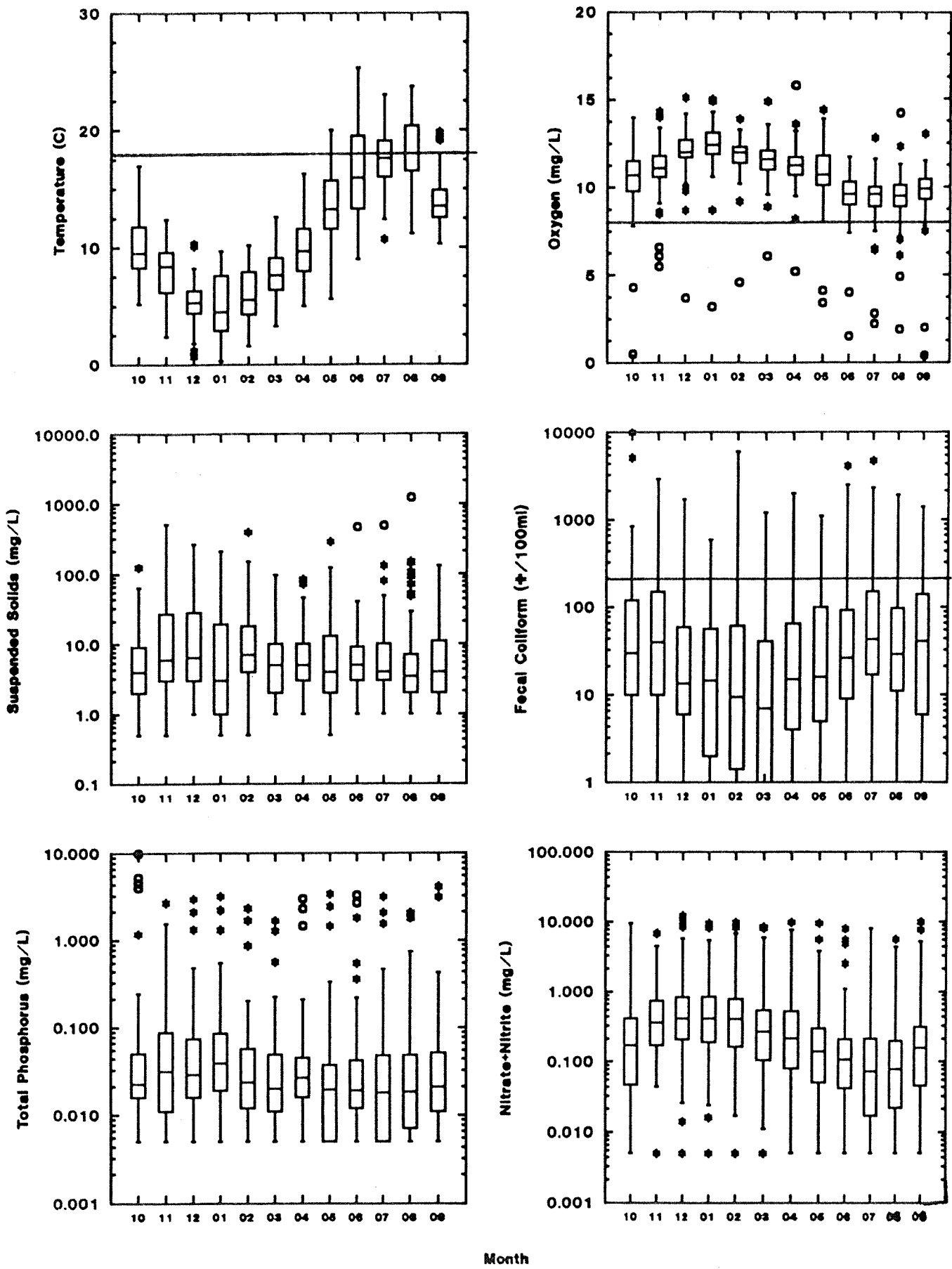


Figure 3. Washington State temperature, dissolved oxygen, total suspended solids, fecal coliform, total phosphorus, and nitrate+nitrite levels for Wateryear 1992. (Class "A" Washington State Water Quality Standards, if established, included as a solid line.)

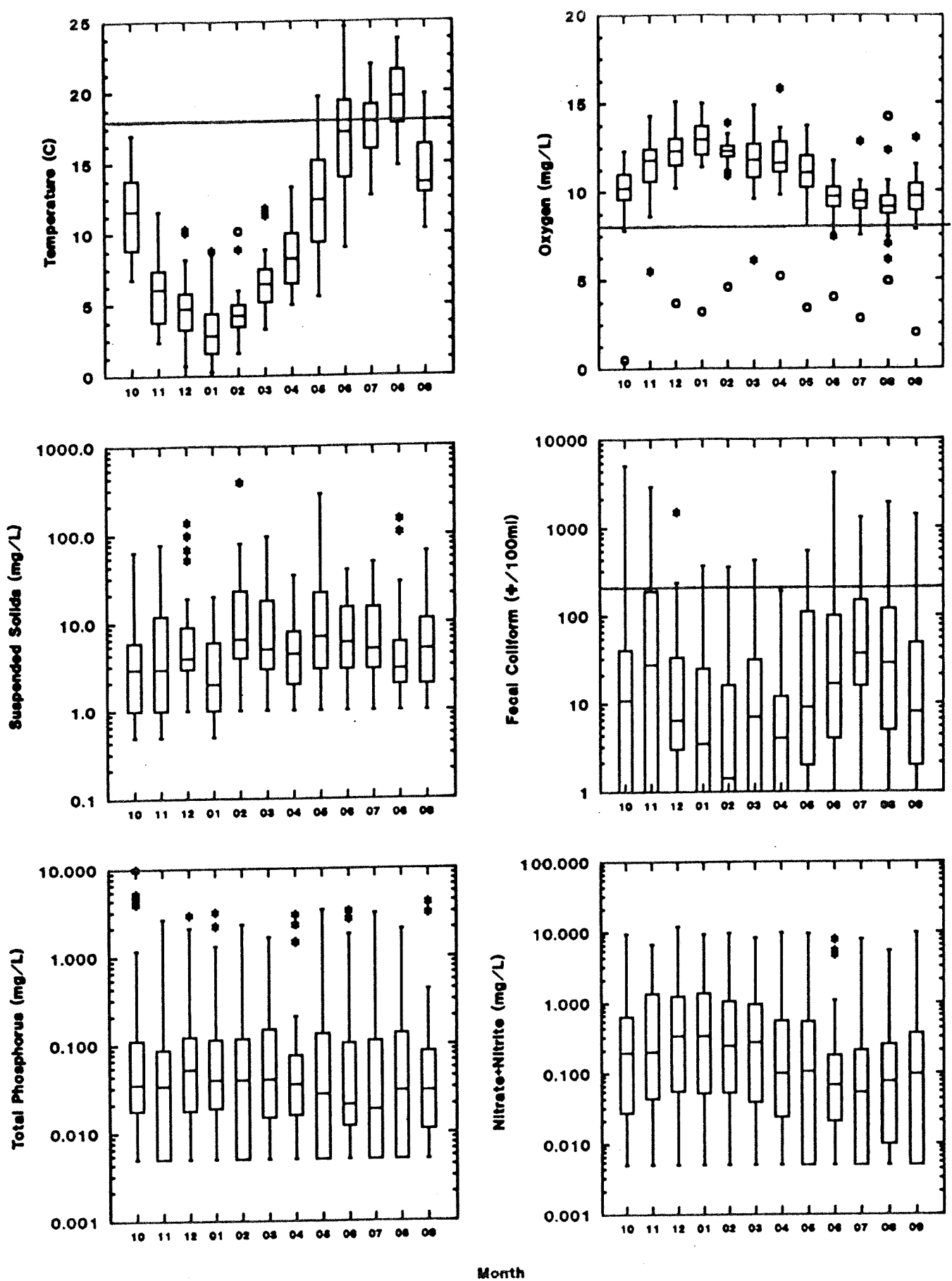


Figure 4. East of the Cascade Mountains temperature, dissolved oxygen, total suspended solids, fecal coliform, total phosphorus, and nitrate+nitrite levels for Wateryear 1992. (Class "A" Washington State Water Quality Standards, if established, included as a solid line.)

Violations of pH standards were infrequent on a statewide basis, however, east of the Cascades there were 37 violations. Most, if not all, of these pH violations were probably due to natural conditions or nutrient enrichment (photosynthesis induced pH change) and not the result of a direct anthropogenic influence on in-stream pH.

Water Quality in Washington West of the Cascades

Of the 78 stations monitored statewide in WY 1992, 44 were located west of the Cascades (56% of statewide), 26 were inside the PSDB (59% of west side), and 18 were outside the PSDB (41% of west side). The following discussion of water quality west of the Cascade Mountains is broken into three distinct areas: 1) overall water quality west of the Cascade Mountains, 2) water quality in the PSDB, and 3) water quality west of the Cascades excluding the PSDB.

Water Quality West of the Cascades

Water quality at stations located west of the Cascades was similar to that found statewide (Figure 5). That is, water quality was generally good with occasional violations of WWQS. The majority of these water quality violations involved elevated fecal coliform bacteria concentrations and temperature (Appendix 9, Northwest and Southwest Regions). Fifty-seven percent of the fecal coliform bacteria violations recorded west of the Cascades in WY 1992 were measured on six rivers and streams; four were inside the PSDB and two were outside the PSDB (see Appendix 9). In WY 1992, 58 temperature violations were recorded west of the Cascades. Of these 58 violations West of the Cascades, the majority (62%) were recorded at stations located outside the PSDB (see Appendix 9).

Water Quality in the Puget Sound Drainage Basin

In general, the most frequent water quality violation in rivers and streams that flow into Puget Sound is fecal coliform bacteria levels. Temperature and D.O. standards were also violated but at a much lower frequency (Figure 6). For WY 1992, the rivers and streams within the PSDB accounted for 75 of the 103 (73%) fecal coliform bacteria violations recorded west of the Cascades. Of the 26 rivers and streams monitored inside the PSDB, 18 (69%) violated WWQS for fecal coliform bacteria at least once. However, just four locations in the PSDB accounted for nearly half (49%) of the fecal coliform bacteria violations. They were the Sumas River near Huntingdon B.C., Woods Creek at Monroe, Patterson Creek near Fall City, and the Sammamish River at Bothell. The Sumas and Sammamish River both appeared to have chronic fecal coliform bacteria problems as reflected by 100% violation of WWQS in WY 1992 (Appendix 9).

In-stream temperature violations were measured on 15 of the 26 (58%) stations at least once during WY 1992. August was the warmest month in the PSDB with almost 50% of the in-stream temperatures recorded exceeding the 18°C Class "A" WWQS. Dissolved oxygen

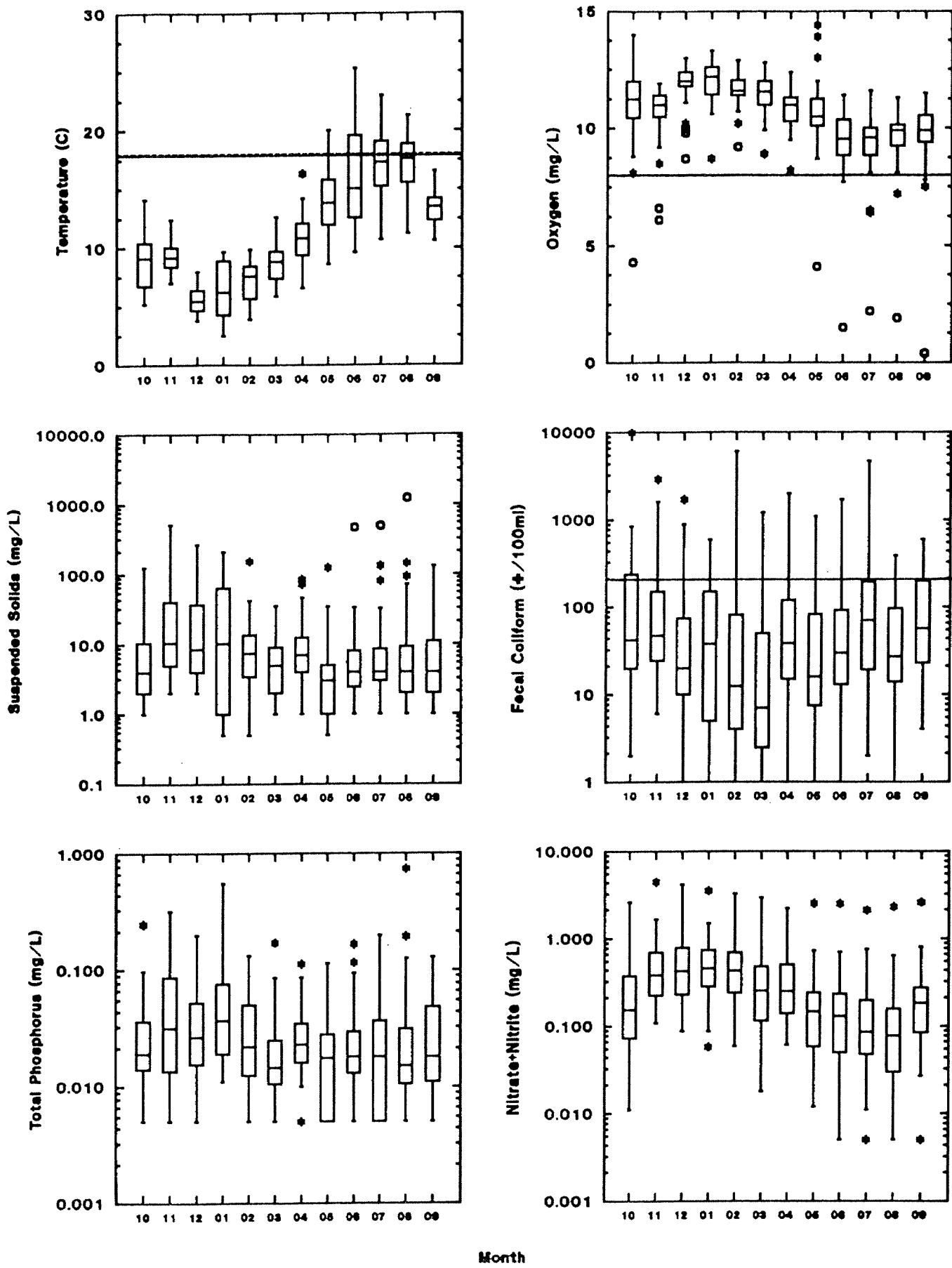


Figure 5. West of the Cascade Mountains temperature, dissolved oxygen, total suspended solids, fecal coliform, total phosphorus, and nitrate+nitrite levels for Wateryear 1992. (Class "A" Washington State Water Quality Standards, if established, included as a solid line.)

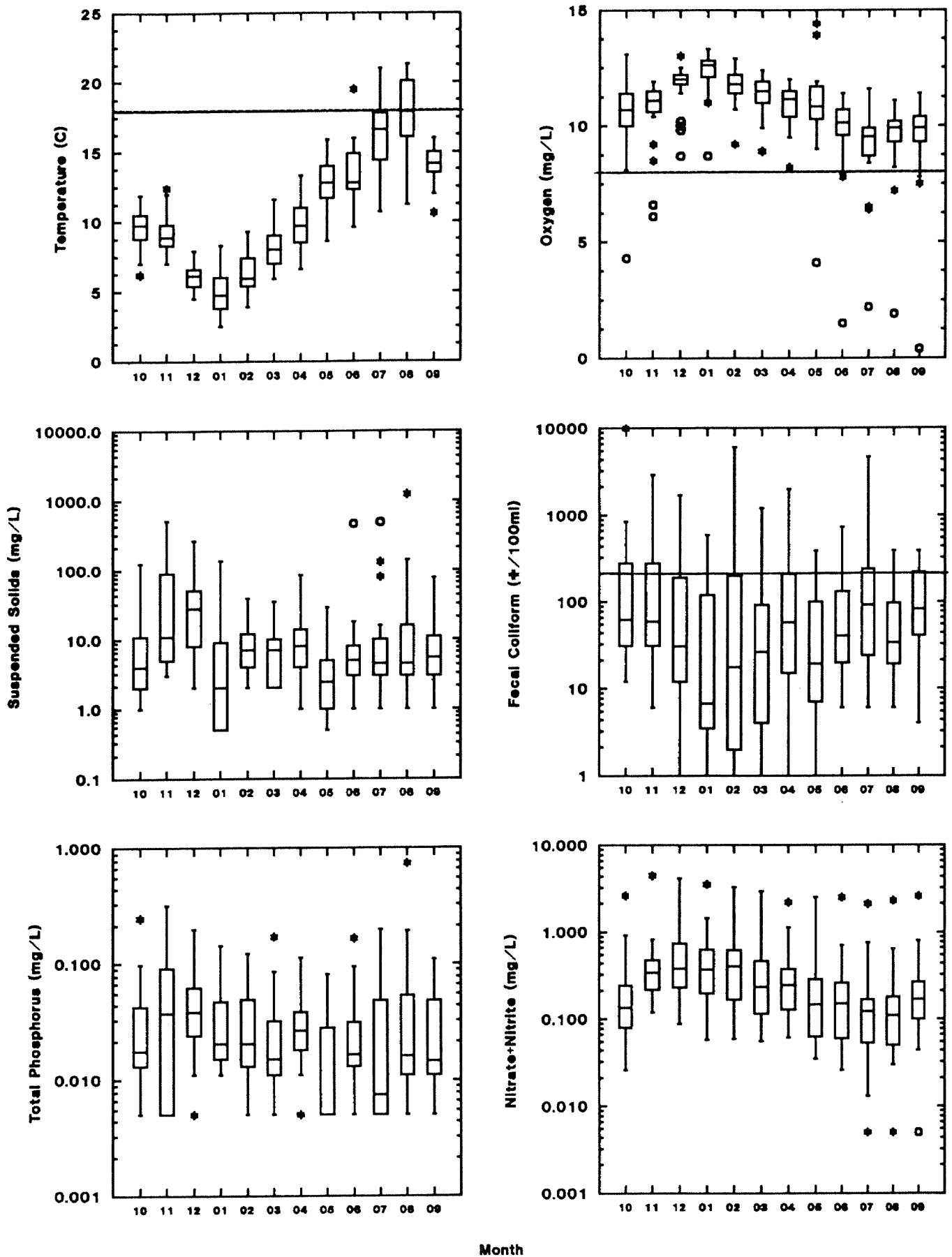


Figure 6. Inside of Puget Sound Basin temperature, dissolved oxygen, total suspended solids, fecal coliform, total phosphorus, and nitrate+nitrite levels for Wateryear 1992. (Class "A" Washington State Water Quality Standards, if established, included as a solid line.)

violations were recorded at four locations in WY 1992. Three of these locations, Silver Creek near Brennan, Sumas River near Huntingdon B.C., and the Sammamish River at Bothell also showed corresponding depressed saturation levels (Appendix 6). The fourth location, the Green River at Kanaskat, did violate the Class "AA" water quality standard for dissolved oxygen of 9.5 mg/L in August 1992 (9.3 mg/L), however, the percent D.O. saturation was 95.9%. The temperature for August 1992 at the Green River at Kanaskat was also in violation of WWQS (16.1°C) and in turn probably contributed to the D.O. violation.

Water Quality West of the Cascades (Excluding the Puget Sound Drainage Basin)

The major water quality concern west of the Cascades was temperature and fecal coliform bacteria (Figure 7). Unlike the PSDB, however, temperature was the most frequently violated WWQS outside the PSDB. Of the 58 total temperature violations recorded west of the Cascades, 36 were measured on stations located outside the PSDB (41% of the stations account for 64% of the violations). One-third of all stations monitored west of the Cascades outside the PSDB exceeded temperature standards for at least three months of the year. Temperatures for the months of June and July were especially elevated (Figure 7).

Fecal coliform bacteria levels from the two stations on the Willapa River accounted for 16 of the 28 (57%) fecal coliform violations outside the PSDB. The floating stations at Lake River near Ridgefield and on Gibbons Creek near Washougal accounted for another 10 of the violations between them.

Violations of WWQS for D.O. were measured on the Coweeman River at Kelso and on the Chehalis River at Porter in WY 1992. The D.O. violation on the Coweeman River (7.8 mg/L) was accompanied by a temperature violation (25.3°C). The corresponding D.O. percent saturation level was 94.8% indicating the low D.O. was a result of the high temperature.

The D.O. violation of the Chehalis River at Porter (7.7 mg/L) corresponds to a somewhat depressed D.O. percent saturation of 85.3%. A review of the D.O. percent saturation on the Chehalis River (Appendix 6) at Porter for WY 1992 shows one-half are below 90% saturation levels which may indicate a chronic problem.

CONCLUSIONS

The water quality for WY 1992 in Washington State as reflected by Ecology's Freshwater Ambient Monitoring Program was generally good except for occasional violations of WWQS. On a statewide basis, fecal coliform bacteria standards were the most frequently violated WWQS. A significant number of these fecal coliform bacteria violations were from rivers and streams in the PSDB, of which the Sumas and the Sammamish River appear to be the most chronic violators. Wateryear 1992 also saw a large number of temperature violations with a surprisingly large percentage measured west of the Cascade Mountains outside of the

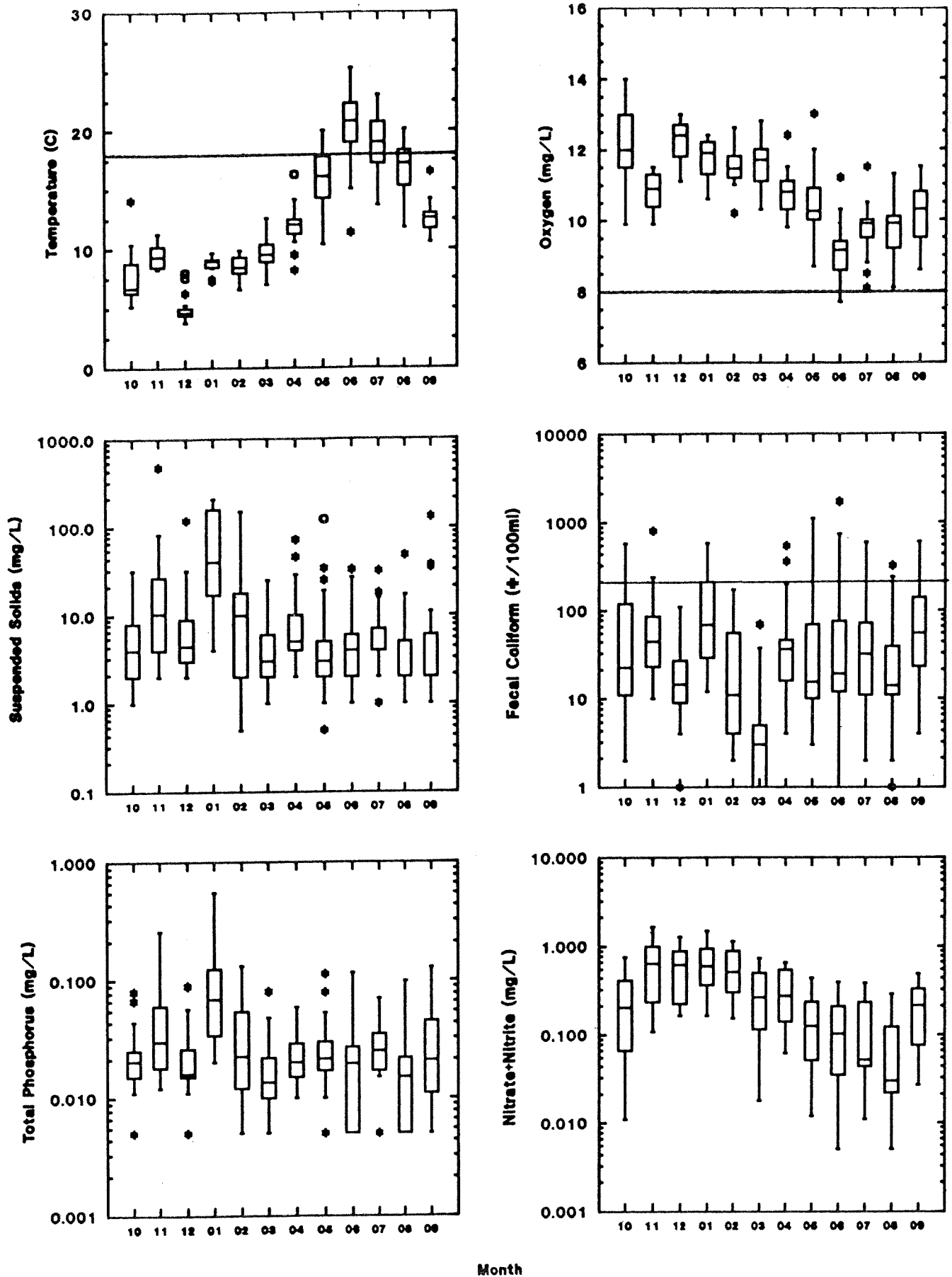


Figure 7. West of the Cascade Mountains, excluding Puget Sound Basin, temperature, dissolved oxygen, total suspended solids, fecal coliform, total phosphorus, and nitrate+nitrite levels for Wateryear 1992. (Class "A" Washington State Water Quality Standards, if established, included as a solid line.)

PSDB. Dissolved oxygen violations also occurred in WY 1992. Most of these dissolved oxygen violations were measured on Paradise Creek near the Idaho Border, Chehalis River near Porter, and Silver Creek near Brennan. Some of these violations, upon review of in-stream D.O. saturation levels, point to temperature effects and not to chronic in-stream dissolved oxygen problems. The WWQS for D.O. appears susceptible to occasional false positive (temperature driven D.O. violations), while in the case of the Chehalis River at Porter, the WWQS were unable to detect potential problems (chronically low percent saturations).

The WWQS for pH were also violated in WY 1992, however, in most cases it was difficult to distinguish anthropogenic effects from natural conditions. These temperature-driven D.O. violations could result in the implementation and use of Best Management Practices (BMP) that address the low D.O. problem while ignoring the larger issue of elevated temperature. For example, the Coweeman River in June 1992 violated WWQS for D.O. and temperature (7.8 mg/L and 25.3°C, respectively). A BMP to reduce the biological oxygen demand on this system (already at 95% saturation) may not be cost effective. If, however, the in-stream temperature is reduced to the Class "A" standard of 18°C the corresponding D.O. is increased to 9.0 mg/L and does not violate WWQS.

The use of floating stations to assess specific water quality concerns can, if improperly used, give a false impression of overall ambient water quality. That is, because floating stations are usually established in areas of known water quality problems, they may increase the number of water quality violations and not reflect an overall degradation of general ambient water quality. This is especially true for violations of WWQS for dissolved oxygen and fecal coliform bacteria. For example, of the 34 stations monitored east of the Cascades Mountains in WY 1992, six (or about 18%) were floating stations. These six floating stations accounted for 56% of the fecal coliform bacteria violations recorded east of the Cascades. Therefore, increasing the number of floating stations could impact the overall ambient monitoring data set, and the total number of violations per year should not be used for interannual comparisons of statewide water quality. These comparisons should at least be limited to results for core/bench mark stations only. This report does not break out floating stations separately due in part to limitations in current data retrieval programs and subsequent data analysis. However, future reports will break out floating stations independently from core/bench mark stations.

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APPENDIX 1

**Washington State Department of Ecology
Freshwater Ambient Monitoring Station Locations**

Appendix 1. Washington State Department of Ecology Freshwater Ambient Monitoring Station Locations.

Core Stations

1. Nooksack River at Brennan
2. Skagit River near Mount Vernon
3. Stillaguamish River near Silvana
4. Snohomish River at Snohomish
5. Sammamish River at Bothell
6. Cedar River at Renton
7. Green River at Tukwila
8. Puyallup River at Meridian St. Bridge
9. Nisqually River at Nisqually
10. Skokomish River near Potlatch
11. Chehalis River at Porter
12. Cowlitz River at Kelso
13. Humptulips River at Humptulips
14. Columbia River at Umatilla
15. Yakima River at Kiona
16. Wenatchee River at Wenatchee
17. Methow River near Pateros
18. Okanogan River @ Malott
19. Similkameen River at Oroville
20. Walla Walla River near Touchet
21. Snake River at Pasco
22. Palouse River at Hooper
23. Snake River at Interstate Bridge
24. Spokane River at Mouth
25. Spokane River at Riverside State Park
26. Spokane River at Stateline Bridge
27. Columbia River at Northport
28. Pend Oreille River at Newport

Bench Mark Stations

1. Skagit River at Marblemount
2. Green River at Kanaskat
3. Chehalis River near Dryad
4. Wenatchee River near Leavenworth
5. Palouse River at Palouse

Appendix 1. Continued.

Rotating Stations

1. Nooksack River @ North Cedarville
2. Sumas River near Huntingdon B.C.
3. Whatcom Creek @ Bellingham
4. Samish River near Burlington
5. Friday Creek below Hatchery
6. Skagit River at Concrete
7. Baker River at Concrete
8. Sauk River near Rockport
9. S.F. Stillaguamish River @ Arlington
10. S.F. Stillaguamish River near Granite Falls
11. N.F. Stillaguamish River near Cicero
12. N.F. Stillaguamish River near Darrington
13. Pilchuck River @ Snohomish
14. Skykomish River @ Monroe
15. Skykomish River near Gold Bar
16. Snoqualmie River near Monroe
17. Snoqualmie River near Carnation
18. Snoqualmie River @ Snoqualmie
19. Sultan River @ Sultan
20. Wood Creek @ Monroe
21. Tolt River near Carnation
22. Sammamish River @ Redmond
23. Issaquah Creek near Issaquah
24. Cedar River @ Maple Valley
25. Cedar River near Landsburg
26. Ship Canal @ Fremont
27. Green River @ 212th Street near Kent
28. Green River near Black Diamond
29. Big Soos Creek near Auburn
30. Mill Creek near Kent on W. Valley Highway
31. Puyallup River at Orting
32. Carbon River near Orting
33. White River @ Sumner
34. White River near Buckley
35. Nisqually River @ McKenna
36. Chamber Creek near Steilacoom
37. Deschutes River @ E Street Bridge
38. Deschutes River near Rainier
39. Goldsborough Creek near Shelton
40. Hamma Hamma near Eldon
41. Duckabush River near Brinnon
42. Dosewallips River @ Brinnon
43. Big Quilcene River near Quilcene
44. Dungeness River near Sequim
45. Elwha River near Port Angeles
46. Soleduck River near Forks
47. Hoh River at DNR Campgrounds
48. Queets River at Queets
49. Quinault River at Lake Quinault
50. WF Hoquiam River near Hoquiam
51. Satsop River near Satsop
52. Newaukum River near Chehalis
53. Skookumchuck River at Chehalis

Appendix 1. Continued.

54. Black River at Moon Road Bridge
55. Chehalis River a Montesano
56. North River near Raymond on Highway 101
57. Willapa River near Willapa
58. Willapa River at Lebam
59. Naselle River near Naselle
60. Cowlitz River at Toledo
61. Toutle River near Castle Rock
62. Coweeman River at Kelso
63. Kalama River near Kalama
64. Lewis River at County Road 16
65. EF Lewis River near Dollar Corner
66. Washougal River at Washougal
67. Yakima River at Parker
68. Naches River at Yakima on US97
69. Tieton River at Oak Creek
70. Cle Elum River near Roslyn
71. Teanaway River near Cle Elum
72. Icicle Creek near Leavenworth
73. Columbia River at Chelan Station
74. Methow River at Twisp
75. Okanogan River at Oroville
76. Nespelem River at Nespelem
77. Klickitat River near Lyle
78. Klickitat River near Pitt
79. Columbia River near Vernita
80. Entiat River near Entiat
81. Chelan River at Chelan
82. Touchet River at Touchet
83. Touchet River near Dayton
84. Palouse River near Diamond
85. SF Palouse River at Pullman
86. Rock Creek near Revere
87. Tucannon River at Powers
88. Grande Ronde River near Anatone
89. Asotin Creek at Asotin
90. Sanpoil River at Keller
91. Sanpoil River above Republic
92. Columbia River at Grand Coulee
93. Hangman Creek at Mouth
94. Crab Creek near Beverly

95. Crab Creek near Moses Lake
96. Little Spokane River near Mouth
97. Colville River at Kettle Falls
98. Kettle River near Barstow
99. Pend Oreille River at Metaline Falls

Floating Stations

Numbers depend on budget remaining after factoring in monitoring cost for core/bench mark and rotating stations.

APPENDIX 2

Historical Station Description and Period of Record for Ecology's Freshwater Ambient Monitoring Program

APPENDIX 3

Current Laboratory Methods for Ecology's Freshwater Ambient Monitoring Program

Appendix 3. Current laboratory methods for Ecology's Freshwater Ambient Monitoring Program.

1. Fecal coliform:

- Bottle type - Glass
- Sample volume - 200 mL
- Preservative - Store at 4°C
- Holding Time - 30 hours
- Analytical Method - Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 214A, Standard Methods, 16th Ed., No. 909c, "Fecal Coliform Membrane Filter Procedure," pp. 896

2. Conductivity: Field

- Bottle type - Polyethylene
- Sample volume - 200 mL
- Preservative - None
- Holding Time - NA
- Analytical Method - Modification of Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 205, "Conductivity," pp. 76-80.

3. Total Hardness:

- Bottle type - Polyethylene
- Sample volume - 500 mL
- Preservative - Store at 4°C
- Holding Time - 6 Months
- Analytical Method - Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 1348, "EDTA Titrimetric Method," pp. 210-14.

4. Ammonia Nitrogen:

- Bottle type - Polyethylene
- Sample volume - 125 mL
- Preservative - Sulfuric Acid, at 4°C
- Holding Time - 28 Days
- Analytical Method - EPA Method 350.1, automated Phenate.

Appendix 3. Continued.

5. Nitrate+Nitrate Nitrogen:

Bottle type - Polyethylene
Sample volume - 125 mL
Preservative - Sulfuric Acid, 4°C
Holding Time - 28 Days
Analytical Method - EPA Method 353.2, Colorimetric, Automated, Cadmium Reduction.

6. Nitrite Nitrogen:

Bottle type - Polyethylene
Sample volume - 125 mL
Preservative - Amber Bottle, 4°C
Holding Time - 48 Hours
Analytical Method - Adaptation of EPA Method 353.2, Colorimetric, Automated, Cadmium Reduction.

7. pH: Field

Bottle type - Polyethylene
Sample volume - 200 mL
Preservative - None
Holding Time - NA
Analytical Method - Modification of Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 423, "pH Value," pp. 429-37.

8. Ortho-phosphorus:

Bottle type - Polyethylene
Sample volume - 125 mL
Preservative - Filter, Amber Bottle, 4°C
Holding Time - 48 Hours
Analytical Method - EPA Method 365.1, Colorimetric, Automated Ascorbic Acid.

9. Total Phosphorus:

Bottle type - Polyethylene
Sample volume - 125 mL
Preservative - H₂SO₄, Store at 4°C
Holding Time - 28 Days
Analytical Method - EPA Method 365.1, Colorimetric, Automated, Ascorbic Acid

Appendix 3. Continued.

10. Total Suspended Solids:

Bottle type - Polyethylene
Sample volume - 1000 mL
Preservative - Store at 4°C
Holding Time - 7 Days
Analytical Method - Standard Methods, 16th Ed., No. 209c, "Total Suspended Solids Dried at 103-105°C." p. 96-97.

11. Turbidity

Bottle type - Polyethylene
Sample volume - 500 mL
Preservative - Store at 4°C
Holding Time - 48 hours
Analytical Method - Standard Methods for the Examination of Water and Wastewater, 16th Ed., No. 214A, "Nephelometric Method-Nephelometric Turbidity Units," pp. 134-36.

12. Mercury (Cold Vapor AA)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 28 days
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A. EP1-245.1

13. Cadmium (Total Recoverable/AA)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 6 months
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A. EP1-213.R

Appendix 3. Continued.

14. Chromium (Total Recoverable/AA)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 6 months
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A.
EP1-218.R

15. Lead (Total Recoverable/AA)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 6 months
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A.
EP1-239.R

16. Zinc (Total Recoverable/ICP)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 6 months
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A.
EP1-200.7

17. Copper (Total Recoverable/ICP)

Bottle type - Polyethylene (Container) with Teflon Lid
Sample volume - 1 L
Preservative - Store at 4°C
Holding Time - 6 months
Analytical Method - EPA 600/4-79-020,4.1.1. SW846, Volume 1, Section A.
EP1-200.7

APPENDIX 4

Washington State Department of Ecology
Freshwater Ambient Monitoring Section's
Method for pH Determination

APPENDIX 4 - GENERAL CHEMISTRY

Determination of pH in Freshwater

Precision

Assumed - 0.1 pH units

Calculated - see annual report for calculated 95% confidence intervals based on replicate pair results

Overview

The pH of a water sample is defined as the negative logarithm of hydrogen ion activity. The pH values range from 1 to 14, 1 being highly acidic, 14 being highly alkaline and 7 neutral. Each pH unit represents a tenfold change in the hydrogen ion activity.

Natural waters usually fall within the pH range of 4 to 9, with Washington typically being from 6.5 to 8.5. The pH measurements made by the Ambient Monitoring Section are used in the calculation of ammonia toxicity and also used to determine if waters are in compliance with state standards.

Federal and Washington State Water Quality Standards for pH

The Environmental Protection Agency and Washington State's Water Quality Standard for pH are as follows:

EPA

Freshwater pH criteria for the protection of aquatic life (EPA Gold Book 1986).

Range 6.5 - 9.0

Washington State

Water Quality Standard for pH (Chapter 173-201 WAC 1988).

Class AA (extraordinary) 6.5 - 8.5 with a man-caused variation within a range of less than 0.2 units.

Class A (excellent) 6.5 - 8.5 with a man-caused variation within a range of less than 0.5 units.

Class B (good) Same as Class A.

Class C (fair) 6.5 - 9.0 with a man-caused variation within a range of less than 0.5 units.

Field Sampling Protocol

The water sample for pH determination is taken from the dissolved oxygen (D.O.) sample bucket. See Field Sampling Protocols for Dissolved Oxygen Determination.

Equipment Needed

Orion model 250A pH meter
(2) pH probes
Electrode filling solution (probe specific)
Saturated KCl storage solution
Deionized water
pH 6.97 low ionic strength buffer
pH 4 buffer
pH 7 buffer
pH 10 buffer
Plastic pipet
Squirt bottle for rinsing
Sample container
10% HCl
EDTA solution
pH log book

Tracking pH Meter/Probe Operation

The following procedure is designed to 1) insure the pH meter/probe are functioning properly, and 2) provide a permanent record of each meter/probe individual performance (percent slope, electrode offset and response time).

Orion Model 250A Self-Test

- 1) Replace pH probe with BNC shorting cap.
- 2) Turn meter on (press "**POWER**" key).
- 3) If battery indicator (bat. in lower right corner of read out screen) remains on, replace battery.
- 4) Press "**POWER**" key to turn meter off.

- 5) Hold down "YES" key and press "POWER" key. The instrument will automatically perform electronic diagnostic tests. If a problem is detected, the meter will display the operator assistance code corresponding to the test that failed (see "Troubleshooting" on page 47 in the instruction manual for specific codes).
- 6) After test seven, a "0" will appear on the display. Press each "OPERATION" key (all keys must be pressed within 10 seconds or an error will be displayed).
- 7) The meter will then turn off and back on.
- 8) If no problems are detected, the meter will resume normal operation.

Overview of Methods for Tracking Probe

Percent slope, electrode offset, and response time are indicators as to how well the pH probe is functioning and will be checked at the start of each day. Percent slope is established during calibration by comparing ideal electrode response to the actual electrode response. The Orion 250A pH meters have a built-in check range for % slope of 80-120 as calculated by the following formula:

$$\frac{\text{mV @ pH 7} - \text{mV @ pH 4 or 10}}{177.6} \times 100 = \text{Percent Slope}$$

If the % slope is outside this range the pH meter will display an error message (E-23). This built in check range is wider than the manufacture recommended range of 92-102 for the pH electrode, therefore, we must check % slope manually.

Electrode offset is the correction factor the meter applies to the pH probe output at pH 7 to bring it in line with what it should be measuring. During calibration if, for example, the probe reads -13mV in pH 7 buffer, the pH meter will internally recognize this buffer as pH 7 and correct the measurement by adding 13 mV. This correction factor is stored in memory and all subsequent probe measurements are adjusted to reflect this offset. The probe should be within ± 30 mV at pH 7 and the difference between mV measured at pH 4/10 and pH 7 should be 160-180 mV (*i.e.*, if pH 7 reads -13 mV, then pH 4 should be between 147-167 and pH 10 should be between -173 to -193). The meter will not check these ranges so we must perform this check manually.

Response time, as it is used here, will refer to the time it takes for the pH measured by the probe to equilibrate. Response time is not compared to any internal meter checks, therefore, we must also perform this task manually.

Checking Percent Slope

- 1) Calibrate the pH meter to pH 7 and pH 4 or 10 (see Calibration and Standardization below).
- 2) Compare percent slope to acceptable range.

Upon calibration the meter will momentarily display the percent slope (denoted by SPL message). If you miss this display, press "**2ND**", then "**SETUP**" and "**YES**" **4 times**. The setup code for percent slope is 2-1 and will be displayed directly below the percent slope. This number should fall within the range of 92 - 102.

- 3) If the percent slope is not within this range repeat calibration.
- 4) If the percent slope is still not within the acceptable range, see #12 below.
- 5) Record the percent slope in the pH log book (for example see page 9).

Checking Probe Offset and Response Time

Offset

- 1) Calibrate the pH meter to pH 7 and pH 4 or 10 (see Calibration and Standardization below).
- 2) Place the pH probe in 6.97 buffer.
- 3) Press the "**MODE**" button until mode arrow aligns with mV (millivolts).
- 4) Press the "**MEASURE**" button on the pH meter and record the value.
- 5) Repeat the #4 for the other pH buffer used in the two point calibration.
- 6) Compare the mV measurement in #4 and 5 above to the acceptable ranges.

Within ± 30 mV at pH 7 and the difference between mV measured at pH 4 or 10 and pH 7 should be 160 - 180 mV.

- 7) Place the probe in deionized water.
- 8) Record Offset in the pH log book (see page 9).

Response Time

- 9) Upon returning from the sampling site place the probe in pH 6.97 buffer.
- 10) Press the "**MEASURE**" button and note the actual time it takes for the pH meter to lock on "ready hold" (response time).

Lock should be < 90 seconds.
- 11) Record response time in the pH log book (see page 9).
- 12) If the offset or response time are not within the acceptable range soak the pH probe in 10% HCl (general cleaning) and/or EDTA (removal of inorganic membrane/junction deposits) for 15-30 minutes and repeat calibration. If offset or response time are still outside acceptable limits replace the probe.

Calibration and Standardization

(as per Orion pH 250A owner manual)

** Omit 1-4 if recalibrating **

- 1) Replace the storage cap on the pH probe with the testing sleeve (*Ross Electrode Only*).
- 2) Rinse off all salt deposits.
- 3) Attach the pH probe and uncover the filler hole.
- 4) Soak the pH probe in deionized water for at least thirty minutes before calibration. (omit if recalibrating)
- 5) Replace the pH electrode filler solution in the probe. Insert the plastic pipet into the filler hole and depress the bulb. This will force the filler solution out the equilibration hole. Refill the probe with the correct reference solution. The Ross electrodes **MUST** be filled with a NON-AgCl reference solution. **PLEASE BE CAREFUL.**
- 6) Press the "**POWER**" key and check mode arrow to make sure it is on pH.
- 7) Press the "**2ND**" key and then the "**CAL**" key.
- 8) Rinse the pH probe with deionized water and place in pH 6.97 buffer.

- 9) When the pH value for P1 flashes, press "YES" to store this value.
- 10) Rinse the probes with deionized water and place in pH 4 or 10 buffer (whichever buffer provides a bracket of the expected sample values). As above the pH value for P2 will flash when a stable reading is reached. Press "YES" to store this value.
- 11) Rinse and place probe in deionized water.

Sample Measurement

- 1) Rinse the plastic container for pH determination with a small quantity of sample and then fill from the D.O. bucket.
- 2) Removed the probe from the deionized water and place in the sample.
- 3) Press the "POWER" key on the pH meter. Make sure the mode arrow is pointing at pH.
- 4) When the ready hold function has locked on (located in the right center portion of the display screen and may be signaled by an audible beep if the meters beep function is set on). Record this pH measurement on the data report forms to the nearest 0.1 pH units. The meter will display pH measurement to the nearest hundredth, so in most cases, it will have to be rounded (rounding number > 5 round up , < 5 round down, and when = 5, always round to the nearest even number - example 7.55 would be rounded to 7.6 and 7.45 to 7.4).

pH Quality Control Check

The pH meter is checked against the 6.97 buffer three times a day: immediately after initial calibration, at the midway point of sampling, and after the last station of the day.

- 1) The probe is rinsed with deionized water, placed in 6.97 low ionic strength buffer and processed as if the buffer were a typical water sample.
- 2) Record results in the pH log book (see page 9).
- 3) If the pH is not within 0.1 of the true pH recalibrate the meter (see Calibration and Standardization).
- 4) If the meter fails again, it is pulled from service and replaced with the backup meter.
- 5) If the back up meter also fails, the probe is replaced on the original meter.

pH Meter/Probe Storage

Last Measurement of the Day.

- 1) Rinse the probe.
- 2) Cover sensing elements with protective cap with a few drops of electrode reference solution.
- 3) Cover fill hole with protective sleeve.

Returning from the Field

- 1) If equipment problems were encountered, fill out the equipment problem report form and place it and the defective equipment on the electronic repair bench.
- 2) Return all pH equipment to their proper locations.

When to Change the pH Probe

Change the pH probe if any of the following conditions exist.

- 1) The probe exceeds the manufacturer recommended life expectancy (18 months).
- 2) Response time exceeds 90 seconds.
- 3) Offset is ± 30 mV in pH 7 buffer the difference between mV reading at pH 7 and pH 4/10 is 160 -180 mV.
- 4) Slope is outside 92-102%.
- 5) The probe fails the pH quality control check on two successive tries.

pH Measurements Check List

1-11 daily

- 1) Soak pH probe in deionized water for at least 30 minutes.
- 2) Calibrate pH meter and record slope in pH log book.

- 3) Record meter measured mV and response time of 6.97 buffer.
- 4) Record meter measured mV on second buffer used in two point calibration.
- 5) Check these measurements against probe replacement criteria.
- 6) Check pH measurement of 6.97 buffer (if disagreement > 0.1 , recalibrate).
- 7) Take field measurements.
- 8) Soak in previous field sample or deionized water between stations.
- 9) At midway-point of sampling day, check pH of 6.97 buffer (if disagreement > 0.1 , recalibrate).
- 10) At end of day, check pH of 6.97 buffer.
- 11) Rinse probe, cover sensing elements with protective cap containing a few drops of electrode reference solution, and cover fill hole.
- 12) Upon completion of field work, note any problems encountered and return equipment to proper storage location.

pH / CONDUCTIVITY LOG FORM

Cond Meter # _____ Initial Cell Constant _____ Standard _____ μ mhos

Meter _____ μ mhos pH Meter # _____ pH Probe # _____ Run _____ Date _____

Day 1

Slope _____ 92-102%
mV @ pH 7 _____ \pm 30 mv
mV @ pH 4/10 _____ Difference between mv @ pH7 160 - 180
Response time _____ < 90 seconds
(Within 0.1 pH units)
or calibration value

QA Check #1 _____ First Station Recalibrated Y / N
QA Check #2 _____ Midway Point Recalibrated Y / N
QA Check #3 _____ Last Station Outside Limits Y / N

Conductivity Standard _____ μ mhos Meter _____ μ mhos

Day 2

Slope _____ 92-102%
mV @ pH 7 _____ \pm 30 mV
mV @ pH 4/10 _____ Difference between mV @ pH 7 160-180
Response time _____ < 90 seconds
(Within 0.1 pH units)
or calibration value

QA Check #1 _____ First Station Recalibrated Y / N
QA Check #2 _____ Midway Point Recalibrated Y / N
QA Check #3 _____ Last Station Outside Limits Y / N

Conductivity Standard _____ μ mhos Meter _____ μ mhos

Day 3

Slope _____ 92-102%
mV @ pH 7 _____ \pm 30 mV
mV @ pH 4/10 _____ Difference between mV @ pH7 160-180
Response time _____ < 90 seconds
(Within 0.1 pH units)
or calibration value

QA Check #1 _____ First Station Recalibrated Y / N
QA Check #2 _____ Midway Point Recalibrated Y / N
QA Check #3 _____ Last Station Outside Limits Y / N

Conductivity Standard _____ μ mhos Meter _____ μ mhos

APPENDIX 5

Confidence Intervals for Individual Parameters for Wateryear 1992

Appendix 5. Confidence Interval for Specific Data Ranges Based on Pooled Standard Deviations of Replicate Pairs.

Total Phosphorus

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 1.0	3	±0.077
0.1 - 1.0	12	±0.004
0.05 - 0.1	9	±0.017
0.02 - 0.05	37	±0.001
< 0.02	39	±0.001
Total	100	±0.0003
n = 127	DL = 0.01 mg/L	

Dissolved Ortho-phosphorus

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 1.0	3	±0.054
0.05 - 1.0	8	±0.008
0.02 - 0.05	16	±0.002
< 0.02	73	±0.0001
Total	100	±0.0015
n = 128	DL = 0.01 mg/L	

Appendix 5. Continued.

Nitrate + Nitrite

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 1.0	12	± 0.036
0.5 - 1.0	15	±0.022
0.1 - 0.5	32	±0.016
0.05 - 0.1	14	±0.002
< 0.05	27	±0.0004
Total	100	±0.006
n = 132	DL = 0.01 mg/L	

Dissolved Nitrite

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 0.1	3	±0.009
0.01 - 0.1	8	±0.0007
0.01	89	±0
Total	100	±0.0015
n = 131	DL = 0.01 mg/L	

Appendix 5. Continued.

Ammonia

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 1.0	3	±0.168
0.1 - 1.0	4	±0.022
0.02 - 0.1	41	±0.001
< 0.02	52	±0.0008
Total	100	±0.0043
n = 128	DL = 0.01 mg/L	

Suspended Solids

Data Range (mg/L)	Percent of n Within Range	95% Confidence Interval
> 100	2	±33.1
50 - 100	8	±3.483
10 - 50	20	±11.58
5 - 10	18	±1.024
< 5	52	±0.51
Total	100	±2.324
n = 119	DL = 1.0 mg/L	

Appendix 5. Continued.

Turbidity

Data Range (NTU)	Percent of n Within Range	95% Confidence Interval
> 20	5	±1.738
10 - 20	11	±0.487
5 - 10	10	±0.2344
1 - 5	63	±0.0696
< 1	11	±0.1503
Total	100	±0.0734
n = 131	DL = 0.1 NTU	

Fecal Coliform Bacteria

Data Range (colonies per 100 mL)	Percent of n Within Range	95% Confidence Interval
> 500	8	±184.5
100 - 500	14	±23.2
50 - 100	10	±15.3
< 50	68	±8.4
Total	100	±15.1
n = 123	DL = 1 colony per 100 mL	

Appendix 5. Continued.

Conductivity

Data Range	percent of n within range	95% Confidence Interval
> 200	16	±2.75
100 - 200	29	±2.1
50 - 100	42	±0.88
< 50	13	±4.75
Total	100	±1.23

n = 127

DL = 1 μ mhos at 25°C

Remaining Parameters

Parameter	95th Confidence Interval	Number of Replicate Pr
Dissolved Oxygen (mg/L)	0.015	132
pH (SU)	0.013	130
Temperature (Degrees °C)	0.015	131

APPENDIX 6

Wateryear 1992 Raw Data for Ecology's
Freshwater Ambient Monitoring Program

01A050 7301A050 12213140
 NOOKSACK RIVER AT BRENNAN
 48 49 10.0 122 34 43.0 2F 0 Elev= 0 ft
 53073 Washington Whatcom Co. PACIFIC NORTHWEST
 PUGET SOUND (Nooksack-01) 131101
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 01-01-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311022
 MILES 0003.40

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR			CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/22	1425	436066	8.4	763	1530		109	11.1	94.1	7.40	
91/11/12	1410	466066	10.2	756	7680		59	11.1	99.0	7.70	
91/12/10	1505	506066	5.9	766	7320		77	12.0	95.2	7.50	
92/01/21	1640	46066	5.8	773	2780		108	12.1	94.9	7.50	
92/02/18	1515	86066	6.0	757	2840		120	11.8	95.0	7.50	
92/03/17	1520	126066	9.0	766	2260		100	11.1	95.0	7.60	
92/04/21	1850	176066	9.6	763	3000		88	11.1	96.7	7.30	
92/05/19	1600	216066	12.8	760	2580		87	10.4	97.8	7.60	
92/06/16	1550	256066	14.4	768	2140		75	10.0	96.2	7.70	
92/07/21	1513	306066	16.3		2380		96	9.5	96.2	8.00	
92/08/18	1610	346066	17.9	763	1830		80	9.5	98.9	7.70	
92/09/22	1320	396066	15.0	758	1390		100	9.9	97.9	7.70	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P
91/10/22	1425			124.0	0.077	0.010K				0.241	0.097
91/11/12	1410			509.0	0.130	0.010K				0.517	0.187
91/12/10	1505			109.0	0.037	0.010K				0.731	0.103
92/01/21	1640			35.0	0.058	0.010K				0.625	0.047
92/02/18	1515			19.0	0.074	0.010K				0.709	0.052
92/03/17	1520			18.0	0.034	0.010K				0.453	0.023
92/04/21	1850			19.0	0.025	0.010K				0.342	0.038
92/05/19	1600			14.0	0.015	0.010K				0.241	0.014
92/06/16	1550			18.0	0.013	0.010K				0.194	0.027
92/07/21	1513			79.0	0.026	0.010K				0.135	0.076
92/08/18	1610			141.0	0.012	0.010K				0.144	0.087
92/09/22	1320			35.0	0.032	0.010K				0.202	0.031

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	ARSENIC
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	AS,DISS
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
		671	900	902	915	925	930	935	940	945	1000

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	935 PTSSIUM K,DISS	940 CHLORIDE CL	945 SULFATE SO4-TOT	1000 ARSENIC AS,DISS
FROM	TO	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
91/10/22	1425	0.011	51								
91/11/12	1410	0.015									
91/12/10	1505	0.015									
92/01/21	1640	0.768									
92/02/18	1515	0.010K									
92/03/17	1520	0.010									
92/04/21	1850	0.011									
92/05/19	1600	0.010K									
92/06/16	1550	0.010K									
92/07/21	1513	0.010K									
92/08/18	1610	0.010K									
92/09/22	1320	0.016									

DATE	DEPTH	1002 ARSENIC AS,TOT	1025 CADMIUM CD,DISS	1027 CADMIUM CD,TOT	1030 CHROMIUM CR,DISS	1034 CHROMIUM CR,TOT	1040 COPPER CU,DISS	1042 COPPER CU,TOT	1049 LEAD PB,DISS	1051 LEAD PB,TOT	1090 ZINC ZN,DISS
FROM	TO	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

DATE	DEPTH	1092 ZINC ZN,TOT	1094 ZINC TOT REC	1113 CADMIUM TOT REC	1114 LEAD TOT REC	1118 CHROMIUM TOT REC	1119 COPPER TOT REC	31504 TOT COLI MFIM LES	31616 FEC COLI MFM-FCBR	31672 FECSTREP PC M-ENT	71900 MERCURY HG,TOTAL
FROM	TO	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	/100ML	UG/L
91/10/22	1425		17.0P	0.10K	2.0P	7.5	6.5P		200		
91/11/12	1410								700		
91/12/10	1505								77S		
92/02/18	1515								210S		
92/03/17	1520								31		
92/04/21	1850								120		
92/05/19	1600								31		
92/07/21	1513								380S		
92/08/18	1610								180		
92/09/22	1320								280		

DATE	DEPTH	71901 MERCURY TOT REC	82079 TURBIDTY LAB
FROM	TO	UG/L	NTU
91/10/22	1425	0.05U	82.0
91/11/12	1410		193.0
91/12/10	1505		30.0
92/01/21	1640		22.0
92/02/18	1515		10.0

MORE DATES NEXT PAGE

			71901	82079
DATE			MERCURY	TURBIDTY
FROM	DEPTH		TOT REC	LAB
TO	TIME	FEET	UG/L	NTU
92/03/17	1520			5.0
92/04/21	1850			7.2
92/05/19	1600			5.4
92/07/21	1513			45.0
92/08/18	1610			65.0
92/09/22	1320			15.0

01B050 7301B050
 SILVER CREEK NEAR BRENNAN
 48 48 37.0 122 34 03.0 2F000 Elev= 0 ft
 53073 Washington Whatcom Co. PACIFIC NORTHWEST
 PUGET SOUND (Nooksack-01) 131101
 21540000 Reach=17110004001 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1311022 000010
 MILES 0000.60 0002.50

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TO	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	TIME	NUMBER	CENT	MM OF HG	25C UMHO	PERCENT			MG/L	MG/L	MG/L
91/10/22	1515	436067	8.8	763	385	4.3	36.8	7.10	2.0	0.020	0.010K
91/11/12	1435	466067	11.4	756	231	6.6	60.5	7.30	4.0	0.033	0.010K
91/12/10	1535	506067	5.3	766	161	10.0	78.2	7.30	3.0	0.059	0.016
92/01/21	1715	46067	4.9	773	192	11.0	84.3	7.40	9.0	0.058	0.010K
92/02/18	1540	86067	6.8	758	188	10.8	88.5	7.40	14.0	0.047	0.010K
92/03/17	1545	126067	11.6	766	250	9.9	90.0	7.60	10.0	0.037	0.010K
92/04/21	1915	176067	10.5	763	205	8.2	72.9	7.30	4.0	0.036	0.010K
92/05/19	1615	216067	15.7	760	288	4.1	41.0	7.10	20.0	0.035	0.010K
92/06/16	1620	256067	15.3	770	251	1.5	14.7	7.20	10.0	0.032	0.010K
92/07/21	1535	306067	19.1		360	2.2	23.6	7.10	16.0	0.041	0.010K
92/08/18	1650	346067	17.9	764	330	1.9	19.8	7.20	19.0	0.029	0.010K
92/09/22	1410	396067	14.2	758	380	0.4	3.9	7.00	8.0	0.037	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	COPPER	ZINC	ZINC	CADMIUM	LEAD	CHROMIUM
FROM	TO	N-TOTAL	MG/L P	ORTHO	CACO3	CU, TOT	ZN, TOT	TOT REC	TOT REC	TOT REC	TOT REC
TO	TIME	MG/L	MG/L P	MG/L P	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
91/10/22	1515	0.035	0.042	0.027	120			8.0P	0.10K	1.0K	0.6V
91/11/12	1435	0.363	0.089	0.032	83			5.4V			
91/12/10	1535	0.874	0.109	0.037	69			8.0P			
92/01/21	1715	0.718	0.069	0.023	80			8.7P			
92/02/18	1540	0.430	0.122	0.023	68			10.0P			
92/03/17	1545	0.398	0.085	0.035	96			9.1P			
92/04/21	1915	0.185	0.086	0.035	85			5.0P			
92/05/19	1615	0.069	0.072	0.032	119			4.0P			
92/06/16	1620	0.026	0.068	0.015	108	3.0K		8.0P			
92/07/21	1535	0.010K	0.153	0.030	140	3.0K		13.0P			
92/08/18	1650	0.010K	0.192	0.078	123	3.0K		7.0V			
92/09/22	1410	0.010K	0.082	0.027	124	3.0K		5.0V			

DATE	DEPTH	COPPER	FEC COLI	MERCURY	TURBIDTY
FROM	TO	TOT REC	MFM-FCBR	TOT REC	LAB
TO	TIME	UG/L	/100ML	UG/L	NTU
1119			31616	71901	82079

MORE DATES NEXT PAGE

DATE		1119	31616	71901	82079
FROM	DEPTH	COPPER	FEC COLI	MERCURY	TURBIDTY
TO	TIME FEET	TOT REC	MFM-FCBR	TOT REC	LAB
		UG/L	/100ML	UG/L	NTU
91/10/22	1515	3.0K	12	0.05U	2.9
91/11/12	1435	3.0K	280		11.5
91/12/10	1535	3.6P	280		9.0
92/01/21	1715	5.1P			13.0
92/02/18	1540	6.5P	1100		21.0
92/03/17	1545	4.6P	84		6.8
92/04/21	1915	4.2P	120		5.2
92/05/19	1615	3.0K	110		3.8
92/06/16	1620	3.0K			
92/07/21	1535	3.0K	260S		2.8
92/08/18	1650	3.0K	200		4.7
92/09/22	1410	3.0K	66		1.9

01D070 7301D070 12215100
 SUMAS RIVER NEAR HUNTINGDON B C
 49 00 09.0 122 13 50.0 2F 0 Elev= 0 ft
 53073 Washington Whatcom Co. PACIFIC NORTHWEST
 PUGET SOUND (Nooksack-01) 131101
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 01-01-06 Class= (A) Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311000
 MILES 0011.90

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	RESIDUE
FROM	TIME	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR			TOT-NFLT
TO	FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/22	1320	436065	9.0	762	43		273	8.1	69.7	7.50	4.0
91/11/12	1310	466065	12.0	756	181		258	6.1	56.7	7.00	27.0
91/12/10	1350	506065	6.7	766	342		215	8.7	70.4	7.40	8.0
92/01/21	1530	46065	6.0	770	131		282	8.7	68.9	7.20	2.0
92/02/18	1340	86065	8.8	756	130		225	9.2	79.4	7.50	9.0
92/03/17	1355	126065	10.1	765	84		255	8.9	78.3	7.50	10.0
92/04/21	1750	176065	12.5	762	88		250	10.1	94.1	7.70	16.0
92/05/19	1455	216065	14.0	758	56		292	10.1	97.7	7.70	2.0
92/06/16	1415	256065	14.9	768	48		268	7.8	75.9	7.50	9.0
92/07/21	1340	306065	16.7		35J		330	6.5	66.5	7.70	7.0
92/08/18	1430	346065	18.6	764	24J		280	10.2	107.8	8.00	3.0
92/09/22	1220	396065	13.8	759	30J		329	7.8	75.1	7.80	7.0

DATE	DEPTH	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT	PHOS-DIS	CHROMIUM	COPPER
FROM	TIME	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P	ORTH	CR,DISS	CU,DISS
TO	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L		MG/L P	UG/L	UG/L
91/10/22	1320	0.162	0.034				2.620	0.244	0.193		
91/11/12	1310	0.313	0.104				4.450	0.316	0.168		
91/12/10	1350	0.060	0.043				4.140	0.184	0.119		
92/01/21	1530	0.230	0.029				3.530	0.143	0.094		
92/02/18	1340	0.136	0.026				3.280	0.109	0.044		
92/03/17	1355	0.163	0.023				2.950	0.170	0.103		
92/04/21	1750	0.067	0.013				2.200	0.112	0.044		
92/05/19	1455	0.044	0.010K				2.520	0.081	0.025		
92/06/16	1415	0.084	0.020				2.500	0.094	0.037		
92/07/21	1340	0.270	0.025				2.100	0.108	0.056		
92/08/18	1430	0.031	0.010K				2.300	0.093	0.058		
92/09/22	1220	0.126	0.044				2.590	0.109	0.066		

DATE	DEPTH	LEAD	STRONTUM	ZINC	LITHIUM	TOT COLI	FEC COLI	FECSTREP	MERCURY	TURBIDTY
FROM	TIME	PB,DISS	SR,DISS	ZN,DISS	LI,DISS	MFIM LES	MFM-FCBR	PC M-ENT	HG,TOTAL	LAB
TO	FEET	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	/100ML	UG/L	NTU
		1049	1080	1090	1130	31504	31616	31672	71900	82079

MORE DATES NEXT PAGE

DATE		1049	1080	1090	1130	31504	31616	31672	71900	82079
FROM		LEAD	STRONTIUM	ZINC	LITHIUM	TOT COLI	FEC COLI	FECSTREP	MERCURY	TURBIDTY
TO	TIME	PB,DISS	SR,DISS	ZN,DISS	LI,DISS	MFIM LES	MFIM-FCBR	PC M-ENT	HG,TOTAL	LAB
	FEET	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	/100ML	UG/L	NTU
91/10/22	1320						9900J			4.8
91/11/12	1310						2900			18.5
91/12/10	1350						410			10.0
92/01/21	1530									7.4
92/02/18	1340						250			6.4
92/03/17	1355						1200J			6.3
92/04/21	1750									5.3
92/05/19	1455						390			4.9
92/07/21	1340						2300			6.5
92/08/18	1430						390			4.4
92/09/22	1220						250			4.3

03A060 5703A060 12200500 541035
 SKAGIT RIVER NEAR MOUNT VERNON
 48 26 42.0 122 20 03.0 2F 0 Elev= 0 ft
 53057 Washington Skagit Co. PACIFIC NORTHWEST
 PUGET SOUND (Lower Skagit-03) 131103
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 02-03-06 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311082
 MILES 0015.90

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	340
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	HI LEVEL
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/23	0800	436069	9.7	767	7300			50	11.1	96.3	
91/11/13	0810	466069	9.8	762	26300			39	11.4	99.8	
91/12/11	0740	506069	6.2	754	22900			55	11.8	95.8	
92/01/22	0845	46069	5.2	772	16300			57	12.5	96.7	
92/02/19	0910	86069	5.0	766	17800			55	12.1	93.8	
92/03/18	0950	126069	6.4	774	13500			58	11.8	93.8	
92/04/22	0950	176069	8.5	769	10300			52	11.4	96.0	
92/05/20	1020	216069	10.1	768	15400			43	11.1	97.2	
92/06/17	1050	256069	11.0	770	10700			50	10.7	95.4	
92/07/22	0750	306069	13.4		11700			43	9.9	94.3	
92/08/19	0850	346069	15.4	770	9680			46	9.8	96.1	
92/09/23	0745	396069	14.1	757	6600			44	9.9	96.1	

DATE	DEPTH	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N
FROM	DEPTH			CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/23	0800	7.30					13.0		0.011	0.010K	
91/11/13	0810	7.30					120.0		0.041	0.010K	
91/12/11	0740	7.10					21.0		0.020	0.010K	
92/01/22	0845	7.40					2.0		0.016	0.010K	
92/02/19	0910	7.20					12.0		0.019	0.010K	
92/03/18	0950	7.40					8.0		0.010K	0.010K	
92/04/22	0950	7.40					17.0		0.014	0.010K	
92/05/20	1020	7.10					6.0		0.010K	0.010K	
92/06/17	1050	7.30					7.0		0.012	0.010K	
92/07/22	0750	7.20					130.0		0.026	0.010K	
92/08/19	0850	7.40					1230.0		0.010K	0.010K	
92/09/23	0745	7.60					77.0		0.044	0.010K	

DATE	DEPTH	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD	CALCIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4		ORTHO	C	CACO3	CACO3	CA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

DATE	DEPTH	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/23	0800			0.037		0.014	0.010K				
91/11/13	0810			0.194		0.083	0.010K				
91/12/11	0740			0.229		0.024	0.010K				
92/01/22	0845			0.139		0.019	0.010K				
92/02/19	0910			0.127		0.013	0.010K				
92/03/18	0950			0.088		0.010	0.010K				
92/04/22	0950			0.110		0.019	0.010K				
92/05/20	1020			0.062		0.010K	0.010K				
92/06/17	1050			0.050		0.015	0.010K				
92/07/22	0750			0.053		0.095	0.010K				
92/08/19	0850			0.035		0.737	0.010				
92/09/23	0745			0.044		0.061	0.010K				

DATE	DEPTH	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	31672 FECSTREP PC M-ENT /100ML	70300 RESIDUE DISS-180 C MG/L	70301 DISS SOL SUM MG/L
FROM	TO	TIME	FEET								

91/10/23	0800										32
91/11/13	0810										37
91/12/11	0740										13
92/01/22	0845										5
92/02/19	0910										6
92/03/18	0950										4
92/05/20	1020										8
92/06/17	1050										13
92/07/22	0750										80
92/08/19	0850										11
92/09/23	0745										43X

DATE	DEPTH	70302 DISS SOL TONS/DAY	70303 DISS SOL TONS PER ACRE-FT	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET		

DATE		70302	70303	71900	82079
FROM	DEPTH	DISS SOL	DISS SOL	MERCURY	TURBIDTY
TO	TIME FEET	TONS/DAY	TONS PER	HG, TOTAL	LAB
			ACRE-FT	UG/L	NTU
91/10/23	0800				4.5
91/11/13	0810				35.0
91/12/11	0740				8.0
92/01/22	0845				3.7
92/02/19	0910				3.7
92/03/18	0950				2.7
92/04/22	0950				2.1
92/05/20	1020				2.0
92/06/17	1050				1.5
92/07/22	0750				50.0
92/08/19	0850				260.0
92/09/23	0745				33.0

04A100 5704A100 12181000 541038
 SKAGIT RIVER AT MARBLEMOUNT
 48 31 35.0 121 25 40.0 2F 0 Elev= 0 ft
 53057 Washington Skagit Co. PACIFIC NORTHWEST
 PUGET SOUND (Upper Skagit-04) 131104
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 02-04-07 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311082
 MILES 0078.20

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	SU
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	PERCENT		
91/10/22	1040	436064	8.7	753	3290			57	11.7	101.1	7.50
91/11/12	1030	466064	9.6	751	7770			29	11.7	103.6	8.10
91/12/10	1055	506064	6.1	761	7040			37	12.0	96.3	7.20
92/01/21	1200	46064	5.3	761	7560			57	12.4	97.6	7.10
92/02/18	1110	86064	7.6	751	7990			58	12.3	103.9	7.50
92/03/17	1110	126064	5.9	755	5540			40	12.2	98.2	7.50
92/04/21	1520	176064	8.0	754	3850			48	11.8	100.1	7.50
92/05/19	1210	216064	8.6	751	4710			33	11.8	102.0	7.40
92/06/16	1145	256064	9.6	760	4310			25	11.4	99.7	7.10
92/07/21	1055	306064	10.7		7590			37	11.0	99.9	7.40
92/08/18	1210	346064	12.3	755	4920			42	10.8	101.0	7.80
92/09/22	1005	396064	10.6	753	2290			45	11.1	100.2	7.70

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4
FROM	TO	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/22	1040				2.0	0.010K	0.010K			0.047	
91/11/12	1030				12.0	0.011	0.010K			0.119	
91/12/10	1055				2.0	0.010	0.010K			0.088	
92/01/21	1200				1.0	0.015	0.010K			0.058	
92/02/18	1110				7.0	0.010K	0.010K			0.059	
92/03/17	1110				2.0	0.010K	0.010K			0.056	
92/04/21	1520				1.0	0.010K	0.010K			0.061	
92/05/19	1210				1.0K	0.010K	0.010K			0.062	
92/06/16	1145				2.0	0.010K	0.010K			0.054	
92/07/21	1055				8.0	0.010	0.010K			0.010K	
92/08/18	1210				2.0	0.010K	0.010K			0.033	
92/09/22	1005				3.0	0.017	0.010K			0.051	

DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	SODIUM	PERCENT	PTSSIUM
FROM	TO	MG/L P	MG/L P	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	ADSBTION	SODIUM	K,DISS
TO	TIME	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	RATIO	%	MG/L
91/10/22	1040										
91/11/12	1030										
91/12/10	1055										
92/01/21	1200										
92/02/18	1110										
92/03/17	1110										
92/04/21	1520										
92/05/19	1210										
92/06/16	1145										
92/07/21	1055										
92/08/18	1210										
92/09/22	1005										

MORE DATES NEXT PAGE

DATE	DEPTH	665 PHOS-TOT	671 PHOS-DIS ORTHO	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L
FROM	FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L			
TO	TIME										
91/10/22	1040	0.010K	0.010K								
91/11/12	1030	0.011	0.010K								
91/12/10	1055	0.010K	0.010K								
92/01/21	1200	0.012	0.010K								
92/02/18	1110	0.010K	0.010K								
92/03/17	1110	0.010K	0.010K								
92/04/21	1520	0.016	0.010K								
92/05/19	1210	0.010K	0.010K								
92/06/16	1145	0.013	0.010K								
92/07/21	1055	0.010K	0.010K								
92/08/18	1210	0.010K	0.010K								
92/09/22	1005	0.010K	0.010K								

DATE	DEPTH	940 CHLORIDE CL	945 SULFATE SO4-TOT	950 FLUORIDE F,DISS	955 SILICA DISOLVED	1020 BORON B,DISS	1030 CHROMIUM CR,DISS	1045 IRON FE,TOT	31501 TOT COLI MFIMENDO /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML
FROM	FEET	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L			
TO	TIME										
91/10/22	1040										38
91/11/12	1030										12
91/12/10	1055										1K
92/02/18	1110										1K
92/03/17	1110										77
92/05/19	1210										1K
92/07/21	1055										22
92/08/18	1210										6
92/09/22	1005										4

DATE	DEPTH	70300 RESIDUE DISS-180 C	70301 DISS SOL SUM MG/L	70302 DISS SOL TONS/DAY	70303 DISS SOL TONS PER ACRE-FT	82079 TURBIDTY LAB NTU
FROM	FEET	MG/L	MG/L			
TO	TIME					
91/10/22	1040					1.0K
91/11/12	1030					2.5
91/12/10	1055					1.0K
92/01/21	1200					1.3
92/02/18	1110					3.4
92/03/17	1110					1.5
92/04/21	1520					1.0
92/05/19	1210					0.8
92/07/21	1055					2.6
92/08/18	1210					1.6
92/09/22	1005					1.3

05A070 6105A070 12167700 541039
 STILLAGUAMISH RIVER NEAR SILVANA
 48 11 50.0 122 12 34.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Stillaguamish-05) 131105
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-05-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311106
 MILES 0011.10

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/23	0900	436070	8.3	768	1100			61	10.7	89.8	7.20
91/11/13	0855	466070	9.0	762	9300			75	11.5	98.9	7.40
91/12/11	0855	506070	6.0	756	5300			47	12.0	96.7	7.30
92/01/22	0950	46070	4.3	771	3000			52	12.7	96.0	7.10
92/02/19	1000	86070	5.2	766	2800			45	12.2	95.1	7.10
92/03/18	1045	126070	7.0	773	2300			48	11.6	93.7	7.50
92/04/22	1055	176070	8.4	769	2870			50	11.2	94.1	7.50
92/05/20	1115	216070	13.3	768	1400			54	10.3	96.8	7.40
92/06/17	1145	256070	12.8	770	2500			62	10.5	97.4	7.60
92/07/22	0850	306070	17.3		630			83	8.7	90.0	7.40
92/08/19	1015	346070	20.4	768	460			92	8.2	89.2	7.50
92/09/23	0830	396070	15.5	758	580			77	9.1	90.9	7.70

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/23	0900				19.0	0.040	0.010K				0.230
91/11/13	0855				192.0	0.066	0.010K				0.423
91/12/11	0855				43.0	0.029	0.010K				0.430
92/01/22	0950				28.0	0.044	0.010K				0.311
92/02/19	1000				39.0	0.030	0.010K				0.345
92/03/18	1045				35.0	0.031	0.010K				0.192
92/04/22	1055				10.0	0.014	0.010K				0.222
92/05/20	1115				5.0	0.010K	0.010K				0.138
92/06/17	1145				5.0	0.010K	0.010K				0.151
92/07/22	0850				4.0	0.012	0.010K				0.063
92/08/19	1015				6.0	0.012	0.010K				0.098
92/09/23	0830				6.0	0.045	0.010K				0.155

DATE	DEPTH	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	PTSSSIUM
FROM	DEPTH	PO4	ORTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	K,SUSP
TO	TIME FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/23	0900										
91/11/13	0855										
91/12/11	0855										
92/01/22	0950										
92/02/19	1000										
92/03/18	1045										
92/04/22	1055										
92/05/20	1115										
92/06/17	1145										
92/07/22	0850										
92/08/19	1015										
92/09/23	0830										

MORE DATES NEXT PAGE

DATE	FROM	DEPTH	660 ORTHOPO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	936 PTSSIUM K,SUSP MG/L
TO	TIME	FEET										
91/10/23	0900			0.028	0.010K							
91/11/13	0855			0.111	0.010K							
91/12/11	0855			0.037	0.010K							
92/01/22	0950			0.031	0.010K							
92/02/19	1000			0.048	0.010K							
92/03/18	1045			0.033	0.036							
92/04/22	1055			0.026	0.010K							
92/05/20	1115			0.010K	0.010K							
92/06/17	1145			0.016	0.010K							
92/07/22	0850			0.010K	0.010K							
92/08/19	1015			0.020	0.012							
92/09/23	0830			0.020	0.012							

DATE	FROM	DEPTH	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1020 BORON B,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L
TO	TIME	FEET										

DATE	FROM	DEPTH	1080 STRONTIUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1130 LITHIUM LI,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71850 NITRATE TOT-NO3 MG/L
TO	TIME	FEET										
91/10/23	0900										80	
91/11/13	0855										84S	
91/12/11	0855										100S	
92/01/22	0950										130	
92/02/19	1000										200	
92/03/18	1045										120	
92/05/20	1115										13	
92/06/17	1145										79	
92/07/22	0850										120	
92/08/19	1015										96	
92/09/23	0830										230	

DATE	FROM	DEPTH	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
TO	TIME	FEET		
91/10/23	0900			14.5
91/11/13	0855			63.0
91/12/11	0855			19.0
92/01/22	0950			18.0

MORE DATES NEXT PAGE

DATE		71900	82079
FROM	DEPTH	MERCURY	TURBIDTY
TO	TIME FEET	HG,TOTAL	LAB
		UG/L	NTU
92/02/19	1000		23.0
92/03/18	1045		23.0
92/04/22	1055		5.3
92/05/20	1115		1.4
92/06/17	1145		1.1
92/07/22	0850		2.3
92/08/19	1015		1.5
92/09/23	0830		4.0

07A090 6107A090 12155500 541042
 SNOHOMISH RIVER AT SNOHOMISH
 47 54 38.0 122 05 52.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-10 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116
 MILES 0012.70

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	340
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	HI LEVEL
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/22	0830	436063	10.4	762	2470			65	10.4	92.4	
91/11/12	0815	466063	9.1	763	14500			23	11.4	98.1	
91/12/10	0835	506063	5.4	775	28400			50	12.4	96.0	
92/01/21	0940	46063	4.2	770	5690			42	12.6	95.3	
92/02/18	0900	86063	7.8	762	6330			47	11.8	98.7	
92/03/17	0850	126063	7.0	766	7500			55	11.6	94.6	
92/04/21	1315	176063	8.8	764	8720			33	11.0	94.0	
92/05/19	1005	216063	12.8	764	6650			32	10.3	96.3	
92/06/16	0915	256063	12.5	770	5280			25	9.9	91.2	
92/07/21	0830	306063	19.2		2130			50	8.4	90.2	
92/08/18	0830	346063	21.3	767	1510			55	9.1	100.7	
92/09/22	0800	396063	14.8	763	2520			51	9.4	91.9	

DATE	DEPTH	PH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N
FROM	DEPTH		CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/22	0830	7.00				3.0		0.057	0.010K		
91/11/12	0815	7.70				48.0		0.032	0.010K		
91/12/10	0835	7.10				37.0		0.021	0.010K		
92/01/21	0940	7.00				1.0K		0.040	0.010K		
92/02/18	0900	7.00				4.0		0.032	0.010K		
92/03/17	0850	7.10				6.0		0.016	0.010K		
92/04/21	1315	7.20				5.0		0.015	0.010K		
92/05/19	1005	6.90				5.0		0.010K	0.010K		
92/06/16	0915	7.40				5.0		0.012	0.010K		
92/07/21	0830	7.00				3.0		0.015	0.010K		
92/08/18	0830	7.50				12.0		0.016	0.010K		
92/09/22	0800	7.50				11.0		0.035	0.010K		

DATE	DEPTH	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	N	N-TOTAL	PO4	PHOS-TOT	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/22	0830	625	630	660	665	671	900	902	915	925	930

MORE DATES NEXT PAGE

DATE	FROM	DEPTH	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L
TO	TIME	FEET										
91/10/22	0830			0.135		0.017	0.010	24				
91/11/12	0815			0.237		0.037	0.010K					
91/12/10	0835			0.393		0.055	0.010K					
92/01/21	0940			0.359		0.019	0.010K					
92/02/18	0900			0.426		0.019	0.010K					
92/03/17	0850			0.178		0.012	0.010K					
92/04/21	1315			0.205		0.027	0.010K					
92/05/19	1005			0.105		0.010K	0.010K					
92/06/16	0915			0.134		0.017	0.010K					
92/07/21	0830			0.010K		0.010K	0.010K					
92/08/18	0830			0.084		0.011	0.010K					
92/09/22	0800			0.157		0.015	0.010K					

DATE	FROM	DEPTH	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1002 ARSENIC AS,TOT UG/L	1020 BORON B,DISS UG/L
TO	TIME	FEET										

DATE	FROM	DEPTH	1025 CADMIUM CD,DISS UG/L	1027 CADMIUM CD,TOT UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1051 LEAD PB,TOT UG/L	1065 NICKEL NI,DISS UG/L
TO	TIME	FEET										

DATE	FROM	DEPTH	1080 STRONTIUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	1130 LITHIUM LI,DISS UG/L	31501 TOT COLI MFIMENDO /100ML
TO	TIME	FEET										
91/10/22	0830					7.0P	0.10K	1.6P	0.6V	3.0K		

DATE	FROM	DEPTH	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	70303 DISS SOL TONS PER ACRE-FT	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
TO	TIME	FEET								
91/10/22	0830				100				0.05U	1.9
91/11/12	0815				89					16.0
91/12/10	0835				88					13.0
92/01/21	0940									3.4
92/02/18	0900				69					3.1
92/03/17	0850				25					3.3
92/04/21	1315									3.1

MORE DATES NEXT PAGE

			31504	31505	31616	70300	70303	71900	71901	82079
DATE			TOT COLI	TOT COLI	FEC COLI	RESIDUE	DISS SOL	MERCURY	MERCURY	TURBIDTY
FROM	DEPTH	MFIM LES	MPN CONF	MFM-FCBR	DISS-180	TONS PER	HG, TOTAL	TOT REC		LAB
TO	TIME	FEET	/100ML	/100ML	/100ML	C MG/L	ACRE-FT	UG/L	UG/L	NTU
92/05/19	1005				41					1.6
92/07/21	0830				79					2.8
92/08/18	0830				91					1.3
92/09/22	0800				110					2.0

07B055 6107B055 12155400
 PILCHUCK RIVER AT SNOHOMISH
 47 54 47.0 122 04 56.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-19 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116 000070
 MILES 0013.40 0001.90

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	COLOR PT-CO	CNDUCTVY LAB @	DO	DO	PH	T ALK
FROM	TO	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	CACO3
TO	TIME	FEET									MG/L
91/10/22	0800	436062	9.4	760	120		98	10.3	89.7	7.20	
91/11/12	0755	466062	8.4	762	800		30	10.7	90.7	7.80	
91/12/10	0800	506062	6.0	774	1500		46	11.9	93.7	7.60	
92/01/21	0910	46062	5.5	768	330		55	12.1	94.8	7.10	
92/02/18	0835	86062	8.0	761	510		60	11.8	99.2	7.30	
92/03/17	0815	126062	8.9	765	195		70	10.8	92.4	7.40	
92/04/21	1235	176062	10.5	764	370		52	10.8	95.9	7.30	
92/05/19	0920	216062	13.0	763	160		66	10.3	96.8	7.40	
92/06/16	0840	256062	13.3	769	180		55	9.6	90.1	7.20	
92/07/21	0800	306062	17.1		90		84	8.9	91.7	7.30	
92/08/18	0810	346062	17.9	767	53		90	8.6	89.1	7.60	
92/09/22	0730	396062	14.0	762	120		64	9.4	90.4	7.50	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	TO	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/22	0800			9.0	0.010K	0.010K				0.116	0.016
91/11/12	0755			34.0	0.022	0.010K				0.390	0.037
91/12/10	0800			51.0	0.024	0.010K				0.764	0.047
92/01/21	0910			2.0	0.030	0.010K				0.640	0.021
92/02/18	0835			12.0	0.023	0.010K				0.653	0.031
92/03/17	0815			2.0	0.013	0.010K				0.534	0.013
92/04/21	1235			3.0	0.013	0.010K				0.373	0.027
92/05/19	0920			1.0	0.010K	0.010K				0.322	0.010K
92/06/16	0840			2.0	0.010K	0.010K				0.258	0.015
92/07/21	0800			1.0	0.010K	0.010K				0.065	0.010K
92/08/18	0810			2.0	0.010K	0.010K				0.254	0.010
92/09/22	0730			5.0	0.030	0.010K				0.265	0.013

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI
FROM	TO	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES
TO	TIME	FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML
91/10/22	0800										
91/11/12	0755										
91/12/10	0800										
92/01/21	0910										
92/02/18	0835										
92/03/17	0815										
92/04/21	1235										
92/05/19	0920										
92/06/16	0840										
92/07/21	0800										
92/08/18	0810										
92/09/22	0730										

MORE DATES NEXT PAGE

DATE		671	900	902	915	925	930	935	940	945	31504
FROM	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI
TO	TIME FEET	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES
		MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML
91/10/22	0800	0.010K									
91/11/12	0755	0.010K									
91/12/10	0800	0.010K									
92/01/21	0910	0.010K									
92/02/18	0835	0.010K									
92/03/17	0815	0.010K									
92/04/21	1235	0.010K									
92/05/19	0920	0.010K									
92/06/16	0840	0.010K									
92/07/21	0800	0.010K									
92/08/18	0810	0.010K									
92/09/22	0730	0.010K									

DATE		31616	82079
FROM	DEPTH	FEC COLI	TURBIDTY
TO	TIME FEET	MFM-FCBR	LAB
		/100ML	NTU
91/10/22	0800	410J	1.4
91/11/12	0755	40	11.0
91/12/10	0800	45S	12.0
92/01/21	0910		5.1
92/02/18	0835	120S	6.0
92/03/17	0815	96J	1.5
92/04/21	1235	75	1.6
92/05/19	0920	220	0.5
92/07/21	0800	200	2.4
92/08/18	0810	31	0.7
92/09/22	0730	200	2.0

07C070 6107C070 12141100
 SKYKOMISH RIVER AT MONROE
 47 51 08.0 121 57 29.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-11 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116
 MILES 0025.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR			CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/21	1400	436057	11.2	759	1100		50	11.2	101.8	7.00	
91/11/11	1225	466057	8.3	757	3460		24	11.6	98.7	7.60	
91/12/09	1330	506057	5.8	766	14500		22	12.3	97.3	7.20	
92/01/20	1515	46057	3.6	762	2870		35	13.2	99.2	7.00	
92/02/17	1340	86057	4.6	765	3470		25	12.4	95.4	6.90	
92/03/16	1350	126057	6.4	762	6870		19	12.1	97.7	7.30	
92/04/21	0955	176057	7.7	766	4630		30	11.7	97.0	7.10	
92/05/18	1355	216057	11.6	761	4370		24	11.4	104.3	7.30	
92/06/15	1340	256057	12.5	764	3140		18	11.0	102.2	7.20	
92/07/20	1400	306057	18.3		1350		38	9.7	102.4	7.60	
92/08/17	1548	346057	20.3	758	1150		42	9.9	108.9	7.60	
92/09/21	1220	396057	14.4	766	1450		40	10.4	100.4	7.40	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1400			2.0	0.010K	0.010K				0.063	0.010
91/11/11	1225			5.0	0.015	0.010K				0.197	0.010K
91/12/09	1330			54.0	0.019	0.010K				0.216	0.043
92/01/20	1515			1.0K	0.016	0.010K				0.198	0.012
92/02/17	1340			4.0	0.010K	0.010K				0.160	0.013
92/03/16	1350			8.0	0.010	0.010K				0.087	0.011
92/04/21	0955			8.0	0.010K	0.010K				0.098	0.022
92/05/18	1355			3.0	0.010K	0.010K				0.054	0.010K
92/06/15	1340			12.0	0.010K	0.010K				0.052	0.015
92/07/20	1400			3.0	0.010	0.010K				0.052	0.010K
92/08/17	1548			4.0	0.010K	0.010K				0.031	0.010K
92/09/21	1220			5.0	0.010K	0.010K				0.100	0.011

DATE	DEPTH	PHOS-DIS	TOT HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI
FROM	DEPTH	ORTHO	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES	MFM-FCBR
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML
		671	900	915	925	930	935	940	945	31504	31616

MORE DATES NEXT PAGE

DATE		671	900	915	925	930	935	940	945	31504	31616
FROM		PHOS-DIS	TOT HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI
TO	DEPTH	ORTHO	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES	MFM-FCBR
	FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML
91/10/21	1400	0.010K									24
91/11/11	1225	0.010K									8
91/12/09	1330	0.010K									15
92/01/20	1515	0.010K									1K
92/02/17	1340	0.010K									2
92/03/16	1350	0.010K									4
92/04/21	0955	0.010K									25
92/05/18	1355	0.010K									3
92/06/15	1340	0.010K									18
92/07/20	1400	0.010K									17
92/08/17	1548	0.010K									8
92/09/21	1220	0.010K									83

DATE		82079
FROM		TURBIDTY
TO	DEPTH	LAB
	FEET	NTU
91/10/21	1400	1.1
91/11/11	1225	3.0
91/12/09	1330	17.0
92/01/20	1515	2.5
92/02/17	1340	2.8
92/03/16	1350	4.1
92/04/21	0955	2.2
92/05/18	1355	2.2
92/06/15	1340	1.5
92/07/20	1400	1.5
92/08/17	1548	2.0
92/09/21	1220	1.6

07C120 6107C120 12134500 541046
 SKYKOMISH RIVER NEAR GOLD BAR
 47 50 15.0 121 39 25.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-12 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116
 MILES 0043.70

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/21	1500	436059	9.8	754	729			56	11.4	100.9	6.90
91/11/11	1335	466059	7.4	753	3840			24	11.9	99.7	7.60
91/12/09	1430	506059	5.0	761	12100			20	13.0	101.4	7.30
92/01/20	1625	46059	3.3	758	1930			33	13.3	99.7	7.10
92/02/17	1445	86059	3.9	759	1730			28	12.9	98.1	7.00
92/03/16	1455	126059	7.2	754	3930			20	12.4	103.2	7.10
92/04/21	1100	176059	6.6	760	3710			28	12.0	97.6	7.30
92/05/18	1525	216059	11.6	752	3600			22	13.9	128.5	7.20
92/06/15	1505	256059	10.8	758	2260			17	11.0	99.1	7.30
92/07/20	1515	306059	16.5		796			38	9.6	98.3	7.80
92/08/17	1700	346059	17.6	752	562			44	9.9	104.0	7.70
92/09/21	1315	396059	15.1	759	858			40	10.5	103.8	7.40

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4	
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P
91/10/21	1500			11.0	0.010K	0.010K			0.088		0.018
91/11/11	1335			6.0	0.045	0.010K			0.641		0.031
91/12/09	1430			37.0	0.026	0.010K			0.170		0.039
92/01/20	1625			1.0K	0.016	0.010K			0.131		0.012
92/02/17	1445			6.0	0.010K	0.010K			0.099		0.011
92/03/16	1455			3.0	0.010K	0.010K			0.069		0.010K
92/04/21	1100			2.0	0.010K	0.010K			0.080		0.018
92/05/18	1525			2.0	0.010K	0.010K			0.038		0.010K
92/06/15	1505			1.0	0.010K	0.010K			0.044		0.012
92/07/20	1515			7.0	0.010K	0.010K			0.013		0.010K
92/08/17	1700			3.0	0.010K	0.010K			0.050		0.010K
92/09/21	1315			1.0	0.020	0.010K			0.091		0.010K

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1500										
91/11/11	1335										
91/12/09	1430										
92/01/20	1625										
92/02/17	1445										
92/03/16	1455										
92/04/21	1100										
92/05/18	1525										
92/06/15	1505										
92/07/20	1515										
92/08/17	1700										
92/09/21	1315										

MORE DATES NEXT PAGE

			671	900	902	915	925	930	935	940	945	950
DATE			PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1500		0.010K									
91/11/11	1335		0.016									
91/12/09	1430		0.010K									
92/01/20	1625		0.010K									
92/02/17	1445		0.010K									
92/03/16	1455		0.010K									
92/04/21	1100		0.010K									
92/05/18	1525		0.010K									
92/06/15	1505		0.010K									
92/07/20	1515		0.010K									
92/08/17	1700		0.010K									
92/09/21	1315		0.010K									

			955	1020	1034	1042	1045	1092	31501	31505	31616	70300
DATE			SILICA	BORON	CHROMIUM	COPPER	IRON	ZINC	TOT COLI	TOT COLI	FEC COLI	RESIDUE
FROM	DEPTH		DISOLVED	B,DISS	CR,TOT	CU,TOT	FE,TOT	ZN,TOT	MFIMENDO	MPN CONF	MFM-FCBR	DISS-180
TO	TIME	FEET	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	/100ML	C MG/L
91/10/21	1500											320J
91/11/11	1335											1600S
91/12/09	1430											6
92/01/20	1625											1
92/02/17	1445											1
92/03/16	1455											1K
92/05/18	1525											1K
92/06/15	1505											9
92/07/20	1515											6
92/08/17	1700											19
92/09/21	1315											20

			82079
DATE			TURBIDTY
FROM	DEPTH		LAB
TO	TIME	FEET	NTU
91/10/21	1500		6.6
91/11/11	1335		2.1
91/12/09	1430		15.0
92/01/20	1625		0.7
92/02/17	1445		1.1
92/03/16	1455		2.6
92/04/21	1100		1.5
92/05/18	1525		0.6
92/06/15	1505		0.5
92/07/20	1515		1.3
92/08/17	1700		0.8

MORE DATES NEXT PAGE

DATE		DEPTH		TURBIDTY	
FROM	TO	TIME	FEET	LAB	NTU
92/09/21	1315				1.1

07D050 6107D050 12150700
 SNOQUALMIE RIVER NEAR MONROE
 47 48 14.0 122 00 06.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-13 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1311116 000120
 MILES 0020.50 0002.70

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	RESIDUE
FROM	TIME	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		TOT-NFLT
TO	FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/21	1320	436056	11.6	760			79	10.6	97.1	7.20	3.0
91/11/11	1145	466056	8.6	758			122	11.0	94.2	7.50	10.0
91/12/09	1220	506056	6.6	766			29	12.2	98.5	7.20	33.0
92/01/20	1420	46056	3.5	762			46	12.6	94.5	6.90	1.0
92/02/17	1250	86056	5.6	765			50	11.6	91.4	6.90	8.0
92/03/16	1240	126056	8.2	762			40	11.0	92.8	7.20	9.0
92/04/21	0915	176056	9.9	766			35	10.7	93.4	6.90	9.0
92/05/18	1250	216056	14.2	762			44	11.3	109.2	7.10	1.0
92/06/15	1255	256056	12.8	764			28	10.1	94.4	7.20	8.0
92/07/20	1320	306056	21.0				55	8.4	93.4	7.20	3.0
92/08/17	1435	346056	21.2	759			62	10.0	111.7	7.50	6.0
92/09/21	1140	396056	14.2	766			56	9.6	92.2	7.40	2.0

DATE	DEPTH	610	613	630	665	671	31504	31616	82079
FROM	TIME	NH3+NH4-	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT COLI	FEC COLI	TURBIDTY
TO	FEET	N TOTAL	DISS	N-TOTAL	MG/L P	ORTHO	MFIM LES	MFM-FCBR	LAB
		MG/L	MG/L	MG/L		MG/L P	/100ML	/100ML	NTU
91/10/21	1320	0.024	0.010K	0.135	0.017	0.012		95	1.1
91/11/11	1145	0.026	0.010K	0.284	0.015	0.010K		150	4.0
91/12/09	1220	0.017	0.010K	0.404	0.036	0.010K		71S	13.0
92/01/20	1420	0.036	0.010K	0.422	0.020	0.010K		22	3.0
92/02/17	1250	0.026	0.018	0.458	0.022	0.010K		13	4.0
92/03/16	1240	0.026	0.010K	0.244	0.016	0.010K		45S	2.3
92/04/21	0915	0.019	0.010K	0.285	0.030	0.010K		340	2.5
92/05/18	1250	0.014	0.010K	0.160	0.010K	0.010K		29	1.4
92/06/15	1255	0.023	0.010K	0.178	0.025	0.010K		730J	2.9
92/07/20	1320	0.014	0.010K	0.135	0.011	0.010K		71	1.3
92/08/17	1435	0.010K	0.010K	0.105	0.012	0.010K		34	0.7
92/09/21	1140	0.016	0.010K	0.181	0.014	0.010K		140	1.3

07D070 3307D070 12149000
 SNOQUALMIE RIVER NEAR CARNATION
 47 39 58.0 121 55 27.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-13 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116 000120
 MILES 0020.70 0023.01

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR			CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/21	1200	436055	10.5	762	526		76	10.7	95.3	7.00	
91/11/11	1100	466055	8.5	760	2220		27	11.1	94.6	7.70	
91/12/09	1130	506055	6.4	766	10100		20	12.3	98.8	6.80	
92/01/20	1310	46055	3.8	763	2180		40	12.8	96.6	6.90	
92/02/17	1145	86055	5.4	766	1940		45	12.0	94.0	6.90	
92/03/16	1145	126055	7.5	763	2610		32	11.4	94.5	7.20	
92/04/20	1210	176055	9.4	767	3550		30	11.2	96.6	7.20	
92/05/18	1155	216055	13.6	762	1940		36	10.1	96.4	7.30	
92/06/15	1210	256055	12.6	765	2160		30	10.1	93.9	7.40	
92/07/20	1235	306055	19.2		915		53	9.1	97.8	7.00	
92/08/17	1400	346055	20.1	760	655		58	9.6	104.9	7.70	
92/09/21	1100	396055	13.5	766	1040		52	10.1	95.6	7.40	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1200			2.0	0.010K	0.010K				0.180	0.011
91/11/11	1100			7.0	0.015	0.010K				0.269	0.010K
91/12/09	1130			28.0	0.016	0.010K				0.364	0.028
92/01/20	1310			1.0K	0.014	0.010K				0.373	0.015
92/02/17	1145			3.0	0.015	0.010K				0.381	0.017
92/03/16	1145			8.0	0.015	0.010K				0.202	0.014
92/04/20	1210			8.0	0.015	0.010K				0.241	0.028
92/05/18	1155			2.0	0.010K	0.010K				0.142	0.010K
92/06/15	1210			4.0	0.010K	0.010K				0.150	0.018
92/07/20	1235			1.0	0.012	0.010K				0.143	0.010K
92/08/17	1400			3.0	0.010K	0.010K				0.122	0.011
92/09/21	1100			2.0	0.010K	0.010K				0.189	0.011

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

			671	900	902	915	925	930	935	940	945	950
DATE			PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1200		0.010K									
91/11/11	1100		0.010K									
91/12/09	1130		0.010K									
92/01/20	1310		0.010K									
92/02/17	1145		0.010K									
92/03/16	1145		0.010K									
92/04/20	1210		0.010K									
92/05/18	1155		0.029									
92/06/15	1210		0.011									
92/07/20	1235		0.010K									
92/08/17	1400		0.010K									
92/09/21	1100		0.010K									

			955	1020	1030	1040	1045	1049	1080	1090	1130	31504
DATE			SILICA	BORON	CHROMIUM	COPPER	IRON	LEAD	STRONTIUM	ZINC	LITHIUM	TOT COLI
FROM	DEPTH	DISOLVED	B,DISS	CR,DISS	CU,DISS	FE, TOT	PB,DISS	SR,DISS	ZN,DISS	LI,DISS	MFIM LES	/100ML
TO	TIME FEET	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML

			31616	31672	70300	71900	82079
DATE			FEC COLI	FECSTREP	RESIDUE	MERCURY	TURBIDTY
FROM	DEPTH	MFM-FCBR	PC M-ENT	DISS-180	HG, TOTAL	LAB	
TO	TIME FEET	/100ML	/100ML	C MG/L	UG/L	NTU	
91/10/21	1200		32				1.0K
91/11/11	1100		31				2.3
91/12/09	1130		21S				11.0
92/01/20	1310		4				1.9
92/02/17	1145		8				3.3
92/03/16	1145		14				3.5
92/04/20	1210		18				3.6
92/05/18	1155		7				0.8
92/06/15	1210		75				1.5
92/07/20	1235		92				1.0
92/08/17	1400		88				0.7
92/09/21	1100		41				1.5

07D130 3307D130 12144400 541044
 SNOQUALMIE RIVER AT SNOQUALMIE
 47 31 40.0 121 48 40.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-13 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311116 000120
 MILES 0020.50 0042.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	PERCENT	PERCENT	SU
91/10/21	0930	436051	10.4	750	306			67	9.5	85.7	6.90
91/11/11	0900	466051	7.9	749	1710			45	11.3	96.3	8.00
91/12/09	0940	506051	5.4	754	6590			25	12.1	96.3	7.30
92/01/20	1020	46051	2.9	755	1520			32	12.7	94.6	6.90
92/02/17	0950	86051	4.8	753	1360			32	11.6	91.1	7.60
92/03/16	0945	126051	6.0	751	2070			22	11.6	94.2	7.30
92/04/20	1020	176051	7.7	751	2620			22	11.5	97.2	7.20
92/05/18	0940	216051	12.0	751	1670			23	10.5	98.2	7.30
92/06/15	1005	256051	11.4	753	1660			23	10.2	93.8	7.50
92/07/20	1015	306051	16.1		684			43	9.8	100.2	7.10
92/08/17	1125	346051	16.3	761	390			48	8.8	89.0	7.20
92/09/21	0900	396051	12.6	756	867			35	9.9	93.1	7.40

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	0930				1.0	0.010K	0.010K			0.172	
91/11/11	0900				6.0	0.017	0.010K			0.216	
91/12/09	0940				28.0	0.020	0.010K			0.230	
92/01/20	1020				1.0K	0.017	0.010K			0.262	
92/02/17	0950				5.0	0.011	0.010K			0.262	
92/03/16	0945				7.0	0.011	0.010K			0.140	
92/04/20	1020				7.0	0.011	0.010K			0.162	
92/05/18	0940				1.0	0.010K	0.010K			0.098	
92/06/15	1005				5.0	0.012	0.010K			0.118	
92/07/20	1015				4.0	0.012	0.010K			0.143	
92/08/17	1125				5.0	0.010K	0.010K			0.150	
92/09/21	0900				7.0	0.010K	0.010K			0.143	

DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	SODIUM	PERCENT	PTSSIUM
FROM	DEPTH	ORTH	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	ADSBTION	SODIUM	K,DISS
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	RATIO	%	MG/L
91/10/21	0930										
91/11/11	0900										
91/12/09	0940										
92/01/20	1020										
92/02/17	0950										
92/03/16	0945										
92/04/20	1020										
92/05/18	0940										
92/06/15	1005										
92/07/20	1015										
92/08/17	1125										
92/09/21	0900										

MORE DATES NEXT PAGE

DATE FROM TO	DEPTH FEET	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L
91/10/21	0930	0.014	0.010K								
91/11/11	0900	0.010K	0.010K								
91/12/09	0940	0.024	0.010K								
92/01/20	1020	0.014	0.010K								
92/02/17	0950	0.010	0.010K								
92/03/16	0945	0.015	0.010K								
92/04/20	1020	0.010K	0.010K								
92/05/18	0940	0.010K	0.010K								
92/06/15	1005	0.013	0.010K								
92/07/20	1015	0.010K	0.010K								
92/08/17	1125	0.013	0.010K								
92/09/21	0900	0.011	0.010K								

DATE FROM TO	DEPTH FEET	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1020 BORON B,DISS UG/L	1032 CHROMIUM HEX-VAL UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L
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DATE FROM TO	DEPTH FEET	1045 IRON FE,TOT UG/L	1080 STRONTUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1130 LITHIUM LI,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML
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91/10/21	0930										24
91/11/11	0900										9
91/12/09	0940										12
92/01/20	1020										4
92/02/17	0950										1K
92/03/16	0945										3
92/05/18	0940										18
92/06/15	1005										33
92/07/20	1015										35
92/08/17	1125										33
92/09/21	0900										59

DATE FROM TO	DEPTH FEET	70300 RESIDUE DISS-180 C MG/L	70303 DISS SOL TONS PER ACRE-FT	71851 NITRATE DISS-NO3 MG/L	82079 TURBIDTY LAB NTU
91/10/21	0930				1.0
91/11/11	0900				2.3
91/12/09	0940				9.0
92/01/20	1020				2.2

MORE DATES NEXT PAGE

DATE		70300	70303	71851	82079
FROM	DEPTH	RESIDUE	DISS SOL	NITRATE	TURBIDTY
TO	TIME FEET	DISS-180	TONS PER	DISS-NO3	LAB
		C MG/L	ACRE-FT	MG/L	NTU
92/02/17	0950				1.9
92/03/16	0945				2.5
92/04/20	1020				2.9
92/05/18	0940				1.0
92/06/15	1005				1.2
92/07/20	1015				2.0
92/08/17	1125				0.6
92/09/21	0900				1.3

07E055 6107E055 12138200 541045
 SULTAN RIVER AT SULTAN
 47 51 38.0 121 49 10.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-11 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX
MILES

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/21	1535	436060	11.8	758	279			31	10.6	97.7	6.90
91/11/11	1410	466060	8.8	756	316			156	11.6	100.2	7.40
91/12/09	1525	506060	5.3	766	1890			27	12.5	97.7	7.20
92/01/20	1710	46060	4.6	762	344			35	12.9	99.6	6.90
92/02/17	1550	86060	5.5	763	908			22	12.8	100.9	6.90
92/03/16	1545	126060	6.8	760	312			40	11.9	97.4	7.30
92/04/21	1150	176060	8.9	763	272			30	11.9	101.9	7.30
92/05/18	1600	216060	11.9	756	344			22	14.4	133.4	7.30
92/06/15	1620	256060	10.8	763	308			23	11.3	101.2	7.10
92/07/20	1600	306060	13.4		1196			25	10.9	104.1	7.70
92/08/17	1800	346060	17.3	755	206			25	10.2	106.0	7.90
92/09/21	1340	396060	15.1	762	293			26	10.9	107.3	7.60

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1535				6.0	0.032	0.010K				0.053
91/11/11	1410				5.0	0.019	0.010K				0.240
91/12/09	1525				6.0	0.014	0.010K				0.207
92/01/20	1710				1.0K	0.011	0.010K				0.177
92/02/17	1550				2.0	0.010K	0.010K				0.124
92/03/16	1545				3.0	0.010K	0.010K				0.115
92/04/21	1150				2.0	0.010K	0.010K				0.110
92/05/18	1600				3.0	0.010K	0.010K				0.063
92/06/15	1620				8.0	0.010K	0.010K				0.060
92/07/20	1600				2.0	0.010K	0.010K				0.010K
92/08/17	1800				3.0	0.010K	0.010K				0.030
92/09/21	1340				3.0	0.020	0.010K				0.111

DATE	DEPTH	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH	PO4	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	
TO	TIME FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1535										
91/11/11	1410										
91/12/09	1525										
92/01/20	1710										
92/02/17	1550										
92/03/16	1545										
92/04/21	1150										
92/05/18	1600										
92/06/15	1620										
92/07/20	1600										
92/08/17	1800										
92/09/21	1340										

MORE DATES NEXT PAGE

			660	665	671	900	902	915	925	930	935	940
DATE			ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH		PO4		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL
TO	TIME	FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1535			0.013	0.010K							
91/11/11	1410			0.010K	0.010K							
91/12/09	1525			0.013	0.010K							
92/01/20	1710			0.011	0.010K							
92/02/17	1550			0.012	0.010K							
92/03/16	1545			0.010K	0.010K							
92/04/21	1150			0.018	0.010K							
92/05/18	1600			0.010K	0.010K							
92/06/15	1620			0.012	0.010K							
92/07/20	1600			0.010K	0.010K							
92/08/17	1800			0.010K	0.010K							
92/09/21	1340			0.010K	0.010K							

			945	950	955	1020	1045	31501	31504	31505	31616	70300
DATE			SULFATE	FLUORIDE	SILICA	BORON	IRON	TOT COLI	TOT COLI	TOT COLI	FEC COLI	RESIDUE
FROM	DEPTH		SO4-TOT	F,DISS	DISOLVED	B,DISS	FE,TOT	MFIMENDO	MFIM LES	MPN CONF	MFM-FCBR	DISS-180
TO	TIME	FEET	MG/L	MG/L	MG/L	UG/L	UG/L	/100ML	/100ML	/100ML	/100ML	C MG/L
91/10/21	1535											120X
91/11/11	1410											37
91/12/09	1525											10
92/01/20	1710											3
92/02/17	1550											2
92/03/16	1545											4
92/05/18	1600											1K
92/06/15	1620											6
92/07/20	1600											15
92/08/17	1800											21
92/09/21	1340											16

			82079
DATE			TURBIDTY
FROM	DEPTH		LAB
TO	TIME	FEET	NTU
91/10/21	1535		1.8
91/11/11	1410		2.4
91/12/09	1525		5.0
92/01/20	1710		2.0
92/02/17	1550		4.0
92/03/16	1545		2.7
92/04/21	1150		1.3
92/05/18	1600		0.8
92/06/15	1620		0.6
92/07/20	1600		1.0
92/08/17	1800		1.2

MORE DATES NEXT PAGE

DATE		DEPTH		82079
FROM	TO	TIME	FEET	TURBIDTY
				LAB
				NTU
92/09/21	1340			2.2

07F055 6107F055 12141090
 WOODS CREEK AT MONROE
 47 51 16.0 121 57 50.0 2F 0 Elev= 0 ft
 53061 Washington Snohomish Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-11 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1311116 000170
 MILES 0025.10 0000.50

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/21	1415	436058	10.4	759			113	10.3	91.9	7.00	
91/11/11	1245	466058	9.3	758			66	10.6	92.3	6.90	
91/12/09	1350	506058	7.5	767			39	11.4	93.9	7.10	
92/01/20	1550	46058	5.1	762			53	12.6	98.4	7.00	
92/02/17	1405	86058	5.9	766			55	11.9	94.5	7.00	
92/03/16	1405	126058	9.1	762			53	11.3	97.4	7.50	
92/04/21	1020	176058	9.8	766			50	11.3	98.5	7.30	
92/05/18	1440	216058	14.3	760			65	11.8	114.6	7.80	
92/06/15	1405	256058	14.2	764			52	10.4	100.3	7.20	
92/07/20	1425	306058	17.7				87	9.6	100.2	7.70	
92/08/17	1555	346058	19.1	757			102	9.9	106.5	8.10	
92/09/21	1235	396058	13.5	765			94	10.2	96.7	7.60	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	TOT N	N-TOTAL	MG/L P
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1415			2.0	0.114	0.010K				0.495	0.045
91/11/11	1245			14.0	0.014	0.010K				0.187	0.010K
91/12/09	1350			36.0	0.026	0.010K				1.200	0.056
92/01/20	1550			1.0K	0.035	0.010K				0.914	0.026
92/02/17	1405			6.0	0.121	0.010K				0.940	0.089
92/03/16	1405			27.0	0.014	0.010K				0.764	0.022
92/04/21	1020			14.0	0.014	0.010K				0.564	0.041
92/05/18	1440			1.0K	0.012	0.010K				0.503	0.012
92/06/15	1405			3.0	0.011	0.010K				0.387	0.031
92/07/20	1425			7.0	0.014	0.010K				0.351	0.019
92/08/17	1555			3.0	0.014	0.010K				0.416	0.027
92/09/21	1235			3.0	0.078	0.010K				0.476	0.038

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	STRONTUM
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	SR,DISS
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
91/10/21	1415										
91/11/11	1245										
91/12/09	1350										
92/01/20	1550										
92/02/17	1405										
92/03/16	1405										
92/04/21	1020										
92/05/18	1440										
92/06/15	1405										
92/07/20	1425										
92/08/17	1555										
92/09/21	1235										

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	1080 STRONTUM SR,DISS UG/L
FROM	TO	TIME	FEET								
91/10/21	1415										
91/11/11	1245										
91/12/09	1350										
92/01/20	1550										
92/02/17	1405										
92/03/16	1405										
92/04/21	1020										
92/05/18	1440										
92/06/15	1405										
92/07/20	1425										
92/08/17	1555										
92/09/21	1235										

DATE	DEPTH	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	31672 FECSTREP PC M-ENT /100ML	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET		
91/10/21	1415				
91/11/11	1245				
91/12/09	1350				
92/01/20	1550				
92/02/17	1405				
92/03/16	1405				
92/04/21	1020				
92/05/18	1440				
92/06/15	1405				
92/07/20	1425				
92/08/17	1555				
92/09/21	1235				

07G070 3307G070 12148500 541043
 TOLT RIVER NEAR CARNATION
 47 38 15.0 121 54 55.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 03-07-13 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1311116 000120 00310
 MILES 0020.50 0024.90 000.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/21	1130	436054	10.6	762	130			57	11.1	99.1	7.00
91/11/11	1025	466054	8.4	759	404			34	11.5	97.9	8.00
91/12/09	1100	506054	6.4	765	2010			25	12.1	97.3	7.30
92/01/20	1230	46054	4.3	764	353			43	13.1	100.1	7.00
92/02/17	1120	86054	5.5	766	318			44	12.3	96.6	7.00
92/03/16	1115	126054	7.1	762	280			44	12.0	98.6	7.60
92/04/20	1140	176054	9.9	767	339			44	11.3	98.6	7.50
92/05/18	1110	216054	11.9	762	270			38	11.7	107.6	7.50
92/06/15	1145	256054	11.6	765	280			43	10.7	97.3	7.50
92/07/20	1140	306054	15.2		153			163	9.9	98.2	7.80
92/08/17	1330	346054	18.0	760	119			57	10.1	105.9	7.90
92/09/21	1035	396054	12.5	766	235			41	10.6	98.2	7.70

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	T INORG.	ORTHOPO4	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	NITROGEN	PO4	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L N	MG/L	MG/L P
91/10/21	1130			1.0	0.010K	0.010K		0.114			0.010K
91/11/11	1025			4.0	0.012	0.010K		0.363			0.010K
91/12/09	1100			64.0	0.012	0.010K		0.423			0.049
92/01/20	1230			1.0K	0.015	0.010K		0.367			0.012
92/02/17	1120			3.0	0.010	0.010K		0.355			0.010K
92/03/16	1115			2.0	0.010K	0.010K		0.223			0.010K
92/04/20	1140			3.0	0.013	0.010K		0.310			0.024
92/05/18	1110			1.0	0.010	0.010K		0.195			0.010K
92/06/15	1145			2.0	0.010K	0.010K		0.185			0.015
92/07/20	1140			2.0	0.012	0.010K		0.161			0.010K
92/08/17	1330			3.0	0.010K	0.010K		0.146			0.010K
92/09/21	1035			2.0	0.010K	0.010K		0.187			0.010K

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	1130										
91/11/11	1025										
91/12/09	1100										
92/01/20	1230										
92/02/17	1120										
92/03/16	1115										
92/04/20	1140										
92/05/18	1110										
92/06/15	1145										
92/07/20	1140										
92/08/17	1330										
92/09/21	1035										

MORE DATES NEXT PAGE

DATE	FROM	TIME	DEPTH	671	900	902	915	925	930	935	940	945	950
				PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
				ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	
91/10/21	1130			0.010K									
91/11/11	1025			0.010K									
91/12/09	1100			0.010K									
92/01/20	1230			0.010K									
92/02/17	1120			0.010K									
92/03/16	1115			0.010K									
92/04/20	1140			0.010K									
92/05/18	1110			0.010K									
92/06/15	1145			0.010K									
92/07/20	1140			0.010K									
92/08/17	1330			0.010K									
92/09/21	1035			0.010K									

DATE	FROM	TIME	DEPTH	955	1002	1020	1032	1034	1042	1045	1092	31501	31505
				SILICA	ARSENIC	BORON	CHROMIUM	CHROMIUM	COPPER	IRON	ZINC	TOT COLI	TOT COLI
				DISOLVED	AS,TOT	B,DISS	HEX-VAL	CR, TOT	CU,TOT	FE,TOT	ZN,TOT	MFIMENDO	MPN CONF
TO	FEET	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	

DATE	FROM	TIME	DEPTH	31616	70300	82079
				FEC COLI	RESIDUE	TURBIDTY
				MFM-FCBR	DISS-180	LAB
TO	FEET	/100ML	C	MG/L	NTU	
91/10/21	1130			29		1.6
91/11/11	1025			6		2.6
91/12/09	1100			13		19.0
92/01/20	1230			4		1.3
92/02/17	1120			2		1.9
92/03/16	1115			3		1.1
92/04/20	1140			3		1.9
92/05/18	1110			3		0.6
92/06/15	1145			29		0.7
92/07/20	1140			25		1.3
92/08/17	1330			16		0.8
92/09/21	1035			48S		1.1

07P070 3307P070
 PATTERSON CREEK NEAR FALL CITY
 47 35 30.0 121 55 32.0 2F000 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach=17110010004 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1311116 000120 00360
 MILES 0020.50 0031.20 000.70

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TO	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	TIME	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/21	1050	436053	9.9	760	150	9.4	82.8	7.20	14.0	0.028	0.010K
91/11/11	1000	466053	9.6	761	525	9.2	80.5	7.40	4.0	0.028	0.010K
91/12/09	1030	506053	7.9	766	83	9.8	81.7	7.10	67.0	0.047	0.010K
92/01/20	1140	46053	4.1	765	102	12.8	97.1	7.20	6.0	0.026	0.010K
92/02/17	1050	86053	5.8	766	80	10.7	84.7	7.10	7.0	0.024	0.010K
92/03/16	1045	126053	8.3	762	100	10.2	86.3	7.40	7.0	0.023	0.010K
92/04/20	1110	176053	11.0	767	77	9.8	87.7	7.20	9.0	0.016	0.010K
92/05/18	1040	216053	12.4	762	122	10.3	95.7	7.70	1.0	0.010K	0.010K
92/06/15	1110	256053	12.4	765	125	9.4	87.0	7.30	4.0	0.013	0.010K
92/07/20	1110	306053	14.3		144	8.7	84.7	7.70	12.0	0.029	0.010K
92/08/17	1220	346053	14.2	761	147	9.8	94.8	7.50	52.0	0.026	0.010K
92/09/21	1000	396053	12.0	766	143	9.3	85.2	7.60	4.0	0.015	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TO	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
TO	TIME	MG/L		MG/L P	/100ML	NTU
91/10/21	1050	0.912	0.052	0.043	610	1.4
91/11/11	1000	0.826	0.054	0.031	77	1.5
91/12/09	1030	1.380	0.198	0.074	1700	24.0
92/01/20	1140	1.440	0.049	0.026	31	4.2
92/02/17	1050	1.200	0.051	0.026	49S	3.2
92/03/16	1045	0.966	0.053	0.034	56	2.8
92/04/20	1110	1.130	0.043	0.021	280	4.0
92/05/18	1040	0.729	0.028	0.086	340	0.8
92/06/15	1110	0.523	0.050	0.029	450	1.4
92/07/20	1110	0.754	0.048	0.027	4700J	4.0
92/08/17	1220	0.644	0.125	0.059	21000J	17.0
92/09/21	1000	0.803	0.080	0.034	390	1.2

07Q070 3307Q070
 RAGING RIVER AT FALL CITY
 47 33 52.0 121 53 17.0 2F000 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Snohomish-07) 131107
 21540000 Reach=17110010005 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1311116 000120 00380
 MILES 0020.50 0036.20 000.50

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-
FROM	TIME	IDENT.	TEMP	PRESSURE	FLOW	LAB @	SATUR	PERCENT	SU	TOT-NFLT	N TOTAL
TO	FEET	NUMBER	CENT	MM OF HG	CFS	25C UMHO	MG/L	PERCENT		MG/L	MG/L
91/10/21	1010	436052	10.5	760	12	91	11.2	100.1	7.30	14.0	0.023
91/11/11	0935	466052	9.3	757	32	57	11.4	99.3	7.60	5.0	0.015
91/12/09	1010	506052	7.4	764	581	28	11.8	97.4	7.00	265.0	0.022
92/01/20	1110	46052	3.7	764	79	47	13.3	100.0	7.10	1.0	0.015
92/02/17	1020	86052	5.5	763	65	35	12.2	96.2	7.30	8.0	0.011
92/03/16	1010	126052	7.8	761	46	52	11.7	97.9	7.60	5.0	0.012
92/04/20	1045	176052	9.4	766	144	38	11.3	97.6	7.30	4.0	0.012
92/05/18	1010	216052	13.2	761	33	42	11.9	112.7	8.80	1.0	0.010K
92/06/15	1040	256052	13.3	764	26	54	10.7	101.1	7.40	3.0	0.011
92/07/20	1050	306052	17.8		15	89	9.4	98.5	7.90	3.0	0.016
92/08/17	1150	346052	18.4	761	12	80	11.1	117.1	9.00	4.0	0.010K
92/09/21	0935	396052	14.0	765	12	82	11.4	109.2	8.50	6.0	0.010K

DATE	DEPTH	613	630	665	671	31616	82079
FROM	TIME	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
TO	FEET	DISS	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
		MG/L	MG/L		MG/L P	/100ML	NTU
91/10/21	1010	0.010K	0.191	0.029	0.014	840	11.0
91/11/11	0935	0.010K	0.803	0.014	0.010K	93	1.7
91/12/09	1010	0.010K	0.802	0.161	0.011	280	31.0
92/01/20	1110	0.010K	0.764	0.018	0.010K	4	1.3
92/02/17	1020	0.010K	0.621	0.016	0.011	10	3.2
92/03/16	1010	0.010K	0.466	0.019	0.014	28	1.2
92/04/20	1045	0.010K	0.582	0.012	0.010K		2.0
92/05/18	1010	0.010K	0.198	0.010K	0.010K	21	0.4
92/06/15	1040	0.010K	0.208	0.013	0.010K	45	0.3
92/07/20	1050	0.010K	0.149	0.010K	0.010K	130	1.2
92/08/17	1150	0.010K	0.078	0.015	0.010K	46	0.5
92/09/21	0935	0.010K	0.157	0.010K	0.010K	28	0.8

08B070 3308B070 12126500 541049
 SAMMAMISH RIVER AT BOTHELL
 47 45 32.0 122 12 09.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Cedar-08) 131108
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 04-08-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311141
 MILES 0020.40

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO		PERCENT	SU
91/10/23	1000	436071	9.9	768	106			110	8.8	76.7	7.30
91/11/13	1010	466071	12.4	765				130	8.5	78.7	7.10
91/12/11	1025	506071	7.8	758	598			105	10.2	85.7	7.20
92/01/22	1100	46071	6.0	773	315			100	11.1	87.5	7.20
92/02/19	1110	86071	7.0	767	677			110	11.0	89.6	7.10
92/03/18	1150	126071	8.4	772	436			112	11.0	92.1	7.40
92/04/22	1210	176071	11.9	770	367			100	9.6	87.3	7.40
92/05/20	1220	216071	15.9	768	208			121	10.4	103.3	7.40
92/06/17	1305	256071	16.0	771	167			105	8.0	79.4	7.40
92/07/22	1040	306071	17.7		67			165	6.4	66.7	7.40
92/08/19	1140	346071	20.3	766	55			150	7.2	78.3	7.40
92/09/23	0955	396071	16.0	758	42			152	7.5	75.7	7.40

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/23	1000				6.0	0.057	0.013				0.492
91/11/13	1010				8.0	0.073	0.013				0.478
91/12/11	1025				12.0	0.048	0.010K				0.738
92/01/22	1100				7.0	0.036	0.010K				0.579
92/02/19	1110				10.0	0.047	0.010K				0.691
92/03/18	1150				11.0	0.037	0.010K				0.526
92/04/22	1210				7.0	0.026	0.010K				0.366
92/05/20	1220				7.0	0.021	0.010K				0.286
92/06/17	1305				6.0	0.095	0.019				0.351
92/07/22	1040				5.0	0.067	0.010K				0.247
92/08/19	1140				6.0	0.053	0.010K				0.187
92/09/23	0955				39.0	0.046	0.015				0.393

DATE	DEPTH	T PO4	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	SODIUM
FROM	DEPTH	PO4	PO4	ORTHOP	CACO3	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	ADSBTION
TO	TIME FEET	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	RATIO
91/10/23	1000										
91/11/13	1010										
91/12/11	1025										
92/01/22	1100										
92/02/19	1110										
92/03/18	1150										
92/04/22	1210										
92/05/20	1220										
92/06/17	1305										
92/07/22	1040										
92/08/19	1140										
92/09/23	0955										

MORE DATES NEXT PAGE

DATE	DEPTH	650 T PO4 PO4 MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO
91/10/23	1000			0.046	0.033J						
91/11/13	1010			0.066	0.029						
91/12/11	1025			0.062	0.022						
92/01/22	1100			0.040	0.014						
92/02/19	1110			0.049	0.021						
92/03/18	1150			0.049	0.025						
92/04/22	1210			0.042	0.013						
92/05/20	1220			0.031	0.020						
92/06/17	1305			0.053	0.018						
92/07/22	1040			0.049	0.028						
92/08/19	1140			0.051	0.038						
92/09/23	0955			0.048	0.029						

DATE	DEPTH	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1020 BORON B,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L
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DATE	DEPTH	1045 IRON FE,TOT UG/L	1080 STRONTUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1130 LITHIUM LI,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31503 TOT COLI MFDLEND /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML
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91/10/23	1000										280
91/11/13	1010										130
91/12/11	1025										190S
92/01/22	1100										110
92/02/19	1110										460S
92/03/18	1150										410S
92/04/22	1210										550S
92/05/20	1220										100
92/06/17	1305										220
92/07/22	1040										1200
92/08/19	1140										140
92/09/23	0955										280

DATE	DEPTH	31672 FECSTREP PC M-ENT /100ML	70300 RESIDUE DISS-180 C MG/L	70303 DISS SOL TONS PER ACRE-FT	71851 NITRATE DISS-NO3 MG/L	82079 TURBIDTY LAB NTU
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91/10/23	1000					3.0
91/11/13	1010					4.1
91/12/11	1025					7.0

MORE DATES NEXT PAGE

DATE		31672	70300	70303	71851	82079
FROM	DEPTH	FECSTREP	RESIDUE	DISS SOL	NITRATE	TURBIDTY
TO	TIME FEET	PC M-ENT	DISS-180	TONS PER	DISS-NO3	LAB
		/100ML	C MG/L	ACRE-FT	MG/L	NTU
92/01/22	1100					4.8
92/02/19	1110					3.5
92/03/18	1150					4.5
92/04/22	1210					2.5
92/05/20	1220					1.7
92/06/17	1305					2.3
92/07/22	1040					4.0
92/08/19	1140					2.0
92/09/23	0955					2.8

08C070 3308C070 12119007 541047
 CEDAR R AT LOGAN ST BR AT RENTON
 47 29 09.0 122 12 28.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Cedar-08) 131108
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 04-08-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311141 000040 00100
 MILES 0009.35 0011.50 001.00

		8	10	25	60	70	80	95	300	301	400
DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/23	1100	436072	9.2	768	316			66	11.5	98.6	7.30
91/11/13	1110	466072	11.0	761	386			74	11.8	106.4	7.60
91/12/11	1130	506072	7.4	757	1390			45	11.8	98.3	7.60
92/01/22	1230	46072	6.1	771	437			71	12.6	99.9	7.30
92/02/19	1210	86072	7.4	764	526			63	12.0	99.1	7.00
92/03/18	1245	126072	9.1	770	403			65	12.2	104.1	7.70
92/04/22	1315	176072	11.1	769	306			65	11.7	104.6	7.70
92/05/20	1315	216072	12.8	768	235			72	11.7	108.7	7.70
92/06/17	1400	256072	13.6	770	270			67	11.3	106.7	7.70
92/07/22	1215	306072	14.4		137			85	10.8	105.1	7.70
92/08/19	1250	346072	17.3	765	137			87	10.9	111.8	8.20
92/09/23	1045	396072	13.3	756	192			76	10.3	98.4	7.70

		440	445	530	610	613	615	620	625	630	660
DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	PO4
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/23	1100			4.0	0.013	0.010K				0.184	
91/11/13	1110			7.0	0.025	0.010K				0.381	
91/12/11	1130			8.0	0.020	0.010K				0.299	
92/01/22	1230			3.0	0.014	0.010K				0.354	
92/02/19	1210			3.0	0.010	0.010K				0.542	
92/03/18	1245			2.0	0.010K	0.010K				0.351	
92/04/22	1315			3.0	0.010	0.010K				0.331	
92/05/20	1315			4.0	0.011	0.010K				0.199	
92/06/17	1400			3.0	0.020	0.010K				0.171	
92/07/22	1215			3.0	0.010K	0.010K				0.167	
92/08/19	1250			71.0	0.022	0.010K				0.117	
92/09/23	1045			11.0	0.018	0.010K				0.183	

		665	671	900	902	915	925	930	935	940	945
DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE
FROM	DEPTH	ORTH	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

DATE FROM TO	DEPTH TIME FEET	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
91/10/23	1100	0.016	0.010K								
91/11/13	1110	0.011	0.012								
91/12/11	1130	0.020	0.010K								
92/01/22	1230	0.019	0.010K								
92/02/19	1210	0.019	0.010K								
92/03/18	1245	0.015	0.012								
92/04/22	1315	0.022	0.010K								
92/05/20	1315	0.010K	0.010K								
92/06/17	1400	0.019	0.010K								
92/07/22	1215	0.010K	0.010K								
92/08/19	1250	0.043	0.010K								
92/09/23	1045	0.018	0.010K								

DATE FROM TO	DEPTH TIME FEET	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1020 BORON B,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1090 ZINC ZN,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML
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DATE FROM TO	DEPTH TIME FEET	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
91/10/23	1100	48			1.1
91/11/13	1110	39			1.2
91/12/11	1130	19			4.0
92/01/22	1230	9			1.8
92/02/19	1210	24			1.6
92/03/18	1245	18			2.2
92/04/22	1315				12.0
92/05/20	1315	11			0.4
92/06/17	1400	29			0.4
92/07/22	1215	92			1.3
92/08/19	1250	49			6.5
92/09/23	1045	220S			4.0

09A080 3309A080
 GREEN RIVER AT TUKWILA
 47 27 52.0 122 14 49.0 2F000 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Duwamish/Green-09) 1311109
 21540000 Reach=17110013000 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1311143
 MILES 0012.40

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL
TO	TIME	NUMBER	CENT	MM OF HG	CFS	25C UMHO		PERCENT		MG/L	MG/L
91/10/23	1115	436073	9.5	767	247	112	9.8	84.7	7.20	13.0	0.036
91/11/13	1140	466073	11.0	762	1720	70	10.4	93.7	7.80	90.0	0.048
91/12/11	1210	506073	6.3	757	3420	46	11.8	95.7	7.10	52.0J	0.034
92/01/22	1300	46073	4.1	770	1340	58	12.6	95.0	7.20	5.0	0.027
92/02/19	1240	86073	6.8	764	1370	86	11.4	92.7	7.20	16.0	0.045
92/03/18	1320	126073	8.2	770	1550	75	11.0	91.9	7.70	13.0	0.046
92/04/22	1345	176073	11.8	769	619	110	9.5	86.4	7.20	17.0	0.043
92/05/20	1410	216073	15.4	768	653	127	9.0	88.5	7.20	6.0	0.041
92/06/17	1435	256073	15.7	769	377	121	9.5	93.9	7.30	11.0	0.039
92/07/22	1248	306073	17.3		244	148	8.8	91.0	7.30	10.0	0.029
92/08/19	1330	346073	20.8	764	244	138	10.1	111.2	7.70	13.0	0.023
92/09/23	1110	396073	15.6	757	505	129	8.4	84.1	7.60	21.0	0.047

DATE	DEPTH	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	ZINC	CADMIUM	LEAD	CHROMIUM	COPPER
FROM	TO	DISS	N-TOTAL	MG/L P	ORTHO	CACO3	TOT REC	TOT REC	TOT REC	TOT REC	TOT REC
TO	TIME	MG/L	MG/L		MG/L P	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L
91/10/23	1115	0.010K	0.359	0.056	0.013	45	6.0P	0.14P	1.0K	1.0V	3.0K
91/11/13	1140	0.010K	0.418	0.135	0.012						
91/12/11	1210	0.010K	0.347	0.069	0.010K						
92/01/22	1300	0.010K	0.372	0.028	0.010K						
92/02/19	1240	0.010K	0.619	0.070	0.028						
92/03/18	1320	0.010K	0.407	0.051	0.031						
92/04/22	1345	0.010K	0.526	0.056	0.025						
92/05/20	1410	0.010K	0.347	0.034	0.017						
92/06/17	1435	0.010K	0.372	0.041	0.012						
92/07/22	1248	0.010K	0.271	0.035	0.011						
92/08/19	1330	0.010K	0.179	0.053	0.023						
92/09/23	1110	0.010K	0.286	0.078	0.023						

DATE	DEPTH	FEC COLI	MERCURY	TURBIDTY
FROM	TO	MFM-FCBR	TOT REC	LAB
TO	TIME	/100ML	UG/L	NTU
91/10/23	1115	31616	71901	82079

MORE DATES NEXT PAGE

DATE		31616	71901	82079
FROM	DEPTH	FEC COLI	MERCURY	TURBIDTY
TO	TIME FEET	MFM-FCBR	TOT REC	LAB
		/100ML	UG/L	NTU
91/10/23	1115	280	0.05U	3.2
91/11/13	1140	280		16.0
91/12/11	1210	20		19.0
92/01/22	1300	46		4.0
92/02/19	1240	360S		5.0
92/03/18	1320	620S		4.3
92/04/22	1345	50S		2.7
92/05/20	1410	15		1.5
92/06/17	1435	72		1.8
92/07/22	1248	130		2.5
92/08/19	1330	97		3.0
92/09/23	1110	190		3.6

09A190 3309A190 12107000 541110
 GREEN RIVER AT KANASKAT
 47 19 10.0 121 53 33.0 2F 0 Elev= 0 ft
 53033 Washington King Co. PACIFIC NORTHWEST
 PUGET SOUND (Duwamish/Green-09) 131109
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 04-09-07 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311143
 MILES 0057.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		CACO3
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/21	0815	436050	11.9	737	150		140	10.0	95.1	6.80	
91/11/11	0755	466050	8.0	737	292		47	11.3	98.2	7.90	
91/12/09	0835	506050	6.2	741	4240		32	12.0	99.2	7.20	
92/01/20	0850	46050	2.5	744	682		36	13.3	99.4	7.40	
92/02/17	0835	86050	4.9	740	560		40	11.4	91.3	7.30	
92/03/16	0820	126050	7.5	738	993		35	11.9	102.0	7.20	
92/04/20	0850	176050	7.7	747	376		40	11.5	97.8	7.20	
92/05/18	0820	216050	10.1	740	453		38	11.1	100.8	7.60	
92/06/15	0810	256050	12.3	743	199		33	10.3	98.0	7.20	
92/07/20	0920	306050	14.7		124		90	9.6	96.7	6.80	
92/08/17	1025	346050	16.1	743	129		54	9.3	95.9	7.10	
92/09/21	0800	396050	14.3	745	158		55	9.8	97.1	7.70	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	0815			2.0	0.010K	0.010K			0.026		0.010
91/11/11	0755			3.0	0.012	0.010K			0.181		0.010K
91/12/09	0835			17.0	0.019	0.010K			0.229		0.027
92/01/20	0850			1.0K	0.013	0.010K			0.158		0.016
92/02/17	0835			3.0	0.014	0.010K			0.166		0.012
92/03/16	0820			2.0	0.011	0.010K			0.066		0.014
92/04/20	0850			4.0	0.015	0.010K			0.151		0.013
92/05/18	0820			1.0K	0.010K	0.010K			0.035		0.010K
92/06/15	0810			1.0	0.013	0.010K			0.050		0.014
92/07/20	0920			1.0	0.027	0.010K			0.074		0.010K
92/08/17	1025			4.0	0.010K	0.010K			0.031		0.011
92/09/21	0800			4.0	0.021	0.010K			0.055		0.011

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	0815										
91/11/11	0755										
91/12/09	0835										
92/01/20	0850										
92/02/17	0835										
92/03/16	0820										
92/04/20	0850										
92/05/18	0820										
92/06/15	0810										
92/07/20	0920										
92/08/17	1025										
92/09/21	0800										

MORE DATES NEXT PAGE

DATE	FROM	DEPTH	671 PHOS-DIS ORTHO	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	935 PTSSSIUM K,DISS	940 CHLORIDE CL	945 SULFATE SO4-TOT	950 FLUORIDE F,DISS
TO	TIME	FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/21	0815		0.010K									
91/11/11	0755		0.010K									
91/12/09	0835		0.010K									
92/01/20	0850		0.010K									
92/02/17	0835		0.010K									
92/03/16	0820		0.010K									
92/04/20	0850		0.010K									
92/05/18	0820		0.010K									
92/06/15	0810		0.010K									
92/07/20	0920		0.010K									
92/08/17	1025		0.010K									
92/09/21	0800		0.010K									

DATE	FROM	DEPTH	955 SILICA DISOLVED	1020 BORON B,DISS	1045 IRON FE,TOT	31504 TOT COLI MFIM LES	31505 TOT COLI MPN CONF	31616 FEC COLI MFM-FCBR	70300 RESIDUE DISS-180	82079 TURBIDTY LAB
TO	TIME	FEET	MG/L	UG/L	UG/L	/100ML	/100ML	/100ML	C MG/L	NTU
91/10/21	0815							47		1.4
91/11/11	0755							10		1.5
91/12/09	0835							10		8.0
92/01/20	0850							1K		1.5
92/02/17	0835							1K		0.4
92/03/16	0820							1J		1.3
92/04/20	0850							7		2.2
92/05/18	0820							7		0.4
92/06/15	0810							92		0.2
92/07/20	0920							24		11.0
92/08/17	1025							17		0.7
92/09/21	0800							7H		1.0

10A070 5310A070 12101475
 PUYALLUP R AT MERIDIAN ST BRIDGE
 47 12 10.0 122 17 33.0 2F 0 Elev= 0 ft
 53053 Washington Pierce Co. PACIFIC NORTHWEST
 PUGET SOUND (Puyallup/White-10) 131110
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 05-10-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311160
 MILES 0008.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	340	400
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR	HI LEVEL	PH
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	SU
91/10/30	0950	446120	8.0	781	1690		74	13.1	107.3		7.20
91/11/20	0930	476120	7.0	768	4960		55	11.1	90.2		7.20
91/12/18	0910	516120	4.5	754	3550		64	12.2	94.9		7.40
92/01/29	0920	56120	6.4	772	8220		66	12.2	97.2		7.50
92/02/26	0945	96120	6.8	774	4080		72	11.7	94.0		7.30
92/03/25	0915	136120	9.3	768	2020		68	10.7	91.9		7.00
92/04/29	0925	186120	11.8	756	3690		57	10.4	96.1		7.60
92/05/27	0925	226120	13.4	771	3040		55	10.0	93.8		7.10
92/06/24	0850	266120	15.9	757	2860		49	9.3	93.8		7.50
92/07/29	0930	316120	14.1	764	1970		64	10.0	96.2		7.50
92/08/26	0900	356120	13.2	770	1320		80	10.1	94.5		7.40
92/09/30	0940	406120	13.0	761	1940		53	9.9	93.4		7.60

DATE	DEPTH	T ALK	HCO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	CACO3	HCO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	0950			11.0	0.022	0.010K				0.098	0.031
91/11/20	0930			446.0	0.036	0.010K				0.319	0.158
91/12/18	0910			8.0	0.032	0.010K				0.291	0.030
92/01/29	0920			125.0	0.048	0.010K				0.575	0.086
92/02/26	0945			6.0	0.017	0.010K				0.336	0.023
92/03/25	0915			9.0	0.032	0.010K				0.222	0.032
92/04/29	0925			22.0	0.025	0.010K				0.128	0.032
92/05/27	0925			29.0	0.014	0.010K				0.133	0.031
92/06/24	0850			466.0	0.032	0.010K				0.073	0.165
92/07/29	0930			491.0	0.044	0.010K				0.096	0.198
92/08/26	0900			91.0	0.041	0.010K				0.076	0.103
92/09/30	0940			51.0	0.019	0.010K				0.069	0.048

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	ZINC
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	TOT REC
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
91/10/30	0950	671	900	902	915	925	930	935	940	945	1094

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	1094 ZINC TOT REC UG/L
91/10/30	0950	0.020	30								4.0K
91/11/20	0930	0.014									
91/12/18	0910	0.013									
92/01/29	0920	0.019									
92/02/26	0945	0.012									
92/03/25	0915	0.010K									
92/04/29	0925	0.012									
92/05/27	0925	0.029									
92/06/24	0850	0.010K									
92/07/29	0930	0.018									
92/08/26	0900	0.021									
92/09/30	0940	0.019									

DATE	DEPTH	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
91/10/30	0950	0.10K	1.0K	1.1V	3.0K		31	0.05K	10.1
91/11/20	0930						350		39.0
91/12/18	0910						890		5.0
92/01/29	0920						560S		18.0
92/02/26	0945						31		2.6
92/03/25	0915						92		3.2
92/04/29	0925						290		4.0
92/05/27	0925						40		15.0
92/06/24	0850						190S		140.0
92/07/29	0930						790		138.0
92/08/26	0900						96		38.0
92/09/30	0940						49X		20.0

11A070 6711A070 12090240
 NISQUALLY RIVER AT NISQUALLY
 47 03 43.0 122 41 42.0 2F 0 Elev= 0 ft
 53067 Washington Thurston Co. PACIFIC NORTHWEST
 PUGET SOUND (Nisqually-11) 131111
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 06-11-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311161 000170
 MILES 0020.60 0003.40

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	340	400
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR	HI LEVEL	PH
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	SU
91/10/30	1100	446121	9.3	782	1560		63	11.4	96.1		7.60
91/11/20	1025	476121	8.5	768	2140		75	10.5	88.5		7.30
91/12/18	1015	516121	5.5	755	3100		60	12.0	95.6		7.50
92/01/29	1100	56121	7.0	772	5200		58	11.0	89.0		7.10
92/02/26	1040	96121	7.2	774	3650		55	11.5	93.2		7.40
92/03/25	1045	136121	7.3	768	1540		60	11.1	90.9		7.50
92/04/29	1105	186121	10.5	757	1570		64	10.8	96.8		7.70
92/05/27	1030	226121	11.4	772	1530		57	10.7	96.0		7.30
92/06/24	0955	266121	15.0	758	1200		60	9.6	94.9		7.60
92/07/29	1040	316121	16.4	763	930		67	9.5	96.0		7.70
92/08/26	1030	356121	15.3	770	740		68	9.5	93.0		7.50
92/09/30	1050	406121	13.9	760	760		68	9.7	93.4		7.60

DATE	DEPTH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N
FROM	DEPTH	CACO3	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	1100					10.0		0.023	0.010K		
91/11/20	1025					30.0		0.040	0.010K		
91/12/18	1015					8.0		0.025	0.010K		
92/01/29	1100					30.0		0.039	0.010K		
92/02/26	1040					7.0		0.020	0.010K		
92/03/25	1045					5.0		0.013	0.010K		
92/04/29	1105					10.0		0.013	0.010K		
92/05/27	1030					5.0		0.010K	0.010K		
92/06/24	0955					5.0		0.015	0.010K		
92/07/29	1040					12.0		0.019	0.010K		
92/08/26	1030					16.0		0.014	0.010K		
92/09/30	1050					63.0		0.016	0.010K		

DATE	DEPTH	TOT KJEL	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM
FROM	DEPTH	N	N-TOTAL	ORTHO	CACO3	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
TO	TIME	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	1100										
91/11/20	1025										
91/12/18	1015										
92/01/29	1100										
92/02/26	1040										
92/03/25	1045										
92/04/29	1105										
92/05/27	1030										
92/06/24	0955										
92/07/29	1040										
92/08/26	1030										
92/09/30	1050										

MORE DATES NEXT PAGE

DATE	FROM	TO	DEPTH	FEET	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L
91/10/30	1100					0.115	0.019	0.010K	25					
91/11/20	1025					0.265	0.053	0.013						
91/12/18	1015					0.253	0.022	0.010K						
92/01/29	1100					0.570	0.061	0.011						
92/02/26	1040					0.379	0.034	0.011						
92/03/25	1045					0.326	0.017	0.010K						
92/04/29	1105					0.245	0.021	0.010K						
92/05/27	1030					0.151	0.022	0.011						
92/06/24	0955					0.131	0.011	0.010K						
92/07/29	1040					0.111	0.028	0.010K						
92/08/26	1030					0.115	0.027	0.010K						
92/09/30	1050					0.234	0.101	0.013						

DATE	FROM	TO	DEPTH	FEET	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	1000 ARSENIC AS,DISS UG/L	1002 ARSENIC AS,TOT UG/L	1005 BARIUM BA,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1027 CADMIUM CD,TOT UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L
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DATE	FROM	TO	DEPTH	FEET	1042 COPPER CU,TOT UG/L	1049 LEAD PB,DISS UG/L	1051 LEAD PB,TOT UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L
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91/10/30	1100											4.0K	0.45P	1.0K
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DATE	FROM	TO	DEPTH	FEET	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	1145 SELENIUM SE,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
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91/10/30	1100				0.5V	3.0K			36		0.05K	9.1
91/11/20	1025								24			19.0
91/12/18	1015								10			7.0
92/01/29	1100								590			15.0
92/02/26	1040								6			4.3
92/03/25	1045								7			3.8
92/04/29	1105								15			1.8
92/05/27	1030								16			1.3
92/06/24	0955								36			1.6
92/07/29	1040								24			6.0
92/08/26	1030								20			12.0
92/09/30	1050								24			50.0

13A060 6713A060 12080010
 DESCHUTES R AT E STREET BRIDGE
 47 00 43.0 122 54 07.0 2F 0 Elev= 0 ft
 53067 Washington Thurston Co. PACIFIC NORTHWEST
 PUGET SOUND (Deschutes-13) 131113
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 06-13-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311161 000250 00070 0080
 MILES 0029.00 0005.00 008.80 000.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	340	400
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	HI LEVEL	MG/L	PH
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	PERCENT	MG/L	MG/L	SU
91/10/30	1400	446123	7.0	777	96		125	12.8	102.9		7.50
91/11/20	1240	476122	8.0	766	1550		52	10.6	88.5		7.30
91/12/18	1230	516123	5.2	754	300		91	11.9	94.2		7.40
92/01/29	1340	56123	8.3	767	3270		53	11.9	100.0		6.80
92/02/26	1250	96123	9.3	768	597		75	10.8	92.8		7.30
92/03/25	1310	136123	10.2	764	189		95	11.5	101.5		7.40
92/04/29	1330	186123	13.3	754	261		101	10.0	95.8		7.50
92/05/27	1325	226123	14.6	766	137		105	11.0	106.7		7.60
92/06/24	1320	266123	19.5	750	95		118	9.6	105.0		7.80
92/07/29	1430	316123	18.6	754	68		132	11.6	124.0		8.20
92/08/26	1420	356122	16.4	763	63		128	10.7	108.1		7.60
92/09/30	1305	406123	13.2	755	79		119	10.6	101.2		7.70

DATE	DEPTH	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	1000
FROM	DEPTH	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	MG/L P	ORTHO	CACO3	ARSENIC
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L	AS,DISS
91/10/30	1400	2.0	0.017	0.010K			0.720	0.023	0.017		
91/11/20	1240	168.0	0.020	0.010K			0.209	0.101	0.013		
91/12/18	1230	4.0	0.020	0.010K			0.587	0.025	0.014		
92/01/29	1340	137.0	0.029	0.010K			0.088	0.112	0.010K		
92/02/26	1250	9.0	0.010K	0.010K			0.100	0.019	0.010K		
92/03/25	1310	2.0	0.010K	0.010K			0.537	0.013	0.010K		
92/04/29	1330	84.0	0.010K	0.010K			0.062	0.011	0.010K		
92/05/27	1325	1.0	0.010K	0.010K			0.047	0.018	0.012		
92/06/24	1320	4.0	0.010K	0.010K			0.086	0.010K	0.010K		
92/07/29	1430	2.0	0.021	0.010K			0.592	0.025	0.010K		
92/08/26	1420	3.0	0.020	0.010K			0.604	0.017	0.010K		
92/09/30	1305	2.0	0.027	0.010K			0.638	0.027	0.017		

DATE	DEPTH	ARSENIC	CADMIUM	CADMIUM	CHROMIUM	CHROMIUM	COPPER	COPPER	LEAD	LEAD	1090
FROM	DEPTH	AS,TOT	CD,DISS	CD,TOT	CR,DISS	CR,TOT	CU,DISS	CU,TOT	PB,DISS	PB,TOT	ZINC
TO	TIME	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
1002											
1025											
1027											
1030											
1034											
1040											
1042											
1049											
1051											

MORE DATES NEXT PAGE

DATE	DEPTH	1002 ARSENIC AS,TOT UG/L	1025 CADMIUM CD,DISS UG/L	1027 CADMIUM CD,TOT UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L	1049 LEAD PB,DISS UG/L	1051 LEAD PB,TOT UG/L	1090 ZINC ZN,DISS UG/L
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DATE	DEPTH	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	31616 FEC COLI MFM-FCBR /100ML	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
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91/10/30	1400							19			1.3
91/11/20	1240							46			54.0
91/12/18	1230							59			3.0
92/01/29	1340							3K			58.0
92/02/26	1250							1K			5.9
92/03/25	1310							8			1.5
92/04/29	1330							77			31.0
92/05/27	1325							110			0.3
92/06/24	1320							7			0.3
92/07/29	1430							95			2.0
92/08/26	1420							14			1.4
92/09/30	1305							22			1.3

16A070 4516A070 12061500 541074
 SKOKOMISH RIVER NEAR POTLATCH
 47 18 36.0 123 10 33.0 2F 0 Elev= 0 ft
 53045 Washington Mason Co. PACIFIC NORTHWEST
 PUGET SOUND (Skokomisk/Dosewallips-16) 131116
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 25-16-99 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1311211 001260
 MILES 0050.80 0005.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/30	1300	446122	6.2	780	200			75	11.5	90.3	7.60
91/11/20	1145	476123	7.9	768	9440			46	11.1	92.3	7.20
91/12/18	1135	516122	6.4	754	1130			59	11.6	94.6	7.40
92/01/29	1240	56122	7.6	769	11300			43	11.2	92.3	6.70
92/02/26	1200	96122	7.9	772	1560			52	11.6	95.9	7.30
92/03/25	1205	136122	8.6	767	516			58	11.5	97.4	7.50
92/04/29	1220	186122	9.4	756	2580			87	11.0	96.2	7.50
92/05/27	1215	226122	11.7	769	371			65	11.0	99.7	7.40
92/06/24	1140	266122	12.8	755	230			73	10.2	96.6	7.50
92/07/29	1240	316122	12.4	761	185			74	10.2	94.9	7.50
92/08/26	1200	356123	11.2	767	159			79	11.0	98.8	7.40
92/09/30	1205	406122	11.5	758	208			74	9.6	87.9	7.50

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	N
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	1300				1.0		0.012	0.010K			
91/11/20	1145				368.0		0.049	0.010K			
91/12/18	1135				6.0		0.020	0.010K			
92/01/29	1240				77.0		0.028	0.010K			
92/02/26	1200				13.0		0.013	0.010K			
92/03/25	1205				2.0		0.010K	0.010K			
92/04/29	1220				11.0		0.014	0.010K			
92/05/27	1215				4.0		0.010K	0.010			
92/06/24	1140				4.0		0.020	0.010K			
92/07/29	1240				5.0		0.022	0.010K			
92/08/26	1200				1.0		0.015	0.010K			
92/09/30	1205				1.0		0.014	0.010K			

DATE	DEPTH	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM
FROM	DEPTH	N-TOTAL	PO4	PHOS	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
TO	TIME FEET	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	1300										
91/11/20	1145										
91/12/18	1135										
92/01/29	1240										
92/02/26	1200										
92/03/25	1205										
92/04/29	1220										
92/05/27	1215										
92/06/24	1140										
92/07/29	1240										
92/08/26	1200										
92/09/30	1205										

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			630	660	665	671	900	902	915	925	930	935
DATE	DEPTH		NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM
FROM	TO	FEET	N-TOTAL	PO4	MG/L P	MG/L P	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
			MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/30	1300		0.080		0.012	0.014						
91/11/20	1145		0.513		0.091	0.014						
91/12/18	1135		0.156		0.011	0.010K						
92/01/29	1240		0.610		0.046	0.023						
92/02/26	1200		0.541		0.049	0.017						
92/03/25	1205		0.093		0.010K	0.010K						
92/04/29	1220		0.506		0.031	0.018						
92/05/27	1215		0.615		0.028	0.017						
92/06/24	1140		0.704		0.028	0.010						
92/07/29	1240		0.086		0.018	0.010K						
92/08/26	1200		0.070		0.012	0.010K						
92/09/30	1205		0.102									

			940	945	950	955	1020	1045	31504	31505	31616	31625
DATE	DEPTH		CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON	IRON	TOT COLI	TOT COLI	FEC COLI	FEC COLI
FROM	TO	FEET	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS	FE,TOT	MFIM LES	MPN CONF	MFM-FCBR	M-FCAGAD
			MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	/100ML	/100ML	/100ML	/100 ML
91/10/30	1300											12
91/11/20	1145											460
91/12/18	1135											11
92/01/29	1240											280S
92/02/26	1200											52
92/03/25	1205											2
92/04/29	1220											2000J
92/05/27	1215											40
92/06/24	1140											22
92/07/29	1240											6
92/08/26	1200											22
92/09/30	1205											9

			70300	82079
DATE	DEPTH		RESIDUE	TURBIDTY
FROM	TO	FEET	DISS-180	LAB
			C MG/L	NTU
91/10/30	1300			1.5
91/11/20	1145			87.0
91/12/18	1135			3.0
92/01/29	1240			58.0
92/02/26	1200			7.2
92/03/25	1205			1.1
92/04/29	1220			1.9
92/05/27	1215			0.7
92/06/24	1140			1.3
92/07/29	1240			1.3

MORE DATES NEXT PAGE

DATE		70300		82079	
FROM		RESIDUE		TURBIDTY	
TO		DISS-180		LAB	
TIME	FEET	C	MG/L		NTU
92/08/26	1200				1.6
92/09/30	1205				0.7

22A070 2722A070 12039003 541082
 HUMPTULIPS RIVER NEAR HUMPTULIPS
 47 13 48.0 123 57 38.0 2F 0 Elev= 0 ft
 53027 Washington Grays Harbor Co. PACIFIC NORTHWEST
 COASTAL (Lower Chehalis-22) 131222
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 10-22-05 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312093
 MILES 0023.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/28	1040	446102	6.7	765	530			50	12.7	102.9	7.90
91/11/18	0950	476102	9.9	764	2400			43	10.5	91.9	7.30
91/12/16	0950	516102	4.7	767	1600			46	12.4	84.0	7.20
92/01/27	1050	56102	8.5	758	5000			46	12.1	103.4	6.50
92/02/24	1045	96102	7.6	772	2300J			40	11.8	96.8	7.30
92/03/23	1030	136102	8.6	762	380			55	11.6	96.3	7.10
92/04/27	0950	186102	9.5	764	3300			44	11.1	96.3	7.30
92/05/25	1000	226102	14.6	762	660			47	10.6	103.4	7.60
92/06/22	1035	266102	18.2	757	155			60	9.4	99.3	7.50
92/07/27	1100	316102	16.9	763	150			64	9.9	101.1	7.60
92/08/24	1030	356102	15.3	765	86			75	9.9	97.5	7.50
92/09/28	1005	406102	10.6	761	240			55	10.9	97.4	7.60

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	TOT N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1040				2.0	0.011	0.010K				0.012
91/11/18	0950				27.0	0.010K	0.010K				0.250
91/12/16	0950				6.0	0.018	0.010K				0.224
92/01/27	1050				76.0	0.021	0.010K				0.164
92/02/24	1045				18.0	0.010K	0.010K				0.153
92/03/23	1030				1.0	0.010K	0.010K				0.068
92/04/27	0950				72.0	0.023	0.010K				0.129
92/05/25	1000				1.0	0.010K	0.010K				0.012
92/06/22	1035				1.0	0.014	0.010K				0.029
92/07/27	1100				4.0	0.021	0.010K				0.062
92/08/24	1030				2.0	0.011	0.010K				0.022
92/09/28	1005				2.0	0.011	0.010K				0.196

DATE	DEPTH	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH	PO4	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	
TO	TIME FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
		660	665	671	900	902	915	925	930	935	940

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			660	665	671	900	902	915	925	930	935	940
DATE			ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH		PO4		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL
TO	TIME	FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1040			0.010K	0.010K							
91/11/18	0950			0.039	0.015							
91/12/16	0950			0.016	0.012							
92/01/27	1050			0.071	0.010K							
92/02/24	1045			0.026	0.010K							
92/03/23	1030			0.010K	0.010K							
92/04/27	0950			0.049	0.012							
92/05/25	1000			0.010	0.010K							
92/06/22	1035			0.010K	0.010K							
92/07/27	1100			0.017	0.010K							
92/08/24	1030			0.010K	0.010K							
92/09/28	1005			0.014	0.010K							

			945	950	955	1020	1034	1042	1045	1092	31504	31505
DATE			SULFATE	FLUORIDE	SILICA	BORON	CHROMIUM	COPPER	IRON	ZINC	TOT COLI	TOT COLI
FROM	DEPTH		SO4-TOT	F,DISS	DISOLVED	B,DISS	CR,TOT	CU,TOT	FE,TOT	ZN,TOT	MFIM LES	MPN CONF
TO	TIME	FEET	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML

			31616	31625	70300	82079
DATE			FEC COLI	FEC COLI	RESIDUE	TURBIDTY
FROM	DEPTH		MFM-FCBR	M-FCAGAD	DISS-180	LAB
TO	TIME	FEET	/100ML	/100 ML	C MG/L	NTU
91/10/28	1040		3			1.0K
91/11/18	0950		10			22.0
91/12/16	0950		1			6.0
92/01/27	1050		12			30.0
92/02/24	1045		4			13.0
92/03/23	1030		1K			0.6
92/04/27	0950		52			29.0
92/05/25	1000		5			0.6
92/06/22	1035		9			0.3
92/07/27	1100		17			0.6
92/08/24	1030		11			0.6
92/09/28	1005		140			1.7

22C050 2722C050 12035100
 CHEHALIS RIVER NEAR MONTESANO
 46 57 45.0 123 36 12.0 2F 0 Elev= 0 ft
 53027 Washington Grays Harbor Co. PACIFIC NORTHWEST
 COASTAL (Lower Chehalis-22) 131222
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 10-22-12 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312099
 MILES 0013.15

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	RESIDUE
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		TOT-NFLT
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/28	0900	446101	8.8	771	880		95	10.5	88.8	7.30	11.0
91/11/18	0840	476101	10.2	767	6900		58	10.4	91.3	7.20	33.0
91/12/16	0810	516101	4.8	771	8580		67	11.8	79.6	7.00	10.0
92/01/27	0850	56101	7.5	760	12700		64	11.3	94.1	7.30	27.0
92/02/24	0925	96101	8.1	774	19200		57	11.0	91.2	7.10	42.0
92/03/23	0905	136101	10.0	766	2690		73	10.3	88.6	7.10	5.0
92/04/27	0830	186101	12.4	767	3880		119	9.8	90.5	7.30	4.0
92/05/25	0845	226101	17.8	765	1500		88	10.1	104.7	7.40	3.0
92/06/22	0900	266101	20.5	764	883		89	9.4	103.0	7.50	4.0
92/07/27	0940	316101	18.5	768	623		105	8.8	92.1	7.60	9.0
92/08/24	0900	356101	17.9	769	478		137	8.7	89.9	7.40	4.0
92/09/28	0855	406101	13.7	766	1010		97	8.9	84.7	7.40	11.0

DATE	DEPTH	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD
FROM	DEPTH	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL		ORTHO	CACO3	CACO3
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L
91/10/28	0900	0.035	0.010K				0.396	0.043	0.032		
91/11/18	0840	0.022	0.010K				0.664	0.060	0.014		
91/12/16	0810	0.030	0.010K				0.734	0.026	0.013		
92/01/27	0850	0.028	0.010K				0.739	0.049	0.010		
92/02/24	0925	0.027	0.010K				0.733	0.056	0.011		
92/03/23	0905	0.017	0.010K				0.542	0.031	0.016		
92/04/27	0830	0.031	0.010K				0.508	0.028	0.016		
92/05/25	0845	0.010K	0.010K				0.214	0.021	0.010K		
92/06/22	0900	0.028	0.010K				0.209	0.021	0.010K		
92/07/27	0940	0.032	0.010K				0.234	0.038	0.012		
92/08/24	0900	0.022	0.010K				0.123	0.016	0.010K		
92/09/28	0855	0.028	0.010K				0.398	0.045	0.029		

DATE	DEPTH	TOT COLI	FEC COLI	RESIDUE	TURBIDTY
FROM	DEPTH	MFIM LES	MFIM-FCBR	DISS-180	LAB
TO	TIME FEET	/100ML	/100ML	C MG/L	NTU
		31504	31616	70300	82079

MORE DATES NEXT PAGE

DATE		31504	31616	70300	82079
FROM	DEPTH	TOT COLI	FEC COLI	RESIDUE	TURBIDTY
TO	TIME FEET	MFIM LES	MFM-FCBR	DISS-180	LAB
		/100ML	/100ML	C MG/L	NTU
91/10/28	0900		16		1.8
91/11/18	0840		72		22.0
91/12/16	0810		19		6.0
92/01/27	0850		51S		13.0
92/02/24	0925		68S		13.0
92/03/23	0905		2		2.1
92/04/27	0830		38		2.4
92/05/25	0845		14		1.0
92/06/22	0900		12		1.0
92/07/27	0940		66		3.7
92/08/24	0900		26		1.8
92/09/28	0855		23X		2.5

23A070 2723A070 12031000 541088
 CHEHALIS RIVER AT PORTER
 46 56 17.0 123 18 45.0 2F 0 Elev= 0 ft
 53027 Washington Grays Harbor Co. PACIFIC NORTHWEST
 COASTAL (Upper Chehalis-23) 131223
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 10-23-18 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312099
 MILES 0033.30

DATE	DEPTH	LAB	WATER	BAROMTRC	WIND	EVAP	STREAM	TURB	COLOR	CNDUCTVY	DO
FROM	DEPTH	IDENT.	TEMP	PRESSURE	DIRECT	TOT DAY	FLOW	JKSN	PT-CO	LAB @	
TO	TIME FEET	NUMBER	CENT	MM OF HG	AZIMUTH	IN	CFS	JTU	UNITS	25C UMHO	MG/L
91/10/28	0810	446100	8.6	772			473			125	10.9
91/11/18	0740	476100	9.4	766			2970			102	10.1
91/12/16	0725	516100	4.4	771			4940			71	11.7
92/01/27	0800	56100	7.3	758			6680			66	10.6
92/02/24	0835	96100	8.0	774			12100			71	10.2
92/03/23	0815	136100	10.4	765			1570			82	10.5
92/04/27	0730	186100	12.8	766			2280			82	9.9
92/05/25	0800	226100	18.1	765			783			88	9.2
92/06/22	0815	266100	21.1	764			431			115	7.7
92/07/27	0850	316100	19.0	768			286			101	10.2
92/08/24	0800	356100	18.3	769			202			109	9.2
92/09/28	0815	406100	14.2	765			492			121	8.6

DATE	DEPTH	DO	COD	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-
FROM	DEPTH	SATUR	HI LEVEL			CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL
TO	TIME FEET	PERCENT	MG/L	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	0810	91.7		7.90					2.0		0.032
91/11/18	0740	87.3		7.50					51.0		0.034
91/12/16	0725	78.9		6.80					9.0		0.030
92/01/27	0800	87.9		6.80					13.0		0.029
92/02/24	0835	84.3		7.30					26.0		0.033
92/03/23	0815	90.3		6.90					7.0		0.023
92/04/27	0730	92.3		7.10					8.0		0.035
92/05/25	0800	96.0		7.30					5.0		0.015
92/06/22	0815	85.3		7.50					3.0		0.056
92/07/27	0850	107.9		7.90					4.0		0.036
92/08/24	0800	95.8		7.80					2.0		0.025
92/09/28	0815	82.7		7.60					4.0		0.061

DATE	DEPTH	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	T P04	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C
FROM	DEPTH	DISS	TOTAL	TOTAL	N	N-TOTAL	PO4	PO4	MG/L P	MG/L P	C
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L
91/10/28	0810										
91/11/18	0740										
91/12/16	0725										
92/01/27	0800										
92/02/24	0835										
92/03/23	0815										
92/04/27	0730										
92/05/25	0800										
92/06/22	0815										
92/07/27	0850										
92/08/24	0800										
92/09/28	0815										

MORE DATES NEXT PAGE

DATE	DEPTH	613 NO2-N DISS MG/L	615 NO2-N TOTAL MG/L	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	650 T P04 PO4 MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L
FROM	TO	TIME	FEET								
91/10/28	0810					0.602			0.080	0.069	
91/11/18	0740					0.733			0.106	0.032	
91/12/16	0725					0.885			0.039	0.018	
92/01/27	0800					0.940			0.049	0.025	
92/02/24	0835					0.883			0.054	0.011	
92/03/23	0815					0.727			0.048	0.023	
92/04/27	0730					0.601			0.037	0.019	
92/05/25	0800					0.392			0.032	0.010K	
92/06/22	0815					0.393			0.043	0.016	
92/07/27	0850					0.383			0.055	0.028	
92/08/24	0800					0.187			0.023	0.010K	
92/09/28	0815					0.486			0.101	0.079	

DATE	DEPTH	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1080 STRONTIUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1130 LITHIUM LI,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31503 TOT COLI MFDLEND /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	31672 FECSTREP PC M-ENT /100ML	70300 RESIDUE DISS-180 C MG/L	70301 DISS SOL SUM MG/L	70302 DISS SOL TONS/DAY
FROM	TO	TIME	FEET								

91/10/28	0810					7					
91/11/18	0740					86					
91/12/16	0725					39					
92/01/27	0800					75					
92/02/24	0835					170S					
92/03/23	0815					3J					
92/04/27	0730					37					
92/05/25	0800					23					

MORE DATES NEXT PAGE

			31503	31504	31505	31507	31616	31625	31672	70300	70301	70302
DATE			TOT COLI	TOT COLI	TOT COLI	TOT COLI	FEC COLI	FEC COLI	FECSTREP	RESIDUE	DISS SOL	DISS SOL
FROM	DEPTH	MFDLEND	MFIM LES	MPN CONF	MPN COMP	MFM-FCBR	M-FCAGAD	PC M-ENT	DISS-180	SUM	TONS/DAY	
TO	TIME	FEET	/100ML	/100ML	/100ML	/100ML	/100 ML	/100ML	C	MG/L	MG/L	
92/06/22	0815											24
92/07/27	0850											35
92/08/24	0800											23
92/09/28	0815											11X

			70303	71851	71900	82079
DATE			DISS SOL	NITRATE	MERCURY	TURBIDTY
FROM	DEPTH	TONS PER	DISS-NO3	HG, TOTAL	LAB	
TO	TIME	ACRE-FT	MG/L	UG/L	NTU	
91/10/28	0810					1.7
91/11/18	0740					11.0
91/12/16	0725					5.0
92/01/27	0800					11.0
92/02/24	0835					12.0
92/03/23	0815					3.4
92/04/27	0730					3.2
92/05/25	0800					1.4
92/06/22	0815					1.0
92/07/27	0850					2.6
92/08/24	0800					1.4
92/09/28	0815					1.8

23A160 4123A160 12020565
 CHEHALIS RIVER AT DRYAD
 46 37 54.0 123 14 51.0 2F 0 Elev= 0 ft
 53041 Washington Lewis Co. PACIFIC NORTHWEST
 COASTAL (Upper Chehalis-23) 131223
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 10-23-15 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312099
 MILES 0101.70

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/29	1540	446118	5.9	766	98			67	13.0	103.2	7.60
91/11/19	1410	476118	8.6	753	1110			60	11.0	94.8	7.50
91/12/17	1505	516118	4.5	752	830			55	12.7	99.1	7.20
92/01/28	1630	56118	9.1	762	6980			54	12.4	106.9	6.80
92/02/25	1555	96118	9.7	761	1200J			55	11.5	100.6	7.40
92/03/24	1650	136118	11.3	758	212			65	12.0	109.4	7.80
92/04/28	1625	186118	12.3	757	400			65	11.0	102.7	7.70
92/05/26	1640	226118	16.2	760	150			63	11.2	113.2	8.50
92/06/23	1650	266118	24.5	742	70			70	9.3	112.9	7.60
92/07/28	1900	316118	21.8	750	42			77	9.6	109.8	8.00
92/08/25	1725	356118	18.2	754	26			82	10.3	109.2	7.90
92/09/29	1350	406118	12.6	750	77			71	10.9	103.4	7.90

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	T P04	ORTHOPO4
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	P04	P04
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1540			2.0	0.013	0.010K			0.122		
91/11/19	1410			6.0	0.010K	0.010K			0.717		
91/12/17	1505			5.0	0.012	0.010K			0.613		
92/01/28	1630			192.0	0.024	0.010K			0.847		
92/02/25	1555			6.0	0.010K	0.010K			0.567		
92/03/24	1650			1.0	0.010K	0.010K			0.229		
92/04/28	1625			3.0	0.010K	0.010K			0.295		
92/05/26	1640			3.0	0.010K	0.010K			0.089		
92/06/23	1650			2.0	0.028	0.010K			0.086		
92/07/28	1900			2.0	0.026	0.010K			0.032		
92/08/25	1725			2.0	0.014	0.010K			0.010		
92/09/29	1350			2.0	0.012	0.010K			0.132		

DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE
FROM	DEPTH	ORTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
		665	671	900	902	915	925	930	935	940	945

MORE DATES NEXT PAGE

DATE	DEPTH	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
FROM	TO	TIME	FEET								
91/10/29	1540		0.014								
91/11/19	1410		0.018								
91/12/17	1505		0.015								
92/01/28	1630		0.173								
92/02/25	1555		0.014								
92/03/24	1650		0.011								
92/04/28	1625		0.016								
92/05/26	1640		0.024								
92/06/23	1650		0.014								
92/07/28	1900		0.017								
92/08/25	1725		0.015								
92/09/29	1350		0.011								

DATE	DEPTH	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1020 BORON B,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1090 ZINC ZN,DISS UG/L	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71851 NITRATE DISS-NO3 MG/L	71885 IRON FE UG/L	80154 SUSP SED CONC MG/L	80155 SUSP SED DISCHARG TONS/DAY	82079 TURBIDITY LAB NTU
FROM	TO	TIME	FEET					
91/10/29	1540		24					1.5
91/11/19	1410		80					3.0
91/12/17	1505		30					2.0
92/01/28	1630		63					33.0
92/02/25	1555		55					2.3
92/03/24	1650		4					1.1
92/04/28	1625		46					1.2
92/05/26	1640		36					1.0
92/06/23	1650		19					0.8
92/07/28	1900		37					1.6
92/08/25	1725		13					1.9
92/09/29	1350		38					2.5

24B090 4924B090 12013500 541104
 WILLAPA RIVER NEAR WILLAPA
 46 39 00.0 123 39 10.0 2F 0 Elev= 0 ft
 53049 Washington Pacific Co. PACIFIC NORTHWEST
 COASTAL (Willapa-24) 131224
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 11-24-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312137
 MILES 0017.70

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	COLOR PT-CO	CNDUCTVY LAB @	DO	DO	PH	405
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	CO2
91/10/28	1310	446104	6.7	766	57		73	11.9	96.3	7.40	
91/11/18	1140	476104	10.2	767	947		68	10.9	95.7	7.00	
91/12/16	1210	516104	4.8	769	733		71	12.3	83.2	7.00	
92/01/27	1310	56104	9.0	760	2140		56	11.3	97.4	6.80	
92/02/24	1335	96104	9.1	774	1180		51	11.4	96.7	7.00	
92/03/23	1245	136104	10.4	765	171		58	11.4	98.3	7.20	
92/04/27	1225	186104	12.2	767	436		112	10.7	98.3	7.20	
92/05/25	1210	226104	17.7	763	110		60	10.3	106.8	7.40	
92/06/22	1310	266104	22.2	757	46		65	8.4	95.8	7.30	
92/07/27	1520	316104	20.7	764	23		73	10.0	109.9	7.60	
92/08/24	1244	356104	17.3	765	18		80	9.9	101.6	7.70	
92/09/28	1225	406104	12.9	762	70		65	10.3	96.8	7.40	

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	N
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1310				3.0		0.023	0.010K			
91/11/18	1140				15.0		0.011	0.010K			
91/12/16	1210				4.0		0.014	0.010K			
92/01/27	1310				53.0		0.035	0.010K			
92/02/24	1335				10.0		0.014	0.010K			
92/03/23	1245				2.0		0.011	0.010K			
92/04/27	1225				5.0		0.016	0.010K			
92/05/25	1210				2.0		0.010K	0.010K			
92/06/22	1310				6.0		0.028	0.010K			
92/07/27	1520				16.0		0.039	0.010K			
92/08/24	1244				17.0		0.013	0.010K			
92/09/28	1225				6.0		0.021	0.010K			

DATE	DEPTH	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	N-TOTAL	PO4	PHOS-TOT	ORTHO	C	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1310										
91/11/18	1140										
91/12/16	1210										
92/01/27	1310										
92/02/24	1335										
92/03/23	1245										
92/04/27	1225										
92/05/25	1210										
92/06/22	1310										
92/07/27	1520										
92/08/24	1244										
92/09/28	1225										

MORE DATES NEXT PAGE

DATE	DEPTH	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/28	1310		0.304		0.021	0.011					
91/11/18	1140		1.260		0.034	0.010K					
91/12/16	1210		1.060		0.015	0.010K					
92/01/27	1310		0.987		0.060	0.010K					
92/02/24	1335		1.010		0.024	0.010K					
92/03/23	1245		0.501		0.014	0.010K					
92/04/27	1225		0.658		0.016	0.010					
92/05/25	1210		0.242		0.020	0.010K					
92/06/22	1310		0.284		0.021	0.010K					
92/07/27	1520		0.291		0.031	0.010K					
92/08/24	1244		0.287		0.022	0.010K					
92/09/28	1225		0.339		0.021	0.010K					

DATE	DEPTH	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1105 ALUMINUM AL,TOT UG/L	1130 LITHIUM LI,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET					
91/10/28	1310			150			1.6	
91/11/18	1140			210			5.0	
91/12/16	1210			20			2.0	
92/01/27	1310			340			11.0	
92/02/24	1335			37			3.9	
92/03/23	1245						1.6	
92/04/27	1225			200S			1.8	
92/05/25	1210			200			1.1	
92/06/22	1310			190			0.8	
92/07/27	1520			220			2.0	
92/08/24	1244			240			2.1	
92/09/28	1225			390			1.9	

24B130 4924B130 12011500 541092
 WILLAPA RIVER AT LABAM
 46 33 48.0 123 33 40.0 2F 0 Elev= 0 ft
 53049 Washington Pacific Co. PACIFIC NORTHWEST
 COASTAL (Willapa-24) 131224
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 11-24-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1312137
 MILES 0034.00

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	COLOR PT-CO	CNDUCTVY LAB @	DO	DO	PH	HCO3 ION
FROM	TO	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	HCO3 MG/L
91/10/28	1345	446105	5.8	761			66	11.9	94.8	7.40	
91/11/18	1215	476105	8.5	764	192		84	10.7	90.8	7.00	
91/12/16	1245	516105	4.6	763	187		55	12.4	84.4	7.10	
92/01/27	1350	56105	9.3	758	1210		50	11.2	97.5	6.70	
92/02/24	1410	96105	9.4	770			51	11.6	99.7	7.00	
92/03/23	1330	136105	9.6	760	43		50	12.0	101.0	7.40	
92/04/27	1325	186105	12.1	763	114		57	10.9	100.5	7.30	
92/05/25	1300	226105	15.6	758	24		78	10.5	105.0	7.40	
92/06/22	1345	266105	19.7	750	9		61	8.7	95.5	7.30	
92/07/27	1600	316105	17.2	759	6		65	9.5	98.1	7.50	
92/08/24	1343	356105	15.7	760	4		66	9.5	95.0	7.60	
92/09/28	1255	406105	11.3	756	11		72	10.2	93.2	7.40	

DATE	DEPTH	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS
FROM	TO	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4	MG/L P	ORTHO
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L		MG/L P
91/10/28	1345		4.0	0.015	0.010K			0.202		0.025	0.013
91/11/18	1215		8.0	0.010K	0.010K			1.550		0.031	0.011
91/12/16	1245		4.0	0.015	0.010K			1.280		0.016	0.010K
92/01/27	1350		189.0	0.035	0.010K			0.990J		0.188	0.215
92/02/24	1410		10.0	0.010K	0.010K			1.000		0.024	0.010K
92/03/23	1330		2.0	0.010K	0.010K			0.454		0.015	0.010K
92/04/27	1325		5.0	0.010K	0.010K			0.579		0.022	0.011
92/05/25	1300		1.0	0.010K	0.010K			0.310		0.025	0.010K
92/06/22	1345			0.049	0.010K			0.325		0.042	0.010K
92/07/27	1600		4.0	0.034	0.010K			0.288		0.033	0.011
92/08/24	1343		3.0	0.021	0.010K			0.165		0.022	0.010K
92/09/28	1255		2.0	0.019	0.010K			0.260		0.021	0.011

DATE	DEPTH	TOT HARD	NC HARD	CALCIUM	MGNISIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA
FROM	TO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
900											
902											
915											
925											
930											
935											
940											
945											
950											
955											

MORE DATES NEXT PAGE

DATE	DEPTH	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L
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DATE	DEPTH	1020 BORON B,DISS UG/L	1045 IRON FE,TOT UG/L	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	82079 TURBIDTY LAB NTU
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91/10/28	1345				360		1.6
91/11/18	1215				240		4.0
91/12/16	1245				20		2.0
92/01/27	1350				580		23.0
92/02/24	1410				29		3.2
92/03/23	1330				33		1.3
92/04/27	1325				540J		1.9
92/05/25	1300				1100		1.3
92/06/22	1345				1700		5.0
92/07/27	1600				590		1.3
92/08/24	1343				320		1.5
92/09/28	1255				600		2.4

24D090 2724D090
 NORTH RIVER AT ARCTIC
 46 53 02.0 123 42 37.0 2F000 Elev= 0 ft
 53027 Washington Grays Harbor Co. PACIFIC NORTHWEST
 COASTAL (Willapa-24) 131224
 21540000 Reach=17100106043 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1312133

MILES 0027.30

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	CNDUCTVY LAB @	DO	DO SATUR	PH	RESIDUE	NH3+NH4-N	NO2-N
FROM	TO	NUMBER	CENT	MM OF HG	25C UMHO	MG/L	PERCENT	SU	TOT-NFLT	N TOTAL	DISS
TO	TIME	FEET							MG/L	MG/L	MG/L
91/10/28	1205	446103	6.8	764	60	11.5	93.6	7.70	4.0	0.015	0.010K
91/11/18	1100	476103	9.9	765	53	10.3	90.1	7.00	18.0	0.010K	0.010K
91/12/16	1110	516103	4.6	767	64	12.0	81.3	6.90	12.0	0.015	0.010K
92/01/27	1220	56103	9.0	758	55	11.3	97.7	6.80	17.0	0.018	0.010K
92/02/24	1245	96103	7.9	772	45	11.2	92.6	7.20	16.0	0.010K	0.010K
92/03/23	1150	136103	8.9	762	50	10.3	85.8	7.10	4.0	0.010K	0.010K
92/04/27	1110	186103	11.9	765	49	10.1	92.4	7.20	10.0	0.013	0.010K
92/05/25	1120	226103	15.7	761	47	9.2	91.9	7.20	3.0	0.010K	0.010K
92/06/22	1155	266103	19.2	756	60	8.5	91.7	7.40	4.0	0.020	0.010K
92/07/27	1325	316103	17.6	762	72	8.5	88.1	7.40	7.0	0.027	0.010K
92/08/24	1130	356103	16.5	764	73	8.1	81.9	7.40	6.0	0.014	0.010K
92/09/28	1110	406103	12.2	761	70	9.1	84.4	7.30	2.0	0.027	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TO	N-TOTAL	ORTH	MFM-FCBR	LAB	NTU
TO	TIME	MG/L	MG/L P	MG/L P	/100ML	
91/10/28	1205	0.122	0.023	0.010K	17	3.4
91/11/18	1100	0.894	0.032	0.010K	74	6.0
91/12/16	1110	0.691	0.015	0.091	10	3.0
92/01/27	1220	0.743	0.030	0.010K	14	5.5
92/02/24	1245	0.709	0.022	0.010K	10	4.0
92/03/23	1150	0.265	0.016	0.010K	2	1.8
92/04/27	1110	0.364	0.019	0.010K	24	3.3
92/05/25	1120	0.096	0.017	0.010K	16	2.6
92/06/22	1155	0.044	0.024	0.010K	12	1.5
92/07/27	1325	0.044	0.035	0.010	32	2.0
92/08/24	1130	0.022	0.020	0.010K	14	1.7
92/09/28	1110	0.214	0.023	0.010K	35X	3.3

24F070 4924F070 12010000 541093
 NASELLE RIVER NEAR NASELLE
 46 22 23.0 123 44 44.0 2F 0 Elev= 0 ft
 53049 Washington Pacific Co. PACIFIC NORTHWEST
 COASTAL (Willapa-24) 131224
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 11-24-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1312155
 MILES 0017.40

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	COLOR PT-CO	CNDUCTVY LAB @	DO	DO SATUR	PH	T ALK
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/28	1600	446106	6.3	763	50		60	12.1	97.4	7.20	
91/11/18	1340	476106	10.8	768	875		60	11.3	100.5	7.20	
91/12/16	1400	516106	5.3	765	500		51	12.6	85.6	7.20	
92/01/27	1540	56106	9.7	757	2770		45	11.8	103.8	6.90	
92/02/24	1530	96106	8.9	772	591		48	11.4	96.5	7.00	
92/03/23	1505	136106	10.6	763	106		50	11.8	101.6	7.60	
92/04/27	1500	186106	11.6	768	364		50	11.0	99.7	7.50	
92/05/25	1440	226106	16.1	762	92		61	10.6	106.6	7.60	
92/06/22	1510	266106	21.2	754	44		54	9.3	104.6	7.50	
92/07/27	1800	316106	19.1	762	28		58	10.0	106.8	8.00	
92/08/24	1505	356106	18.3	762	25		62	10.1	106.3	7.80	
92/09/28	1430	406106	12.1	758	72		56	10.9	101.1	7.50	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
TO	TIME FEET	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P
		MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1600			2.0	0.036	0.010K				0.302	0.018
91/11/18	1340			10.0	0.010K	0.010K				0.843	0.024
91/12/16	1400			3.0	0.012	0.010K				0.631	0.017
92/01/27	1540			176.0	0.018	0.010K				0.565	0.124
92/02/24	1530			2.0	0.010K	0.010K				0.575	0.012
92/03/23	1505			1.0	0.010K	0.010K				0.283	0.010K
92/04/27	1500			3.0	0.010K	0.010K				0.385	0.015
92/05/25	1440			1.0K	0.010K	0.010K				0.206	0.010K
92/06/22	1510			1.0	0.023	0.010K				0.128	0.010K
92/07/27	1800			4.0	0.023	0.010K				0.072	0.015
92/08/24	1505			2.0	0.012	0.010K				0.024	0.011
92/09/28	1430			2.0	0.014	0.010K				0.329	0.010K

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNISIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
TO	TIME FEET	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
		MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
		671	900	902	915	925	930	935	940	945	950

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	935 PTSSIUM K,DISS	940 CHLORIDE CL	945 SULFATE SO4-TOT	950 FLUORIDE F,DISS
FROM	TO	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/28	1600	0.011									
91/11/18	1340	0.012									
91/12/16	1400	0.010									
92/01/27	1540	0.010K									
92/02/24	1530	0.010K									
92/03/23	1505	0.010K									
92/04/27	1500	0.011									
92/05/25	1440	0.010K									
92/06/22	1510	0.010K									
92/07/27	1800	0.010K									
92/08/24	1505	0.010K									
92/09/28	1430	0.010K									

DATE	DEPTH	955 SILICA DISOLVED	1002 ARSENIC AS,TOT	1020 BORON B,DISS	1030 CHROMIUM CR,DISS	1032 CHROMIUM HEX-VAL	1034 CHROMIUM CR,TOT	1040 COPPER CU,DISS	1042 COPPER CU,TOT	1049 LEAD PB,DISS	1090 ZINC ZN,DISS
FROM	TO	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

DATE	DEPTH	1092 ZINC ZN,TOT	31501 TOT COLI MFIMENDO	31504 TOT COLI MFIM LES	31505 TOT COLI MPN CONF	31616 FEC COLI MFM-FCBR	31625 FEC COLI M-FCAGAD	70300 RESIDUE DISS-180	71900 MERCURY HG,TOTAL	82079 TURBIDTY LAB
FROM	TO	UG/L	/100ML	/100ML	/100ML	/100ML	/100 ML	MG/L	UG/L	NTU
91/10/28	1600					100				1.0
91/11/18	1340					49				4.0
91/12/16	1400					10				2.0
92/01/27	1540					150				26.0
92/02/24	1530					14				2.1
92/03/23	1505					5				1.0
92/04/27	1500					36				2.0
92/05/25	1440					15				0.4
92/06/22	1510					15				0.3
92/07/27	1800					24				7.0
92/08/24	1505					29				0.7
92/09/28	1430					95				1.8

268070 15268070 14244200 541001
 COWLITZ RIVER AT KELSO
 46 08 44.0 122 54 47.0 3F 0 Elev= 0 ft
 53015 Washington COWLITZ CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Cowlitz-26) 131026
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 12-26-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 000850
 MILES 0068.00 0004.90

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	340
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	HI LEVEL
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/29	1250	446114	9.3	775	6400			83	11.6	98.8	
91/11/19	1120	476114	9.4	765	8660			90	10.8	93.3	
91/12/17	1225	516114	6.3	762	14100			74	11.8	95.1	
92/01/28	1410	56114	9.2	769	24800			67	11.6	99.4	
92/02/25	1330	96114	8.7	769	13400			77	11.2	94.7	
92/03/24	1350	136114	9.3	768	5820			105	11.1	95.3	
92/04/28	1320	186114	12.5	766	6000			111	10.5	97.3	
92/05/26	1340	226114	14.3	771	5020			165	10.0	95.8	
92/06/23	1310	266114	19.0	754	3640			113	9.3	100.3	
92/07/28	1540	316114	18.8	759	2940			125	9.7	103.5	
92/08/25	1350	356114	16.5	765	2880			118	9.9	100.0	
92/09/29	1100	406114	12.8	760	3090			119	10.3	96.9	

DATE	DEPTH	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N
FROM	DEPTH			CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1250	7.50					32.0		0.015	0.010K	
91/11/19	1120	7.50					83.0		0.010K	0.010K	
91/12/17	1225	7.20					32.0		0.025	0.010K	
92/01/28	1410	6.70					209.0		0.031	0.010K	
92/02/25	1330	7.20					30.0		0.010K	0.010K	
92/03/24	1350	7.50					10.0		0.010K	0.010K	
92/04/28	1320	7.50					29.0		0.014	0.010K	
92/05/26	1340	7.60					25.0		0.010K	0.010K	
92/06/23	1310	7.40					9.0		0.013	0.010K	
92/07/28	1540	7.50					4.0		0.019	0.010K	
92/08/25	1350	7.70					5.0		0.010K	0.010K	
92/09/29	1100	7.80					37.0		0.012	0.010K	

DATE	DEPTH	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD	CALCIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4		ORTHO	C	CACO3	CACO3	CA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L
620											
625											
630											
660											
665											
671											
680											
900											
902											
915											

MORE DATES NEXT PAGE

DATE	DEPTH	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/29	1250			0.067		0.020	0.010K				
91/11/19	1120			0.216		0.068	0.010K				
91/12/17	1225			0.207		0.030	0.010K				
92/01/28	1410			0.627		0.339	0.010K				
92/02/25	1330			0.305		0.068	0.010K				
92/03/24	1350			0.111		0.016	0.010K				
92/04/28	1320			0.139		0.027	0.010K				
92/05/26	1340			0.055		0.030	0.010K				
92/06/23	1310			0.034		0.012	0.010K				
92/07/28	1540			0.052		0.015	0.010K				
92/08/25	1350			0.030		0.010K	0.010K				
92/09/29	1100			0.048		0.036	0.010K				

DATE	DEPTH	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	70300 RESIDUE DISS-180 C MG/L	71851 NITRATE DISS-NO3 MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET				
91/10/29	1250	33				3.0	
91/11/19	1120	39				25.0	
91/12/17	1225	10				11.0	
92/01/28	1410	330S				40.0	
92/02/25	1330	12S				29.0	
92/03/24	1350	2				3.6	
92/04/28	1320	16				7.7	
92/05/26	1340	10				3.5	
92/06/23	1310	13				1.6	
92/07/28	1540	15				2.4	
92/08/25	1350	3				1.7	
92/09/29	1100	55				1.6	

26B150 4126B150 14238800 541130
 COWLITZ RIVER AT TOLEDO
 46 26 41.0 122 50 35.0 2F 0 Elev= 0 ft
 53041 Washington Lewis Co. PACIFIC NORTHWEST
 LOWER COLUMBIA (Cowlitz-26) 131026
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 12-26-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 000850
 MILES 0068.00 0033.60

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	TURB JKSJN	COLOR PT-CO	CNDUCTVY LAB @	DO	DO	PH
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/29	1435	446117	10.4	769	6530			47	12.6	110.9	8.00
91/11/19	1310	476117	10.2	762	6420			51	10.9	96.4	7.30
91/12/17	1400	516117	7.6	757	12500			47	11.7	97.9	7.40
92/01/28	1520	56117	8.4	767	5380			57	12.3	103.6	6.60
92/02/25	1455	96117	8.2	764	7860			48	12.4	104.4	7.40
92/03/24	1545	136117	9.5	763	4780			50	12.8	111.2	8.20
92/04/28	1520	186117	10.6	763	4180			73	12.4	110.5	7.80
92/05/26	1535	226117	11.9	765	4630			53	12.0	109.9	7.90
92/06/23	1535	266117	15.1	748	3400			50	11.2	112.4	8.00
92/07/28	1745	316117	15.3	753	2790			55	10.5	105.0	7.70
92/08/25	1615	356117	15.3	760	2760			57	11.3	112.1	8.10
92/09/29	1245	406117	12.0	755	2770			42	11.5	106.9	7.90

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	
FROM	TO	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	N
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1435				4.0		0.011	0.010K				
91/11/19	1310				4.0		0.010K	0.010K				
91/12/17	1400				2.0		0.017	0.010K				
92/01/28	1520				17.0		0.015	0.010K				
92/02/25	1455				1.0		0.010K	0.010K				
92/03/24	1545				3.0		0.010K	0.010K				
92/04/28	1520				2.0		0.010K	0.010K				
92/05/26	1535				2.0		0.010K	0.010K				
92/06/23	1535				2.0		0.014	0.010K				
92/07/28	1745				1.0		0.019	0.010K				
92/08/25	1615				1.0		0.010K	0.010K				
92/09/29	1245				2.0		0.011	0.010K				

DATE	DEPTH	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNESIUM	SODIUM	PTSSIUM
FROM	TO	N-TOTAL	PO4	MG/L P	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1435										
91/11/19	1310										
91/12/17	1400										
92/01/28	1520										
92/02/25	1455										
92/03/24	1545										
92/04/28	1520										
92/05/26	1535										
92/06/23	1535										
92/07/28	1745										
92/08/25	1615										
92/09/29	1245										

MORE DATES NEXT PAGE

			630	660	665	671	900	902	915	925	930	935
DATE		DEPTH	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNISIUM	SODIUM	PTSSIUM
FROM	TO	FEET	N-TOTAL	PO4	MG/L P	MG/L P	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
			MG/L	MG/L			MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1435		0.049		0.011	0.010K						
91/11/19	1310		0.109		0.014	0.010K						
91/12/17	1400		0.170		0.014	0.010K						
92/01/28	1520		0.288		0.034	0.010K						
92/02/25	1455		0.220		0.011	0.010K						
92/03/24	1545		0.115		0.011	0.010K						
92/04/28	1520		0.141		0.013	0.010K						
92/05/26	1535		0.048		0.019	0.010K						
92/06/23	1535		0.035		0.010K	0.010K						
92/07/28	1745		0.048		0.010K	0.010K						
92/08/25	1615		0.030		0.010K	0.010K						
92/09/29	1245		0.045		0.010K	0.010K						

			940	945	950	955	1020	1045	31504	31505	31616	31625
DATE		DEPTH	CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON	IRON	TOT COLI	TOT COLI	FEC COLI	FEC COLI
FROM	TO	FEET	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS	FE,TOT	MFIM LES	MPN CONF	MFM-FCBR	M-FCAGAD
			MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	/100ML	/100ML	/100ML	/100 ML
91/10/29	1435										10	
91/11/19	1310										11	
91/12/17	1400										9	
92/01/28	1520										36	
92/02/25	1455										4	
92/03/24	1545										1K	
92/04/28	1520										4	
92/05/26	1535										6	
92/06/23	1535										1K	
92/07/28	1745										3	
92/08/25	1615										1	
92/09/29	1245										4	

			70300	82079
DATE		DEPTH	RESIDUE	TURBIDTY
FROM	TO	FEET	DISS-180	LAB
			C MG/L	NTU
91/10/29	1435			1.2
91/11/19	1310			2.0
91/12/17	1400			4.0
92/01/28	1520			8.5
92/02/25	1455			2.3
92/03/24	1545			1.7
92/04/28	1520			1.2
92/05/26	1535			0.7
92/06/23	1535			0.5
92/07/28	1745			1.2

MORE DATES NEXT PAGE

DATE		70300		82079	
FROM		RESIDUE		TURBIDTY	
		DISS-180		LAB	
TO	TIME	FEET	C	MG/L	NTU
92/08/25	1615				1.5
92/09/29	1245				1.3

26C070 1526C070 14245100 541000
 COWEMAN RIVER AT KELSO
 46 08 18.0 122 53 47.0 2F 0 Elev= 0 ft
 53015 Washington COWLITZ CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Cowlitz-26) 131026
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 12-26-05 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 000850 00020
 MILES 0068.00 0001.30 002.70

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	DO	SATUR	PH
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/29	1310	446115	6.3	774				67	11.8	93.5	7.50
91/11/19	1140	476115	8.8	765				55	10.9	92.9	7.50
91/12/17	1250	516115	3.8	762				35	12.7	96.0	7.20
92/01/28	1430	56115	9.7	769				52	11.4	98.8	6.30
92/02/25	1350	96115	9.3	770				47	11.4	97.7	7.40
92/03/24	1425	136115	9.8	768				60	11.5	97.4	7.50
92/04/28	1400	186115	13.7	765				76	10.2	97.1	7.40
92/05/26	1410	226115	18.2	769				67	8.7	90.4	7.20
92/06/23	1350	266115	25.3	752				72	7.8	94.8	7.30
92/07/28	1615	316115	21.7	758				100	8.1	91.4	7.30
92/08/25	1415	356115	19.4	763				90	9.1	97.6	7.60
92/09/29	1125	406115	13.0	759				69	9.5	89.8	7.50

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	T PO4
FROM	DEPTH	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	PO4
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1310			3.0	0.020	0.010K				0.411	
91/11/19	1140			4.0	0.010K	0.010K				1.350	
91/12/17	1250			4.0	0.015	0.010K				0.931	
92/01/28	1430			79.0	0.022	0.010K				1.500	
92/02/25	1350			7.0	0.010K	0.010K				1.140	
92/03/24	1425			3.0	0.012	0.010K				0.551	
92/04/28	1400			5.0	0.014	0.010K				0.564	
92/05/26	1410			2.0	0.022	0.010K				0.236	
92/06/23	1350			5.0	0.048	0.010K				0.124	
92/07/28	1615			6.0	0.066	0.010K				0.047	
92/08/25	1415			2.0	0.017	0.010K				0.016	
92/09/29	1125			3.0	0.024	0.010K				0.417	

DATE	DEPTH	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	CHLORIDE
FROM	DEPTH	PO4	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	CL
TO	TIME FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
		660	665	671	900	902	915	925	930	935	940

MORE DATES NEXT PAGE

			660	665	671	900	902	915	925	930	935	940
DATE			ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH		PO4		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL
TO	TIME	FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1310			0.015	0.010K							
91/11/19	1140			0.021	0.010K							
91/12/17	1250			0.015	0.010K							
92/01/28	1430			0.111	0.010K							
92/02/25	1350			0.020	0.010K							
92/03/24	1425			0.010	0.010K							
92/04/28	1400			0.021	0.010K							
92/05/26	1410			0.027	0.010K							
92/06/23	1350			0.019	0.010K							
92/07/28	1615			0.029	0.010K							
92/08/25	1415			0.016	0.010K							
92/09/29	1125			0.014	0.010K							

			945	950	955	1020	1030	1040	1045	1049	1090	31504
DATE			SULFATE	FLUORIDE	SILICA	BORON	CHROMIUM	COPPER	IRON	LEAD	ZINC	TOT COLI
FROM	DEPTH		SO4-TOT	F,DISS	DISOLVED	B,DISS	CR,DISS	CU,DISS	FE,TOT	PB,DISS	ZN,DISS	MFIM LES
TO	TIME	FEET	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML

			31505	31616	70300	71900	82079
DATE			TOT COLI	FEC COLI	RESIDUE	MERCURY	TURBIDTY
FROM	DEPTH		MPN CONF	MFM-FCBR	DISS-180	HG,TOTAL	LAB
TO	TIME	FEET	/100ML	/100ML	C MG/L	UG/L	NTU
91/10/29	1310			63			1.5
91/11/19	1140			23			5.0
91/12/17	1250			27			2.0
92/01/28	1430			80			22.0
92/02/25	1350			10			4.1
92/03/24	1425			4			2.2
92/04/28	1400			39			2.3
92/05/26	1410			69			1.3
92/06/23	1350			31			1.5
92/07/28	1615			200			3.0
92/08/25	1415			80			2.7
92/09/29	1125			100			2.3

26D070 1526D070 14242700 541131
 TOUTLE RIVER NEAR CASTLE ROCK
 46 18 50.0 122 54 30.0 2F 0 Elev= 0 ft
 53015 Washington COWLITZ CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Cowlitz-26) 131026
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 12-26-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 000850 00240
 MILES 0068.00 0020.00 001.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	SATUR	SATUR	PH
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/29	1350	446116	7.3	772	429			505	13.1	106.9	7.90
91/11/19	1230	476116	8.3	763	3210			169	11.4	96.4	7.50
91/12/17	1325	516116	3.9	760	2510			190	13.0	98.9	7.30
92/01/28	1450	56116	9.1	768	9030			77	12.2	104.3	6.50
92/02/25	1430	96116	9.5	767	4770			119	11.5	99.4	7.20
92/03/24	1510	136116	11.7	765	969			265	11.1	101.3	7.90
92/04/28	1445	186116	14.2	764	1660			229	10.3	99.3	7.70
92/05/26	1500	226116	18.4	766	777			310	9.4	98.6	7.70
92/06/23	1450	266116	24.8	749	452			488	8.7	105.4	7.80
92/07/28	1700	316116	23.0	755	348			575	9.5	110.5	8.20
92/08/25	1505	356116	20.1	761	286			603	9.9	108.2	8.20
92/09/29	1215	406116	13.0	756	590			319	10.6	100.7	8.00

DATE	DEPTH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N
FROM	DEPTH	CACO3	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1350					8.0		0.015	0.010K		
91/11/19	1230					482.0		0.012	0.010K		
91/12/17	1325					120.0		0.056	0.010K		
92/01/28	1450					159.0		0.071	0.010K		
92/02/25	1430					152.0		0.014	0.010K		
92/03/24	1510					25.0		0.011	0.010K		
92/04/28	1445					46.0		0.014	0.010K		
92/05/26	1500					123.0		0.010K	0.010K		
92/06/23	1450					33.0		0.011	0.010K		
92/07/28	1700					18.0		0.020	0.010K		
92/08/25	1505					7.0		0.010K	0.010K		
92/09/29	1215					131.0		0.017	0.010K		

DATE	DEPTH	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	N	N-TOTAL	PO4	ORTHO	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1350										
91/11/19	1230										
91/12/17	1325										
92/01/28	1450										
92/02/25	1430										
92/03/24	1510										
92/04/28	1445										
92/05/26	1500										
92/06/23	1450										
92/07/28	1700										
92/08/25	1505										
92/09/29	1215										

MORE DATES NEXT PAGE

			625	630	660	665	671	900	902	915	925	930
DATE			TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH		N	N-TOTAL	PO4		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1350			0.011		0.019	0.010K					
91/11/19	1230			0.236		0.257	0.010					
91/12/17	1325			0.168		0.089	0.010K					
92/01/28	1450			0.366		0.550	0.010K					
92/02/25	1430			0.203		0.132	0.010K					
92/03/24	1510			0.018		0.027	0.010K					
92/04/28	1445			0.062		0.053	0.010K					
92/05/26	1500			0.029		0.079	0.010K					
92/06/23	1450			0.010K		0.027	0.010K					
92/07/28	1700			0.011		0.022	0.010K					
92/08/25	1505			0.010K		0.014	0.010K					
92/09/29	1215			0.079		0.116	0.017					

			935	940	945	950	955	1000	1005	1020	1025	1030
DATE			PTSSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA	ARSENIC	BARIUM	BORON	CADMIUM	CHROMIUM
FROM	DEPTH		K,DISS	CL	SO4-TOT	F,DISS	DISOLVED	AS,DISS	BA,DISS	B,DISS	CD,DISS	CR,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L

			1040	1045	1049	1075	1090	1105	1145	31501	31504	31505
DATE			COPPER	IRON	LEAD	SILVER	ZINC	ALUMINUM	SELENIUM	TOT COLI	TOT COLI	TOT COLI
FROM	DEPTH		CU,DISS	FE,TOT	PB,DISS	AG,DISS	ZN,DISS	AL,TOT	SE,DISS	MFIMENDO	MFIM LES	MPN CONF
TO	TIME	FEET	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML	/100ML	/100ML

			31616	70300	71900	82079
DATE			FEC COLI	RESIDUE	MERCURY	TURBIDTY
FROM	DEPTH		MFM-FCBR	DISS-180	HG,TOTAL	LAB
TO	TIME	FEET	/100ML	C MG/L	UG/L	NTU
91/10/29	1350		2			4.8
91/11/19	1230		40			83.0
91/12/17	1325		7			38.0
92/01/28	1450		29			39.0
92/02/25	1430		6			55.0
92/03/24	1510		1			9.2
92/04/28	1445		12			29.0
92/05/26	1500		13			28.0
92/06/23	1450		19			7.6
92/07/28	1700		6			5.3
92/08/25	1505		2			2.7
92/09/29	1215		54			60.0

27B070 1527B070 14223600
 KALAMA RIVER NEAR KALAMA
 46 02 52.0 122 50 11.0 2F 0 Elev= 0 ft
 53015 Washington COWLITZ CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Lewis-27) 131027
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 13-27-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 000870
 MILES 0073.10 0002.80

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	BOD	COD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR	5 DAY	HI LEVEL
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	MG/L
91/10/29	1210	446113	6.4	775			52	13.1	104.0		
91/11/19	1040	476113	8.4	766			39	11.5	97.0		
91/12/17	1130	516113	5.0	762			40	12.7	99.0		
92/01/28	1325	56113	8.8	768			37	12.4	105.2		
92/02/25	1250	96113	7.9	771			38	12.1	100.1		
92/03/24	1300	136113	9.5	768			52	12.2	105.2		
92/04/28	1230	186113	11.3	766			36	11.3	102.0		
92/05/26	1250	226113	14.2	769			49	11.1	106.2		
92/06/23	1155	266113	19.4	754			59	9.5	103.1		
92/07/28	1440	316113	19.1	760			65	9.9	106.0		
92/08/25	1240	356113	14.2	765			65	10.2	98.2		
92/09/29	1015	406113	10.9	760			52	10.8	97.3		

DATE	DEPTH	PH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL
FROM	DEPTH		CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1210	7.60				4.0	0.020	0.010K			
91/11/19	1040	7.40				11.0	0.010K	0.010K			
91/12/17	1130	7.30				4.0	0.011	0.010K			
92/01/28	1325	6.80				97.0	0.016	0.010K			
92/02/25	1250	7.30				1.0K	0.010K	0.010K			
92/03/24	1300	7.40				3.0	0.010K	0.010K			
92/04/28	1230	7.40				5.0	0.010K	0.010K			
92/05/26	1250	7.80				3.0	0.010K	0.010K			
92/06/23	1155	7.50				4.0	0.026	0.010K			
92/07/28	1440	7.90				3.0	0.023	0.010K			
92/08/25	1240	7.90				2.0	0.012	0.010K			
92/09/29	1015	7.80				3.0	0.021	0.010K			

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH	N-TOTAL	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	
TO	TIME FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	
91/10/29	1210	630	665	671	900	902	915	925	930	935	940

MORE DATES NEXT PAGE

			630	665	671	900	902	915	925	930	935	940
DATE			NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH	N-TOTAL		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	
TO	TIME	FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	1210		0.207	0.022	0.014							
91/11/19	1040		0.393	0.020	0.010							
91/12/17	1130		0.377	0.016	0.010K							
92/01/28	1325		0.480	0.081	0.010K							
92/02/25	1250		0.304	0.015	0.010K							
92/03/24	1300		0.187	0.013	0.010K							
92/04/28	1230		0.164	0.017	0.011							
92/05/26	1250		0.054	0.022	0.010K							
92/06/23	1155		0.047	0.018	0.010K							
92/07/28	1440		0.036	0.025	0.011							
92/08/25	1240		0.017	0.012	0.010K							
92/09/29	1015		0.076	0.016	0.012							

			945	1030	1040	1049	1090	31504	31616	71900	82079
DATE			SULFATE	CHROMIUM	COPPER	LEAD	ZINC	TOT COLI	FEC COLI	MERCURY	TURBIDTY
FROM	DEPTH	SO4-TOT	CR,DISS	CU,DISS	PB,DISS	ZN,DISS	MFIM LES	MFM-FCBR	HG,TOTAL	LAB	
TO	TIME	FEET	MG/L	UG/L	UG/L	UG/L	/100ML	/100ML	UG/L	NTU	
91/10/29	1210								21		1.7
91/11/19	1040								27		3.0
91/12/17	1130								11		2.0
92/01/28	1325								21		22.0
92/02/25	1250								2		2.9
92/03/24	1300								1		0.6
92/04/28	1230								24		1.0
92/05/26	1250								16		0.5
92/06/23	1155								14		0.5
92/07/28	1440								3		1.3
92/08/25	1240								14		1.6
92/09/29	1015								61		1.6

27C080 1127C080
LEWIS RIVER AT COUNTY ROAD 16
45 54 21.0 122 44 10.0 2F000 Elev= 0 ft
53011 Washington CLARK CO. PACIFIC NORTHWEST
LOWER COLUMBIA (Lewis-27) 131027
21540000 Reach=17080002007 0.000 Drg= 0 sqmi
AMBNT/STREAM/RMP

INDEX 1310001 001050
MILES 0087.00 0006.62

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-
FROM	TIME	IDENT.	TEMP	PRESSURE	FLOW	LAB @	SATUR	PERCENT	SU	TOT-NFLT	N TOTAL
TO	FEET	NUMBER	CENT	MM OF HG	CFS	25C UMHO	MG/L	PERCENT		MG/L	MG/L
91/10/29	1135	446112	14.1	774	4400	37	9.9	94.0	7.50	9.0	0.013
91/11/19	1005	476112	11.3	767	8600	47	9.9	89.1	7.40	2.0	0.010K
91/12/17	1055	516112	8.0	764	10600	56	11.1	93.0	7.10	2.0	0.011
92/01/28	1230	56112	8.5	770	9000	52	12.1	101.8	6.90	4.0	0.011
92/02/25	1215	96112	6.6	772	9900	39	12.6	100.9	7.30	1.0	0.010K
92/03/24	1220	136112	7.0	770	2800	35	12.3	99.7	7.60	3.0	0.010K
92/04/28	1150	186112	8.2	766	3300	40	11.5	96.5	7.50	5.0	0.010K
92/05/26	1205	226112	10.4	769	1800	39	10.9	95.9	7.40	3.0	0.010K
92/06/23	1125	266112	11.4	755	1700	39	10.3	94.5	7.50	3.0	0.014
92/07/28	1320	316112	14.0	761	1300	47	10.2	98.3	7.30	4.0	0.020
92/08/25	1200	356112	13.8	765	1300	44	9.9	94.4	7.40	4.0	0.012
92/09/29	0940	406112	14.2	760	1200	45	9.4	91.0	7.40	2.0	0.012

DATE	DEPTH	613	630	665	671	31616	82079
FROM	TIME	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
TO	FEET	DISS	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
		MG/L	MG/L		MG/L P	/100ML	NTU
91/10/29	1135	0.010K	0.027	0.017	0.010K	11	1.4
91/11/19	1005	0.010K	0.117	0.012	0.010K	10	1.0
91/12/17	1055	0.010K	0.165	0.011	0.010K	4	1.0
92/01/28	1230	0.010K	0.265	0.020	0.010K	40S	2.9
92/02/25	1215	0.010K	0.163	0.010K	0.010K	2	1.5
92/03/24	1220	0.010K	0.105	0.010K	0.010K	3	1.9
92/04/28	1150	0.010K	0.107	0.010	0.010K	5	1.3
92/05/26	1205	0.010K	0.051	0.019	0.010K	3	0.8
92/06/23	1125	0.010K	0.042	0.010K	0.010K	8	0.6
92/07/28	1320	0.010K	0.049	0.017	0.010K	2	2.2
92/08/25	1200	0.010K	0.023	0.010K	0.010K	12	1.5
92/09/29	0940	0.010K	0.027	0.010K	0.010K	11X	1.1

27D090 1127D090 14222550
 EF LEWIS RIVER NR DOLLAR CORNER
 45 48 53.0 122 35 26.0 2F 0 Elev= 0 ft
 53011 Washington CLARK CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Lewis-27) 131027
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 13-27-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 001050 00060
 MILES 0087.00 0003.50 010.20

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	PERCENT	SU	CACO3
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT		MG/L
91/10/29	1100	446111	6.5	771	119		44	13.0	104.0	7.90	
91/11/19	0935	476111	8.4	767	1380		31	11.3	95.2	7.40	
91/12/17	1010	516111	4.7	763	854		40	12.7	98.1	7.50	
92/01/28	1140	56111	9.1	768	2730		29	12.0	102.6	6.90	
92/02/25	1135	96111	8.1	771	1320		28	11.9	99.0	7.40	
92/03/24	1135	136111	9.4	769	264		48	12.0	103.2	8.00	
92/04/28	1100	186111	12.0	766	413		32	11.1	101.7	8.00	
92/05/26	1115	226111	16.2	767	154		44	10.2	102.1	8.20	
92/06/23	1025	266111	22.0	755	66		54	9.0	102.6	7.80	
92/07/28	1210	316111	21.3	761	44		62	10.0	111.6	7.80	
92/08/25	1110	356111	17.2	765	35		67	10.1	103.4	7.60	
92/09/29	0900	406111	11.4	760	69		46	10.4	94.8	7.60	

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	PHOS-TOT	PHOS-DIS
FROM	TO	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	MG/L P	ORTHO
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L		MG/L P
91/10/29	1100			1.0	0.013	0.010K			0.462	0.013	0.010K
91/11/19	0935			2.0	0.010K	0.010K			0.614	0.013	0.010K
91/12/17	1010			2.0	0.010K	0.010K			0.498	0.010K	0.010K
92/01/28	1140			12.0	0.014	0.010K			0.399	0.031	0.010K
92/02/25	1135			2.0	0.010K	0.010K			0.459	0.010K	0.010K
92/03/24	1135			2.0	0.010K	0.010K			0.268	0.010K	0.010K
92/04/28	1100			4.0	0.010K	0.010K			0.222	0.011	0.010K
92/05/26	1115			2.0	0.010K	0.010K			0.165	0.011	0.010K
92/06/23	1025			2.0	0.019	0.010K			0.123	0.010K	0.010K
92/07/28	1210			5.0	0.020	0.010K			0.089	0.016	0.010K
92/08/25	1110			1.0	0.010K	0.010K			0.059	0.010K	0.010K
92/09/29	0900			1.0	0.015	0.010K			0.219	0.010K	0.010K

DATE	DEPTH	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	CHROMIUM	COPPER
FROM	TO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	CR,DISS	CU,DISS
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L
		900	902	915	925	930	935	940	945	1030	1040

MORE DATES NEXT PAGE

			900	902	915	925	930	935	940	945	1030	1040
DATE			TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	CHROMIUM	COPPER
FROM	DEPTH		CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	CR,DISS	CU,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L

			1049	1090	31504	31616	71900	82079
DATE			LEAD	ZINC	TOT COLI	FEC COLI	MERCURY	TURBIDTY
FROM	DEPTH		PB,DISS	ZN,DISS	MFIM LES	MFM-FCBR	HG,TOTAL	LAB
TO	TIME	FEET	UG/L	UG/L	/100ML	/100ML	UG/L	NTU

91/10/29	1100						16	1.0K
91/11/19	0935						25	2.0
91/12/17	1010						7	1.0
92/01/28	1140						92	5.3
92/02/25	1135						4	1.7
92/03/24	1135						1	1.0
92/04/28	1100						14	1.1
92/05/26	1115						10	0.6
92/06/23	1025						32	0.5
92/07/28	1210						11	2.7
92/08/25	1110						9	1.4
92/09/29	0900						23	1.5

28B070 1128B070 14144100
 WASHOUGAL RIVER AT WASHOUGAL
 45 35 11.0 122 21 10.0 2F 0 Elev= 0 ft
 53011 Washington CLARK CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Salmon/Washougal-28) 131028
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 13-28-05 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 001230
 MILES 0120.70 0003.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	BOD	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	5 DAY		
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	SU
91/10/29	0915	446109	5.6	773			30	13.2	103.0		7.40
91/11/19	0750	476109	8.4	770			22	11.4	95.6		7.20
91/12/17	0825	516109	4.4	765			23	12.8	97.9		7.10
92/01/28	0950	56109	8.8	769			24	12.1	102.7		6.80
92/02/25	0955	96109	8.1	774			22	11.8	97.8		7.30
92/03/24	0910	136109	8.8	772			28	11.8	99.6		7.40
92/04/28	0905	186109	11.1	768			35	11.1	99.4		7.80
92/05/26	0900	226109	16.5	769			27	10.1	101.4		7.60
92/06/23	0825	266109	22.3	757			35	8.6	98.3		7.50

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	0915				3.0	0.014	0.010K				0.503
91/11/19	0750				3.0	0.010K	0.010K				0.608
91/12/17	0825				2.0	0.012	0.010K				0.427
92/01/28	0950				9.0	0.013	0.010K				0.282
92/02/25	0955				2.0	0.010K	0.010K				0.391
92/03/24	0910				2.0	0.010K	0.010K				0.285
92/04/28	0905				3.0	0.010K	0.010K				0.206
92/05/26	0900				3.0	0.010K	0.010K				0.196
92/06/23	0825				2.0	0.027	0.010K				0.162

DATE	DEPTH	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE
FROM	DEPTH	ORTH	ORTH	C	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/29	0915	0.023	0.013								
91/11/19	0750	0.015	0.010K								
91/12/17	0825	0.012	0.010K								
92/01/28	0950	0.022	0.010K								
92/02/25	0955	0.010K	0.010K								

MORE DATES NEXT PAGE

DATE	DEPTH	665 PHOS-TOT	671 PHOS-DIS ORTHO	680 T ORG C C	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	935 PTSSIUM K,DISS	940 CHLORIDE CL
FROM	TO	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
92/03/24	0910	0.011	0.010K								
92/04/28	0905	0.014	0.010K								
92/05/26	0900	0.015	0.010K								
92/06/23	0825	0.020	0.010K								

DATE	DEPTH	945 SULFATE SO4-TOT	950 FLUORIDE F,DISS	955 SILICA DISOLVED	1045 IRON FE,TOT	31501 TOT COLI MFIMENDO	31504 TOT COLI MFIM LES	31616 FEC COLI MFM-FCBR	70300 RESIDUE DISS-180	71900 MERCURY HG,TOTAL	82079 TURBIDTY LAB
FROM	TO	MG/L	MG/L	MG/L	UG/L	/100ML	/100ML	/100ML	C MG/L	UG/L	NTU
91/10/29	0915							120			1.8
91/11/19	0750							11			2.0
91/12/17	0825							24			1.0
92/01/28	0950							22			3.5
92/02/25	0955							9			2.2
92/03/24	0910							37			0.6
92/04/28	0905							43			0.8
92/05/26	0900							140			0.6
92/06/23	0825							92			0.6

28F070 1128F070
LAKE RIVER NEAR RIDGEFIELD
45 48 57.0 122 44 22.0 2F000 Elev= 0 ft
53011 Washington CLARK CO. PACIFIC NORTHWEST
LOWER COLUMBIA (Salmon/Washougal-28) 131028
21540000 Reach=17080001001 0.000 Drg= 0 sqmi
AMBNT/STREAM/RMP

INDEX 1310001 001070
MILES 0087.60 0003.20

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/29	1025	446110	9.5	774	150	11.3	96.8	8.10	21.0	0.035	0.010K
91/11/19	0855	476110	9.3	769	102	10.2	87.5	7.50	22.0	0.013	0.010K
91/12/17	0925	516110	4.4	765	100	11.5	88.0	7.20	7.0	0.039	0.010K
92/01/28	1050	56110	9.0	770	115	12.3	104.7	7.80	31.0	0.019	0.010K
92/02/25	1100	96110	9.9	774	105	11.1	96.0	6.90	17.0	0.013	0.010K
92/03/24	1030	136110	12.6	773	140	10.9	100.3	7.70	19.0	0.018	0.010K
92/04/28	1020	186110	16.3	767	148	10.3	103.3	8.00	18.0	0.017	0.010K
92/05/26	1015	226110	20.0	769	125	13.0	140.0	9.70	34.0	0.010K	0.010K
92/06/23	0950	266110	22.4	756	133	8.6	98.6	7.80	27.0	0.019	0.010K
92/07/28	1040	316110	20.3	763	129	9.8	107.0	8.20	32.0	0.025	0.010K
92/08/25	0950	356110	19.9	768	152	9.0	96.8	8.00	48.0	0.027	0.010K
92/09/29	0825	406110	16.5	761	123	9.5	96.4	8.20	35.0	0.015	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TIME	N-TOTAL		ORTHO	MFM-FCBR	LAB
TO	FEET	MG/L	MG/L P	MG/L P	/100ML	NTU
91/10/29	1025	0.138	0.067	0.019	580	11.5
91/11/19	0855	0.999	0.092	0.028	800S	12.0
91/12/17	0925	0.826	0.057	0.022	110	6.0
92/01/28	1050	0.442	0.103	0.010K	210S	13.0
92/02/25	1100	0.436	0.087	0.010K	96S	13.0
92/03/24	1030	0.239	0.080	0.010K	20	9.9
92/04/28	1020	0.257	0.059	0.017	26	7.2
92/05/26	1015	0.017	0.113	0.010K	6	17.0
92/06/23	0950	0.010K	0.115	0.012	75	16.0
92/07/28	1040	0.033	0.070	0.010K	72	7.9
92/08/25	0950	0.060	0.098	0.033	39	18.0
92/09/29	0825	0.046	0.129	0.023	360S	17.0

28G070 1128G070
 GIBBONS CREEK NEAR WASHOUGAL
 45 34 30.0 122 18 51.0 2F000 Elev= 0 ft
 53011 Washington CLARK CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Salmon/Washougal-28) 131028
 21540000 Reach=17080001014 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 001250
 MILES 0123.30 0000.50

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	SATUR	PERCENT	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO	MG/L	PERCENT		MG/L	MG/L	MG/L
91/10/29	0850	446108	5.2	772	64	14.0	108.2	7.30	5.0	0.023	0.010K
91/11/19	0720	476108	9.3	770	50	10.9	93.4	7.40	6.0	0.010K	0.010K
91/12/17	0800	516108	4.4	765	36	12.7	97.1	6.90	8.0	0.018	0.010K
92/01/28	0840	56108	9.1	767	50	11.5	98.5	6.80	31.0	0.016	0.010K
92/02/25	0925	96108	9.1	773	42	11.4	96.9	7.30	10.0	0.010K	0.010K
92/03/24	0835	136108	7.8	772	40	12.0	98.9	7.20	6.0	0.010K	0.010K
92/04/28	0835	186108	11.4	768	48	10.7	96.4	7.40	7.0	0.018	0.010K
92/05/26	0830	226108	13.5	768	62	10.1	95.3	7.30	19.0	0.010K	0.010K
92/06/23	0800	266108	15.6	757	54	9.3	93.2	6.80	6.0	0.020	0.010K
92/07/28	0830	316108	13.7	766	65	11.5	109.4	7.70	4.0	0.022	0.010K
92/08/25	0815	356108	11.8	768	61	10.6	96.4	7.70	2.0	0.011	0.010K
92/09/29	0720	406108	11.7	761	63	10.2	93.4	7.80	2.0	0.015	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TIME	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
TO	FEET	MG/L	MG/L P	MG/L P	/100ML	NTU
91/10/29	0850	0.755	0.044	0.027	450	6.2
91/11/19	0720	1.660	0.029	0.032	150	4.0
91/12/17	0800	1.010	0.022	0.010K	37	4.0
92/01/28	0840	1.150	0.067	0.011	480J	16.0
92/02/25	0925	1.020	0.023	0.010K	140	5.3
92/03/24	0835	0.571	0.022	0.010K	69	2.4
92/04/28	0835	0.542	0.029	0.018	360	3.3
92/05/26	0830	0.437	0.053	0.017	910	5.2
92/06/23	0800	0.349	0.043	0.028	730	2.6
92/07/28	0830	0.301	0.046	0.032	190	3.7
92/08/25	0815	0.254	0.036	0.029	140	3.8
92/09/29	0720	0.219	0.048	0.034	310	3.0

31A070 0531A070 COL045
 COLUMBIA RIVER AT UMATILLA BR
 45 55 53.0 119 19 24.0 2F 0 Elev= 0 ft
 53005 Washington Benton Co. PACIFIC NORTHWEST
 LOWER COLUMBIA (Rock/Glade-31) 131031
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 26-00-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001
 MILES 0290.50

DATE	DEPTH	LAB	WATER	BAROMTRC	WEATHER	WIND	WIND	STREAM	SEA	TURB	CNDUCTVY
FROM	TO	IDENT.	TEMP	PRESSURE	CODE	VELOCITY	DIR.FROM	FLOW	CODE	JKSN	LAB @
TO	TIME	NUMBER	CENT	MM OF HG		MPH	NORTH-0	CFS		JTU	25C UMHO
91/10/07	1135	416151	16.9	756				107000			161
91/11/04	1100	456151	11.5	765				137000			153
91/12/02	1045	496151	7.8	766				215000			178
92/01/06	1050	26151	5.6	754				162000			169
92/02/03	1110	66151	5.0					139000			232
92/03/02	1110	106151	5.5	758				168000			195
92/04/06	1125	156151	9.3	764				136000			162
92/05/04	1050	196151	12.0	759				184000			138
92/06/01	1115	236151	15.5	749				174000			116
92/07/06	1110	286151	19.0	755				115000			111
92/08/03	1100	326151	20.8	752				99100			148
92/09/08	1115	376151	19.8	754				62900			139

DATE	DEPTH	300	301	400	405	410	440	445	530	605	610
FROM	TO	DO	DO	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-
TO	TIME	MG/L	SATUR	SU	MG/L	MG/L	MG/L	MG/L	TOT-NFLT	N	N TOTAL
TO	TIME	FEET	PERCENT						MG/L	MG/L	MG/L
91/10/07	1135	9.5	97.9	8.40					5.0		0.013
91/11/04	1100	10.6	96.2	7.70					4.0		0.014J
91/12/02	1045	11.0	91.5	8.00					5.0		0.017
92/01/06	1050	11.9	95.3	7.60					2.0		0.023
92/02/03	1110	12.9	101.8	7.80					394.0		0.010K
92/03/02	1110	12.8	101.6	7.60					3.0		0.012
92/04/06	1125	12.9	111.5	8.20					7.0		0.010K
92/05/04	1050	12.7	117.5	8.10					7.0		0.021
92/06/01	1115	11.6	117.3	8.10					6.0		0.012
92/07/06	1110	9.7	104.5	8.20					5.0		0.021
92/08/03	1100	9.4	105.2	8.40					6.0		0.028
92/09/08	1115	8.9	97.5	8.40					6.0		0.036

DATE	DEPTH	613	625	630	665	671	680	760	900	940	945
FROM	TO	NO2-N	TOT KJEL	NO2+NO3	PHOS-TOT	PHOS-DIS	T ORG C	SWL	TOT HARD	CHLORIDE	SULFATE
TO	TIME	DISS	N	N-TOTAL	ORTH	C	PBI	CACO3	CL	SO4-TOT	
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

DATE	DEPTH	613 NO2-N DISS MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	760 SWL PBI MG/L	900 TOT HARD CACO3 MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
FROM	TO	TIME	FEET								
91/10/07	1135		0.010K	0.043	0.032	0.010K					
91/11/04	1100		0.010K	0.167J	0.019	0.010K			63		
91/12/02	1045		0.010K	0.334	0.042	0.047			79		
92/01/06	1050		0.010K	0.233	0.030	0.015					
92/02/03	1110		0.010K	0.577	0.016	0.014			80		
92/03/02	1110		0.010K	0.398	0.025	0.014					
92/04/06	1125		0.010K	0.130	0.028	0.010K					
92/05/04	1050		0.010K	0.161	0.020	0.010K					
92/06/01	1115		0.010K	0.011	0.021	0.010K					
92/07/06	1110		0.010K	0.014	0.010K	0.010K					
92/08/03	1100		0.010K	0.038	0.030	0.016					
92/09/08	1115		0.010K	0.014	0.023	0.010K					

DATE	DEPTH	1042 COPPER CU, TOT UG/L	1045 IRON FE, TOT UG/L	1092 ZINC ZN, TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	31501 TOT COLI MFIMENDO /100ML	31616 FEC COLI MFM-FCBR /100ML
FROM	TO	TIME	FEET								
91/10/07	1135										10X
91/11/04	1100		3.0K	12.0V	12.0V	0.10K	1.0K	0.4P	3.0K		400X
91/12/02	1045		3.0K	4.0K	4.0K	0.10K	1.0K	0.3P	3.0K		28
92/01/06	1050		3.0K	4.0K	4.0K	0.39V	1.0K	0.3K	3.0K		1
92/02/03	1110										11
92/03/02	1110										41
92/04/06	1125										1
92/05/04	1050										1K
92/06/01	1115										1K
92/07/06	1110										2
92/08/03	1100										1X
92/09/08	1115										3

DATE	DEPTH	31625 FEC COLI M-FCAGAD /100 ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG, TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET			
91/10/07	1135					2.3
91/11/04	1100			0.05K	0.05K	1.5
91/12/02	1045			0.05K	0.05K	3.0
92/01/06	1050			0.05U	0.05U	1.0
92/02/03	1110			0.05K	0.05K	1.5
92/03/02	1110					1.8
92/04/06	1125					2.0
92/05/04	1050					2.3
92/06/01	1115					1.4
92/07/06	1110					1.7

MORE DATES NEXT PAGE

DATE		31625	70300	71900	71901	82079
FROM	DEPTH	FEC COLI	RESIDUE	MERCURY	MERCURY	TURBIDTY
TO	TIME FEET	M-FCAGAD	DISS-180	HG,TOTAL	TOT REC	LAB
		/100 ML	C MG/L	UG/L	UG/L	NTU
92/08/03	1100					1.8
92/09/08	1115					2.1

32A070 7132A070 14018600 541127
 WALLA WALLA RIVER NEAR TOUCHET
 46 02 16.0 118 45 55.0 2F 0 Elev= 0 ft
 53071 Washington Walla Walla Co. PACIFIC NORTHWEST
 LOWER COLUMBIA (Walla Walla-32) 131032
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 15-32-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002700
 MILES 0313.50 0015.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	BOD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	5 DAY
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/07	1340	416153	13.9	752	22			535	11.5	112.1	
91/11/04	1235	456153	4.7	761	29			288	12.8	99.3	
91/12/02	1220	496153	5.7	762	864			118	11.9	94.5	
92/01/06	1230	26153	4.4	750	484			163	12.4	96.8	
92/02/03	1220	66153	5.6		806			142	12.1	97.4	
92/03/02	1230	106153	7.4	753	936			116	11.4	95.5	
92/04/06	1255	156153	11.2	760	100			258	12.8	116.2	
92/05/04	1200	196153	18.1	755	271			166	8.6	91.0	
92/06/01	1225	236153	24.6	745	20			309	8.6	104.3	
92/07/06	1215	286153	21.2	751	12			498	12.8	144.8	
92/08/03	1215	326153	21.9	748	5			482	9.2	105.9	
92/09/08	1220	376153	15.7	751	7			499	9.8	99.4	

DATE	DEPTH	COD	PH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N
FROM	DEPTH	HI LEVEL		CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL
TO	TIME FEET	MG/L	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/07	1340		8.60				20.0		0.023	0.015	
91/11/04	1235		8.10				4.0		0.010K	0.010K	
91/12/02	1220		7.90				138.0		0.045	0.010K	
92/01/06	1230		7.90				16.0		0.035	0.010K	
92/02/03	1220		7.60				73.0		0.018	0.010K	
92/03/02	1230		7.30				96.0		0.026	0.010K	
92/04/06	1255		8.40				6.0		0.025	0.010K	
92/05/04	1200		7.90				88.0		0.112	0.015	
92/06/01	1225		8.20				20.0		0.034	0.010K	
92/07/06	1215		8.80				46.0		0.049	0.010K	
92/08/03	1215		8.30				106.0		0.037	0.023	
92/09/08	1220		8.40				52.0		0.067	0.010K	

DATE	DEPTH	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4	PHOS-TOT	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L
91/10/07	1340										
91/11/04	1235										
91/12/02	1220										
92/01/06	1230										
92/02/03	1220										
92/03/02	1230										
92/04/06	1255										
92/05/04	1200										
92/06/01	1225										
92/07/06	1215										
92/08/03	1215										
92/09/08	1220										

MORE DATES NEXT PAGE

			620	625	630	660	665	671	900	902	915	925
DATE			NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNISIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4			ORTHO	CACO3	CACO3	CA,DISS	MG,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L
91/10/07	1340				0.938		0.111	0.027				
91/11/04	1235				0.476J		0.054	0.040				
91/12/02	1220				1.140		0.189	0.077				
92/01/06	1230				1.180		0.117	0.096				
92/02/03	1220				0.781		0.116	0.071				
92/03/02	1230				0.781		0.150	0.073				
92/04/06	1255				0.446		0.075	0.036				
92/05/04	1200				0.542		0.171	0.084				
92/06/01	1225				0.537		0.104	0.067				
92/07/06	1215				0.015		0.134	0.017				
92/08/03	1215				1.190		0.105	0.129				
92/09/08	1220				1.150		0.100	0.072				

			930	935	940	945	950	955	1020	1030	1040	1045
DATE			SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON	CHROMIUM	COPPER	IRON
FROM	DEPTH	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS	CR,DISS	CU,DISS	FE,TOT	UG/L
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L

			1049	1090	31504	31505	31616	31672	70300	71900	82079
DATE			LEAD	ZINC	TOT COLI	TOT COLI	FEC COLI	FECSTREP	RESIDUE	MERCURY	TURBIDITY
FROM	DEPTH	PB,DISS	ZN,DISS	MFIM LES	MPN CONF	MFM-FCBR	PC M-ENT	DISS-180	HG,TOTAL		LAB
TO	TIME	FEET	UG/L	UG/L	/100ML	/100ML	/100ML	C MG/L	UG/L		NTU
91/10/07	1340							44			11.5
91/11/04	1235							15			2.7
91/12/02	1220							100			18.0
92/01/06	1230							44			5.0
92/02/03	1220							150			12.0
92/03/02	1230							72			15.0
92/04/06	1255							6			3.2
92/05/04	1200							300			26.0
92/06/01	1225							29			4.7
92/07/06	1215							55			15.0
92/08/03	1215							220			40.0
92/09/08	1220							220			30.0

32B070 7132B070 14017600
 TOUCHET RIVER AT TOUCHET
 46 02 29.0 118 40 59.0 2F 0 Elev= 0 ft
 53071 Washington Walla Walla Co. PACIFIC NORTHWEST
 LOWER COLUMBIA (Walla Walla-32) 131032
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 15-32-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002700 00130
 MILES 0313.50 0016.40 000.50

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/07	1425	416154	13.6	750	7		331	11.4	110.6	8.10	
91/11/04	1310	456154	3.8	759	23		130	12.9	97.9	8.00	
91/12/02	1250	496154	5.0	761	225		89	12.6	98.4	7.60	
92/01/06	1325	26154	3.6	749	130		100	12.0	91.8	7.70	
92/02/03	1305	66154	5.5		52		113	12.6	101.3	7.70	
92/03/02	1320	106154	7.3	752	315		95	11.5	96.2	7.70	
92/04/06	1320	156154	11.1	759	54		112	11.6	105.1	8.20	
92/05/04	1230	196154	17.5	753	115		121	9.3	97.4	7.90	
92/06/01	1255	236154	24.3	741	10		151	8.7	105.4	8.10	
92/07/06	1240	286154	21.4	749	1		192	9.2	104.6	8.20	
92/08/03	1240	326154	21.6	746	0		250	6.1	70.0	7.80	
92/09/08	1300	376154	16.4	750	1		200	8.9	91.6	8.00	

DATE	DEPTH	HCO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT
FROM	DEPTH	HCO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	TOT N	N-TOTAL	MG/L P
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/07	1425		6.0		0.010K	0.010K				0.596	0.099
91/11/04	1310		4.0		0.010K	0.010K				0.048J	0.045
91/12/02	1250		68.0		0.022	0.010K				0.817	0.123
92/01/06	1325		11.0		0.022	0.010K				0.780	0.072
92/02/03	1305		46.0		0.018	0.010K				0.522	0.090
92/03/02	1320		33.0		0.010K	0.010K				0.564	0.099
92/04/06	1320		6.0		0.010K	0.010K				0.024	0.041
92/05/04	1230		75.0		0.081	0.010K				0.276	0.133
92/06/01	1255		6.0		0.026	0.010K				0.076	0.071
92/07/06	1240		15.0		0.037	0.010K				0.268	0.086
92/08/03	1240		149.0		0.116	0.026				0.682	0.181
92/09/08	1300		65.0		0.065	0.010K				0.366	0.123

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	CHROMIUM
FROM	DEPTH	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	CR,DISS
TO	TIME FEET	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
		671	900	902	915	925	930	935	940	945	1030

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	1030 CHROMIUM CR,DISS UG/L
FROM	TO	TIME	FEET								
91/10/07	1425										0.047
91/11/04	1310										0.034
91/12/02	1250										0.044
92/01/06	1325										0.055
92/02/03	1305										0.047
92/03/02	1320										0.045
92/04/06	1320										0.017
92/05/04	1230										0.060
92/06/01	1255										0.066
92/07/06	1240										0.057
92/08/03	1240										0.090
92/09/08	1300										0.069

DATE	DEPTH	1040 COPPER CU,DISS UG/L	1049 LEAD PB,DISS UG/L	1090 ZINC ZN,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	31672 FECSTREP PC M-ENT /100ML	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET						
91/10/07	1425					41		4.1	
91/11/04	1310					92		1.9	
91/12/02	1250					71		15.0	
92/01/06	1325					5		6.0	
92/02/03	1305					80		13.0	
92/03/02	1320					13		13.0	
92/04/06	1320					32		3.2	
92/05/04	1230					350		25.0	
92/06/01	1255					100		3.2	
92/07/06	1240					200		4.5	
92/08/03	1240					640		65.0	
92/09/08	1300					310		28.0	

32B130 1332B130 14016750 541126
 TOUCHET RIVER AT DAYTON
 46 19 07.0 117 58 57.0 2F 0 Elev= 0 ft
 53013 Washington COLUMBIA CO. PACIFIC NORTHWEST
 LOWER COLUMBIA (Walla Walla-32) 131032
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 15-32-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002700 00130
 MILES 0313.50 0016.40 053.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	HCO3 ION
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		HCO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/07	1620	416155	12.2	720	102		100	9.7	95.0	8.00	
91/11/04	1430	456155	6.2	727	53		102	11.8	99.5	7.80	
91/12/02	1430	496155	5.8	729	125		78	11.6	96.5	7.40	
92/01/06	1450	26155	4.1	715	120		90	11.9	96.6	7.70	
92/02/03	1430	66155	5.6		225		86	12.1	101.8	7.50	
92/03/02	1440	106155	7.5	717	230		97	11.3	99.7	7.70	
92/04/06	1440	156155	8.4	726	120		86	12.3	109.4	8.60	
92/05/04	1355	196155	15.1	722	147		77	9.9	103.0	8.10	
92/06/01	1410	236155	18.8	711	74		77	9.2	104.9	7.50	
92/07/06	1405	286155	18.8	716	62		100	9.6	108.6	8.30	
92/08/03	1405	326155	20.4	716	56		89	9.3	108.6	8.30	
92/09/08	1420	376155	15.2	719	62		87	10.5	109.9	8.40	

DATE	DEPTH	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD
FROM	DEPTH	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	PO4		ORTHO	CACO3	CACO3
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L
91/10/07	1620	3.0	0.010K	0.010K		0.083		0.042	0.023		
91/11/04	1430	2.0	0.010K	0.010K		0.110J		0.024	0.027		
91/12/02	1430	4.0	0.010K	0.010K		0.463		0.048	0.029		
92/01/06	1450	1.0	0.011	0.010K		0.290		0.042	0.032		
92/02/03	1430	4.0	0.012	0.010K		0.189		0.040	0.034		
92/03/02	1440	4.0	0.010K	0.010K		0.186		0.043	0.028		
92/04/06	1440	2.0	0.010K	0.010K		0.058		0.038	0.019		
92/05/04	1355	2.0	0.017	0.010K		0.094		0.033	0.023		
92/06/01	1410	4.0	0.020	0.010K		0.212		0.036	0.036		
92/07/06	1405	3.0	0.021	0.010K		0.140		0.028	0.027		
92/08/03	1405	3.0	0.017	0.010K		0.108		0.043	0.039		
92/09/08	1420	3.0	0.020	0.010K		0.070		0.037	0.027		

DATE	DEPTH	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON	IRON
FROM	DEPTH	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS	FE,TOT
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L
915											
925											
930											
935											
940											
945											
950											
955											
1020											
1045											

MORE DATES NEXT PAGE

DATE	DEPTH	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1020 BORON B,DISS UG/L	1045 IRON FE,TOT UG/L
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DATE	DEPTH	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C	82079 TURBIDTY LAB NTU
91/10/07	1620		16		1.0K
91/11/04	1430		29		1.2
91/12/02	1430		29		4.0
92/01/06	1450		30		2.0
92/02/03	1430		2		3.7
92/03/02	1440		7		2.9
92/04/06	1440		1		1.5
92/05/04	1355		30		1.7
92/06/01	1410		22		0.8
92/07/06	1405		34		1.1
92/08/03	1405		28		1.0
92/09/08	1420		41		1.3

33A050 2133A050 541008
 SNAKE RIVER NEAR PASCO
 46 13 00.0 119 01 20.0 2F 0 Elev= 0 ft
 53021 Washington FRANKLIN CO. PACIFIC NORTHWEST
 LOWER SNAKE (Lower Snake-33) 130833
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 26-00-05 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002740
 MILES 0324.30 0002.20

DATE	DEPTH	LAB	WATER	BAROMTRC	WIND	STREAM	TURB	COLOR	CNDUCTVY	DO	DO
FROM	TO	IDENT.	TEMP	PRESSURE	VELOCITY	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR
TO	TIME	NUMBER	CENT	MM OF HG	MPH	CFS	JTU	UNITS	25C UMHO	PERCENT	PERCENT
91/10/07	1250	416152	17.0	752		25000			253	8.0	83.1
91/11/06	0730	456152	11.4	758		22000			282	9.6	87.8
91/12/04	0750	496152	8.2	725		20000			400	11.1	98.6
92/01/15	0905	36017	4.4	765		32600			220	12.1	92.6
92/02/12	0815	76017	4.2	751		23900			340	12.0	93.1
92/03/11	0845	116017	6.1	760		39600			250	11.8	95.0
92/04/15	0745	166017	10.5	753		42600			215	10.7	96.5
92/05/13	0735	206017	12.8	752		50000			116	12.6	119.8
92/06/10	0725	246017	16.4	749		27700			79	9.8	100.9
92/07/15	0730	296017	20.5	755		12000			130	9.4	104.1
92/08/12	0735	336017	21.5	750		9000			180	8.8	100.0
92/09/16	0655	386017	19.1	758		10000			200	8.0	86.0

DATE	DEPTH	COD	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N
FROM	TO	HI LEVEL	SU	MG/L	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/07	1250		8.10					2.0		0.015	0.010K
91/11/06	0730		8.00					3.0		0.010K	0.010K
91/12/04	0750		8.00					3.0		0.010K	0.026
92/01/15	0905		8.00					2.0		0.028	0.010
92/02/12	0815		8.20					21.0		0.041	0.013
92/03/11	0845		8.30					30.0		0.020	0.010K
92/04/15	0745		7.30					22.0		0.011	0.011
92/05/13	0735		7.70					22.0		0.025	0.012
92/06/10	0725		6.90					30.0		0.031	0.028
92/07/15	0730		7.90					30.0		0.037	0.014
92/08/12	0735		8.10					29.0		0.033	0.012
92/09/16	0655		8.00					27.0		0.052	0.010K

DATE	DEPTH	NO2-N	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	SWL	TOT HARD
FROM	TO	TOTAL	TOTAL	N	N-TOTAL	PO4	MG/L P	MG/L P	C	PBI	CACO3
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/07	1250	615	620	625	630	660	665	671	680	760	900

MORE DATES NEXT PAGE

DATE	DEPTH	615 NO2-N TOTAL MG/L	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	760 SWL PBI MG/L	900 TOT HARD CACO3 MG/L
FROM	TO	TIME	FEET								
91/10/07	1250				0.225		0.043	0.029			
91/11/06	0730				0.391J		0.053	0.046			
91/12/04	0750				0.671		0.068	0.051			
92/01/15	0905				1.390		0.103	0.084			
92/02/12	0815				0.874		0.088	0.056			
92/03/11	0845				0.599		0.094	0.052			
92/04/15	0745				0.662		0.091	0.052			
92/05/13	0735				0.948		0.136	0.098			
92/07/15	0730				1.180		0.110	0.060			
92/08/12	0735				1.100		0.141	0.090			
92/09/16	0655				1.200						

DATE	DEPTH	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE, TOT UG/L	1049 LEAD PB,DISS UG/L	1090 ZINC ZN,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG, TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET			
91/10/07	1250					1.6
91/11/06	0730		1K			2.1
91/12/04	0750		1			2.0
92/01/15	0905		25			4.0
92/02/12	0815		23			5.2
92/03/11	0845		9			7.3
92/04/15	0745		190			5.2
92/05/13	0735		45			6.8
92/07/15	0730		37S			6.5
92/08/12	0735		55S			9.6
92/09/16	0655		49			6.2

34A070 7534A070 13351000 541009
 PALOUSE RIVER AT HOOPER
 46 45 33.0 118 08 49.0 2F 0 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 16-34-01 Class= B Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290
 MILES 0324.30 0059.50 019.50

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	COD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	HI LEVEL
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/08	0935	416159	9.5	740	30			382	9.6	86.2	
91/11/05	0825	456159	3.8	737	64			365	12.4	97.0	
91/12/03	0830	496159	3.1	743	157			222	12.6	96.0	
92/01/07	0855	26159	2.5	739	128			269	12.4	93.4	
92/02/04	0835	66159	4.8		538			154	12.3	99.4	
92/03/03	0825	106159	8.6	730	642			175	10.6	94.4	
92/04/07	0830	156159	8.1	740	176			265	11.4	98.9	
92/05/05	0815	196159	16.5	735	164			243	8.0	84.2	
92/06/02	0835	236159	19.7	732	59			288	7.4	83.4	
92/07/07	0840	286159	18.9	734	44			318			
92/08/04	0825	326159	21.3	732	15			312	7.5	87.1	
92/09/09	0835	376159	13.7	741	14			373	8.7	85.6	

DATE	DEPTH	PH	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N
FROM	DEPTH		CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	0935	8.80				64.0		0.079	0.010K		
91/11/05	0825	8.60				8.0		0.010K	0.010K		
91/12/03	0830	7.80				98.0		0.054	0.010K		
92/01/07	0855	8.30				14.0		0.015	0.010K		
92/02/04	0835	7.80				56.0		0.040	0.013		
92/03/03	0825	7.90				64.0		0.024	0.013		
92/04/07	0830	9.10				5.0		0.010K	0.010K		
92/05/05	0815	8.00				289.0		0.231	0.035		
92/06/02	0835	8.50				30.0		0.033	0.010K		
92/07/07	0840	8.50				49.0		0.058	0.010K		
92/08/04	0825	8.90				29.0		0.014	0.010K		
92/09/09	0835	8.60				23.0		0.049	0.010K		

DATE	DEPTH	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	N	N-TOTAL	PO4		ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	0935	625	630	660	665	671	900	902	915	925	930

MORE DATES NEXT PAGE

DATE	FROM	DEPTH	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L
TO	TIME	FEET										
91/10/08	0935			0.335		0.185	0.043					
91/11/05	0825			2.130J		0.419	0.386					
91/12/03	0830			1.760		0.308	0.212					
92/01/07	0855			2.160		0.196	0.150					
92/02/04	0835			2.400		0.188	0.091					
92/03/03	0825			3.020		0.206	0.105					
92/04/07	0830			0.372		0.056	0.018					
92/05/05	0815			0.917		0.251	0.190					
92/06/02	0835			0.106		0.218	0.153					
92/07/07	0840			0.180		0.206	0.135					
92/08/04	0825			0.018		0.142	0.082					
92/09/09	0835			0.097		0.053	0.010K					

DATE	FROM	DEPTH	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1002 ARSENIC AS,TOT UG/L	1020 BORON B,DISS UG/L
TO	TIME	FEET										

DATE	FROM	DEPTH	1025 CADMIUM CD,DISS UG/L	1027 CADMIUM CD,TOT UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1051 LEAD PB,TOT UG/L	1065 NICKEL NI,DISS UG/L
TO	TIME	FEET										

DATE	FROM	DEPTH	1080 STRONTUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	1130 LITHIUM LI,DISS UG/L	31501 TOT COLI MFIMENDO /100ML
TO	TIME	FEET										

DATE	FROM	DEPTH	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31672 FECSTREP PC M-ENT /100ML	70300 RESIDUE DISS-180 C MG/L	70301 DISS SOL SUM MG/L	70302 DISS SOL TONS/DAY	70303 DISS SOL TONS PER ACRE-FT	70337 SUSP SED PARTSIZE %<.002MM
TO	TIME	FEET										

91/10/08	0935						340					
91/11/05	0825						71					
91/12/03	0830						80					
92/01/07	0855						4					
92/03/03	0825						32					
92/04/07	0830						1					
92/05/05	0815						120					
92/06/02	0835						120					

MORE DATES NEXT PAGE

DATE	DEPTH	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31672 FECSTREP PC M-ENT /100ML	70300 RESIDUE DISS-180 C MG/L	70301 DISS SOL SUM MG/L	70302 DISS SOL TONS/DAY	70303 DISS SOL TONS PER ACRE-FT	70337 SUSP SED PARTSIZE %<.002MM
92/07/07	0840				160						
92/08/04	0825				96						
92/09/09	0835				110						

DATE	DEPTH	70338 SUSP SED PARTSIZE %<.004MM	70339 SUSP SED PARTSIZE %<.008MM	70340 SUSP SED PARTSIZE %<.016MM	70341 SUSP SED PARTSIZE %<.031MM	70342 SUSP SED PARTSIZE %<.062MM	70343 SUSP SED PARTSIZE %<.125MM	71851 NITRATE DISS-NO3 MG/L	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	80154 SUSP SED CONC MG/L

DATE	DEPTH	80155 SUSP SED DISCHARG TONS/DAY	82079 TURBIDTY LAB NTU
91/10/08	0935		27.0
91/11/05	0825		5.4
91/12/03	0830		23.0
92/01/07	0855		7.0
92/02/04	0835		27.0
92/03/03	0825		25.0
92/04/07	0830		2.1
92/05/05	0815		150.0
92/06/02	0835		13.0
92/07/07	0840		19.0
92/08/04	0825		14.0
92/09/09	0835		14.0

34A085 7534A085
 PALOUSE RIVER AT SHIELDS ROAD BRIDGE
 46 57 10.0 117 30 12.0 2F000 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach=17060108014 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290
 MILES 0324.30 0059.50 077.80

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-
FROM	TIME	IDENT.	TEMP	PRESSURE	FLOW	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL
TO	FEET	NUMBER	CENT	MM OF HG	CFS	25C UMH0	PERCENT			MG/L	MG/L
91/10/08	1040	416160	8.9	721	18	400	11.7	106.2	9.40	6.0	0.028
91/11/05	0930	456160	3.6	719	35	320	11.8	94.2	8.30	12.0	0.010K
91/12/03	0940	496160	2.2	723	71	175	13.0	99.3	7.80	19.0	0.048
92/01/07	1005	26160	0.3	719	66	212	13.5	98.5	7.90	6.0	0.032
92/02/04	0940	66160	2.0		400	118	12.7	97.8	7.80	22.0	0.032
92/03/03	0935	106160	7.2	711	456	135	10.7	94.5	8.00	15.0	0.016
92/04/07	0955	156160	6.9	721	94	198	12.9	111.7	9.10	2.0	0.010K
92/05/05	0920	196160	16.3	717	100	160	8.6	92.5	8.00	22.0	0.096
92/06/02	0945	236160	19.7	714	39	188	8.2	94.8	9.10	6.0	0.037
92/07/07	1000	286160	19.1	716	30A	176	8.2	93.4	8.80	11.0	0.030
92/08/04	1030	326160	20.5	715	13	228	8.9	104.4	8.40	23.0	0.035
92/09/09	0940	376160	13.2	722	20	358	10.7	107.1	9.60	6.0	0.033

DATE	DEPTH	613	630	665	671	31616	82079
FROM	TIME	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
TO	FEET	DISS	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
		MG/L	MG/L		MG/L P	/100ML	NTU
91/10/08	1040	0.018	3.750	1.170	1.080	40	5.3
91/11/05	0930	0.022	4.130J	0.963	0.960	300	4.7
91/12/03	0940	0.015	3.210	0.351	0.258	34	20.0
92/01/07	1005	0.010K	2.410	0.285	0.254	40	7.0
92/02/04	0940	0.010	1.690	0.126	0.089		18.0
92/03/03	0935	0.011	2.720	0.163	0.110	12	16.0
92/04/07	0955	0.010K	0.749	0.210	0.178	5	1.4
92/05/05	0920	0.032	1.050	0.334	0.298	27	16.0
92/06/02	0945	0.010K	0.072	0.540	0.516	4	3.8
92/07/07	1000	0.010K	0.022	0.463	0.435	53	5.1
92/08/04	1030	0.010K	0.022	0.367	0.319	120	15.0
92/09/09	0940	0.011	0.762	0.426	0.314	1K	2.5

34A170 7534A170 13345300
 PALOUSE RIVER AT PALOUSE
 46 54 37.0 117 04 08.0 2F 0 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 16-34-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002740 00290
 MILES 0324.30 0059.50 121.20

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	PERCENT	SU	CACO3
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT		MG/L
91/10/08	1330	416165	8.1	705	8		125	10.4	94.7	7.90	
91/11/05	1235	456165	2.6	703	17		88	12.0	95.3	7.80	
91/12/03	1230	496165	1.8	708	47		75	13.1	101.1	7.80	
92/01/07	1255	26165	0.8	705	45		113	14.0	105.6	7.80	
92/02/04	1235	66165	1.6		276		53	12.6	97.2	7.90	
92/03/03	1215	106165	6.1	698	353		53	10.7	93.8	8.00	
92/04/07	1310	156165	8.0	704	59		59	11.6	105.6	8.20	
92/05/05	1210	196165	17.4	700	59		68	13.7	154.4	8.20	
92/06/02	1255	236165	22.2	699	22		77	9.5	117.7	8.40	
92/07/07	1305	286165	18.4	702	16		67	9.0	103.2	8.30	
92/08/04	1330	326165	22.6	699	6		79	9.8	122.4	9.20	
92/09/09	1235	376165	13.8	705	7		98	9.5	98.4	8.70	

DATE	DEPTH	HCO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM
FROM	TO	HCO3	TOT-NFLT	N TOTAL	DISS	N-TOTAL	MG/L P	ORTHO	CACO3	CACO3	CA,DISS
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L
91/10/08	1330		1.0K	0.026	0.010K	0.015	0.039	0.020			
91/11/05	1235		3.0	0.013J	0.010K	0.010K	0.047	0.032			
91/12/03	1230		2.0	0.010K	0.010K	0.464	0.058	0.023			
92/01/07	1255		4.0	0.015	0.010K	0.324	0.038	0.018			
92/02/04	1235		13.0	0.014	0.010K	0.324	0.052	0.026			
92/03/03	1215		12.0	0.025	0.010K	0.434	0.065	0.027			
92/04/07	1310		3.0	0.010K	0.010K	0.027	0.043	0.015			
92/05/05	1210		28.0	0.010K	0.010K	0.015	0.078	0.027			
92/06/02	1255		7.0	0.010K	0.010K	0.020	0.010K	0.010K			
92/07/07	1305		4.0	0.016	0.010K	0.010K	0.022	0.023			
92/08/04	1330		4.0	0.015	0.010K	0.010K	0.034	0.035			
92/09/09	1235		6.0	0.023	0.010K	0.015	0.034	0.033			

DATE	DEPTH	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI	TURBIDTY
FROM	TO	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES	MFIM-FCBR	LAB
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML	NTU
		925	930	935	940	945	31504	31616	82079

MORE DATES NEXT PAGE

DATE			925	930	935	940	945	31504	31616	82079
FROM			MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI	TURBIDTY
TO	TIME	DEPTH	MG,DISS	NA,DISS	K,DISS	CL	S04-TOT	MFIM LES	MFM-FCBR	LAB
		FEET	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML	NTU
91/10/08	1330								6	2.9
91/11/05	1235								480J	3.4
91/12/03	1230								23	10.0
92/01/07	1255								7	8.0
92/02/04	1235									13.0
92/03/03	1215								24	13.0
92/04/07	1310								12	3.4
92/05/05	1210								150	15.0
92/06/02	1255								84	2.3
92/07/07	1305								37	2.1
92/08/04	1330								41	2.3
92/09/09	1235								17	1.4

34B110 7534B110 13348000
 SF PALOUSE RIVER AT PULLMAN
 46 43 58.0 117 10 48.0 2F 0 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 16-34-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290 0680
 MILES 0324.30 0059.50 089.60 022.20

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR			CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/08	1135	416161	8.5	709	5		645	10.5	96.3	8.30	
91/11/05	1045	456161	6.2	706	14		388	9.2	80.0	7.80	
91/12/03	1030	496161	3.8	708	12		435	11.5	93.8	7.70	
92/01/07	1100	26161	2.8	706	8		455	12.9	102.7	8.20	
92/02/04	1040	66161	2.9		21		394	11.9	96.0	7.80	
92/03/03	1030	106161	7.4	699	35		372	10.3	93.2	7.80	
92/04/07	1100	156161	6.2	707	9		425	15.8	137.2	8.50	
92/05/05	1020	196161	14.6	703	9		418	10.3	109.1	8.30	
92/06/02	1055	236161	17.9	702	6		493	11.7	133.0	8.60	
92/07/07	1100	286161	16.2	704	5		484	9.3	101.8	8.20	
92/08/04	1145	326161	18.1	701	4		570	12.3	140.5	8.60	
92/09/09	1045	376161	13.2	708	6		560	11.5	117.3	8.30	

DATE	DEPTH	HCO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD
FROM	DEPTH	HCO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	MG/L P	MG/L P	CACO3
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L			MG/L
91/10/08	1135		9.0	4.240	0.076			3.060	5.250	4.550	
91/11/05	1045		27.0	0.292J	0.087			3.580J	1.550	1.490	
91/12/03	1030		12.0	0.115	0.059			8.420	1.320	1.140	
92/01/07	1100		6.0	0.020	0.010K			5.430	1.310	0.232	
92/02/04	1040		20.0	0.499	0.154			6.820	0.861	0.772	
92/03/03	1030		18.0	0.343	0.179			5.940	0.560	0.488	
92/04/07	1100		8.0	0.023	0.025			5.650	1.460	1.390	
92/05/05	1020		5.0	0.059	0.031			3.820	1.450	1.380	
92/06/02	1055		6.0	0.027	0.041			4.820	1.800	1.780	
92/07/07	1100		8.0	0.043	0.014			2.670	1.540	1.620	
92/08/04	1145		3.0	0.027	0.014			3.940	1.790	0.806	
92/09/09	1045		3.0	0.037	0.030			5.160	3.140	0.844	

DATE	DEPTH	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI	FECSTREP
FROM	DEPTH	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES	MFM-FCBR	PC M-ENT
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML	/100ML
		902	915	925	930	935	940	945	31504	31616	31672

MORE DATES NEXT PAGE

DATE		902	915	925	930	935	940	945	31504	31616	31672
FROM	DEPTH	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	TOT COLI	FEC COLI	FECSTREP
TO	TIME FEET	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	MFIM LES	MFM-FCBR	PC M-ENT
		MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML	/100ML	/100ML
91/10/08	1135										650
91/11/05	1045										2900
91/12/03	1030										1500
92/01/07	1100										180S
92/03/03	1030										360
92/04/07	1100										140
92/05/05	1020										240
92/06/02	1055										1000
92/07/07	1100										1100J
92/08/04	1145										430
92/09/09	1045										220

DATE		38260	50066	82079
FROM	DEPTH	MBAS	CHLORINE	TURBIDTY
TO	TIME FEET	MG/L	COMB AVL	LAB
		MG/L	MG/L	NTU
91/10/08	1135			6.2
91/11/05	1045			20.0
91/12/03	1030			10.0
92/01/07	1100			7.0
92/02/04	1040			25.0
92/03/03	1030			18.0
92/04/07	1100			4.6
92/05/05	1020			3.6
92/06/02	1055			2.6
92/07/07	1100			5.5
92/08/04	1145			2.3
92/09/09	1045			2.7

34B140 7534B140
 SF PALOUSE RIVER AT BUSBY
 46 41 28.0 117 09 03.0 2F000 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach=17060108017 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290 0680
 MILES 0324.30 0059.50 089.60 025.80

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/08	1220	416163	8.0	707	371	11.3	102.5	8.30	3.0	7.670	0.093
91/11/05	1120	456163	2.9	705	311	10.7	85.5	7.90	24.0	0.123J	0.015
91/12/03	1115	496163	1.9	709	265	12.3	95.1	7.80	8.0	0.045	0.022
92/01/07	1130	26163	1.5	705	280	12.8	98.5	8.10	8.0	0.026	0.010K
92/02/04	1130	66163	1.7		223	12.3	96.3	7.90	30.0	0.058	0.014
92/03/03	1105	106163	6.6	699	303	10.4	92.2	7.70	34.0	0.030	0.015
92/04/07	1145	156163	5.0	705	268	12.8	108.0	8.20	35.0	0.029	0.010K
92/05/05	1055	196163	15.2	701	267	10.2	109.7	8.50	7.0	0.029	0.010K
92/06/02	1140	236163	19.5	700	330	9.2	108.2	8.50	16.0	0.054	0.013
92/07/07	1150	286163	16.7	703	400	9.2	101.9	8.60	6.0	0.036	0.010K
92/08/04	1220	326163	19.9	699	276	14.2	168.4	9.40	4.0	0.026	0.010K
92/09/09	1120	376163	13.6	707	341	13.0	134.0	9.00	2.0	0.021	0.010K

DATE	DEPTH	630	665	671	31616	82079
FROM	TIME	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
TO	FEET	N-TOTAL	MG/L P	MG/L P	MFM-FCBR	LAB
		MG/L			/100ML	NTU
91/10/08	1220	0.838	9.940	7.120	120	4.1
91/11/05	1120	1.600J	1.400	1.160	1300J	14.5
91/12/03	1115	5.720	0.480	0.370	11	14.0
92/01/07	1130	2.830	0.359	2.060	29	12.0
92/02/04	1130	4.420	0.201	0.136		26.0
92/03/03	1105	4.710	0.225	0.123	69	27.0
92/04/07	1145	1.970	0.186	0.099	110	29.0
92/05/05	1055	0.298	0.228	0.178	210	4.4
92/06/02	1140	0.063	0.356	0.270	2500J	7.0
92/07/07	1150	0.012	0.442	0.417	120	3.6
92/08/04	1220	0.010K	0.622	0.562	1900J	3.7
92/09/09	1120	0.010K		0.208	8	1.7

34C060 7534C060
 PARADISE CREEK AT MOUTH
 46 43 14.0 117 09 47.0 2F000 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach=17060108022 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290 0680 0230
 MILES 0324.30 0059.50 089.60 023.60 000.10

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/08	1150	416162	8.4	708	700	10.2	93.4	8.30	6.0	4.670	0.098
91/11/05	1105	456162	6.8	705	655	9.1	80.5	7.80	34.0	1.050J	0.196
91/12/03	1050	496162	4.9	710	610	10.9	91.3	7.60	4.0	1.260	0.188
92/01/07	1115	26162	4.0	705	580	12.5	102.9	8.20	2.0	0.015	0.010
92/02/04	1110	66162	4.6		585	11.1	93.8	7.80	80.0	0.979	0.398
92/03/03	1050	106162	8.7	699	465	9.6	89.6	7.90	5.0	1.070	0.377
92/04/07	1130	156162	6.6	706	605	13.6	119.5	8.40	3.0	0.231	0.123
92/05/05	1040	196162	15.3	702	570	10.5	113.1	8.40	2.0	0.094	0.163
92/06/02	1110	236162	17.8	701	515	9.4	106.7	8.50	3.0	0.029	0.072
92/07/07	1130	286162	16.0	704	590	8.6	93.8	8.20	4.0	0.029	0.010K
92/08/04	1205	326162	17.6	701		9.1	102.8	8.40	3.0	0.026	0.010K
92/09/09	1105	376162	13.0	708	620	9.7	98.6	8.20	2.0	0.037	0.053

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TIME	N-TOTAL	MG/L P	MG/L P	MFM-FCBR	LAB
TO	FEET	MG/L			/100ML	NTU
91/10/08	1150	3.180	3.990	4.070	5100J	4.7
91/11/05	1105	6.790J	2.680	2.580	25000J	23.5
91/12/03	1050	10.000	2.100	2.010	14	5.0
92/01/07	1115	8.180	2.210	1.250	15	5.0
92/02/04	1110	9.750	1.680	1.640		6.6
92/03/03	1050	8.110	1.280	1.210	23	6.0
92/04/07	1130	7.690	2.300	1.990	8	2.0
92/05/05	1040	5.550	2.440	2.440	110	1.7
92/06/02	1110	5.420	2.680	2.220	360	1.9
92/07/07	1130	5.180	2.070	2.150	220	2.3
92/08/04	1205	4.360	2.070	0.817	270	2.6
92/09/09	1105	7.580	3.110	0.751	40	2.9

34C100 7534C100
 PARADISE CREEK AT IDAHO BORDER
 46 43 57.0 117 02 35.0 2F000 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach=17060108022 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290 0680 0230
 MILES 0324.30 0059.50 089.60 023.60 006.50

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/08	1245	416164	16.8	704	795	0.5	5.5	7.20	4.0	5.330	0.874
91/11/05	1150	456164	8.0	702	309	5.5	50.2	7.60	63.0	1.610J	0.141
91/12/03	1140	496164	10.3	706	590	3.7	35.5	7.20	14.0	3.000	0.326
92/01/07	1205	26164	8.8	703	540	3.2	29.8	7.50	9.0	1.750	0.372
92/02/04	1155	66164	10.2		590	4.6	44.8	7.20	23.0	3.700	0.295
92/03/03	1135	106164	11.3	696	500	6.1	60.7	7.40	23.0	2.420	0.212
92/04/07	1225	156164	12.2	702	650	5.2	52.4	7.50	10.0	2.870	0.372
92/05/05	1120	196164	18.0	698	610	3.4	38.9	7.50	10.0	4.410	0.496
92/06/02	1205	236164	19.4	725	548	4.0	45.3	7.60	15.0	2.330	0.589
92/07/07	1220	286164	18.4	699	552	2.8	32.3	7.60	30.0	1.910	0.743
92/08/04	1250	326164	20.4	697	580	4.9	59.0	7.60	21.0	0.829	0.839
92/09/09	1150	376164	19.2	704	730	2.0	23.3	7.50	5.0	3.490	1.030

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TIME	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
TO	FEET	MG/L		MG/L P	/100ML	NTU
91/10/08	1245	9.490	4.540	4.360	440	6.8
91/11/05	1150	2.990J	1.500	1.070	580	31.5
91/12/03	1140	12.200	2.960	2.670	8K	11.0
92/01/07	1205	9.400	3.180	2.940	2	10.0
92/02/04	1155	8.390	2.320	2.070		15.0
92/03/03	1135	8.380	1.670	1.420	52	18.0
92/04/07	1225	9.780	3.000	2.770	9	5.3
92/05/05	1120	9.490	3.380	3.100	57X	5.2
92/06/02	1205	7.920	3.280	2.450	4100J	8.1
92/07/07	1220	7.970	3.140	2.790	1300J	15.0
92/08/04	1250	5.550	2.070	0.845	470	6.3
92/09/09	1150	9.850	4.100	0.846	140	4.7

34E070 7534E070
 ROCK CREEK AT REVERE
 47 04 22.0 117 55 59.0 2F000 Elev= 0 ft
 53075 Washington Whitman Co. PACIFIC NORTHWEST
 LOWER SNAKE (Palouse-34) 130834
 21540000 Reach=17060109003 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00290 0630
 MILES 0324.30 0059.50 041.00 015.10

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	CNDUCTVY LAB @	DO	DO SATUR	PH	RESIDUE	NH3+NH4-N	NO2-N
FROM TO	TIME FEET	NUMBER	CENT	MM OF HG	25C UMHO	MG/L	PERCENT	SU	TOT-NFLT MG/L	N TOTAL MG/L	DISS MG/L
91/10/08	1500	416166	14.7	725	475	10.4	107.0	8.70	18.0	0.040	0.010K
91/11/05	1415	456166	3.8	722	391	14.0	111.9	8.70	3.0	0.010K	0.045
91/12/03	1400	496166	3.3	727	367	15.1	118.3	8.80	7.0	0.016	0.010K
92/01/07	1430	26166	2.4	726	345	14.9	114.0	8.80	19.0	0.027	0.010K
92/02/04	1405	66166	4.5	282	282	12.5	102.2	8.40	47.0	0.041	0.010K
92/03/03	1340	106166	6.9	716	272	10.7	93.2	7.70	58.0	0.024	0.010K
92/04/07	1430	156166	8.4	723	248	12.4	111.0	8.60	26.0	0.022	0.010K
92/05/05	1335	196166	19.7	692	262	12.6	150.4	9.40	60.0	0.048	0.012
92/06/02	1420	236166	22.7	716	287	11.3	137.9	8.80	40.0	0.019	0.013
92/07/07	1445	286166	21.9	718	338	9.2	110.3	8.70	30.0	0.044	0.010K

DATE	DEPTH	N02+N03	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM TO	TIME FEET	N-TOTAL	MG/L P	ORTHO	MFM-FCBR	LAB
		MG/L	MG/L P	MG/L P	/100ML	NTU
91/10/08	1500	0.018	0.081	0.010K	23	12.0
91/11/05	1415	1.360J	0.045	0.027	28	30.0
91/12/03	1400	1.870	0.104	0.075	3	4.0
92/01/07	1430	1.390	0.114	0.010K	4	10.0
92/02/04	1405	2.470	0.137	0.067		21.0
92/03/03	1340	2.640	0.165	0.085	16	21.0
92/04/07	1430	1.960	0.087	0.034	4	7.1
92/05/05	1335	0.554	0.127	0.010K	23	22.0
92/06/02	1420	0.143	0.140	0.023	390J	19.0
92/07/07	1445	0.017	0.083	0.041	150	12.0

35A150 0335A150 13335300 541132
 SNAKE RIVER AT INTERSTATE BRIDGE
 46 25 15.0 117 02 05.0 2F 0 Elev= 0 ft
 53003 Washington Asotin Co. PACIFIC NORTHWEST
 LOWER SNAKE (Middle Snake-35) 130835
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 26-00-05 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002740
 MILES 0324.30 0139.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/08	0645	416157	15.9	752	17000			425	9.2	93.5	8.40
91/11/04	1605	456157	8.8	750	139003			390	10.9	94.9	8.20
91/12/02	1605	496157	5.7	753	15500			332	12.0	96.5	8.20
92/01/06	1620	26157	4.1	739	15200			394	12.3	96.7	8.10
92/02/03	1605	66157	4.1					386	12.7	99.6	8.20
92/03/02	1625	106157	6.4	739	22400			325	11.8	98.4	7.80
92/04/06	1620	156157	10.4	749	21200			238	10.6	95.9	8.20
92/05/04	1540	196157	13.0	741	43900			211	10.6	102.7	8.40
92/06/01	1550	236157	17.4	730	22200			142	9.2	99.3	8.10
92/07/06	1615	286157	18.3	737	26900			280	9.1	99.1	8.20
92/08/03	1545	326157	23.7	734	10600			285	8.1	98.1	8.40
92/09/08	1640	376157	18.0	740	9410			322	8.9	96.0	8.20

DATE	DEPTH	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	T P04	ORTHOPO4
FROM	DEPTH	CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	P04	P04
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	0645				2.0	0.010K	0.010K		0.633		
91/11/04	1605				2.0	0.010K	0.010K		0.734J		
91/12/02	1605				4.0	0.010K	0.010K		0.832		
92/01/06	1620				3.0	0.032	0.013		1.030		
92/02/03	1605				6.0	0.010K	0.010K		1.050		
92/03/02	1625				6.0	0.016	0.010K		0.860		
92/04/06	1620				4.0	0.010K	0.010K		0.535		
92/05/04	1540				13.0	0.021	0.010K		0.415		
92/06/01	1550				3.0	0.010K	0.010K		0.180		
92/07/06	1615				16.0	0.026	0.010K		0.408		
92/08/03	1545				4.0	0.020	0.010K		0.256		
92/09/08	1640				5.0	0.031	0.010K		0.250		

DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	SODIUM	PERCENT	PTSSIUM
FROM	DEPTH	ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	ADSBTION	SODIUM	%	K,DISS
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	RATIO		MG/L
91/10/08	0645	665	671	900	902	915	925	930	931	932	935

MORE DATES NEXT PAGE

DATE FROM TO	DEPTH TIME FEET	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSSIUM K,DISS MG/L
91/10/08	0645	0.085	0.068								
91/11/04	1605	0.064	0.044								
91/12/02	1605	0.074	0.053								
92/01/06	1620	0.072	0.055								
92/02/03	1605	0.044	0.040								
92/03/02	1625	0.065	0.040								
92/04/06	1620	0.046	0.024								
92/05/04	1540	0.035	0.013								
92/06/01	1550	0.023	0.016								
92/07/06	1615	0.029	0.023								
92/08/03	1545	0.042	0.034								
92/09/08	1640	0.050	0.035								

DATE FROM TO	DEPTH TIME FEET	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1020 BORON B,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1080 STRONTIUM SR,DISS UG/L
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DATE FROM TO	DEPTH TIME FEET	1090 ZINC ZN,DISS UG/L	1130 LITHIUM LI,DISS UG/L	31503 TOT COLI MFDLEND /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	70303 DISS SOL TONS PER ACRE-FT	71851 NITRATE DISS-NO3 MG/L	82079 TURBIDITY LAB NTU
91/10/08	0645						5				1.2
91/11/04	1605						1K				1.1
91/12/02	1605						3				2.0
92/01/06	1620						1				2.0
92/02/03	1605						1K				1.7
92/03/02	1625						3				4.5
92/04/06	1620						14				2.0
92/05/04	1540						5				2.8
92/06/01	1550						12				0.7
92/07/06	1615						19				4.0
92/08/03	1545						1K				1.6
92/09/08	1640						1				1.2

35B060 1335B060 13344520
 TUCANNON RIVER AT POWERS
 46 32 18.0 118 09 18.0 2F 0 Elev= 0 ft
 53013 Washington COLUMBIA CO. PACIFIC NORTHWEST
 LOWER SNAKE (Middle Snake-35) 130835
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 17-35-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002740 00320
 MILES 0324.30 0062.50 002.30

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	340	400
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	HI LEVEL	COD	PH
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	SU
91/10/08	0830	416158	9.4	755	76		158	10.4	91.1		8.00
91/11/05	0710	456158	7.9	751	90		149	10.6	90.1		7.90
91/12/03	0735	496158	6.3	757	130		122	11.7	94.9		8.10
92/01/07	0740	26158	5.0	753	92		152	12.1	95.5		7.60
92/02/04	0735	66158	4.0		140		122	12.5	97.3		7.50
92/03/03	0730	106158	8.8	744	180		148	10.8	94.8		7.70
92/04/07	0730	156158	7.2	755	125		139	11.6	96.5		7.90
92/05/05	0720	196158	12.7	749	140		149	10.0	95.2		8.20
92/06/02	0740	236158	16.7	748	60		129	9.3	96.5		8.10
92/07/07	0735	286158	16.6	750	47		148	9.5	98.2		8.20
92/08/04	0725	326158	16.8	746	34		187	9.3	97.0		8.20
92/09/09	0740	376158	13.6	755	58		157	9.6	92.5		7.90

DATE	DEPTH	T ALK	HCO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	TO	CACO3	HCO3	TOT-NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	0830			14.0		0.024	0.010K				0.243
91/11/05	0710			78.0		0.010K	0.010K				0.213J
91/12/03	0735			52.0		0.018	0.010K				0.320
92/01/07	0740			20.0		0.030	0.010K				0.352
92/02/04	0735			59.0		0.010K	0.010K				0.274
92/03/03	0730			52.0		0.014	0.010K				0.279
92/04/07	0730			20.0		0.010K	0.010K				0.094
92/05/05	0720			97.0		0.026	0.010K				0.121
92/06/02	0740			24.0		0.014	0.010K				0.165
92/07/07	0735			18.0		0.018	0.010K				0.166
92/08/04	0725			7.0		0.017	0.010K				0.223
92/09/09	0740			11.0		0.018	0.010K				0.150

DATE	DEPTH	665	671	900	902	915	925	930	935	940	945
FROM	TO	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT
TO	TIME FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

			665	671	900	902	915	925	930	935	940	945
DATE			PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	CHLORIDE	SULFATE
FROM	DEPTH		ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	
TO	TIME	FEET	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	0830		0.050	0.034								
91/11/05	0710		0.088	0.046								
91/12/03	0735		0.097	0.043								
92/01/07	0740		0.067	0.047								
92/02/04	0735		0.057	0.039								
92/03/03	0730		0.098	0.038								
92/04/07	0730		0.055	0.019								
92/05/05	0720		0.097	0.037								
92/06/02	0740		0.015	0.035								
92/07/07	0735		0.032	0.026								
92/08/04	0725		0.046	0.041								
92/09/09	0740		0.034	0.020								

			1000	1005	1025	1030	1040	1045	1049	1065	1075	1090
DATE			ARSENIC	BARIUM	CADMIUM	CHROMIUM	COPPER	IRON	LEAD	NICKEL	SILVER	ZINC
FROM	DEPTH		AS,DISS	BA,DISS	CD,DISS	CR,DISS	CU,DISS	FE,TOT	PB,DISS	NI,DISS	AG,DISS	ZN,DISS
TO	TIME	FEET	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

			1105	1145	31504	31616	31672	71900	82079
DATE			ALUMINUM	SELENIUM	TOT COLI	FEC COLI	FECSTREP	MERCURY	TURBIDTY
FROM	DEPTH		AL,TOT	SE,DISS	MFIM LES	MFM-FCBR	PC M-ENT	HG,TOTAL	LAB
TO	TIME	FEET	UG/L	UG/L	/100ML	/100ML	/100ML	UG/L	NTU
91/10/08	0830					12			1.5
91/11/05	0710					190J			5.7
91/12/03	0735					84			8.0
92/01/07	0740					29			4.0
92/02/04	0735								5.5
92/03/03	0730					45			10.0
92/04/07	0730					65			1.4
92/05/05	0720					180			8.9
92/06/02	0740					170			2.2
92/07/07	0735					150			3.2
92/08/04	0725					280			2.1
92/09/09	0740					100			2.0

37A090 0537A090 12510500
 YAKIMA RIVER AT KIONA
 46 15 13.0 119 28 37.0 2F 0 Elev= 0 ft
 53005 Washington Benton Co. PACIFIC NORTHWEST
 YAKIMA (Lower Yakima-37) 130437
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-37-01 Class= B Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002750
 MILES 0335.20 0029.80

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	BOD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	5 DAY
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/07	1035	416150	13.0	752	1320			297	11.0	105.1	
91/11/06	0825	456150	7.4	756	2100			285	11.2	93.5	
91/12/04	0840	496150	5.6	727	2800			220	12.0	99.7	
92/01/15	1025	36016	3.5	762	1970			260	13.1	98.3	
92/02/12	0940	76016	6.0	747	31280			172	11.5	93.8	
92/03/11	0945	116016	8.7	756	4010			135	11.1	95.6	
92/04/15	0845	166016	13.3	750	2240			190	9.8	94.4	
92/05/13	0835	206016	15.1	750	1510			202	9.2	92.1	
92/06/10	0815	246016	20.2	745				250	7.6	84.9	
92/07/15	0815	296016	21.2	751	1090			257	7.7	87.0	
92/08/12	0840	336016	22.3	747	1150			261	7.4	85.9	
92/09/16	0745	386016	13.6	756	1630			267	9.8	94.2	

DATE	DEPTH	COD	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N	
FROM	DEPTH	HI LEVEL			CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS	
TO	TIME	FEET	MG/L	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	
91/10/07	1035		340	400	405	410	440	445	530	605	610	613
91/11/06	0825											
91/12/04	0840											
92/01/15	1025											
92/02/12	0940											
92/03/11	0945											
92/04/15	0845											
92/05/13	0835											
92/06/10	0815											
92/07/15	0815											
92/08/12	0840											
92/09/16	0745											

DATE	DEPTH	NO2-N	NO3-N	NO3-N	TOT KJEL	NO2+NO3	T P04	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C
FROM	DEPTH	TOTAL	DISS	TOTAL	N	N-TOTAL	P04	P04	P04	ORTHO	C
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L
91/10/07	1035	615	618	620	625	630	650	660	665	671	680
91/11/06	0825										
91/12/04	0840										
92/01/15	1025										
92/02/12	0940										
92/03/11	0945										
92/04/15	0845										
92/05/13	0835										
92/06/10	0815										
92/07/15	0815										
92/08/12	0840										
92/09/16	0745										

MORE DATES NEXT PAGE

DATE	DEPTH	615 NO2-N TOTAL MG/L	618 NO3-N DISS MG/L	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	650 T PO4 PO4 MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L
FROM	DEPTH	TOTAL	DISS	TOTAL	N	N-TOTAL	PO4	PO4	MG/L P	ORTHO	C
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L
91/10/07	1035					1.280			0.123	0.086	
91/11/06	0825					1.390J			0.103	0.071	
91/12/04	0840					1.240			0.089	0.061	
92/01/15	1025					0.602			0.048	0.037	
92/02/12	0940					0.919			0.058	0.043	
92/03/11	0945					0.947			0.048	0.034	
92/04/15	0845					0.558			0.033	0.017	
92/05/13	0835					0.246			0.023	0.013	
92/07/15	0815					0.111			0.017	0.010K	
92/08/12	0840					0.157			0.032	0.019	
92/09/16	0745					0.155			0.035	0.034	

DATE	DEPTH	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	931 SODIUM ADSBTION RATIO	932 PERCENT SODIUM %	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
FROM	DEPTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	ADSBTION	SODIUM	K,DISS	CL	SO4-TOT
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	RATIO	%	MG/L	MG/L	MG/L

DATE	DEPTH	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1027 CADMIUM CD,TOT UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L
FROM	DEPTH	F,DISS	DISOLVED	AS,DISS	BA,DISS	B,DISS	CD,DISS	CD,TOT	CR,DISS	CR,TOT	CU,DISS
TO	TIME FEET	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

DATE	DEPTH	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1051 LEAD PB,TOT UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1080 STRONTIUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1105 ALUMINUM AL,TOT UG/L
FROM	DEPTH	CU,TOT	FE,TOT	PB,DISS	PB,TOT	NI,DISS	AG,DISS	SR,DISS	ZN,DISS	ZN,TOT	AL,TOT
TO	TIME FEET	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

DATE	DEPTH	1130 LITHIUM LI,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31503 TOT COLI MFDLEND /100ML	31504 TOT COLI MFIM LES /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	31672 FECSTREP PC M-ENT /100ML	33410 Unknown Par Name
FROM	DEPTH	LI,DISS	SE,DISS	MFIMENDO	MFDLEND	MFIM LES	MPN COMP	MFM-FCBR	M-FCAGAD	PC M-ENT	Par Name
TO	TIME FEET	UG/L	UG/L	/100ML	/100ML	/100ML	/100ML	/100ML	/100 ML	/100ML	Par Name

91/10/07	1035							37			
91/11/06	0825							73			
91/12/04	0840							40			
92/01/15	1025							2			
92/02/12	0940							1K			
92/03/11	0945							1			
92/04/15	0845							1K			
92/05/13	0835							1			
92/07/15	0815							2			

MORE DATES NEXT PAGE

37A190 7737A190 12503950
 YAKIMA RIVER AT PARKER
 46 30 22.0 120 27 07.0 2F 0 Elev= 0 ft
 53077 Washington Yakima Co. PACIFIC NORTHWEST
 YAKIMA (Lower Yakima-37) 130437
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-37-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 002750
 MILES 0335.20 0104.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	MG/L	SATUR	SU	CACO3
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	PERCENT			MG/L
91/10/16	0815	426010	11.8	729	409		125	9.8	94.1	7.50	
91/11/06	0945	456010	6.7	743	1330		150	11.9	99.4	8.10	
91/12/04	1010	496010	5.0	727	1710		130	12.6	103.1	8.10	
92/01/15	1145	36010	2.4	746	1130		142	13.6	101.3	7.80	
92/02/12	1055	76010	4.4	734	2260		115	12.4	98.9	7.60	
92/03/11	1120	116010	6.5	740	3490		115	12.7	105.9	8.00	
92/04/15	1020	166010	11.3	736	358		102	11.7	109.9	8.10	
92/05/13	0950	206010	10.6	735	485		80	11.8	109.3	7.70	
92/06/10	0935	246010	13.9	733	296		86	10.6	105.9	8.10	
92/07/15	0935	296010	16.8	738	262		94	10.2	107.6	8.00	
92/08/12	1000	336010	19.7	733	292		111	9.8	110.2	8.20	
92/09/16	0900	386010	12.9	744	714		110	10.3	99.2	7.80	

DATE	DEPTH	HCO3 ION	RESIDUE	RESIDUE	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	TO	HCO3	TOT-NFLT	VOL NFLT	N	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/16	0815		14.0			0.018	0.010K				0.266
91/11/06	0945		18.0			0.051	0.010K				0.362J
91/12/04	1010		9.0			0.071	0.010K				0.281
92/01/15	1145		2.0			0.062	0.010K				0.452
92/02/12	1055		6.0			0.049	0.010K				0.205
92/03/11	1120		10.0			0.039	0.010K				0.134
92/04/15	1020		10.0			0.016	0.010K				0.115
92/05/13	0950		16.0			0.010K	0.010K				0.093
92/06/10	0935		16.0			0.025	0.012				0.122
92/07/15	0935		17.0			0.017	0.010K				0.151
92/08/12	1000		10.0			0.012	0.010K				0.131
92/09/16	0900		18.0			0.030	0.010K				0.141

DATE	DEPTH	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE
FROM	TO	MG/L P	MG/L P	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT
TO	TIME	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/16	0815										
91/11/06	0945										
91/12/04	1010										
92/01/15	1145										
92/02/12	1055										
92/03/11	1120										
92/04/15	1020										
92/05/13	0950										
92/06/10	0935										
92/07/15	0935										
92/08/12	1000										
92/09/16	0900										

MORE DATES NEXT PAGE

DATE	DEPTH	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L
FROM	TO	TIME	FEET								
91/10/16	0815		0.056		0.033						
91/11/06	0945		0.010K		0.054						
91/12/04	1010		0.078		0.054						
92/01/15	1145		0.069		0.047						
92/02/12	1055		0.041		0.029						
92/03/11	1120		0.041		0.026						
92/04/15	1020		0.050		0.028						
92/05/13	0950		0.041		0.025						
92/06/10	0935		0.041		0.027						
92/07/15	0935		0.034		0.019						
92/08/12	1000		0.038		0.026						
92/09/16	0900		0.042		0.019						

DATE	DEPTH	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1049 LEAD PB,DISS UG/L	1090 ZINC ZN,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	31672 FECSTREP PC M-ENT /100ML	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET							
91/10/16	0815						120			3.7
91/11/06	0945						120			3.2
91/12/04	1010						240			2.5
92/01/15	1145						32			3.0
92/02/12	1055						22			2.2
92/03/11	1120						10			4.0
92/04/15	1020						35			3.3
92/05/13	0950						56			3.2
92/06/10	0935						47			2.3
92/07/15	0935						130			4.0
92/08/12	1000						61			3.2
92/09/16	0900						130S			3.4

37E070 7737E070 12500440
 WIDE HOLLOW CREEK AT UNION GAP
 46 33 01.0 120 28 48.0 2F 0 Elev= 0 ft
 53077 Washington Yakima Co. PACIFIC NORTHWEST
 YAKIMA (Lower Yakima-37) 130437
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-37-03 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750 00970
 MILES 0335.20 0107.40 001.50

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR		CACO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/16	0845	426011	12.3	733			379	8.3	80.2	7.40	
91/11/06	1010	456011	11.0	741			450	9.7	90.0	7.90	
91/12/04	1035	496011	10.1	726			475	10.6	98.3	7.80	
92/01/15	1230	36011	8.6	744			460	11.8	103.2	7.80	
92/02/12	1150	76011	8.9	731			360	10.9	97.6	7.80	
92/03/11	1155	116011	11.8	738			405	14.9	141.4	8.50	
92/04/15	1045	166011	11.9	734			195	10.9	104.1	7.90	
92/05/13	1015	206011	11.4	733			195	12.7	120.2	8.20	
92/06/10	1000	246011	15.8	730			249	11.1	116.0	7.90	
92/07/15	1000	296011	16.0	736			305	10.5	109.3	7.80	
92/08/12	1030	336011	17.8	732			329	8.9	96.6	7.70	
92/09/16	0940	386011	13.2	741			250	9.3	90.5	7.80	

DATE	DEPTH	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT COLI	FEC COLI
FROM	DEPTH	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	MG/L P	ORTHO	MFIM LES	MFM-FCBR
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L		MG/L P	/100ML	/100ML
91/10/16	0845	5.0	0.014	0.010K			1.900	0.159	0.153		450J
91/11/06	1010	2.0	0.010K	0.013			2.140J	0.188	0.172		340
91/12/04	1035	6.0	0.014	0.010K			2.380	0.210	0.190		180
92/01/15	1230	2.0	0.021	0.010K			2.540	0.209	0.196		370
92/02/12	1150	22.0	0.016	0.010K			2.300	0.200	0.180		360
92/03/11	1155	4.0	0.013	0.010K			2.120	0.171	0.159		430
92/04/15	1045	35.0	0.013	0.010K			0.607	0.089	0.050		140
92/05/13	1015	13.0	0.010K	0.010K			0.722	0.072	0.053		540
92/06/10	1000	4.0	0.012	0.013			1.080	0.093	0.080		930
92/07/15	1000	8.0	0.010K	0.010K			1.170	0.114	0.099		360
92/08/12	1030	2.0	0.010K	0.010K			1.390	0.135	0.124		570
92/09/16	0940	9.0	0.025	0.010K			0.838	0.105	0.084		1400

DATE	DEPTH	FECSTREP	TURBIDTY
FROM	DEPTH	PC M-ENT	LAB
TO	TIME FEET	/100ML	NTU
		31672	82079

MORE DATES NEXT PAGE

DATE		31672	82079
FROM	DEPTH	FECSTREP	TURBIDTY
TO	TIME	PC M-ENT	LAB
	FEET	/100ML	NTU
91/10/16	0845		1.6
91/11/06	1010		1.0
91/12/04	1035		1.3
92/01/15	1230		1.0
92/02/12	1150		2.8
92/03/11	1155		1.5
92/04/15	1045		6.4
92/05/13	1015		3.2
92/06/10	1000		1.3
92/07/15	1000		1.5
92/08/12	1030		1.7
92/09/16	0940		1.3

38A050 7738A050 12498700 541124
 NACHES R AT YAKIMA ON US HWY 97
 46 37 48.0 120 30 20.0 2F 0 Elev= 0 ft
 53077 Washington Yakima Co. PACIFIC NORTHWEST
 YAKIMA (Naches-38) 130438
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-38-07 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750 01110
 MILES 0335.20 0116.30 000.10

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	SU
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO		PERCENT	
91/10/16	0930	426012	11.5	723	1270			65	10.2	98.0	7.70
91/11/06	1040	456012	6.3	737	492			91	12.3	102.5	8.00
91/12/04	1110	496012	4.6	728	595			89	13.8	111.6	8.60
92/01/15	1310	36012	2.4	740	377			93	14.2	106.5	7.80
92/02/12	1245	76012	4.7	728	963			128	12.4	100.5	7.70
92/03/11	1250	116012	7.9	732	370			110	12.7	110.8	8.30
92/04/15	1120	166012	10.0	731	970			86	12.8	117.6	8.90
92/05/13	1050	206012	9.4	728	1820			50	12.5	113.6	8.60
92/06/10	1035	246012	15.9	726	343			70	10.4	109.3	8.40
92/07/15	1035	296012	16.9	731	307			98	10.6	113.0	8.70
92/08/12	1120	336012	19.3	729	282			100	10.6	119.0	8.80
92/09/16	1015	386012	13.4	738	1900			75	10.4	102.0	7.80

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	T P04	ORTHOPO4	PHOS-TOT
FROM	TO	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	P04	PO4	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/16	0930			6.0	0.010K	0.010K		0.088			0.020
91/11/06	1040			23.0	0.038J	0.010K		0.159J			0.047
91/12/04	1110			4.0	0.010K	0.010K		0.087			0.023
92/01/15	1310			1.0	0.011	0.010K		0.176			0.030
92/02/12	1245			7.0	0.014	0.010K		0.221			0.040
92/03/11	1250			9.0	0.016	0.012		0.147			0.040
92/04/15	1120			4.0	0.010K	0.010K		0.010K			0.018
92/05/13	1050			5.0	0.010K	0.010K		0.010K			0.010
92/06/10	1035			4.0	0.012	0.010K		0.065			0.015
92/07/15	1035			5.0	0.010	0.010K		0.053			0.010K
92/08/12	1120			4.0	0.010K	0.010K		0.034			0.014
92/09/16	1015			15.0	0.018	0.010K		0.044			0.023

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	TO	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/16	0930										
91/11/06	1040										
91/12/04	1110										
92/01/15	1310										
92/02/12	1245										
92/03/11	1250										
92/04/15	1120										
92/05/13	1050										
92/06/10	1035										
92/07/15	1035										
92/08/12	1120										
92/09/16	1015										

MORE DATES NEXT PAGE

DATE		671	900	902	915	925	930	935	940	945	950
FROM	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	CHLORIDE	SULFATE	FLUORIDE
TO	TIME FEET	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
		MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/16	0930	0.014									
91/11/06	1040	0.016									
91/12/04	1110	0.010									
92/01/15	1310	0.014									
92/02/12	1245	0.028									
92/03/11	1250	0.029									
92/04/15	1120	0.010K									
92/05/13	1050	0.010K									
92/06/10	1035	0.017									
92/07/15	1035	0.010K									
92/08/12	1120	0.010K									
92/09/16	1015	0.010K									

DATE		955	1020	1045	31505	31616	70300	82079
FROM	DEPTH	SILICA	BORON	IRON	TOT COLI	FEC COLI	RESIDUE	TURBIDTY
TO	TIME FEET	DISOLVED	B,DISS	FE,TOT	MPN CONF	MFM-FCBR	DISS-180	LAB
		MG/L	UG/L	UG/L	/100ML	/100ML	C MG/L	NTU
91/10/16	0930					9		3.5
91/11/06	1040					66		27.0
91/12/04	1110					11		1.8
92/01/15	1310					12		2.0
92/02/12	1245					12		2.5
92/03/11	1250					5		3.1
92/04/15	1120					3		1.8
92/05/13	1050					9		1.9
92/06/10	1035					9		1.0
92/07/15	1035					16		1.5
92/08/12	1120					19		1.1
92/09/16	1015					5		5.7

38B070 7738B070 12493000 541011
 TIETON RIVER AT OAK CREEK
 46 43 35.0 120 48 36.0 2F 0 Elev= 0 ft
 53077 Washington Yakima Co. PACIFIC NORTHWEST
 YAKIMA (Naches-38) 130438
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-38-07 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750 01110 0450
 MILES 0335.20 0116.30 017.50 002.10

DATE	DEPTH	LAB IDENT.	WATER TEMP	BAROMTRC PRESSURE	STREAM FLOW	TURB JKSJN	COLOR PT-CO	CNDUCTVY LAB @	DO	DO	PH
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU
91/10/16	1015	426013	12.0	709	1080			64	9.7	96.2	7.60
91/11/06	1130	456013	6.0	718	67			90	11.9	101.0	8.00
91/12/04	1330	496013	3.8	711	33			102	12.6	102.1	7.80
92/01/15	1510	36013	2.2	721	98			75	13.3	101.9	7.50
92/02/12	1500	76013	4.3	712	44			78	12.1	99.3	7.60
92/03/11	1510	116013	8.9	713	68			105	11.0	100.9	8.00
92/04/15	1335	166013	9.8	715	216			80	10.7	100.0	7.90
92/05/13	1140	206013	10.0	712	327			65	10.8	101.9	7.90
92/06/10	1140	246013	17.6	711	19			80	9.7	108.0	8.60
92/07/15	1115	296013	12.7	716	328			67	10.3	102.7	8.10
92/08/12	1210	336013	14.8	713	317			65	9.7	101.5	8.10
92/09/16	1055	386013	14.6	722	1814			67	9.6	98.9	7.80

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	T PO4	ORTHOPO4	PHOS-TOT
TO	TIME	MG/L	MG/L	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	MG/L	MG/L	MG/L P
91/10/16	1015			8.0	0.017	0.010K		0.040			0.023
91/11/06	1130			3.0	0.010K	0.010K		0.010K			0.010K
91/12/04	1330			6.0	0.010K	0.010K		0.010K			0.023
92/01/15	1510			1.0K	0.011	0.010K		0.053			0.025
92/02/12	1500			2.0	0.010K	0.010K		0.010K			0.024
92/03/11	1510			5.0	0.011	0.010K		0.012			0.039
92/04/15	1335			5.0	0.010K	0.010K		0.010K			0.020
92/05/13	1140			9.0	0.010K	0.010K		0.010K			0.017
92/06/10	1140			1.0	0.010K	0.010K		0.010K			0.012
92/07/15	1115			4.0	0.010K	0.010K		0.010K			0.014
92/08/12	1210			5.0	0.010K	0.010K		0.010K			0.012
92/09/16	1055			17.0	0.018	0.010K		0.010K			0.020

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
TO	TIME	MG/L P	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
		671	900	902	915	925	930	935	940	945	950
		ORTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
		MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L
91/10/16	1015	0.010K									
91/11/06	1130	0.010K									
91/12/04	1330	0.010K									
92/01/15	1510	0.010K									
92/02/12	1500	0.013									
92/03/11	1510	0.032									
92/04/15	1335	0.010K									
92/05/13	1140	0.010K									
92/06/10	1140	0.015									
92/07/15	1115	0.010K									
92/08/12	1210	0.010K									
92/09/16	1055	0.010K									

DATE	DEPTH	955 SILICA DISOLVED MG/L	1020 BORON B,DISS UG/L	1045 IRON FE,TOT UG/L	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	82079 TURBIDTY LAB NTU
91/10/16	1015					1K	5.4	
91/11/06	1130					1K	5.4	
91/12/04	1330					1K	2.5	
92/01/15	1510					1K	4.0	
92/02/12	1500					3	3.0	
92/03/11	1510					1K	4.1	
92/04/15	1335					1	3.0	
92/05/13	1140					3	5.2	
92/06/10	1140					4	1.0	
92/07/15	1115					4	2.3	
92/08/12	1210					1	3.0	
92/09/16	1055					2	7.6	

38F070 7738F070 12487200 541122
 LITTLE NACHES RIVER NR CLIFFDELL
 46 59 22.0 121 05 47.0 2F 0 Elev= 0 ft
 53077 Washington Yakima Co. PACIFIC NORTHWEST
 YAKIMA (Naches-38) 130438
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-38-07 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750 01110 0700
 MILES 0335.20 0116.30 044.60 000.20

DATE	DEPTH	LAB	WATER	BAROMTRC	TURB	COLOR	CNDUCTVY	DO	DO	PH	HCO3 ION
FROM	DEPTH	IDENT.	TEMP	PRESSURE	JKSN	PT-CO	LAB @		SATUR		HCO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/16	1105	426014	6.8	692			67	11.1	99.8	7.60	
91/11/06	1230	456014	2.4	698			54	12.3	97.8	7.80	
91/12/04	1240	496014	2.9	694			54	12.8	103.8	8.10	
92/01/15	1420	36014	1.3	701			63	13.1	100.7	7.50	
92/02/12	1400	76014	3.0	694			55	12.0	97.6	7.30	
92/03/11	1410	116014	3.9	696			60	11.9	98.8	7.80	
92/04/15	1230	166014	5.7	696			56	11.4	99.1	8.10	
92/05/13	1230	206014	7.1	693			45	11.2	101.2	7.80	
92/06/10	1230	246014	13.3	693			57	9.7	101.2	8.10	
92/07/15	1205	296014	14.2	697			72	9.7	102.6	7.90	
92/08/12	1300	336014	18.2	695			78	8.9	102.7	8.40	
92/09/16	1145	386014	10.5	701			76	10.5	101.8	8.00	

DATE	DEPTH	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	T PO4	ORTHOPO4	PHOS-TOT	PHOS-DIS
FROM	DEPTH	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	PO4	PO4	MG/L P	ORTHO
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P
91/10/16	1105		1.0K	0.010K	0.010K		0.010K			0.028	0.024
91/11/06	1230		3.0	0.010K	0.010K		0.081J			0.022	0.023
91/12/04	1240		2.0	0.024	0.010K		0.010K			0.027	0.015
92/01/15	1420		1.0	0.010	0.010K		0.010K			0.031	0.016
92/02/12	1400		4.0	0.010K	0.010K		0.010K			0.022	0.010K
92/03/11	1410		2.0	0.010K	0.010K		0.010K			0.026	0.020
92/04/15	1230		1.0	0.010K	0.010K		0.010K			0.023	0.018
92/05/13	1230		2.0	0.010K	0.010K		0.010K			0.020	0.016
92/06/10	1230		1.0	0.010K	0.010K		0.010K			0.023	0.023
92/07/15	1205		1.0	0.010K	0.010K		0.010K			0.020	0.012
92/08/12	1300		1.0	0.010K	0.010K		0.010K			0.028	0.019
92/09/16	1145		1.0	0.010	0.010K		0.010K			0.020	0.015

DATE	DEPTH	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA
FROM	DEPTH	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
900											
902											
915											
925											
930											
935											
940											
945											
950											
955											

MORE DATES NEXT PAGE

DATE	DEPTH	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L
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DATE	DEPTH	1020 BORON B,DISS UG/L	1045 IRON FE,TOT UG/L	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	82079 TURBIDTY LAB NTU
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91/10/16	1105					1	1.0K
91/11/06	1230					28	2.5
91/12/04	1240					1	2.0
92/01/15	1420					1	2.0
92/02/12	1400					1K	2.7
92/03/11	1410					1K	2.6
92/04/15	1230					1	1.3
92/05/13	1230					1K	1.0
92/06/10	1230					1	0.5
92/07/15	1205					13	1.0
92/08/12	1300					2	1.2
92/09/16	1145					1K	0.5

39A090 3739A090 12477600
 YAKIMA RIVER NEAR CLE ELUM
 47 11 10.0 121 02 30.0 2F 0 Elev= 0 ft
 53037 Washington Kittitas Co. PACIFIC NORTHWEST
 YAKIMA (Upper Yakima-39) 130439
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-39-05 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750
 MILES 0335.20 0191.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	PH	T ALK
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR	SU	CACO3
TO	TIME	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT		MG/L
91/10/14	0910	426000	9.6	720	230		69	9.8	90.5	7.30	
91/11/04	0855	456000	4.4	713	187		57	11.8	96.9	7.30	
91/12/02	0845	496000	4.6	711	338		78	11.5	95.2	7.10	
92/01/13	0955	36000	2.7	714	183		74	12.8	100.4	7.20	
92/02/10	1025	76000	3.7	704	255		65	12.1	98.8	6.80	
92/03/09	1000	116000	4.3	712	398		57	12.2	100.0	7.30	
92/04/13	0910	166000	5.7	708	670		65	11.1	94.8	7.20	
92/05/11	0845	206000	5.9	708	262		49	11.3	97.1	7.50	
92/06/08	0835	246000	11.6	708	226		45	10.0	98.3	7.40	
92/07/13	0905	296000	16.3	707	897		45	8.8	95.9	7.40	
92/08/10	0850	336000	16.3	719	1200		36	9.0	96.4	7.50	
92/09/14	0840	386000	10.3	711	150		46	9.4	89.3	7.00	

DATE	DEPTH	HCO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	PHOS-TOT	PHOS-DIS
FROM	TO	HCO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	MG/L P	ORTHO
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L		MG/L P
91/10/14	0910		1.0	0.010	0.010K				0.028	0.016	0.010K
91/11/04	0855		2.0	0.010K	0.010K				0.010K	0.010K	0.010K
91/12/02	0845		4.0	0.010K	0.010K				0.056	0.014	0.010K
92/01/13	0955		1.0	0.010K	0.010K				0.048	0.012	0.010K
92/02/10	1025		2.0	0.010K	0.010K				0.028	0.010K	0.010K
92/03/09	1000		1.0	0.014	0.010K				0.011	0.013	0.010K
92/04/13	0910		5.0	0.010	0.010K				0.055	0.014	0.010K
92/05/11	0845		1.0	0.010K	0.010K				0.010K	0.010K	0.010K
92/06/08	0835		6.0	0.012	0.010K				0.010K	0.010K	0.010K
92/07/13	0905		4.0	0.010K	0.010K				0.010K	0.010K	0.010K
92/08/10	0850		3.0	0.010K	0.010K				0.010K	0.010K	0.010K
92/09/14	0840		3.0	0.010K	0.010K				0.010K	0.010K	0.010K

DATE	DEPTH	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	SILICA	TOT COLI
FROM	TO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	DISOLVED	MFIM LES
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	/100ML
900											
902											
915											
925											
930											
935											
940											
945											
955											
31504											

MORE DATES NEXT PAGE

DATE	DEPTH	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	955 SILICA DISOLVED MG/L	31504 TOT COLI MFIM LES /100ML
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DATE	DEPTH	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	82079 TURBIDTY LAB NTU
91/10/14	0910	9		1.0K
91/11/04	0855	7		1.2
91/12/02	0845	3		2.2
92/01/13	0955	2		1.0
92/02/10	1025	1		0.5
92/03/09	1000	1K		1.1
92/04/13	0910	5		1.6
92/05/11	0845	4		0.5
92/06/08	0835	13		1.1
92/07/13	0905	43		1.4
92/08/10	0850	29		1.3
92/09/14	0840	3		1.0

39B090 3739B090
 CLE ELUM RIVER NEAR ROSLYN
 47 11 28.0 121 00 56.0 2F000 Elev= 0 ft
 53037 Washington Kittitas Co. PACIFIC NORTHWEST
 YAKIMA (Upper Yakima-39) 130439
 21540000 Reach=17030001033 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 002750 02340
 MILES 0355.20 0185.60 001.90

DATE	FROM	TO	DEPTH	FEET	LAB	WATER	BAROMTRC	STREAM	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-
FROM	TO	TIME	FEET	NUMBER	TEMP	PRESSURE	FLOW	LAB @	25C	UMHO	MG/L	SATUR	TOT-NFLT	N TOTAL
TO	TIME	FEET	NUMBER	CENT	MM OF HG	CFS	UMHO	PERCENT	SU	MG/L	PERCENT	SU	MG/L	MG/L
91/10/14	0935			426001	10.6	721	209	45	10.0	94.4	7.70	1.0K	0.010K	
91/11/04	0920			456001	7.4	713	115	54	11.1	98.2	7.30	1.0K	0.010K	
91/12/02	0910			496001	5.5	711	118	52	11.9	100.8	7.70	2.0	0.010K	
92/01/13	1050			36001	3.8	714	108	52	13.0	104.9	7.60	2.0	0.010K	
92/02/10	1055			76001	4.3	705	105	77	12.3	101.9	6.90	2.0	0.010K	
92/03/09	1030			116001	4.2	713	105	62	12.8	104.6	7.60	1.0	0.011	
92/04/13	0935			166001	6.3	710	600	48	11.3	97.8	7.50	2.0	0.053	
92/05/11	0905			206001	9.4	708	1470	40	10.9	101.9	7.60	1.0	0.010K	
92/06/08	0850			246001	9.0	708	3045	35	11.0	101.9	7.40	2.0	0.010K	
92/07/13	0920			296001	14.9	708	2320	41	9.6	101.5	7.50	2.0	0.010K	
92/08/10	0910			336001	17.2	722	2090	42	8.9	96.7	7.60	1.0	0.010K	
92/09/14	0855			386001	10.7	711	198	58	10.0	95.9	7.50	2.0	0.010K	

DATE	FROM	TO	DEPTH	FEET	NO2-N	NO2+NO3	PHOS-TOT	PHOS-DIS	FEC COLI	TURBIDTY
FROM	TO	TIME	FEET	MG/L	N-TOTAL	MG/L P	MG/L P	MFM-FCBR	/100ML	LAB
TO	TIME	FEET	MG/L	MG/L	MG/L P	MG/L P	/100ML	NTU	NTU	NTU
91/10/14	0935			0.010K	0.010K	0.012	0.010K	1K	1.0K	
91/11/04	0920			0.010K	0.010K	0.010K	0.010K	1K	1.0K	
91/12/02	0910			0.010K	0.010K	0.012	0.010K	1K	1.2	
92/01/13	1050			0.010K	0.016	0.012	0.010K	1K	1.0	
92/02/10	1055			0.010K	0.017	0.010K	0.010K	4	0.3	
92/03/09	1030			0.010K	0.020	0.010K	0.010K	1K	0.6	
92/04/13	0935			0.010K	0.025	0.010	0.010K	1K	1.5	
92/05/11	0905			0.010K	0.010K	0.010K	0.010K	1K	0.5	
92/06/08	0850			0.010K	0.023	0.010K	0.010K	1K	0.5	
92/07/13	0920			0.010K	0.010K	0.010K	0.010K	1K	1.9	
92/08/10	0910			0.010K	0.012	0.010K	0.010K	1	1.2	
92/09/14	0855			0.010K	0.010K	0.010K	0.010K	2	0.8	

39D070 3739D070 12480600 541120
 TEANAWAY RIVER NEAR CLE ELUM
 47 10 08.0 120 50 00.0 2F 0 Elev= 0 ft
 53037 Washington Kittitas Co. PACIFIC NORTHWEST
 YAKIMA (Upper Yakima-39) 130439
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 18-39-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 002750 02180
 MILES 0335.20 0176.10 000.10

DATE	DEPTH	LAB	WATER	BAROMTRC	TURB	COLOR	CNDUCTVY	DO	DO	PH	HCO3 ION
FROM	DEPTH	IDENT.	TEMP	PRESSURE	JKSN	PT-CO	LAB @	SATUR			HCO3
TO	TIME FEET	NUMBER	CENT	MM OF HG	JTU	UNITS	25C UMHO	MG/L	PERCENT	SU	MG/L
91/10/14	1025	426002	7.7	725			142	11.4	100.0	8.10	440
91/11/04	0940	456002	4.1	717			125	12.2	98.8	8.00	
91/12/02	0940	496002	3.3	716			96	12.7	100.9	7.80	
92/01/13	1130	36002	0.7	718			110	13.9	102.6	8.00	
92/02/10	1135	76002	3.5	707			111	12.1	97.9	7.30	
92/03/09	1120	116002	3.3	716			85	12.8	101.6	7.80	
92/04/13	1005	166002	5.6	714			100	11.8	99.8	7.60	
92/05/11	0935	206002	5.6	713			83	12.0	101.6	7.90	
92/06/08	0930	246002	13.5	711			108	10.1	103.2	7.60	
92/07/13	0950	296002	15.6	711			148	9.9	105.7	8.20	
92/08/10	0945	336002	14.8	722			170	9.7	100.3	8.10	
92/09/14	0920	386002	10.9	715			165	10.3	98.8	7.90	

DATE	DEPTH	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD
FROM	DEPTH	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	N-TOTAL	PO4		ORTHO	CACO3
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L
91/10/14	1025		1.0	0.010K	0.010K		0.010K		0.018	0.010K	900
91/11/04	0940		1.0	0.010K	0.010K		0.010K		0.010K	0.010K	
91/12/02	0940		4.0	0.010K	0.010K		0.010K		0.018	0.010K	
92/01/13	1130		1.0	0.010K	0.010K		0.024		0.012	0.014	
92/02/10	1135		3.0	0.010K	0.010K		0.042		0.013	0.010K	
92/03/09	1120		2.0	0.011	0.010K		0.020		0.015	0.010K	
92/04/13	1005		3.0	0.036	0.010K		0.011		0.013	0.010K	
92/05/11	0935		4.0	0.010K	0.010K		0.010K		0.010K	0.010K	
92/06/08	0930		2.0	0.010K	0.010K		0.021		0.010K	0.012	
92/07/13	0950		2.0	0.010K	0.010K		0.010		0.010K	0.010K	
92/08/10	0945		1.0	0.010K	0.010K		0.010		0.010K	0.010K	
92/09/14	0920		3.0	0.011	0.010K		0.010K		0.010K	0.010K	

DATE	DEPTH	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON
FROM	DEPTH	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L
902											
915											
925											
930											
935											
940											
945											
950											
955											

MORE DATES NEXT PAGE

			902	915	925	930	935	940	945	950	955	1020
DATE			NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE	SILICA	BORON
FROM	DEPTH		CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS	DISOLVED	B,DISS
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L

			1045	31505	31616	70300	82079
DATE			IRON	TOT COLI	FEC COLI	RESIDUE	TURBIDTY
FROM	DEPTH		FE,TOT	MPN CONF	MFM-FCBR	DISS-180	LAB
TO	TIME	FEET	UG/L	/100ML	/100ML	C MG/L	NTU
91/10/14	1025				16		1.0K
91/11/04	0940				2		1.0K
91/12/02	0940				6		2.1
92/01/13	1130				1K		1.0
92/02/10	1135				1		3.4
92/03/09	1120				1K		2.5
92/04/13	1005				1		1.2
92/05/11	0935				1		1.7
92/06/08	0930				39		0.5
92/07/13	0950				36		1.0
92/08/10	0945				55		1.0
92/09/14	0920				14		1.0

45A070 0745A070 12462520 541017
 WENATCHEE RIVER AT WENATCHEE
 47 27 32.0 120 20 07.0 2F 0 Elev= 0 ft
 53007 Washington Chelan Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Wenatchee-45) 130545
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 21-45-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 003550
 MILES 0468.40 0001.10

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	BOD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	5 DAY
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO		PERCENT	MG/L
91/10/14	1320	426004	10.5	751	566			80	12.3	111.1	
91/11/04	1220	456004	4.2	749	533			85	14.3	111.2	
91/12/02	1215	496004	3.7	748	820			55	14.1	108.3	
92/01/13	1445	36004	1.6	752	834			73	15.0	108.4	
92/02/10	1440	76004	4.3	736	1990			57	12.6	99.9	
92/03/09	1445	116004	6.3	744	2140			62	12.7	104.8	
92/04/13	1245	166004	8.0	742	2640			50	13.0	112.2	
92/05/11	1220	206004	7.8	741	5760			107	11.9	102.3	
92/06/08	1225	246004	14.0	734	4550			28	10.2	101.9	
92/07/13	1240	296004	18.4	736	1360			47	10.0	109.2	
92/08/10	1230	336004	18.0	747	686			62	10.1	107.8	
92/09/14	1205	386004	12.7	742	417			82	11.3	108.6	

DATE	DEPTH	LAB	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	ORG N	NH3+NH4-	NO2-N
FROM	DEPTH	HI LEVEL	SU	MG/L	CACO3	HCO3	CO3	TOT-NFLT	N	N TOTAL	DISS
TO	TIME FEET	MG/L		MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/14	1320	340	8.30					2.0		0.010K	0.010K
91/11/04	1220	400	8.00					1.0		0.010K	0.010K
91/12/02	1215	405	7.70					3.0		0.010K	0.010K
92/01/13	1445	410	8.10					1.0K		0.010K	0.010K
92/02/10	1440	440	6.80					3.0		0.010K	0.010K
92/03/09	1445	445	7.80					3.0		0.016	0.010K
92/04/13	1245	530	8.10					2.0		0.010K	0.010K
92/05/11	1220	590	7.20					7.0		0.010K	0.010K
92/06/08	1225	605	7.30					6.0		0.010K	0.010K
92/07/13	1240	610	7.70					3.0		0.010K	0.010K
92/08/10	1230	615	8.00					1.0		0.010K	0.010K
92/09/14	1205	620	7.70					5.0		0.014	0.010K

DATE	DEPTH	LAB	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4	MG/L P	MG/L P	CACO3	CACO3	CA, DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L
91/10/14	1320	615								
91/11/04	1220	620								
91/12/02	1215	625								
92/01/13	1445	630								
92/02/10	1440	660								
92/03/09	1445	665								
92/04/13	1245	671								
92/05/11	1220	900								
92/06/08	1225	902								
92/07/13	1240	915								
92/08/10	1230									
92/09/14	1205									

MORE DATES NEXT PAGE

DATE	DEPTH	615 NO2-N TOTAL MG/L	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/14	1320				0.243		0.020	0.010K			
91/11/04	1220				0.240J		0.010K	0.010K			
91/12/02	1215				0.145		0.019	0.010K			
92/01/13	1445				0.191		0.012	0.010K			
92/02/10	1440				0.088		0.010K	0.010K			
92/03/09	1445				0.087		0.013	0.010K			
92/04/13	1245				0.047		0.012	0.010K			
92/05/11	1220				0.077		0.010K	0.010K			
92/06/08	1225				0.059		0.010K	0.010K			
92/07/13	1240				0.113		0.010K	0.010K			
92/08/10	1230				0.218		0.010K	0.010K			
92/09/14	1205				0.297		0.010K	0.010K			

DATE	DEPTH	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML
FROM	TO	TIME	FEET								

DATE	DEPTH	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET				
91/10/14	1320			6			1.0K
91/11/04	1220			1K			1.0K
91/12/02	1215			7X			1.0K
92/01/13	1445			1K			1.0
92/02/10	1440			120			0.5
92/03/09	1445			1K			1.1
92/04/13	1245			1			1.3
92/05/11	1220			6			1.5
92/06/08	1225			4			0.6
92/07/13	1240			18			1.1
92/08/10	1230			14			1.1
92/09/14	1205			17X			0.6

45A110 0745A110 12457800 541115
 WENATCHEE RIVER NEAR LEAVENWORTH
 47 40 35.0 120 44 00.0 2F 0 Elev= 0 ft
 53007 Washington Chelan Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Wenatchee-45) 130545
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 21-45-01 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 003550
 MILES 0468.40 0035.60

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	SU
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO		PERCENT	
91/10/14	1200	426003	8.6	726	341			39	11.0	98.4	8.10
91/11/04	1125	456003	3.4	719	354			36	12.5	99.1	8.00
91/12/02	1115	496003	4.2	719	779			31	12.3	99.6	8.00
92/01/13	1330	36003	1.8	723	565			32	13.5	102.0	7.40
92/02/10	1315	76003	3.5	711	1340			40	12.1	97.3	6.60
92/03/09	1305	116003	4.7	718	1600			25	12.4	101.9	7.40
92/04/13	1130	166003	6.0	718	1960			35	11.5	97.6	7.80
92/05/11	1115	206003	6.0	715	4600			29	11.9	101.5	7.80
92/06/08	1125	246003	12.0	713	3490			20	10.2	100.6	7.80
92/07/13	1125	296003	15.5	713	1100			31	9.4	99.8	7.80
92/08/10	1115	336003	17.2	724	600			32	9.2	99.7	7.70
92/09/14	1105	386003	10.9	718	377			37			7.90

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT
FROM	TO	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/14	1200			1.0	0.010K	0.010K			0.010K		0.014
91/11/04	1125			1.0K	0.010K	0.010K			0.010K		0.010K
91/12/02	1115			2.0	0.010K	0.010K			0.036		0.010K
92/01/13	1330			1.0	0.010K	0.010K			0.048		0.010K
92/02/10	1315			3.0	0.010K	0.010K			0.055		0.010K
92/03/09	1305			3.0	0.010	0.010K			0.050		0.010K
92/04/13	1130			2.0	0.010K	0.010K			0.059		0.011
92/05/11	1115			4.0	0.010K	0.010K			0.064		0.010K
92/06/08	1125			6.0	0.014	0.010K			0.036		0.010K
92/07/13	1125			2.0	0.010K	0.010K			0.010K		0.010K
92/08/10	1115			1.0	0.010K	0.010K			0.010K		0.010K
92/09/14	1105			2.0	0.010K	0.010K			0.010K		0.010K

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	TO	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/14	1200										
91/11/04	1125										
91/12/02	1115										
92/01/13	1330										
92/02/10	1315										
92/03/09	1305										
92/04/13	1130										
92/05/11	1115										
92/06/08	1125										
92/07/13	1125										
92/08/10	1115										
92/09/14	1105										

MORE DATES NEXT PAGE

			671	900	902	915	925	930	935	940	945	950
DATE	DEPTH		PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	TO	FEET	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
			MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/14	1200		0.010K									
91/11/04	1125		0.010K									
91/12/02	1115		0.010K									
92/01/13	1330		0.010K									
92/02/10	1315		0.010K									
92/03/09	1305		0.010K									
92/04/13	1130		0.010K									
92/05/11	1115		0.010K									
92/06/08	1125		0.010K									
92/07/13	1125		0.010K									
92/08/10	1115		0.010K									
92/09/14	1105		0.010K									

			955	1020	1045	31505	31616	70300	82079
DATE	DEPTH		SILICA	BORON	IRON	TOT COLI	FEC COLI	RESIDUE	TURBIDTY
FROM	TO	FEET	DISOLVED	B,DISS	FE,TOT	MPN CONF	MFM-FCBR	DISS-180	LAB
			MG/L	UG/L	UG/L	/100ML	/100ML	C MG/L	NTU
91/10/14	1200						1		1.0K
91/11/04	1125						1		1.0K
91/12/02	1115						3		1.0K
92/01/13	1330						1K		1.0
92/02/10	1315						1K		0.3
92/03/09	1305						1K		1.0
92/04/13	1130						1K		0.9
92/05/11	1115						1		1.2
92/06/08	1125						2		0.7
92/07/13	1125						2		1.4
92/08/10	1115						2		1.0
92/09/14	1105						1K		0.6

48A070 4748A070 12449954 541020
 METHOW RIVER NEAR PATEROS
 48 04 29.0 119 57 20.0 2F 0 Elev= 0 ft
 53047 Washington Okanogan Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Methow-48) 130548
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 22-48-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 004810
 MILES 0523.90 0005.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	BOD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	5 DAY
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/15	1045	426008	8.8	738	372			300	11.5	101.7	
91/11/05	1020	456008	4.6	739	363			159	12.8	102.0	
91/12/03	1035	496008	0.7	743	363			151	14.2	101.3	
92/01/14	1115	36008	0.8	750	323			160	14.3	101.3	
92/02/11	1155	76008	5.0	737	334			172	12.4	100.1	
92/03/10	1120	116008	6.3	743	650			148	12.1	100.0	
92/04/14	1020	166008	8.5	742	1280			115	11.5	100.4	
92/05/12	1030	206008	7.6	738	3340			68	11.9	102.2	
92/06/09	0950	246008	13.4	727	2400			74	10.1	100.7	
92/07/14	0950	296008	15.2	735	1150			105	10.0	102.4	
92/08/11	1000	336008	17.8	741	571			135	9.4	100.8	
92/09/15	1010	386008	10.7	741	311			167	11.0	101.3	

DATE	DEPTH	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N
FROM	DEPTH			CACO3	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL
TO	TIME FEET	SU	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/15	1045	8.00					1.0	0.010K	0.010K		
91/11/05	1020	8.20					1.0	0.010K	0.010K		
91/12/03	1035	8.10					2.0	0.010K	0.010K		
92/01/14	1115	8.30					1.0K	0.010K	0.010K		
92/02/11	1155	8.10					4.0	0.010K	0.010K		
92/03/10	1120	8.00					3.0	0.010	0.010K		
92/04/14	1020	8.20					3.0	0.010K	0.010K		
92/05/12	1030	7.70					9.0	0.010K	0.010K		
92/06/09	0950	8.10					3.0	0.010K	0.010K		
92/07/14	0950	8.00					3.0	0.010K	0.010K		
92/08/11	1000	8.30					1.0	0.010K	0.010K		
92/09/15	1010	8.40					4.0	0.016	0.010K		

DATE	DEPTH	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	N	N-TOTAL	PO4	MG/L P	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L
		625	630	660	665	671	900	902	915	925	930

MORE DATES NEXT PAGE

DATE	DEPTH	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/15	1045		0.170		0.010K	0.010K					
91/11/05	1020		0.192J		0.010K	0.010K					
91/12/03	1035		0.229		0.010K	0.010K					
92/01/14	1115		0.234		0.014	0.010K					
92/02/11	1155		0.173		0.010K	0.010K					
92/03/10	1120		0.122		0.010K	0.010K					
92/04/14	1020		0.059		0.010K	0.010K					
92/05/12	1030		0.041		0.010K	0.010K					
92/06/09	0950		0.032		0.010K	0.010K					
92/07/14	0950		0.054		0.010K	0.010K					
92/08/11	1000		0.110		0.010K	0.010K					
92/09/15	1010		0.216		0.010K	0.010K					

DATE	DEPTH	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L
FROM	TO	TIME	FEET								
91/10/15	1045										1K
91/11/05	1020										1K
91/12/03	1035										1K
92/01/14	1115										1K
92/02/11	1155										1K
92/03/10	1120										1K
92/04/14	1020										2
92/05/12	1030										9
92/06/09	0950										5
92/07/14	0950										8
92/08/11	1000										5
92/09/15	1010										3

DATE	DEPTH	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET
91/10/15	1045		1.0K
91/11/05	1020		1.0K
91/12/03	1035		1.0K

MORE DATES NEXT PAGE

DATE		71900	82079
FROM	DEPTH	MERCURY	TURBIDTY
TO	TIME FEET	HG,TOTAL	LAB
		UG/L	NTU
92/01/14	1115		1.0
92/02/11	1155		0.4
92/03/10	1120		0.7
92/04/14	1020		1.0
92/05/12	1030		1.0
92/06/09	0950		0.5
92/07/14	0950		1.0
92/08/11	1000		1.2
92/09/15	1010		0.6

49A070 4749A070 12447200
 OKANOGAN RIVER AT MALOTT
 48 16 53.0 119 42 12.0 2F 0 Elev= 0 ft
 53047 Washington Okanogan Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Okanogan-49) 130549
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 22-49-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 004930
 MILES 0533.50 0017.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	BOD	PH
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @		SATUR	5 DAY	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	SU
91/10/15	0950	426007	11.2	742	918		275	9.7	90.3		7.90
91/11/05	0925	456007	3.2	741	946		269	12.5	95.8		7.90
91/12/03	0940	496007	1.2	744	1060		239	13.3	96.2		8.00
92/01/14	1015	36007	1.0	752	946		270	13.7	97.5		8.30
92/02/11	1000	76007	3.3	739	1260		230	12.3	94.7		7.80
92/03/10	1010	116007	7.5	746	1500		230	11.0	93.3		8.10
92/04/14	0920	166007	9.5	742	2570		164	10.4	93.0		8.00
92/05/12	0915	206007	10.2	740	5860		86	10.7	97.4		7.80
92/06/09	0855	246007	18.4	730	2620		121	8.5	93.6		7.90
92/07/14	0855	296007	20.1	738	2020		164	8.2	92.3		8.00
92/08/11	0900	336007	21.4	744	974		221	7.8	89.3		8.00
92/09/15	0920	386007	13.1	743	724		270	9.5	92.1		8.50

DATE	DEPTH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	TOTAL N	ORG N	NH3+NH4-	NO2-N	NO2-N
FROM	DEPTH	CACO3	CACO3	HCO3	CO3	TOT-NFLT	N	N	N TOTAL	DISS	TOTAL
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/15	0950					6.0			0.010K	0.010K	
91/11/05	0925					3.0			0.010K	0.010K	
91/12/03	0940					4.0			0.010K	0.010K	
92/01/14	1015					1.0K			0.010K	0.010K	
92/02/11	1000					8.0			0.010K	0.010K	
92/03/10	1010					12.0			0.014	0.010K	
92/04/14	0920					7.0			0.010K	0.010K	
92/05/12	0915					34.0			0.012	0.010K	
92/06/09	0855					17.0			0.010K	0.010K	
92/07/14	0855					10.0			0.010K	0.010K	
92/08/11	0900					3.0			0.010K	0.010K	
92/09/15	0920					23.0			0.019	0.010K	

DATE	DEPTH	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD	CALCIUM
FROM	DEPTH	TOTAL	N	N-TOTAL	PO4	MG/L P	ORTHO	C	CACO3	CACO3	CA,DISS
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L
91/10/15	0950										
91/11/05	0925										
91/12/03	0940										
92/01/14	1015										
92/02/11	1000										
92/03/10	1010										
92/04/14	0920										
92/05/12	0915										
92/06/09	0855										
92/07/14	0855										
92/08/11	0900										
92/09/15	0920										

MORE DATES NEXT PAGE

DATE	DEPTH	620 NO3-N TOTAL MG/L	625 TOT KJEL N MG/L	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L
FROM	TO	TIME	FEET								
91/10/15	0950			0.042		0.018	0.010K				
91/11/05	0925			0.074J		0.010K	0.010K				
91/12/03	0940			0.075		0.018	0.010K				
92/01/14	1015			0.099		0.020	0.010K				
92/02/11	1000			0.054		0.018	0.010K				
92/03/10	1010			0.039		0.025	0.010K				
92/04/14	0920			0.011		0.021	0.010K				
92/05/12	0915			0.015		0.037	0.010K				
92/06/09	0855			0.010		0.015	0.010K				
92/07/14	0855			0.010K		0.010K	0.010K				
92/08/11	0900			0.018		0.011	0.010K				
92/09/15	0920			0.022		0.011	0.010K				

DATE	DEPTH	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1034 CHROMIUM CR,TOT UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1092 ZINC ZN,TOT UG/L	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31507 TOT COLI MPN COMP /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	70300 RESIDUE DISS-180 C MG/L	71851 NITRATE DISS-NO3 MG/L
FROM	TO	TIME	FEET								

91/10/15	0950									19	
91/11/05	0925									16	
91/12/03	0940									6	
92/01/14	1015									3	
92/02/11	1000									2	
92/03/10	1010									7	
92/04/14	0920									9	
92/05/12	0915									28	
92/06/09	0855									29	
92/07/14	0855									28	
92/08/11	0900									57	
92/09/15	0920									49	

DATE	DEPTH	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET

DATE		71900	82079
FROM	DEPTH	MERCURY	TURBIDTY
TO	TIME FEET	HG, TOTAL	LAB
		UG/L	NTU
91/10/15	0950		1.1
91/11/05	0925		1.1
91/12/03	0940		1.0
92/01/14	1015		2.0
92/02/11	1000		1.5
92/03/10	1010		1.6
92/04/14	0920		3.4
92/05/12	0915		7.4
92/06/09	0855		2.9
92/07/14	0855		2.2
92/08/11	0900		1.5
92/09/15	0920		0.9

49B070 4749B070 12443600 541022
 SIMILKAMEEN RIVER AT OROVILLE
 48 56 05.0 119 26 27.0 2F 0 Elev= 0 ft
 53047 Washington Okanogan Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Okanogan-49) 130549
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 22-49-02 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 004930 00590
 MILES 0533.50 0074.10 005.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
FROM	TO	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @	MG/L	SATUR	SU
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	PERCENT		
91/10/15	0750	426006	10.0	741	520			200	10.7	97.0	7.80
91/11/05	0730	456006	2.7	739	560			195	13.4	101.5	7.80
91/12/03	0745	496006	2.0	740	740			180	13.7	101.7	8.00
92/01/14	0800	36006	1.3	748	600			200	14.1	101.6	8.20
92/02/11	0800	76006	2.7	735	890			170	13.0	99.0	7.60
92/03/10	0820	116006	5.6	744	1150			165	12.6	102.2	8.10
92/04/14	0730	166006	8.3	742	2450			138	11.8	102.6	7.40
92/05/12	0730	206006	8.7	737	5450			86	12.4	109.6	7.90
92/06/09	0720	246006	16.6	728	2550			101	9.7	103.3	7.80
92/07/14	0720	296006	17.6	736	1720			129	9.6	103.2	8.10
92/08/11	0725	336006	19.1	745	920			150	9.0	98.5	7.90
92/09/15	0730	386006	11.6	742	350			189	10.4	97.6	8.20

DATE	DEPTH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	NO2+NO3	ORTHOPO4	PHOS-TOT
FROM	TO	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N-TOTAL	PO4	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/15	0750			1.0	0.010K	0.010K			0.010K		0.016
91/11/05	0730			1.0	0.010K	0.010K			0.044J		0.010K
91/12/03	0745			1.0	0.010K	0.010K			0.026		0.016
92/01/14	0800			1.0K	0.013	0.010K			0.046		0.010K
92/02/11	0800			4.0	0.010K	0.010K			0.040		0.010K
92/03/10	0820			6.0	0.012	0.010K			0.020		0.010K
92/04/14	0730			11.0	0.010K	0.010K			0.010K		0.016
92/05/12	0730			25.0	0.010K	0.010K			0.010K		0.014
92/06/09	0720			10.0	0.010K	0.010K			0.010K		0.010K
92/07/14	0720			5.0	0.010K	0.010K			0.010K		0.010K
92/08/11	0725			2.0	0.010K	0.010K			0.010K		0.010K
92/09/15	0730			4.0	0.010	0.010K			0.010K		0.010K

DATE	DEPTH	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSSIUM	CHLORIDE	SULFATE	FLUORIDE
FROM	TO	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS	CL	SO4-TOT	F,DISS
TO	TIME	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
		671	900	902	915	925	930	935	940	945	950

MORE DATES NEXT PAGE

DATE	DEPTH	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L
91/10/15	0750										
91/11/05	0730	0.010K									
91/12/03	0745	0.010K									
92/01/14	0800	0.010K									
92/02/11	0800	0.010K									
92/03/10	0820	0.010K									
92/04/14	0730	0.010K									
92/05/12	0730	0.010K									
92/06/09	0720	0.010K									
92/07/14	0720	0.010K									
92/08/11	0725	0.010K									
92/09/15	0730	0.010K									

DATE	DEPTH	955 SILICA DISOLVED MG/L	1020 BORON B,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1090 ZINC ZN,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML
91/10/15	0750										1
91/11/05	0730										2
91/12/03	0745										1
92/01/14	0800										1K
92/02/11	0800										1K
92/03/10	0820										1K
92/04/14	0730										1K
92/05/12	0730										6
92/06/09	0720										14
92/07/14	0720										28
92/08/11	0725										8
92/09/15	0730										5

DATE	DEPTH	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
91/10/15	0750			1.0K
91/11/05	0730			1.0K
91/12/03	0745			1.0K
92/01/14	0800			1.0
92/02/11	0800			1.2
92/03/10	0820			1.4
92/04/14	0730			2.4
92/05/12	0730			4.5
92/06/09	0720			2.0
92/07/14	0720			2.0

MORE DATES NEXT PAGE

DATE		70300		71900		82079	
FROM		RESIDUE		MERCURY		TURBIDTY	
TO	TIME	DEPTH	DISS-180	HG,TOTAL	LAB		
		FEET	C	MG/L	UG/L		NTU
92/08/11	0725						2.2
92/09/15	0730						0.6

54A050 6554A050
SPOKANE RIVER AT MOUTH
47 54 30.0 118 19 00.0 2F000 Elev= 0 ft
53065 Washington Stevens Co. PACIFIC NORTHWEST
SPOKANE (Lower Spokane-54) 130354
21540000 Reach=17010307000 0.000 Drg= 0 sqmi
AMBNT/STREAM/RMP

INDEX 1310001 006500
MILES 0638.90 0001.70

DATE	DEPTH	LAB	WATER	BAROMTRC	CNDUCTVY	DO	DO	PH	RESIDUE	NH3+NH4-	NO2-N
FROM	TIME	IDENT.	TEMP	PRESSURE	LAB @	MG/L	SATUR	SU	TOT-NFLT	N TOTAL	DISS
TO	FEET	NUMBER	CENT	MM OF HG	25C UMHO		PERCENT		MG/L	MG/L	MG/L
91/10/09	1330	416172	16.4	737	140	7.8	81.7	7.60	1.0	0.015	0.010K
91/11/06	1340	456172	11.6	734	186	8.6	81.6	7.70	1.0K	0.011J	0.019
91/12/04	1340	496172	7.6	727	161	10.2	89.0	7.70	3.0	0.016	0.023
92/01/08	1330	26172	5.4	737	161	11.4	92.9	7.50	2.0	0.024	0.018
92/02/05	1330	66172	3.7		148	11.2	88.7	7.70	4.0	0.025	0.010K
92/03/04	1300	106172	5.2	725	126	11.7	96.4	7.90	2.0	0.047	0.010K
92/04/08	1315	156172	9.6	728	111	12.5	114.2	7.90	2.0	0.055	0.010K
92/05/06	1240	196172	14.4	724	102	11.5	117.5	8.60	3.0	0.010K	0.010K
92/06/03	1300	236172	17.8	724	108	9.9	108.6	8.20	1.0	0.046	0.011
92/07/08	1415	286172	20.8	726	118	9.0	104.4	8.10	3.0	0.026	0.010K
92/08/05	1320	326172	23.0	724	129	8.7	105.5	8.40	2.0	0.026	0.010K
92/09/10	1330	376172	19.4	727	135	7.8	87.9	8.00	2.0	0.012	0.010K

DATE	DEPTH	NO2+NO3	PHOS-TOT	PHOS-DIS	TOT HARD	ZINC	CADMIUM	LEAD	CHROMIUM	COPPER	FEC COLI
FROM	TIME	N-TOTAL	MG/L P	ORTHO	CACO3	TOT REC	TOT REC	TOT REC	TOT REC	TOT REC	MFM-FCBR
TO	FEET	MG/L		MG/L P	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	/100ML
91/10/09	1330	0.232	0.016	0.010K							6
91/11/06	1340	0.408J	0.014	0.011							1K
91/12/04	1340	0.457	0.016	0.010K							1K
92/01/08	1330	0.469	0.019	0.010K							1K
92/02/05	1330	0.476	0.016	0.019							1K
92/03/04	1300	0.529	0.036	0.025							1K
92/04/08	1315	0.237	0.018	0.010K							1K
92/05/06	1240	0.236	0.010K	0.010K							1
92/06/03	1300	0.107	0.012	0.011							1
92/07/08	1415	0.212	0.010K	0.010K							
92/08/05	1320	0.204	0.010K	0.010K							1K
92/09/10	1330	0.221	0.011	0.010K							1X

DATE	DEPTH	MERCURY	TURBIDTY
FROM	TIME	TOT REC	LAB
TO	FEET	UG/L	NTU
		71901	82079

MORE DATES NEXT PAGE

DATE		71901	82079
FROM	DEPTH	MERCURY	TURBIDTY
TO	TIME FEET	TOT REC	LAB
		UG/L	NTU
91/10/09	1330		1.0K
91/11/06	1340		1.0K
91/12/04	1340		1.0K
92/01/08	1330		2.0
92/02/05	1330		0.5
92/03/04	1300		2.7
92/04/08	1315		0.8
92/05/06	1240		1.0
92/06/03	1300		1.4
92/07/08	1415		2.0
92/08/05	1320		1.0
92/09/10	1330		1.0

54A120 6554A120 12424200 543108
 SPOKANE R AT RIVERSIDE STATE PK
 47 41 48.0 117 29 48.0 2F 0 Elev= 0 ft
 53063 Washington Spokane Co. PACIFIC NORTHWEST
 SPOKANE (Lower Spokane-54) 130354
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 24-54-01 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM/RMP

INDEX 1310001 006500
 MILES 0643.00 0066.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	COLOR	CNDUCTVY	DO	DO	BOD	COD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	PT-CO	LAB @	SATUR	5 DAY	HI LEVEL	
TO	TIME FEET	NUMBER	CENT	MM OF HG	CFS	UNITS	25C UMHO	MG/L	PERCENT	MG/L	MG/L
91/10/08	1640	416167	12.9	722	2150		60	10.4	103.2		
91/11/05	1550	456167	6.2	693	2180		142	11.8	104.3		
91/12/03	1540	496167	6.4	723	2870		126	12.7	108.2		
92/01/07	1620	26167	5.3	722	3260		112	13.1	108.6		
92/02/04	1550	66167	5.5		6510		76	13.9	116.8		
92/03/03	1530	106167	5.2	713	10100		68	13.6	114.0		
92/04/07	1620	156167	6.5	720	7030		70	13.2	113.1		
92/05/05	1525	196167	12.5	713	7340		76	11.8	117.5		
92/06/02	1610	236167	18.0	712	2710		114	9.8	109.8		
92/07/07	1640	286167	16.5		1440		168	10.0	107.9		
92/08/04	1640	326167	18.0	714	1000		230	9.7	108.5		
92/09/09	1605	376167	13.4	721	594		262	10.4	104.6		

DATE	DEPTH	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	RESIDUE	ORG N	NH3+NH4-	NO2-N
FROM	DEPTH	SU	MG/L	CACO3	HCO3	CO3	TOTAL	TOT-NFLT	N	N TOTAL	DISS
TO	TIME FEET			MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/08	1640	8.10						2.0		0.350	0.010K
91/11/05	1550	7.60						3.0		0.395J	0.018
91/12/03	1540	8.00						1.0		0.195	0.014
92/01/07	1620	8.10						3.0		0.278	0.010K
92/02/04	1550	8.10						8.0		0.071	0.010K
92/03/03	1530	8.10						4.0		0.038	0.010K
92/04/07	1620	8.60						1.0		0.107	0.010K
92/05/05	1525	8.30						2.0		0.094	0.010K
92/06/02	1610	8.40						1.0		0.127	0.018
92/07/07	1640	8.40						2.0		0.560	0.016
92/08/04	1640	8.40						3.0		0.639	0.041
92/09/09	1605	8.40						1.0		0.654	0.048

DATE	DEPTH	NO2-N	NO3-N	TOT KJEL	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	TOT HARD	NC HARD
FROM	DEPTH	TOTAL	TOTAL	N	N-TOTAL	PO4	MG/L P	ORTHO	C	CACO3	CACO3
TO	TIME FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L
91/10/08	1640										
91/11/05	1550										
91/12/03	1540										
92/01/07	1620										
92/02/04	1550										
92/03/03	1530										
92/04/07	1620										
92/05/05	1525										
92/06/02	1610										
92/07/07	1640										
92/08/04	1640										
92/09/09	1605										

MORE DATES NEXT PAGE

DATE FROM TO	DEPTH FEET	615	620	625	630	660	665	671	680	900	902
		NO2-N TOTAL MG/L	NO3-N TOTAL MG/L	TOT KJEL N MG/L	NO2+NO3 N-TOTAL MG/L	ORTHOPO4 PO4 MG/L	PHOS-TOT MG/L P	PHOS-DIS ORTHO MG/L P	T ORG C C MG/L	TOT HARD CACO3 MG/L	NC HARD CACO3 MG/L
91/10/08	1640				0.393		0.018	0.010K			
91/11/05	1550				0.369J		0.045	0.035			
91/12/03	1540				0.344		0.059	0.047			
92/01/07	1620				0.353		0.064	0.052			
92/02/04	1550				0.217		0.024	0.024			
92/03/03	1530				0.277		0.028	0.017			
92/04/07	1620				0.200		0.016	0.010K			
92/05/05	1525				0.149		0.010	0.010K			
92/06/02	1610				0.488		0.019	0.010K			
92/07/07	1640				0.562		0.010K	0.010K			
92/08/04	1640				0.840		0.023	0.017			
92/09/09	1605				1.100		0.030	0.017			

DATE FROM TO	DEPTH FEET	915	925	930	935	940	945	1000	1002	1005	1025
		CALCIUM CA,DISS MG/L	MGNSIUM MG,DISS MG/L	SODIUM NA,DISS MG/L	PTSSIUM K,DISS MG/L	CHLORIDE CL MG/L	SULFATE SO4-TOT MG/L	ARSENIC AS,DISS UG/L	ARSENIC AS,TOT UG/L	BARIUM BA,DISS UG/L	CADMIUM CD,DISS UG/L

DATE FROM TO	DEPTH FEET	1027	1030	1034	1040	1042	1045	1049	1051	1065	1075
		CADMIUM CD,TOT UG/L	CHROMIUM CR,DISS UG/L	CHROMIUM CR,TOT UG/L	COPPER CU,DISS UG/L	COPPER CU,TOT UG/L	IRON FE,TOT UG/L	LEAD PB,DISS UG/L	LEAD PB,TOT UG/L	NICKEL NI,DISS UG/L	SILVER AG,DISS UG/L

DATE FROM TO	DEPTH FEET	1080	1090	1092	1094	1105	1113	1114	1118	1119	1130
		STRONTIUM SR,DISS UG/L	ZINC ZN,DISS UG/L	ZINC ZN,TOT UG/L	ZINC TOT REC UG/L	ALUMINUM AL,TOT UG/L	CADMIUM TOT REC UG/L	LEAD TOT REC UG/L	CHROMIUM TOT REC UG/L	COPPER TOT REC UG/L	LITHIUM LI,DISS UG/L

DATE FROM TO	DEPTH FEET	1145	31504	31616	31625	70300	71900	71901	82079
		SELENIUM SE,DISS UG/L	TOT COLI MFIM LES /100ML	FEC COLI MFM-FCBR /100ML	FEC COLI M-FCAGAD /100 ML	RESIDUE DISS-180 C MG/L	MERCURY HG,TOTAL UG/L	MERCURY TOT REC UG/L	TURBIDTY LAB NTU

91/10/08	1640			1K					1.0
91/11/05	1550			500P					13.0
91/12/03	1540			6					1.0K
92/01/07	1620			16					2.0
92/02/04	1550								3.0
92/03/03	1530			150					1.2
92/04/07	1620			4					1.1
92/05/05	1525			1					0.5

MORE DATES NEXT PAGE

DATE	DEPTH	1145 SELENIUM SE,DISS UG/L	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
92/06/02	1610			20					0.6
92/07/07	1640			100					1.1
92/08/04	1640			5					1.3
92/09/09	1605			3					1.0

57A150 6357A150 12419495 541026
 SPOKANE RIVER AT STATELINE BR
 47 41 55.0 117 02 37.0 2F 0 Elev= 0 ft
 53063 Washington Spokane Co. PACIFIC NORTHWEST
 SPOKANE (Middle Spokane-57) 130357
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 24-57-04 Class= A Miles= 0.00 to 0.00
 AMBNT/STREAM

INDEX 1310001 006500
 MILES 0643.00 0096.00

DATE	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	BOD
FROM	DEPTH	IDENT.	TEMP	PRESSURE	FLOW	JKSN	PT-CO	LAB @		SATUR	5 DAY
TO	TIME	NUMBER	CENT	MM OF HG	CFS	JTU	UNITS	25C UMHO	MG/L	PERCENT	MG/L
91/10/09	0705	416169	13.8	721	1910			54	8.3	84.1	
91/11/06	0710	456169	7.0	717	2150			76	10.3	89.8	
91/12/04	0710	496169	5.7	711	2600			52	10.8	91.9	
92/01/08	0710	26169	3.8	717	3030			55	11.5	92.5	
92/02/05	0715	66169	3.8		6810			52	11.8	96.1	
92/03/04	0645	106169	4.7	708	10400			47	12.1	100.7	
92/04/08	0645	156169	6.7	715	6890			72	11.4	98.9	
92/05/06	0630	196169	12.3	712	5050			63	10.5	104.4	
92/06/03	0635	236169	17.0	709	2530			43	8.7	95.9	
92/07/08	0640	286169	19.6	710	1150			54	7.5	86.9	
92/08/05	0610	326169	22.3	709	647			61	7.0	85.5	
92/09/10	0640	376169	16.4	715	237			54	8.0	86.4	

DATE	DEPTH	PH	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3
FROM	DEPTH	SU	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL
TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/09	0705	7.20			1.0	0.021	0.010K				0.029
91/11/06	0710	7.90			1.0	0.012J	0.010K				0.010K
91/12/04	0710	7.20			1.0	0.027	0.010K				0.027
92/01/08	0710	7.10			1.0	0.025	0.010K				0.036
92/02/05	0715	7.70			2.0	0.012	0.010K				0.032
92/03/04	0645	7.50			1.0	0.010K	0.010K				0.029
92/04/08	0645	7.20			1.0	0.059	0.010K				0.018
92/05/06	0630	7.90			3.0	0.010K	0.010K				0.010K
92/06/03	0635	7.70			1.0	0.010K	0.012				0.021
92/07/08	0640	7.80			3.0	0.014	0.011				0.020
92/08/05	0610	7.70			6.0	0.014	0.010K				0.017
92/09/10	0640	7.60			1.0	0.020	0.010K				0.021

DATE	DEPTH	ORTHOPO4	PHOS-TOT	PHOS-DIS	T ORG C	SWL	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM
FROM	DEPTH	PO4	ORTHO	ORTHO	C	PBI	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS
TO	TIME	FEET	MG/L	MG/L P	MG/L P	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/09	0705	660	665	671	680	760	900	902	915	925	930

MORE DATES NEXT PAGE

DATE	DEPTH	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	680 T ORG C C MG/L	760 SWL PBI MG/L	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L
91/10/09	0705		0.017	0.010K							
91/11/06	0710		0.010K	0.010K			20				
91/12/04	0710		0.016	0.010K			21				
92/01/08	0710		0.019	0.010K							
92/02/05	0715		0.010K	0.010K			22				
92/03/04	0645		0.010K	0.010K							
92/04/08	0645		0.014	0.010K							
92/05/06	0630		0.010K	0.010K							
92/06/03	0635		0.015	0.010							
92/07/08	0640		0.010K	0.010K							
92/08/05	0610		0.019	0.010K							
92/09/10	0640		0.024	0.010K							

DATE	DEPTH	935 PTSSIUM K,DISS MG/L	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1020 BORON B,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L	1042 COPPER CU,TOT UG/L	1045 IRON FE,TOT UG/L
91/11/06	0710									3.0K	
92/01/08	0710									3.0K	

DATE	DEPTH	1049 LEAD PB,DISS UG/L	1080 STRONTIUM SR,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L	1130 LITHIUM LI,DISS UG/L
91/11/06	0710				105.0	105.0	0.46P	2.7P	0.2K	3.0K	
91/12/04	0710				101.0	101.0	0.33V				
92/01/08	0710				93.0	93.0	0.74V	1.0K	0.3K	3.0K	

DATE	DEPTH	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
91/10/09	0705				14				1.0K
91/11/06	0710				6		0.05K	0.05K	1.0K
91/12/04	0710				1K		0.05K	0.05K	1.0K
92/01/08	0710				1K			0.07P	2.0
92/02/05	0715				1K		0.05K	0.05K	1.3
92/03/04	0645				1K				1.1
92/04/08	0645				7				1.3
92/05/06	0630				2				0.6
92/06/03	0635				7				0.6
92/07/08	0640								1.5

MORE DATES NEXT PAGE

			31501	31504	31505	31616	70300	71900	71901	82079
DATE			TOT COLI	TOT COLI	TOT COLI	FEC COLI	RESIDUE	MERCURY	MERCURY	TURBIDTY
FROM	DEPTH	MFIMENDO	MFIM LES	MPN CONF	MFM-FCBR	DISS-180	HG,TOTAL	TOT REC		LAB
TO	TIME	FEET	/100ML	/100ML	/100ML	/100ML	C MG/L	UG/L	UG/L	NTU
92/08/05	0610						7			1.5
92/09/10	0640						16			0.8

61A070 6561A070 12399500 541029
 COLUMBIA R AT NORTHPORT
 48 55 21.0 117 46 32.0 2F 0 Elev= 0 ft
 53065 Washington Stevens Co. PACIFIC NORTHWEST
 UPPER COLUMBIA (Upper Lake Roosevelt-61) 130561
 21540000 Reach= 0.000 Drg= 0 sqmi
 Seg ID= 26-00-04 Class= AA Miles= 0.00 to 0.00
 AMBNT/STREAM/NASQAN

INDEX 1310001
 MILES 0735.10

DATE	DEPTH	LAB	WATER	BAROMTRC	WEATHER	WIND	WIND	STREAM	SEA	TURB	COLOR
FROM	TO	IDENT.	TEMP	PRESSURE	CODE	VELOCITY	DIR.FROM	FLOW	CODE	JKSJN	PT-CO
TO	TIME	NUMBER	CENT	MM OF HG		MPH	NORTH-0	CFS		JTU	UNITS
91/10/09	1130	416171	13.6	738				85200			
91/11/06	1135	456171	7.7	733				93100			
91/12/04	1115	496171	5.8	727				99500			
92/01/08	1120	26171	4.7	736				13100			
92/02/05	1110	66171	3.8					84900			
92/03/04	1100	106171	4.6	724				76200			
92/04/08	1110	156171	6.1	730				59500			
92/05/06	1030	196171	9.2	725				11400			
92/06/03	1050	236171	11.9	724				14200			
92/07/08	1115	286171	15.9	724				79500			
92/08/05	1100	326171	17.2	724				70700			
92/09/10	1115	376171	16.3	729				47600			

DATE	DEPTH	CNDUCTVY	DO	DO	BOD	PH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE
FROM	TO	LAB @	MG/L	SATUR	5 DAY	SU	MG/L	MG/L	MG/L	MG/L	TOT-NFLT
TO	TIME	25C UMHO		PERCENT	MG/L			MG/L	MG/L	MG/L	MG/L
91/10/09	1130	139	10.1	99.5		8.10					2.0
91/11/06	1135	140	12.2	105.8		7.70					1.0
91/12/04	1115	138	13.4	111.8		7.70					3.0
92/01/08	1120	152	13.7	109.9		7.70					2.0
92/02/05	1110	154	13.3	105.6		7.70					1.0
92/03/04	1100	162	13.0	105.6		8.00					2.0
92/04/08	1110	138	12.6	105.6		8.00					1.0
92/05/06	1030	125	12.4	112.6		8.20					3.0
92/06/03	1050	112	11.7	113.2		8.20					2.0
92/07/08	1115	123	10.4	109.7		8.00					3.0
92/08/05	1100	118	9.5	103.0		8.10					2.0
92/09/10	1115	119	9.7	102.5		8.20					1.0

DATE	DEPTH	ORG N	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT KJEL	NO2+NO3	ORTHOP04	PHOS-TOT	PHOS-DIS
FROM	TO	N	N TOTAL	DISS	TOTAL	TOTAL	N	N-TOTAL	PO4	MG/L P	MG/L P
TO	TIME	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/09	1130										
91/11/06	1135										
91/12/04	1115										
92/01/08	1120										
92/02/05	1110										
92/03/04	1100										
92/04/08	1110										
92/05/06	1030										
92/06/03	1050										
92/07/08	1115										
92/08/05	1100										
92/09/10	1115										

MORE DATES NEXT PAGE

DATE	DEPTH	605 ORG N	610 NH3+NH4- N TOTAL	613 NO2-N DISS	615 NO2-N TOTAL	620 NO3-N TOTAL	625 TOT KJEL N	630 NO2+NO3 N-TOTAL	660 ORTHOPO4 PO4	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P
FROM	TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/09	1130		0.028	0.010K				0.053		0.027	0.018
91/11/06	1135		0.024J	0.010K				0.062J		0.026	0.025
91/12/04	1115		0.024	0.010K				0.099		0.020	0.010K
92/01/08	1120		0.023	0.010K				0.122		0.028	0.012
92/02/05	1110		0.018	0.010K				0.113		0.010K	0.015
92/03/04	1100		0.049	0.010K				0.131		0.021	0.023
92/04/08	1110		0.078	0.010K				0.106		0.045	0.033
92/05/06	1030		0.011	0.010K				0.075		0.018	0.010K
92/06/03	1050		0.010K	0.011				0.093		0.021	0.022
92/07/08	1115		0.024	0.012				0.057		0.010K	0.010K
92/08/05	1100		0.020	0.010K				0.077		0.018	0.010K
92/09/10	1115		0.026	0.010K				0.059		0.013	0.010K

DATE	DEPTH	680 T ORG C	760 SWL PBI	900 TOT HARD CACO3	902 NC HARD CACO3	915 CALCIUM CA,DISS	925 MGNSIUM MG,DISS	930 SODIUM NA,DISS	935 PTSSIUM K,DISS	940 CHLORIDE CL	945 SULFATE SO4-TOT
FROM	TO	TIME	FEET	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/11/06	1135			70							
91/12/04	1115			70							
92/02/05	1110			79							
92/03/04	1100			71							
92/04/08	1110			64							
92/05/06	1030			62							
92/06/03	1050			61							
92/07/08	1115			70							
92/08/05	1100			64							
92/09/10	1115			63							

DATE	DEPTH	950 FLUORIDE F,DISS	955 SILICA DISOLVED	1000 ARSENIC AS,DISS	1005 BARIUM BA,DISS	1020 BORON B,DISS	1025 CADMIUM CD,DISS	1030 CHROMIUM CR,DISS	1040 COPPER CU,DISS	1042 COPPER CU,TOT	1045 IRON FE,TOT
FROM	TO	TIME	FEET	MG/L	MG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
91/11/06	1135									3.0K	
92/01/08	1120									3.5P	
92/02/05	1110									3.4P	
92/03/04	1100									3.0P	
92/05/06	1030									4.8P	
92/08/05	1100									3.0K	
92/09/10	1115									3.0K	

DATE	DEPTH	1049 LEAD PB,DISS	1065 NICKEL NI,DISS	1075 SILVER AG,DISS	1090 ZINC ZN,DISS	1092 ZINC ZN,TOT	1094 ZINC TOT REC	1113 CADMIUM TOT REC	1114 LEAD TOT REC	1118 CHROMIUM TOT REC	1119 COPPER TOT REC
FROM	TO	TIME	FEET	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

MORE DATES NEXT PAGE

DATE	DEPTH	1049 LEAD PB,DISS UG/L	1065 NICKEL NI,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1092 ZINC ZN,TOT UG/L	1094 ZINC TOT REC UG/L	1113 CADMIUM TOT REC UG/L	1114 LEAD TOT REC UG/L	1118 CHROMIUM TOT REC UG/L	1119 COPPER TOT REC UG/L
91/11/06	1135						10.0V	0.15P	1.6P	0.3P	3.0K
91/12/04	1115						11.0P	0.23V	4.3P	0.2K	3.0K
92/01/08	1120						14.0P	0.16V	1.7V	0.3K	3.5P
92/02/05	1110						7.0P		1.4P	0.2V	3.4P
92/03/04	1100						12.0P	0.27E	1.6E		3.0P
92/03/04	1110									0.1V	
92/04/08	1110						40.0	0.44P	4.0P	0.6P	7.6P
92/05/06	1030						20.0P	0.10K	1.3P	0.3P	4.8P
92/06/03	1050						45.0	0.14P	2.2P	0.6P	12.0
92/07/08	1115						8.4P	0.20P	3.1P	0.4P	3.0K
92/08/05	1100						14.0V		2.1P	0.2K	3.0K
92/09/10	1115						13.0V	0.29V	2.0P	0.2K	3.0K

DATE	DEPTH	1145 SELENIUM SE,DISS UG/L	31501 TOT COLI MFIMENDO /100ML	31504 TOT COLI MFIM LES /100ML	31616 FEC COLI MFM-FCBR /100ML	31625 FEC COLI M-FCAGAD /100 ML	31672 FECSTREP PC M-ENT /100ML	32211 CHLRPHYL A UG/L CORRECTD	32218 PHEOPHTN A UG/L	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L
91/10/09	1130				4						
91/11/06	1135				5						0.05K
91/12/04	1115				4						0.06P
92/01/08	1120				7						0.05U
92/02/05	1110				1K						0.05K
92/03/04	1100				4						0.05K
92/04/08	1110				4						0.05K
92/05/06	1030				2						0.05K
92/06/03	1050				1K						0.09P
92/07/08	1115										0.05P
92/08/05	1100				27						0.05U
92/09/10	1115				4X						0.05U

DATE	DEPTH	71901 MERCURY TOT REC UG/L	82079 TURBIDTY LAB NTU
91/10/09	1130		1.0K
91/11/06	1135	0.05K	1.0K
91/12/04	1115	0.06P	1.0K
92/01/08	1120	0.05U	3.0
92/02/05	1110	0.05K	0.5
92/03/04	1100	0.05K	1.3
92/04/08	1110	0.05K	0.5
92/05/06	1030	0.05K	1.2
92/06/03	1050	0.09P	0.9
92/07/08	1115	0.05P	1.6

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DATE		71901	82079
FROM	DEPTH	MERCURY	TURBIDTY
TO	TIME FEET	TOT REC	LAB
		UG/L	NTU
92/08/05	1100	0.05U	1.5
92/09/10	1115	0.05U	0.8

62A150 5162A150 12395500 541031
 PEND OREILLE RIVER AT NEWPORT
 48 11 07.0 117 02 02.0 2F 0 Elev= 0 ft
 53051 Washington Pend Oreille Co. PACIFIC NORTHWEST
 CLARK FORK, PEND OREILLE (Pend Oreille-6 130262
 21540000 Reach= 0.000 Drg= 0 sqmi
 AMBNT/STREAM/RMP

INDEX 1310001 007520
 MILES 0745.50 0088.20

DATE	FROM	TO	DEPTH	LAB	WATER	BAROMTRC	STREAM	TURB	COLOR	CNDUCTVY	DO	DO	PH
	TIME	FEET	IDENT.	TEMP	PRESSURE	FLOW	JKSJN	PT-CO	LAB @	25C UMHO	MG/L	SATUR	SU
			NUMBER	CENT	MM OF HG	CFS	JTU	UNITS				PERCENT	
91/10/09	0820		416170	13.8	721	25500				170	8.8	89.2	8.20
91/11/06	0825		456170	5.3	715	25100				199	11.1	93.1	8.20
91/12/04	0820		496170	4.1	707	17000				211	11.6	95.3	7.90
92/01/08	0835		26170	2.9	716	15700				160	12.0	94.3	8.10
92/02/05	0825		66170	3.2		15000				150	12.3	98.8	7.90
92/03/04	0805		106170	4.7	708	10800				157	12.0	100.1	8.10
92/04/08	0755		156170	8.2	714	13200				152	11.0	99.2	7.80
92/05/06	0745		196170	11.8	710	26200				136	10.9	107.4	8.30
92/06/03	0750		236170	17.0	707	8290				153	9.1	100.6	8.30
92/07/08	0750		286170	18.2	709	17800				147	8.9	100.5	8.40
92/08/05	0800		326170	22.1	709	7890				143	8.7	106.0	8.60
92/09/10	0800		376170	16.8	714	15200				158	8.7	94.9	8.40

DATE	FROM	TO	DEPTH	CO2	T ALK	HCO3 ION	CO3 ION	RESIDUE	NH3+NH4-	NO2-N	NO2-N	NO3-N	TOT	KJEL
	TIME	FEET	MG/L	CACO3	MG/L	HCO3	CO3	TOT-NFLT	N TOTAL	DISS	TOTAL	TOTAL	TOT	N
						MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
91/10/09	0820							2.0	0.018	0.010K				
91/11/06	0825							2.0	0.010K	0.010K				
91/12/04	0820							3.0	0.010K	0.010K				
92/01/08	0835							2.0	0.010K	0.010K				
92/02/05	0825							4.0	0.010K	0.010K				
92/03/04	0805							3.0	0.010K	0.010K				
92/04/08	0755							3.0	0.010K	0.010K				
92/05/06	0745							4.0	0.010K	0.010K				
92/06/03	0750							4.0	0.010K	0.010K				
92/07/08	0750							3.0	0.010K	0.010K				
92/08/05	0800							3.0	0.010	0.010K				
92/09/10	0800							1.0	0.010K	0.010K				

DATE	FROM	TO	DEPTH	NO2+NO3	ORTHOPO4	PHOS-TOT	PHOS-DIS	TOT HARD	NC HARD	CALCIUM	MGNSIUM	SODIUM	PTSSIUM
	TIME	FEET	N-TOTAL	PO4	MG/L P	MG/L P	ORTHO	CACO3	CACO3	CA,DISS	MG,DISS	NA,DISS	K,DISS
			MG/L	MG/L				MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
630								900	902	915	925	930	935

MORE DATES NEXT PAGE

DATE	DEPTH	630 NO2+NO3 N-TOTAL MG/L	660 ORTHOPO4 PO4 MG/L	665 PHOS-TOT MG/L P	671 PHOS-DIS ORTHO MG/L P	900 TOT HARD CACO3 MG/L	902 NC HARD CACO3 MG/L	915 CALCIUM CA,DISS MG/L	925 MGNSIUM MG,DISS MG/L	930 SODIUM NA,DISS MG/L	935 PTSSIUM K,DISS MG/L
FROM	TO	TIME	FEET								
91/10/09	0820			0.010K	0.011	0.010K					
91/11/06	0825			0.010K	0.010K	0.010K					
91/12/04	0820			0.014	0.010K	0.010K					
92/01/08	0835			0.035	0.016	0.010K					
92/02/05	0825			0.023	0.010K	0.010K					
92/03/04	0805			0.023	0.010K	0.010K					
92/04/08	0755			0.010K	0.010K	0.010K					
92/05/06	0745			0.010K	0.010K	0.010K					
92/06/03	0750			0.016	0.013	0.010K					
92/07/08	0750			0.010K	0.010K	0.010K					
92/08/05	0800			0.010K	0.010K	0.010K					
92/09/10	0800			0.010K	0.011	0.010K					

DATE	DEPTH	940 CHLORIDE CL MG/L	945 SULFATE SO4-TOT MG/L	950 FLUORIDE F,DISS MG/L	955 SILICA DISOLVED MG/L	1000 ARSENIC AS,DISS UG/L	1005 BARIUM BA,DISS UG/L	1020 BORON B,DISS UG/L	1025 CADMIUM CD,DISS UG/L	1030 CHROMIUM CR,DISS UG/L	1040 COPPER CU,DISS UG/L
FROM	TO	TIME	FEET								

DATE	DEPTH	1045 IRON FE,TOT UG/L	1049 LEAD PB,DISS UG/L	1075 SILVER AG,DISS UG/L	1090 ZINC ZN,DISS UG/L	1145 SELENIUM SE,DISS UG/L	31505 TOT COLI MPN CONF /100ML	31616 FEC COLI MFM-FCBR /100ML	70300 RESIDUE DISS-180 C MG/L	71900 MERCURY HG,TOTAL UG/L	82079 TURBIDTY LAB NTU
FROM	TO	TIME	FEET								
91/10/09	0820							1			1.1
91/11/06	0825							1			1.2
91/12/04	0820							5			1.0
92/01/08	0835							1K			1.0
92/02/05	0825							1K			1.7
92/03/04	0805							1K			1.7
92/04/08	0755							2			1.4
92/05/06	0745							5			1.2
92/06/03	0750							7			2.1
92/07/08	0750										1.7
92/08/05	0800							1K			1.2
92/09/10	0800							1			0.8

APPENDIX 7

**Wateryear 1992 Six Year Summary Statistics for
Ecology's Freshwater Ambient Monitoring Program**

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 01A050 Name: NOOKSACK R @ BRENNAN Class: A Elevation: 10 River Mile: 3.40

Location:

LOCATED ONE MILE WEST OF BRENNAN AT BRIDGE OVER NOOKSACK ON STATE HIGHWAY 540 (RURAL ROAD EXIT FROM I-5)

Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	6.778	2.539	18	5.759	2.057	17	10.350	2.360	18	15.367	1.464	18	17.900	2.200
CU	P1042 ug/L	9.155	13.239	11	5.733	6.177	9	4.000	3.416	12	6.433	8.497	9	42.400	1.000
ZN	P1092 ug/L	17.909	23.741	11	9.111	5.419	9	6.958	4.266	12	9.667	15.770	9	67.000	1.000
ZN	P1094 ug/L	17.133	20.273	15	11.667	12.449	12	7.214	4.282	14	8.750	13.552	12	67.000	1.000K
CD	P1113 ug/L	0.265	0.305	14	0.247	0.159	12	0.259	0.247	15	0.244	0.323	14	1.300	0.100K
PB	P1114 ug/L	2.720	1.638	15	2.600	3.604	12	2.638	3.182	13	2.129	1.889	14	13.000	1.000K
CR	P1118 ug/L	2.864	2.346	11	3.362	3.641	11	3.136	2.076	14	2.152	1.803	13	10.600	0.370
CU	P1119 ug/L	8.767	11.227	15	7.675	8.533	12	4.320	2.899	15	6.092	7.276	12	42.400	1.000U
PRESS	P25 mmHg	762.978	7.334	18	766.759	6.641	17	765.772	5.843	18	763.524	4.208	17	776.000	744.000
OXYGEN	P300 mg/L	11.856	0.911	18	11.976	0.587	17	11.117	0.804	18	10.189	0.484	18	13.300	9.500
PCTSAT	P301 Percent	96.289	5.998	18	94.441	3.399	17	97.876	6.267	17	100.594	3.789	17	112.800	81.100
FC	P31616 #/100ml	130.813	168.840	16	180.000	213.913	16	156.176	290.615	17	393.889	564.926	18	1900.000	1.000
PH	P400 units	7.525	0.349	16	7.494	0.295	17	7.600	0.237	16	7.650	0.255	18	8.300	6.700
SUSSOL	P530 mg/L	153.944	214.221	18	67.176	152.066	17	58.167	72.321	18	84.956	174.708	18	770.000	1.000
FLOW	P60 CFS	4386.611	3085.945	18	3829.059	2568.761	17	4457.222	1987.386	18	2247.556	1278.986	18	11090.000	500.000
NH3_N	P610 mg/L	0.045	0.033	17	0.066	0.035	17	0.024	0.014	18	0.021	0.010	17	0.160	0.010K
NO2_DIS	P613 mg/L	0.009	0.002	12	0.010	0.000	14	0.010	0.000	15	0.010	0.002	15	0.010	0.002K
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	0.001	0.000
NO3_N	P620 mg/L	0.495	0.120	2	0.553	0.047	3	0.223	0.111	3	0.137	0.059	3	0.590	0.070
NO2_NO3	P630 mg/L	0.461	0.169	15	0.652	0.190	14	0.233	0.082	15	0.166	0.049	14	1.000	0.094
TP_P	P665 mg/L	0.074	0.048	15	0.077	0.114	16	0.046	0.030	18	0.091	0.188	16	0.790	0.014
OP_DIS	P671 mg/L	0.011	0.003	16	0.012	0.004	16	0.010	0.000	18	0.010	0.002	18	0.020	0.005K
HG	P71900 ug/L	0.068	0.028	15	0.042	0.016	11	0.068	0.084	15	0.072	0.044	12	0.370	0.020K
HG	P71901 ug/L	0.068	0.028	15	0.042	0.016	11	0.068	0.084	15	0.072	0.044	12	0.370	0.020K
COLOR	P80 Pt-Co	33.500	21.486	4	283.000	465.174	3	14.667	23.671	3	2.000	1.732	3	820.000	1.000K
TURB	P82079 NTU	37.533	48.471	18	16.971	25.751	17	16.218	18.102	17	29.461	41.306	18	193.000	1.000K

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07D070 Name: SNOQUALMIE R MR CARNATION Class: A Elevation: 50 River Mile: 23.01
 Location: LOCATED AT THE BRIDGE ON CARNATION FARM ROAD ONE MILE N.W. OF CARNATION
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----	
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10	C	7.293	2.013	15	5.500	1.442	17	10.006	2.467	18	15.700	2.381	18	20.100	2.600
PRESS	P25	mmHg	768.847	6.450	15	765.894	4.912	17	764.128	6.319	18	762.371	10.470	17	785.000	726.000
OXYGEN	P300	mg/L	11.867	0.775	15	12.188	0.550	17	11.200	0.990	18	10.028	0.541	18	13.600	9.100
PCTSAT	P301	Percent	96.933	5.038	15	95.624	2.239	17	98.141	5.128	17	100.265	3.174	17	110.400	87.800
FC	P31616	#/100ml	31.000	19.979	15	24.750	43.596	16	30.222	26.361	18	72.529	94.116	17	390.000	1.000
PH	P400	units	7.160	0.455	15	7.047	0.181	17	7.113	0.213	16	7.256	0.318	18	8.200	6.400
SUSSOL	P530	mg/L	11.467	10.723	15	11.529	20.387	17	11.500	16.397	18	6.822	12.902	18	87.000	1.000K
FLOW	P60	CFS	3422.400	2737.270	15	3406.471	1758.248	17	3981.944	1678.369	18	1052.944	487.998	18	10100.000	415.000
NH3_N	P610	mg/L	0.014	0.005	14	0.015	0.007	17	0.013	0.004	18	0.013	0.007	18	0.040	0.009
NO2_DIS	P613	mg/L	0.009	0.003	9	0.010	0.000	14	0.010	0.000	15	0.009	0.002	15	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****.***	0.000
NH3_N	P620	mg/L	0.365	0.092	2	0.293	0.068	3	0.150	0.056	3	0.160	0.000	3	0.430	0.100
NO2_NO3	P630	mg/L	0.291	0.093	12	0.328	0.069	14	0.160	0.055	15	0.151	0.027	15	0.450	0.110
TP_P	P665	mg/L	0.018	0.007	13	0.025	0.039	16	0.018	0.010	17	0.012	0.006	18	0.170	0.002K
OP_DIS	P671	mg/L	0.010	0.001	14	0.010	0.000	16	0.011	0.004	18	0.010	0.001	18	0.029	0.004J
COLOR	P80	Pt-Co	23.667	6.110	3	17.000	4.000	3	25.333	11.150	3	15.714	6.701	7	38.000	4.000
TURB	P82079	NTU	3.820	3.348	15	4.276	5.075	17	3.778	4.129	18	1.917	1.667	18	23.000	0.700
COND	P95	umhos	48.267	18.148	15	46.412	8.704	17	34.833	5.283	18	58.167	9.057	18	92.000	20.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

HARD	P900	mg/L	48.286	8.570	14	49.857	10.712	14	37.933	8.892	15	41.200	10.009	15	65.000	17.000		
COND	P95	umhos	108.722	28.325	18	118.765	18.318	17	84.556	13.259	18	98.667	19.103	18	159.000	59.000		

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 01A120 Name: NOOKSACK R @ NO CEDARVILLE Class: A Elevation: 140 River Mile: 30.80
 Location: LOCATED ON HIGHWAY 542 (MOUNT BAKER HIGHWAY) AT BRIDGE OVER NOOKSACK RIVER BETWEEN CEDARVILLE AND NORTH CEDARVILLE APPROXIMATELY FOUR MILES WEST OF DEMING
 Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	6.273	1.927	15	4.947	1.437	15	8.440	1.882	15	12.580	0.865	15	14.200	2.900
PRESS	P25 mmHg	758.667	9.421	15	761.613	8.747	15	761.927	6.749	15	760.807	4.155	15	772.900	739.000
OXYGEN	P300 mg/L	12.407	0.722	15	12.587	0.623	15	11.773	0.741	15	10.980	0.399	15	13.700	10.200
PCTSAT	P301 Percent	100.160	3.102	15	97.933	3.496	15	99.671	6.211	14	102.764	3.477	14	111.600	87.900
FC	P31616 #/100ml	11.000	7.923	14	14.600	15.496	15	12.867	18.302	15	53.867	111.228	15	410.000	1.000K
PH	P400 units	7.554	0.250	13	7.433	0.306	15	7.523	0.274	13	7.487	0.239	15	8.000	6.700
SUSSOL	P530 mg/L	75.667	101.930	15	160.333	531.421	15	47.000	57.469	15	70.213	118.945	15	2080.000	1.000
FLOW	P60 CFS	3265.400	1982.860	15	3348.000	2073.207	15	4318.571	1384.874	14	1988.357	945.759	14	8600.000	563.000
NH3_N	P610 mg/L	0.025	0.031	15	0.017	0.011	15	0.021	0.014	15	0.014	0.005	15	0.120	0.005K
NO2_DIS	P613 mg/L	0.009	0.003	9	0.010	0.000	12	0.010	0.000	12	0.009	0.002	12	0.010	0.002K
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	11	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000
NO3_N	P620 mg/L	0.257	0.133	3	0.227	0.046	3	0.110	0.056	3	0.047	0.023	3	0.370	0.020
NO2_NO3	P630 mg/L	0.253	0.099	12	0.269	0.081	12	0.102	0.038	12	0.069	0.023	12	0.420	0.040
TP_P	P665 mg/L	0.042	0.038	13	0.073	0.155	15	0.034	0.024	15	0.084	0.145	15	0.620	0.006J
OP_DIS	P671 mg/L	0.010	0.001	14	0.011	0.004	15	0.010	0.000	15	0.009	0.002	15	0.027	0.001J
COLOR	P80 Pt-Co	18.875	14.991	4	152.667	248.967	3	28.000	8.888	3	2.500	2.121	2	440.000	1.000
TURB	P82079 NTU	19.787	26.147	15	28.113	72.672	15	14.460	13.484	15	31.013	43.187	15	290.000	1.000K
COND	P95 umhos	95.400	19.123	15	90.267	15.677	15	70.733	10.593	15	84.333	15.458	15	130.000	50.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 018050 Name: SILVER CR NR BRENNAN Class: A Elevation: 5 River Mile: 1.40

Location: Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	8.500	3.061	3	7.767	3.453	3	13.833	2.894	3	17.067	2.554	3	19.100	4.900	
ZN	P1094	ug/L	7.000	1.732	3	0.000	0.000	0	5.667	2.082	3	8.333	4.163	3	0.560	0.560V	
CU	P1119	ug/L	3.200	0.346	3	0.000	0.000	0	3.400	0.693	3	3.000	0.000	3	4.600	3.000K	
PRESS	P25	mmHg	761.667	5.148	3	765.800	7.400	3	764.467	5.150	3	761.200	3.960	2	773.200	755.900	
OXYGEN	P300	mg/L	6.967	2.868	3	10.567	0.586	3	4.600	3.378	3	1.500	0.964	3	11.000	0.400	
PCTSAT	P301	Percent	58.500	20.772	3	87.600	2.955	3	42.867	29.145	3	15.767	10.451	3	90.000	3.900	
FC	P31616	#/100ml	190.667	154.730	3	592.000	718.420	2	115.000	7.071	2	175.333	99.324	3	1100.000	12.000	
PH	P400	units	7.233	0.115	3	7.467	0.115	3	7.200	0.100	3	7.100	0.100	3	7.600	7.000	
SUSSOL	P530	mg/L	3.000	1.000	3	11.000	2.646	3	11.333	8.083	3	14.333	5.686	3	20.000	2.000	
NH3_N	P610	mg/L	0.037	0.020	3	0.047	0.011	3	0.034	0.002	3	0.036	0.006	3	0.059	0.020	
NO2_DIS	P613	mg/L	0.012	0.003	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.016	0.010K	
NO2_NO3	P630	mg/L	0.424	0.423	3	0.515	0.176	3	0.093	0.082	3	0.010	0.000	3	0.874	0.010K	
TP_P	P665	mg/L	0.080	0.034	3	0.092	0.027	3	0.075	0.009	3	0.142	0.056	3	0.192	0.042	
OP_DIS	P671	mg/L	0.032	0.005	3	0.027	0.007	3	0.027	0.011	3	0.045	0.029	3	0.050	0.050U	
TURB	P82079	NTU	7.800	4.424	3	13.600	7.119	3	4.500	0.990	2	3.133	1.429	3	21.000	1.900	
HARD	P900	mg/L	90.667	26.350	3	81.333	14.048	3	102.000	24.042	2	129.000	9.539	3	140.000	68.000	
COND	P95	umhos	259.000	114.595	3	210.000	34.699	3	248.000	41.581	3	356.667	25.166	3	385.000	161.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 01D070 Name: SUMAS R NR HUNTINGDON BC Class: A Elevation: 20 River Mile: 11.90

Location: LOCATED 1.7 MILES EAST OF HUNTINGDON B. C. FOLLOWING SECOND STREET TO BRIDGE OVER SUMAS RIVER

Water Years Sampled: 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

Table with columns for VARIABLE, P-CODE UNITS, and quarterly statistics (MEAN, STD. DEV., N) for JANUARY-MARCH, APRIL-JUNE, JULY-SEPTEMBER, and SIX YEAR (MAX, MIN). Rows include parameters like TEMP, PRESS, OXYGEN, PCTSAT, FC, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, COLOR, TURB, and COND.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 03A060 Name: SKAGIT R NR MOUNT VERNON Class: A Elevation: 14 River Mile: 15.90

Location: LOCATED ONE MILE NORTH OF MOUNT VERNON AT THE BRIDGE CROSSING THE SKAGIT RIVER ON OLD HIGHWAY 99 (.3 MILE EAST OF INTERSTATE 5)

Table with 12 columns: P-CODE UNITS, MEAN, STD. DEV., N, JANUARY-MARCH, APRIL-JUNE, JULY-SEPTEMBER, SIX YEAR MAX, MIN. Rows include parameters like TEMP, PRESS, OXYGEN, etc.

Water Years Sampled: 7 8 9. Table with 12 columns: P-CODE UNITS, MEAN, STD. DEV., N, JANUARY-MARCH, APRIL-JUNE, JULY-SEPTEMBER, SIX YEAR MAX, MIN. Rows include parameters like P300, P301, P31616, etc.

Table with 12 columns: P-CODE UNITS, MEAN, STD. DEV., N, JANUARY-MARCH, APRIL-JUNE, JULY-SEPTEMBER, SIX YEAR MAX, MIN. Rows include parameters like P610, P613, P615, P619, P620, P630, P665, P671, P80, P82079, P900, P95.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 03B050 Name: SAMISH R NR BURLINGTON

Class: A Elevation: 38 River Mile: 10.40

Location:

LOCATED AT BRIDGE OVER SAMISH RIVER ON OLD HIGHWAY 99 APPROXIMATELY MID WAY BETWEEN BURLINGTON AND ALGER

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.333	2.412	5.460	1.321	10.373	1.387	12.827	1.732	15.800	3.500
PRESS	P25	mmHg	760.667	10.170	768.520	8.262	767.407	6.370	767.720	3.735	776.200	741.000
OXYGEN	P300	mg/L	11.780	1.151	12.333	0.584	10.947	0.683	9.947	0.571	13.500	9.100
PCTSAT	P301	Percent	97.153	6.413	96.353	2.645	96.379	5.059	92.043	2.342	107.900	79.000
FC	P31616	#/100ml	95.714	97.025	80.857	88.253	167.600	87.874	279.933	223.159	960.000	2.000
PH	P400	units	7.454	0.450	7.320	0.486	7.408	0.175	7.573	0.335	8.400	6.400
SUSSOL	P530	mg/L	22.600	18.863	38.000	46.161	10.933	9.603	4.973	3.150	140.000	1.000K
FLOW	P60	CFS	257.331	231.413	466.071	421.871	201.747	159.540	39.427	18.794	1680.000	19.000
NH3_N	P610	mg/L	0.033	0.016	0.027	0.016	0.020	0.011	0.017	0.011	0.070	0.010K
NO2_DIS	P613	mg/L	0.009	0.003	0.010	0.001	0.010	0.000	0.009	0.002	30.000	30.000
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
NO3_N	P620	mg/L	0.875	0.007	0.913	0.150	0.673	0.051	0.757	0.055	1.000	0.630
NO2_NO3	P630	mg/L	0.857	0.181	0.954	0.367	0.660	0.144	0.725	0.113	1.950	0.470
TP_P	P665	mg/L	0.032	0.014	0.048	0.048	0.025	0.007	0.018	0.008	0.180	0.010K
OP_DIS	P671	mg/L	0.011	0.004	0.010	0.000	0.010	0.001	0.010	0.002	0.020	0.004J
COLOR	P80	Pt-Co	34.250	11.927	59.000	72.125	62.667	21.939	2.000	1.732	110.000	1.000
TURB	P82079	NTU	6.340	5.546	10.840	9.835	4.386	3.117	1.733	0.995	28.000	0.800
HARD	P900	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.000	30.000
COND	P95	umhos	92.333	23.509	72.667	13.075	86.867	11.951	120.000	8.080	133.000	49.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 04A060 Name: SKAGIT R @ CONCRETE

Class: AA Elevation: 135 River Mile: 54.10

Location:

LOCATED AT THE BRIDGE OVER THE SKAGIT RIVER ON THE SAUK VALLEY ROAD, ONE MILE SOUTHWEST OF CONCRETE

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.987	2.231	4.729	0.815	7.607	1.322	12.013	0.718	13.400	3.200
PRESS	P25	mmHg	759.207	8.586	763.236	6.482	761.507	5.914	758.927	4.002	771.700	740.000
OXYGEN	P300	mg/L	11.960	0.852	12.736	0.458	12.073	0.717	10.940	0.302	13.800	9.800
PCTSAT	P301	Percent	100.560	4.602	98.407	3.152	100.450	5.146	101.300	2.106	112.600	88.600
FC	P31616	#/100ml	3.071	2.841	2.000	2.449	4.667	4.746	11.667	28.060	110.000	1.000K
COD	P340	mg/L	4.900	1.449	4.900	2.025	12.182	20.331	8.545	8.892	73.000	4.000K
PH	P400	units	7.308	0.325	7.257	0.214	7.346	0.270	7.260	0.226	8.100	6.800
SUSSOL	P530	mg/L	20.933	22.524	21.571	55.958	13.000	18.701	37.947	95.487	380.000	1.000
FLOW	P60	CFS	14958.667	7530.396	14970.000	7633.035	18009.333	4394.670	12368.667	6066.159	36400.000	4390.000
NH3_N	P610	mg/L	0.013	0.005	0.013	0.007	0.013	0.008	0.012	0.004	0.040	0.005K
NO2_DIS	P613	mg/L	0.009	0.003	0.010	0.000	0.010	0.000	0.009	0.002	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	*****	0.000
NO3_N	P620	mg/L	0.090	0.028	0.090	0.010	0.057	0.023	0.033	0.006	0.110	0.030
NO2_NO3	P630	mg/L	0.100	0.037	0.099	0.019	0.071	0.020	0.033	0.007	0.130	0.020
TP_P	P665	mg/L	0.019	0.010	0.028	0.039	0.015	0.011	0.022	0.042	0.175	0.002J
OP_DIS	P671	mg/L	0.010	0.002	0.010	0.001	0.010	0.000	0.009	0.002	0.010	0.001J
COLOR	P80	PT-Co	7.375	5.154	60.500	84.146	17.333	18.877	13.000	18.248	120.000	1.000
TURB	P82079	NTU	5.653	5.894	6.879	13.766	3.840	3.336	5.807	8.914	54.000	1.000K
COND	P95	umhos	54.867	4.969	61.214	6.053	47.133	8.749	51.933	11.689	75.000	36.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 04A100 Name: SKAGIT R @ MARBLEMOUNT Class: AA Elevation: 360 River Mile: 78.20
 Location: LOCATED AT THE BRIDGE ON THE CASCADE RIVER ROAD WHERE HIGHWAY 20 (NORTH CASCADES HIGHWAY) TURNS 90 DEGREES IN MARBLEMOUNT
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.678	1.396	18	4.672	1.110	18	7.289	1.457	18	10.639	0.680	18	12.300	2.800	
PRESS	P25 mmHg	756.044	7.184	18	756.672	10.906	18	757.478	5.949	18	756.959	3.982	17	768.900	721.000	
OXYGEN	P300 mg/L	11.933	0.762	18	12.700	0.464	18	12.233	0.711	18	11.244	0.375	18	13.900	9.600	
PCTSAT	P301 Percent	100.150	5.489	18	98.839	2.828	18	101.412	4.555	17	101.324	2.755	17	112.300	82.200	
FC	P31616 #/100ml	2.176	2.744	17	5.588	18.405	17	1.824	0.951	17	12.294	26.277	17	110.000	1.000K	
PH	P400 units	7.456	0.352	16	7.411	0.297	18	7.338	0.270	16	7.389	0.320	18	8.100	6.600	
SUSSOL	P530 mg/L	5.444	4.866	18	3.444	5.404	18	3.056	2.920	18	3.900	3.352	18	24.000	1.000K	
FLOW	P60 CFS	6448.889	3702.185	18	7411.389	3153.937	18	5777.778	1678.541	18	5406.111	2430.193	18	18900.000	2290.000	
NH3_N	P610 mg/L	0.012	0.004	17	0.012	0.008	18	0.012	0.007	18	0.012	0.004	18	0.040	0.005K	
NO2_DIS	P613 mg/L	0.009	0.002	11	0.010	0.000	15	0.010	0.000	15	0.009	0.002	14	0.010	0.002K	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000	
NO3_N	P620 mg/L	0.060	0.014	2	0.050	0.010	3	0.057	0.015	3	0.037	0.006	3	0.070	0.030	
NO2_NO3	P630 mg/L	0.072	0.021	15	0.059	0.009	15	0.063	0.012	15	0.041	0.012	15	0.119	0.010K	
TP_P	P665 mg/L	0.010	0.002	15	0.017	0.020	17	0.010	0.001	17	0.011	0.004	18	0.090	0.002K	
OP_DIS	P671 mg/L	0.010	0.001	17	0.010	0.001	18	0.010	0.000	18	0.010	0.002	18	0.010	0.002J	
COLOR	P80 Pt-Co	5.125	3.614	4	10.000	5.196	3	22.667	24.987	3	6.000	6.245	3	50.000	1.000	
TURB	P82079 NTU	1.761	1.064	18	1.744	0.958	18	1.571	1.038	17	1.522	0.754	18	5.000	0.700	
COND	P95 umhos	53.722	10.306	18	61.222	7.589	18	43.833	10.573	18	48.389	6.599	18	71.000	25.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 048070 Name: BAKER R @ CONCRETE

Class: AA Elevation: 175 River Mile: 0.60

Location: LOCATED AT THE BRIDGE ON OLD HIGHWAY 20 ON THE EAST OF CONCRETE .2 MILES ABOVE THE BURLINGTON NORTHERN RR TRESTLE

Water Years Sampled:	7	8	9
5 6	9 0 1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0 1 2 3 4	5 6 7 8 9 0 1 2 3 4
X X X X	X X X X X X X X X X X X	X X X X X X X X X X X X	X X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER--DECEMBER---			-----JANUARY--MARCH-----			-----APRIL--JUNE-----			----JULY--SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	10.147	2.977	15	4.433	0.860	15	8.007	1.627	15	12.867	1.091	15	14.800	3.000	
PRESS	P25	757.860	8.619	15	761.160	7.315	15	760.773	5.449	15	759.167	3.884	15	771.000	740.000	
OXYGEN	P300	11.360	1.250	15	12.447	0.603	15	12.147	0.782	15	10.613	0.497	15	13.900	8.700	
PCTSAT	P301	99.827	6.580	15	95.633	3.433	15	102.036	5.885	14	100.021	3.044	14	115.800	83.800	
FC	P31616	3.200	3.649	15	1.400	0.632	15	5.800	17.769	15	1.800	2.396	15	70.000	1.000K	
PH	P400	7.300	0.402	13	7.387	0.329	15	7.269	0.266	13	7.200	0.288	15	8.200	6.600	
SUSSL	P530	9.600	10.709	15	7.733	7.459	15	3.667	4.152	15	2.347	2.249	15	37.000	1.000K	
FLOW	P60	3726.000	662.773	15	2549.933	1560.472	15	2682.800	1644.090	15	3061.867	1435.628	15	6040.000	47.000	
NH3_N	P610	0.018	0.014	14	0.016	0.011	15	0.015	0.009	15	0.012	0.004	15	0.060	0.005K	
NO2_DIS	P613	0.009	0.003	9	0.010	0.000	12	0.010	0.000	12	0.009	0.002	11	0.010	0.002K	
NO2_N	P615	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000	
NO3_N	P620	0.055	0.049	2	0.103	0.006	3	0.077	0.032	3	0.033	0.012	3	0.110	0.020	
TP_P	P630	0.079	0.038	12	0.120	0.016	12	0.090	0.031	12	0.028	0.017	12	0.140	0.006J	
OP_DIS	P665	0.020	0.013	12	0.026	0.025	15	0.012	0.005	15	0.010	0.003	15	0.100	0.002K	
COLOR	P671	20.250	11.983	4	80.500	112.430	2	35.333	46.307	3	7.333	8.505	3	160.000	1.000	
TURB	P82079	8.633	10.479	15	9.060	10.755	15	3.853	3.104	15	1.760	1.043	15	43.000	0.800	
COND	P95	51.333	5.094	15	55.533	5.527	15	55.800	7.523	15	44.667	9.394	15	69.000	33.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 04C070 Name: SAUK R NR ROCKPORT Class: AA Elevation: 315 River Mile: 7.00

Location:
 LOCATED APPROXIMATELY 12 MILES NORTH OF DARRINGTON AND FIVE MILES SOUTH
 OF ROCKPORT OFF THE SAUK RIVER ROAD ABOUT .3 MILE AT THE BRIDGE ON THE
 ROAD TO HIDDEN VALLEY RANCH AND CONCRETE, .8 MILE DOWNSTREAM FROM THE
 CONFLUENCE OF WHITE CREEK AND 1.6 MILES UPSTREAM OF THE GAGE

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	5.300	1.639	15	3.953	1.193	15	6.880	1.184	15	11.393	1.115	15	13.800	2.300	
PRESS	P25	mmHg	755.567	8.723	15	756.533	17.147	15	758.633	5.093	15	757.427	4.137	15	769.000	699.000	
OXYGEN	P300	mg/L	12.660	0.774	15	12.893	0.498	15	12.153	0.776	15	10.787	0.366	15	14.000	10.000	
PCTSAT	P301	Percent	100.213	4.950	15	98.513	2.954	15	99.500	5.301	14	98.462	1.499	13	112.600	86.800	
FC	P31616	#/100ml	3.571	3.797	14	2.667	2.637	15	4.071	3.731	14	32.429	69.834	14	270.000	1.000K	
PH	P400	units	7.454	0.270	13	7.400	0.309	15	7.315	0.316	13	7.440	0.316	15	8.100	6.600	
SUSSOL	P530	mg/L	23.467	27.764	15	34.267	92.365	15	21.267	27.288	15	170.360	341.850	15	1300.000	1.000K	
FLOW	P60	CFS	3832.692	2545.844	13	3771.333	2952.570	15	6327.267	2070.405	15	3116.000	1958.311	15	13000.000	657.000	
NH3_N	P610	mg/L	0.012	0.004	14	0.013	0.008	15	0.012	0.006	15	0.011	0.003	14	0.030	0.005K	
NO2_DIS	P613	mg/L	0.009	0.003	9	0.010	0.000	12	0.010	0.000	12	0.009	0.002	11	0.010	0.002K	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000	
NO3_N	P620	mg/L	0.130	0.000	2	0.077	0.021	3	0.040	0.017	3	0.020	0.010	3	0.130	0.010	
NO2_NO3	P630	mg/L	0.111	0.047	12	0.097	0.034	12	0.052	0.021	12	0.021	0.010	11	0.210	0.010K	
TP_P	P665	mg/L	0.021	0.014	12	0.032	0.046	14	0.025	0.026	15	0.066	0.117	15	0.480	0.006	
OP_DIS	P671	mg/L	0.010	0.001	14	0.010	0.000	14	0.010	0.000	15	0.010	0.002	15	0.010	0.004J	
COLOR	P80	Pt-Co	8.250	3.686	4	350.500	494.268	2	27.000	32.187	3	37.000	31.177	3	700.000	1.000	
TURB	P82079	NTU	4.727	5.488	15	7.440	13.949	15	5.153	4.635	15	17.573	21.712	15	88.000	1.000K	
COND	P95	umhos	57.467	11.307	15	58.600	9.642	15	42.667	7.943	15	50.333	16.642	15	99.000	30.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 05A090 Name: SF STILLAGUAMISH @ ARLINGTON Class: A Elevation: 55 River Mile: 18.20

Location: AT BRIDGE ON STATE HIGHWAY 530 IN ARLINGTON

Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	5.953	2.106	15	4.093	1.408	15	9.173	2.244	15	15.113	2.422	15	19.900	2.400	
PRESS	P25	mmHg	764.573	8.913	15	767.673	6.046	15	767.247	5.196	15	765.573	4.082	15	779.000	744.000	
OXYGEN	P300	mg/L	12.380	0.959	15	12.933	0.595	15	11.440	1.017	15	9.513	0.671	15	14.100	8.400	
PCTSAT	P301	Percent	98.360	5.900	15	97.633	2.813	15	97.921	5.432	14	92.921	2.624	14	110.100	80.300	
FC	P31616	#/100ml	42.357	103.563	14	53.333	99.191	15	24.692	35.401	13	162.000	334.096	15	1200.000	1.000K	
PH	P400	units	7.138	0.463	13	7.333	0.354	15	7.269	0.328	13	7.353	0.307	15	8.100	6.400	
SUSSOL	P530	mg/L	18.800	22.288	15	200.933	691.897	15	12.667	13.297	15	29.733	99.735	15	2700.000	1.000K	
FLOW	P60	CFS	2075.857	1804.370	14	3095.333	4979.032	15	1874.857	801.102	14	800.615	1502.669	13	20000.000	100.000	
NH3_N	P610	mg/L	0.019	0.012	14	0.027	0.015	15	0.014	0.006	15	0.012	0.005	15	0.060	0.010K	
NO2_DIS	P613	mg/L	0.009	0.003	9	0.010	0.001	12	0.010	0.000	12	0.009	0.002	12	0.014	0.002K	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000	
NO3_N	P620	mg/L	0.340	0.071	2	0.263	0.087	3	0.167	0.100	3	0.110	0.010	3	0.390	0.070	
NO2_NO3	P630	mg/L	0.274	0.090	12	0.287	0.104	12	0.114	0.043	12	0.126	0.064	12	0.440	0.060	
TP_P	P665	mg/L	0.022	0.013	12	0.056	0.096	15	0.016	0.006	15	0.028	0.060	15	0.370	0.002K	
OP_DIS	P671	mg/L	0.010	0.001	14	0.010	0.000	15	0.010	0.000	15	0.009	0.002	15	0.010	0.002J	
COLOR	P80	Pt-Co	31.250	8.098	4	206.500	273.650	2	37.667	10.970	3	2.000	1.732	3	400.000	1.000	
TURB	P82079	NTU	7.860	8.240	15	46.620	142.302	15	4.893	3.402	15	6.660	15.529	15	560.000	0.400	
COND	P95	umhos	53.133	16.466	15	48.667	11.236	15	40.333	6.976	15	63.133	15.833	15	93.000	27.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 058070 Name: NF STILLGAMISH @ CICERO Class: A Elevation: 110 River Mile: 9.50

Location:
LOCATED AT BRIDGE ON STATE HIGHWAY 530 7.2 MILES NORTHEAST OF ARLINGTON
AT CICERO

Water Years Sampled:
5 6 7 8
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	5.753	1.854	4.173	1.235	2.019	15	13.867	1.795	15	17.100	2.400
PRESS	P25	mmHg	761.720	9.535	765.740	6.500	6.313	15	763.567	3.784	15	776.700	756.000
OXYGEN	P300	mg/L	12.267	0.929	12.727	0.499	0.900	15	9.967	0.512	15	13.800	8.900
PCTSAT	P301	Percent	97.313	5.329	96.580	2.410	5.075	13	95.243	2.824	14	109.300	81.300
FC	P31616	#/100ml	18.071	17.477	33.867	31.480	8.026	12	107.600	207.664	15	830.000	3.000
PH	P400	units	7.292	0.307	7.320	0.265	0.303	13	7.580	0.407	15	8.800	6.500
SUSSOL	P530	mg/L	53.600	67.612	308.467	914.682	31.004	15	10.233	24.918	15	3600.000	0.500K
FLOW	P60	CFS	2112.357	1505.258	3397.714	4735.005	806.969	15	539.867	482.213	15	18500.000	168.000
NH3_N	P610	mg/L	0.026	0.022	0.032	0.042	0.011	15	0.014	0.011	14	0.180	0.005K
NO2_DIS	P613	mg/L	0.009	0.003	0.010	0.000	0.000	12	0.009	0.002	12	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	12	0.000	0.000	9	*****	0.000
NO3_N	P620	mg/L	0.365	0.049	0.230	0.036	0.110	3	0.077	0.040	3	0.400	0.040
NO2_NO3	P630	mg/L	0.266	0.101	0.249	0.083	0.109	12	0.091	0.072	12	0.440	0.020
TP_P	P665	mg/L	0.039	0.025	0.138	0.308	0.024	15	0.019	0.022	15	1.230	0.006J
OP_DIS	P671	mg/L	0.010	0.001	0.011	0.005	0.000	15	0.010	0.001	15	0.030	0.006J
COLOR	P80	PT-Co	34.500	10.472	330.500	465.983	2.309	3	2.000	1.732	3	660.000	1.000
TURB	P82079	NTU	15.793	17.392	49.300	119.507	8.543	15	2.607	4.614	15	480.000	0.500
COND	P95	umhos	63.733	21.164	55.733	14.689	6.262	15	83.200	17.797	15	118.000	26.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07A090 Name: SNOHOMISH @ SNOHOMISH Class: A Elevation: 8 River Mile: 12.70

Location: LOCATED AT BRIDGE ON AVENUE D IN SNOHOMISH, TWO BLOCKS SOUTH OF 2ND STREET (OLD HIGHWAY 2) Water Years Sampled: 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER---DECEMBER---, ---JANUARY---MARCH---, ---APRIL---JUNE---, ---JULY---SEPTEMBER---, ---SIX YEAR---. Rows include parameters like TEMP, CU, ZN, CD, PB, CR, CU, PRESS, OXYGEN, PCTSAT, FC, COO, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, HG, COLOR.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE
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TURB	P82079	NTU	9.011	11.997	18	4.306	2.983	18	3.641	3.892	17	2.017	1.409	18	51.000	1.000K
HARD	P900	mg/L	19.286	5.210	14	23.400	8.659	15	19.267	8.631	15	24.000	5.141	15	41.000	10.000
COND	P95	umhos	44.778	12.464	18	48.444	7.868	18	33.778	5.012	18	54.833	13.626	18	85.000	23.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07B055 Name: PILCHUCK R @ SNOHOMISH Class: A Elevation: 25 River Mile: 1.90
 Location:
 LOCATED AT BRIDGE ON US HIGHWAY 2 AT EAST CITY LIMITS OF SNOHOMISH
 Water Years Sampled: 7 8
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	7.817	2.135	1.785	18	12.867	2.402	17.456	2.189	18	21.800	3.200
PRESS	P25	mmHg	767.617	5.053	5.805	18	764.500	6.123	761.812	8.515	17	780.000	737.000
OXYGEN	P300	mg/L	11.839	0.712	0.659	18	10.989	0.751	10.094	0.857	18	13.400	8.600
PCTSAT	P301	Percent	98.139	5.517	2.912	18	102.259	6.200	104.629	8.089	17	116.700	89.100
FC	P31616	#/100ml	79.563	110.931	52.754	15	59.588	92.170	162.412	402.360	17	1700.000	1.000
PH	P400	units	7.238	0.386	0.123	18	7.231	0.154	7.494	0.300	18	8.100	6.500
SUSSOL	P530	mg/L	33.722	50.152	124.923	18	6.176	5.747	36.667	135.701	18	580.000	1.000K
FLOW	P60	CFS	690.138	552.223	608.085	18	347.000	164.614	114.847	102.886	17	2950.000	40.000
NH3_N	P610	mg/L	0.014	0.007	0.013	18	0.013	0.005	0.017	0.014	18	0.060	0.005K
NO2_DIS	P613	mg/L	0.009	0.002	0.000	15	0.010	0.000	0.009	0.002	15	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	0.000	3	0.010	0.000	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	11	0.000	0.000	0.000	0.000	9	*****	0.000
NO3_N	P620	mg/L	0.645	0.262	0.191	3	0.293	0.076	0.203	0.070	3	0.830	0.130
NO2_NO3	P630	mg/L	0.502	0.208	0.172	15	0.297	0.110	0.208	0.063	15	0.990	0.065
TP_P	P665	mg/L	0.028	0.017	0.078	18	0.018	0.007	0.025	0.058	18	0.310	0.002J
OP_DIS	P671	mg/L	0.010	0.001	0.000	18	0.010	0.000	0.010	0.002	18	0.010	0.002J
COLOR	P80	Pt-Co	40.333	20.306	6.110	3	29.333	4.509	23.857	16.456	7	54.000	13.000
TURB	P82079	NTU	7.133	7.525	13.467	18	2.341	1.978	3.967	10.044	18	57.000	0.500
COND	P95	umhos	63.833	22.897	10.070	18	64.667	10.922	88.000	13.213	18	117.000	30.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07C070 Name: SKYKOMISH R @ MONROE Class: A Elevation: 43 River Mile: 25.60
 Location: LOCATED AT THE RAILROAD TRESTLE .5 MILES EAST OF MONROE IN MONROE PARK
 Water Years Sampled: 7 8
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.936	2.370	4.559	1.686	8.789	2.112	15.611	1.998	20.300	0.000
PRESS	P25	mmHg	767.957	6.833	765.469	5.111	763.383	6.762	766.488	14.324	817.900	750.600
OXYGEN	P300	mg/L	12.029	0.752	12.781	0.534	12.044	0.850	10.533	0.455	14.100	9.700
PCTSAT	P301	Percent	99.879	4.365	98.647	3.170	102.682	5.352	104.824	3.373	114.100	88.400
FC	P31616	#/100ml	14.429	10.896	4.000	5.695	8.611	8.665	34.611	48.588	160.000	1.000K
PH	P400	units	7.283	0.386	7.094	0.277	7.106	0.214	7.500	0.508	8.500	6.600
SUSSOL	P530	mg/L	13.143	22.637	7.375	10.676	9.000	10.825	3.988	2.881	76.000	1.000K
FLOW	P60	CFS	5172.727	4162.086	4827.857	2650.519	7313.333	2069.605	2069.533	1415.071	15000.000	490.000
NH3_N	P610	mg/L	0.013	0.004	0.016	0.015	0.015	0.011	0.012	0.005	0.060	0.005
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.009	0.002	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	*****	0.000
NO3_N	P620	mg/L	0.245	0.064	0.153	0.042	0.060	0.036	0.047	0.006	0.290	0.030
NO3_NO3	P630	mg/L	0.182	0.079	0.175	0.048	0.070	0.029	0.043	0.022	0.280	0.010
TP_P	P665	mg/L	0.018	0.015	0.018	0.027	0.013	0.006	0.011	0.003	0.120	0.006J
OP_DIS	P671	mg/L	0.010	0.000	0.010	0.001	0.010	0.000	0.010	0.002	0.010	0.003J
COLOR	P80	Pt-Co	15.333	6.658	13.000	0.000	15.667	2.309	13.429	7.208	21.000	1.000
TURB	P82079	NTU	5.179	7.276	3.313	3.195	3.172	2.665	1.856	1.252	26.000	1.000K
COND	P95	umhos	41.643	15.435	38.063	8.797	29.333	6.490	42.778	8.200	83.000	18.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07C120 Name: SKYKOMISH R NR GOLD BAR Class: AA Elevation: 210 River Mile: 43.70

Location:
 LOCATED AT THE BRIDGE ON U S HIGHWAY 2, 3.1 MILES SOUTHEAST OF GOLD BAR
 7 MILES UPSTREAM OF GAGE

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	----OCTOBER-DECEMBER----		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	7.083	2.123	18	4.976	1.373	17	7.994	1.872	18	14.672	2.150	18	19.000	2.700
PRESS	P25	mmHg	761.428	5.181	18	759.924	6.009	17	757.894	6.208	18	758.000	5.342	17	774.000	744.700
OXYGEN	P300	mg/L	12.363	0.749	18	12.847	0.453	17	12.300	0.984	18	10.244	0.654	18	14.300	8.500
PCTSAT	P301	Percent	101.578	4.516	18	100.271	2.244	17	103.876	8.739	17	100.635	5.915	17	128.500	80.000
FC	P31616	#/100ml	97.176	387.282	17	3.067	5.325	15	4.611	9.082	18	20.500	45.113	18	1600.000	1.000K
PH	P400	units	7.181	0.380	16	7.206	0.222	17	7.150	0.245	16	7.322	0.362	18	7.900	6.200
SUSSOL	P530	mg/L	9.722	13.015	18	4.529	4.584	17	4.444	5.731	18	4.400	6.760	18	41.000	1.000K
FLOW	P60	CFS	4245.444	3489.337	18	2987.059	1603.491	17	5387.778	2284.983	18	1329.000	874.381	18	12100.000	327.000
NH3_N	P610	mg/L	0.013	0.009	17	0.014	0.012	17	0.011	0.002	18	0.012	0.005	18	0.060	0.005K
NO2_DIS	P613	mg/L	0.009	0.002	11	0.010	0.000	13	0.010	0.000	15	0.009	0.002	14	0.010	0.002K
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	10	0.000	0.000	10	0.000	0.000	12	0.000	0.000	9	*****	0.000
NO3_N	P620	mg/L	0.255	0.106	2	0.133	0.058	3	0.060	0.020	3	0.117	0.075	3	0.330	0.040
NO2_NO3	P630	mg/L	0.204	0.142	15	0.133	0.044	14	0.055	0.022	15	0.070	0.056	15	0.641	0.013
TP_P	P665	mg/L	0.015	0.010	15	0.017	0.023	16	0.011	0.003	18	0.021	0.046	18	0.207	0.002K
OP_DIS	P671	mg/L	0.010	0.002	17	0.009	0.003	15	0.010	0.000	18	0.010	0.002	18	0.016	0.000K
COLOR	P80	Pt-Co	4.000	0.000	3	8.000	0.000	3	7.333	6.028	3	9.429	9.053	7	13.000	1.000
TURB	P82079	NTU	3.867	4.365	18	2.200	2.010	17	1.817	1.395	18	1.450	0.867	18	15.000	0.500
COND	P95	umhos	39.778	12.129	18	36.765	8.363	17	29.167	7.540	18	43.000	8.541	18	70.000	17.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07D050 Name: SNOQUALMIE R NR MONROE Class: A Elevation: 15 River Mile: 2.70

Location:
 LOCATED AT HIGH BRIDGE AT THE SOUTHWEST CORNER OF THE MONROE STATE
 REFORMATORY HONOR FARM NUMBER 2, NEAR CRESCENT LAKE, APPROXIMATELY THREE
 MILES SOUTHWEST OF MONROE IN TUALCO VALLEY ON HIGH BRIDGE ROAD

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	8.933	2.517	3	5.767	2.354	3	12.300	2.193	3	18.800	3.985	3	21.200	3.500
PRESS	P25	mmHg	761.233	3.837	3	763.000	1.732	3	764.033	2.050	3	762.400	5.233	2	766.100	758.400
OXYGEN	P300	mg/L	11.267	0.833	3	11.733	0.808	3	10.700	0.600	3	9.333	0.833	3	12.600	8.400
PCTSAT	P301	Percent	96.600	2.193	3	92.900	1.552	3	99.000	8.848	3	99.100	10.928	3	111.700	91.400
FC	P31616	#/100ml	105.333	40.501	3	26.667	16.503	3	366.333	351.241	3	81.667	53.799	3	730.000	13.000
PH	P400	units	7.300	0.173	3	7.000	0.173	3	7.067	0.153	3	7.367	0.153	3	7.500	6.900
SUSSOL	P530	mg/L	21.500	16.263	2	6.000	4.359	3	6.000	4.359	3	3.667	2.082	3	33.000	1.000
NH3_N	P610	mg/L	0.022	0.005	3	0.029	0.006	3	0.019	0.005	3	0.013	0.003	3	0.036	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	3	0.013	0.005	3	0.010	0.000	3	0.010	0.000	3	0.018	0.010K
NO2_NO3	P630	mg/L	0.274	0.135	3	0.375	0.115	3	0.208	0.068	3	0.140	0.038	3	0.458	0.105
TP_P	P665	mg/L	0.023	0.012	3	0.019	0.003	3	0.022	0.010	3	0.012	0.002	3	0.036	0.010K
OP_DIS	P671	mg/L	0.011	0.001	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.012	0.010K
TURB	P82079	NTU	6.033	6.205	3	3.100	0.854	3	2.267	0.777	3	1.100	0.346	3	13.000	0.700
COND	P95	unthos	76.667	46.544	3	45.333	5.033	3	35.667	8.021	3	57.667	3.786	3	122.000	28.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07D130 Name: SNOQUALMIE R @ SNOQUALMIE Class: A Elevation: 400 River Mile: 42.30
 Location: LOCATED AT THE BRIDGE EAST OF SNOQUALMIE ON THE LUMBER MILL ROAD
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N
TEMP	P10	C	6.700	1.865	18	4.600	1.417	18	8.383	2.405	18	13.617	1.645	18	16.600	2.000	
PRESS	P25	mmHg	757.783	8.268	18	755.100	5.730	18	753.550	5.401	18	754.171	5.035	17	785.000	741.900	
OXYGEN	P300	mg/L	11.806	1.144	18	12.406	0.522	18	11.578	0.933	18	9.767	0.470	18	13.800	8.800	
PCTSAT	P301	Percent	96.322	7.006	18	96.539	3.661	18	99.024	4.823	17	94.182	3.417	17	110.600	76.000	
FC	P31616	#/100ml	11.765	10.986	17	6.063	8.185	16	9.611	9.574	18	40.647	50.160	17	220.000	1.000K	
PH	P400	units	7.369	0.417	16	7.406	0.339	18	7.306	0.323	16	7.267	0.291	18	8.300	6.700	
SUSSOL	P530	mg/L	22.056	26.996	18	12.222	22.370	18	10.333	11.520	18	4.256	1.994	18	110.000	1.000K	
FLOW	P60	CFS	2933.556	2323.704	18	2242.111	1322.380	18	3147.778	1310.916	18	828.333	468.450	18	8420.000	286.000	
NH3_N	P610	mg/L	0.012	0.004	17	0.017	0.013	18	0.013	0.004	18	0.014	0.008	18	0.060	0.010K	
NO2_DIS	P613	mg/L	0.009	0.002	12	0.010	0.000	15	0.010	0.000	15	0.010	0.001	15	0.010	0.002K	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	10	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	*****	0.000	
NO3_N	P620	mg/L	0.295	0.021	2	0.207	0.031	3	0.120	0.036	3	0.150	0.010	3	0.310	0.090	
NO2_NO3	P630	mg/L	0.226	0.056	15	0.241	0.047	15	0.117	0.038	15	0.136	0.030	15	0.350	0.070	
TP_P	P665	mg/L	0.017	0.013	15	0.024	0.039	17	0.012	0.005	18	0.011	0.002	17	0.170	0.009	
OP_DIS	P671	mg/L	0.010	0.001	17	0.010	0.000	17	0.010	0.000	18	0.010	0.002	17	0.010	0.003J	
COLOR	P80	Pt-Co	17.000	4.000	3	13.000	0.000	3	18.333	6.110	3	14.714	8.281	7	25.000	1.000	
TURB	P82079	NTU	5.344	6.150	18	4.739	6.045	18	3.167	2.669	18	1.700	0.864	18	28.000	0.600	
COND	P95	umhos	43.111	14.200	18	38.222	10.474	18	28.722	8.101	18	46.722	11.801	18	80.000	20.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07D150 Name: M F SNOQUALMIE R NEAR ELLISVILLE

Class: AA Elevation: 460 River Mile: 45.30

Location:

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		---JANUARY-MARCH---		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	0.000	0.000	0.000	0.000	0.000	0.000	14.800	2.571	3	17.700	7.500
ZN	P1094	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	4.000	0.000	2	7.000	4.000K
CD	P1113	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.000	2	0.110	0.100K
PB	P1114	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	2	1.000	1.000K
CR	P1118	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.415	0.163	2	2.300	0.300K
CJ	P1119	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	3.000	0.000	2	3.000	3.000K
PRESS	P25	mmHg	0.000	0.000	0.000	0.000	0.000	0.000	754.967	1.210	3	761.700	753.600
OXYGEN	P300	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	10.033	0.551	3	11.900	9.400
PCTSAT	P301	Percent	0.000	0.000	0.000	0.000	0.000	0.000	98.933	1.604	3	100.600	97.400
FC	P31616	#/100ml	0.000	0.000	0.000	0.000	0.000	0.000	42.667	50.292	3	100.000	6.000J
PH	P400	units	0.000	0.000	0.000	0.000	0.000	0.000	6.567	0.153	3	6.800	6.400
SUSSOL	P530	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	6.000	2.646	3	25.000	4.000
FLOW	P60	CFS	0.000	0.000	0.000	0.000	0.000	0.000	598.333	531.045	3	2160.000	195.000
NH3_N	P610	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	3	0.010	0.010K
NO2_DIS	P613	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	3	0.010	0.010K
NO2_NO3	P630	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.018	3	0.072	0.029
TP_P	P665	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.002	3	0.017	0.010K
OP_DIS	P671	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	3	0.062	0.040K
TURB	P82079	NTU	0.000	0.000	0.000	0.000	0.000	0.000	2.767	1.150	3	12.000	1.600
HARD	P900	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	11.000	2.646	3	13.000	6.000
COND	P95	umhos	0.000	0.000	0.000	0.000	0.000	0.000	33.667	12.014	3	46.000	19.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07E055 Name: SULTAN R @ SULTAN Class: A Elevation: 95 River Mile: 0.11

Location:
 LOCATED ON US HIGHWAY 2 AT THE BRIDGE AT THE WEST END OF SULTAN

Water Years Sampled:

5	6	7	8	9
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3

X X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	8.633	3.253	3	5.633	1.106	3	10.533	1.518	3	15.267	1.955	3	17.300	4.600
PRESS	P25	mmHg	759.733	5.198	3	761.333	1.756	3	760.567	4.061	3	758.850	4.879	2	765.600	755.400
OXYGEN	P300	mg/L	11.567	0.950	3	12.533	0.551	3	12.533	1.644	3	10.667	0.404	3	14.400	10.200
PCTSAT	P301	Percent	98.533	1.443	3	99.300	1.769	3	112.167	18.392	3	105.800	1.609	3	133.400	97.400
FC	P31616	#/100ml	55.667	57.327	3	3.000	1.000	3	3.000	2.646	3	17.333	3.215	3	120.000	1.000K
PH	P400	units	7.167	0.252	3	7.033	0.231	3	7.233	0.115	3	7.733	0.153	3	7.900	6.900
SUSSOL	P530	mg/L	5.667	0.577	3	2.000	1.000	3	4.333	3.215	3	2.667	0.577	3	8.000	1.000K
FLOW	P60	CFS	828.333	919.616	3	521.333	335.245	3	308.000	36.000	3	565.000	548.191	3	1890.000	206.000
NH3_N	P610	mg/L	0.022	0.009	3	0.010	0.001	3	0.010	0.000	3	0.013	0.006	3	0.032	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NO2_NO3	P630	mg/L	0.167	0.100	3	0.139	0.034	3	0.078	0.028	3	0.050	0.053	3	0.240	0.010K
TP_P	P665	mg/L	0.012	0.002	3	0.011	0.001	3	0.013	0.004	3	0.010	0.000	3	0.018	0.010K
OP_DIS	P671	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
TURB	P82079	NTU	3.067	1.701	3	2.900	1.015	3	0.900	0.361	3	1.467	0.643	3	5.000	0.600
COND	P95	umhos	71.333	73.351	3	32.333	9.292	3	25.000	4.359	3	25.333	0.577	3	156.000	22.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07F055 Name: WOODS CR @ MONROE Class: A Elevation: 45 River Mile: 0.50
 Location: LOCATED AT BRIDGE OVER WOODS CREEK AT WEST ENTRANCE TO MONROE PARK
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	9.067	1.464	6.700	2.117	12.767	2.570	16.767	2.914	19.100	5.100
PRESS	P25	mmHg	761.467	5.093	763.300	1.997	762.867	3.099	761.100	5.515	767.300	757.200
OXYGEN	P300	mg/L	10.767	0.569	11.933	0.651	11.167	0.709	9.900	0.300	12.600	9.600
PCTSAT	P301	Percent	92.700	1.058	96.767	2.026	104.467	8.822	101.133	4.966	114.600	91.900
FC	P31616	#/100ml	277.000	218.831	2126.667	3354.778	320.000	194.679	180.000	84.853	6000.000	31.000
PH	P400	units	7.000	0.100	7.167	0.289	7.433	0.321	7.800	0.265	8.100	6.900
SUSSOL	P530	mg/L	17.333	17.243	11.333	13.796	6.000	7.000	4.333	2.309	36.000	1.000K
NH3_N	P610	mg/L	0.051	0.055	0.057	0.057	0.012	0.002	0.035	0.037	0.121	0.011
NO2_D1S	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.627	0.519	0.873	0.095	0.485	0.090	0.414	0.063	1.200	0.187
TP_P	P665	mg/L	0.037	0.024	0.046	0.038	0.028	0.015	0.028	0.010	0.089	0.010K
OP_D1S	P671	mg/L	0.016	0.010	0.023	0.020	0.013	0.003	0.012	0.003	0.046	0.010K
TURB	P82079	NTU	5.900	4.151	2.467	1.242	1.567	0.404	1.667	0.404	10.000	1.200
COND	P95	umhos	72.667	37.448	53.667	1.155	55.667	8.145	94.333	7.506	113.000	39.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07G070 Name: TOLT R NR CARNATION Class: AA Elevation: 70 River Mile: 0.60
 Location: LOCATED AT THE BRIDGE ON HIGHWAY 203, .6 MILE SOUTH OF CARNATION
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----	
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10 C	8.467	2.101	3	5.633	1.405	3	11.133	1.079	3	15.233	2.750	3	18.000	4.300
PRESS	P25 mmHg	761.900	2.921	3	763.700	1.808	3	764.367	2.802	3	762.650	4.455	2	767.100	759.200
OXYGEN	P300 mg/L	11.567	0.503	3	12.467	0.569	3	11.233	0.503	3	10.200	0.361	3	13.100	9.900
PCTSAT	P301 Percent	98.100	0.917	3	98.433	1.756	3	101.167	5.609	3	100.767	4.446	3	107.600	96.600
FC	P31616 #/100ml	16.000	11.790	3	3.000	1.000	3	11.667	15.011	3	29.667	16.503	3	48.000	2.000
PH	P400 units	7.433	0.513	3	7.200	0.346	3	7.500	0.000	3	7.800	0.100	3	8.000	7.000
SUSSOL	P530 mg/L	23.000	35.539	3	2.000	1.000	3	2.000	1.000	3	2.333	0.577	3	64.000	1.000K
FLOW	P60 CFS	848.000	1015.604	3	317.000	36.510	3	296.333	37.287	3	169.000	59.632	3	2010.000	119.000
NH3_N	P610 mg/L	0.011	0.001	3	0.012	0.003	3	0.011	0.002	3	0.011	0.001	3	0.015	0.010K
NO2_DIS	P613 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NO2_NO3	P630 mg/L	0.300	0.164	3	0.315	0.080	3	0.230	0.069	3	0.165	0.021	3	0.423	0.114
TP_P	P665 mg/L	0.023	0.023	3	0.011	0.001	3	0.016	0.007	3	0.010	0.000	3	0.049	0.010K
OP_DIS	P671 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
TURB	P82079 NTU	7.733	9.770	3	1.433	0.416	3	1.067	0.723	3	1.067	0.252	3	19.000	0.600
COND	P95 umhos	38.667	16.503	3	43.667	0.577	3	41.667	3.215	3	87.000	66.302	3	163.000	25.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07M070 Name: S F SNOQUALMIE R AT NORTH BEND Class: AA Elevation: 435 River Mile: 2.01

Location: Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	0.000	0.000	0.000	0.000	0.000	0.000	13.633	1.159	3	14.700
ZN	P1094	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	4.000	0.000	2	6.000
CD	P1113	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.226	0.000	2	0.420
PB	P1114	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	2	1.000
CR	P1118	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.830	0.665	2	1.300
CU	P1119	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	3.000	0.000	2	3.000
PRESS	P25	mmHg	0.000	0.000	0.000	0.000	0.000	0.000	754.567	1.041	3	760.200
OXYGEN	P300	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	10.367	0.153	3	11.900
PCTSAT	P301	Percent	0.000	0.000	0.000	0.000	0.000	0.000	99.933	2.136	3	101.500
FC	P31616	#/100ml	0.000	0.000	0.000	0.000	0.000	0.000	11.667	3.512	3	15.000
PH	P400	units	0.000	0.000	0.000	0.000	0.000	0.000	7.367	0.208	3	7.600
SUSSOL	P530	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	2.000	1.000	3	3.000
FLOW	P60	CFS	0.000	0.000	0.000	0.000	0.000	0.000	186.333	72.625	3	889.000
NH3_N	P610	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	3	0.015
NO2_DIS	P613	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	3	0.010
NO2_NO3	P630	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.247	0.043	3	0.296
TP_P	P665	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.004	3	0.017
OP_DIS	P671	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	3	0.071
TURB	P82079	NTU	0.000	0.000	0.000	0.000	0.000	0.000	1.533	0.551	3	2.100
HARD	P900	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	32.000	6.083	3	36.000
COND	P95	umhos	0.000	0.000	0.000	0.000	0.000	0.000	71.667	11.504	3	83.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07N070 Name: N F SHOQUALMIE R NEAR ELLISVILLE Class: AA Elevation: 460 River Mile: 0.30

Location:

Water Years Sampled:

5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 7 8 9
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	0.000	0.000	0.000	0.000	0.000	0.000	14.133	2.101	16.200	8.100
ZN	P1094	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	6.000	2.828	8.000	4.000K
CD	P1113	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.115	0.021	0.320	0.100K
PB	P1114	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	2.150	0.354	2.400	1.000K
CR	P1118	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	0.430	0.184	0.560	0.300K
CU	P1119	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	3.000	0.000	3.000	3.000K
PRESS	P25	mmHg	0.000	0.000	0.000	0.000	0.000	0.000	755.567	1.332	762.000	754.100
OXYGEN	P300	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	9.667	0.681	11.700	8.900
PCTSAT	P301	Percent	0.000	0.000	0.000	0.000	0.000	0.000	93.900	4.636	99.200	90.600
FC	P31616	#/100ml	0.000	0.000	0.000	0.000	0.000	0.000	4.333	1.155	6.000	3.000
PH	P400	units	0.000	0.000	0.000	0.000	0.000	0.000	6.833	0.306	7.100	6.500
SUSSOL	P530	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	2.000	1.000	3.000	1.000
FLOW	P60	CFS	0.000	0.000	0.000	0.000	0.000	0.000	120.000	73.655	980.000	75.000
NH3_N	P610	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.001	0.011	0.010K
NO2_DIS	P613	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.225	0.086	0.313	0.113
TP_P	P665	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.001	0.011	0.010K
OP_DIS	P671	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.011	0.010K
TURB	P82079	NTU	0.000	0.000	0.000	0.000	0.000	0.000	1.967	1.193	3.300	1.000K
HARD	P900	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	21.333	4.726	25.000	9.000
COND	P95	umhos	0.000	0.000	0.000	0.000	0.000	0.000	64.333	25.580	91.000	26.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 07P070 Name: PATTERSON CK NR FALL CITY Class: A Elevation: 70 River Mile: 0.70
 Location: Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	9.133	1.079	3	6.067	2.113	3	11.933	0.808	3	13.500	1.300	3	14.300	4.100	
PRESS	P25	mmHg	762.100	3.035	3	764.200	1.929	3	764.700	2.563	3	763.500	3.253	2	767.100	760.200	
OXYGEN	P300	mg/L	9.467	0.306	3	11.233	1.380	3	9.833	0.451	3	9.267	0.551	3	12.800	8.700	
PCTSAT	P301	Percent	81.667	1.150	3	89.367	6.745	3	90.133	4.834	3	88.233	5.692	3	97.100	80.500	
FC	P31616	#/100ml	795.667	827.276	3	45.333	12.897	3	356.667	86.217	3	8696.667	10870.742	3	21000.000	31.000	
PH	P400	units	7.233	0.153	3	7.233	0.153	3	7.400	0.265	3	7.600	0.100	3	7.700	7.100	
SUSSOL	P530	mg/L	28.333	33.858	3	6.667	0.577	3	4.667	4.041	3	22.667	25.716	3	67.000	1.000	
NH3_N	P610	mg/L	0.034	0.011	3	0.024	0.002	3	0.013	0.003	3	0.023	0.007	3	0.047	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	1.039	0.298	3	1.202	0.237	3	0.794	0.309	3	0.734	0.081	3	1.440	0.523	
TP_P	P665	mg/L	0.101	0.084	3	0.051	0.002	3	0.047	0.005	2	0.084	0.039	3	0.198	0.043	
OP_DIS	P671	mg/L	0.049	0.022	3	0.029	0.005	3	0.045	0.035	3	0.040	0.017	3	0.086	0.021	
TURB	P82079	NTU	8.967	13.019	3	3.400	0.721	3	2.067	1.701	3	7.400	8.431	3	24.000	0.800	
COND	P95	umhos	252.667	238.215	3	94.000	12.166	3	108.000	26.889	3	144.667	2.082	3	525.000	77.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 070070 Name: RAGING R @ FALL CITY

Class: A Elevation: 100 River Mile: 0.50

Location:

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	9.067	1.563	5.667	2.055	11.967	2.223	16.733	2.386	18.400	3.700
PRESS	P25	mmHg	760.400	3.537	762.767	1.570	763.700	2.563	763.000	2.828	766.100	757.400
OXYGEN	P300	mg/L	11.467	0.306	12.400	0.819	11.300	0.600	10.633	1.079	13.300	9.400
PCTSAT	P301	Percent	98.933	1.387	98.033	1.904	103.800	7.904	108.267	9.335	117.100	96.200
FC	P31616	#/100ml	404.333	388.711	14.000	12.490	23.667	20.133	68.000	54.443	840.000	4.000
PH	P400	units	7.300	0.300	7.333	0.252	7.833	0.839	8.467	0.551	9.000	7.000
SUSSOL	P530	mg/L	94.667	147.582	4.667	3.512	2.667	1.528	4.333	1.528	265.000	1.000
FLOW	P60	CFS	208.333	322.894	63.333	16.563	67.667	66.199	13.000	1.732	581.000	12.000
NH3_N	P610	mg/L	0.020	0.004	0.013	0.002	0.011	0.001	0.012	0.003	0.023	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.599	0.353	0.617	0.149	0.329	0.219	0.128	0.043	0.803	0.078
TP_P	P665	mg/L	0.068	0.081	0.018	0.002	0.012	0.002	0.012	0.003	0.161	0.010K
OP_DIS	P671	mg/L	0.012	0.002	0.012	0.002	0.010	0.000	0.010	0.000	0.014	0.010K
TURB	P82079	NTU	14.567	14.972	1.900	1.127	0.900	0.954	0.833	0.351	31.000	0.300
COND	P95	umhos	58.667	31.533	44.667	8.737	44.667	8.327	83.667	4.726	91.000	28.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 088070 Name: SAMMAMISH R @ BOTHELL Class: AA Elevation: 15 River Mile: 20.40

Location:
 LOCATED IN BOTHELL AT 102ND STREET BRIDGE OVER SAMMAMISH RIVER

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR----				
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	MAX	MIN		
TEMP	P10	C	9.189	2.188	18	6.928	1.204	18	14.044	18	17.667	2.307	18	20.800	5.100
PRESS	P25	mmHg	762.394	7.898	18	768.500	6.598	18	767.444	18	766.988	3.838	17	777.700	743.000
OXYGEN	P300	mg/L	9.872	0.817	18	11.128	0.366	18	9.961	18	7.844	0.768	18	12.500	6.400
PCTSAT	P301	Percent	85.111	6.691	18	90.300	4.140	18	94.965	17	80.147	6.887	17	113.400	66.200
FC	P31616	#/100ml	313.294	377.529	17	125.389	129.242	18	241.000	17	534.444	553.132	18	2400.000	8.000K
PH	P400	units	7.281	0.360	16	7.261	0.182	18	7.344	16	7.339	0.133	18	8.000	6.300
SUSSOL	P530	mg/L	14.111	10.932	18	9.167	3.792	18	7.118	17	8.278	8.137	18	49.000	2.000
FLOW	P60	CFS	377.750	279.506	18	605.611	231.544	18	307.222	18	90.317	30.535	18	1000.000	27.000
NH3_N	P610	mg/L	0.047	0.020	18	0.038	0.018	18	0.027	17	0.048	0.018	17	0.090	0.010K
NO2_DIS	P613	mg/L	0.010	0.001	12	0.010	0.001	15	0.010	14	0.010	0.002	15	53.000	53.000
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	11	0.000	0.000	12	0.000	12	0.000	0.000	9	0.001	0.000
NO3_N	P620	mg/L	0.473	0.085	3	0.500	0.160	3	0.280	3	0.313	0.064	3	0.660	0.220
NO2_NO3	P630	mg/L	0.479	0.155	15	0.613	0.170	15	0.348	15	0.278	0.079	15	1.000	0.140
TP_P	P665	mg/L	0.056	0.017	16	0.049	0.026	18	0.037	18	0.060	0.016	18	0.130	0.023
OP_DIS	P671	mg/L	0.022	0.009	16	0.015	0.005	18	0.013	18	0.027	0.007	18	0.040	0.010K
COLOR	P80	Pt-Co	68.250	30.358	4	69.000	61.652	3	39.333	3	17.000	25.159	3	140.000	1.000
TURB	P82079	NTU	3.644	1.556	18	4.061	2.060	18	2.628	18	3.478	1.324	18	9.000	1.700
HARD	P900	mg/L	66.500	19.092	2	0.000	0.000	0	0.000	0	0.000	0.000	0	80.000	53.000
COND	P95	umhos	130.333	19.306	18	119.944	9.496	18	128.167	18	160.222	23.297	18	241.000	100.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 08C070 Name: CEDAR R @ LOGAN ST/RENTON Class: A Elevation: 15 River Mile: 1.00
 Location: LOCATED AT THE BRIDGE ON LOGAN STREET IN RENTON ADJACENT TO THE SOUTHEAST CORNER OF THE RENTON AIRPORT
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	8.128	1.948	18	6.683	1.141	18	11.044	1.858	18	14.217	1.551	18	17.300	4.600	
PRESS	P25 mmHg	762.906	7.764	18	768.250	6.517	18	766.922	5.410	18	766.912	3.971	17	777.200	745.000	
OXYGEN	P300 mg/L	11.878	0.789	18	12.339	0.423	18	11.678	0.629	18	11.011	0.687	18	13.300	10.000	
PCTSAT	P301 Percent	99.822	5.592	18	99.500	3.589	18	104.388	4.941	17	105.765	6.352	17	121.100	91.100	
FC	P31616 #/100ml	55.813	104.430	16	43.667	78.889	18	38.889	38.241	18	131.889	72.247	18	440.000	3.000	
PH	P400 units	7.500	0.322	16	7.400	0.360	18	7.575	0.173	16	7.744	0.342	18	8.500	6.700	
SUSSOL	P530 mg/L	12.500	12.089	18	27.722	54.303	18	6.722	6.841	18	14.522	20.434	18	213.000	1.000	
FLOW	P60 CFS	674.333	428.175	18	858.222	775.555	18	577.444	314.647	18	163.833	41.512	18	3570.000	105.000	
NH3_N	P610 mg/L	0.028	0.023	17	0.014	0.009	18	0.012	0.004	18	0.014	0.006	17	0.100	0.008	
NO2_DIS	P613 mg/L	0.009	0.002	12	0.010	0.000	15	0.010	0.000	15	0.009	0.002	15	26.000	26.000	
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	11	0.000	0.000	12	0.000	0.000	12	0.000	0.001	9	0.001	0.000	
NO3_N	P620 mg/L	0.310	0.161	3	0.360	0.095	3	0.143	0.040	3	0.153	0.061	3	0.480	0.100	
NO2_NO3	P630 mg/L	0.335	0.101	14	0.410	0.096	15	0.208	0.065	15	0.196	0.052	15	0.550	0.117	
TP_P	P665 mg/L	0.027	0.010	14	0.026	0.025	18	0.014	0.005	18	0.019	0.010	18	0.110	0.006	
OP_DIS	P671 mg/L	0.012	0.006	15	0.010	0.001	18	0.010	0.000	18	0.010	0.003	18	0.030	0.005K	
COLOR	P80 Pt-Co	16.500	12.342	4	29.333	32.716	3	8.667	10.786	3	11.333	15.373	3	67.000	1.000	
TURB	P82079 NTU	2.494	1.567	18	4.706	8.375	18	1.406	1.075	16	2.111	2.049	18	37.500	0.400	
HARD	P900 mg/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	26.000	26.000	
COND	P95 unities	68.000	15.889	18	68.389	11.371	18	66.056	8.895	18	91.667	6.894	18	110.000	42.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 08c110 Name: CEDAR R NR LANDSBURG

Class: AA Elevation: 616 River Mile: 25.10

Location:

STATION LOCATED ON THE CEDAR RIVER 1 MILE SOUTH OF WALSH LAKE AND 2.25 MILES NORTHEAST OF LANDSBURG AT THE TRUDE ROAD CROSSING

Water Years Sampled:

5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER-DECEMBER--- (MEAN, STD. DEV., N), -----JANUARY-MARCH----- (MEAN, STD. DEV., N), -----APRIL-JUNE----- (MEAN, STD. DEV., N), ----JULY-SEPTEMBER---- (MEAN, STD. DEV., N), -----SIX YEAR----- (MAX, MIN). Rows include parameters like TEMP, PRESS, OXYGEN, PCTSAT, FC, COD, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, COLOR, TURB, COND.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09A060 Name: DUMAMISH R @ ALLENTOWN BR

Class: B Elevation: 20 River Mile: 8.30

Location:

LOCATED AT THE BRIDGE ON 42ND AVENUE SOUTH AT THE INTERSECTION WITH INTERURBAN AVENUE AT ALLENTOWN

Water Years Sampled:

5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.986	2.522	14	6.375	0.999	12	12.192	2.779	12	17.183	1.993	12	20.300	4.400	
CU	P1042 ug/L	5.427	5.157	11	6.109	8.000	11	1.958	1.177	12	4.222	3.063	9	28.000	1.000	
ZN	P1092 ug/L	7.000	5.153	11	16.545	25.295	11	9.625	18.053	12	6.389	3.080	9	91.000	1.000	
ZN	P1094 ug/L	6.538	4.824	13	16.818	25.135	11	10.083	17.876	12	6.500	2.799	10	91.000	1.000K	
CD	P1113 ug/L	0.362	0.474	13	0.818	1.985	11	0.187	0.109	12	0.668	1.516	12	6.800	0.100K	
PB	P1114 ug/L	2.483	1.722	12	1.718	1.550	11	1.950	1.541	12	2.258	1.612	12	5.000	1.000K	
CR	P1118 ug/L	1.148	1.217	13	1.438	1.875	11	1.368	1.185	12	1.098	1.279	12	7.000	0.200J	
CU	P1119 ug/L	5.246	4.699	13	6.382	7.810	11	2.500	1.446	12	4.450	2.833	10	28.000	1.000J	
PRESS	P25 mmHg	762.664	8.588	14	769.050	6.127	12	765.908	6.137	12	768.150	2.709	12	777.700	744.000	
OXYGEN	P300 mg/L	10.621	1.460	14	11.425	0.452	12	10.092	1.160	12	8.142	0.991	12	12.400	6.700	
PCTSAT	P301 Percent	88.814	8.071	14	91.308	3.331	12	92.591	6.851	11	83.227	10.450	11	111.500	69.600	
FC	P31616 #/100ml	198.923	239.253	13	171.500	247.716	12	101.909	95.618	11	508.333	560.484	12	1600.000	6.000	
PH	P400 units	7.292	0.278	12	7.283	0.244	12	7.340	0.151	10	7.367	0.206	12	7.700	6.700	
SUSSOL	P530 mg/L	19.077	19.508	13	19.250	14.961	12	17.500	17.987	12	9.817	5.667	12	69.000	1.000	
FLOW	P60 CFS	1920.333	1364.800	3	1594.333	48.645	3	1186.667	611.746	3	596.667	65.256	3	3380.000	535.000	
NH3_N	P610 mg/L	0.269	0.569	13	0.162	0.197	12	0.034	0.022	12	0.072	0.072	11	2.100	0.010K	
NO2_DIS	P613 mg/L	0.009	0.003	8	0.010	0.000	9	0.010	0.000	9	0.012	0.007	8	0.030	0.002K	
NO2_N	P615 mg/L	0.014	0.009	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.030	0.010K	
NH3_UN	P619 mg/L	0.002	0.002	11	0.001	0.001	12	0.001	0.001	12	0.003	0.004	9	0.011	0.000	
NO3_N	P620 mg/L	0.590	0.241	3	0.560	0.178	3	0.333	0.100	3	0.357	0.015	3	0.820	0.220	
NO2_NO3	P630 mg/L	0.433	0.071	11	0.521	0.205	9	0.288	0.077	9	0.398	0.053	9	0.850	0.130	
TP_P	P665 mg/L	0.117	0.190	12	0.083	0.043	12	0.042	0.012	12	0.059	0.017	12	0.710	0.020	
OP_DIS	P671 mg/L	0.054	0.112	12	0.035	0.031	12	0.013	0.005	12	0.023	0.006	12	0.410	0.010K	
HG	P71900 ug/L	0.061	0.010	13	0.044	0.016	11	0.060	0.033	11	0.082	0.045	11	0.200	0.020K	
HG	P71901 ug/L	0.061	0.010	13	0.044	0.016	11	0.060	0.033	11	0.082	0.045	11	0.200	0.020K	
COLOR	P80 Pt-Co	52.250	22.911	4	36.667	45.567	3	10.333	8.327	3	29.667	47.078	3	88.000	1.000	
TURB	P82079 NTU	4.321	2.191	14	5.725	3.036	12	4.200	3.749	11	2.883	0.828	12	15.000	1.800	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

HARD	P900	mg/L	157.250	305.717	12	42.083	29.813	12	35.500	13.958	12	126.455	154.664	11	999.000	16.000		
COND	P95	umhos	548.714	1380.002	14	169.583	261.540	12	107.917	53.024	12	373.545	317.392	11	5260.000	49.000		

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09A080 Name: GREEN R @ TUKVILA Class: A Elevation: 4 River Mile: 12.40
 Location: LOCATED AT THE INTERSECTION ON INTERURBAN AVENUE AT I-405 AND SOUTHCENTER BLVD
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	8.225	2.419	4	6.550	1.892	6	13.100	2.793	6	18.100	2.050	6	20.800	4.100	
ZN	P1094 ug/L	6.500	0.707	2	9.333	10.116	3	8.333	4.509	3	4.000	0.000	2	21.000	3.000V	
CD	P1113 ug/L	0.000	0.000	0	0.107	0.012	3	0.100	0.000	3	0.100	0.000	2	0.120	0.100K	
PB	P1114 ug/L	1.000	0.000	2	2.200	1.908	3	1.100	0.173	3	1.000	0.000	2	4.400	1.000K	
CR	P1118 ug/L	0.000	0.000	0	4.440	6.898	3	0.490	0.096	3	0.425	0.177	2	12.400	0.200K	
CU	P1119 ug/L	2.500	0.707	2	9.633	6.615	3	3.533	0.924	3	3.000	0.000	2	17.000	2.000V	
PRESS	P25 mmHg	763.875	5.712	4	766.850	7.558	6	768.117	4.193	6	763.500	3.945	5	774.400	752.900	
OXYGEN	P300 mg/L	11.300	1.519	4	11.717	0.564	6	9.517	0.479	6	8.783	0.697	6	13.200	8.100	
PCTSAT	P301 Percent	94.700	8.206	4	94.233	2.701	6	88.917	2.729	6	92.000	9.836	6	111.200	84.100	
FC	P31616 #/100ml	168.000	132.625	4	322.167	360.952	6	46.000	27.590	6	132.833	36.169	6	870.000	3.000	
PH	P400 units	7.350	0.311	4	7.217	0.343	6	7.217	0.133	6	7.317	0.279	6	7.800	6.800	
SUSSOL	P530 mg/L	55.000	32.135	4	66.833	127.105	6	13.167	6.795	6	11.500	5.089	6	326.000	5.000	
FLOW	P60 CFS	1795.667	1587.853	3	1420.000	113.578	3	549.667	150.497	3	331.000	150.688	3	3420.000	244.000	
NH3_N	P610 mg/L	0.037	0.008	4	0.034	0.011	6	0.030	0.013	6	0.038	0.011	6	0.048	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	4	0.011	0.002	6	0.010	0.000	6	0.010	0.000	6	0.014	0.010K	
NO2_NO3	P630 mg/L	0.391	0.045	4	0.450	0.097	6	0.394	0.075	6	0.289	0.064	6	0.619	0.179	
TP_P	P665 mg/L	0.078	0.039	4	0.056	0.028	6	0.039	0.009	6	0.050	0.016	6	0.135	0.025	
OP_DIS	P671 mg/L	0.014	0.005	3	0.019	0.010	6	0.017	0.004	6	0.021	0.005	6	0.031	0.005K	
HG	P71900 ug/L	0.045	0.007	2	0.040	0.000	2	0.093	0.092	3	0.000	0.000	0	0.200	0.040K	
HG	P71901 ug/L	0.045	0.007	2	0.040	0.000	2	0.093	0.092	3	0.000	0.000	0	0.200	0.040K	
TURB	P82079 NTU	12.550	6.861	4	19.300	36.844	6	2.867	1.617	6	3.217	0.578	6	94.500	1.500	
HARD	P900 mg/L	33.500	16.263	2	22.667	6.658	3	32.667	3.215	3	55.667	5.508	3	62.000	15.000	
COND	P95 umhos	72.500	28.160	4	70.333	17.773	6	109.167	15.587	6	147.667	12.848	6	162.000	41.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09A090 Name: GREEN R @ 212TH ST NR KENT Class: A Elevation: 20 River Mile: 18.30
 Location: LOCATED AT THE O'BRIAN ROAD BRIDGE ON 212TH STREET, TWO MILES NORTHWEST OF KENT
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---				-----JANUARY-MARCH-----				-----APRIL-JUNE-----				----JULY-SEPTEMBER----				-----SIX YEAR-----			
		MEAN	STD. DEV.	N		MEAN	STD. DEV.	N		MEAN	STD. DEV.	N		MEAN	STD. DEV.	N		MAX	MIN		
TEMP	P10 C	7.327	2.405	15	6.147	1.149	15	11.553	2.773	15	16.987	2.037	15	20.000	4.000						
CU	P1042 ug/L	4.136	4.214	11	4.773	4.200	11	1.958	1.322	12	2.667	1.392	9	15.000	1.000						
ZN	P1092 ug/L	4.136	2.730	11	7.818	9.532	11	3.917	3.274	12	4.111	2.408	9	33.000	1.000						
ZN	P1094 ug/L	5.000	3.162	14	9.071	9.236	14	4.667	3.016	15	5.083	2.021	12	33.000	1.000K						
CD	P1113 ug/L	0.171	0.047	14	0.273	0.304	14	0.225	0.172	15	0.289	0.413	14	1.400	0.100K						
PB	P1114 ug/L	1.979	1.663	14	2.579	3.265	14	1.640	1.382	15	1.862	1.503	13	12.000	1.000K						
CR	P1118 ug/L	1.374	1.583	14	2.490	4.461	14	0.891	0.404	15	1.542	2.211	14	15.000	0.200K						
CU	P1119 ug/L	4.607	3.807	14	5.664	5.026	14	2.553	1.401	15	3.250	1.485	12	18.000	1.0000						
PRESS	P25 mmHg	762.773	8.118	15	767.693	6.687	15	765.400	5.911	15	766.607	3.000	15	776.700	745.000						
OXYGEN	P300 mg/L	11.562	0.958	13	11.800	0.372	15	10.473	1.037	15	8.840	0.678	15	13.400	7.800						
PCTSAT	P301 Percent	95.246	4.489	13	93.947	2.725	15	94.593	6.425	14	89.814	5.646	14	107.000	81.400						
FC	P31616 #/100ml	91.000	104.551	14	169.786	201.790	14	130.600	225.729	15	221.000	369.853	15	1400.000	1.000						
PH	P400 units	7.358	0.188	12	7.213	0.309	15	7.262	0.139	13	7.413	0.229	15	7.800	6.500						
SUSSOL	P530 mg/L	18.571	16.374	14	36.467	77.841	15	13.667	13.080	15	8.720	5.105	15	314.000	1.000						
FLOW	P60 CFS	1821.467	1276.025	15	2343.000	2364.483	15	1441.267	1022.997	15	276.267	59.222	15	10100.000	155.000						
NH3_N	P610 mg/L	0.049	0.041	14	0.055	0.031	15	0.037	0.026	14	0.054	0.055	14	0.240	0.010K						
NO2_DIS	P613 mg/L	0.009	0.003	9	0.010	0.001	12	0.010	0.000	12	0.010	0.001	12	0.014	0.002K						
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K						
NH3_UN	P619 mg/L	0.000	0.000	11	0.000	0.000	12	0.000	0.000	12	0.000	0.001	9	0.001	0.000						
NO3_N	P620 mg/L	0.390	0.166	3	0.547	0.159	3	0.347	0.078	3	0.323	0.012	3	0.730	0.260						
NO2_NO3	P630 mg/L	0.412	0.068	12	0.489	0.168	12	0.302	0.076	12	0.363	0.069	12	0.770	0.120						
TP_P	P665 mg/L	0.045	0.017	13	0.065	0.062	15	0.034	0.008	15	0.048	0.015	14	0.260	0.019						
OP_DIS	P671 mg/L	0.019	0.007	13	0.019	0.010	15	0.014	0.004	15	0.022	0.004	14	0.040	0.009						
HG	P71900 ug/L	0.063	0.020	13	0.045	0.016	13	0.069	0.056	15	0.085	0.058	12	0.250	0.020K						
HG	P71901 ug/L	0.063	0.020	13	0.045	0.016	13	0.069	0.056	15	0.085	0.058	12	0.250	0.020K						
COLOR	P80 Pt-Co	31.500	21.749	4	29.667	36.679	3	7.333	8.505	3	2.000	1.732	3	71.000	1.000						
TURB	P82079 NTU	3.720	2.659	15	10.347	23.781	15	3.543	3.781	14	2.300	0.819	15	96.000	1.000						

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

HARD	P900	mg/L	31.231	11.024	13	30.800	9.578	15	31.533	9.724	15	46.071	5.863	14	56.000	15.000
COND	P95	umhos	100.133	48.538	15	81.133	22.081	15	92.267	28.843	15	145.867	32.571	15	235.000	41.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09A190 Name: GREEN R @ KANASKAT

Class: AA Elevation: 775 River Mile: 57.60

Location:

LOCATED AT THE CUMBERLAND-PALMER ROAD BRIDGE AT KANASKAT, 1.1 MILES ABOVE THE FISH HATCHERY AND 4.5 MILES BELOW THE GAGE NEAR BEAR CREEK

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.239	2.363	18	4.528	1.677	18	8.939	1.901	18	14.161	0.998	18	16.100	1.900	
PRESS	P25 mmHg	746.461	10.887	18	742.939	6.356	18	742.311	5.184	18	742.876	5.221	17	785.000	731.000	
OXYGEN	P300 mg/L	12.011	1.044	18	12.633	0.670	18	11.511	0.843	18	10.056	0.451	18	13.600	9.300	
PCTSAT	P301 Percent	100.794	5.925	18	99.683	3.865	18	101.165	4.815	17	99.476	2.733	17	112.300	85.900	
FC	P31616 #/100ml	18.389	30.285	18	1.875	1.962	16	13.222	23.504	18	15.833	14.698	18	130.000	1.000J	
PH	P400 units	7.263	0.570	16	7.400	0.572	18	7.253	0.302	17	7.294	0.450	18	8.500	6.300	
SUSSOL	P530 mg/L	12.056	23.491	18	2.444	1.338	18	2.647	2.262	17	2.322	1.115	18	100.000	1.000K	
FLOW	P60 CFS	1534.228	1700.455	18	971.944	579.265	18	1010.389	789.248	18	152.278	43.398	18	6100.000	59.700	
NH3_N	P610 mg/L	0.011	0.003	17	0.027	0.063	18	0.013	0.007	18	0.016	0.010	18	0.280	0.006	
NO2_DIS	P613 mg/L	0.009	0.002	12	0.010	0.000	15	0.010	0.000	15	0.009	0.002	15	0.010	0.002K	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	9	0.000	0.000	11	0.000	0.000	12	0.000	0.000	9	0.001	0.000	
NO3_N	P620 mg/L	0.165	0.064	2	0.073	0.065	3	0.047	0.012	3	0.037	0.012	3	0.210	0.010K	
NO2_NO3	P630 mg/L	0.165	0.083	15	0.149	0.048	15	0.055	0.026	14	0.049	0.012	15	0.330	0.026	
TP_P	P665 mg/L	0.018	0.007	15	0.021	0.022	17	0.014	0.005	16	0.010	0.001	18	0.100	0.009J	
OP_DIS	P671 mg/L	0.012	0.005	17	0.011	0.003	18	0.010	0.000	17	0.010	0.002	18	0.030	0.003J	
COLOR	P80 Pt-Co	9.667	2.887	3	6.667	2.309	3	15.667	4.619	3	12.143	8.611	7	29.000	1.000	
TURB	P82079 NTU	3.867	6.079	18	1.450	0.708	18	1.994	1.775	18	1.778	2.379	18	26.000	0.200	
COND	P95 umhos	56.389	24.526	18	44.222	6.638	18	43.500	7.172	18	62.167	13.605	18	140.000	32.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09E070 Name: MILL CREEK @ ORILLIA

Class: A Elevation: 12 River Mile: 3.14

Location:

LOCATED AT THE RAILROAD TRESTLE ON THE SOUTHEAST CORNER OF ORILLIA NEAR SOUTH 183RD STREET AND NEAR THE CONFLUENCE WITH SPRING BROOK CREEK

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	8.425	2.826	7.433	1.900	15.017	2.315	16.989	2.428	19.800	4.900
CU	P1042	ug/L	10.100	6.504	9.100	3.767	10.425	12.879	4.514	2.705	46.500	1.000
ZN	P1092	ug/L	306.636	239.969	243.273	226.889	346.500	237.247	261.286	215.748	660.000	41.000
ZN	P1094	ug/L	306.636	239.969	243.273	226.889	346.500	237.247	261.286	215.748	660.000	41.000V
CD	P1113	ug/L	3.715	3.795	3.238	4.200	4.862	4.046	2.806	2.835	11.700	0.100K
PB	P1114	ug/L	6.050	4.882	3.727	3.436	7.483	15.745	3.478	2.343	56.500	1.000K
CR	P1118	ug/L	3.065	2.340	4.483	6.010	4.554	7.270	3.376	3.541	26.000	0.980
CU	P1119	ug/L	10.191	6.370	9.100	3.767	10.800	12.648	4.800	2.493	46.500	1.000U
PRESS	P25	mmHg	763.675	8.614	768.983	5.622	765.450	5.550	767.411	3.604	777.200	744.000
OXYGEN	P300	mg/L	6.373	1.419	6.833	1.647	4.117	1.702	3.456	0.888	9.400	1.600
PCTSAT	P301	Percent	53.864	12.682	55.817	12.735	39.955	17.048	35.363	10.017	85.000	17.200
FC	P31616	#/100ml	552.000	1078.094	132.417	150.364	541.583	835.784	2086.222	4131.556	13000.000	14.000
COD	P340	mg/L	26.444	18.629	26.727	7.363	45.100	30.282	32.625	12.828	100.000	14.000
PH	P400	units	7.040	0.276	6.942	0.219	7.010	0.099	7.122	0.156	7.700	6.700
SUSSOL	P530	mg/L	19.182	12.734	17.417	7.763	15.455	16.058	11.444	3.972	62.000	3.000
FLOW	P60	CFS	14.117	27.310	20.108	16.525	7.536	6.868	2.711	0.917	100.000	0.100
NH3_N	P610	mg/L	0.518	0.318	0.593	0.403	0.866	0.243	0.810	0.378	1.600	0.040
NO2_DIS	P613	mg/L	0.028	0.013	0.013	0.007	0.032	0.023	0.038	0.010	0.080	0.010K
NO2_N	P615	mg/L	0.016	0.005	0.027	0.006	0.023	0.006	0.030	0.010	0.040	0.010
NH3_UN	P619	mg/L	0.001	0.001	0.001	0.001	0.003	0.001	0.006	0.006	0.019	0.000
NO3_N	P620	mg/L	0.923	0.306	0.733	0.060	0.757	0.064	0.617	0.042	1.100	0.570
NO2_NO3	P630	mg/L	0.558	0.205	0.476	0.154	0.460	0.311	0.400	0.138	1.000	0.070
TP_P	P665	mg/L	0.177	0.086	0.236	0.147	0.294	0.168	0.254	0.102	0.650	0.300
OP_DIS	P671	mg/L	0.062	0.039	0.042	0.024	0.038	0.016	0.042	0.024	0.130	0.010K
HG	P71900	ug/L	0.000	0.000	0.050	0.022	0.074	0.043	0.105	0.060	0.000	0.000
HG	P71901	ug/L	0.082	0.037	0.050	0.022	0.074	0.043	0.105	0.069	0.230	0.020K
COLOR	P80	Pt-Co	226.000	127.791	234.667	239.636	51.667	43.155	131.000	153.268	500.000	1.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	17.158	7.620	12	21.583	6.459	12	28.333	9.727	12	22.444	9.180	9	43.000	1.900				
HARD	P900	mg/L	73.100	28.247	10	83.833	36.116	12	97.000	27.909	12	95.444	24.940	9	140.000	28.000				
COND	P95	umhos	262.333	114.843	12	293.083	165.070	12	355.250	113.721	12	348.333	127.324	9	595.000	82.000				

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 09E090 Name: MILL CREEK - KENT ON W VALLEY HWY Class: A Elevation: 25 River Mile: 4.66

Location:
 LOCATED ON THE HIGHWAY 181 BRIDGE (WEST VALLEY HIGHWAY), APPROXIMATELY
 1.5 MILE SOUTH OF ORILLIA, JUST NORTH OF THE BOEING SPACE CENTER ROAD
 NOTE: THIS IS THE FIRST CROSSING OF HIGHWAY 181, ABOUT .25 MILE NORTH
 OF THE SECOND BRIDGE

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	C	8.608	2.811	12	7.592	1.879	12	13.242	4.508	12	17.089	2.024	9	19.300	0.000	
CU	ug/L	7.909	5.281	11	6.927	4.967	11	7.009	7.172	11	3.086	2.157	7	22.900	1.000	
ZN	ug/L	49.500	32.529	11	37.455	16.801	11	41.000	33.687	11	16.000	11.195	7	114.000	1.000	
ZN	ug/L	49.545	32.454	11	37.455	16.801	11	41.000	33.687	11	16.000	11.195	7	114.000	1.000	
CD	ug/L	0.373	0.299	11	0.292	0.181	11	0.402	0.263	11	0.166	0.050	9	1.200	0.100K	
PB	ug/L	4.450	2.540	10	4.055	4.255	11	6.582	8.727	11	3.489	2.161	9	28.600	1.000U	
CR	ug/L	1.966	1.561	11	3.081	5.676	11	2.179	1.877	11	4.514	5.545	9	20.000	0.760J	
CU	ug/L	8.136	5.075	11	7.018	4.856	11	7.191	7.056	11	3.371	2.121	7	22.900	1.000U	
PRESS	mmHg	763.458	8.738	12	769.233	5.593	12	765.517	5.554	12	767.500	3.237	9	777.200	744.000	
OXYGEN	mg/L	6.800	1.139	11	7.483	1.483	12	5.609	1.799	11	4.278	0.912	9	9.700	3.100	
PCTSAT	Percent	57.427	9.389	11	61.400	11.462	12	54.690	18.666	10	44.363	10.852	8	93.700	31.500	
FC	#/100ml	308.818	368.428	11	178.667	206.691	12	837.273	588.032	11	3034.444	6406.452	9	20000.000	29.000	
COO	mg/L	29.222	26.414	9	21.818	6.274	11	42.000	26.029	9	27.750	10.068	8	96.000	10.000	
PH	units	7.060	0.232	10	6.983	0.233	12	7.056	0.113	9	7.133	0.158	9	7.500	6.800	
SUSSOL	mg/L	23.364	17.054	11	20.500	7.634	12	15.300	8.097	10	15.444	6.207	9	64.000	7.000	
FLOW	CFS	20.300	51.933	12	16.492	13.992	12	8.400	8.320	12	2.189	1.003	9	185.000	0.700	
NH3_N	mg/L	0.292	0.160	11	0.405	0.232	12	0.486	0.160	10	0.534	0.367	9	1.350	0.040	
NO2_DIS	mg/L	0.023	0.014	6	0.012	0.004	9	0.024	0.018	8	0.028	0.008	6	0.060	0.010K	
NO2_N	mg/L	0.020	0.007	5	0.020	0.000	3	0.110	0.156	3	0.043	0.006	3	0.290	0.010	
NH3_UN	mg/L	0.000	0.001	11	0.001	0.000	12	0.001	0.001	12	0.003	0.004	9	0.015	0.000	
NO3_UN	mg/L	0.480	0.056	3	0.423	0.104	3	0.520	0.294	3	0.317	0.101	3	0.860	0.210	
NO2_NO3	mg/L	0.467	0.135	9	0.418	0.118	9	0.384	0.156	8	0.320	0.133	6	0.730	0.130	
TP_P	mg/L	0.204	0.082	9	0.228	0.149	11	0.265	0.118	11	0.287	0.067	9	0.570	0.060	
OP_DIS	mg/L	0.044	0.022	9	0.062	0.033	12	0.054	0.016	11	0.047	0.024	9	0.110	0.020	
HG	ug/L	0.083	0.044	11	0.049	0.012	11	0.077	0.055	11	0.094	0.049	8	0.200	0.020K	
HG	ug/L	0.083	0.044	11	0.049	0.012	11	0.077	0.055	11	0.094	0.049	8	0.200	0.020K	
COLOR	Pt-Co	203.500	111.873	4	208.000	189.557	3	69.000	64.784	3	96.667	104.543	3	410.000	1.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079 NTU	18.000	5.205	12	20.583	3.919	12	22.818	7.040	11	21.778	7.855	9	33.000	7.000
HARD	P900 mg/L	68.500	21.758	10	80.917	33.096	12	90.000	23.486	11	95.111	21.368	9	130.000	25.000
COND	P95 umhos	209.417	63.013	12	214.833	82.581	12	259.182	61.538	11	286.889	89.682	9	505.000	77.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 1 Name: ECORGN 1--COAST RANGE Class: Elevation: 0 River Mile: 0.00
 Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----	
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10 C	7.865	2.516	74	7.413	1.569	75	13.472	3.073	75	16.651	3.142	75	24.500	3.500
PRESS	P25 mmHg	762.914	6.634	74	763.469	7.121	75	761.007	6.270	75	761.184	5.862	73	778.000	742.200
OXYGEN	P300 mg/L	11.777	1.006	70	12.110	0.696	72	11.119	1.187	75	9.948	0.718	73	14.000	8.100
PCTSAT	P301 Percent	96.790	6.128	70	100.039	4.438	72	105.742	7.683	71	100.974	7.757	69	125.100	78.300
FC	P31616 #/100ml	129.690	262.168	71	139.205	529.524	73	249.493	804.578	73	281.456	643.445	68	6500.000	1.000K
PH	P400 units	7.350	0.259	74	7.211	0.300	75	7.535	0.421	75	7.556	0.286	73	8.700	6.400
SUSSOL	P530 mg/L	9.730	17.284	74	18.722	38.683	72	3.324	4.225	71	3.497	3.041	73	192.000	0.800
FLOW	P60 CFS	810.857	837.919	68	1274.185	1276.600	65	337.262	454.928	68	80.978	96.849	67	6980.000	4.800
NH3_N	P610 mg/L	0.017	0.009	74	0.023	0.023	75	0.014	0.008	66	0.016	0.008	72	0.110	0.008
NO2_DIS	P613 mg/L	0.010	0.002	44	0.010	0.000	51	0.010	0.000	55	0.010	0.001	59	0.010	0.002
NO2_N	P615 mg/L	0.010	0.000	20	0.025	0.035	12	0.010	0.000	12	0.010	0.000	12	0.100	0.010K
NH3_UN	P619 mg/L	0.000	0.000	52	0.000	0.000	52	0.000	0.000	40	0.000	0.000	36	0.000	0.000
NO3_N	P620 mg/L	0.641	0.382	12	0.482	0.263	12	0.198	0.140	8	0.143	0.134	12	1.400	0.020
NO2_NO3	P630 mg/L	0.600	0.416	61	0.582	0.323	63	0.253	0.170	58	0.157	0.124	61	1.550	0.010K
TP_P	P665 mg/L	0.035	0.029	73	0.038	0.039	75	0.019	0.009	62	0.024	0.014	72	0.188	0.004
OP_DIS	P671 mg/L	0.011	0.004	67	0.010	0.001	74	0.010	0.002	74	0.011	0.003	73	0.030	0.002
COLOR	P80 Pt-Co	49.333	36.686	12	16.083	6.037	12	26.250	5.500	4	46.583	23.720	12	0.000	0.000
TURB	P82079 NTU	4.000	6.749	74	6.133	8.902	72	1.386	0.847	74	1.500	0.891	69	47.000	0.300
COND	P95 umhos	66.068	10.847	74	56.973	7.310	75	64.500	9.480	74	76.370	9.480	73	112.000	40.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 10A070 Name: PUYALLUP R @ MERIDIAN ST Class: A Elevation: 30 River Mile: 8.30
 Location: LOCATED AT THE BRIDGE IMMEDIATELY NORTH OF PUYALLUP ON MERIDIAN STREET (STATE HIGHWAY 161)
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	6.650	2.560	18	5.733	1.733	18	11.500	1.990	18	13.656	1.503	18	16.100	2.000	
PRESS	P25 mmHg	767.483	6.790	18	767.394	7.734	18	763.883	5.149	18	765.589	4.687	18	781.300	753.900	
OXYGEN	P300 mg/L	12.211	0.962	18	12.282	0.743	17	10.956	0.744	18	10.222	0.547	18	14.600	9.300	
PCTSAT	P301 Percent	98.167	4.483	18	97.129	4.358	17	99.388	4.369	17	96.929	4.279	17	111.100	90.200	
FC	P31616 #/100ml	209.588	353.160	17	132.056	189.725	18	412.833	839.257	18	314.611	378.090	18	3200.000	13.000	
COO	P340 mg/L	7.000	2.055	10	9.833	10.268	12	7.909	5.243	11	7.100	2.885	10	41.000	4.000U	
PH	P400 Units	7.561	0.387	18	7.289	0.175	18	7.439	0.206	18	7.478	0.265	18	8.800	6.900	
SUSSOL	P530 mg/L	85.611	158.989	18	18.278	28.489	18	31.063	48.541	16	227.833	182.441	18	580.000	3.000	
FLOW	P60 CFS	3167.500	2942.002	18	3544.444	1441.172	18	3332.778	942.630	18	1830.000	561.112	18	13500.000	636.000	
NH3_N	P610 mg/L	0.035	0.018	18	0.036	0.019	18	0.021	0.009	16	0.031	0.014	18	0.080	0.010K	
NO2_DIS	P613 mg/L	0.010	0.002	13	0.010	0.000	15	0.010	0.000	14	0.010	0.002	15	30.000	30.000	
NO2_N	P615 mg/L	0.010	0.000	4	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	14	0.000	0.000	10	0.000	0.000	9	0.001	0.000	
NO3_N	P620 mg/L	0.270	0.142	3	0.313	0.068	3	0.085	0.007	2	0.087	0.031	3	0.390	0.060	
NO2_NO3	P630 mg/L	0.273	0.120	15	0.374	0.136	15	0.122	0.043	14	0.096	0.032	15	0.630	0.060	
TP_P	P665 mg/L	0.082	0.059	18	0.050	0.027	17	0.044	0.039	15	0.168	0.093	18	0.380	0.010K	
OP_DIS	P671 mg/L	0.020	0.011	16	0.017	0.008	17	0.015	0.006	17	0.025	0.009	18	0.050	0.010K	
COLOR	P80 Pt-Co	37.667	8.505	3	47.667	26.858	3	25.333	7.506	3	486.667	326.548	3	690.000	17.000	
TURB	P82079 NTU	15.406	24.303	18	4.389	3.777	18	14.433	31.917	18	68.833	53.603	18	186.000	1.000	
COND	P95 umhos	77.833	19.367	18	74.000	6.155	18	62.722	6.095	18	73.000	15.496	18	123.000	49.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 10A110 Name: PUYALLUP R @ ORTING Class: A Elevation: 200 River Mile: 22.20
 Location: LOCATED AT THE BRIDGE ON THE ORTING-KAPOWSIN ROAD (OLD SOLDIERS HOME ROAD), JUST SOUTHWEST OF ORTING
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----			
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN		
TEMP	P10	C	5.160	2.465	1.651	15	9.267	1.282	15	10.107	1.337	15	12.900	1.200
PRESS	P25	mmHg	762.440	4.823	7.708	15	760.000	4.218	15	761.307	4.710	15	772.000	750.000
OXYGEN	P300	mg/L	13.033	1.071	0.601	14	11.840	0.557	15	11.500	0.472	15	15.500	10.900
PCTSAT	P301	Percent	101.640	4.795	3.890	14	102.757	4.666	14	101.579	4.016	14	114.200	94.800
FC	P31616	#/100ml	11.714	10.299	8.031	15	46.867	77.895	15	15.733	14.425	15	266.000	1.000K
PH	P400	units	7.580	0.190	0.250	15	7.500	0.300	15	7.427	0.260	15	8.000	6.800
SUSSOL	P530	mg/L	86.267	237.752	6.414	15	24.467	21.626	15	391.667	308.218	15	1100.000	1.000K
FLOW	P60	CFS	657.267	602.332	223.923	15	679.533	185.132	15	538.400	172.599	15	2410.000	130.000
NH3_N	P610	mg/L	0.012	0.007	0.011	15	0.013	0.004	13	0.022	0.036	15	0.150	0.010K
NO2_DIS	P613	mg/L	0.009	0.003	0.000	12	0.010	0.000	11	0.010	0.002	12	0.011	0.002
NO2_N	P615	mg/L	0.010	0.000	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	13	0.000	0.000	10	0.000	0.001	9	0.002	0.000
NO3_N	P620	mg/L	0.197	0.100	0.072	3	0.030	0.000	2	0.013	0.006	3	0.300	0.010
NO2_NO3	P630	mg/L	0.171	0.104	0.088	12	0.048	0.030	11	0.030	0.015	12	0.380	0.010K
TP_P	P665	mg/L	0.075	0.097	0.022	14	0.031	0.019	12	0.242	0.116	15	0.430	0.010K
OP_DIS	P671	mg/L	0.010	0.003	0.000	14	0.010	0.000	14	0.011	0.003	15	0.020	0.004
COLOR	P80	Pt-Co	38.667	9.815	23.516	3	17.000	21.932	3	683.333	165.025	3	820.000	1.000
TURB	P82079	NTU	10.513	12.514	0.858	15	8.793	7.726	15	118.067	84.494	15	280.000	1.000
COND	P95	umhos	71.533	14.242	5.829	15	56.133	4.518	15	58.133	12.299	15	99.000	37.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 10C070 Name: WHITE R @ SUMNER

Class: A Elevation: 50 River Mile: 0.70

Location:

AT BRIDGE ON MAIN STREET IN SUMNER

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
		MEAN	STD. DEV. N	MEAN	STD. DEV. N	MEAN	STD. DEV. N	MEAN	STD. DEV. N	MAX	MIN
TEMP	P10 C	7.407	3.119	5.373	1.584	11.987	1.993	14.800	3.260	18.000	2.800
PRESS	P25 mmHg	766.567	4.735	765.993	8.239	763.967	4.153	765.193	4.912	777.000	753.900
OXYGEN	P300 mg/L	11.753	1.114	12.286	0.685	10.753	0.727	9.633	0.700	14.300	8.800
PCTSAT	P301 Percent	96.187	4.224	96.507	3.974	98.707	4.630	93.521	7.589	108.900	74.300
FC	P31616 #/100ml	162.000	250.219	171.333	269.392	583.533	1233.225	347.067	615.777	4600.000	4.000
PH	P400 units	7.660	0.272	7.340	0.333	7.447	0.226	7.373	0.209	8.500	6.600
SUSSOL	P530 mg/L	46.929	117.456	12.533	13.928	28.600	57.467	67.467	100.804	453.000	2.000
FLOW	P60 CFS	1814.533	2523.977	1720.133	536.531	1781.667	540.151	854.667	342.338	10500.000	211.000
NH3_N	P610 mg/L	0.036	0.025	0.046	0.032	0.019	0.010	0.028	0.015	0.120	0.010K
NO2_DIS	P613 mg/L	0.009	0.002	0.010	0.000	0.010	0.000	0.010	0.002	0.012	0.002
NO2_N	P615 mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
NO3_N	P620 mg/L	0.203	0.150	0.257	0.031	0.060	0.014	0.063	0.032	0.360	0.040
NO2_NO3	P630 mg/L	0.245	0.138	0.340	0.148	0.077	0.040	0.063	0.040	0.640	0.020
TP_P	P665 mg/L	0.071	0.057	0.050	0.028	0.029	0.018	0.083	0.067	0.290	0.010K
OP_DIS	P671 mg/L	0.019	0.015	0.016	0.009	0.010	0.000	0.020	0.007	0.060	0.010K
COLOR	P80 Pt-Co	29.000	4.000	63.000	44.978	12.667	4.509	180.000	51.962	210.000	8.000
TURB	P82079 NTU	15.593	31.335	4.133	2.344	5.687	5.657	28.553	30.489	128.000	1.800
COND	P95 umhos	78.533	18.604	73.200	9.435	62.067	5.700	76.333	13.589	122.000	49.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 10G060 Name: _____ Class: Elevation: 0 River Mile: 0.00

Location: _____
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.567	2.916	7.133	3.225	10.400	0.707	13.771	0.763	7	0.000
OXYGEN	P300	mg/L	9.500	1.100	10.300	0.849	8.967	1.168	9.050	0.628	6	0.000
PCTSAT	P301	Percent	79.000	5.351	84.100	2.404	85.550	3.606	87.650	6.683	6	0.000
FC	P31616	#/100ml	92.500	67.175	0.000	0.000	0.000	0.000	762.857	770.989	7	0.000
PH	P400	units	7.167	0.252	6.933	0.208	7.000	0.100	7.463	0.074	8	0.000
SUSSOL	P530	mg/L	23.333	9.866	45.000	32.970	61.333	34.588	25.571	9.144	7	0.000
FLOW	P60	CFS	16.500	7.778	38.667	27.301	45.000	8.888	9.571	1.902	7	0.000
NH3_N	P610	mg/L	0.390	0.176	0.370	0.214	0.450	0.201	0.321	0.107	7	0.000
NO2_N	P615	mg/L	0.017	0.012	0.010	0.000	0.010	0.000	0.014	0.005	7	0.000
NH3_UN	P619	mg/L	0.001	0.000	0.000	0.001	0.001	0.001	0.002	0.001	7	0.000
NO3_N	P620	mg/L	1.340	1.012	0.903	0.274	0.550	0.101	0.650	0.059	7	0.000
TP_P	P665	mg/L	0.160	0.044	0.080	0.061	0.167	0.078	0.221	0.063	7	0.000
OP_DIS	P671	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.210	0.041	4	0.000
TURB	P82079	NTU	16.500	9.192	48.667	41.004	49.000	32.512	14.429	2.070	7	0.000
HARD	P900	mg/L	130.000	28.284	107.333	39.514	88.000	6.928	186.625	31.391	8	0.000
COND	P95	umhos	911.000	483.159	481.333	288.474	315.333	4.619	1350.375	251.199	8	0.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 11A070 Name: NISQUALLY R @ NISQUALLY Class: A Elevation: 20 River Mile: 3.40

Location: LOCATED AT THE BRIDGE ON OLD PACIFIC HIGHWAY, .4 MILES DOWNSTREAM FROM THE GAGE

Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			----JANUARY-MARCH----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	

TEMP	P10	C	7.917	2.814	18	6.200	1.258	18	10.983	1.841	18	14.728	1.109	18	17.000	2.700
CU	P1042	ug/L	11.945	21.610	11	2.833	2.718	12	2.850	1.980	12	4.938	3.343	8	73.900	1.000
ZN	P1092	ug/L	7.091	12.035	11	4.125	2.773	12	3.708	5.675	12	3.722	2.841	9	43.000	1.000
ZN	P1094	ug/L	7.643	10.952	14	4.333	2.320	15	4.467	4.955	15	4.846	3.602	13	43.000	1.000K
CD	P1113	ug/L	0.404	0.634	12	0.193	0.070	15	0.263	0.251	15	0.538	1.180	13	4.400	0.100K
PB	P1114	ug/L	2.442	2.831	12	2.357	2.124	14	1.627	1.416	15	1.350	0.773	12	10.000	1.000K
CR	P1118	ug/L	1.105	1.322	11	1.001	1.157	15	0.999	0.931	15	1.829	1.866	13	5.000	0.200V
CU	P1119	ug/L	3.650	1.892	10	3.027	2.336	15	3.107	1.673	15	4.855	2.726	11	11.000	1.000U
PRESS	P25	mmHg	767.639	6.264	18	766.728	8.061	18	764.628	5.247	18	765.783	4.354	18	782.300	752.600
OXYGEN	P300	mg/L	11.822	0.945	18	12.294	0.929	17	11.511	0.822	18	10.378	0.531	18	14.100	9.500
PCTSAT	P301	Percent	97.983	4.926	18	98.388	6.320	17	102.906	5.616	17	100.847	5.660	17	116.500	88.500
FC	P31616	#/100ml	79.882	237.603	17	46.111	137.055	18	17.944	32.193	18	17.294	14.308	17	1000.000	1.000
COD	P340	mg/L	6.600	2.797	10	7.750	4.673	12	7.000	2.646	11	7.300	7.119	10	27.000	4.000K
PH	P400	units	7.661	0.345	18	7.483	0.365	18	7.617	0.429	18	7.733	0.322	18	8.500	6.600
SUSSOL	P530	mg/L	46.611	72.666	18	13.833	11.460	18	6.572	5.508	18	13.144	15.248	18	312.000	2.000
FLOW	P60	CFS	2162.222	994.683	18	3035.556	945.075	18	1896.111	561.899	18	1019.167	220.402	18	5200.000	720.000
NH3_N	P610	mg/L	0.024	0.009	18	0.022	0.014	18	0.011	0.003	16	0.015	0.010	18	0.050	0.010K
NO2_DIS	P613	mg/L	0.009	0.002	13	0.010	0.000	15	0.010	0.000	14	0.010	0.002	15	0.010	0.003
NO2_N	P615	mg/L	0.010	0.000	4	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	14	0.000	0.000	10	0.000	0.000	9	0.001	0.000
NO3_N	P620	mg/L	0.243	0.111	3	0.387	0.042	3	0.195	0.049	2	0.113	0.049	3	0.420	0.080
NO2_NO3	P630	mg/L	0.228	0.095	15	0.405	0.094	15	0.211	0.079	14	0.131	0.037	15	0.570	0.080
TP_P	P665	mg/L	0.090	0.100	18	0.040	0.026	18	0.021	0.011	15	0.026	0.021	18	0.410	0.010K
OP_DIS	P671	mg/L	0.010	0.001	16	0.011	0.003	18	0.010	0.000	17	0.010	0.001	18	0.020	0.009
HG	P71900	ug/L	0.068	0.028	14	0.089	0.118	15	0.059	0.026	13	0.053	0.024	12	0.500	0.001K
HG	P71901	ug/L	0.068	0.028	14	0.089	0.118	15	0.059	0.026	13	0.053	0.024	12	0.500	0.001K
COLOR	P80	Pt-Co	51.667	16.743	3	71.333	54.976	3	18.000	8.888	3	124.667	84.056	3	200.000	8.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	47.578	84.544	18	7.517	4.455	18	2.528	1.787	18	10.472	15.636	18	325.000	1.000K		
HARD	P900	mg/L	27.462	4.576	13	24.733	4.008	15	30.067	12.809	15	31.133	16.995	15	92.000	20.000		
COND	P95	umhos	67.722	8.006	18	65.056	6.890	18	65.167	3.258	18	69.778	4.760	18	84.000	52.000		

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 11A080 Name: NISQUALLY R @ MCKENNA Class: A Elevation: 290 River Miles: 21.80
 Location: LOCATED ON HIGHWAY 507 BRIDGE 1.5 MILES SOUTHEAST OF YELM JUST BEFORE ENTERING MCKENNA ON THE PIERCE-THURSTON COUNTY LINE
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10	C	7.000	3.000	3	4.267	1.365	3	8.900	1.539	6	12.733	1.227	6	14.700	2.700
PRESS	P25	mmHg	758.200	6.894	3	757.067	7.427	3	755.517	1.955	6	757.683	3.222	6	766.100	748.500
OXYGEN	P300	mg/L	12.100	1.803	3	11.900	0.283	2	11.450	0.485	6	10.400	0.346	6	14.100	9.800
PCTSAT	P301	Percent	99.033	8.028	3	93.700	1.556	2	99.000	3.127	6	97.850	1.931	6	108.300	92.600
FC	P31616	#/100ml	65.500	48.790	2	31.333	25.929	3	128.500	284.975	6	17.333	11.343	6	710.000	5.000
PH	P400	units	7.700	0.200	3	7.033	0.351	3	7.367	0.308	6	7.483	0.279	6	7.900	6.700
SIUSSOL	P530	mg/L	122.333	154.972	3	12.667	15.044	3	8.667	7.992	6	5.033	7.038	6	300.000	1.000
FLOW	P60	CFS	1833.333	855.648	3	1236.000	562.181	3	1104.167	527.735	6	469.333	60.258	6	2740.000	404.000
NH3_N	P610	mg/L	0.044	0.015	3	0.032	0.024	3	0.014	0.005	6	0.010	0.001	6	0.060	0.010K
NO2_DIS	P613	mg/L	0.008	0.004	3	0.010	0.000	3	0.010	0.000	6	0.009	0.004	6	0.010	0.001
NO2_NO3	P630	mg/L	0.270	0.072	3	0.331	0.039	3	0.167	0.070	6	0.061	0.018	6	0.370	0.040
TP_P	P665	mg/L	0.118	0.116	3	0.080	0.042	2	0.018	0.012	6	0.151	0.342	6	0.850	0.010K
OP_DIS	P671	mg/L	0.009	0.002	3	0.010	0.000	2	0.010	0.000	6	0.010	0.002	6	0.011	0.006
TURB	P82079	NTU	81.833	106.912	3	12.167	8.622	3	4.250	3.158	6	6.667	9.565	6	205.000	1.000
COND	P95	umhos	54.333	6.028	3	59.000	6.000	3	59.167	3.545	6	58.500	4.722	6	66.000	48.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 11A090 Name: NISQUALLY R ABV POWELL CR Class: A Elevation: 400 River Mile: 32.90

Location:

STATION LOCATED APPROX 12 MILES SOUTHEAST OF YELM AND 1 MILE UPSTREAM FROM POWELL CR ON THE NISQUALLY RIVER

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10	C	8.300	3.348	12	4.608	0.885	12	8.522	1.418	9	13.089	0.815	9	14.100	3.100
PRESS	P25	mmHg	755.600	4.293	12	756.633	8.259	12	754.956	5.115	9	755.667	4.901	9	766.000	742.000
OXYGEN	P300	mg/L	11.692	0.877	12	12.808	0.562	12	12.022	0.661	9	10.633	0.669	9	13.800	10.000
PCTSAT	P301	Percent	99.292	2.825	12	99.542	4.088	12	103.675	5.534	8	101.088	5.327	8	114.100	93.200
FC	P31616	#/100ml	8.083	7.609	12	10.167	10.710	12	6.111	4.197	9	9.556	9.315	9	39.000	1.000K
PH	P400	units	7.600	0.490	12	7.508	0.385	12	7.767	0.296	9	7.656	0.321	9	8.300	6.700
SUSSOL	P530	mg/L	78.833	147.903	12	7.727	5.676	11	1.889	1.054	9	8.556	5.270	9	500.000	1.000K
FLOW	P60	CFS	1406.417	553.126	12	2275.000	545.035	12	1360.000	281.756	9	806.333	166.010	9	3170.000	597.000
NH3_N	P610	mg/L	0.026	0.011	12	0.021	0.012	12	0.016	0.008	7	0.018	0.011	9	0.050	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	7	0.010	0.000	9	0.010	0.000	5	0.010	0.000	6	0.010	0.010K
NO2_N	P615	mg/L	0.010	0.000	4	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.001	0.000
NO3_N	P620	mg/L	0.163	0.091	3	0.213	0.059	3	0.075	0.021	2	0.020	0.010	3	0.280	0.010K
NO2_NO3	P630	mg/L	0.129	0.091	9	0.266	0.064	9	0.114	0.047	5	0.028	0.012	6	0.370	0.010
TP_P	P665	mg/L	0.097	0.100	12	0.033	0.027	12	0.013	0.005	6	0.023	0.014	9	0.360	0.010K
OP_DIS	P671	mg/L	0.013	0.009	10	0.011	0.003	12	0.010	0.000	8	0.010	0.000	9	0.040	0.010K
COLOR	P80	Pt-Co	50.000	22.113	3	71.333	50.964	3	25.333	10.970	3	109.333	61.978	3	150.000	13.000
TURB	P82079	NTU	67.083	124.420	12	8.000	4.150	12	1.944	0.882	9	14.744	21.520	9	410.000	1.000K
COND	P95	umhos	57.833	6.132	12	53.333	4.479	12	55.889	7.271	9	59.000	6.874	9	75.000	47.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 12A070 Name: CHAMBERS CR NR STEILLACOON Class: A Elevation: 40 River Mile: 0.90

Location: LOCATED AT CHAMBERS CREEK ROAD BRIDGE, 1.5 MILES NORTHEAST OF STEILLACOON

AT THE HEAD OF CHAMBERS BAY, 2.2 MILES DOWNSTREAM OF GAGE

Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	8.987	2.312	1.936	1.936	14.467	1.336	14.473	1.844	15	18.000
PRESS	P25	mmHg	767.827	4.839	8.314	8.314	764.900	4.437	766.627	4.566	15	778.000
OXYGEN	P300	mg/L	11.293	1.085	0.619	0.619	10.107	0.522	9.287	0.623	15	13.600
PCTSAT	P301	Percent	95.953	5.331	4.975	4.975	97.843	5.121	89.057	7.639	14	108.300
FC	P31616	#/100ml	100.923	204.045	1824.986	1824.986	112.333	245.224	157.400	227.986	15	7100.000
PH	P400	units	7.633	0.235	0.426	0.426	7.620	0.268	7.593	0.279	15	8.900
SUSSOL	P530	mg/L	6.067	2.963	5.488	5.488	6.786	4.300	4.907	2.611	15	21.000
FLOW	P60	CFS	109.657	65.238	54.080	54.080	95.920	25.258	43.787	12.574	15	255.000
NH3_N	P610	mg/L	0.066	0.124	0.028	0.028	0.028	0.010	0.036	0.011	15	0.510
NO2_DIS	P613	mg/L	0.011	0.003	0.010	0.010	0.010	0.000	0.010	0.001	11	0.020
NO2_N	P615	mg/L	0.010	0.000	0.000	0.000	0.010	0.000	0.013	0.006	3	0.020
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9	0.001
NO3_N	P620	mg/L	1.127	0.361	0.321	0.321	1.100	0.141	1.333	0.252	3	1.700
NO2_NO3	P630	mg/L	1.031	0.286	0.240	0.240	1.356	0.164	1.260	0.156	11	1.780
TP_P	P665	mg/L	0.091	0.045	0.027	0.027	0.043	0.016	0.061	0.010	15	0.190
OP_DIS	P671	mg/L	0.042	0.035	0.016	0.016	0.016	0.007	0.040	0.011	15	0.150
COLOR	P80	Pt-Co	30.667	10.599	17.243	17.243	9.000	6.928	71.000	70.873	3	150.000
TURB	P82079	NTU	1.713	1.002	1.414	1.414	1.607	0.951	4.800	10.530	15	42.000
COND	P95	umhos	163.533	23.473	13.158	13.158	166.400	12.500	189.667	13.922	15	221.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 13A060 Name: DESCHUTES R @ E ST BRIDGE Class: A Elevation: 93 River Mile: 0.60

Location:
 LOCATED AT THE BRIDGE ON E STREET, IMMEDIATELY SOUTH OF THE OLYMPIA
 BREWING COMPANY AND ADJACENT TO THE ENTRANCE OF THE TUMWATER VALLEY
 GOLF COURSE

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----				
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	N	MAX	MIN		
TEMP	P10	C	7.811	2.276	18	7.489	1.664	13.689	2.130	18	16.239	2.577	18	20.500	4.600
CU	P1042	ug/L	3.775	3.618	8	2.483	1.719	2.042	1.137	12	4.389	3.773	9	14.000	1.000
ZN	P1092	ug/L	3.438	2.884	8	3.458	2.147	3.292	3.545	12	3.100	3.471	10	13.000	1.000
ZN	P1094	ug/L	4.636	2.803	11	4.133	1.767	5.867	6.937	15	3.643	2.763	14	28.000	1.000K
CD	P1113	ug/L	0.222	0.098	11	0.360	0.453	0.203	0.126	15	0.295	0.368	14	1.900	0.100K
PB	P1114	ug/L	1.982	1.581	11	2.000	1.658	1.936	2.326	14	1.731	1.231	13	9.100	1.000K
CR	P1118	ug/L	1.172	1.309	11	1.077	1.175	0.975	1.162	15	1.362	1.660	13	5.000	0.200K
CU	P1119	ug/L	3.900	3.525	8	2.587	1.405	2.540	1.310	15	4.417	3.175	12	14.000	1.000K
PRESS	P25	mmHg	763.744	8.060	18	762.878	7.055	760.711	5.812	18	760.317	6.000	18	779.000	744.000
OXYGEN	P300	mg/L	11.611	0.772	18	11.718	0.677	10.917	0.926	18	11.039	0.676	18	13.400	9.600
PCTSAT	P301	Percent	96.656	5.276	18	97.424	4.345	104.671	7.831	17	111.982	9.792	17	128.900	88.200
FC	P31616	#/100ml	86.267	151.554	15	44.667	67.017	129.722	467.405	18	51.647	73.424	17	2000.000	1.000K
COO	P340	mg/L	6.000	2.828	2	0.000	0.000	0.000	0.000	0	0.000	0.000	0	0.000	0.000
PH	P400	units	7.539	0.518	18	7.183	0.296	7.500	0.287	18	7.917	0.387	18	9.400	6.600
SUSSOL	P530	mg/L	32.056	85.069	18	16.647	19.978	4.706	2.801	17	4.156	1.698	18	368.000	1.000K
FLOW	P60	CFS	381.656	380.476	18	765.667	707.451	235.000	103.169	18	96.967	27.507	18	3270.000	46.000
NH3_N	P610	mg/L	0.016	0.010	18	0.020	0.012	0.015	0.007	16	0.013	0.005	18	0.050	0.009
NO2_DIS	P613	mg/L	0.010	0.001	12	0.010	0.000	0.010	0.000	15	0.010	0.001	15	0.010	0.007
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.001	13	0.000	0.000	0.000	0.000	10	0.001	0.003	9	0.010	0.000
NO3_N	P620	mg/L	0.493	0.038	3	0.483	0.021	0.420	0.028	2	0.473	0.083	3	0.540	0.380
NO2_NO3	P630	mg/L	0.549	0.100	15	0.571	0.095	0.527	0.105	14	0.603	0.190	15	0.810	0.010K
TP_P	P665	mg/L	0.045	0.027	18	0.045	0.025	0.026	0.011	15	0.028	0.006	18	0.100	0.010K
OP_DIS	P671	mg/L	0.013	0.004	16	0.013	0.005	0.011	0.002	18	0.015	0.005	18	0.024	0.010K
HG	P71900	ug/L	0.054	0.012	13	0.085	0.123	0.050	0.017	13	0.054	0.024	12	0.500	0.001K
HG	P71901	ug/L	0.054	0.012	13	0.085	0.123	0.050	0.017	13	0.054	0.024	12	0.500	0.001K
COLOR	P80	Pt-Co	67.000	54.617	3	25.000	22.113	21.000	13.000	3	30.667	6.658	3	130.000	8.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	8.435	20.523	17	8.967	13.272	18	1.500	0.795	18	1.394	0.560	17	87.000	0.700			
HARD	P900	mg/L	38.750	6.837	12	33.867	5.902	15	42.400	10.343	15	53.333	19.356	15	122.000	25.000			
COND	P95	umhos	100.000	22.664	18	81.556	13.908	18	109.278	8.173	18	131.667	9.312	18	160.000	46.000			

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 13A150 Name: DESCHUTES R MR RAINIER

Class: A Elevation: 370 River Mile: 21.61

Location:
LOCATED AT THE BRIDGE BETWEEN RAINIER AND TENINO ON STATE HIGHWAY 507

Water Years Sampled:

5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	6.813	2.572	15	5.467	1.270	15	11.520	1.697	15	14.100	2.071	15	17.200	2.700	
PRESS	P25	mmHg	759.293	7.877	15	757.860	7.759	15	757.167	5.017	15	758.047	4.657	15	773.000	739.000	
OXYGEN	P300	mg/L	11.743	1.129	14	11.957	0.654	14	10.640	0.937	15	9.593	0.480	15	14.300	8.600	
PCTSAT	P301	Percent	95.150	4.808	14	95.193	4.044	14	97.529	6.702	14	92.607	4.238	14	111.100	86.200	
FC	P31616	#/100ml	24.000	24.258	14	23.800	34.143	15	46.933	26.980	15	39.857	27.529	14	120.000	1.000K	
PH	P400	units	7.640	0.364	15	7.160	0.348	15	7.647	0.366	15	7.680	0.446	15	8.700	6.600	
SUSSOL	P530	mg/L	4.867	5.167	15	8.857	9.289	14	2.571	1.158	14	2.492	1.688	13	38.000	1.000K	
FLOW	P60	CFS	232.633	171.355	15	509.333	359.351	15	141.133	84.180	15	46.667	13.275	15	1460.000	28.000	
NH3_N	P610	mg/L	0.013	0.007	15	0.027	0.034	15	0.012	0.004	13	0.012	0.003	14	0.140	0.010K	
NO2_DIS	P613	mg/L	0.009	0.002	10	0.010	0.000	12	0.010	0.000	12	0.009	0.002	12	0.010	0.003	
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.001	0.000	
NO3_N	P620	mg/L	0.377	0.045	3	0.363	0.038	3	0.325	0.064	2	0.357	0.090	3	0.450	0.270	
NO2_NO3	P630	mg/L	0.388	0.094	12	0.443	0.074	12	0.330	0.082	11	0.457	0.088	12	0.620	0.220	
TP_P	P665	mg/L	0.031	0.025	15	0.054	0.045	14	0.021	0.007	12	0.025	0.011	14	0.180	0.010K	
OP_DIS	P671	mg/L	0.011	0.004	14	0.013	0.005	14	0.014	0.013	15	0.010	0.001	14	0.060	0.007	
COLOR	P80	Pt-Co	61.667	42.099	3	31.000	21.633	3	32.333	6.658	3	32.000	12.767	3	110.000	13.000	
TURB	P82079	NTU	2.953	1.785	15	5.853	4.595	15	1.833	0.900	15	1.473	0.878	15	20.000	0.700	
COND	P95	umhos	91.400	20.753	15	74.867	15.688	15	101.467	13.840	15	135.867	10.419	15	157.000	55.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 16A070 Name: SKOKOMISH R NR POTLATCH Class: AA Elevation: 60 River Mile: 5.30

Location:
 LOCATED AT HIGHWAY 101 BRIDGE ON THE SKOKOMISH RIVER APPROXIMATELY EIGHT MILES NORTH OF SHELTON

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
		MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10 C	7.406	1.386	6.283	1.000	9.611	1.438	10.550	1.007	12.800	4.800
PRESS	P25 mmHg	767.978	7.283	769.900	6.186	765.928	5.867	767.767	5.703	779.800	752.600
OXYGEN	P300 mg/L	11.494	0.895	11.982	0.461	11.044	0.796	10.189	0.395	13.300	8.900
PCTSAT	P301 Percent	94.171	6.990	95.559	2.437	95.947	5.367	90.076	4.626	108.100	74.300
FC	P31616 #/100ml	11.471	12.753	3.944	3.933	23.944	28.821	21.588	17.404	110.000	1.000K
PH	P400 units	7.400	0.519	7.117	0.481	7.261	0.535	7.389	0.322	8.300	6.300
SUSSOL	P530 mg/L	28.667	44.554	16.556	32.370	10.222	20.854	1.967	1.644	168.000	1.000K
FLOW	P60 CFS	1748.889	2235.618	2117.000	2461.025	697.778	551.218	220.500	84.739	11300.000	107.000
NH3_N	P610 mg/L	0.016	0.007	0.054	0.152	0.012	0.004	0.014	0.005	0.660	0.010K
NO2_DIS	P613 mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.002	0.010	0.003
NO2_N	P615 mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.003	0.000
NO3_N	P620 mg/L	0.130	0.072	0.073	0.025	0.040	0.000	0.047	0.012	0.210	0.040
NO2_NO3	P630 mg/L	0.129	0.036	0.104	0.022	0.056	0.013	0.074	0.027	0.209	0.030
TP_P	P665 mg/L	0.035	0.031	0.029	0.028	0.013	0.004	0.019	0.015	0.112	0.008
OP_DIS	P671 mg/L	0.011	0.004	0.011	0.005	0.011	0.003	0.010	0.000	0.030	0.004
COLOR	P80 PT-Co	15.333	12.662	5.333	2.309	12.500	12.021	8.333	4.509	29.000	4.000
TURB	P82079 NTU	10.350	15.140	8.394	13.750	2.928	7.046	1.071	0.536	58.000	0.300
COND	P95 umhos	67.778	13.838	60.556	8.248	69.944	8.828	80.611	9.198	112.000	43.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 2 Name: EORGN 2--PUGET LOWLAND Class: Elevation: 0 River Mile: 0.00

Location:

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.537	2.447	5.960	1.829	11.400	3.092	15.190	2.919	25.300	0.000
CU	P1042	ug/L	7.608	10.210	5.123	5.033	4.009	5.999	4.128	3.952	0.000	0.000
ZN	P1092	ug/L	52.440	131.257	40.761	109.896	53.089	139.534	31.871	100.201	0.000	0.000
ZN	P1094	ug/L	41.473	115.110	34.555	99.063	44.568	126.293	23.902	83.672	660.000	1.000K
CD	P1113	ug/L	0.644	1.621	0.607	1.691	0.664	1.805	0.516	1.230	11.700	0.100K
PB	P1114	ug/L	2.840	2.625	2.463	2.754	2.882	6.176	2.094	1.666	56.500	1.000K
CR	P1118	ug/L	1.823	1.815	2.210	3.653	1.716	2.705	1.884	2.542	26.000	0.200K
CU	P1119	ug/L	6.397	6.272	5.439	5.290	4.181	5.242	4.146	3.292	46.500	1.000U
PRESS	P25	mmHg	763.570	8.606	764.429	11.625	763.048	7.616	762.964	7.669	817.900	564.400
OXYGEN	P300	mg/L	11.419	1.593	11.877	1.327	10.705	1.689	9.606	1.559	15.500	0.400
PCTSAT	P301	Percent	94.128	11.303	94.541	9.558	96.677	13.070	94.433	14.094	133.400	3.900
FC	P31616	#/100ml	115.485	309.484	97.494	400.701	130.098	546.053	245.204	1309.975	21000.000	1.000K
COO	P340	mg/L	12.227	15.526	10.569	8.745	15.288	20.387	11.867	13.964	102.000	4.000K
PH	P400	units	7.408	0.401	7.270	0.354	7.403	0.332	7.512	0.370	9.700	6.000
SUSSOL	P530	mg/L	42.807	111.045	45.195	217.264	20.131	71.460	31.000	108.927	3600.000	0.500K
FLOW	P60	CFS	2994.460	5313.163	3207.232	4632.039	2544.770	4010.694	1072.617	2508.012	46400.000	0.100
NH3_N	P610	mg/L	0.048	0.126	0.054	0.123	0.041	0.127	0.042	0.128	2.100	0.005K
NO2_DIS	P613	mg/L	0.011	0.010	0.011	0.004	0.011	0.005	0.010	0.005	0.104	0.001
NO2_N	P615	mg/L	0.011	0.004	0.011	0.003	0.013	0.026	0.012	0.007	0.290	0.010K
NH3_UN	P619	mg/L	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.002	0.000	0.000
NO3_N	P620	mg/L	0.471	0.426	0.442	0.418	0.284	0.466	0.264	0.443	3.900	0.010K
NO2_NO3	P630	mg/L	0.453	0.526	0.514	0.531	0.308	0.453	0.259	0.396	4.490	0.010K
TP_P	P665	mg/L	0.061	0.069	0.060	0.091	0.040	0.073	0.055	0.091	1.230	0.001
OP_DIS	P671	mg/L	0.018	0.026	0.016	0.017	0.014	0.013	0.019	0.024	0.410	0.001J
HG	P71900	ug/L	0.066	0.027	0.057	0.066	0.066	0.057	0.074	0.050	0.500	0.001K
HG	P71901	ug/L	0.066	0.027	0.057	0.066	0.066	0.057	0.074	0.050	0.500	0.001K
COLOR	P80	Pt-Co	45.214	47.454	283.000	465.174	14.667	23.671	2.000	1.732	820.000	1.000K

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	12.738	31.051	646	11.757	35.231	651	6.127	11.444	651	10.711	30.028	659	560.000	0.200				
HARD	P900	mg/L	54.342	105.607	111	44.235	29.062	119	44.868	29.989	121	56.585	57.240	123	999.000	0.000				
COND	P95	umhos	106.387	220.434	653	85.727	72.155	655	92.274	79.284	661	123.158	124.383	664	5260.000	18.000				

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 22A070 Name: HUMPTULIPS R NR HUMPTULIPS Class: A Elevation: 145 River Mile: 23.60
 Location: LOCATED AT THE BRIDGE ON HIGHWAY 101, JUST SOUTH OF HUMPTULIPS
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 XXXXXX XXXXXX XXX XXXXXX XXXXXX XXXXXX

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			----JANUARY-MARCH----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.744	2.223	18	6.556	1.235	18	12.194	2.416	18	15.467	2.884	18	21.000	4.500	
PRESS	P25	mmHg	763.861	6.060	18	764.161	6.821	18	762.039	5.223	18	763.517	4.848	18	774.000	749.600	
OXYGEN	P300	mg/L	12.006	0.865	17	12.347	0.615	17	11.322	1.047	18	10.378	0.558	18	13.600	9.400	
PCTSAT	P301	Percent	98.647	5.732	17	99.906	3.653	17	104.500	6.890	17	102.406	3.632	17	117.100	84.000	
FC	P31616	#/100ml	33.059	55.575	17	3.333	2.990	18	11.611	25.018	18	21.471	33.100	17	180.000	1.000K	
PH	P400	units	7.394	0.226	18	7.206	0.286	18	7.494	0.349	18	7.506	0.300	18	7.900	6.500	
SUSSOL	P530	mg/L	15.444	25.234	18	14.944	23.836	18	1.875	1.204	16	1.878	1.142	18	106.000	0.800	
FLOW	P60	CFS	1591.944	1002.099	18	1895.625	1262.532	16	720.556	723.169	18	188.000	131.883	18	5000.000	86.000	
NH3_N	P610	mg/L	0.014	0.007	18	0.018	0.017	18	0.012	0.004	15	0.011	0.004	18	0.070	0.008	
NO2_DIS	P613	mg/L	0.009	0.003	10	0.010	0.000	12	0.010	0.000	13	0.010	0.002	14	0.010	0.002	
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.000	0.000	
NO3_N	P620	mg/L	0.220	0.072	3	0.117	0.031	3	0.040	0.000	2	0.023	0.006	3	0.300	0.020	
NO2_NO3	P630	mg/L	0.222	0.066	14	0.160	0.048	15	0.052	0.026	13	0.061	0.074	15	0.320	0.010	
TP_P	P665	mg/L	0.033	0.035	18	0.027	0.026	18	0.011	0.004	14	0.012	0.004	18	0.130	0.004	
OP_DIS	P671	mg/L	0.010	0.002	16	0.010	0.001	18	0.010	0.000	17	0.010	0.001	18	0.015	0.002	
COLOR	P80	Pt-Co	29.667	14.434	3	6.667	2.309	3	14.500	14.849	2	22.333	17.616	3	42.000	4.000	
TURB	P82079	NTU	7.972	11.884	18	7.406	10.233	17	1.129	0.801	17	0.865	0.472	17	47.000	0.300	
COND	P95	umhos	56.500	9.966	18	53.444	8.946	18	58.667	6.068	18	73.000	8.785	18	86.000	40.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 22C050 Name: CHEHALIS R NR MONTESANO

Class: A Elevation: 30 River Mile: 13.15

Location:

LOCATED AT THE BRIDGE ON STATE HIGHWAY 107 1/2 MILE SOUTH OF MONTESANO

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	---OCTOBER--DECEMBER---		-----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MIN	MAX
TEMP	P10	8.078	2.495	18	6.978	1.459	18	14.289	2.821	18	17.056	2.198	18	20.500	4.000
PRESS	P25	768.089	6.336	18	768.544	6.677	18	765.056	6.562	18	767.539	5.044	18	779.000	746.800
OXYGEN	P300	10.982	1.139	17	11.294	0.641	17	9.944	0.875	18	8.967	0.365	18	13.000	8.300
PCTSAT	P301	90.265	7.147	17	91.935	3.409	17	95.818	6.949	17	91.294	4.683	17	106.500	75.900
FC	P31616	267.500	231.091	16	98.944	103.339	18	82.667	142.907	18	90.529	69.325	17	790.000	2.000
PH	P400	7.267	0.228	18	7.183	0.201	18	7.400	0.285	18	7.411	0.235	18	7.900	6.700
SUSSOL	P530	25.000	35.066	18	25.389	34.121	18	4.889	1.811	18	6.094	4.117	17	150.000	1.000K
FLOW	P60	5453.333	4048.720	3	11530.000	8316.953	3	2087.667	1582.566	3	703.667	275.021	3	19200.000	478.000
NH3_N	P610	0.029	0.009	18	0.028	0.011	18	0.018	0.007	16	0.017	0.007	18	0.060	0.010K
NO2_DIS	P613	0.009	0.002	11	0.010	0.000	12	0.010	0.000	13	0.010	0.001	15	0.010	0.004
NO2_N	P615	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.000	0.000
NO3_N	P620	0.613	0.191	3	0.467	0.180	3	0.220	0.028	2	0.217	0.080	3	0.790	0.140
NO2_NO3	P630	0.632	0.201	15	0.688	0.104	15	0.369	0.114	14	0.262	0.077	15	0.950	0.123
TP_P	P665	0.057	0.040	18	0.050	0.030	18	0.026	0.010	15	0.033	0.008	18	0.170	0.010K
OP_DIS	P671	0.016	0.005	15	0.012	0.004	18	0.014	0.005	18	0.015	0.006	18	0.029	0.010K
COLOR	P80	54.333	11.150	3	39.333	17.156	3	21.000	5.657	2	22.333	8.327	3	67.000	13.000
TURB	P82079	8.822	12.168	18	8.365	8.147	17	1.967	1.091	18	1.876	0.868	17	47.500	1.000K
COND	P95	90.500	65.931	18	65.833	8.212	18	86.222	9.334	18	157.056	210.970	18	1000.000	50.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 22G070 Name: SATSOP R NR SATSOP Class: A Elevation: 40 River Mile: 2.70
 Location: LOCATED AT THE BRIDGE ON OLD US HIGHWAY 12, ONE MILE WEST OF SATSOP
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
		MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10 C	7.887	2.104	6.353	0.922	11.493	1.522	14.220	1.937	17.900	4.900
PRESS	P25 mmHg	767.280	6.620	755.113	53.174	764.113	8.029	767.253	5.584	779.000	564.400
OXYGEN	P300 mg/L	11.786	0.746	12.114	0.602	11.520	1.019	10.413	0.526	13.600	9.600
PCTSAT	P301 Percent	97.464	4.292	99.521	8.843	104.893	6.960	99.800	4.835	127.200	88.800
FC	P31616 #/100ml	43.286	68.846	9.400	11.255	18.786	29.240	31.143	27.467	260.000	1.000
PH	P400 units	7.360	0.188	7.133	0.285	7.507	0.252	7.573	0.333	8.200	6.600
SUSSOL	P530 mg/L	30.533	47.322	19.133	42.318	3.467	2.446	2.533	4.138	170.000	1.000K
FLOW	P60 CFS	2673.133	2444.792	3216.667	1941.228	915.667	368.870	351.800	178.009	9330.000	190.000
NH3_N	P610 mg/L	0.015	0.008	0.023	0.026	0.013	0.006	0.012	0.003	0.100	0.010K
NO2_DIS	P613 mg/L	0.009	0.003	0.010	0.000	0.010	0.000	0.009	0.002	0.010	0.001
NO2_N	P615 mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NO3_N	P620 mg/L	0.450	0.151	0.233	0.059	0.070	0.014	0.083	0.006	0.610	0.060
NO2_NO3	P630 mg/L	0.344	0.123	0.314	0.074	0.132	0.033	0.129	0.088	0.470	0.050
TP_P	P665 mg/L	0.043	0.038	0.032	0.033	0.012	0.004	0.011	0.005	0.110	0.001
OP_DIS	P671 mg/L	0.010	0.004	0.010	0.001	0.011	0.004	0.010	0.001	0.020	0.003
COLOR	P80 Pt-Co	29.333	7.506	12.667	4.509	16.500	12.021	12.667	4.509	38.000	8.000
TURB	P82079 NTU	9.120	13.708	5.421	10.416	1.093	0.271	1.236	1.126	42.000	0.400
COND	P95 umhos	61.267	10.003	51.533	9.486	65.067	4.166	77.200	5.894	90.000	22.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 23A070 Name: CHEHALIS R @ PORTER Class: A Elevation: 40 River Mile: 33.30

Location:

LOCATED AT THE BRIDGE ON THE SIDE ROAD OFF US HIGHWAY 12 ON THE RIGHT WHEN ENTERING PORTER FROM THE NORTHWEST

Water Years Sampled: 7 8 9
 5 6
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----			
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	8.033	2.858	18	6.989	1.612	18	14.667	3.056	18	17.478	2.673	18
PRESS	P25	mmHg	767.600	6.282	18	768.383	6.691	18	765.639	4.717	18	767.567	4.836	18
OXYGEN	P300	mg/L	10.994	1.000	17	11.118	0.780	17	9.817	1.001	18	9.178	0.673	18
PCTSAT	P301	Percent	90.253	5.345	17	90.524	5.567	17	95.276	5.324	17	93.359	7.998	17
FC	P31616	#/100ml	135.438	315.794	16	92.278	85.612	18	29.667	23.572	18	21.235	9.602	17
COD	P340	mg/L	11.000	4.372	10	6.727	2.149	11	9.545	3.671	11	9.100	2.283	10
PH	P400	units	7.394	0.282	18	7.150	0.305	18	7.361	0.220	18	7.583	0.264	18
SUSSOL	P530	mg/L	14.333	22.303	18	17.778	18.870	18	5.444	3.312	18	3.689	2.081	18
FLOW	P60	CFS	5023.667	9502.504	18	7527.778	4930.897	18	1418.389	698.553	18	400.167	107.868	18
NH3_N	P610	mg/L	0.029	0.011	18	0.048	0.047	18	0.020	0.010	15	0.024	0.014	18
NO2_DIS	P613	mg/L	0.010	0.001	11	0.010	0.000	12	0.010	0.000	13	0.010	0.001	15
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9
NO3_N	P620	mg/L	0.713	0.140	3	0.590	0.046	3	0.380	0.085	2	0.337	0.042	3
NO2_NO3	P630	mg/L	0.893	0.401	15	0.850	0.118	15	0.531	0.108	14	0.405	0.122	15
TP_P	P665	mg/L	0.083	0.040	18	0.054	0.026	18	0.040	0.010	14	0.058	0.021	18
OP_DIS	P671	mg/L	0.036	0.017	16	0.016	0.007	18	0.017	0.005	17	0.032	0.017	18
COLOR	P80	Pt-Co	64.000	6.557	3	39.000	17.776	3	27.500	9.192	2	32.333	20.033	3
TURB	P82079	NTU	6.856	13.601	18	8.059	6.920	17	2.450	1.706	18	1.500	0.600	17
COND	P95	umhos	95.111	18.256	18	73.833	6.989	18	92.000	10.437	18	112.389	8.698	18

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 23A120 Name: CHEHALIS R @ CENTRALIA

Class: A Elevation: 170 River Mile: 67.50

Location:

LOCATED AT THE BRIDGE ON MELLEN STREET, IMMEDIATELY WEST OF CENTRALIA,
6 MILE ABOVE THE CONFLUENCE WITH THE SKOOKUMCHUCK RIVER

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.933	2.883	6.240	1.499	14.807	3.170	19.280	2.491	22.600	3.200
PRESS	P25	mmHg	761.167	7.725	759.820	7.526	759.247	5.753	758.413	5.813	776.000	743.000
OXYGEN	P300	mg/L	10.780	1.486	11.700	0.696	9.533	1.109	7.540	1.737	13.000	3.600
PCTSAT	P301	Percent	89.833	8.121	94.843	4.191	93.236	7.234	84.207	17.660	127.300	59.700
FC	P31616	#/100ml	119.929	139.981	83.000	95.227	81.933	222.581	21.667	21.460	880.000	2.000
PH	P400	units	7.453	0.403	7.287	0.374	7.367	0.394	7.573	0.432	8.700	6.300
SUSSOL	P530	mg/L	15.667	20.958	18.429	12.420	4.357	2.620	2.714	1.204	83.000	1.000
FLOW	P60	CFS	2691.400	4096.174	4169.333	3616.434	693.800	429.233	137.933	77.526	16800.000	72.000
NH3_N	P610	mg/L	0.034	0.016	0.033	0.022	0.048	0.018	0.100	0.137	0.577	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.012	0.003	0.018	0.010K
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.013	0.006	0.020	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.007	0.000
NO3_N	P620	mg/L	0.693	0.177	0.657	0.040	0.130	0.042	0.127	0.040	0.810	0.090
NO2_NO3	P630	mg/L	0.627	0.364	0.749	0.138	0.304	0.123	0.191	0.079	1.070	0.040
TP_P	P665	mg/L	0.069	0.040	0.058	0.031	0.047	0.020	0.154	0.068	0.379	0.024
OP_DIS	P671	mg/L	0.026	0.029	0.012	0.004	0.025	0.016	0.113	0.069	0.337	0.010K
COLOR	P80	Pt-Co	67.000	23.259	34.667	6.658	25.000	0.000	63.000	19.313	92.000	25.000
TURB	P82079	NTU	5.707	8.710	8.920	8.162	2.800	2.260	1.540	0.648	36.000	1.000K
COND	P95	umhos	87.267	23.987	67.400	9.356	85.667	18.145	128.400	13.351	155.000	32.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 23A160 Name: CHEHALIS R @ DRYAD Class: A Elevation: 288 River Mile: 101.70

Location: LOCATED AT THE BRIDGE LEAVING DRYAD ON THE SOUTHEAST AND APPROXIMATELY 1.5 MILES EAST OF DOTY

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.533	2.541	18	7.100	1.770	18	13.894	3.396	18	17.550	3.221	18	24.500	3.500	
PRESS	P25 mmHg	758.161	6.351	18	759.067	6.793	18	756.461	6.543	18	755.878	5.043	18	771.100	742.200	
OXYGEN	P300 mg/L	12.082	1.073	17	12.400	0.630	17	11.467	1.158	18	10.189	0.531	18	14.000	9.300	
PCTSAT	P301 Percent	99.888	4.976	17	102.600	4.086	17	110.782	7.067	17	105.888	4.976	17	125.100	86.800	
FC	P31616 #/100ml	61.471	82.294	17	46.167	56.575	18	28.500	33.712	18	49.000	86.392	17	380.000	1.000	
PH	P400 units	7.417	0.262	18	7.222	0.319	18	7.833	0.505	18	7.717	0.324	18	8.700	6.400	
SUSSOL	P530 mg/L	8.667	19.710	18	17.294	45.370	17	2.765	1.200	17	2.556	1.688	18	192.000	1.000K	
FLOW	P60 CFS	849.278	712.900	18	1667.313	1729.861	16	266.941	174.010	17	59.911	28.105	18	6980.000	17.000	
NH3_N	P610 mg/L	0.012	0.005	18	0.017	0.015	18	0.013	0.006	16	0.012	0.004	18	0.070	0.010K	
NO2_DIS	P613 mg/L	0.009	0.002	10	0.010	0.000	12	0.010	0.000	13	0.010	0.002	14	0.010	0.003	
NO2_N	P615 mg/L	0.010	0.000	5	0.040	0.052	3	0.010	0.000	3	0.010	0.000	3	0.100	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.001	0.000	
NO3_N	P620 mg/L	0.533	0.190	3	0.390	0.026	3	0.115	0.007	2	0.027	0.012	3	0.720	0.020	
NO2_NO3	P630 mg/L	0.476	0.277	15	0.522	0.153	15	0.198	0.088	14	0.068	0.051	15	0.870	0.010K	
TP_P	P665 mg/L	0.029	0.029	18	0.042	0.045	18	0.017	0.007	15	0.020	0.006	18	0.173	0.010K	
OP_DIS	P671 mg/L	0.010	0.003	16	0.010	0.001	18	0.011	0.002	18	0.010	0.000	18	0.020	0.002	
COLOR	P80 Pt-Co	46.000	33.719	3	18.333	2.309	3	25.000	5.657	2	58.667	7.506	3	83.000	17.000	
TURB	P82079 NTU	2.811	4.741	18	6.512	11.830	17	1.239	0.580	18	1.341	0.417	17	42.000	0.700	
COND	P95 umhos	69.778	10.230	18	60.833	6.802	18	69.824	5.897	17	83.889	6.790	18	96.000	54.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 23E070 Name: BLACK RIVER @ MOON ROAD BRIDGE Class: A Elevation: 90 River Mile: 7.10

Location: LOCATED AT THE BRIDGE 6.7 MILES WEST OF I-5 (WEST OF ROCHESTER) AND .6 MILES NORTH ON MOON ROAD.
 Water Years Sampled: 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.867	1.960	3	5.800	2.193	3	13.000	1.308	3	16.667	2.093	6	19.700	3.300	
CU	P1042 ug/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	5.000	5.000	
ZN	P1092 ug/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	5.000	5.000	
ZN	P1094 ug/L	5.333	0.577	3	6.333	4.041	3	0.000	0.000	0	6.500	4.359	4	13.000	4.000K	
CD	P1113 ug/L	0.000	0.000	0	0.110	0.017	3	0.100	0.000	3	0.110	0.020	4	0.140	0.100K	
PB	P1114 ug/L	0.000	0.000	0	1.150	0.212	2	1.000	0.000	2	1.000	0.020	4	1.300	1.000K	
CR	P1118 ug/L	0.000	0.000	0	0.663	0.006	3	0.635	0.007	2	0.805	0.813	4	2.000	0.200K	
CU	P1119 ug/L	0.000	0.000	0	2.767	1.328	3	3.000	0.000	3	3.500	1.000	4	5.000	2.000K	
PRESS	P25 mmHg	763.600	5.462	3	766.133	4.508	3	765.800	4.571	3	764.467	4.230	6	771.100	756.900	
OXYGEN	P300 mg/L	8.167	1.818	3	8.900	0.141	2	8.167	0.651	3	7.250	0.288	6	10.200	6.700	
PCTSAT	P301 Percent	67.767	11.944	3	72.900	2.263	2	76.400	4.194	3	73.483	3.772	6	81.300	58.700	
FC	P31616 #/100ml	0.000	0.000	0	581.000	590.866	3	27.667	16.653	3	108.167	201.811	6	1200.000	9.000	
PH	P400 units	7.100	0.529	3	7.267	0.513	3	7.000	0.200	3	7.300	0.126	6	7.700	6.500	
SUSSOL	P530 mg/L	5.333	3.215	3	3.000	2.000	3	5.333	3.215	3	1.567	0.898	6	9.000	1.000K	
NH3 N	P610 mg/L	0.077	0.036	3	0.085	0.051	3	0.024	0.017	3	0.017	0.007	6	0.140	0.010K	
NO2 DIS	P613 mg/L	0.026	0.022	2	0.011	0.001	3	0.010	0.000	3	0.009	0.003	6	0.041	0.003	
NO2 NO3	P630 mg/L	0.809	0.078	3	0.753	0.206	3	0.738	0.057	3	0.762	0.150	6	0.980	0.540	
TP_P	P665 mg/L	0.113	0.048	3	0.080	0.034	3	0.035	0.007	2	0.034	0.017	6	0.168	0.003	
OP_DIS	P671 mg/L	0.069	0.055	2	0.043	0.015	3	0.019	0.002	2	0.018	0.009	6	0.108	0.007	
HG	P71900 ug/L	0.058	0.031	3	0.040	0.000	3	0.160	0.208	3	0.024	0.020	3	0.400	0.001K	
HG	P71901 ug/L	0.058	0.031	3	0.040	0.000	3	0.160	0.208	3	0.024	0.020	3	0.400	0.001K	
TURB	P82079 NTU	7.400	7.920	2	2.033	0.252	3	2.467	0.321	3	1.083	0.204	6	13.000	1.000K	
HARD	P900 mg/L	26.500	16.263	2	26.667	3.215	3	33.333	4.041	3	43.400	4.393	5	51.000	15.000	
COND	P95 umhos	83.000	30.790	3	72.333	7.506	3	91.000	12.000	3	112.333	6.861	6	125.000	57.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 248090 Name: WILLAPA R NR WILLAPA Class: A Elevation: 50 River Mile: 17.70

Location:
 LOCATED AT THE BRIDGE ON BULLARD ROAD ABOUT ONE MILE NORTH OF STATE
 HIGHWAY 6 EAST OF RAYMOND

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----	
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10 C	8.400	2.966	15	7.611	1.447	18	13.944	3.093	18	18.156	3.419	16	24.000	4.400
PRESS	P25 mmHg	767.120	6.212	15	766.872	6.958	18	765.378	4.884	18	765.369	5.049	16	778.000	752.600
OXYGEN	P300 mg/L	11.679	1.022	14	12.029	0.694	17	11.089	1.225	18	9.888	0.561	16	13.700	8.400
PCTSAT	P301 Percent	96.479	5.489	14	99.565	4.173	17	105.994	7.180	17	102.713	8.683	15	120.500	83.200
FC	P31616 #/100ml	139.500	231.337	14	285.118	960.859	17	117.125	70.934	16	321.467	416.455	15	4000.000	1.000K
PH	P400 units	7.367	0.274	15	7.306	0.321	18	7.461	0.378	18	7.513	0.292	16	8.000	6.700
SUSSOL	P530 mg/L	6.000	4.660	15	10.412	12.831	17	5.111	7.669	18	6.125	4.801	16	53.000	1.000K
FLOW	P60 CFS	487.853	374.216	15	1023.500	776.966	18	237.833	165.650	18	44.419	24.154	16	3480.000	18.000
NH3_N	P610 mg/L	0.022	0.010	15	0.029	0.024	18	0.016	0.007	16	0.023	0.007	15	0.080	0.010K
NO2_DIS	P613 mg/L	0.010	0.000	8	0.010	0.000	12	0.010	0.000	13	0.010	0.000	13	0.010	0.010K
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.001	0.000
NO3_N	P620 mg/L	0.817	0.290	3	0.690	0.082	3	0.325	0.106	2	0.223	0.021	3	1.100	0.200
NO2_NO3	P630 mg/L	0.840	0.390	12	0.879	0.183	15	0.402	0.139	14	0.262	0.051	13	1.260	0.170
TP_P	P665 mg/L	0.041	0.028	15	0.034	0.030	18	0.020	0.010	15	0.030	0.015	15	0.120	0.010K
OP_DIS	P671 mg/L	0.011	0.003	14	0.010	0.001	18	0.010	0.000	18	0.010	0.000	16	0.020	0.007
COLOR	P80 Pt-Co	52.667	30.436	3	19.667	2.309	3	25.000	0.000	2	47.667	33.858	3	87.000	17.000
TURB	P82079 NTU	2.247	1.356	15	4.424	5.557	17	1.406	0.747	18	1.740	0.396	15	24.000	0.800
COND	P95 umhos	71.467	6.958	15	59.389	5.101	18	69.056	12.110	18	79.250	9.842	16	112.000	51.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 248130 Name: WILLAPA R @ LEBAM Class: A Elevation: 240 River Mile: 34.00

Location: LOCATED AT THE BRIDGE ON STATE HIGHWAY 6, .4 MILES WEST OF LEBAM, .1 MILE UPSTREAM FROM THE USGS GAGING STATION

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	8.076	2.552	17	7.880	1.359	15	12.940	2.531	15	15.660	2.341	15	19.700	4.600	
PRESS	P25 mmHg	762.471	6.247	17	763.600	6.383	15	760.053	5.507	15	760.213	4.960	15	774.000	748.000	
OXYGEN	P300 mg/L	11.350	1.065	16	11.927	0.644	15	11.027	1.169	15	9.407	0.670	15	13.400	8.200	
PCTSAT	P301 Percent	93.813	5.645	16	99.307	3.987	15	104.221	7.077	14	94.064	5.571	14	119.700	78.300	
FC	P31616 #/100ml	316.941	438.080	17	302.071	558.537	14	1033.267	1576.471	15	991.538	1160.767	13	6500.000	7.000	
PH	P400 units	7.271	0.259	17	7.133	0.274	15	7.367	0.368	15	7.467	0.140	15	7.800	6.500	
SUSSL	P530 mg/L	8.647	13.752	17	28.000	50.220	14	3.214	2.007	14	3.633	1.894	15	189.000	1.000K	
FLOW	P60 CFS	175.250	188.220	14	327.083	238.710	12	53.733	24.895	12	10.617	4.554	12	972.000	4.800	
NH3_N	P610 mg/L	0.021	0.011	17	0.034	0.033	15	0.017	0.013	13	0.020	0.009	15	0.110	0.010K	
NO2_DIS	P613 mg/L	0.009	0.002	10	0.010	0.000	9	0.010	0.000	10	0.010	0.001	12	0.010	0.004	
NO2_N	P615 mg/L	0.010	0.000	5	0.040	0.052	3	0.010	0.000	3	0.010	0.000	3	0.100	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.000	0.000	
NO3_N	P620 mg/L	0.993	0.400	3	0.730	0.056	3	0.310	0.071	2	0.300	0.095	3	1.400	0.240	
NO2_NO3	P630 mg/L	0.912	0.465	14	0.843	0.219	12	0.396	0.088	11	0.293	0.075	12	1.550	0.165	
TP_P	P665 mg/L	0.043	0.027	17	0.054	0.051	15	0.027	0.010	12	0.038	0.011	15	0.188	0.010K	
OP_DIS	P671 mg/L	0.013	0.006	16	0.011	0.003	14	0.011	0.003	15	0.013	0.005	15	0.030	0.007	
COLOR	P80 Pt-Co	69.000	62.746	3	19.667	2.309	3	31.500	3.536	2	57.667	17.156	3	140.000	17.000	
TURB	P82079 NTU	2.871	2.746	17	5.960	6.954	15	1.713	1.070	15	1.671	0.430	14	23.000	1.000K	
COND	P95 umhos	70.353	8.965	17	56.933	4.621	15	64.400	6.080	15	72.800	4.974	15	87.000	50.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 240090 Name: NORTH R @ ARTIC Class: A Elevation: 65 River Mile: 27.30

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	OCTOBER-DECEMBER			JANUARY-MARCH			APRIL-JUNE			JULY-SEPTEMBER			SIX YEAR		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.100	2.663	3	8.600	0.608	3	15.600	3.651	3	15.433	2.854	3	19.200	4.600	
PRESS	P25	mmHg	765.033	1.570	3	763.867	7.087	3	760.467	4.654	3	762.100	1.652	3	771.700	755.700	
OXYGEN	P300	mg/L	11.267	0.874	3	10.933	0.551	3	9.267	0.802	3	8.567	0.503	3	12.000	8.100	
PCTSAT	P301	Percent	88.333	6.337	3	92.033	5.970	3	92.000	0.361	3	84.800	3.119	3	97.700	81.300	
FC	P31616	#/100ml	33.667	35.105	3	8.667	6.110	3	17.333	6.110	3	27.000	11.358	3	74.000	2.000	
PH	P400	units	7.200	0.436	3	7.033	0.208	3	7.267	0.115	3	7.367	0.058	3	7.700	6.800	
SUSSOL	P530	mg/L	11.333	7.024	3	12.333	7.234	3	5.667	3.786	3	5.000	2.646	3	18.000	2.000	
NH3 N	P610	mg/L	0.013	0.003	3	0.013	0.005	3	0.014	0.005	3	0.023	0.008	3	0.027	0.010K	
NO2 DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2 NO3	P630	mg/L	0.569	0.400	3	0.572	0.267	3	0.168	0.172	3	0.093	0.105	3	0.894	0.022	
TP P	P665	mg/L	0.028	0.006	2	0.023	0.007	3	0.020	0.004	3	0.026	0.008	3	0.035	0.016	
OP DIS	P671	mg/L	0.010	0.000	2	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
TURB	P82079	NTU	4.133	1.629	3	3.767	1.861	3	2.467	0.907	3	2.333	0.850	3	6.000	1.500	
COND	P95	umhos	59.000	5.568	3	50.000	5.000	3	52.000	7.000	3	71.667	1.528	3	73.000	45.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 24F070 Name: NASELLE R NR NASELLE Class: A Elevation: 75 River Mile: 17.40

Location:
 LOCATED APPROXIMATELY TWO MILES UP THE SOUTH VALLEY ROAD TO SECONDARY
 ROAD BRIDGE ON LEFT

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.467	2.930	9.733	0.850	16.300	4.803	16.500	3.831	21.200	5.300
PRESS	P25	mmHg	765.100	2.651	764.267	7.580	761.167	6.888	760.633	1.950	772.400	753.900
OXYGEN	P300	mg/L	12.000	0.656	11.667	0.231	10.300	0.889	10.333	0.493	12.600	9.300
PCTSAT	P301	Percent	94.500	7.862	100.633	3.745	103.633	3.550	104.733	3.156	106.800	85.600
FC	P31616	#/100ml	53.000	45.133	56.333	81.242	22.000	12.124	49.333	39.627	150.000	5.000
PH	P400	units	7.200	0.000	7.167	0.379	7.533	0.058	7.767	0.252	8.000	6.900
SUSSOL	P530	mg/L	5.000	4.359	59.667	100.749	1.667	1.155	2.667	1.155	176.000	1.000K
FLOW	P60	CFS	475.000	413.068	1155.667	1418.929	166.667	172.573	41.667	26.312	2770.000	25.000
NH3_N	P610	mg/L	0.019	0.014	0.013	0.005	0.014	0.008	0.016	0.006	0.036	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.592	0.273	0.474	0.166	0.240	0.132	0.142	0.164	0.843	0.024
TP_P	P665	mg/L	0.020	0.004	0.049	0.065	0.012	0.003	0.012	0.003	0.124	0.010K
OP_DIS	P671	mg/L	0.011	0.001	0.010	0.000	0.010	0.001	0.010	0.000	0.012	0.010K
TURB	P82079	NTU	2.333	1.528	9.700	14.127	0.900	0.954	3.167	3.365	26.000	0.300
COND	P95	umhos	57.000	5.196	47.667	2.517	55.000	5.568	58.667	3.055	62.000	45.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 268070 Name: COWLITZ R @ KELSO

Class: A Elevation: 5 River Mile: 4.90

Location: LOCATED IN KELSO AT THE ALLEN (MAIN) STREET BRIDGE CROSSING THE COWLITZ

Water Years Sampled:

5	6	7	8	9
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3
4	5	6	7	8
9	0	1	2	3

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	8.650	1.878	18	6.517	1.546	18	11.472	2.514	18	14.256	2.134	18	19.000	3.800
PRESS	P25	mmHg	767.761	7.409	18	767.022	7.240	18	765.606	6.131	18	765.178	5.421	18	783.000	747.300
OXYGEN	P300	mg/L	11.600	0.741	17	11.835	0.646	17	11.094	0.833	18	10.244	0.396	18	13.200	9.300
PCTSAT	P301	Percent	97.612	4.724	17	95.559	4.046	17	100.224	4.556	17	98.688	2.977	17	110.800	87.900
FC	P31616	#/100ml	33.118	37.466	17	47.444	85.843	18	16.889	12.667	18	22.444	13.008	18	330.000	2.000
COD	P340	mg/L	8.100	3.348	10	7.667	4.163	12	7.545	2.945	11	6.900	2.601	10	16.000	4.000K
PH	P400	units	7.461	0.283	18	7.256	0.328	18	7.511	0.444	18	7.556	0.291	18	8.600	6.400
SUSSOL	P530	mg/L	100.556	132.664	18	112.667	130.927	18	48.412	54.215	17	12.756	14.507	18	550.000	2.000
FLOW	P60	CFS	11522.727	8895.032	11	11820.714	5549.871	14	7203.750	2609.532	8	2970.000	108.167	3	32600.000	950.000
NH3_N	P610	mg/L	0.017	0.009	18	0.026	0.017	18	0.016	0.007	16	0.012	0.004	18	0.070	0.010K
NO2_DIS	P613	mg/L	0.009	0.002	11	0.010	0.000	12	0.010	0.000	13	0.010	0.002	15	0.010	0.003
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.000	0.000
NO3_N	P620	mg/L	0.163	0.012	3	0.290	0.020	3	0.080	0.014	2	0.030	0.010	3	0.310	0.020
NO2_NO3	P630	mg/L	0.159	0.099	15	0.301	0.124	15	0.103	0.043	14	0.047	0.012	15	0.627	0.020
TP_P	P665	mg/L	0.076	0.068	18	0.104	0.096	18	0.036	0.032	15	0.017	0.009	18	0.340	0.007
OP_DIS	P671	mg/L	0.010	0.002	16	0.010	0.000	18	0.011	0.002	18	0.010	0.001	18	0.020	0.004
COLOR	P80	Pt-Co	47.333	21.502	3	36.333	10.599	3	14.333	12.220	3	36.333	13.429	3	71.000	1.000
TURB	P82079	NTU	16.476	18.324	17	22.894	13.607	18	10.200	8.768	18	3.344	4.761	18	73.000	1.000K
COND	P95	umhos	103.667	25.391	18	94.500	12.167	18	117.000	22.906	18	133.500	16.332	18	171.000	60.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 268150 Name: COMLITZ R @ TOLEDO

Class: A Elevation: 120 River Mile: 33.60

Location:

LOCATED AT THE BRIDGE ON STATE HIGHWAY 505 (SPIRIT LAKE CUTOFF) ON THE EAST SIDE OF TOLEDO

Water Years Sampled:

5	6	7	8	9	1	2	3	4	5	6	7	8	9	0
9	0	1	2	3	4	5	6	7	8	9	0	1	2	3
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----	
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10 C	9.400	1.562	3	8.700	0.700	3	12.533	2.316	3	14.200	1.905	3	15.300	7.600
PRESS	P25 mmHg	762.667	5.937	3	764.733	2.065	3	758.533	9.315	3	756.000	3.291	3	769.100	747.800
OXYGEN	P300 mg/L	11.733	0.850	3	12.500	0.265	3	11.867	0.611	3	11.100	0.529	3	12.800	10.500
PCTSAT	P301 Percent	101.733	7.974	3	106.400	4.176	3	110.933	1.305	3	108.000	3.676	3	112.400	96.400
FC	P31616 #/100ml	10.000	1.000	3	13.667	19.399	3	3.667	2.517	3	2.667	1.528	3	36.000	1.000K
PH	P400 units	7.567	0.379	3	7.400	0.800	3	7.900	0.100	3	7.900	0.200	3	8.200	6.600
SUSSOL	P530 mg/L	3.333	1.155	3	7.000	8.718	3	2.000	0.000	3	1.333	0.577	3	17.000	1.000
FLOW	P60 CFS	8483.333	3478.970	3	6006.667	1632.830	3	4070.000	622.334	3	2773.333	15.275	3	12500.000	2760.000
NH3_N	P610 mg/L	0.013	0.004	3	0.012	0.003	3	0.011	0.002	3	0.013	0.005	3	0.019	0.010K
NO2_DIS	P613 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NO2_NOS	P630 mg/L	0.109	0.061	3	0.208	0.087	3	0.075	0.058	3	0.041	0.010	3	0.288	0.030
TP_P	P665 mg/L	0.013	0.002	3	0.019	0.013	3	0.014	0.005	3	0.010	0.000	3	0.034	0.010K
OP_DIS	P671 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
TURB	P82079 NTU	2.400	1.442	3	4.167	3.765	3	0.800	0.361	3	1.333	0.153	3	8.500	0.500
COND	P95 umhos	48.333	2.309	3	51.667	4.726	3	58.667	12.503	3	51.333	8.145	3	73.000	42.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 26C070 Name: COMEEMAN R @ KELSO Class: A Elevation: 20 River Mile: 2.70

Location:
 LOCATED AT THE OLD HIGHWAY 99 BRIDGE CROSSING THE COMEEMAN RIVER AT KELSO
 Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.222	2.878	18	6.244	2.020	18	14.128	3.978	18	18.167	2.990	18	25.300	2.100	
PRESS	P25 mmHg	767.972	7.360	18	766.889	7.243	18	765.161	6.288	18	763.278	7.529	18	783.000	742.700	
OXYGEN	P300 mg/L	11.865	1.202	17	12.147	0.758	17	9.928	1.147	18	8.511	0.771	18	14.200	7.100	
PCTSAT	P301 Percent	95.941	4.965	17	97.271	3.443	17	95.018	5.910	17	89.265	6.807	17	107.600	71.300	
FC	P31616 #/100ml	63.588	71.655	17	19.529	20.314	17	81.944	92.875	18	117.111	66.925	18	320.000	3.000	
PH	P400 units	7.594	0.470	18	7.233	0.338	18	7.350	0.253	18	7.522	0.229	18	8.800	6.300	
SUSSOL	P530 mg/L	10.556	9.519	18	15.056	19.937	18	4.389	2.090	18	3.900	2.510	18	79.000	1.000K	
FLOW	P60 CFS	1225.000	1378.858	2	1011.667	251.214	3	297.667	41.645	3	64.333	22.279	3	2200.000	250.000	
NH3_N	P610 mg/L	0.016	0.008	18	0.024	0.025	18	0.024	0.013	16	0.035	0.013	18	0.100	0.010K	
NO2_DIS	P613 mg/L	0.009	0.002	11	0.010	0.000	12	0.010	0.000	13	0.010	0.001	15	0.010	0.004	
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.001	9	0.003	0.000	
NO3_N	P620 mg/L	0.723	0.074	3	0.760	0.110	3	0.285	0.035	2	0.050	0.020	3	0.870	0.030	
NO2_NO3	P630 mg/L	0.756	0.381	15	0.882	0.239	14	0.394	0.170	14	0.123	0.097	15	1.500	0.016	
TP_P	P665 mg/L	0.028	0.026	18	0.034	0.028	18	0.023	0.011	15	0.021	0.006	18	0.111	0.010K	
OP_DIS	P671 mg/L	0.010	0.003	16	0.010	0.001	18	0.010	0.000	18	0.010	0.000	18	0.020	0.003	
COLOR	P80 Pt-Co	44.667	23.714	3	21.000	6.928	3	25.333	12.503	3	59.000	17.000	3	76.000	13.000	
TURB	P82079 NTU	3.094	1.860	17	5.400	4.696	18	2.178	0.942	18	1.929	0.697	17	22.000	1.000K	
COND	P95 umhos	67.167	17.440	18	54.333	6.389	18	68.056	8.571	18	91.556	9.382	18	104.000	35.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 260070 Name: TOUTLE R NR CASTLE ROCK

Class: A Elevation: 47 River Mile: 1.00

Location:

LOCATED AT THE OLD HIGHWAY 99 BRIDGE, .5 MILE UPSTREAM FROM THE I-5 BRIDGE OFF PARK ROAD EXIT (EXIT 52)

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.394	2.928	18	6.956	2.284	18	14.517	3.674	18	19.022	3.328	18	24.800	2.600	
PRESS	P25 mmhg	764.994	7.314	18	763.756	7.339	18	762.033	6.133	18	761.500	5.874	18	780.000	745.000	
OXYGEN	P300 mg/L	12.339	1.145	18	12.371	0.835	17	10.622	0.939	18	9.889	0.536	18	14.500	8.700	
PCTSAT	P301 Percent	101.244	5.214	18	101.482	3.756	17	102.947	5.796	17	105.612	4.844	17	117.100	87.000	
FC	P31616 #/100ml	26.000	28.190	16	19.111	34.114	18	14.333	14.876	18	14.000	15.522	18	120.000	1.000K	
PH	P400 unids	7.578	0.260	18	7.244	0.384	18	7.639	0.287	18	8.006	0.173	18	8.300	6.500	
SUSSOL	P530 mg/L	317.611	368.901	18	302.222	378.798	18	239.389	340.228	18	40.500	50.650	18	1600.000	2.000	
FLOW	P60 CFS	2002.000	1858.753	15	2834.313	2072.553	16	1426.706	714.557	17	403.625	104.878	16	9030.000	251.000	
NH3_N	P610 mg/L	0.032	0.017	17	0.032	0.019	18	0.021	0.012	15	0.012	0.005	18	0.071	0.010K	
NO2_DIS	P613 mg/L	0.009	0.002	11	0.010	0.000	12	0.010	0.000	13	0.010	0.002	15	0.010	0.003	
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.001	9	0.001	0.000	
NO3_N	P620 mg/L	0.153	0.021	3	0.163	0.029	3	0.085	0.035	2	0.013	0.006	3	0.180	0.010	
NO2_NO3	P630 mg/L	0.132	0.082	15	0.187	0.090	15	0.054	0.043	14	0.053	0.144	15	0.570	0.010K	
TP_P	P665 mg/L	0.140	0.101	18	0.199	0.160	18	0.132	0.247	15	0.043	0.040	17	1.000	0.010K	
OP_DIS	P671 mg/L	0.010	0.003	15	0.010	0.001	18	0.010	0.000	18	0.010	0.002	18	0.020	0.005	
COLOR	P80 Pt-Co	118.667	19.630	3	82.333	8.505	3	11.667	10.066	3	96.000	91.307	3	200.000	1.000	
TURB	P82079 NTU	50.047	57.210	17	61.011	60.071	18	35.383	29.896	18	13.933	17.076	18	270.000	1.300	
COND	P95 umhos	334.056	180.590	18	195.778	55.319	18	325.833	91.864	18	618.167	117.174	18	840.000	77.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 27B070 Name: KALAMA R NR KALAMA

Class: A Elevation: 40 River Mile: 2.80

Location:

LOCATED ON THE KALAMA RIVER 2.3 MILES NE OF KALAMA ON KALAMA RIVER ROAD

Water Years Sampled:

5 6 7 8
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	7.211	2.264	18	6.356	1.475	18	12.028	2.625	18	14.994	2.596	18	19.400	3.400	
PRESS	P25 mmHg	766.672	7.140	18	765.367	7.267	18	763.739	5.706	18	763.617	5.565	18	781.000	747.000	
OXYGEN	P300 mg/L	12.550	0.862	18	12.706	0.639	17	11.728	0.969	18	10.517	0.396	18	14.300	9.500	
PCTSAT	P301 Percent	102.544	5.074	18	102.424	3.953	17	107.465	6.228	17	102.835	5.523	17	122.300	91.600	
FC	P31616 #/100ml	23.235	39.697	17	6.722	6.285	18	10.000	9.055	18	25.556	40.717	18	175.000	1.000K	
COO	P340 mg/L	17.333	31.052	9	5.778	2.587	9	5.444	1.740	9	16.100	30.278	10	102.000	4.000K	
PH	P400 units	7.483	0.340	18	7.217	0.426	18	7.628	0.443	18	7.883	0.379	18	8.800	6.400	
SUSSOL	P530 mg/L	8.500	8.162	18	12.778	23.074	18	3.444	1.617	18	3.056	2.508	18	97.000	1.000K	
FLOW	P60 CFS	876.667	254.231	3	2233.333	1709.776	3	837.500	493.854	4	186.667	23.094	3	4700.000	160.000	
NH3_N	P610 mg/L	0.018	0.012	18	0.014	0.014	18	0.015	0.007	16	0.019	0.015	18	0.070	0.010K	
NO2_DIS	P613 mg/L	0.010	0.002	11	0.010	0.000	12	0.010	0.000	13	0.009	0.002	15	0.000	0.000	
NO2_N	P615 mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.001	9	0.002	0.000	
NO3_N	P620 mg/L	0.247	0.059	3	0.220	0.157	3	0.075	0.007	2	0.023	0.006	3	0.330	0.020	
NO2_NO3	P630 mg/L	0.307	0.159	15	0.381	0.168	15	0.103	0.052	14	0.048	0.020	15	0.890	0.017	
TP_P	P665 mg/L	0.030	0.027	18	0.028	0.024	17	0.017	0.007	15	0.044	0.097	18	0.430	0.010K	
OP_DIS	P671 mg/L	0.011	0.003	16	0.010	0.000	17	0.010	0.000	17	0.024	0.054	18	0.240	0.005	
COLOR	P80 Pt-Co	18.000	13.229	3	15.333	8.737	3	5.667	4.041	3	31.000	8.888	3	38.000	1.000	
TURB	P82079 NTU	2.206	1.601	17	3.944	5.210	18	1.111	0.406	18	1.094	0.354	18	22.000	0.500	
HARD	P900 mg/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000	
COND	P95 umhos	49.722	9.398	18	43.222	5.494	18	49.611	6.156	18	69.833	9.960	18	94.000	36.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 27C080 Name: LEVIS R @ CO RD 16 Class: A Elevation: 10 River Mile: 6.62

Location:

Water Years Sampled:

5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	11.133	3.053	3	7.367	1.002	3	10.000	1.637	3	14.000	0.200	3	14.200	6.600	
PRESS	P25	mmHg	768.167	5.155	3	770.633	1.380	3	763.367	7.484	3	762.067	2.811	3	773.700	754.900	
OXYGEN	P300	mg/L	10.300	0.693	3	12.333	0.252	3	10.900	0.600	3	9.833	0.404	3	12.600	9.400	
PCTSAT	P301	Percent	92.033	2.589	3	100.800	1.054	3	95.633	1.026	3	94.567	3.653	3	101.800	89.100	
FC	P31616	#/100ml	8.333	3.786	3	15.000	21.656	3	5.333	2.517	3	8.333	5.508	3	40.000	2.000	
PH	P400	units	7.333	0.208	3	7.267	0.351	3	7.467	0.058	3	7.367	0.058	3	7.600	6.900	
SUSSOL	P530	mg/L	4.333	4.041	3	2.667	1.528	3	3.667	1.155	3	3.333	1.155	3	9.000	1.000	
FLOW	P60	CFS	7866.667	3164.385	3	7233.333	3865.661	3	2266.667	896.289	3	1266.667	57.735	3	10600.000	1200.000	
NH3_N	P610	mg/L	0.011	0.002	3	0.010	0.001	3	0.011	0.002	3	0.015	0.005	3	0.020	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	0.103	0.070	3	0.178	0.081	3	0.067	0.035	3	0.033	0.014	3	0.265	0.023	
TP_P	P665	mg/L	0.013	0.003	3	0.013	0.006	3	0.013	0.005	3	0.012	0.004	3	0.020	0.010K	
OP_DIS	P671	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
TURB	P82079	NTU	1.133	0.231	3	2.100	0.721	3	0.900	0.361	3	1.600	0.557	3	2.900	0.600	
COND	P95	umhos	46.667	9.504	3	42.000	8.888	3	39.333	0.577	3	45.333	1.528	3	56.000	35.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 27D090 Name: EF LEWIS R NR DOLLAR CORNER Class: A Elevation: 68 River Mile: 10.20
 Location: LOCATED AT THE LEWIS RIVER BOTTOM ROAD BRIDGE, APPROXIMATELY THREE MILES NORTHWEST OF BATTLE GROUND, AND APPROXIMATELY 2.75 MILES NORTH AND EAST OF DOLLAR CORNER PAST KING CORNER, .6 MILE ABOVE MILL CREEK AT DAYBREAK COUNTY PARK
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.233	2.615	18	6.461	1.717	18	12.994	3.442	18	17.689	3.216	18	22.700	1.900	
PRESS	P25	mmHg	765.317	6.742	18	764.628	7.338	18	762.683	5.572	18	762.506	4.927	18	779.000	746.000	
OXYGEN	P300	mg/L	12.439	0.927	18	12.588	0.724	17	11.022	0.996	18	10.139	0.462	18	14.400	9.000	
PCTSAT	P301	Percent	101.772	4.800	18	101.835	3.845	17	103.082	5.073	17	105.082	5.539	17	115.700	93.200	
FC	P31616	#/100ml	26.765	38.970	17	13.333	23.314	18	12.778	11.011	18	29.278	42.907	18	140.000	1.000K	
PH	P400	units	7.556	0.419	18	7.339	0.413	18	7.433	0.490	18	7.711	0.322	18	8.600	6.300	
SUSSOL	P530	mg/L	5.556	7.156	18	4.333	4.073	18	2.389	0.979	18	2.500	2.526	18	31.000	1.000K	
FLOW	P60	CFS	706.625	684.932	8	1676.600	1510.630	10	383.750	229.700	8	63.429	22.082	7	5380.000	35.000	
NH3_N	P610	mg/L	0.011	0.004	18	0.016	0.016	18	0.011	0.003	15	0.012	0.003	18	0.070	0.010K	
NO2_DIS	P613	mg/L	0.009	0.002	11	0.010	0.000	12	0.010	0.000	13	0.010	0.001	15	0.010	0.004	
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.001	0.000	
NO3_N	P620	mg/L	0.427	0.068	3	0.317	0.064	3	0.140	0.028	2	0.067	0.015	3	0.480	0.050	
NO2_NO3	P630	mg/L	0.459	0.179	15	0.391	0.095	15	0.199	0.049	14	0.126	0.045	15	0.720	0.020	
TP_P	P665	mg/L	0.020	0.024	18	0.019	0.021	17	0.011	0.003	15	0.011	0.003	18	0.090	0.002	
OP_DIS	P671	mg/L	0.009	0.002	15	0.010	0.000	18	0.010	0.000	18	0.010	0.001	18	0.010	0.001	
COLOR	P80	Pt-Co	22.333	17.616	3	9.667	2.887	3	12.000	10.149	3	28.000	8.888	3	42.000	1.000	
TURB	P82079	NTU	1.400	0.476	17	2.022	1.253	18	1.106	0.387	18	1.056	0.494	18	5.300	0.400	
COND	P95	umhos	45.389	13.656	18	36.333	7.693	18	42.278	6.901	18	66.056	10.957	18	95.000	28.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 288070 Name: WASHOUGAL R @ WASHOUGAL Class: A Elevation: 53 River Mile: 120.70
 Location:
 LOCATED AT THE BRIDGE ON STATE HIGHWAY 140 (17 TH STREET), .3 MILE NORTH
 OF OLD HIGHWAY 14 (E STREET)
 Water Years Sampled: 7 8 9
 5 6
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----					
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	6.133	2.053	3	8.567	0.404	3	16.633	5.601	3	0.000	0.000	0	22.300	4.400
PRESS	P25	mmHg	769.200	4.095	3	771.500	2.621	3	764.633	6.481	3	0.000	0.000	0	773.700	757.200
OXYGEN	P300	mg/L	12.467	0.945	3	11.900	0.173	3	9.933	1.258	3	0.000	0.000	0	13.200	8.600
PCTSAT	P301	Percent	98.833	3.787	3	100.033	2.479	3	99.700	1.572	3	0.000	0.000	0	103.000	95.600
FC	P31616	#/100ml	51.667	59.534	3	22.667	14.012	3	116.000	33.941	2	0.000	0.000	0	140.000	9.000
PH	P400	units	7.233	0.153	3	7.167	0.321	3	7.633	0.153	3	0.000	0.000	0	7.800	6.800
SUSSOL	P530	mg/L	2.667	0.577	3	4.333	4.041	3	2.667	0.577	3	0.000	0.000	0	9.000	2.000
NH3_N	P610	mg/L	0.012	0.002	3	0.011	0.002	3	0.010	0.000	2	0.000	0.000	0	0.014	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.000	0.000	0	0.010	0.010K
NO2_NO3	P630	mg/L	0.513	0.091	3	0.319	0.062	3	0.188	0.023	3	0.000	0.000	0	0.608	0.162
TP_P	P665	mg/L	0.017	0.006	3	0.014	0.007	3	0.016	0.003	3	0.000	0.000	0	0.023	0.010K
OP_DIS	P671	mg/L	0.011	0.002	3	0.010	0.000	3	0.010	0.000	3	0.000	0.000	0	0.013	0.010K
TURB	P82079	NTU	1.600	0.529	3	2.100	1.453	3	0.667	0.115	3	0.000	0.000	0	3.500	0.600
COND	P95	umhos	25.000	4.359	3	24.667	3.055	3	32.333	4.619	3	0.000	0.000	0	35.000	22.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 28F070 Name: LAKE R NR RIDGEFIELD Class: A Elevation: 10 River Mile: 3.20

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	7.733	2.888	10.500	1.873	19.567	3.073	18.900	2.088	22.400	4.400
PRESS	P25	mmHg	769.033	4.601	772.000	2.138	764.200	6.829	764.300	3.703	773.700	756.400
OXYGEN	P300	mg/L	11.000	0.700	11.433	0.757	10.633	2.219	9.433	0.404	13.000	8.600
PCTSAT	P301	Percent	90.767	5.231	100.333	4.350	113.967	22.668	100.067	6.008	140.000	87.500
FC	P31616	#/100ml	496.667	352.467	108.667	95.631	35.667	35.501	157.000	176.576	800.000	6.000
PH	P400	units	7.600	0.458	7.467	0.493	8.500	1.044	8.133	0.115	9.700	6.900
SUSSOL	P530	mg/L	16.567	8.386	22.333	7.572	0.000	0.000	38.333	8.505	48.000	7.000
NH3_N	P610	mg/L	0.029	0.014	0.017	0.003	0.014	0.005	0.022	0.006	0.039	0.010K
NO2_D1S	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.654	0.455	0.372	0.116	0.095	0.141	0.046	0.014	0.999	0.010K
TP_P	P665	mg/L	0.072	0.018	0.090	0.012	0.114	0.001	0.099	0.030	0.129	0.057
OP_D1S	P671	mg/L	0.023	0.005	0.010	0.000	0.011	0.001	0.022	0.012	0.033	0.010K
TURB	P82079	NTU	9.833	3.329	11.967	1.790	16.500	0.707	14.300	5.565	18.000	6.000
COND	P95	umhos	117.333	28.308	120.000	18.028	135.333	11.676	134.667	15.308	152.000	100.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 28G070 Name: GIBBONS CK NR WASHOUGAL Class: A Elevation: 40 River Mile: 0.50

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	6.300	2.629	8.667	0.751	13.500	2.100	12.400	1.127	3	15.600
PRESS	P25	mmHg	769.100	3.703	770.500	3.387	764.467	6.555	765.133	3.646	3	772.700
OXYGEN	P300	mg/L	12.533	1.557	11.633	0.321	10.033	0.702	10.767	0.666	3	14.000
PCTSAT	P301	Percent	99.567	7.702	98.100	1.058	94.967	1.626	99.733	8.505	3	109.400
FC	P31616	#/100ml	212.333	213.439	229.667	219.682	820.000	127.279	213.333	87.369	3	910.000
PH	P400	units	7.200	0.265	7.100	0.265	7.167	0.321	7.733	0.058	3	7.800
SUSSOL	P530	mg/L	6.333	1.528	15.667	13.429	10.667	7.234	2.667	1.155	3	31.000
NH3 N	P610	mg/L	0.017	0.007	0.012	0.003	0.014	0.006	0.016	0.006	3	0.023
NO2 DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	3	0.010
NO2 NO3	P630	mg/L	1.142	0.467	0.914	0.304	0.393	0.062	0.258	0.041	3	1.660
TP P	P665	mg/L	0.033	0.016	0.037	0.026	0.048	0.007	0.043	0.006	3	0.067
OP DIS	P671	mg/L	0.019	0.012	0.010	0.001	0.023	0.008	0.032	0.003	3	0.034
TURB	P82079	NTU	4.733	1.270	7.900	7.163	3.900	1.838	3.500	0.436	3	16.000
COND	P95	umhos	50.000	14.000	44.000	5.292	54.667	7.024	63.000	2.000	3	65.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 298070 Name: WHITE SALMON R NR UNDERWOOD Class: A Elevation: 117 River Mile: 1.90
 Location: Water Years Sampled: 7 8 9
 LOCATED ON THE COUNTY ROAD BRIDGE (NORTHWESTERN DAM ROAD), 1.1 MILES 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 NORTH OF STATE HIGHWAY 14 AT UNDERWOOD, APPROACH FROM WEST SIDE OF RIVER X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----	
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10	C	6.267	1.501	3	5.733	0.577	3	8.400	1.833	3	10.733	1.206	3	0.000	0.000
PRESS	P25	mmHg	761.667	5.508	3	760.000	9.539	3	762.333	4.726	3	759.333	1.528	3	0.000	0.000
OXYGEN	P300	mg/L	11.967	0.404	3	13.567	0.666	3	13.233	0.643	3	11.700	0.436	3	0.000	0.000
PCTSAT	P301	Percent	96.300	2.848	3	108.033	4.800	3	112.000	0.721	3	105.067	4.701	3	0.000	0.000
FC	P31616	#/100ml	20.333	11.930	3	14.333	13.051	3	18.333	15.177	3	28.667	16.258	3	0.000	0.000
PH	P400	units	7.433	0.058	3	7.367	0.115	3	7.633	0.153	3	7.733	0.058	3	0.000	0.000
SUSSOL	P530	mg/L	3.333	3.215	3	7.000	5.196	3	2.333	0.577	3	2.000	1.732	3	0.000	0.000
FLOW	P60	CFS	761.667	194.618	3	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000
NH3_N	P610	mg/L	0.023	0.015	3	0.017	0.012	3	0.047	0.055	3	0.017	0.006	3	0.000	0.000
NO2_N	P615	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.000	0.000
NH3_UN	P619	mg/L	0.000	0.000	3	0.000	0.000	3	0.000	0.001	3	0.000	0.000	3	0.000	0.000
NO3_N	P620	mg/L	0.073	0.045	3	0.103	0.023	3	0.087	0.029	3	0.077	0.006	3	0.000	0.000
TP_P	P665	mg/L	0.040	0.010	3	0.037	0.006	3	0.030	0.000	3	0.023	0.006	3	0.000	0.000
OP_DIS	P671	mg/L	0.023	0.006	3	0.017	0.006	3	0.013	0.006	3	0.023	0.006	3	0.000	0.000
COLOR	P80	Pt-Co	18.000	12.767	3	21.000	10.583	3	9.667	2.887	3	5.333	2.309	3	0.000	0.000
TURB	P82079	NTU	1.333	0.577	3	5.667	4.509	3	1.333	0.577	3	1.667	1.155	3	0.000	0.000
COND	P95	umhos	64.333	4.163	3	54.667	5.033	3	56.000	3.464	3	67.333	4.726	3	0.000	0.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 3 Name: E CORGN 3--WILLAMETTE VALLEY Class: Elevation: 0 River Mile: 0.00

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.470	2.784	30	7.387	1.985	30	13.767	4.053	30	16.826	3.375	27	22.700	1.900	
PRESS	P25	mmHg	766.740	5.938	30	767.240	6.635	30	763.277	5.638	30	762.948	4.421	27	779.000	746.000	
OXYGEN	P300	mg/L	12.093	1.168	30	12.272	0.742	29	10.763	1.123	30	10.096	0.557	27	14.400	8.600	
PCTSAT	P301	Percent	99.183	6.143	30	101.000	3.446	29	102.248	8.834	29	102.673	6.562	26	140.000	87.500	
FC	P31616	#/100ml	95.241	189.324	29	45.600	95.065	30	79.464	212.889	28	61.593	94.599	27	910.000	1.000K	
PH	P400	units	7.470	0.385	30	7.303	0.384	30	7.537	0.586	30	7.722	0.321	27	9.700	6.300	
SUSSOL	P530	mg/L	6.333	7.029	30	7.100	8.159	30	4.571	6.669	28	6.593	11.865	27	48.000	1.000K	
FLOW	P60	CFS	2659.364	3676.467	11	2958.923	3184.336	13	897.273	985.463	11	424.400	582.135	10	10600.000	35.000	
NH3_N	P610	mg/L	0.014	0.007	30	0.015	0.013	30	0.011	0.003	24	0.014	0.005	27	0.070	0.010K	
NO2_DIS	P613	mg/L	0.010	0.001	23	0.010	0.000	24	0.010	0.000	25	0.010	0.001	24	0.010	0.004	
NO2_N	P615	mg/L	0.010	0.000	5	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	13	0.000	0.000	10	0.000	0.000	9	0.000	0.000	
NO3_N	P620	mg/L	0.427	0.068	3	0.317	0.064	3	0.140	0.028	2	0.067	0.015	3	0.480	0.050	
NO2_NO3	P630	mg/L	0.523	0.346	27	0.415	0.225	27	0.185	0.099	25	0.121	0.075	24	1.660	0.010K	
TP_P	P665	mg/L	0.025	0.026	29	0.027	0.029	29	0.023	0.029	25	0.024	0.030	27	0.129	0.002	
OP_DIS	P671	mg/L	0.012	0.006	26	0.010	0.000	30	0.011	0.004	28	0.014	0.008	27	0.034	0.001	
COLOR	P80	Pt-Co	22.333	17.616	3	9.667	2.887	3	12.000	10.149	3	28.000	8.888	3	0.000	0.000	
TURB	P82079	NTU	2.610	2.892	29	3.620	4.003	30	2.336	4.103	28	2.859	4.491	27	18.000	0.400	
COND	P95	umhos	51.133	27.062	30	44.867	27.156	30	51.533	29.604	30	71.037	25.788	27	152.000	22.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 31A070 Name: COLUMBIA R @ UMATILLA Class: A Elevation: 240 River Mile: 290.50

Location:
LOCATED BELOW MCNARY DAM UNDER THE UMATILLA INTERSTATE BRIDGE

Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	11.100	4.207	4	3.833	1.836	6	11.383	2.883	6	19.350	1.651	6	20.800	1.600	
ZN	P1094	ug/L	7.000	4.359	3	6.000	1.633	4	7.000	2.646	3	5.667	2.082	3	12.000	4.000K	
CD	P1113	ug/L	0.100	0.000	3	0.197	0.167	3	0.000	0.000	0	0.000	0.000	0	0.390	0.100K	
PB	P1114	ug/L	1.000	0.000	3	1.000	0.000	3	0.000	0.000	0	0.000	0.000	0	1.000	1.000K	
CR	P1118	ug/L	0.733	0.664	3	0.277	0.068	3	0.000	0.000	0	0.000	0.000	0	1.500	0.200K	
CU	P1119	ug/L	2.667	0.577	3	2.250	0.500	4	0.000	0.000	0	0.000	0.000	0	3.000	2.000K	
PRESS	P25	mmHg	762.625	4.243	4	755.280	10.094	5	755.867	6.495	6	753.983	4.105	6	765.600	738.600	
OXYGEN	P300	mg/L	10.675	0.885	4	13.250	0.905	6	12.583	0.731	6	9.900	0.701	6	14.400	8.900	
PCTSAT	P301	Percent	95.825	2.981	4	101.017	3.304	6	114.983	2.331	6	107.350	6.380	6	117.500	91.500	
FC	P31616	#/100ml	157.000	181.097	4	11.833	14.919	6	3.000	2.757	6	48.500	113.417	6	400.000	1.000X	
PH	P400	units	7.950	0.332	4	7.633	0.137	6	8.233	0.197	6	8.200	0.452	6	8.800	7.500	
SUSSOL	P530	mg/L	5.500	1.732	4	68.000	159.707	6	7.400	1.673	5	7.500	2.258	6	394.000	2.000	
FLOW	P60	CFS	168000.000	55821.143	4	179833.333	32158.462	6	197166.667	54854.049	6	129250.000	62723.353	6	300000.000	62900.000	
NH3_N	P610	mg/L	0.016	0.003	4	0.012	0.006	6	0.013	0.007	6	0.019	0.011	6	0.036	0.004	
NO2_DIS	P613	mg/L	0.010	0.000	4	0.010	0.000	6	0.009	0.004	6	0.010	0.000	6	0.010	0.001	
NO2_NO3	P630	mg/L	0.181	0.119	4	0.301	0.158	6	0.115	0.056	6	0.022	0.016	6	0.577	0.010K	
TP_P	P665	mg/L	0.027	0.007	3	0.025	0.007	6	0.023	0.004	6	0.022	0.007	6	0.032	0.010K	
OP_DIS	P671	mg/L	0.022	0.017	4	0.016	0.007	6	0.009	0.002	6	0.011	0.002	6	0.047	0.005	
HG	P71900	ug/L	0.047	0.006	3	0.044	0.005	5	0.053	0.023	3	0.181	0.129	3	0.300	0.040K	
HG	P71901	ug/L	0.047	0.006	3	0.044	0.005	5	0.053	0.023	3	0.181	0.129	3	0.300	0.040K	
TURB	P82079	NTU	3.425	2.396	4	1.567	0.403	6	2.600	1.273	6	2.367	0.758	6	6.900	1.000	
HARD	P900	mg/L	67.667	9.866	3	74.750	3.594	4	64.000	6.083	3	58.333	5.686	3	80.000	52.000	
COND	P95	umhos	161.000	12.028	4	180.500	28.417	6	144.333	18.446	6	132.667	13.064	6	232.000	111.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 32A070 Name: WALLA WALLA R NR TOUCHET Class: B Elevation: 370 River Mile: 15.30

Location:
LOCATED AT A PRIVATE BRIDGE THREE RIVER MILES UPSTREAM FROM US HIGHWAY
12 BRIDGE NEAR REESE

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		---JANUARY-MARCH---		----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	10.011	5.141	4.861	2.918	4.421	14.461	23.083	3.066	18	28.400	0.000
PRESS	P25	mmHg	757.633	4.777	755.412	7.919	5.105	754.567	750.759	5.002	17	774.000	756.100
OXYGEN	P300	mg/L	12.694	1.159	12.476	1.338	1.394	10.644	11.847	2.383	17	15.600	8.000
PCTSAT	P301	Percent	113.011	21.081	96.829	5.088	7.752	103.335	136.181	29.333	16	190.900	85.000
FC	P31616	#/100ml	30.471	23.447	127.389	174.393	159.075	207.056	80.471	77.374	17	700.000	2.000
COD	P340	mg/L	9.000	7.071	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000
PH	P400	units	8.239	0.303	7.600	0.327	7.944	7.944	8.556	0.438	18	9.300	7.000
SUSSOL	P530	mg/L	28.667	31.843	223.500	453.958	273.693	129.944	35.778	23.586	18	1800.000	4.000
FLOW	P60	CFS	148.617	224.038	759.222	385.340	448.215	624.889	18.583	17.316	18	1820.000	0.000L
NH3_N	P610	mg/L	0.025	0.014	0.053	0.037	0.034	0.034	0.030	0.021	18	0.160	0.010K
NO2_DIS	P613	mg/L	0.012	0.006	0.010	0.000	0.010	0.010	0.013	0.007	11	0.030	0.006
NO2_N	P615	mg/L	0.013	0.008	0.010	0.000	0.015	0.015	0.017	0.006	3	0.030	0.010K
NH3_UN	P619	mg/L	0.001	0.001	0.000	0.000	0.001	0.001	0.005	0.003	9	0.011	0.000
NO3_N	P620	mg/L	1.115	0.403	1.013	0.441	0.637	0.271	0.260	0.305	3	1.500	0.170
NO2_NO3	P630	mg/L	0.701	0.412	0.987	0.342	0.513	0.197	0.400	0.471	13	1.800	0.10K
TP_P	P665	mg/L	0.100	0.042	0.185	0.104	0.138	0.049	0.141	0.048	17	0.500	0.010K
OP_DIS	P671	mg/L	0.052	0.031	0.095	0.022	0.070	0.013	0.042	0.039	16	0.140	0.010K
COLOR	P80	Pt-Co	30.429	9.554	32.333	26.858	44.714	47.923	31.167	5.879	6	63.000	4.000
TURB	P82079	NTU	6.144	6.024	26.865	43.806	11.465	11.465	12.373	11.983	15	174.000	1.000
COND	P95	umhos	328.389	175.429	147.611	25.873	163.556	62.283	529.111	146.633	18	825.000	90.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 328070 Name: TOUCHET R @ TOUCHET

Class: A Elevation: 425 River Mile: 0.50

Location:

LOCATED AT THE BRIDGE ON HIGHWAY 410 AT TOUCHET

Water Years Sampled:

5	6	7	8	9											
9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----		
			MEAN	STD. DEV. N	MEAN	STD. DEV. N	MEAN	STD. DEV. N	MEAN	STD. DEV. N	MAX	MIN	
TEMP	P10	C	9.488	4.462	4.493	3.319	15.667	4.959	22.373	3.321	15	27.900	-0.100
PRESS	P25	mmHg	756.171	4.804	755.329	6.912	753.720	5.668	749.429	5.011	14	774.000	741.400
OXYGEN	P300	mg/L	12.600	1.251	12.767	1.566	10.753	1.293	12.020	4.593	15	21.800	6.100
PCTSAT	P301	Percent	110.488	16.702	98.487	6.757	107.279	5.889	138.457	49.901	14	221.000	70.000
FC	P31616	#/100ml	49.176	43.242	59.667	117.833	131.200	100.121	184.500	168.519	14	640.000	2.000
PH	P400	units	8.076	0.347	7.487	0.421	8.060	0.405	8.480	0.497	15	9.800	6.700
SUSSOL	P530	mg/L	11.588	14.769	2209.000	7735.363	127.867	301.156	25.333	37.159	15	30100.000	4.000
FLOW	P60	CFS	58.331	60.864	358.971	306.321	252.271	224.415	5.260	6.996	15	1150.000	0.300
NH3_N	P610	mg/L	0.012	0.006	0.045	0.057	0.033	0.021	0.027	0.029	15	0.240	0.010K
NO2_DIS	P613	mg/L	0.010	0.001	0.010	0.000	0.010	0.000	0.012	0.006	8	0.026	0.007
NO2_N	P615	mg/L	0.012	0.004	0.010	0.000	0.010	0.000	0.010	0.000	3	0.020	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.001	0.001	0.002	0.004	0.002	9	0.009	0.000
NO3_N	P620	mg/L	0.435	0.488	0.743	0.227	0.270	0.199	0.167	0.142	3	0.930	0.040
NO2_NO3	P630	mg/L	0.272	0.278	0.737	0.359	0.265	0.321	0.206	0.210	10	1.400	0.010
TP_P	P665	mg/L	0.076	0.033	0.140	0.094	0.103	0.050	0.135	0.029	15	0.430	0.010K
OP_DIS	P671	mg/L	0.042	0.012	0.061	0.027	0.043	0.016	0.060	0.026	14	0.150	0.010K
COLOR	P80	Pt-Co	29.714	8.381	39.000	24.249	48.857	58.678	34.833	18.978	6	67.000	8.000
TURB	P82079	NTU	3.329	3.180	175.786	531.225	11.250	8.442	11.058	18.380	12	2000.000	1.000
COND	P95	umhos	168.471	74.082	105.933	15.281	108.067	21.499	231.867	65.159	15	360.000	78.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 328130 Name: TOUCHET R @ DAYTON Class: A Elevation: 1600 River Mile: 53.30
 Location: LOCATED AT THE BRIDGE ON US HIGHWAY 410 AT THE WEST END OF DAYTON
 Water Years Sampled: 5 6 7 8 9
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	7.550	3.104	4	5.217	2.475	6	13.650	3.539	6	18.783	2.077	6	20.900	0.800
PRESS	P25 mmHg	725.675	3.860	4	716.540	6.630	5	719.867	5.341	6	717.683	4.130	6	729.000	706.100
OXYGEN	P300 mg/L	11.200	1.003	4	11.817	0.935	6	10.333	1.063	6	9.400	0.738	6	13.500	8.500
PCTSAT	P301 Percent	97.275	1.950	4	98.183	2.467	6	103.933	2.957	6	105.833	4.368	6	109.900	95.000
FC	P31616 #/100ml	24.500	6.137	4	21.667	30.839	6	21.333	15.082	6	38.500	12.309	6	81.000	1.000
PH	P400 units	7.675	0.275	4	7.550	0.235	6	8.117	0.426	6	8.100	0.385	6	8.600	7.100
SUSSOL	P530 mg/L	3.000	0.816	4	4.167	2.229	6	5.667	4.502	6	4.000	1.673	6	14.000	1.000
FLOW	P60 CFS	70.500	48.195	3	149.167	66.062	6	112.000	23.588	6	49.083	14.692	6	230.000	28.500
NH3_N	P610 mg/L	0.010	0.000	4	0.010	0.002	6	0.013	0.004	6	0.016	0.004	6	0.021	0.006
NO2_DIS	P613 mg/L	0.010	0.000	4	0.010	0.000	6	0.008	0.004	5	0.010	0.000	6	0.010	0.001K
NO2_NO3	P630 mg/L	0.207	0.175	4	0.200	0.057	6	0.092	0.066	6	0.117	0.029	6	0.463	0.023
TP_P	P665 mg/L	0.043	0.004	3	0.053	0.017	5	0.037	0.005	6	0.043	0.010	6	0.080	0.028
OP_DIS	P671 mg/L	0.027	0.004	3	0.033	0.005	6	0.024	0.006	6	0.030	0.008	6	0.043	0.018
TURB	P82079 NTU	2.000	1.376	4	3.450	2.446	6	2.300	1.140	6	1.400	0.346	6	8.100	0.800
COND	P95 umhos	91.250	11.644	4	83.667	11.431	6	75.000	3.391	5	93.000	6.033	6	102.000	63.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 33A050 Name: SNAKE R NR PASCO

Class: A Elevation: 330 River Mile: 2.20

Location:

LOCATED AT THE BRIDGE ON US HIGHWAY 12/395 NEAR BURBANK AT HOOD PARK

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----						
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN					
TEMP	P10	C	11.225	4.127	4	3.950	1.583	6	12.133	6	3.112	6	20.383	2.083	6	22.600	1.600
PRESS	P25	mmHg	748.550	15.858	4	754.333	10.484	6	751.217	6	2.645	6	751.883	5.604	6	765.000	725.200
OXYGEN	P300	mg/L	9.950	1.480	4	12.250	0.476	6	11.017	6	0.970	6	8.550	0.887	6	13.100	7.500
PCTSAT	P301	Percent	90.975	6.879	4	93.900	1.468	6	103.083	6	8.633	6	94.750	8.030	6	119.800	83.100
FC	P31616	#/100ml	2.000	2.000	4	10.167	11.143	6	49.500	6	72.759	6	43.833	31.821	6	190.000	1.000K
COO	P340	mg/L	9.143	5.543	21	19.500	13.435	2	10.500	2	0.707	2	11.667	4.041	3	29.000	7.000
PH	P400	units	8.025	0.050	4	8.000	0.228	6	7.567	6	0.408	6	7.767	0.367	6	8.300	6.900
SUSSOL	P530	mg/L	3.250	1.258	4	11.333	11.448	6	17.000	6	8.922	6	16.833	13.060	6	30.000	2.000
FLOW	P60	CFS	29300.000	13499.136	4	38516.667	21099.423	6	51633.333	6	22765.295	6	17300.000	13072.108	6	95000.000	9000.000
NH3_N	P610	mg/L	0.014	0.005	4	0.027	0.012	6	0.021	6	0.009	6	0.027	0.017	6	0.052	0.010K
NO2_DIS	P613	mg/L	0.014	0.008	4	0.011	0.001	6	0.013	6	0.008	6	0.011	0.002	6	0.028	0.004
NO2_N	P615	mg/L	0.012	0.004	17	0.013	0.007	14	0.010	12	0.000	12	0.010	0.000	13	0.000	0.000
NH3_UN	P619	mg/L	0.000	0.001	19	0.000	0.000	19	0.001	17	0.004	17	0.001	0.001	15	0.000	0.000
NO3_N	P620	mg/L	0.638	0.144	13	0.809	0.148	14	0.380	13	0.389	13	0.163	0.085	10	0.000	0.000
NO2_NO3	P630	mg/L	0.439	0.185	4	0.861	0.333	6	0.672	6	0.362	6	0.641	0.570	6	1.390	0.081
TP_P	P665	mg/L	0.056	0.011	4	0.074	0.026	6	0.079	6	0.039	6	0.070	0.052	5	0.141	0.029
OP_DIS	P671	mg/L	0.042	0.009	4	0.053	0.017	6	0.049	6	0.031	6	0.038	0.036	5	0.098	0.010K
COLOR	P80	Pt-Co	21.571	6.294	7	37.667	17.507	9	36.000	7	23.551	7	22.333	2.066	6	0.000	0.000
TURB	P82079	NTU	1.850	0.238	4	5.133	2.378	6	5.867	6	0.758	6	5.633	2.318	6	9.600	1.600
COND	P95	umhos	311.500	63.574	4	270.333	43.436	6	178.333	6	108.173	6	158.667	35.618	6	400.000	79.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 33A070 Name: SNAKE R BLW ICE HARBOR DAM

Class: A Elevation: 340 River Mile: 8.50

Location:

LOCATED ON THE NORTH BANK OF THE SNAKE RIVER AT THE USGS GAGING STATION,
1 MILE BELOW ICE HARBOR DAM

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	13.793	4.125	3.975	1.577	11.775	2.807	20.850	2.489	12	22.800	1.300
PRESS	P25	mmHg	758.864	5.157	758.192	7.265	756.583	4.949	753.564	4.903	11	776.000	747.800
OXYGEN	P300	mg/L	9.971	0.994	12.842	0.588	11.317	0.978	9.133	0.952	12	13.900	7.500
PCTSAT	P301	Percent	95.314	5.845	98.008	5.301	104.400	4.955	101.873	10.195	11	117.500	81.400
FC	P31616	#/100ml	3.714	3.074	2.167	2.329	4.083	3.704	5.818	5.811	11	17.000	1.000K
COO	P340	mg/L	9.091	3.807	10.083	4.680	11.583	4.757	10.417	2.678	12	21.000	4.000K
PH	P400	units	8.093	0.240	7.925	0.355	7.942	0.378	8.100	0.249	12	8.500	7.200
SUSSOL	P530	mg/L	4.821	1.938	12.500	19.252	9.917	3.029	7.167	4.282	12	65.000	1.000K
FLOW	P60	CFS	32492.857	9449.661	42508.333	14719.712	74516.667	20998.088	33641.667	17965.040	12	103000.000	14800.000
NH3_N	P610	mg/L	0.018	0.009	0.030	0.017	0.056	0.093	0.020	0.007	12	0.330	0.010K
NO2_DIS	P613	mg/L	0.011	0.004	0.010	0.000	0.012	0.004	0.010	0.000	5	0.020	0.010K
NO2_N	P615	mg/L	0.012	0.004	0.010	0.000	0.010	0.000	0.010	0.000	3	0.020	0.010K
NH3_UN	P619	mg/L	0.001	0.001	0.000	0.000	0.002	0.005	0.001	0.001	9	0.016	0.000
NO3_N	P620	mg/L	0.735	0.021	0.823	0.159	0.360	0.381	0.123	0.047	3	1.000	0.070
NO2_NO3	P630	mg/L	0.379	0.208	0.935	0.208	0.566	0.530	0.097	0.017	7	1.400	0.080
TP_P	P665	mg/L	0.053	0.010	0.067	0.036	0.056	0.028	0.038	0.009	12	0.140	0.010K
OP_DIS	P671	mg/L	0.043	0.007	0.048	0.011	0.027	0.018	0.018	0.008	11	0.070	0.010K
COLOR	P80	Pt-Co	0.000	0.000	25.333	11.150	0.000	0.000	0.000	0.000	0	38.000	1.000
TURB	P82079	NTU	1.600	0.471	6.545	10.178	6.045	3.055	2.711	0.569	9	34.000	1.000K
COND	P95	umhos	299.357	50.471	337.917	38.209	153.917	71.925	169.167	49.894	12	400.000	87.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34A070 Name: PALOUSE R @ HOOPER

Class: B Elevation: 1060 River Mile: 19.50

Location:

LOCATED IN "DOWNTOWN" HOOPER NEAR TRAIN TRACKS AT BRIDGE ON OLD HIGHWAY 26

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	6.778	4.038	3.693	2.437	13.394	4.331	19.617	2.941	18	24.300
CU	P1042	ug/L	23.700	50.108	45.200	98.311	5.142	4.930	4.020	2.731	10	303.000
ZN	P1092	ug/L	41.100	79.820	112.667	230.531	12.375	11.995	11.889	13.502	9	718.000
ZN	P1094	ug/L	36.417	72.989	106.636	206.985	13.133	12.894	10.923	11.154	13	718.000
CD	P1113	ug/L	0.173	0.047	0.529	0.723	0.334	0.326	0.164	0.056	13	2.390
PB	P1114	ug/L	1.527	1.205	21.150	45.106	1.867	1.628	1.915	1.362	13	148.000
CR	P1118	ug/L	1.408	1.289	6.101	5.653	3.889	4.163	1.998	1.851	13	19.000
CU	P1119	ug/L	21.167	45.694	42.909	88.171	5.077	4.665	4.567	2.400	12	303.000
PRESS	P25	mmHg	739.822	5.072	736.571	5.442	10.078	1.433	735.418	5.142	17	750.000
OXYGEN	P300	mg/L	11.572	1.603	12.000	1.987	10.078	1.433	8.429	0.851	17	15.500
PCTSAT	P301	Percent	96.178	7.335	93.360	13.531	97.429	7.564	93.656	6.421	16	111.400
FC	P31616	#/100ml	90.063	97.679	166.818	325.113	125.438	177.795	123.056	70.084	18	1100.000
COO	P340	mg/L	45.667	102.311	91.091	207.787	22.200	13.697	21.714	6.673	14	710.000
PH	P400	units	8.378	0.429	7.787	0.344	8.311	0.568	8.672	0.332	18	9.700
SUSSOL	P530	mg/L	68.667	164.539	1297.357	3511.194	103.389	163.918	49.529	39.160	17	13100.000
FLOW	P60	CFS	107.611	69.982	1320.267	1518.309	584.389	643.265	44.167	29.083	18	5010.000
NH3_N	P610	mg/L	0.170	0.476	0.100	0.108	0.051	0.054	0.046	0.075	17	2.000
NO2_DIS	P613	mg/L	0.013	0.009	0.017	0.006	0.014	0.008	0.014	0.012	11	0.050
NO2_N	P615	mg/L	0.015	0.008	0.023	0.015	0.010	0.000	0.013	0.006	3	0.040
NH3_UN	P619	mg/L	0.006	0.013	0.001	0.001	0.002	0.002	0.004	0.003	9	0.046
NO3_N	P620	mg/L	2.650	2.051	3.633	1.607	0.907	0.519	0.060	0.087	3	4.800
NO2_NO3	P630	mg/L	1.485	1.153	3.283	0.967	1.078	0.940	0.384	0.615	13	5.040
TP_P	P665	mg/L	0.240	0.083	0.286	0.173	0.199	0.127	0.195	0.071	18	0.670
OP_DIS	P671	mg/L	0.187	0.099	0.143	0.064	0.106	0.059	0.102	0.063	18	0.386
HG	P71900	ug/L	0.067	0.023	0.083	0.071	0.055	0.013	0.076	0.042	12	0.220
HG	P71901	ug/L	0.067	0.023	0.083	0.071	0.055	0.013	0.076	0.042	12	0.220
COLOR	P80	Pt-Co	73.286	48.462	104.500	106.773	26.333	4.619	130.000	0.000	2	180.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	28.622	62.688	18	208.643	384.868	14	25.111	34.731	18	17.759	16.034	17	1400.000	2.100			
HARD	P900	mg/L	119.615	26.231	13	79.833	26.809	12	73.067	21.201	15	124.867	18.228	15	153.000	31.000			
COND	P95	umhos	324.222	63.700	18	208.000	62.833	15	203.667	51.880	18	326.889	44.678	18	410.000	91.000			

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34A085 Name: PALOUSE R @ SHIELDS RD BRIDGE Class: B Elevation: 1758 River Mile: 77.80
 Location: LOCATED ABOUT 8 MILES NW OF COLFAX JUST PAST DIAMOND ON SHIELDS ROAD (GRAVEL)
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	4.900	3.534	3	3.167	3.595	3	14.300	6.630	3	17.600	3.874	3	20.500	0.300	
PRESS	P25 mmHg	721.100	2.166	3	715.150	5.586	2	717.033	3.456	3	717.367	3.742	3	723.100	711.200	
OXYGEN	P300 mg/L	12.167	0.723	3	12.300	1.442	3	9.900	2.606	3	9.267	1.290	3	13.500	8.200	
PCTSAT	P301 Percent	99.900	6.022	3	96.933	2.136	3	99.667	10.484	3	101.633	7.257	3	111.700	92.500	
FC	P31616 #/100ml	124.667	151.873	3	26.000	19.799	2	12.000	13.000	3	58.000	59.657	3	300.000	1.000K	
PH	P400 units	8.500	0.819	3	7.900	0.100	3	8.733	0.635	3	8.933	0.611	3	9.600	7.800	
SUSSOL	P530 mg/L	12.333	6.506	3	14.333	8.021	3	10.000	10.583	3	13.333	8.737	3	23.000	2.000	
FLOW	P60 CFS	41.333	27.062	3	307.333	210.868	3	77.667	33.620	3	21.000	8.544	3	456.000	13.000	
NH3_N	P610 mg/L	0.029	0.019	3	0.027	0.009	3	0.048	0.044	3	0.033	0.003	3	0.096	0.010K	
NO2_DIS	P613 mg/L	0.018	0.004	3	0.010	0.001	3	0.017	0.013	3	0.010	0.001	3	0.032	0.010K	
NO2_NO3	P630 mg/L	3.697	0.462	3	2.273	0.528	3	0.624	0.501	3	0.269	0.427	3	4.130	0.022	
TP_P	P665 mg/L	0.828	0.426	3	0.191	0.083	3	0.361	0.167	3	0.419	0.048	3	1.170	0.126	
OP_DIS	P671 mg/L	0.766	0.444	3	0.151	0.090	3	0.331	0.171	3	0.356	0.068	3	1.080	0.089	
TURB	P82079 NTU	10.000	8.665	3	13.667	5.859	3	7.067	7.829	3	7.533	6.596	3	20.000	1.400	
COND	P95 umhos	298.333	114.054	3	155.000	50.090	3	182.000	19.698	3	254.000	93.744	3	400.000	118.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34A170 Name: PALOUSE R @ PALOUSE

Class: A Elevation: 2090 River Mile: 121.20

Location:

LOCATED AT THE EASTERLY MOST BRIDGE IN PALOUSE NEAR THE GRAVEL PIT, .4 MILE EAST OF THE INTERSECTION OF STATE HIGHWAYS 6, 27, AND 272 ON STATE HIGHWAY 6 -- STATION MOVED 10/01/90 TO THE HIGHWAY 27 BRIDGE ENTERING TOWN FROM THE SOUTH. THE PREVIOUS BRIDGE LOCATION IS CLOSED WITH NO ACCESS.

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	4.167	3.430	3	2.833	2.857	3	15.867	7.223	3	18.267	4.402	3	22.600	0.800	
PRESS	P25 mmHg	705.533	2.303	3	701.200	5.233	2	700.600	2.816	3	701.800	3.460	3	707.900	697.500	
OXYGEN	P300 mg/L	11.833	1.358	3	12.433	1.656	3	11.600	2.100	3	9.433	0.404	3	14.000	9.000	
PCTSAT	P301 Percent	97.033	3.535	3	98.867	6.074	3	125.900	25.412	3	108.000	12.700	3	154.400	93.800	
FC	P31616 #/100ml	169.667	268.891	3	15.500	12.021	2	82.000	69.022	3	31.667	12.858	3	480.000	6.000	
PH	P400 units	7.833	0.058	3	7.900	0.100	3	8.267	0.115	3	8.733	0.451	3	9.200	7.800	
SUSSOL	P530 mg/L	2.000	1.000	3	9.667	4.933	3	12.667	13.429	3	4.667	1.155	3	28.000	1.000K	
FLOW	P60 CFS	24.000	20.421	3	224.667	160.288	3	46.667	21.362	3	9.667	5.508	3	353.000	6.000	
NH3_N	P610 mg/L	0.016	0.009	3	0.018	0.006	3	0.010	0.000	3	0.018	0.004	3	0.026	0.010K	
NO2_D1S	P613 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_M03	P630 mg/L	0.163	0.261	3	0.361	0.064	3	0.021	0.006	3	0.012	0.003	3	0.464	0.010K	
TP_P	P665 mg/L	0.048	0.010	3	0.052	0.014	3	0.044	0.034	3	0.028	0.008	2	0.078	0.010K	
OP_D1S	P671 mg/L	0.025	0.006	3	0.024	0.005	3	0.017	0.009	3	0.030	0.006	3	0.035	0.010K	
TURB	P82079 NTU	5.433	3.963	3	11.333	2.887	3	6.900	7.036	3	1.933	0.473	3	15.000	1.400	
COND	P95 umhos	96.000	25.942	3	73.000	34.641	3	68.000	9.000	3	81.333	15.631	3	125.000	53.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34B110 Name: SF PALOUSE R @ PULLMAN

Class: A Elevation: 2320 River Mile: 22.20

Location:

LOCATED AT THE BRIDGE ON STATE STREET ONE BLOCK NORTH OF US HIGHWAY 195 AT PULLMAN

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER--DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	6.950	3.200	3.039	2.093	12.128	4.263	17.278	2.449	18	21.400
PRESS	P25	mmHg	705.500	8.433	710.741	22.165	706.589	8.723	702.912	7.675	17	793.000
OXYGEN	P300	mg/L	10.961	1.059	11.833	1.324	11.717	1.660	10.972	1.277	18	15.800
PCTSAT	P301	Percent	97.072	12.060	94.028	9.032	116.588	14.050	121.376	13.399	17	142.300
FC	P31616	#/100ml	1337.778	1371.558	3179.375	7379.009	757.333	856.875	2188.333	1542.852	18	30000.000
PH	P400	Units	7.972	0.306	7.694	0.296	8.267	0.371	8.422	0.170	18	8.900
SUSSOL	P530	mg/L	23.389	47.383	158.294	303.228	26.889	28.717	9.118	4.512	17	1050.000
FLOW	P60	CFS	14.278	11.726	57.833	82.805	22.222	19.972	5.444	1.756	18	300.000
NH3_N	P610	mg/L	0.287	0.320	0.406	0.262	0.255	0.461	0.047	0.026	17	2.000
NO2_DIS	P613	mg/L	0.080	0.040	0.063	0.057	0.088	0.061	0.034	0.017	11	0.180
NO2_N	P615	mg/L	0.093	0.094	0.100	0.017	0.100	0.042	0.080	0.020	3	0.260
NH3_UN	P619	mg/L	0.004	0.004	0.003	0.002	0.008	0.011	0.006	0.004	9	0.042
NO3_N	P620	mg/L	9.850	4.455	7.833	3.308	3.900	1.778	4.100	2.000	3	13.000
NO2_NO3	P630	mg/L	6.015	2.248	7.396	1.777	4.057	1.363	4.316	1.643	12	11.000
TP_P	P665	mg/L	2.855	1.640	0.895	0.506	0.932	0.485	2.199	0.950	16	5.250
OP_DIS	P671	mg/L	2.624	1.504	0.614	0.482	0.929	0.509	2.110	0.915	16	5.200
COLOR	P80	Pt-Co	75.286	79.115	121.000	111.723	28.333	13.429	119.000	43.841	2	252.000
TURB	P82079	NTU	14.867	17.364	68.706	104.327	14.472	11.714	5.053	2.386	17	330.000
COND	P95	umhos	478.056	105.069	369.444	114.457	359.389	71.129	563.389	87.598	18	720.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 348140 Name: SF PALOUSE R @ BUSBY

Class: A Elevation: 2400 River Mile: 25.80

Location:
LOCATED 2 1/2 MILES SOUTH OF PULLMAN ON JOHNSON (BUSBY) ROAD.

Water Years Sampled:
5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----				
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN			
TEMP	P10	C	4.267	3.272	3.267	2.888	3	13.233	7.447	3	16.733	3.150	3	19.900	1.500
PRESS	P25	mmHg	706.800	2.152	701.950	4.455	2	701.967	3.066	3	702.933	3.811	3	708.900	698.800
OXYGEN	P300	mg/L	11.433	0.808	11.833	1.266	3	10.733	1.858	3	12.133	2.610	3	14.200	9.200
PCTSAT	P301	Percent	94.367	8.524	95.667	3.197	3	108.633	0.929	3	134.767	33.257	3	168.400	85.500
FC	P31616	#/100ml	477.000	714.820	49.000	28.284	2	1355.000	1619.275	2	676.000	1061.493	3	2500.000	8.000
PH	P400	units	8.000	0.265	7.900	0.200	3	8.400	0.173	3	9.000	0.400	3	9.400	7.700
SUSSOL	P530	mg/L	11.667	10.970	24.000	14.000	3	11.500	6.364	2	4.000	2.000	3	34.000	2.000
NH3_N	P610	mg/L	2.613	4.380	0.038	0.017	3	0.037	0.014	3	0.028	0.008	3	7.670	0.021
NO2_DIS	P613	mg/L	0.043	0.043	0.013	0.003	3	0.011	0.002	3	0.010	0.000	3	0.093	0.010K
NO2_NO3	P630	mg/L	2.719	2.626	3.987	1.012	3	0.777	1.040	3	0.011	0.001	3	5.720	0.010K
TP_P	P665	mg/L	3.940	5.216	0.213	0.017	2	0.257	0.089	3	0.532	0.127	2	9.940	0.186
OP_DIS	P671	mg/L	2.883	3.690	0.130	0.009	2	0.182	0.086	3	0.396	0.178	3	7.120	0.099
TURB	P82079	NTU	10.867	5.865	21.667	8.386	3	5.700	1.838	2	3.000	1.127	3	27.000	1.700
COND	P95	umhos	315.667	53.154	268.667	41.187	3	288.333	36.088	3	339.000	62.024	3	400.000	223.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34C060 Name: PARADISE CR AT MOUTH Class: A Elevation: 2360 River Mile: 0.10
 Location: LOCATED WHERE JOHNSON ROAD CROSSES PARADISE CREEK (AT QUALITY INN)
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	6.700	1.752	3	5.767	2.558	3	13.233	5.879	3	15.533	2.335	3	17.800	4.000
PRESS	P25 mmHg	707.567	2.318	3	702.100	4.667	2	703.133	2.650	3	704.100	3.576	3	709.700	698.800
OXYGEN	P300 mg/L	10.067	0.907	3	11.067	1.450	3	11.167	2.178	3	9.133	0.551	3	13.600	8.600
PCTSAT	P301 Percent	88.400	6.922	3	95.433	6.799	3	113.100	6.400	3	98.400	4.503	3	119.500	80.500
FC	P31616 #/100ml	10038.000	13204.656	3	19.000	5.657	2	159.333	181.111	3	176.667	120.968	3	25000.000	8.000
PH	P400 units	7.900	0.361	3	7.967	0.208	3	8.433	0.058	3	8.267	0.115	3	8.500	7.600
SUSSOL	P530 mg/L	14.667	16.773	3	29.000	44.193	3	2.667	0.577	3	3.000	1.000	3	80.000	2.000
NH3_N	P610 mg/L	2.327	2.032	3	0.688	0.585	3	0.118	0.103	3	0.031	0.006	3	4.670	0.015
NO2_D1S	P613 mg/L	0.161	0.054	3	0.262	0.218	3	0.118	0.064	2	0.024	0.025	3	0.398	0.010K
NO2_NO3	P630 mg/L	6.657	3.412	3	8.680	0.927	3	5.485	0.092	2	5.707	1.673	3	10.000	3.180
TP_P	P665 mg/L	2.390	0.410	2	1.723	0.467	3	2.560	0.170	2	2.417	0.600	3	3.110	1.280
OP_D1S	P671 mg/L	2.295	0.403	2	1.367	0.238	3	2.330	0.156	2	1.239	0.789	3	2.580	0.751
TURB	P82079 NTU	11.067	10.769	3	5.867	0.808	3	1.867	0.153	3	2.600	0.300	3	23.500	1.700
COND	P95 umhos	655.000	45.000	3	543.333	67.885	3	563.333	45.369	3	605.000	21.213	2	700.000	465.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34C100 Name: PARADISE CR @ BORDER Class: A Elevation: 2515 River Mile: 6.50
 Location: LOCATED JUST WEST OF BORDER AT WILBER-ELLIS FERTILIZER COMPANY. SAMPLE AT BRIDGE NEAR SILO, UPSTREAM OF BRIDGE AT MAIN ENTRANCE
 Water Years Sampled: 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	11.700	4.564	3	10.100	1.253	3	16.533	3.818	3	19.333	1.007	3	20.400	8.000	
PRESS	P25	mmHg	703.833	2.050	3	699.400	4.808	2	708.567	14.550	3	700.033	3.754	3	725.200	696.000	
OXYGEN	P300	mg/L	3.233	2.532	3	4.633	1.450	3	4.200	0.917	3	3.233	1.498	3	6.100	0.500	
PCTSAT	P301	Percent	30.400	22.782	3	45.100	15.452	3	45.533	6.753	3	38.200	18.567	3	60.700	5.500	
FC	P31616	#/100ml	342.667	298.163	3	27.000	35.355	2	1388.667	2348.206	3	636.667	597.690	3	4100.000	2.000	
PH	P400	units	7.333	0.231	3	7.367	0.153	3	7.533	0.058	3	7.567	0.058	3	7.600	7.200	
SUSSOL	P530	mg/L	27.000	31.575	3	18.333	8.083	3	11.667	2.887	3	18.667	12.662	3	63.000	4.000	
NH3_N	P610	mg/L	3.313	1.880	3	2.623	0.991	3	3.370	1.471	2	2.076	1.338	3	5.330	0.829	
NO2_DIS	P613	mg/L	0.447	0.381	3	0.293	0.080	3	0.543	0.066	2	0.871	0.146	3	1.030	0.141	
NO2_NO3	P630	mg/L	8.227	4.733	3	8.723	0.586	3	8.705	1.110	2	7.790	2.156	3	12.200	2.990J	
TP_P	P665	mg/L	3.000	1.520	3	2.390	0.757	3	3.330	0.071	2	3.103	1.015	3	4.540	1.500	
OP_DIS	P671	mg/L	2.700	1.645	3	2.143	0.763	3	2.775	0.460	2	1.494	1.123	3	4.360	0.845	
TURB	P82079	NTU	16.433	13.216	3	14.333	4.041	3	6.200	1.646	3	8.667	5.543	3	31.500	4.700	
COND	P95	umhos	564.667	243.988	3	543.333	45.092	3	602.667	51.394	3	620.667	95.715	3	795.000	309.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 34E070 Name: ROCK CREEK AT REVERE

Class: A Elevation: 1570 River Mile: 15.10

Location:

LOCATED ON GEORGE KNOTT ROAD, SOUTH OF THE REVERE GRAIN ELEVATORS

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	7.267	6.442	3	4.600	2.252	3	16.933	7.541	3	0.000	0.000	0	22.700	2.400
PRESS	P25 mmHg	724.567	2.706	3	721.100	7.212	2	710.300	16.072	3	0.000	0.000	0	726.900	692.200
OXYGEN	P300 mg/L	13.167	2.458	3	12.700	2.107	3	12.100	0.700	3	0.000	0.000	0	15.100	9.200
PCTSAT	P301 Percent	112.400	5.667	3	103.133	10.431	3	133.100	20.134	3	0.000	0.000	0	150.400	93.200
FC	P31616 #/100ml	18.000	13.229	3	10.000	8.485	2	139.000	217.580	3	0.000	0.000	0	390.000	3.000
PH	P400 units	8.733	0.058	3	8.300	0.557	3	8.933	0.416	3	0.000	0.000	0	9.400	7.700
SUSSOL	P530 mg/L	9.333	7.767	3	41.333	20.108	3	42.000	17.088	3	0.000	0.000	0	60.000	3.000
NH3_N	P610 mg/L	0.022	0.016	3	0.031	0.009	3	0.030	0.016	3	0.000	0.000	0	0.048	0.010K
NO2_DIS	P613 mg/L	0.022	0.020	3	0.010	0.000	3	0.012	0.002	3	0.000	0.000	0	0.045	0.010K
NO2_NO3	P630 mg/L	1.083	0.957	3	2.167	0.678	3	0.886	0.953	3	0.000	0.000	0	2.640	0.017
TP_P	P665 mg/L	0.077	0.030	3	0.139	0.026	3	0.118	0.028	3	0.000	0.000	0	0.165	0.045
OP_DIS	P671 mg/L	0.037	0.034	3	0.054	0.039	3	0.022	0.012	3	0.000	0.000	0	0.085	0.010K
TURB	P82079 NTU	15.333	13.317	3	17.333	6.351	3	16.033	7.881	3	0.000	0.000	0	30.000	4.000
COND	P95 umhos	411.000	56.710	3	299.667	39.577	3	265.667	19.757	3	0.000	0.000	0	475.000	248.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 35A150 Name: SNAKE R @ INTERSTATE BR Class: A Elevation: 705 River Mile: 139.60
 Location: LOCATED AT THE WASHINGTON-IDAHO INTERSTATE BRIDGE ON U S HIGHWAY 12 AT CLARKSTON
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	9.100	4.743	4	3.850	1.700	6	12.583	2.790	6	20.217	2.485	6	23.700	1.800	
PRESS	P25 mmHg	749.500	4.109	4	745.000	6.127	5	744.267	7.726	6	741.083	6.900	6	754.100	730.000	
OXYGEN	P300 mg/L	11.100	1.402	4	12.633	0.831	6	10.400	0.832	6	8.867	0.463	6	13.800	8.100	
PCTSAT	P301 Percent	96.450	3.210	4	97.800	2.610	6	99.100	3.535	6	99.550	4.045	6	106.300	93.200	
FC	P31616 #/100ml	2.750	1.708	4	4.167	4.956	6	14.200	14.184	5	5.167	6.998	6	38.000	1.000K	
PH	P400 units	8.275	0.096	4	8.200	0.369	6	8.300	0.237	6	8.400	0.190	6	8.900	7.800	
SUSSOL	P530 mg/L	2.250	1.258	4	4.167	2.041	6	10.167	7.083	6	7.333	4.457	6	22.000	1.000	
FLOW	P60 CFS	16175.000	1899.781	4	20020.000	5974.278	5	33500.000	18633.733	6	19568.333	8744.027	6	66100.000	9410.000	
NH3 N	P610 mg/L	0.010	0.000	4	0.018	0.008	6	0.012	0.005	6	0.019	0.008	6	0.032	0.007	
NO2 DIS	P613 mg/L	0.010	0.000	4	0.011	0.001	6	0.009	0.002	6	0.010	0.000	6	0.013	0.004	
NO2 NO3	P630 mg/L	0.740	0.082	4	0.993	0.108	6	0.417	0.228	6	0.246	0.098	6	1.120	0.125	
TP P	P665 mg/L	0.071	0.011	4	0.068	0.016	5	0.040	0.013	6	0.037	0.008	6	0.090	0.023	
OP DIS	P671 mg/L	0.051	0.012	4	0.046	0.007	6	0.020	0.009	6	0.023	0.010	6	0.068	0.010K	
TURB	P82079 NTU	1.375	0.419	4	2.700	1.740	6	2.567	1.060	6	2.633	1.550	6	5.300	0.700	
COND	P95 umhos	380.250	38.578	4	372.167	54.042	6	222.500	75.762	6	275.000	58.491	6	425.000	142.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 358060 Name: TUCANNON R @ POWERS

Class: A Elevation: 600 River Mile: 2.30

Location:

LOCATED .2 MILES SOUTHEAST OF HIGHWAY 261, 1.5 MILES WEST OF STARBUCK

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	8.394	2.492	18	5.300	2.704	18	11.222	3.020	18	16.444	2.005	18	20.100	-0.100
PRESS	P25 mmHg	753.861	4.637	18	753.047	6.878	17	752.622	4.334	18	749.600	5.120	17	770.000	742.200
OXYGEN	P300 mg/L	11.394	1.061	18	12.017	2.282	18	11.106	1.086	18	10.094	1.614	18	16.100	4.100
PCTSAT	P301 Percent	97.339	6.871	18	95.050	15.772	18	101.433	5.139	17	103.835	16.915	17	167.500	33.800
FC	P31616 #/100ml	84.944	86.417	18	316.571	655.869	14	128.667	83.350	15	170.529	142.153	17	2400.000	12.000
COD	P340 mg/L	4.000	0.000	2	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	0.000	0.000
PH	P400 units	7.822	0.346	18	7.641	0.320	17	7.822	0.366	18	8.050	0.142	18	8.500	6.900
SUSSOL	P530 mg/L	20.167	19.906	18	175.000	444.231	18	65.000	71.565	18	16.706	10.546	17	1900.000	3.000
FLOW	P60 CFS	86.439	21.389	18	125.967	59.558	18	203.071	87.341	14	56.161	13.116	18	389.000	22.000
NH3_N	P610 mg/L	0.017	0.009	16	0.035	0.034	18	0.018	0.016	17	0.014	0.005	18	0.140	0.005
NO2_DIS	P613 mg/L	0.009	0.002	12	0.010	0.000	12	0.009	0.003	12	0.010	0.000	12	10.000	10.000K
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	12	0.000	0.000	12	0.001	0.001	9	0.003	0.000
NO3_N	P620 mg/L	0.265	0.106	2	0.317	0.165	3	0.103	0.067	3	0.137	0.046	3	0.480	0.060
NO2_NO3	P630 mg/L	0.201	0.091	11	0.444	0.243	12	0.139	0.119	11	0.136	0.034	13	1.100	0.006
TP_P	P665 mg/L	0.063	0.017	11	0.108	0.069	18	0.097	0.059	16	0.061	0.017	18	0.270	0.010K
OP_DIS	P671 mg/L	0.038	0.011	16	0.053	0.019	17	0.034	0.014	16	0.033	0.009	18	0.100	0.006
COLOR	P80 Pt-Co	14.571	5.287	7	15.333	8.737	3	11.667	10.066	3	72.000	53.740	2	110.000	1.000
TURB	P82079 NTU	2.761	2.176	18	27.329	62.425	17	7.206	6.358	18	2.553	1.241	17	260.000	1.000K
COND	P95 umhos	145.667	10.944	18	139.167	13.806	18	118.111	17.149	18	159.056	15.016	18	190.000	92.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 36A070 Name: COLUMBIA R NR VERNITA Class: A Elevation: 380 River Mile: 388.10

Location:
LOCATED ON STATE HIGHWAY 24 AT THE VERNITA BRIDGE APPROXIMATELY FIVE MILES NORTHEAST OF VERNITA

Water Years Sampled:
5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X X X X X X X X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	13.507	3.269	14	3.933	1.500	12	9.592	3.079	12	18.108	1.565	12	20.100	0.600	
CU	P1042 ug/L	3.300	3.706	10	5.600	10.408	11	2.333	2.733	12	3.050	1.363	10	36.000	1.000	
ZN	P1092 ug/L	4.950	4.663	10	15.227	24.133	11	11.833	4.448	12	6.000	6.220	9	86.000	1.000	
ZN	P1094 ug/L	5.833	3.950	12	15.727	23.858	11	11.833	4.448	12	6.200	5.731	10	86.000	1.000	
CD	P1113 ug/L	0.183	0.058	12	0.251	0.103	11	0.328	0.276	12	0.163	0.048	12	1.100	0.100K	
PB	P1114 ug/L	1.375	1.151	12	1.991	1.780	11	1.645	1.429	11	1.550	1.233	12	6.000	1.000K	
CR	P1118 ug/L	1.023	1.296	12	1.077	1.339	11	2.982	5.242	12	1.540	1.788	12	19.000	0.200K	
CU	P1119 ug/L	4.300	3.329	12	5.964	10.249	11	2.917	2.644	12	3.818	1.671	11	36.000	1.000	
PRESS	P25 mmHg	756.950	5.640	14	755.533	8.192	12	754.400	4.934	12	747.964	17.883	11	776.000	696.000	
OXYGEN	P300 mg/L	10.114	0.861	14	13.325	0.828	12	13.392	1.104	12	10.708	0.448	12	15.500	7.500	
PCTSAT	P301 Percent	96.686	7.879	14	101.800	4.561	12	117.627	7.786	11	114.573	5.579	11	135.300	77.300	
FC	P31616 #/100ml	1.500	1.345	14	1.250	0.866	12	1.500	1.243	12	3.091	5.319	11	19.000	1.000K	
COD	P340 mg/L	4.818	1.079	11	6.750	6.510	12	8.818	3.573	11	7.583	1.621	12	27.000	4.000K	
PH	P400 units	7.707	0.329	14	7.650	0.329	12	8.083	0.459	12	8.208	0.198	12	8.600	7.100	
SUSSOL	P530 mg/L	2.286	1.267	14	1.500	0.798	12	4.583	2.314	12	3.833	1.337	12	10.000	1.000K	
FLOW	P60 CFS	75871.429	24594.478	14	105825.000	23502.036	12	115991.667	32331.647	12	63258.333	46024.627	12	203000.000	40600.000	
NH3_N	P610 mg/L	0.014	0.005	13	0.018	0.017	12	0.035	0.075	11	0.010	0.000	12	0.260	0.010K	
NO2_DIS	P613 mg/L	0.009	0.003	8	0.010	0.000	6	0.010	0.000	6	0.010	0.000	5	0.010	0.002	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	13	0.000	0.000	13	0.002	0.005	11	0.000	0.001	9	0.016	0.000	
NO3_N	P620 mg/L	0.120	0.000	2	0.103	0.021	3	0.063	0.035	3	0.013	0.006	3	0.120	0.010	
NO2_NO3	P630 mg/L	0.124	0.086	8	0.140	0.009	6	0.118	0.104	5	0.030	0.027	7	0.330	0.010K	
TP_P	P665 mg/L	0.023	0.008	10	0.032	0.029	12	0.027	0.012	11	0.021	0.007	12	0.120	0.010	
OP_DIS	P671 mg/L	0.013	0.005	13	0.015	0.005	11	0.011	0.003	11	0.010	0.000	11	0.020	0.010K	
HG	P71900 ug/L	0.076	0.034	12	0.054	0.028	11	0.058	0.012	9	0.088	0.043	11	0.200	0.020K	
HG	P71901 ug/L	0.076	0.034	12	0.054	0.028	11	0.058	0.012	9	0.088	0.043	11	0.200	0.020K	
COLOR	P80 Pt-Co	8.857	3.185	7	9.667	2.887	3	12.714	7.847	7	13.667	1.633	6	13.000	1.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

		1.157	0.388	14	0.991	0.430	11	1.855	1.023	11	1.056	0.073	9	4.000	0.100
TURB	P82079 NTU														
HARD	P900 mg/L	66.000	6.075	12	73.500	4.583	12	74.182	11.514	11	66.083	6.037	12	95.000	58.000
COND	P95 umhos	137.000	9.265	14	154.500	11.326	12	138.333	17.541	12	134.833	8.830	12	178.000	102.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 37A090 Name: YAKIMA R @ KIONA Class: A Elevation: 460 River Mile: 29.80

Location:
LOCATED .1 MILE NORTHWEST OF HIGHWAY 12 AND KIONA AND SOUTHEAST OF BENTON CITY

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N
TEMP	P10	C	9.878	4.212	18	4.628	2.389	18	14.711	3.261	18	21.050	2.784	18	25.400	0.000	0.000
PRESS	P25	mmHg	754.122	8.411	18	753.689	8.277	18	752.017	4.705	18	750.882	5.124	17	774.000	726.900	
OXYGEN	P300	mg/L	11.861	1.263	18	13.328	1.629	18	10.822	1.603	18	9.833	0.993	18	16.800	7.400	
PCTSAT	P301	Percent	104.528	8.167	18	103.583	8.991	18	105.965	11.531	17	110.671	13.067	17	131.500	84.900	
FC	P31616	#/100ml	42.882	37.138	17	101.176	335.252	17	45.056	43.067	18	57.438	28.652	16	1400.000	1.000K	
COO	P340	mg/L	7.100	2.923	10	8.833	3.689	12	14.500	3.503	12	11.667	3.725	12	20.000	4.000K	
PH	P400	units	8.106	0.352	18	7.878	0.408	18	8.189	0.372	18	8.283	0.201	18	8.900	7.100	
SUSSOL	P530	mg/L	17.167	19.358	18	20.778	33.457	18	36.222	27.809	18	21.889	9.361	18	140.000	1.000K	
FLOW	P60	CFS	2390.000	1917.327	18	4673.889	6864.453	18	2897.222	1227.383	18	1475.556	343.429	18	31280.000	1030.000	
NH3_N	P610	mg/L	0.034	0.025	17	0.054	0.034	18	0.025	0.028	17	0.021	0.010	18	0.140	0.006	
NH3_DIS	P613	mg/L	0.016	0.005	12	0.012	0.004	12	0.010	0.001	12	0.014	0.005	11	0.020	0.008	
NH3_N	P615	mg/L	0.020	0.009	6	0.010	0.000	3	0.010	0.000	2	0.020	0.000	3	0.030	0.010K	
NH3_UN	P619	mg/L	0.001	0.001	13	0.001	0.001	12	0.001	0.002	11	0.002	0.001	9	0.004	0.000	
NH3_N	P620	mg/L	1.300	0.000	2	0.877	0.577	3	0.597	0.289	3	1.300	0.100	3	1.500	0.360	
NH2_NO3	P630	mg/L	1.236	0.332	12	0.821	0.292	12	0.475	0.214	12	0.835	0.421	13	1.600	0.065	
TP_P	P665	mg/L	0.103	0.017	12	0.112	0.058	18	0.098	0.057	17	0.109	0.042	18	0.300	0.017	
OP_DIS	P671	mg/L	0.077	0.015	16	0.061	0.023	17	0.040	0.015	16	0.060	0.023	17	0.120	0.010K	
COLOR	P80	Pt-Co	17.571	5.381	7	14.333	2.309	3	24.714	15.283	7	19.667	3.266	6	25.000	1.000	
TURB	P82079	NTU	3.756	4.445	18	3.635	2.435	17	7.588	4.798	17	5.493	2.103	15	21.000	1.000K	
COND	P95	umhos	278.333	52.995	18	213.111	49.836	18	194.389	35.351	18	274.778	28.841	18	350.000	109.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 37A190 Name: YAKIMA R @ PARKER

Class: A Elevation: 905 River Mile: 104.60

Location:
LOCATED ON PARKER BRIDGE ROAD 2/3 MILE EAST OF PARKER

Water Years Sampled:
5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----	
		MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10 C	8.122	3.742	2.929	1.884	9.933	2.309	16.111	1.880	19.700	0.000
PRESS	P25 mmHg	742.006	7.624	740.418	8.323	740.811	5.752	739.818	5.285	761.000	721.400
OXYGEN	P300 mg/L	11.744	1.469	13.424	0.915	11.911	1.037	10.233	0.458	15.900	8.000
PCTSAT	P301 Percent	100.722	6.769	101.865	3.931	107.653	6.296	105.906	4.058	121.800	76.900
FC	P31616 #/100ml	100.833	57.974	72.000	73.179	64.944	29.691	101.588	49.357	300.000	10.000
PH	P400 units	7.600	0.428	7.518	0.403	7.728	0.380	7.728	0.337	8.500	6.800
SUSSOL	P530 mg/L	13.278	12.569	6.971	5.155	18.333	9.561	18.167	5.813	53.000	1.000K
FLOW	P60 CFS	1791.167	1800.534	2313.176	1445.059	2753.000	1546.381	1292.111	429.191	8680.000	262.000
NH3_N	P610 mg/L	0.052	0.024	0.059	0.035	0.029	0.026	0.029	0.010	0.140	0.010K
NO2_DIS	P613 mg/L	0.011	0.002	0.010	0.000	0.009	0.003	0.010	0.000	0.017	0.001
NO2_N	P615 mg/L	0.015	0.008	0.010	0.000	0.015	0.007	0.010	0.000	0.030	0.010K
NH3_UN	P619 mg/L	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.000
NO3_N	P620 mg/L	0.425	0.035	0.297	0.146	0.127	0.021	0.207	0.021	0.450	0.110
NO2_NO3	P630 mg/L	0.279	0.103	0.236	0.118	0.088	0.025	0.166	0.033	0.470	0.037
TP_P	P665 mg/L	0.075	0.022	0.066	0.025	0.052	0.013	0.059	0.016	0.130	0.028
OP_DIS	P671 mg/L	0.051	0.017	0.039	0.016	0.026	0.008	0.032	0.012	0.080	0.011
COLOR	P80 Pt-Co	15.714	6.993	12.500	6.364	19.286	9.979	16.333	1.633	29.000	8.000
TURB	P82079 NTU	3.372	3.054	2.731	1.520	4.241	2.545	3.960	1.476	15.000	1.000
COND	P95 umhos	151.111	32.888	137.706	27.027	103.500	14.585	109.222	13.515	215.000	66.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 37E070 Name: WIDE HOLLOW CR @ UNION GAP Class: A Elevation: 970 River Mile: 1.50

Location:

LOCATED AT FOOT BRIDGE 100 FEET UPSTREAM FROM CONFLUENCE OF UNNAMED CREEK IN UNION GAP

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	11.133	1.106	3	9.767	1.767	3	13.033	2.409	3	15.667	2.318	3	17.800	8.600	
PRESS	P25	mmHg	733.367	7.267	3	737.433	6.352	3	732.100	2.227	3	736.233	4.466	3	743.700	726.400	
OXYGEN	P300	mg/L	9.533	1.159	3	12.533	2.098	3	11.567	0.987	3	9.567	0.833	3	14.900	8.300	
PCTSAT	P301	Percent	89.500	9.060	3	114.067	23.836	3	113.433	8.351	3	98.800	9.591	3	141.400	80.200	
FC	P31616	#/100ml	323.333	135.769	3	386.667	37.859	3	536.667	395.011	3	776.667	549.939	3	1400.000	140.000	
PH	P400	units	7.700	0.265	3	8.033	0.404	3	8.000	0.173	3	7.767	0.058	3	8.500	7.400	
SUSSOL	P530	mg/L	4.000	2.828	2	9.333	11.015	3	17.333	15.948	3	6.333	3.786	3	35.000	2.000	
NH3_N	P610	mg/L	0.012	0.003	2	0.017	0.004	3	0.012	0.002	3	0.015	0.009	3	0.025	0.010K	
NO2_DIS	P613	mg/L	0.011	0.002	3	0.010	0.000	3	0.011	0.002	3	0.010	0.000	3	0.013	0.010K	
NO2_NO3	P630	mg/L	2.140	0.240	3	2.320	0.211	3	0.803	0.247	3	1.133	0.278	3	2.540	0.607	
TP_P	P665	mg/L	0.186	0.026	3	0.193	0.020	3	0.085	0.011	3	0.118	0.015	3	0.210	0.072	
OP_DIS	P671	mg/L	0.172	0.019	3	0.178	0.019	3	0.061	0.017	3	0.102	0.020	3	0.196	0.050	
TURB	P82079	NTU	1.300	0.300	3	1.767	0.929	3	3.633	2.577	3	1.500	0.200	3	6.400	1.000	
COND	P95	umhos	434.667	49.803	3	408.333	50.083	3	213.000	31.177	3	294.667	40.501	3	475.000	195.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 38A050 Name: MACHES R @ YAKIMA @ I-82 Class: A Elevation: 1070 River Mile: 0.10

Location: LOCATED AT THE BRIDGE ON I-82 (US HIGHWAY 97) AT THE MOUTH OF THE MACHES RIVER
 Water Years Sampled:
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.467	3.595	3	5.000	2.762	3	11.767	3.592	3	16.533	2.967	3	19.300	2.400	
PRESS	P25	mmHg	728.900	7.104	3	733.300	6.548	3	728.300	2.066	3	732.800	4.732	3	740.400	722.600	
OXYGEN	P300	mg/L	12.100	1.808	3	13.100	0.964	3	11.900	1.308	3	10.533	0.115	3	14.200	10.200	
PCTSAT	P301	Percent	104.033	6.928	3	105.933	5.173	3	113.500	4.151	3	111.333	8.622	3	119.000	98.000	
FC	P31616	#/100ml	28.667	32.347	3	8.500	4.950	2	7.000	3.464	3	13.333	7.371	3	66.000	3.000	
PH	P400	units	8.100	0.458	3	7.933	0.321	3	8.633	0.252	3	8.433	0.551	3	8.900	7.700	
SUSSOL	P530	mg/L	11.000	10.440	3	5.667	4.163	3	4.333	0.577	3	8.000	6.083	3	23.000	1.000	
FLOW	P60	CFS	785.667	422.595	3	570.000	340.366	3	1081.500	1044.397	2	829.667	927.020	3	1900.000	282.000	
WH3_N	P610	mg/L	0.019	0.016	3	0.014	0.003	3	0.011	0.001	3	0.013	0.005	3	0.038	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.011	0.001	3	0.010	0.000	3	0.010	0.000	3	0.012	0.010K	
NO2_NO3	P630	mg/L	0.111	0.041	3	0.181	0.037	3	0.028	0.032	3	0.044	0.010	3	0.221	0.010K	
TP_P	P665	mg/L	0.030	0.015	3	0.037	0.006	3	0.014	0.006	2	0.016	0.007	3	0.047	0.010K	
OP_DIS	P671	mg/L	0.013	0.003	3	0.024	0.008	3	0.012	0.004	3	0.010	0.000	3	0.029	0.010K	
TURB	P82079	NTU	10.767	14.084	3	2.533	0.551	3	1.567	0.493	3	2.767	2.548	3	27.000	1.000	
COND	P95	umhos	81.667	14.468	3	110.333	17.502	3	68.667	18.037	3	91.000	13.892	3	128.000	50.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 388070 Name: TIEYON R @ OAK CREEK Class: AA Elevation: 1690 River Miles: 2.10

Location:

LOCATED AT THE LOGGING ROAD BRIDGE AT OAK CREEK GAME RANGE, .2 MILES
DOWNSTREAM FROM OAK CREEK

Water Years Sampled:

5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.267	4.244	3	5.133	3.427	3	12.467	4.447	3	14.033	1.159	3	17.600	2.200	
PRESS	P25	mmHg	712.667	4.869	3	715.167	4.765	3	712.400	2.138	3	716.867	4.300	3	721.600	708.700	
OXYGEN	P300	mg/L	11.400	1.513	3	12.133	1.150	3	10.400	0.608	3	9.867	0.379	3	13.300	9.600	
PCTSAT	P301	Percent	99.767	3.137	3	100.700	1.311	3	103.300	4.180	3	101.033	1.943	3	108.000	96.200	
FC	P31616	#/100ml	1.000	0.000	3	1.667	1.155	3	2.667	1.528	3	2.333	1.528	3	4.000	1.000K	
PH	P400	units	7.800	0.200	3	7.700	0.265	3	8.133	0.404	3	8.000	0.173	3	8.600	7.500	
SUSSOL	P530	mg/L	5.667	2.517	3	2.667	2.082	3	5.000	4.000	3	8.667	7.234	3	17.000	1.000K	
FLOW	P60	CFS	393.033	595.175	3	70.133	26.752	3	172.950	217.860	2	819.667	861.135	3	1814.000	18.900	
MH3_N	P610	mg/L	0.012	0.004	3	0.011	0.001	3	0.010	0.000	3	0.013	0.005	3	0.018	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	0.020	0.017	3	0.025	0.024	3	0.010	0.000	3	0.010	0.000	3	0.053	0.010K	
TP_P	P665	mg/L	0.019	0.008	3	0.029	0.008	3	0.019	0.002	2	0.015	0.004	3	0.039	0.010K	
OP_DIS	P671	mg/L	0.010	0.000	3	0.018	0.012	3	0.012	0.003	3	0.010	0.000	3	0.032	0.010K	
TURB	P82079	MTU	4.433	1.674	3	3.700	0.608	3	3.067	2.101	3	4.300	2.879	3	7.600	1.000	
COND	P95	umhos	85.333	19.425	3	86.000	16.523	3	75.000	8.660	3	66.333	1.155	3	105.000	64.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 38F070 Name: LITTLE MACHES NR CLIFFDELL Class: AA Elevation: 2500 River Mile: 0.20

Location:
 LOCATED AT THE BRIDGE ON STATE HIGHWAY 410 (CHINOOK PASS HIGHWAY),
 2 MILE ABOVE THE CONFLUENCE OF LITTLE MACHES RIVER, CATCHUP CREEK,
 AND BUMPING RIVER (ORIGIN OF THE MACHES RIVER)

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	4.033	2.409	3	2.733	1.320	3	8.700	4.045	3	14.300	3.851	3	18.200	1.300	
PRESS	P25	mmHg	694.600	3.110	3	696.967	3.647	3	694.100	1.664	3	697.400	2.921	3	701.000	691.900	
OXYGEN	P300	mg/L	12.067	0.874	3	12.333	0.666	3	10.767	0.929	3	9.700	0.800	3	13.100	8.900	
PCTSAT	P301	Percent	100.467	3.055	3	99.033	1.563	3	100.500	1.212	3	102.367	0.493	3	103.800	97.600	
FC	P31616	#/100ml	10.000	15.588	3	1.000	0.000	3	1.000	0.000	3	5.333	6.658	3	28.000	1.000K	
PH	P400	units	7.833	0.252	3	7.533	0.252	3	8.000	0.173	3	8.100	0.265	3	8.400	7.300	
SUSSOL	P530	mg/L	2.000	1.000	3	2.333	1.528	3	1.500	0.707	2	1.000	0.000	3	4.000	1.000K	
NH3_N	P610	mg/L	0.015	0.008	3	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.024	0.010K	
NO2_D1S	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	0.034	0.041	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.081	0.010K	
TP_P	P665	mg/L	0.028	0.001	2	0.026	0.005	3	0.022	0.002	3	0.023	0.005	3	0.031	0.020	
OP_D1S	P671	mg/L	0.020	0.006	2	0.015	0.005	3	0.019	0.004	3	0.015	0.004	3	0.024	0.010K	
TURB	P82079	NTU	1.833	0.764	3	2.433	0.379	3	0.933	0.404	3	0.900	0.361	3	2.700	0.500	
COND	P95	umhos	58.333	7.506	3	59.333	4.041	3	52.667	6.658	3	75.333	3.055	3	78.000	45.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 39A090 Name: YAKIMA R NR CLE ELUM

Class: AA Elevation: 2022 River Mile: 191.00

Location:

LOCATED AT THE BRIDGE ON INTERSTATE 90, 4.5 MILES WEST OF CLE ELUM

Water Years Sampled:

5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X X X X X X X X X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	5.975	2.239	3.044	1.100	7.100	2.461	13.767	2.191	16.300	1.000
PRESS	P25	mmHg	718.600	10.720	712.778	5.779	710.822	3.173	715.022	10.198	740.200	703.600
OXYGEN	P300	mg/L	11.550	1.165	12.456	0.433	11.144	0.669	9.322	0.356	13.500	8.800
PCTSAT	P301	Percent	97.475	4.627	98.667	2.687	97.944	1.759	95.167	4.739	106.300	89.300
FC	P31616	#/100ml	7.625	4.033	2.667	2.398	5.875	6.244	20.889	17.273	51.000	1.000K
PH	P400	units	7.443	0.544	7.622	0.489	7.544	0.419	7.367	0.346	8.400	6.800
SUSSOL	P530	mg/L	10.375	12.340	4.556	7.452	5.222	3.420	2.875	0.991	34.000	1.000
FLOW	P60	CFS	917.250	1318.304	443.111	240.437	582.222	359.520	409.556	374.905	4070.000	150.000
NH3_M	P610	mg/L	0.016	0.007	0.012	0.003	0.011	0.003	0.012	0.004	0.030	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_NO3	P630	mg/L	0.039	0.022	0.039	0.020	0.018	0.015	0.011	0.003	0.070	0.010K
TP_P	P665	mg/L	0.021	0.019	0.016	0.013	0.011	0.003	0.012	0.003	0.060	0.010K
OP_DIS	P671	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
TURB	P82079	NTU	5.850	8.362	2.144	2.998	2.433	3.279	1.325	0.542	24.000	0.500
COND	P95	umhos	65.500	12.547	62.444	9.710	56.333	7.874	51.667	8.602	83.000	36.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 398090 Name: CLE ELUM R NR ROSLYN Class: AA Elevation: 1990 River Mile: 1.90

Location:

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.833	2.577	3	4.100	0.265	3	8.233	1.686	3	14.267	3.296	3	17.200	3.800	
PRESS	P25	mmHg	714.900	5.069	3	710.267	4.944	3	708.500	1.082	3	713.733	7.431	3	722.100	704.600	
OXYGEN	P300	mg/L	11.000	0.954	3	12.700	0.361	3	11.067	0.208	3	9.500	0.557	3	13.000	8.900	
PCTSAT	P301	Percent	97.800	3.219	3	103.800	1.652	3	100.533	2.367	3	98.033	3.029	3	104.900	94.400	
FC	P31616	#/100ml	1.000	0.000	3	2.000	1.732	3	1.000	0.000	3	1.333	0.577	3	4.000	1.000K	
PH	P400	units	7.567	0.231	3	7.367	0.404	3	7.500	0.100	3	7.533	0.058	3	7.700	6.900	
SUSSOL	P530	mg/L	1.333	0.577	3	1.667	0.577	3	1.667	0.577	3	1.667	0.577	3	2.000	1.000K	
FLOW	P60	CFS	147.333	53.426	3	106.000	1.732	3	1705.000	1239.324	3	1536.000	1164.435	3	3045.000	105.000	
MH3_N	P610	mg/L	0.010	0.000	3	0.010	0.001	3	0.010	0.000	2	0.010	0.000	3	0.011	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	0.010	0.000	3	0.018	0.002	3	0.019	0.008	3	0.011	0.001	3	0.025	0.010K	
TP_P	P665	mg/L	0.011	0.001	3	0.011	0.001	3	0.010	0.000	3	0.010	0.000	3	0.012	0.010K	
OP_DIS	P671	mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
TURB	P82079	NTU	1.067	0.115	3	0.633	0.351	3	0.833	0.577	3	1.300	0.557	3	1.900	0.300	
COND	P95	umhos	50.333	4.726	3	63.667	12.583	3	41.000	6.557	3	47.000	9.539	3	77.000	35.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 390070 Name: TEANAWAY R NR CLE ELUM Class: A Elevation: 1820 River Mile: 0.10

Location:
 LOCATED AT THE BRIDGE ON STATE HIGHWAY 10, JUST EAST OF US HIGHWAY 97
 (BLEWETT HIGHWAY TO SNAUK PASS), APPROXIMATELY THREE MILES EAST OF
 CLE ELUM AT TEANAWAY

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER-----		-----SIX YEAR-----	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	5.033	2.344	2.500	1.562	8.233	4.561	13.767	2.515	15.600	0.700
PRESS	P25	mmHg	719.433	5.050	713.833	5.900	712.367	1.528	716.100	5.533	725.200	707.100
OXYGEN	P300	mg/L	12.100	0.656	12.933	0.907	11.300	1.044	9.967	0.306	13.900	9.700
PCTSAT	P301	Percent	99.900	1.054	100.700	2.476	101.533	1.701	101.600	3.629	105.700	97.900
FC	P31616	#/100ml	8.000	7.211	1.000	0.000	13.667	21.939	35.000	20.518	55.000	1.000K
PH	P400	units	7.967	0.133	7.700	0.361	7.700	0.173	8.067	0.153	8.200	7.300
SUSSOL	P530	mg/L	2.000	1.732	2.000	1.000	3.000	1.000	2.000	1.000	4.000	1.000
NH3_N	P610	mg/L	0.010	0.000	0.010	0.001	0.010	0.000	0.010	0.001	0.011	0.010K
NO2_D1S	P613	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.010K
NO2_MO3	P630	mg/L	0.010	0.000	0.029	0.012	0.014	0.006	0.010	0.000	0.042	0.010K
TP_P	P665	mg/L	0.015	0.005	0.014	0.001	0.012	0.002	0.010	0.000	0.018	0.010K
OP_D1S	P671	mg/L	0.010	0.000	0.011	0.002	0.011	0.001	0.010	0.000	0.014	0.010K
TURB	P82079	NTU	1.367	0.635	2.300	1.212	1.133	0.603	1.000	0.000	3.400	0.500
COND	P95	umhos	121.000	23.259	102.000	14.731	97.000	12.767	161.000	11.533	170.000	83.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 4 Name: ECRGN 4--CASCADES Class: Elevation: 0 River Mile: 0.00
 Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.303	2.675	113	4.067	1.435	112	7.519	1.783	114	12.922	2.249	114	19.000	0.000	
PRESS	P25	mmHg	747.118	19.104	113	746.824	21.726	112	745.902	21.525	114	745.780	19.874	112	774.000	699.000	
OXYGEN	P300	mg/L	11.941	1.039	113	12.783	0.578	112	12.002	0.867	114	10.445	0.748	113	14.900	8.500	
PCTSAT	P301	Percent	100.150	5.537	113	99.228	3.620	112	101.619	6.048	108	100.162	4.168	106	128.500	74.100	
FC	P31616	#/100ml	18.259	153.666	108	2.620	7.663	108	4.227	8.673	110	14.134	34.980	112	1600.000	1.000K	
COO	P340	mg/L	4.900	1.449	10	4.900	2.025	10	12.182	20.331	11	8.545	8.892	11	73.000	4.000K	
PH	P400	units	7.391	0.421	101	7.379	0.369	112	7.352	0.385	104	7.369	0.342	114	8.400	6.000	
SUSSOL	P530	mg/L	11.259	16.482	112	10.670	39.799	112	7.867	13.844	113	30.180	138.218	112	1300.000	1.000K	
FLOW	P60	CFS	5210.981	5646.722	108	4732.578	5535.722	109	6425.189	5462.663	111	3922.090	4509.809	111	36400.000	47.000	
NH3_N	P610	mg/L	0.013	0.007	107	0.013	0.008	112	0.012	0.006	109	0.012	0.004	113	0.060	0.005K	
NO2_DIS	P613	mg/L	0.009	0.002	73	0.010	0.001	90	0.010	0.000	92	0.010	0.002	88	0.010	0.001K	
NO2_N	P615	mg/L	0.010	0.000	36	0.010	0.000	18	0.010	0.000	17	0.010	0.000	18	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	62	0.000	0.000	66	0.000	0.000	68	0.000	0.000	55	0.000	0.000	
NO3_N	P620	mg/L	0.103	0.087	12	0.083	0.038	18	0.056	0.021	17	0.044	0.045	17	0.330	0.010K	
NO2_NO3	P630	mg/L	0.091	0.085	92	0.083	0.043	91	0.056	0.028	93	0.032	0.031	92	0.641	0.006J	
TP_P	P665	mg/L	0.016	0.011	92	0.021	0.028	108	0.014	0.011	110	0.021	0.051	114	0.480	0.002K	
OP_DIS	P671	mg/L	0.010	0.001	107	0.010	0.001	109	0.010	0.000	112	0.010	0.002	113	0.016	0.000K	
COLOR	P80	Pt-Co	11.000	18.055	4	112.556	228.128	9	19.111	24.885	18	14.733	19.462	15	0.000	0.000	
TURB	P82079	NTU	4.142	5.956	112	4.168	8.565	110	2.723	2.932	111	4.215	10.093	110	88.000	0.300	
COND	P95	umhos	52.274	17.250	113	54.500	14.736	112	44.333	15.023	114	49.711	21.580	114	170.000	17.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 41A070 Name: CRAB CR MR BEVERLY Class: B Elevation: 500 River Mile: 6.00

Location: LOCATED 6 MILES FROM THE MOUTH OF CRAB CREEK AT THE BRIDGE ON LOWER CRAB CREEK ROAD, ABOUT 5.6 MILES FROM BEVERLY Water Years Sampled: 7 8 9

Table with columns: VARIABLE, P-CODE, UNITS, MEAN, STD. DEV., N for JANUARY-MARCH, APRIL-JUNE, JULY-SEPTEMBER, and MAX, MIN for SIX YEAR. Rows include parameters like TEMP, PRESS, OXYGEN, PCTSAT, FC, PH, SUS, SOL, FLOW, NH3, NO2, NO3, TP, OP, COLOR, TURB, COND.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 41A110 Name: CRAB CR MR MOSES LAKE Class: B Elevation: 1075 River Mile: 63.00

Location:

LOCATED FOUR MILES NORTH OF MOSES LAKE .5 MILES EAST OF MOSES LAKE-
 STRATFORD ROAD (MILITARY RESERVATION BOUNDARY SOUTHEAST CORNER OF
 SECTION 27-- ROAD FOLLOWS SECTION LINE BETWEEN SECTIONS 26 AND 35)
 AT THE USGS GAGING STATION

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N
TEMP	P10	C	7.333	5.314	3	6.900	4.058	3	15.033	4.484	3	15.400	2.042	3	0.000	0.000	0.000
PRESS	P25	mmHg	736.667	7.234	3	736.333	4.041	3	736.667	6.658	3	736.333	4.619	3	0.000	0.000	0.000
OXYGEN	P300	mg/L	13.133	1.301	3	12.000	0.872	3	13.767	0.289	3	11.850	0.212	2	0.000	0.000	0.000
PCTSAT	P301	Percent	111.867	12.587	3	101.533	11.673	3	140.400	16.334	3	119.000	2.687	2	0.000	0.000	0.000
FC	P31616	#/100ml	110.000	139.728	3	65.333	50.013	3	101.000	59.775	3	152.667	66.040	3	0.000	0.000	0.000
PH	P400	units	8.300	0.173	3	8.200	0.173	3	8.433	0.058	3	7.967	0.115	3	0.000	0.000	0.000
SUSSOL	P530	mg/L	3.333	2.082	3	34.333	24.090	3	23.000	8.185	3	7.333	2.887	3	0.000	0.000	0.000
FLOW	P60	CFS	46.667	20.033	3	34.667	27.209	3	63.000	13.892	3	74.000	3.464	3	0.000	0.000	0.000
NH3_N	P610	mg/L	0.033	0.032	3	0.040	0.017	3	0.030	0.010	3	0.017	0.006	3	0.000	0.000	0.000
NO2_N	P615	mg/L	0.030	0.000	3	0.043	0.012	3	0.017	0.012	3	0.020	0.010	3	0.000	0.000	0.000
NH3_UN	P619	mg/L	0.001	0.001	3	0.001	0.000	3	0.002	0.001	3	0.000	0.001	3	0.000	0.000	0.000
NO3_N	P620	mg/L	1.150	0.354	2	0.757	0.605	3	0.420	0.468	3	0.970	0.289	3	0.000	0.000	0.000
TP_P	P665	mg/L	0.033	0.015	3	0.050	0.026	3	0.040	0.017	3	0.023	0.006	3	0.000	0.000	0.000
OP_DIS	P671	mg/L	0.013	0.006	3	0.023	0.015	3	0.010	0.000	3	0.010	0.000	3	0.000	0.000	0.000
COLOR	P80	Pt-Co	21.000	4.000	3	36.333	17.214	3	40.333	8.737	3	23.667	6.110	3	0.000	0.000	0.000
TURB	P82079	NTU	2.000	1.000	3	16.667	15.308	3	10.333	5.508	3	2.333	0.577	3	0.000	0.000	0.000
COND	P95	umhos	551.667	30.551	3	576.000	91.804	3	471.667	27.538	3	523.333	5.774	3	0.000	0.000	0.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 44A070 Name: COLUMBIA R BLW ROCK IS DAM Class: A Elevation: 560 River Mile: 450.90

Location:
 LOCATED ON THE EAST BANK (SHORE SAMPLE), 2.3 MILES BELOW ROCK ISLAND DAM
 TURN OFF HIGHWAY 28, 7.2 MILES NORTH OF CRESCENT BAR RECREATIONAL AREA
 AT COLUMBIA RIVER ORCHARD FRUIT STAND, TURN LEFT FOR .45 MILE TURN RIGHT
 TO GRAVEL ROAD 1.55 MILES TO "M" IMMEDIATELY AFTER TRACKS, TAKE RIGHT
 FORK FOR .1 MILE, WALK TO RIVER

Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	13.257	3.926	14	4.192	1.652	12	10.742	2.813	12	19.482	1.720	11	23.000	1.700	
PRESS	P25	mmHg	748.364	6.459	14	745.850	18.776	12	746.158	5.036	12	740.536	5.456	11	764.000	693.000	
OXYGEN	P300	mg/L	10.364	0.945	14	13.100	0.719	12	12.942	1.365	12	10.827	0.653	11	16.300	7.900	
PCTSAT	P301	Percent	99.693	9.472	14	102.292	7.612	12	117.982	12.478	11	119.580	7.062	10	145.800	82.500	
FC	P31616	#/100ml	37.077	104.931	13	7.833	15.361	12	17.000	33.666	11	104.182	242.914	11	820.000	1.000K	
PH	P400	units	7.893	0.559	14	8.017	0.473	12	8.175	0.382	12	8.336	0.341	11	9.200	7.000	
SUSSOL	P530	mg/L	7.429	9.605	14	11.333	23.986	12	6.750	5.328	12	5.364	2.976	11	86.000	1.000	
FLOW	P60	CFS	117964.286	39149.803	14	144266.667	39085.601	12	150250.000	38645.698	12	119081.818	41708.772	11	196400.000	13400.000	
NH3_N	P610	mg/L	0.014	0.005	14	0.023	0.025	12	0.014	0.008	10	0.014	0.009	11	0.080	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	8	0.009	0.004	6	0.010	0.000	6	0.010	0.000	5	0.010	0.001K	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.001	14	0.000	0.000	11	0.000	0.001	10	0.001	0.001	10	0.003	0.000	
NO3_N	P620	mg/L	0.143	0.078	3	0.107	0.025	3	0.065	0.035	2	0.040	0.014	2	0.230	0.030	
NO2_NO3	P630	mg/L	0.125	0.075	8	0.192	0.121	6	0.102	0.081	6	0.052	0.038	5	0.430	0.020	
TP_P	P665	mg/L	0.023	0.005	10	0.037	0.028	12	0.031	0.014	10	0.019	0.008	10	0.120	0.010	
OP_DIS	P671	mg/L	0.014	0.009	13	0.018	0.008	12	0.011	0.003	11	0.010	0.000	10	0.040	0.010K	
COLOR	P80	Pt-Co	10.000	5.196	3	11.000	14.142	2	11.000	5.196	3	20.000	17.059	3	34.000	1.000	
TURB	P82079	NTU	2.200	2.471	14	1.400	1.455	12	1.758	1.107	12	0.991	0.054	11	10.000	0.600	
COND	P95	umhos	142.357	16.736	14	148.167	18.478	12	143.250	22.752	12	128.636	12.971	11	193.000	95.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 45A070 Name: WENATCHEE R @ WENATCHEE Class: A Elevation: 600 River Mile: 1.10

Location: LOCATED 1.1 MILES FROM THE MOUTH OF THE WENATCHEE RIVER, 1.5 MILES NORTH OF WENATCHEE AT THE BRIDGE CROSSING HIGHWAYS 2-97

Water Years Sampled: 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER-DECEMBER---, ---JANUARY-MARCH---, ---APRIL-JUNE---, ---JULY-SEPTEMBER---, ---SIX YEAR---. Rows include parameters like TEMP, PRESS, OXYGEN, PCTSAT, FC, COO, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, COLOR, TURB, COND.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 45A110 Name: WENATCHEE R NR LEAVENWORTH Class: AA Elevation: 1665 River Mile: 35.60

Location:

LOCATED AT THE UPPER END OF TUMWATER CANYON ON THE US HIGHWAY 2 BRIDGE AT TUMWATER CAMPGROUND

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	6.756	3.190	18	2.644	1.566	18	7.300	1.974	18	14.744	2.438	18	18.800	0.000	
PRESS	P25 mmHg	720.472	6.336	18	720.417	6.899	18	715.689	3.929	18	717.533	7.184	18	735.000	704.000	
OXYGEN	P300 mg/L	11.678	1.268	18	13.183	0.745	18	11.867	0.952	18	9.771	0.508	17	14.900	8.600	
PCTSAT	P301 Percent	100.222	7.828	18	102.133	4.132	18	104.088	6.881	17	101.875	4.760	16	120.800	74.100	
FC	P31616 #/100ml	3.176	2.698	17	1.176	0.728	17	2.706	2.845	17	2.889	2.610	18	11.000	1.000K	
PH	P400 units	7.459	0.585	17	7.406	0.557	18	7.456	0.649	18	7.428	0.395	18	8.400	6.000	
SUSSOL	P530 mg/L	5.000	6.810	17	4.000	4.102	18	7.294	7.372	17	2.176	1.185	17	29.000	1.000K	
FLOW	P60 CFS	1800.722	2663.670	18	1275.611	634.127	18	5365.000	2755.863	18	1534.889	1531.592	18	12500.000	248.000	
NH3_N	P610 mg/L	0.011	0.003	17	0.012	0.004	18	0.011	0.001	15	0.013	0.007	18	0.030	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	11	0.009	0.003	12	0.010	0.000	11	0.010	0.000	12	0.010	0.001K	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	12	0.000	0.000	12	0.000	0.000	8	0.000	0.001	10	0.003	0.000	
NO3_N	P620 mg/L	0.030	0.028	2	0.043	0.006	3	0.045	0.007	2	0.015	0.007	2	0.050	0.010K	
NO2_NO3	P630 mg/L	0.031	0.019	12	0.049	0.011	12	0.053	0.013	12	0.013	0.006	12	0.070	0.010K	
TP_P	P665 mg/L	0.011	0.003	12	0.015	0.017	18	0.012	0.004	16	0.010	0.002	18	0.080	0.002K	
OP_DIS	P671 mg/L	0.010	0.000	17	0.010	0.001	18	0.010	0.000	16	0.010	0.000	17	0.010	0.004	
COLOR	P80 Pt-Co	4.000	0.000	2	6.667	2.309	3	5.000	6.928	3	15.000	19.799	2	29.000	1.000	
TURB	P82079 NTU	1.371	0.699	17	1.113	0.648	16	1.394	0.604	16	1.033	0.401	15	3.400	0.300	
COND	P95 umhos	40.611	13.057	18	41.611	6.204	18	35.278	9.627	18	40.500	12.210	18	85.000	20.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 46A070 Name: ENTIAT R MR ENTIAT Class: A Elevation: 660 River Mile: 1.50

Location: LOCATED AT A PRIVATE BRIDGE 1.2 MILES FROM HIGHWAY 97 JUST OFF THE ENTIAT RIVER ROAD APPROXIMATELY 1.5 MILES WEST OF ENTIAT
Water Years Sampled:
5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	6.260	4.079	15	3.273	2.651	15	9.253	1.734	15	16.653	2.791	15	20.300	0.000	
PRESS	P25 mmHg	745.500	6.877	15	746.727	5.913	15	740.727	5.692	15	737.887	5.938	15	760.000	728.000	
OXYGEN	P300 mg/L	12.740	1.190	15	13.560	1.368	15	12.047	0.685	15	10.000	0.510	15	16.800	9.200	
PCTSAT	P301 Percent	104.060	4.883	15	102.733	6.492	15	107.350	8.574	14	105.257	4.265	14	125.800	92.300	
FC	P31616 #/100ml	4.667	7.423	15	3.846	5.178	13	11.267	24.165	15	6.071	7.780	14	97.000	1.000K	
PH	P400 units	7.947	0.452	15	8.033	0.377	15	8.040	0.565	15	8.100	0.471	15	9.200	7.200	
SUSSOL	P530 mg/L	8.133	14.999	15	4.333	3.599	15	12.867	11.643	15	3.429	1.651	14	61.000	1.000K	
FLOW	P60 CFS	229.467	203.227	15	157.800	71.866	15	1395.533	932.101	15	370.933	349.857	15	3310.000	52.000	
NH3_N	P610 mg/L	0.011	0.005	14	0.016	0.018	15	0.011	0.003	13	0.012	0.004	14	0.080	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	9	0.009	0.003	9	0.010	0.000	9	0.010	0.000	9	0.010	0.002	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.001	13	0.000	0.000	12	0.001	0.001	8	0.001	0.001	10	0.003	0.000	
NO3_N	P620 mg/L	0.100	0.014	2	0.120	0.066	3	0.020	0.014	2	0.140	0.099	2	0.210	0.010	
NO2_NO3	P630 mg/L	0.080	0.054	9	0.100	0.047	9	0.018	0.011	9	0.064	0.042	9	0.180	0.010K	
TP_P	P665 mg/L	0.012	0.004	10	0.020	0.023	15	0.015	0.007	13	0.012	0.004	14	0.100	0.002	
OP_DIS	P671 mg/L	0.010	0.000	14	0.010	0.002	14	0.010	0.000	14	0.010	0.000	15	0.010	0.003	
COLOR	P80 Pt-Co	8.000	0.000	2	12.333	11.150	3	3.333	4.041	3	11.000	14.142	2	25.000	1.000	
TURB	P82079 NTU	1.507	1.161	14	0.977	0.142	13	1.592	0.912	13	0.979	0.383	14	5.000	0.300	
COND	P95 umhos	86.733	25.608	15	95.000	13.185	15	55.933	22.483	15	73.867	19.566	15	120.000	30.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 47A070 Name: CHELAN R @ CHELAN

Class: LC Elevation: 660 River Mile: 4.80

Location:

LOCATED 4.8 MILES FROM THE MOUTH OF THE CHELAN RIVER AT THE OUTLET OF LAKE CHELAN FROM THE BRIDGE ON HIGHWAY 97

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN				
TEMP	P10	C	12.093	3.507	15	5.133	1.334	15	14.360	3.404	15	20.900	1.591	15	23.500	3.000
PRESS	P25	mmHg	735.107	7.242	15	736.533	5.763	15	731.533	7.404	15	728.647	6.543	15	751.000	715.000
OXYGEN	P300	mg/L	10.447	0.804	15	12.007	0.536	15	10.650	0.888	14	9.040	0.309	15	13.300	8.600
PCTSAT	P301	Percent	99.680	5.833	15	97.153	4.103	15	107.131	4.997	13	104.700	4.201	14	118.500	88.100
FC	P31616	#/100ml	9.600	32.209	15	1.000	0.000	13	3.133	4.454	15	3.800	5.493	15	126.000	1.000K
CHL	P32211	ug/L	0.756	0.795	9	2.042	2.299	6	0.337	0.272	7	0.263	0.294	10	5.000	0.010K
PHEO	P32218	ug/L	0.689	0.809	9	1.798	2.483	6	0.310	0.337	7	0.152	0.076	10	5.000	0.010K
COO	P340	mg/L	5.917	3.679	12	4.750	1.422	12	4.583	0.996	12	5.167	1.528	12	17.000	4.000K
PH	P400	units	7.947	0.442	15	8.213	0.280	15	7.893	0.410	15	7.973	0.287	15	8.800	7.100
SUSSOL	P530	mg/L	2.333	1.447	15	1.533	0.743	15	2.333	1.633	15	1.533	0.834	15	6.000	1.000K
FLOW	P60	CFS	2099.333	297.861	15	2031.733	569.563	15	1886.733	1248.350	15	1818.200	1042.095	15	5120.000	6.000
NH3_N	P610	mg/L	0.011	0.004	14	0.015	0.016	15	0.012	0.004	13	0.011	0.004	15	0.070	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	9	0.009	0.003	9	0.010	0.000	9	0.010	0.000	9	0.010	0.001
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.001	13	0.000	0.000	12	0.000	0.000	8	0.000	0.001	10	0.002	0.000
NO3_N	P620	mg/L	0.025	0.007	2	0.033	0.021	3	0.030	0.000	2	0.020	0.014	2	0.050	0.010
NO2_NO3	P630	mg/L	0.018	0.008	9	0.054	0.009	9	0.044	0.010	9	0.019	0.009	9	0.070	0.010K
TP_P	P665	mg/L	0.012	0.006	10	0.022	0.033	15	0.012	0.004	13	0.010	0.002	15	0.127	0.004
OP_DIS	P671	mg/L	0.010	0.000	14	0.009	0.002	14	0.010	0.000	14	0.010	0.000	15	0.010	0.002
COLOR	P80	Pt-Co	6.000	2.828	2	4.000	0.000	3	2.000	1.732	3	11.000	14.142	2	21.000	1.000
TURB	P82079	NTU	0.886	0.228	14	0.938	0.444	13	0.908	0.256	13	0.760	0.311	15	2.000	0.200
COND	P95	umhos	58.667	16.021	15	58.467	7.357	15	57.533	8.061	15	56.133	5.027	15	115.000	47.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 478070 Name: COLUMBIA R @ CHELAN STATION Class: A Elevation: 925 River Mile: 504.10

Location:
LOCATED ON THE US HIGHWAY 97 BRIDGE AT CHELAN STATION NEAR CHELAN FALLS ON THE
CHELAN/DOUGLAS COUNTY LINE

Water Years Sampled:

5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	0.000	0.000	0	4.067	2.307	3	8.900	3.051	3	17.667	3.213	3	20.700	2.400	
PRESS	P25	mmHg	0.000	0.000	0	746.333	2.082	3	738.033	2.201	3	741.433	3.383	3	748.000	733.300	
OXYGEN	P300	mg/L	0.000	0.000	0	13.167	0.231	3	12.300	0.608	3	9.600	0.436	3	13.300	9.300	
PCTSAT	P301	Percent	0.000	0.000	0	102.400	7.390	3	108.800	3.205	3	102.367	4.119	3	112.100	97.500	
FC	P31616	#/100ml	0.000	0.000	0	1.000	0.000	3	2.667	1.528	3	1.667	0.577	3	4.000	1.000K	
PH	P400	units	0.000	0.000	0	8.433	0.153	3	8.167	0.404	3	8.000	0.300	3	8.600	7.700	
SUSSOL	P530	mg/L	0.000	0.000	0	2.333	0.577	3	5.667	3.215	3	3.000	1.000	3	8.000	2.000	
FLOW	P60	CFS	0.000	0.000	0	180000.000	16370.706	3	187000.000	16370.706	3	136766.667	48349.388	3	205000.000	81300.000	
NH3_N	P610	mg/L	0.000	0.000	0	0.017	0.006	3	0.018	0.013	3	0.013	0.003	3	0.033	0.010K	
NO2_DIS	P613	mg/L	0.000	0.000	0	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.010K	
NO2_NO3	P630	mg/L	0.000	0.000	0	0.157	0.021	3	0.081	0.036	3	0.044	0.017	3	0.180	0.033	
TP_P	P665	mg/L	0.000	0.000	0	0.027	0.006	3	0.015	0.002	3	0.017	0.004	3	0.030	0.014	
OP_DIS	P671	mg/L	0.000	0.000	0	0.010	0.000	3	0.010	0.000	3	0.011	0.002	3	0.020	0.010K	
TURB	P82079	NTU	0.000	0.000	0	1.167	0.289	3	2.700	1.453	3	0.967	0.451	3	4.200	0.500	
COND	P95	umhos	0.000	0.000	0	148.000	2.646	3	142.000	14.107	3	131.333	3.215	3	157.000	129.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 48A130 Name: METHOW R NR TWISP Class: A Elevation: 1552 River Mile: 38.30

Location: LOCATED ON THE BANK APPROXIMATELY 1.2 MILES SOUTHEAST OF TWISP ON THE SOUTHWEST BANK
 Water Years Sampled: 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		---JANUARY-MARCH---		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----		
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN	
TEMP	P10	C	5.533	4.044	2.900	4.101	8.800	0.961	13.550	1.890	6	15.400	0.000
PRESS	P25	mmHg	735.833	9.517	729.000	15.556	718.000	8.414	714.167	11.143	6	755.000	699.000
OXYGEN	P300	mg/L	12.467	1.445	14.350	2.758	11.950	0.892	10.367	0.408	6	16.300	9.800
PCTSAT	P301	Percent	101.300	5.438	109.600	6.788	108.650	8.827	105.400	2.735	6	121.500	91.700
FC	P31616	#/100ml	1.833	1.169	1.500	0.707	8.667	8.824	5.333	2.582	6	25.000	1.000K
PH	P400	units	7.967	0.585	8.400	0.283	7.883	0.407	8.150	0.243	6	8.900	7.300
SUSSOL	P530	mg/L	1.833	1.169	2.500	0.707	16.167	11.409	1.333	0.516	6	35.000	1.000
FLOW	P60	CFS	259.167	33.078	273.500	37.477	3705.333	3257.974	487.000	361.602	6	9400.000	200.000J
NH3_M	P610	mg/L	0.012	0.004	0.015	0.007	0.018	0.010	0.010	0.000	6	0.030	0.010K
NO2_N	P615	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.001	10	0.002	0.000
NO3_N	P620	mg/L	0.140	0.014	0.134	0.021	0.055	0.035	0.185	0.106	2	0.260	0.030
TP_P	P665	mg/L	0.013	0.006	0.010	0.000	0.020	0.014	0.010	0.000	6	0.040	0.010K
OP_DIS	P671	mg/L	0.010	0.000	0.010	0.000	0.010	0.000	0.010	0.000	6	0.010	0.010K
COLOR	P80	Pt-Co	6.833	3.601	7.250	4.272	3.333	4.041	9.000	11.314	2	17.000	1.000
TURB	P82079	NTU	1.200	0.447	1.000	0.000	1.750	0.957	1.000	0.000	6	3.000	1.000K
COND	P95	umhos	148.000	23.435	169.500	0.707	95.500	46.629	139.000	28.432	6	175.000	53.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 48A140 Name: METHOW R @ TWISP Class: A Elevation: 1552 River Mile: 39.40

Location:
 THE INTERSECTION WITH WAGNER RD (GAGE HOUSE .5 MILE UP WAGNER RD).
 THIS STATION WAS ACTIVATED 881001 IN LIEU OF STATION 48A130. THIS SITE
 WAS NOT USED PREVIOUSLY DUE TO A WARM OUTFALL FROM THE NOW DEFUNCT PINE
 HILL APPROXIMATELY 100-150 FEET UPSTREAM.

Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	4.744	2.115	9	2.900	2.038	9	6.678	1.132	9	12.456	1.938	9	15.500	0.000	
PRESS	P25 mmHg	716.833	4.532	9	722.067	4.260	9	718.756	5.026	9	719.467	3.730	9	730.500	710.400	
OXYGEN	P300 mg/L	12.578	0.824	9	12.867	0.616	9	11.644	0.422	9	9.911	0.790	9	14.100	7.900	
PCTSAT	P301 Percent	103.367	4.899	9	100.156	3.599	9	99.913	2.589	8	97.913	11.248	8	111.700	71.400	
FC	P31616 #/100ml	2.778	2.167	9	2.111	2.088	9	13.889	13.824	9	9.556	4.586	9	43.000	1.000K	
PH	P400 units	8.056	0.270	9	8.600	0.229	9	7.944	0.324	9	8.011	0.414	9	8.900	7.300	
SUSSOL	P530 mg/L	2.222	1.787	9	1.556	0.726	9	12.222	12.843	9	2.000	1.323	9	39.000	1.000K	
FLOW	P60 CFS	636.667	522.402	9	343.250	133.396	8	4048.889	2512.108	9	1141.222	1059.807	9	7600.000	193.000	
NH3_N	P610 mg/L	0.011	0.003	9	0.010	0.000	9	0.011	0.002	9	0.016	0.011	9	0.040	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	9	0.009	0.002	9	0.010	0.000	9	0.010	0.000	9	0.010	0.004	
NH3_UN	P619 mg/L	0.000	0.000	3	0.000	0.000	0	0.000	0.000	2	0.000	0.000	0	0.001	0.000	
NO2_MO3	P630 mg/L	0.113	0.040	9	0.114	0.024	9	0.046	0.029	9	0.094	0.063	9	0.210	0.016	
TP_P	P665 mg/L	0.010	0.000	7	0.017	0.024	9	0.014	0.007	9	0.011	0.004	9	0.080	0.002K	
OP_DIS	P671 mg/L	0.010	0.000	9	0.009	0.003	9	0.010	0.000	9	0.010	0.000	9	0.010	0.002	
TURB	P82079 NTU	0.944	0.219	9	1.222	1.151	9	2.500	2.951	9	0.678	0.370	9	10.000	0.200	
COND	P95 umhos	132.222	27.050	9	146.111	5.776	9	95.556	37.243	9	129.333	27.695	9	175.000	60.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 49A070 Name: OKANOGAN R @ MALOTT Class: A Elevation: 780 River Mile: 17.00

Location:

LOCATED AT THE MALOTT BRIDGE CROSSING THE OKANOGAN RIVER, JUST WEST OF HIGHWAY 97

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----	
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN
TEMP	P10	C	6.728	4.539	18	3.285	2.734	13	12.144	3.009	18	19.733	2.818	18	24.900	-0.100
PRESS	P25	mmHg	743.339	7.804	18	744.562	4.281	13	740.128	6.330	18	739.672	5.376	18	756.000	725.000
OXYGEN	P300	mg/L	11.706	1.641	18	12.515	1.265	13	10.350	0.653	18	8.350	0.738	18	14.500	7.300
PCTSAT	P301	Percent	96.594	6.805	18	95.085	5.090	13	97.935	3.980	17	92.965	4.829	17	115.200	80.200
FC	P31616	#/100ml	23.824	35.555	17	3.364	2.541	11	47.611	35.935	18	29.778	16.358	18	150.000	1.000K
PH	P400	units	8.033	0.270	18	8.323	0.252	13	8.028	0.240	18	8.211	0.329	18	8.800	7.100
SUSSOL	P530	mg/L	30.111	94.553	18	24.077	56.496	13	53.222	67.134	18	10.556	10.371	18	405.000	1.000K
FLOW	P60	CFS	1798.167	2142.996	18	1622.154	1222.359	13	6791.667	5363.686	18	2082.611	2098.219	18	16800.000	348.000
NH3_N	P610	mg/L	0.017	0.015	17	0.022	0.026	13	0.014	0.011	16	0.014	0.008	18	0.080	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	12	0.010	0.000	9	0.010	0.000	12	0.010	0.000	12	0.010	0.010K
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	12	0.001	0.001	6	0.000	0.001	8	0.001	0.000	10	0.002	0.000
NO3_N	P620	mg/L	0.035	0.021	2	0.043	0.021	3	0.030	0.014	2	0.025	0.021	2	0.060	0.010K
NO2_NO3	P630	mg/L	0.051	0.020	12	0.066	0.046	9	0.017	0.011	12	0.020	0.012	12	0.170	0.010K
TP_P	P665	mg/L	0.038	0.059	13	0.063	0.153	13	0.057	0.054	16	0.021	0.007	18	0.571	0.010K
OP_DIS	P671	mg/L	0.010	0.000	17	0.023	0.047	13	0.010	0.000	17	0.010	0.000	18	0.180	0.010K
COLOR	P80	Pt-Co	6.000	2.828	2	24.000	20.704	4	10.333	8.327	3	15.000	19.799	2	46.000	1.000
TURB	P82079	NTU	13.300	42.463	17	9.045	24.212	11	10.350	12.896	16	1.578	0.770	18	176.000	0.800
COND	P95	umhos	247.556	74.226	18	259.462	36.338	13	148.611	68.937	18	238.722	61.356	18	360.000	70.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 49A090 Name: OKANOGAN R @ OKANOGAN Class: A Elevation: 815 River Mile: 26.00

Location: LOCATED AT THE BRIDGE IMMEDIATELY NORTHWEST OF US HIGHWAY 97, ENTERING THE CITY OF OKANOGAN
Water Years Sampled: 7 8 9
5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X X X X X X X X X X X

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER-DECEMBER---, ----JANUARY-MARCH----, -----APRIL-JUNE-----, ----JULY-SEPTEMBER----, -----SIX YEAR-----. Rows include variables like TEMP, PRESS, OXYGEN, PCTSAT, FC, PH, SUSSOL, FLOW, NH3_N, NO2_N, NH3_UN, NO3_N, TP_P, OP_DIS, COLOR, TURB, COND with their respective mean, std. dev., and max values for each year and a total six-year average.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 49A190 Name: OKANOGAN R @ OROVILLE

Class: A Elevation: 1040 River Mile: 78.00

Location:

LOCATED AT THE BRIDGE ON CHERRY (BRIDGE ST.) STREET ALSO KNOWN AS THE OROVILLE-CESNAU HIGHWAY

Water Years Sampled:

5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			----JANUARY-MARCH----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	9.640	4.504	15	2.587	1.719	15	14.213	4.376	15	21.047	1.989	15	24.800	0.000	
PRESS	P25	mmHg	741.440	7.956	15	743.713	5.265	15	738.193	6.264	15	737.853	6.236	15	756.000	722.000	
OXYGEN	P300	mg/L	10.407	1.166	15	13.933	0.998	15	10.747	1.365	15	8.773	1.037	15	15.800	6.700	
PCTSAT	P301	Percent	92.720	7.245	15	104.693	10.068	15	105.593	6.763	14	101.179	15.091	14	130.400	71.000	
FC	P31616	#/100ml	4.769	6.894	13	3.000	3.367	10	7.231	6.735	13	17.182	18.362	11	58.000	1.000K	
PH	P400	units	8.207	0.446	15	8.440	0.300	15	8.527	0.383	15	8.533	0.277	15	9.400	7.300	
SUSSOL	P530	mg/L	4.333	2.059	15	97.200	360.412	15	5.000	1.890	15	4.667	1.877	15	1400.000	2.000	
FLOW	P60	CFS	305.800	145.877	15	431.400	444.518	15	799.733	981.799	15	676.400	655.238	15	3400.000	58.000	
NH3_N	P610	mg/L	0.018	0.009	13	0.021	0.024	15	0.013	0.007	13	0.019	0.017	15	0.100	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	9	0.009	0.003	9	0.010	0.000	9	0.010	0.000	9	0.010	0.002	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.001	0.001	12	0.001	0.001	12	0.002	0.001	8	0.002	0.003	10	0.010	0.000	
NO3_N	P620	mg/L	0.020	0.014	2	0.023	0.023	3	0.020	0.000	2	0.010	0.000	2	0.050	0.010K	
NO2_NO3	P630	mg/L	0.046	0.042	8	0.068	0.027	9	0.011	0.003	9	0.010	0.000	9	0.110	0.010K	
TP_P	P665	mg/L	0.027	0.007	9	0.020	0.020	15	0.023	0.024	13	0.017	0.004	15	0.100	0.002	
OP_DIS	P671	mg/L	0.010	0.000	14	0.011	0.003	13	0.011	0.005	14	0.010	0.000	15	0.030	0.010K	
COLOR	P80	Pt-Co	12.500	6.364	2	14.333	2.309	3	7.333	6.028	3	9.000	11.314	2	17.000	1.000	
TURB	P82079	NTU	1.700	1.629	14	1.238	0.613	13	1.638	0.457	13	2.080	1.172	15	7.000	0.600	
COND	P95	umhos	290.200	19.847	15	297.400	18.314	15	301.533	20.332	15	284.267	56.572	15	480.000	242.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 51A070 Name: NESPELEM R @ NESPELEM Class: A Elevation: 1815 River Mile: 5.40

Location:
 LOCATED AT THE BRIDGE ON STATE HIGHWAY 155, IMMEDIATELY WEST OF THE
 TOWN OF NESPELEM

Water Years Sampled: 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	5.920	2.415	15	3.529	1.561	14	10.280	2.546	15	12.207	1.557	15	14.100	0.500	
PRESS	P25 mmHg	719.873	8.918	15	722.336	6.243	14	716.653	7.809	15	711.607	8.425	15	737.000	698.000	
OXYGEN	P300 mg/L	11.420	1.350	15	12.357	0.834	14	10.580	0.815	15	9.867	0.874	15	14.200	8.400	
PCTSAT	P301 Percent	96.167	8.291	15	97.836	6.331	14	99.171	6.711	14	96.950	8.890	14	111.700	77.500	
FC	P31616 #/100ml	67.800	72.010	15	46.077	42.997	13	43.143	34.981	14	129.467	125.304	15	350.000	1.000K	
PH	P400 units	7.960	0.304	15	8.064	0.310	14	7.940	0.203	15	8.040	0.475	15	9.200	7.300	
SUSSOL	P530 mg/L	5.000	3.742	15	5.500	3.525	14	10.400	13.958	15	3.133	1.506	15	58.000	1.000	
FLOW	P60 CFS	13.933	5.230	15	17.857	10.205	14	65.000	31.181	15	10.547	5.562	15	137.000	4.000	
NH3_M	P610 mg/L	0.014	0.006	15	0.022	0.022	13	0.014	0.007	13	0.013	0.007	15	0.070	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	9	0.009	0.003	8	0.010	0.000	9	0.010	0.000	9	0.010	0.001K	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	14	0.000	0.000	12	0.000	0.000	8	0.001	0.001	10	0.002	0.000	
NO3_N	P620 mg/L	0.210	0.128	3	0.103	0.006	3	0.065	0.021	2	0.180	0.028	2	0.350	0.050	
NO2_NO3	P630 mg/L	0.406	0.360	9	0.351	0.147	7	0.080	0.028	9	0.118	0.048	9	1.350	0.040	
TP_P	P665 mg/L	0.035	0.016	10	0.041	0.025	13	0.027	0.009	13	0.029	0.009	15	0.110	0.010K	
OP_DIS	P671 mg/L	0.021	0.007	14	0.018	0.006	14	0.012	0.004	14	0.016	0.006	15	0.030	0.010K	
COLOR	P80 Pt-Co	13.000	0.000	3	19.000	2.828	2	25.500	12.021	2	17.333	28.290	3	50.000	1.000	
TURB	P82079 NTU	1.353	0.615	15	1.585	0.802	13	2.080	2.248	15	1.240	0.387	15	10.000	0.700	
COND	P95 umhos	215.067	30.579	15	189.714	37.172	14	134.867	19.119	15	226.214	22.962	14	250.000	98.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 52A070 Name: SANPOIL R @ KELLER

Class: A Elevation: 1360 River Mile: 11.70

Location:

LOCATED 11.7 MILES FROM THE MOUTH OF THE SANPOIL RIVER, .4 MILES ABOVE JACK CREEK AND .4 MILES NORTHWEST OF KELLER AT THE BRIDGE ON THE SILVER CREEK ROAD

Water Years Sampled:

5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	4.573	3.619	15	1.779	1.821	14	10.520	3.531	15	15.400	2.226	15	18.500	-0.100	
PRESS	P25	mmHg	731.187	6.912	15	732.371	5.568	14	723.827	8.925	15	722.520	7.091	15	749.000	710.000	
OXYGEN	P300	mg/L	12.533	1.365	15	13.371	1.137	14	10.753	1.078	15	9.760	0.622	15	15.500	8.800	
PCTSAT	P301	Percent	100.147	6.654	15	99.564	5.941	14	100.207	5.863	14	102.014	6.646	14	114.100	84.500	
FC	P31616	#/100ml	8.867	7.736	15	3.462	2.696	13	14.929	12.175	14	21.600	18.392	15	80.000	1.000K	
PH	P400	units	8.000	0.395	15	8.071	0.405	14	8.127	0.255	15	8.253	0.352	15	8.900	7.200	
SUSSOL	P530	mg/L	2.600	1.404	15	4.714	5.312	14	17.200	17.330	15	3.467	1.767	15	70.000	1.000K	
FLOW	P60	CFS	74.667	86.554	15	176.357	123.812	14	360.533	187.746	15	51.667	49.650	15	880.000	11.000	
NH3_N	P610	mg/L	0.012	0.006	15	0.021	0.025	14	0.013	0.006	13	0.015	0.011	15	0.100	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	9	0.009	0.003	8	0.010	0.000	9	0.010	0.000	9	0.010	0.001K	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.000	0.000	13	0.000	0.000	12	0.001	0.001	8	0.001	0.001	10	0.002	0.000	
NO3_N	P620	mg/L	0.040	0.052	3	0.073	0.055	3	0.050	0.057	2	0.010	0.000	2	0.110	0.010K	
NO2_NO3	P630	mg/L	0.010	0.000	9	0.254	0.615	8	0.036	0.032	9	0.010	0.000	9	1.770	0.010K	
TP_P	P665	mg/L	0.028	0.006	11	0.044	0.033	14	0.051	0.015	13	0.030	0.013	15	0.125	0.010	
OP_DIS	P671	mg/L	0.016	0.006	14	0.023	0.015	14	0.022	0.007	14	0.017	0.008	15	0.070	0.010K	
COLOR	P80	Pt-Co	12.500	6.364	2	23.000	21.213	2	19.000	8.485	2	7.667	11.547	3	76.000	1.000	
TURB	P82079	NTU	1.113	0.528	15	1.692	1.385	13	3.733	2.806	15	1.227	0.454	15	11.000	0.600	
COND	P95	umhos	193.733	27.889	15	181.643	29.679	14	150.467	16.427	15	205.571	10.854	14	223.000	115.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 528070 Name: LAKE ROOSEVELT FROM KELLER FERRY Class: Elevation: 0 River Mile: 0.00

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10 C	0.000	0.000	0	0.000	0.000	0	8.933	3.356	3	19.467	1.528	3	20.800	5.200
PRESS	P25 mmHg	0.000	0.000	0	0.000	0.000	0	728.850	2.333	2	729.467	0.681	3	750.500	727.200
OXYGEN	P300 mg/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	8.867	0.351	3	9.200	8.500
PCTSAT	P301 Percent	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	99.700	1.442	3	100.900	98.100
CHL	P32211 ug/L	0.000	0.000	0	0.000	0.000	0	1.390	0.660	3	1.543	2.011	3	3.820	0.010
PHEO	P32218 ug/L	0.000	0.000	0	0.000	0.000	0	1.830	0.770	3	1.097	1.471	3	2.770	0.010
PH	P400 units	0.000	0.000	0	0.000	0.000	0	8.467	0.208	3	8.233	0.208	3	8.700	8.000
NH3_N	P610 mg/L	0.000	0.000	0	0.000	0.000	0	0.010	0.000	3	0.016	0.008	3	0.025	0.010K
NO2_DIS	P613 mg/L	0.000	0.000	0	0.000	0.000	0	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
NO2_NO3	P630 mg/L	0.000	0.000	0	0.000	0.000	0	0.051	0.066	3	0.017	0.012	3	0.127	0.010K
TP_P	P665 mg/L	0.000	0.000	0	0.000	0.000	0	0.012	0.002	3	0.011	0.001	3	0.014	0.010K
OP_DIS	P671 mg/L	0.000	0.000	0	0.000	0.000	0	0.010	0.000	3	0.010	0.000	3	0.010	0.010K
TURB	P82079 NTU	0.000	0.000	0	0.000	0.000	0	1.600	0.700	3	0.800	0.866	3	2.400	0.300
COND	P95 umhos	0.000	0.000	0	0.000	0.000	0	144.000	5.568	3	126.333	7.572	3	149.000	121.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 53A070 Name: COLUMBIA R @ GRAND COULEE Class: A Elevation: 950 River Mile: 596.00

Location: LOCATED AT THE COULEE DAM BRIDGE .5 MILES BELOW GRAND COULEE DAM
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---		-----JANUARY-MARCH-----		-----APRIL-JUNE-----		----JULY-SEPTEMBER----		-----SIX YEAR-----					
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	N	MAX	MIN			
TEMP	P10	C	13.393	3.320	14	1.259	12	9.250	2.673	12	17.417	1.513	12	19.300	1.600	
PRESS	P25	mmHg	739.729	6.811	14	5.139	12	734.483	6.796	12	750.933	6.717	12	750.100	722.000	
OXYGEN	P300	mg/L	9.407	0.867	14	12.817	12	11.992	0.921	12	9.158	0.786	12	14.100	7.600	
PCTSAT	P301	Percent	91.579	4.280	14	98.317	12	106.909	5.781	11	98.227	6.352	11	117.100	81.000	
FC	P31616	#/100ml	1.357	1.336	14	1.000	11	1.000	0.000	10	1.000	0.000	11	6.000	1.000K	
PH	P400	units	7.579	0.364	14	7.750	12	7.983	0.272	12	7.825	0.238	12	8.500	6.900	
SUSSOL	P530	mg/L	2.571	1.697	14	2.417	12	2.583	1.676	12	1.455	0.688	11	7.000	1.000K	
FLOW	P60	CFS	135921.429	22273.930	14	147141.667	32300.562	12	153175.000	44836.189	12	120058.333	31804.987	12	218000.000	76400.000
NH3_N	P610	mg/L	0.011	0.004	14	0.023	0.029	12	0.019	0.007	10	0.021	0.014	12	0.110	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	8	0.009	0.004	6	0.010	0.000	6	0.010	0.000	6	0.010	0.001K
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K
NH3_UN	P619	mg/L	0.000	0.000	14	0.000	0.000	12	0.000	0.001	8	0.000	0.000	10	0.001	0.000
NO3_N	P620	mg/L	0.093	0.012	3	0.093	0.029	3	0.075	0.049	2	0.060	0.028	2	0.110	0.040
NO2_NO3	P630	mg/L	0.088	0.012	8	0.133	0.015	6	0.095	0.103	6	0.043	0.024	6	0.290	0.020
TP_P	P665	mg/L	0.020	0.007	10	0.030	0.024	11	0.025	0.013	10	0.013	0.005	11	0.100	0.010K
OP_DIS	P671	mg/L	0.017	0.008	13	0.036	0.065	12	0.012	0.004	11	0.012	0.004	12	0.240	0.010K
COLOR	P80	Pt-Co	5.333	2.309	3	9.000	11.314	2	9.000	11.314	2	13.333	21.362	3	38.000	1.000
TURB	P82079	NTU	0.936	0.213	14	1.418	0.731	11	1.425	0.772	12	0.983	0.369	12	3.000	0.400
COND	P95	umhos	134.500	10.427	14	145.083	12.788	12	147.000	26.275	12	129.273	5.815	11	210.000	112.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 54A050 Name: SPOKANE R @ MOUTH Class: A Elevation: 129 River Mile: 1.70
 Location: LOCATED ON THE STATE HIGHWAY 25 BRIDGE AT THE MOUTH OF THE SPOKANE RIVER
 ADJACENT TO FORT SPOKANE ON THE LINCOLN/STEVENS COUNTY LINE
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---		----JANUARY-MARCH----		-----APRIL-JUNE-----		-----JULY-SEPTEMBER----		-----SIX YEAR-----	
		MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10 C	10.825	4.157	4.420	1.226	11.833	4.583	21.217	1.292	23.000	2.600
ZN	P1094 ug/L	0.000	0.000	72.000	16.971	53.667	8.386	17.333	5.508	84.000	11.000P
CR	P1118 ug/L	0.000	0.000	0.385	0.021	0.000	0.000	0.000	0.000	0.450	0.360P
PRESS	P25 mmHg	733.950	4.968	731.775	5.952	726.033	3.479	725.650	1.729	737.900	721.600
OXYGEN	P300 mg/L	9.475	1.573	12.160	1.026	11.533	0.927	8.767	0.647	13.500	7.800
PCTSAT	P301 Percent	87.425	7.499	97.440	8.292	110.583	6.322	102.617	8.353	117.500	81.600
FC	P31616 #/100ml	2.250	2.500	1.800	1.789	1.167	0.408	1.200	0.447	6.000	1.000X
PH	P400 units	7.700	0.082	7.660	0.261	8.033	0.320	8.133	0.175	8.600	7.300
SUSSOL	P530 mg/L	2.000	1.155	3.400	1.342	5.000	4.427	2.167	0.753	12.000	1.000K
NH3_N	P610 mg/L	0.028	0.028	0.040	0.027	0.025	0.020	0.018	0.008	0.084	0.010K
NO2_DIS	P613 mg/L	0.018	0.006	0.012	0.004	0.009	0.003	0.010	0.000	0.023	0.003
NO2_NO3	P630 mg/L	0.387	0.105	0.442	0.082	0.196	0.135	0.176	0.066	0.529	0.046
TP_P	P665 mg/L	0.017	0.003	0.036	0.013	0.017	0.007	0.012	0.003	0.050	0.010K
OP_DIS	P671 mg/L	0.013	0.005	0.023	0.010	0.011	0.001	0.010	0.000	0.035	0.010K
HG	P71900 ug/L	0.000	0.000	0.040	0.000	0.040	0.000	0.184	0.125	0.300	0.040K
HG	P71901 ug/L	0.000	0.000	0.040	0.000	0.040	0.000	0.184	0.125	0.300	0.040K
TURB	P82079 NTU	1.025	0.050	3.700	2.944	2.383	1.899	1.467	0.572	7.900	0.500
HARD	P900 mg/L	0.000	0.000	42.500	10.607	35.667	7.024	49.333	6.506	74.000	29.000
COND	P95 umhos	166.000	20.183	129.000	28.258	99.333	11.725	123.833	20.371	186.000	78.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 54A120 Name: SPOKANE R @ RIVERSIDE STATE PK Class: A Elevation: 1640 River Mile: 66.00

Location:
 LOCATED IN SPOKANE AT RIVERSIDE STATE PARK ON THE WOODEN, SWINGING, FOOT BRIDGE
 Water Years Sampled: 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 XXXXXXXXXX
 XXXXXXXXXX
 XXXXXXXXXX
 XXXXXXXXXX
 XXXXXXXXXX

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	9.550	2.914	18	4.278	1.239	18	9.871	4.064	17	17.017	1.549	18	19.200	1.000	
CU	P1042 ug/L	3.030	3.499	10	6.227	10.775	11	2.182	2.077	11	3.150	1.547	10	36.000	1.000	
ZN	P1092 ug/L	63.100	37.817	10	87.091	29.545	11	91.636	32.666	11	29.667	9.798	9	143.000	9.000	
ZN	P1094 ug/L	62.846	35.791	13	90.143	27.287	14	91.143	29.414	14	32.231	13.645	13	143.000	9.000J	
CD	P1113 ug/L	0.208	0.045	10	0.420	0.227	14	0.589	0.225	12	0.211	0.071	12	1.100	0.100K	
PB	P1114 ug/L	1.738	1.072	13	6.371	8.079	14	2.244	1.512	9	1.808	1.103	13	25.000	1.000U	
CR	P1118 ug/L	1.029	1.219	13	2.485	5.202	13	1.491	1.906	12	1.432	1.696	12	19.300	0.200K	
CU	P1119 ug/L	3.877	2.991	13	5.914	9.556	14	2.750	1.913	12	3.833	1.528	12	36.000	1.000U	
PRESS	P25 mmHg	719.306	9.659	18	719.582	7.247	17	718.359	5.999	17	716.613	9.732	16	735.000	692.400	
OXYGEN	P300 mg/L	11.578	1.259	18	13.306	0.944	18	12.806	1.535	17	10.139	0.394	18	15.300	7.800	
PCTSAT	P301 Percent	106.511	9.066	18	107.883	7.768	18	118.531	6.023	16	110.400	3.192	17	131.800	77.400	
FC	P31616 #/100ml	145.500	370.613	18	158.375	382.644	16	12.200	12.219	15	15.667	23.825	18	1533.000	1.000K	
COO	P340 mg/L	13.417	25.447	12	14.786	21.531	14	9.071	4.341	14	6.308	2.750	13	94.000	2.000K	
PH	P400 units	8.133	0.403	18	7.594	0.392	18	7.925	0.475	16	8.322	0.190	18	8.700	6.800	
SUSSOL	P530 mg/L	2.278	1.227	18	90.529	293.048	17	5.941	6.505	17	3.059	1.391	17	1200.000	1.000K	
FLOW	P60 CFS	3385.556	3323.096	18	6267.778	4469.399	18	11878.235	5407.004	17	1686.944	1165.096	18	24100.000	302.000	
NH3_N	P610 mg/L	0.123	0.130	17	0.093	0.066	17	0.052	0.032	15	0.226	0.224	17	0.654	0.020	
NO2_DIS	P613 mg/L	0.023	0.034	12	0.010	0.000	12	0.010	0.003	12	0.018	0.014	11	0.130	0.002	
NO2_N	P615 mg/L	0.010	0.000	6	0.013	0.006	3	0.010	0.000	2	0.013	0.006	3	0.020	0.010K	
NH3_UN	P619 mg/L	0.003	0.006	13	0.001	0.001	13	0.000	0.000	10	0.011	0.013	9	0.043	0.000	
NO3_N	P620 mg/L	0.355	0.021	2	0.503	0.337	3	0.110	0.042	2	0.933	0.289	3	0.820	0.080	
NO2_NO3	P630 mg/L	0.402	0.191	12	0.572	0.458	11	0.175	0.116	12	0.765	0.267	13	1.800	0.060	
TP_P	P665 mg/L	0.046	0.028	12	0.081	0.054	18	0.026	0.015	16	0.033	0.013	18	0.200	0.010K	
OP_DIS	P671 mg/L	0.037	0.027	16	0.052	0.032	17	0.013	0.006	17	0.017	0.007	18	0.100	0.010K	
HG	P71900 ug/L	0.058	0.014	12	0.050	0.022	13	0.059	0.016	11	0.079	0.043	11	0.200	0.020K	
HG	P71901 ug/L	0.058	0.014	12	0.050	0.022	13	0.059	0.016	11	0.079	0.043	11	0.200	0.020K	
COLOR	P80 Pt-Co	10.143	5.581	7	22.000	24.249	3	7.667	11.547	3	27.000	2.828	2	50.000	1.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	1.678	2.826	18	24.335	53.706	17	2.253	2.178	17	1.153	0.392	17	210.000	0.500
HARD	P900	mg/L	59.154	16.186	13	49.267	11.805	15	32.929	6.719	14	86.267	21.714	15	121.000	22.000
COND	P95	umhos	125.111	35.365	18	130.167	95.028	18	76.706	12.956	17	195.889	45.562	18	497.000	59.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 558070 Name: LITTLE SPOKANE R. NR MOUTH Class: A Elevation: 1525 River Mile: 1.10

Location: LOCATED APPROXIMATELY 1.5 MILES UPSTREAM FROM CONFLUENCE WITH LONG LAKE ON BRIDGE CROSSING THE LITTLE SPOKANE RIVER ON HIGHWAY 291 AT OLD FORT SPOKANE HISTORICAL SITE

Water Years Sampled: 5 6

9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 X X X X X X X X X X X X X X X X X X

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER-DECEMBER---, -----JANUARY-MARCH-----, -----APRIL-JUNE-----, ----JULY-SEPTEMBER----, -----SIX YEAR-----. Rows include variables like TEMP, CU, ZN, CD, PB, CR, CU, PRESS, OXYGEN, PCTSAT, FC, COD, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, HG, and COLOR with associated mean, standard deviation, and sample size values.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

TURB	P82079	NTU	1.233	0.631	15	22.957	50.232	14	3.133	2.568	15	1.486	1.206	14	178.000	0.700				
HARD	P900	mg/L	135.000	9.174	13	114.000	21.517	15	110.333	16.766	15	137.267	6.954	15	150.000	71.000				
COND	P95	umhos	266.467	16.999	15	238.800	47.756	15	225.667	24.453	15	271.400	18.688	15	356.000	165.000				

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 55B080 Name: LITTLE SPOKANE R NR GRIFFITH SPRING Class: A Elevation: 1565 River Mile: 7.50
 Location: FOLLOW RUTTER PARKWAY 6 MILES FROM NINE MILE FALLS DAM TO SECOND BRIDGE CROSSING. STATION IS JUST BEFORE TURNOFF TO FISH HATCHERY
 Water Years Sampled: 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	8.300	1.682	3	4.267	2.228	3	12.333	2.003	3	15.900	1.400	3	16.900	1.700	
PRESS	P25	mmHg	724.767	8.260	3	723.467	4.601	3	721.367	1.102	3	720.033	3.011	3	733.800	717.600	
OXYGEN	P300	mg/L	10.067	0.208	3	10.767	0.451	3	9.433	0.153	3	8.967	0.231	3	11.200	8.700	
PCTSAT	P301	Percent	89.633	2.616	3	86.767	3.287	3	92.533	2.676	3	95.200	3.143	3	98.800	83.800	
FC	P31616	#/100ml	101.333	120.093	3	366.667	299.555	3	38.000	21.213	2	68.333	45.960	3	700.000	23.000	
PH	P400	units	8.300	0.265	3	7.833	0.321	3	8.300	0.000	3	8.433	0.058	3	8.500	7.600	
SUSSOL	P530	mg/L	3.000	0.000	3	245.667	343.896	3	13.000	5.292	3	0.000	0.000	0	640.000	3.000	
NH3_N	P610	mg/L	0.013	0.006	3	0.169	0.217	3	0.011	0.001	3	0.000	0.000	0	0.418	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.007	0.005	3	0.000	0.000	0	0.010	0.001	
NO2_NO3	P630	mg/L	1.079	0.045	3	0.951	0.348	3	0.771	0.019	3	0.963	0.071	3	1.310	0.614	
TP_P	P665	mg/L	0.019	0.001	3	0.400	0.573	3	0.029	0.006	3	0.015	0.007	2	1.060	0.000	
OP_DIS	P671	mg/L	0.012	0.003	3	0.069	0.078	3	0.012	0.002	3	0.010	0.000	3	0.157	0.010K	
HG	P71900	ug/L	0.001	0.000	3	0.100	0.169	3	0.003	0.002	3	0.001	0.000	3	0.296	0.001K	
HG	P71901	ug/L	0.001	0.000	3	0.100	0.169	3	0.003	0.002	3	0.001	0.000	3	0.296	0.001K	
TURB	P82079	NTU	1.000	0.000	3	81.367	120.514	3	2.267	0.764	3	1.000	0.000	3	220.000	1.000K	
HARD	P900	mg/L	131.333	6.506	3	91.333	35.698	3	103.667	5.033	3	122.333	9.074	3	138.000	58.000	
COND	P95	umhos	267.000	11.358	3	202.667	68.017	3	223.000	6.083	3	267.667	4.933	3	280.000	140.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 55B082 Name: LITTLE SPOKANE R ABV DARTFORD CREEK Class: A Elevation: 1578 River Mile: 10.30

Location: STATION IS LOCATED AT BRIDGE WHERE DARTFORD DRIVE CROSSES LITTLE SPOKANE RIVER JUST UPSTREAM FROM MOUTH OF DARTFORD CREEK
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	6.167	2.684	3	1.967	1.701	3	13.000	3.105	3	19.867	2.050	3	21.100	0.700	
PRESS	P25	mmHg	724.233	8.009	3	723.300	4.713	3	720.700	0.819	3	719.167	2.695	3	733.000	716.800	
OXYGEN	P300	mg/L	12.333	0.306	3	12.267	0.643	3	10.300	0.173	3	9.500	0.529	3	13.000	9.100	
PCTSAT	P301	Percent	104.233	4.692	3	93.100	5.047	3	102.600	5.565	3	109.200	1.682	3	110.500	87.400	
FC	P31616	#/100ml	37.000	22.517	3	462.333	726.214	3	129.500	113.844	2	75.667	35.726	3	1300.000	10.000	
PH	P400	units	8.433	0.306	3	7.867	0.379	3	8.267	0.153	3	8.533	0.115	3	8.700	7.600	
SUSSOL	P530	mg/L	4.333	2.082	3	207.000	266.670	3	17.667	7.638	3	0.000	0.000	0	510.000	2.000	
NH3_N	P610	mg/L	0.017	0.006	3	0.184	0.259	3	0.013	0.002	3	0.000	0.000	0	0.482	0.010K	
NO2_DIS	P613	mg/L	0.010	0.000	3	0.010	0.000	3	0.007	0.005	3	0.000	0.000	0	0.010	0.002	
NO2_NO3	P630	mg/L	0.917	0.070	3	0.833	0.384	3	0.496	0.047	3	0.607	0.087	3	1.240	0.467	
TP_P	P665	mg/L	0.022	0.007	3	0.433	0.580	3	0.037	0.005	3	0.033	0.012	3	1.100	0.017	
OP_DIS	P671	mg/L	0.011	0.002	3	0.084	0.086	3	0.015	0.005	3	0.017	0.006	3	0.181	0.010K	
HG	P71900	ug/L	0.001	0.001	3	0.009	0.010	3	0.002	0.001	3	0.001	0.000	3	0.021	0.001K	
HG	P71901	ug/L	0.001	0.001	3	0.009	0.010	3	0.002	0.001	3	0.001	0.000	3	0.021	0.001K	
TURB	P82079	NTU	1.133	0.115	3	70.300	100.002	3	2.833	0.577	3	1.133	0.115	3	185.000	1.000K	
HARD	P900	mg/L	116.000	5.000	3	75.333	38.109	3	83.333	4.163	3	104.667	10.504	3	121.000	39.000	
COND	P95	umhos	244.667	10.263	3	174.000	69.505	3	183.333	5.508	3	233.667	12.055	3	256.000	104.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 55B100 Name: LITTLE SPOKANE R ABV PEONE CREEK Class: A Elevation: 1615 River Mile: 13.50

Location:
 STATION IS LOCATED AT FIRST BRIDGE CROSSING OF LITTLE SPOKANE DRIVE
 UPSTREAM FROM MOUTH OF LITTLE DEEP CREEK AND PEONE (DEADMAN) CREEK.
 JUST ABOVE WANDEMERE GOLF COURSE

Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	5.433	2.797	3	1.667	2.376	3	13.100	3.451	3	20.400	2.254	3	21.800	0.100	
PRESS	P25 mmHg	724.000	7.879	3	723.000	5.226	3	719.733	0.814	3	718.300	3.081	3	732.800	715.500	
OXYGEN	P300 mg/L	12.667	0.351	3	12.367	0.643	3	10.333	0.321	3	9.733	0.493	3	13.100	9.400	
PCTSAT	P301 Percent	105.133	5.162	3	93.067	4.884	3	103.267	4.992	3	113.200	0.624	3	113.700	87.600	
FC	P31616 #/100ml	10.333	3.055	3	780.333	1148.099	3	8.500	7.778	2	45.333	8.327	3	2100.000	3.000	
PH	P400 units	8.300	0.200	3	7.833	0.416	3	8.300	0.100	3	8.467	0.058	3	8.500	7.500	
SUSSOL	P530 mg/L	2.667	1.155	3	100.333	130.216	3	14.333	6.807	3	0.000	0.000	0	250.000	2.000	
NH3_N	P610 mg/L	0.017	0.012	3	0.234	0.302	3	0.015	0.003	3	0.000	0.000	0	0.581	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	3	0.010	0.000	3	0.007	0.005	3	0.000	0.000	0	0.010	0.002	
NO2_NO3	P630 mg/L	0.935	0.073	3	0.829	0.415	3	0.495	0.058	3	0.553	0.083	3	1.270	0.447	
TP_P	P665 mg/L	0.018	0.004	3	0.358	0.475	3	0.035	0.004	3	0.027	0.006	3	0.905	0.013	
OP_DIS	P671 mg/L	0.010	0.000	3	0.081	0.091	3	0.012	0.002	3	0.013	0.006	3	0.184	0.010K	
HG	P71900 ug/L	0.001	0.000	3	0.018	0.027	3	0.002	0.001	3	0.001	0.000	3	0.050	0.001K	
HG	P71901 ug/L	0.001	0.000	3	0.018	0.027	3	0.002	0.001	3	0.001	0.000	3	0.050	0.001K	
TURB	P82079 NTU	1.000	0.000	3	39.100	55.551	3	2.500	0.529	3	1.000	0.000	3	103.000	1.000K	
HARD	P900 mg/L	114.333	6.658	3	72.000	38.158	3	81.000	3.606	3	102.333	11.590	3	120.000	32.000	
COND	P95 umhos	237.333	11.930	3	168.000	64.645	3	181.333	4.933	3	247.333	45.004	3	298.000	101.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 55C070 Name: PEONE (DEADMAN) CREEK ABV L DEEP CR Class: A Elevation: 1735 River Mile: 0.50

Location: STATION IS LOCATED JUST ABOVE CONFLUENCE OF LITTLE DEEP CREEK AND PEONE (DEADMAN) CREEK AT BRIDGE ON SHADY SLOPE ROAD
 Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N
TEMP	P10	C	9.667	3.190	3	4.850	1.485	2	12.767	2.538	3	19.733	1.589	3	20.700	3.800J	
PRESS	P25	mmHg	723.733	7.600	3	720.100	2.828	2	719.667	1.504	3	717.900	2.563	3	732.300	715.500	
OXYGEN	P300	mg/L	10.800	0.700	3	11.750	0.212	2	10.000	0.436	3	8.867	0.473	3	11.900	8.500	
PCTSAT	P301	Percent	99.200	0.819	3	96.650	1.626	2	99.167	1.457	3	101.900	2.227	3	103.900	95.500	
FC	P31616	#/100ml	6.667	3.512	3	20.500	9.192	2	18.000	18.385	2	73.667	32.747	3	100.000	3.000	
PH	P400	units	8.400	0.200	3	8.050	0.495	2	8.200	0.100	3	8.567	0.153	3	8.700	7.700	
SUSSOL	P530	mg/L	6.333	2.517	3	193.500	253.851	2	21.000	10.392	3	0.000	0.000	0	373.000	4.000	
NH3_N	P610	mg/L	0.013	0.006	3	0.035	0.007	2	0.011	0.002	3	0.000	0.000	0	0.040	0.010K	
NO2_D1S	P613	mg/L	0.011	0.002	3	0.015	0.007	2	0.008	0.004	3	0.000	0.000	0	0.020	0.003	
NO2_M03	P630	mg/L	0.723	0.100	3	0.830	0.071	2	0.291	0.057	3	0.617	0.129	3	0.880	0.253	
TP_P	P665	mg/L	0.042	0.007	3	0.130	0.042	2	0.057	0.009	3	0.103	0.078	3	0.190	0.037	
OP_D1S	P671	mg/L	0.031	0.002	3	0.055	0.007	2	0.030	0.010	3	0.080	0.070	3	0.160	0.024	
HG	P71900	ug/L	0.001	0.000	3	0.004	0.002	3	0.002	0.000	3	0.001	0.000	3	0.005	0.001K	
HG	P71901	ug/L	0.001	0.000	3	0.004	0.002	3	0.002	0.000	3	0.001	0.000	3	0.005	0.001K	
TURB	P82079	NTU	1.233	0.321	3	28.300	34.931	2	3.167	1.762	3	1.600	0.458	3	53.000	1.000K	
HARD	P900	mg/L	122.667	14.048	3	91.500	47.376	2	67.333	8.737	3	115.333	24.007	3	136.000	58.000	
COND	P95	umhos	267.000	30.806	3	201.500	94.045	2	159.000	17.349	3	257.333	42.360	3	300.000	135.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 57A190 Name: SPOKANE R NR POST FALLS Class: A Elevation: 2050 River Mile: 100.70

Location:

LOCATED AT THE BANK APPROXIMATELY .75 MILE SOUTH OF INTERSTATE 90
OFF OF MCQUIRE ROAD AT THE SPORTSMAN'S ACCESS AND CABLEWAY

Water Years Sampled:

5 6 7 8 9
9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
X X

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	10.357	3.529	14	2.775	1.334	12	8.464	4.121	11	20.408	1.657	12	23.300	0.300	
CU	P1042 ug/L	3.280	4.095	10	1.355	1.001	11	1.750	1.340	12	3.600	1.761	10	14.000	1.000	
ZN	P1092 ug/L	82.700	29.796	10	111.455	22.002	11	132.583	121.397	12	61.444	10.382	9	505.000	8.000	
ZN	P1094 ug/L	75.083	34.429	12	111.455	22.002	11	132.583	121.397	12	60.400	10.330	10	505.000	8.000V	
CD	P1113 ug/L	0.318	0.155	12	0.425	0.196	11	0.726	0.491	11	0.212	0.053	9	1.800	0.100K	
PB	P1114 ug/L	1.858	1.637	12	4.018	3.857	11	2.180	1.512	10	1.925	1.146	12	14.000	1.000U	
CR	P1118 ug/L	0.998	1.294	12	1.048	1.358	11	1.158	1.240	12	1.898	3.146	12	11.000	0.200K	
CU	P1119 ug/L	3.833	3.493	12	1.900	0.922	11	2.333	1.435	12	4.091	1.640	11	14.000	1.000U	
PRESS	P25 mmHg	710.636	6.930	14	710.108	10.208	12	713.783	9.127	12	710.582	8.326	11	727.000	692.000	
OXYGEN	P300 mg/L	9.721	1.412	14	12.533	0.739	12	12.658	1.615	12	8.383	0.573	12	15.000	6.200	
PCTSAT	P301 Percent	91.836	9.405	14	98.967	6.317	12	114.720	7.699	10	98.227	6.455	11	125.300	65.800	
FC	P31616 #/100ml	2.214	1.968	14	2.091	1.446	11	1.889	1.537	9	6.182	3.920	11	12.000	1.000K	
PH	P400 units	7.479	0.585	14	7.183	0.244	12	7.383	0.517	12	7.317	0.428	12	8.500	6.400	
SUSSOL	P530 mg/L	2.929	2.464	14	2.727	2.724	11	3.000	1.954	12	2.182	1.079	11	10.000	1.000K	
FLOW	P60 CFS	2891.714	2606.437	14	4763.333	3783.023	12	13199.167	5806.254	12	1935.333	3134.776	12	24100.000	395.000	
NH3_N	P610 mg/L	0.013	0.005	14	0.025	0.017	11	0.014	0.007	11	0.012	0.004	11	0.060	0.010K	
NO2_DIS	P613 mg/L	0.009	0.003	8	0.010	0.000	6	0.010	0.000	6	0.010	0.000	5	0.010	0.002K	
NO2_N	P615 mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619 mg/L	0.000	0.000	14	0.000	0.000	13	0.000	0.000	11	0.000	0.000	9	0.000	0.000	
NO3_N	P620 mg/L	0.023	0.006	3	0.043	0.006	3	0.020	0.017	3	0.020	0.017	3	0.050	0.010K	
NO2_NO3	P630 mg/L	0.019	0.011	8	0.048	0.029	6	0.027	0.031	6	0.016	0.008	7	0.090	0.010K	
TP_P	P665 mg/L	0.018	0.006	10	0.023	0.022	12	0.015	0.005	11	0.025	0.005	12	0.090	0.010K	
OP_DIS	P671 mg/L	0.011	0.004	13	0.012	0.004	11	0.010	0.000	11	0.011	0.003	12	0.020	0.005	
HG	P71900 ug/L	0.071	0.036	12	0.051	0.026	11	0.058	0.012	9	0.072	0.017	10	0.150	0.020K	
HG	P71901 ug/L	0.071	0.036	12	0.051	0.026	11	0.058	0.012	9	0.072	0.017	10	0.150	0.020K	
COLOR	P80 PT-Co	9.429	4.237	7	2.500	2.121	2	8.667	8.021	3	21.333	25.541	3	50.000	1.000	
TURB	P82079 NTU	1.014	0.218	14	1.425	0.703	12	1.525	0.684	12	1.233	0.433	12	3.000	0.500	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

HARD	P900	mg/L	26.167	3.810	12	28.000	6.782	12	27.417	7.948	12	27.250	4.693	12	46.000	15.000				
COND	P95	umhos	55.000	4.038	14	57.833	14.057	12	56.000	9.487	12	61.250	10.695	12	87.000	23.000				

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 59A070 Name: COLVILLE R @ KETTLE FALLS Class: A Elevation: 1250 River Mile: 5.00

Location: LOCATED 5 MILES FROM THE MOUTH OF THE COLVILLE RIVER .5 MILES SOUTH OF KETTLE FALLS AT THE USGS GAGING STATION JUST BELOW MEYERS FALLS AND THE POWER PLANT

Water Years Sampled: 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

Table with columns: VARIABLE, P-CODE UNITS, ---OCTOBER-DECEMBER---, ---JANUARY-MARCH---, ---APRIL-JUNE---, ---JULY-SEPTEMBER---, ---SIX YEAR---. Rows include parameters like TEMP, PRESS, OXYGEN, PCTSAT, FC, PH, SUSSOL, FLOW, NH3_N, NO2_DIS, NO2_N, NH3_UN, NO3_N, NO2_NO3, TP_P, OP_DIS, COLOR, TURB, HARD, COND.

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 6 Name: ECORGN 6--E. CASCADES Class: Elevation: 0 River Mile: 0.00
 Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER----			-----SIX YEAR-----		
		MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10 C	5.650	3.559	6	3.933	2.669	6	10.583	4.325	6	14.167	2.548	6	18.200	1.300	
PRESS	P25 mmHg	703.633	10.548	6	706.067	10.667	6	703.250	10.169	6	707.133	11.158	6	721.600	691.900	
OXYGEN	P300 mg/L	11.733	1.164	6	12.233	0.848	6	10.583	0.731	6	9.783	0.567	6	13.300	8.900	
PCTSAT	P301 Percent	100.117	2.796	6	99.867	1.581	6	101.900	3.151	6	101.700	1.463	6	108.000	96.200	
FC	P31616 #/100ml	5.500	11.023	6	1.333	0.816	6	1.833	1.329	6	3.833	4.622	6	28.000	1.000K	
PH	P400 units	7.817	0.204	6	7.617	0.248	6	8.067	0.288	6	8.050	0.207	6	8.600	7.300	
SUSSOL	P530 mg/L	3.833	2.639	6	2.500	1.643	6	3.600	3.435	5	4.833	6.210	6	17.000	1.000K	
FLOW	P60 CFS	393.033	595.175	3	70.133	26.752	3	172.950	217.860	2	819.667	861.135	3	1814.000	18.900	
NH3_N	P610 mg/L	0.014	0.006	6	0.010	0.001	6	0.010	0.000	5	0.011	0.003	6	0.024	0.010K	
NO2_DIS	P613 mg/L	0.010	0.000	6	0.010	0.000	6	0.010	0.000	6	0.010	0.000	6	0.010	0.010K	
NO2_N	P615 mg/L	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.010	0.000	3	0.000	0.000	
NH3_UN	P619 mg/L	0.000	0.000	3	0.000	0.000	3	0.000	0.001	3	0.000	0.000	3	0.000	0.000	
NO3_N	P620 mg/L	0.073	0.045	3	0.103	0.023	3	0.087	0.029	3	0.077	0.006	3	0.000	0.000	
NO2_NO3	P630 mg/L	0.027	0.029	6	0.018	0.017	6	0.010	0.000	6	0.010	0.000	6	0.081	0.010K	
TP_P	P665 mg/L	0.022	0.007	5	0.028	0.006	6	0.021	0.003	5	0.019	0.006	6	0.039	0.010K	
OP_DIS	P671 mg/L	0.014	0.006	5	0.017	0.008	6	0.015	0.005	6	0.013	0.004	6	0.032	0.010K	
COLOR	P80 Pt-Co	18.000	12.767	3	21.000	10.583	3	9.667	2.887	3	5.333	2.309	3	0.000	0.000	
TURB	P82079 NTU	3.133	1.839	6	3.067	0.829	6	2.000	1.788	6	2.600	2.615	6	7.600	0.500	
COND	P95 umhos	71.833	19.803	6	72.667	18.140	6	63.833	14.049	6	70.833	5.345	6	105.000	45.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 61A070 Name: COLUMBIA R @ NORTHPORT (USGS) Class: AA Elevation: 1280 River Mile: 735.10
 Location: LOCATED AT THE BRIDGE CROSSING THE COLUMBIA RIVER ON STATE HIGHWAY 25, IMMEDIATELY NORTHEAST OF NORTHPORT
 Water Years Sampled: 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	OCTOBER-DECEMBER		JANUARY-MARCH		APRIL-JUNE		JULY-SEPTEMBER		SIX YEAR	
			MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MEAN	STD. DEV.	MAX	MIN
TEMP	P10	C	8.225	3.694	4.000	1.075	8.300	3.163	16.533	0.878	17.900	2.200
ZN	P1094	ug/L	10.500	0.707	11.800	2.864	35.400	21.904	12.500	1.732	64.000	7.000P
CD	P1113	ug/L	0.000	0.000	0.163	0.076	0.195	0.164	0.283	0.080	0.440	0.100K
PB	P1114	ug/L	0.000	0.000	1.620	0.192	1.750	0.636	2.275	0.556	3.100	1.300P
CR	P1118	ug/L	0.000	0.000	0.337	0.035	0.475	0.174	0.490	0.479	1.200	0.200K
CU	P1119	ug/L	0.000	0.000	4.140	2.672	3.850	1.344	3.667	1.155	8.800	2.000K
PRESS	P25	mmHg	734.050	5.416	731.275	6.114	726.050	4.323	725.783	2.874	738.400	718.800
OXYGEN	P300	mg/L	12.325	1.607	13.360	0.261	12.367	0.339	10.250	0.568	13.700	9.500
PCTSAT	P301	Percent	107.200	5.850	106.040	4.086	109.833	7.426	109.283	5.429	120.100	98.300
FC	P31616	#/100ml	5.000	1.414	3.400	2.510	3.167	2.317	12.000	10.607	27.000	1.000K
CHL	P32211	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	1.033	0.114	1.160	0.140
PHEO	P32218	ug/L	0.000	0.000	0.000	0.000	0.000	0.000	1.590	0.807	2.740	0.960
PH	P400	units	7.775	0.222	7.660	0.288	8.100	0.141	8.067	0.175	8.300	7.200
SUSSOL	P530	mg/L	2.000	0.816	1.600	0.548	3.500	2.168	2.167	0.753	7.000	1.000
FLOW	P60	CFS	96450.000	9669.367	82840.000	47232.753	85683.333	72286.995	90983.333	38144.746	198000.000	11400.000
NH3_N	P610	mg/L	0.024	0.003	0.026	0.015	0.015	0.008	0.020	0.009	0.049	0.010K
NO2_DIS	P613	mg/L	0.010	0.000	0.010	0.000	0.009	0.004	0.010	0.001	0.012	0.001
NO2_NO3	P630	mg/L	0.074	0.020	0.112	0.016	0.085	0.021	0.062	0.012	0.131	0.043
TP_P	P665	mg/L	0.023	0.004	0.018	0.008	0.022	0.013	0.026	0.024	0.069	0.010K
OP_DIS	P671	mg/L	0.016	0.007	0.014	0.005	0.015	0.010	0.019	0.018	0.056	0.005
HG	P71900	ug/L	0.055	0.007	0.046	0.005	0.085	0.078	0.118	0.107	0.300	0.040K
HG	P71901	ug/L	0.055	0.007	0.046	0.005	0.085	0.078	0.118	0.107	0.300	0.040K
TURB	P82079	NTU	1.000	0.000	1.520	0.952	1.200	0.533	1.567	0.468	3.000	0.500
HARD	P900	mg/L	70.333	0.577	62.500	25.878	65.500	4.231	64.667	3.266	79.000	24.000
COND	P95	umhos	144.500	11.030	154.400	4.336	139.167	17.982	126.833	10.420	162.000	112.000

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replaced with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 62A150 Name: PEND OREILLE R @ NEWPORT Class: A Elevation: 2030 River Mile: 88.20
 Location: LOCATED IN BONNER COUNTY, IDAHO AT THE BRIDGE ON U S HIGHWAY 2, JUST EAST OF NEWPORT
 Water Years Sampled:
 5 6 7 8 9
 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
 X

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			---JANUARY-MARCH---			---APRIL-JUNE---			---JULY-SEPTEMBER---			---SIX YEAR---		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	8.967	4.241	18	2.339	1.457	17	9.700	3.577	17	19.344	1.895	18	22.200	-0.100	
PRESS	P25	mmHg	712.650	5.994	18	710.776	9.135	17	709.939	8.197	18	710.088	6.585	17	727.000	692.000	
OXYGEN	P300	mg/L	10.389	1.295	18	12.667	0.733	18	11.561	1.079	18	8.967	0.435	18	14.800	6.800	
PCTSAT	P301	Percent	94.628	6.611	18	98.783	4.490	18	107.850	6.516	16	103.394	4.797	17	119.800	71.900	
FC	P31616	#/100ml	1.556	1.199	18	1.611	1.577	18	2.125	1.784	16	4.471	10.296	17	44.000	1.000K	
PH	P400	units	7.922	0.312	18	7.683	0.328	18	8.018	0.350	17	8.339	0.223	18	8.600	7.000	
SUSSOL	P530	mg/L	3.056	2.555	18	6.176	7.020	17	5.412	2.717	17	3.176	2.270	17	26.000	1.000K	
FLOW	P60	CFS	22188.889	4007.623	18	16001.667	6425.832	18	30521.667	19616.073	18	15770.000	10452.471	18	75600.000	2980.000	
NH3_N	P610	mg/L	0.010	0.000	17	0.018	0.026	16	0.010	0.003	17	0.011	0.002	17	0.110	0.004	
NO2_DIS	P613	mg/L	0.009	0.002	12	0.010	0.000	12	0.009	0.003	12	0.010	0.000	11	0.010	0.001	
NO2_N	P615	mg/L	0.010	0.000	6	0.010	0.000	3	0.010	0.000	2	0.010	0.000	3	0.010	0.010K	
NH3_UN	P619	mg/L	0.001	0.003	14	0.000	0.000	12	0.000	0.000	11	0.001	0.001	9	0.011	0.000	
NO3_N	P620	mg/L	0.013	0.006	3	0.023	0.012	3	0.013	0.006	3	0.010	0.000	3	0.030	0.010K	
NO2_NO3	P630	mg/L	0.012	0.006	12	0.041	0.017	12	0.014	0.007	12	0.010	0.000	12	0.070	0.010K	
TP_P	P665	mg/L	0.011	0.004	14	0.017	0.019	17	0.013	0.005	17	0.013	0.004	18	0.090	0.006	
OP_DIS	P671	mg/L	0.010	0.003	17	0.010	0.000	17	0.010	0.002	17	0.010	0.004	18	0.020	0.002	
COLOR	P80	Pt-Co	8.143	4.337	7	9.000	11.314	2	8.667	8.021	3	23.000	28.355	3	55.000	1.000	
TURB	P82079	NTU	1.089	0.205	18	1.689	1.207	18	2.356	0.857	18	1.139	0.371	18	5.500	0.700	
HARD	P900	mg/L	0.000	0.000	0	0.000	0.000	0	29.000	1.414	2	0.000	0.000	0	85.000	85.000	
COND	P95	umhos	166.556	18.981	18	164.444	17.240	18	148.833	17.651	18	151.000	10.577	18	85.000	85.000	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 7 Name: ECORGN 7--COLUMBIA BASIN Class: Elevation: 0 River Mile: 0.00

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			-----JULY-SEPTEMBER-----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	8.652	4.548	423	3.893	2.492	401	11.941	4.138	422	18.574	3.485	420	28.400	-0.200	
CU	P1042	ug/L	10.093	29.740	30	15.590	54.660	31	3.075	3.578	36	3.557	2.004	30	0.000	0.000	
ZN	P1092	ug/L	42.917	57.476	30	77.661	129.395	31	52.264	89.448	36	26.444	27.262	27	0.000	0.000	
ZN	P1094	ug/L	39.878	52.914	41	74.073	114.863	41	51.022	83.038	45	26.410	27.186	39	718.000	1.000U	
CD	P1113	ug/L	0.225	0.123	40	0.388	0.400	38	0.444	0.397	38	0.178	0.059	36	2.390	0.100K	
PB	P1114	ug/L	1.572	1.280	39	7.544	23.522	39	1.888	1.497	33	1.797	1.210	39	148.000	1.000U	
CR	P1118	ug/L	1.072	1.220	38	2.107	3.615	38	2.596	3.922	39	1.747	2.237	39	19.000	0.200K	
CU	P1119	ug/L	9.065	25.692	40	14.083	47.802	41	3.410	3.315	39	4.106	1.835	36	303.000	1.000U	
PRESS	P25	mmHg	739.487	17.190	423	739.909	17.652	386	736.536	16.312	423	734.294	16.211	409	793.000	688.000	
OXYGEN	P300	mg/L	11.498	1.815	423	12.793	1.584	400	11.292	1.521	422	9.847	1.774	418	21.800	0.500	
PCTSAT	P301	Percent	100.124	13.255	423	99.527	10.164	400	106.546	11.533	398	107.658	20.334	395	221.000	5.500	
FC	P31616	#/100ml	173.002	1313.961	411	188.047	1644.101	363	95.565	328.973	400	169.305	567.077	400	30000.000	1.000K	
CHL	P32211	ug/L	0.756	0.795	9	2.042	2.299	6	0.337	0.272	7	0.263	0.294	10	5.000	0.010K	
PHEO	P32218	ug/L	0.689	0.809	9	1.798	2.483	6	0.310	0.337	7	0.152	0.076	10	5.000	0.010K	
COO	P340	mg/L	13.657	43.514	70	20.681	83.745	72	12.000	8.881	76	10.750	6.743	76	710.000	4.000K	
PH	P400	units	7.996	0.449	423	7.927	0.498	400	8.058	0.471	422	8.214	0.470	420	9.800	6.400	
SUSSOL	P530	mg/L	13.544	44.605	421	175.805	1667.994	397	34.957	97.301	421	12.673	19.405	410	30100.000	1.000K	
FLOW	P60	CFS	15655.029	39377.645	406	19968.788	47588.142	382	22675.815	50440.849	401	13729.701	37005.838	407	300000.000	0.000L	
NH3_N	P610	mg/L	0.096	0.563	401	0.074	0.264	396	0.051	0.275	385	0.036	0.199	414	7.670	0.004	
NO2_DIS	P613	mg/L	0.020	0.060	278	0.019	0.047	267	0.018	0.050	276	0.022	0.092	266	1.030	0.001K	
NO2_N	P615	mg/L	0.015	0.024	144	0.015	0.019	69	0.015	0.019	48	0.015	0.015	72	0.260	0.010K	
NH3_UN	P619	mg/L	0.001	0.003	302	0.000	0.001	256	0.001	0.004	230	0.003	0.011	229	0.000	0.000	
NO3_N	P620	mg/L	0.936	2.134	54	1.097	2.156	69	0.435	0.943	59	0.341	1.022	37	13.000	0.010K	
NO2_NO3	P630	mg/L	0.903	1.832	277	1.285	2.190	266	0.546	1.240	271	0.552	1.348	286	12.200	0.006	
TP_P	P665	mg/L	0.249	0.911	298	0.146	0.334	395	0.128	0.359	379	0.181	0.564	410	9.940	0.002K	
OP_DIS	P671	mg/L	0.202	0.757	388	0.092	0.274	384	0.092	0.327	393	0.132	0.478	409	7.120	0.001	
HG	P71900	ug/L	0.069	0.030	41	0.059	0.043	42	0.057	0.016	35	0.095	0.065	39	0.300	0.020K	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

QUARTERLY DATA SUMMARY--SIX YEAR AVERAGE

Station Number: 8 Name: ECORGN 8--NORTHERN ROCKIES Class: Elevation: 0 River Mile: 0.00

Location: Water Years Sampled: 7 8 9
 5 6 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4

VARIABLE	P-CODE	UNITS	---OCTOBER-DECEMBER---			-----JANUARY-MARCH-----			-----APRIL-JUNE-----			----JULY-SEPTEMBER----			-----SIX YEAR-----		
			MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MEAN	STD. DEV.	N	MAX	MIN	
TEMP	P10	C	7.675	3.761	111	3.504	2.058	98	10.545	3.482	110	17.533	2.620	114	23.000	-0.100	
CU	P1042	ug/L	4.690	7.872	20	4.473	8.335	22	1.957	1.705	23	3.400	1.706	20	0.000	0.000	
ZN	P1092	ug/L	33.500	40.041	20	47.705	46.107	22	46.174	49.699	23	16.417	15.296	18	0.000	0.000	
ZN	P1094	ug/L	31.929	37.866	28	46.914	43.370	35	46.611	43.648	36	17.485	15.373	33	0.150	0.100K	
CD	P1113	ug/L	0.185	0.049	24	0.471	1.082	33	*****	*****	30	0.192	0.074	28	1.400	1.300V	
PB	P1114	ug/L	1.530	1.068	27	4.115	6.018	33	1.805	1.315	22	1.742	1.064	31	25.000	1.000K	
CR	P1118	ug/L	1.100	1.157	27	1.804	3.625	31	1.321	1.472	30	1.288	1.516	30	3.000	2.500J	
CU	P1119	ug/L	4.859	6.627	27	4.853	7.107	34	2.718	1.654	28	3.964	1.503	28	36.000	1.000U	
PRESS	P25	mmHg	724.282	9.461	111	722.739	9.806	94	721.393	8.916	113	720.332	8.579	108	749.000	692.000	
OXYGEN	P300	mg/L	11.314	1.563	111	12.485	1.246	98	11.299	1.414	113	9.454	0.735	114	15.500	6.800	
PCTSAT	P301	Percent	98.399	9.118	111	98.587	8.331	98	105.973	9.676	104	103.545	7.121	108	131.800	68.200	
FC	P31616	#/100ml	41.270	160.034	111	97.436	308.624	94	23.520	47.168	102	30.550	44.057	111	2100.000	1.000K	
CHL	P32211	ug/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	1.033	0.114	3	1.160	0.140	
PHEO	P32218	ug/L	0.000	0.000	0	0.000	0.000	0	0.000	0.000	0	1.590	0.807	3	2.740	0.960	
COO	P340	mg/L	10.364	18.791	22	12.947	18.730	19	12.500	6.358	26	7.375	3.132	24	94.000	2.000K	
PH	P400	units	8.063	0.365	111	7.759	0.395	98	8.028	0.352	110	8.303	0.237	114	8.900	6.800	
SUSSOL	P530	mg/L	12.468	94.530	111	56.237	169.632	93	14.545	20.385	112	4.257	3.261	101	1200.000	0.500	
FLOW	P60	CFS	9168.043	20511.691	94	10173.073	22533.179	82	14560.579	28682.868	95	9211.198	24117.108	96	198000.000	11.000	
NH3_N	P610	mg/L	0.037	0.067	108	0.070	0.109	92	0.022	0.022	104	0.050	0.120	101	0.654	0.004	
NO2_DIS	P613	mg/L	0.012	0.014	78	0.010	0.002	67	0.009	0.003	78	0.011	0.006	64	0.130	0.001K	
NO2_N	P615	mg/L	0.010	0.000	33	0.011	0.003	16	0.010	0.000	12	0.011	0.002	18	0.020	0.010K	
NH3_UN	P619	mg/L	0.001	0.003	73	0.000	0.000	61	0.000	0.000	63	0.003	0.006	55	0.000	0.000	
NO3_N	P620	mg/L	0.234	0.364	15	0.339	0.406	16	0.220	0.332	16	0.263	0.428	7	1.400	0.010K	
NO2_NO3	P630	mg/L	0.401	0.434	78	0.514	0.490	66	0.235	0.274	77	0.383	0.429	82	1.800	0.010K	
TP_P	P665	mg/L	0.028	0.021	85	0.094	0.204	95	0.034	0.022	105	0.030	0.026	113	1.100	0.006	
OP_DIS	P671	mg/L	0.021	0.019	105	0.036	0.039	94	0.016	0.009	108	0.019	0.020	114	0.184	0.002	
HG	P71900	ug/L	0.042	0.032	38	0.048	0.048	46	0.045	0.042	42	0.068	0.072	44	0.300	0.001K	

Summary statistics should be used with caution because variables may not be normally distributed. Values at the detection limit were replace with 1/2 the detection limit.

APPENDIX 8

Water Quality Standards for Surface Water of the State of Washington
Chapter 173-201A WAC

Chapter 173-201A WAC

WATER QUALITY STANDARDS FOR SURFACE WATERS OF THE STATE OF WASHINGTON

WAC

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173-201A-050	Radioactive substances.
173-201A-060	General considerations.
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173-201A-080	Outstanding resource waters.
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173-201A-150	Achievement considerations.
173-201A-160	Implementation.
173-201A-170	Surveillance.
173-201A-180	Enforcement.

WAC 173-201A-010 Introduction. (1) The purpose of this chapter is to establish water quality standards for surface waters of the state of Washington consistent with public health and public enjoyment thereof, and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW and the policies and purposes thereof.

(2) This chapter shall be reviewed periodically by the department and appropriate revisions shall be undertaken.

(3) The water use and quality criteria set forth in WAC 173-201A-030 through 173-201A-140 are established in conformance with present and potential water uses of the surface waters of the state of Washington and in consideration of the natural water quality potential and limitations of the same. Compliance with the surface water quality standards of the state of Washington require compliance with chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington, and chapter 173-204 WAC, Sediment management standards.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-010, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-020 Definitions. The following definitions are intended to facilitate the use of chapter 173-201A WAC:

"Acute conditions" are changes in the physical, chemical, or biologic environment which are expected or demonstrated to result in injury or death to an organism as a result of short-term exposure to the substance or detrimental environmental condition.

"AKART" is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or

abating the pollutants associated with a discharge. The concept of AKART applies to both point and nonpoint sources of pollution. The term "best management practices," typically applied to nonpoint source pollution controls is considered a subset of the AKART requirement. "The Stormwater Management Manual for the Puget Sound Basin" (1992), may be used as a guideline, to the extent appropriate, for developing best management practices to apply AKART for storm water discharges.

"Background conditions" means the biological, chemical, and physical conditions of a water body, outside the area of influence of the discharge under consideration. Background sampling locations in an enforcement action would be up-gradient or outside the area of influence of the discharge. If several discharges to any water body exist, and enforcement action is being taken for possible violations to the standards, background sampling would be undertaken immediately up-gradient from each discharge. When assessing background conditions in the headwaters of a disturbed watershed it may be necessary to use the background conditions of a neighboring or similar watershed as the reference conditions.

"Best management practices (BMP)" means physical, structural, and/or managerial practices approved by the department that, when used singularly or in combination, prevent or reduce pollutant discharges.

"Biological assessment" is an evaluation of the biological condition of a water body using surveys of aquatic community structure and function and other direct measurements of resident biota in surface waters.

"Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. For implementation of this chapter, the term carcinogen will apply to substances on the United States Environmental Protection Agency lists of A (known human) and B (probable human) carcinogens, and any substance which causes a significant increased incidence of benign or malignant tumors in a single, well conducted animal bioassay, consistent with the weight of evidence approach specified in the United States Environmental Protection Agency's Guidelines for Carcinogenic Risk Assessment as set forth in 51 FR 33992 et seq. as presently published or as subsequently amended or republished.

"Chronic conditions" are changes in the physical, chemical, or biologic environment which are expected or demonstrated to result in injury or death to an organism as a result of repeated or constant exposure over an extended period of time to a substance or detrimental environmental condition.

"Critical condition" is when the physical, chemical, and biological characteristics of the receiving water environment interact with the effluent to produce the greatest potential adverse impact on aquatic biota and existing or characteristic

water uses. For steady-state discharges to riverine systems the critical condition may be assumed to be equal to the 7010 flow event unless determined otherwise by the department.

"Damage to the ecosystem" means any demonstrated or predicted stress to aquatic or terrestrial organisms or communities of organisms which the department reasonably concludes may interfere in the health or survival success or natural structure of such populations. This stress may be due to, but is not limited to, alteration in habitat or changes in water temperature, chemistry, or turbidity, and shall consider the potential build up of discharge constituents or temporal increases in habitat alteration which may create such stress in the long term.

"Department" means the state of Washington department of ecology.

"Director" means the director of the state of Washington department of ecology.

"Fecal coliform" means that portion of the coliform group which is present in the intestinal tracts and feces of warm-blooded animals as detected by the product of acid or gas from lactose in a suitable culture medium within twenty-four hours at 44.5 plus or minus 0.2 degrees Celsius.

"Geometric mean" means either the n th root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

"Hardness" means a measure of the calcium and magnesium salts present in water. For purposes of this chapter, hardness is measured in milligrams per liter and expressed as calcium carbonate (CaCO_3).

"Mean detention time" means the time obtained by dividing a reservoir's mean annual minimum total storage by the thirty-day ten-year low-flow from the reservoir.

"Migration or translocation" means any natural movement of an organism or community of organisms from one locality to another locality.

"Mixing zone" means that portion of a water body adjacent to an effluent outfall where mixing results in the dilution of the effluent with the receiving water. Water quality criteria may be exceeded in a mixing zone as conditioned and provided for in WAC 173-201A-100.

"Natural conditions" or "natural background levels" means surface water quality that was present before any human-caused pollution.

"Nonpoint source" means pollution that enters any waters of the state from any dispersed land-based or water-based activities, including but not limited to atmospheric deposition, surface water runoff from agricultural lands, urban areas, or forest lands, subsurface or underground sources, or discharges from boats or marine vessels not otherwise regulated under the National Pollutant Discharge Elimination System program.

"Permit" means a document issued pursuant to RCW 90.48.160 et seq. or RCW 90.48.260 or both, specifying the waste treatment and control requirements and waste discharge conditions.

"pH" means the negative logarithm of the hydrogen ion concentration.

"Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties, of any waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such dis-

charge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish, or other aquatic life.

"Primary contact recreation" means activities where a person would have direct contact with water to the point of complete submergence including, but not limited to, skin diving, swimming, and water skiing.

"Secondary contact recreation" means activities where a person's water contact would be limited (wading or fishing) to the extent that bacterial infections of eyes, ears, respiratory or digestive systems, or urogenital areas would normally be avoided.

"Storm water" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

"Surface waters of the state" includes lakes, rivers, ponds, streams, inland waters, saltwaters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

"Temperature" means water temperature expressed in degrees Celsius ($^{\circ}\text{C}$).

"Turbidity" means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

"Upwelling" means the natural process along Washington's Pacific Coast where the summer prevailing northerly winds produce a seaward transport of surface water. Cold, deeper more saline waters rich in nutrients and low in dissolved oxygen, rise to replace the surface water. The cold oxygen deficient water enters Puget Sound and other coastal estuaries at depth where it displaces the existing deep water and eventually rises to replace the surface water. Such surface water replacement results in an overall increase in salinity and nutrients accompanied by a depression in dissolved oxygen. Localized upwelling of the deeper water of Puget Sound can occur year-round under influence of tidal currents, winds, and geomorphic features.

"USEPA" means the United States Environmental Protection Agency.

"Wildlife habitat" means waters of the state used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-020, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-030 General water use and criteria classes. The following criteria shall apply to the various classes of surface waters in the state of Washington:

(1) **Class AA (extraordinary).**

(a) General characteristic. Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 9.5 mg/L.

(B) Marine water - dissolved oxygen shall exceed 7.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 16.0°C (freshwater) or 13.0°C (marine water) due to human activities. When natural conditions exceed 16.0°C (freshwater) and 13.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=23/(T+5)$ (freshwater) or $t=8/(T-4)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.2 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most

sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

(2) **Class A (excellent).**

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (domestic, industrial, agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, spawning, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing, spawning, and harvesting.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 14 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 8.0 mg/L.

(B) Marine water - dissolved oxygen shall exceed 6.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 6.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 18.0°C (freshwater) or 16.0°C (marine water) due to human activities. When natural conditions exceed 18.0°C (freshwater) and 16.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=28/(T+7)$ (freshwater) or $t=12/(T-2)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as

measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) or 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

(3) Class B (good).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for most uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial and agricultural).

(ii) Stock watering.

(iii) Fish and shellfish:

Salmonid migration, rearing, and harvesting.

Other fish migration, rearing, spawning, and harvesting.

Clam, oyster, and mussel rearing and spawning.

Crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing, spawning, and harvesting.

(iv) Wildlife habitat.

(v) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organisms:

(A) Freshwater - fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 400 colonies/100 mL.

(B) Marine water - fecal coliform organism levels shall both not exceed a geometric mean value of 100 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL.

(ii) Dissolved oxygen:

(A) Freshwater - dissolved oxygen shall exceed 6.5 mg/L.

(B) Marine water - dissolved oxygen shall exceed 5.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 5.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature shall not exceed 21.0°C (freshwater) or 19.0°C (marine water) due to human activities. When

natural conditions exceed 21.0°C (freshwater) and 19.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t=34/(T+9)$ (freshwater) or $t=16/(T)$ (marine water). Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8°C.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(v) pH shall be within the range of 6.5 to 8.5 (freshwater) and 7.0 to 8.5 (marine water) with a human-caused variation within a range of less than 0.5 units.

(vi) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be reduced by dissolved, suspended, floating, or submerged matter not attributed to natural causes, so as to affect water use or taint the flesh of edible species.

(4) Class C (fair).

(a) General characteristic. Water quality of this class shall meet or exceed the requirements of selected and essential uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

(i) Water supply (industrial).

(ii) Fish (salmonid and other fish migration).

(iii) Recreation (secondary contact recreation, sport fishing, boating, and aesthetic enjoyment).

(iv) Commerce and navigation.

(c) Water quality criteria - marine water:

(i) Fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 400 colonies/100 mL.

(ii) Dissolved oxygen shall exceed 4.0 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 4.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.

(iii) Temperature shall not exceed 22.0°C due to human activities. When natural conditions exceed 22.0°C, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C.

Incremental temperature increases shall not, at any time, exceed $t=20/(T+2)$.

For purposes hereof, "t" represents the maximum permissible temperature increase measured at a mixing zone boundary; and "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.

(iv) pH shall be within the range of 6.5 to 9.0 with a human-caused variation within a range of less than 0.5 units.

(v) Turbidity shall not exceed 10 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 20 percent increase in turbidity when the background turbidity is more than 50 NTU.

(vi) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(vii) Aesthetic values shall not be interfered with by the presence of obnoxious wastes, slimes, aquatic growths, or materials which will taint the flesh of edible species.

(5) Lake class.

(a) General characteristic. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

(b) Characteristic uses. Characteristic uses shall include, but not be limited to, the following:

- (i) Water supply (domestic, industrial, agricultural).
- (ii) Stock watering.
- (iii) Fish and shellfish:
Salmonid migration, rearing, spawning, and harvesting.
Other fish migration, rearing, spawning, and harvesting.
Clam and mussel rearing, spawning, and harvesting.
Crayfish rearing, spawning, and harvesting.
- (iv) Wildlife habitat.
- (v) Recreation (primary contact recreation, sport fishing, boating, and aesthetic enjoyment).
- (vi) Commerce and navigation.

(c) Water quality criteria:

(i) Fecal coliform organism levels shall both not exceed a geometric mean value of 50 colonies/100 mL, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 100 colonies/100 mL.

(ii) Dissolved oxygen - no measurable decrease from natural conditions.

(iii) Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.

(iv) Temperature - no measurable change from natural conditions.

(v) pH - no measurable change from natural conditions.

(vi) Turbidity shall not exceed 5 NTU over background conditions.

(vii) Toxic, radioactive, or deleterious material concentrations shall be below those which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department (see WAC 173-201A-040 and 173-201A-050).

(viii) Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

[Statutory Authority: Chapter 90.48 RCW, 92-24-037 (Order 92-29), § 173-201A-030, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-040 Toxic substances. (1) Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.

(2) The department shall employ or require chemical testing, acute and chronic toxicity testing, and biological assessments, as appropriate, to evaluate compliance with subsection (1) of this section and to ensure that aquatic communities and the existing and characteristic beneficial uses of waters are being fully protected.

(3) The following criteria shall be applied to all surface waters of the state of Washington for the protection of aquatic life. The department may revise the following criteria on a state-wide or waterbody-specific basis as needed to protect aquatic life occurring in waters of the state and to increase the technical accuracy of the criteria being applied. The department shall formally adopt any appropriate revised criteria as part of this chapter in accordance with the provisions established in chapter 34.05 RCW, the Administrative Procedure Act. The department shall ensure there are early opportunities for public review and comment on proposals to develop revised criteria. Values are µg/L for all substances except Ammonia and Chloride which are mg/L:

Substance	Freshwater		Marine Water	
	Acute	Chronic	Acute	Chronic
Aldrin/Dieldrin	2.5a	0.0019b	0.71a	0.0019b
Ammonia (un-ionized NH ₃) hh	f.c	g.d	0.233h.c	0.035h.d
Arsenic ff	360.0c	190.0d	69.0c	36.0d,cc
Cadmium dd	i.c	j.d	37.2c	8.0d
Chlordane	2.4a	0.0043b	0.09a	0.004b
Chloride (Dissolved) k	860.0h.c	230.0h.d	-	-
Chlorine (Total Residual)	19.0c	11.0d	13.0c	7.5d
Chloropyrifos	0.083c	0.041d	0.011c	0.0056d
Chromium (Hex)	16.0c1	11.0d	1.100.0c.1	50.0d
×Chromium (Tri) gg	m.c	n.d	-	-
✓Copper dd	o.c	p.d	2.5c	-
Cyanide ee	22.0c	5.2d	1.0c	-
DDT (and metabolites)	1.1a	0.001b	0.13a	0.001b
Dieldrin/Aldrin e	2.5a	0.0019b	0.71a	0.0019b
Endosulfan	0.22a	0.056b	0.034a	0.0087b
Endrin	0.18a	0.0023b	0.037a	0.0023b
Heptachlor	0.52a	0.0038b	0.053a	0.0036b
Hexachlorocyclohexane (Lindane)	2.0a	0.08b	0.16a	-
✓Lead dd	q.c	r.d	151.1c	5.8d
×Mercury s, ff	2.4c	0.012d	2.1c	0.025d
Nickel dd	t.c	u.d	71.3c	7.9d
Parathion	0.065c	0.013d	-	-
Pentachlorophenol (PCP)	w.c	v.d	13.0c	7.9d
Polychlorinated Biphenyls (PCBs)	2.0b	0.014b	10.0b	0.030b
Selenium ff	20.0c	5.0d	300.0c	71.0d,x
Silver dd	y.a	-	1.2a	-
Toxaphene	0.73c.z	0.0002d	0.21c.z	0.0002d
✓Zinc dd	aa.c	bb.d	84.6c	76.6d

Notes to Table:

- a. An instantaneous concentration not to be exceeded at any time.
- b. A 24-hour average not to be exceeded.
- c. A 1-hour average concentration not to be exceeded more than once every three years on the average.
- d. A 4-day average concentration not to be exceeded more than once every three years on the average.
- e. Aldrin is metabolically converted to Dieldrin. Therefore, the sum of the Aldrin and Dieldrin concentrations are compared with the Dieldrin criteria.
- f. Shall not exceed the numerical value given by:
$$\frac{0.52}{(FT)(FPH)(2)}$$

where: $FT = 10^{(0.03(20-TCAP))}$; $TCAP \leq T \leq 30$
 $FT = 10^{(0.03(30-T))}$; $0 \leq T \leq TCAP$
 $FPH = 1$; $8 \leq pH \leq 9$
 $FPH = \frac{1+10^{(7.4-pH)}}{1.25}$; $6.5 \leq pH \leq 8.0$
 $TCAP = 20^{\circ}C$; Salmonids present.
 $TCAP = 25^{\circ}C$; Salmonids absent.

- g. Shall not exceed the numerical value given by:
$$\frac{0.80}{(FT)(FPH)(RATIO)}$$

where: $RATIO = 16$; $7.7 \leq pH \leq 9$
 $RATIO = \frac{24 \times 10^{(7.7-pH)}}{1+10^{(7.4-pH)}}$; $6.5 \leq pH \leq 7.7$

where: FT and FPH are as shown in (f) above except:
 $TCAP = 15^{\circ}C$; Salmonids present.
 $TCAP = 20^{\circ}C$; Salmonids absent.

- h. Measured in milligrams per liter rather than micrograms per liter.
- i. $\leq (0.865)(e^{(1.128)(\ln(\text{hardness}) - 3.828)})$
- j. $\leq (0.865)(e^{(0.7852)(\ln(\text{hardness}) - 3.490)})$
- k. Criterion based on dissolved chloride in association with sodium. This criterion probably will not be adequately protective when the chloride is associated with potassium, calcium, or magnesium, rather than sodium.
- l. Salinity dependent effects. At low salinity the 1-hour average may not be sufficiently protective.
- m. $\leq e^{(0.819)(\ln(\text{hardness}) - 2.688)}$
- n. $\leq e^{(0.819)(\ln(\text{hardness}) - 5.61)}$
- o. $\leq (0.862)(e^{(0.9422)(\ln(\text{hardness}) - 1.464)})$
- p. $\leq (0.862)(e^{(0.8545)(\ln(\text{hardness}) - 1.465)})$
- q. $\leq (0.687)(e^{(1.273)(\ln(\text{hardness}) - 1.460)})$
- r. $\leq (0.687)(e^{(1.273)(\ln(\text{hardness}) - 4.705)})$
- s. If the four-day average chronic concentration is exceeded more than once in a three-year period, the edible portion of the consumed species should be analyzed. Said edible tissue concentrations shall not be allowed to exceed 1.0 mg/kg of methylmercury.
- t. $\leq (0.95)(e^{(0.844)(\ln(\text{hardness}) - 3.3612)})$
- u. $\leq (0.95)(e^{(0.844)(\ln(\text{hardness}) - 1.1645)})$
- v. $\leq e^{(-0.5(pH) - 5.240)}$
- w. $\leq e^{(-0.15(pH) - 4.830)}$
- x. The status of the fish community should be monitored whenever the concentration of selenium exceeds 5.0 ug/l in salt water.

- y. $\leq (0.531)(e^{(1.72)(\ln(\text{hardness}) - 6.52)})$
- z. Channel Catfish may be more acutely sensitive.
- aa. $\leq (0.891)(e^{(0.847)(\ln(\text{hardness}) - 0.8634)})$
- bb. $\leq (0.891)(e^{(0.847)(\ln(\text{hardness}) - 0.7614)})$
- cc. Nonlethal effects (growth, C-14 uptake, and chlorophyll production) to diatoms (*Thalassiosira aestivalis* and *Skeletonema costatum*) which are common to Washington's waters have been noted at levels below the established criteria. The importance of these effects to the diatom populations and the aquatic system is sufficiently in question to persuade the state to adopt the USEPA National Criteria value (36 µg/L) as the state threshold criteria, however, wherever practical the ambient concentrations should not be allowed to exceed a chronic marine concentration of 21 µg/L.
- dd. These ambient criteria are based on the dissolved fraction (for cyanide criteria using the weak and dissociable method) of the metal. The department shall apply the criteria as total recoverable values to calculate effluent limits unless data is made available to the department clearly demonstrating the seasonal partitioning of the dissolved metal in the ambient water in relation to an effluent discharge. Metals criteria may be adjusted on a site-specific basis when data is made available to the department clearly demonstrating the effective use of the water effects ratio approach established by USEPA, as generally guided by the procedures in USEPA *Water Quality Standards Handbook*, December 1983, as supplemented or replaced. Information which is used to develop effluent limits based on applying metals partitioning studies or the water effects ratio approach shall be identified in the permit fact sheet developed pursuant to WAC 173-220-060 or 173-226-110, as appropriate, and shall be made available for the public comment period required pursuant to WAC 173-220-050 or 173-226-130(3), as appropriate.
- ee. The criteria for cyanide is based on the weak and dissociable method in the 17th Ed. *Standard Methods for the Examination of Water and Wastewater*, 4500-CN I, and as revised (see footnote dd, above).
- ff. These criteria are based on the total-recoverable fraction of the metal.
- gg. Where methods to measure trivalent chromium are unavailable, these criteria are to be represented by total-recoverable chromium.
- hh. Tables for the conversion of total ammonia to un-ionized ammonia for freshwater can be found in the USEPA's *Quality Criteria for Water*, 1986. Criteria concentrations based on total ammonia for marine water can be found in USEPA *Ambient Water Quality Criteria for Ammonia (Saltwater)-1989*, EPA440/5-88-004, April 1989.

(4) *USEPA Quality Criteria for Water, 1986* shall be used in the use and interpretation of the values listed in subsection (1) of this section.

(5) Concentrations of toxic, and other substances with toxic propensities not listed in subsection (1) of this section shall be determined in consideration of *USEPA Quality Criteria for Water, 1986*, and as revised, and other relevant information as appropriate.

(6) Risk-based criteria for carcinogenic substances shall be selected such that the upper-bound excess cancer risk is less than or equal to one in one million.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-040, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-050 Radioactive substances. (1) Deleterious concentrations of radioactive materials for all classes shall be as determined by the lowest practicable concentration attainable and in no case shall exceed:

(a) 1/100 of the values listed in WAC 246-221-290 (Column 2, Table II, Appendix A, rules and regulations for radiation protection); or

(b) USEPA Drinking Water Regulations for radionuclides, as published in the Federal Register of July 9, 1976, or subsequent revisions thereto.

(2) Nothing in this chapter shall be interpreted to be applicable to those aspects of governmental regulation of radioactive waters which have been preempted from state regulation by the Atomic Energy Act of 1954, as amended, as interpreted by the United States Supreme Court in the cases of *Northern States Power Co. v. Minnesota* 405 U.S. 1035 (1972) and *Train v. Colorado Public Interest Research Group*, 426 U.S. 1 (1976).

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-050, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-060 General considerations. The following general guidelines shall apply to the water quality criteria and classifications set forth in WAC 173-201A-030 through 173-201A-140 hereof:

(1) At the boundary between waters of different classifications, the water quality criteria for the higher classification shall prevail.

(2) In brackish waters of estuaries, where the fresh and marine water quality criteria differ within the same classification, the criteria shall be interpolated on the basis of salinity; except that the marine water quality criteria shall apply for dissolved oxygen when the salinity is one part per thousand or greater and for fecal coliform organisms when the salinity is ten parts per thousand or greater.

(3) In determining compliance with the fecal coliform criteria in WAC 173-201A-030, averaging of data collected beyond a thirty-day period, or beyond a specific discharge event under investigation, shall not be permitted when such averaging would skew the data set so as to mask noncompliance periods.

(4) The water quality criteria herein established for total dissolved gas shall not apply when the stream flow exceeds the seven-day, ten-year frequency flood.

(5) Waste discharge permits, whether issued pursuant to the National Pollutant Discharge Elimination System or otherwise, shall be conditioned so the discharges authorized will meet the water quality standards.

(a) However, persons discharging wastes in compliance with the terms and conditions of permits shall not be subject to civil and criminal penalties on the basis that the discharge violates water quality standards.

(b) Permits shall be subject to modification by the department whenever it appears to the department the discharge violates water quality standards. Modification of permits, as provided herein, shall be subject to review in the same manner as originally issued permits.

(6) No waste discharge permit shall be issued which results in a violation of established water quality criteria, except as provided for under WAC 173-201A-100 or 173-201A-110.

(7) Due consideration will be given to the precision and accuracy of the sampling and analytical methods used as well as existing conditions at the time, in the application of the criteria.

(8) The analytical testing methods for these criteria shall be in accordance with the "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (40 C.F.R. Part

136) and other or superseding methods published and/or approved by the department following consultation with adjacent states and concurrence of the USEPA.

(9) Nothing in this chapter shall be interpreted to prohibit the establishment of effluent limitations for the control of the thermal component of any discharge in accordance with Section 316 of the federal Clean Water Act (33 U.S.C. 1251 et seq.).

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-060, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-070 Antidegradation. The antidegradation policy of the state of Washington, as generally guided by chapter 90.48 RCW, Water Pollution Control Act, and chapter 90.54 RCW, Water Resources Act of 1971, is stated as follows:

(1) Existing beneficial uses shall be maintained and protected and no further degradation which would interfere with or become injurious to existing beneficial uses shall be allowed.

(2) Whenever the natural conditions of said waters are of a lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria.

(3) Water quality shall be maintained and protected in waters designated as outstanding resource waters in WAC 173-201A-080.

(4) Whenever waters are of a higher quality than the criteria assigned for said waters, the existing water quality shall be protected and pollution of said waters which will reduce the existing quality shall not be allowed, except in those instances where:

(a) It is clear, after satisfactory public participation and intergovernmental coordination, that overriding considerations of the public interest will be served;

(b) All wastes and other materials and substances discharged into said waters shall be provided with all known, available, and reasonable methods of prevention, control, and treatment by new and existing point sources before discharge. All activities which result in the pollution of waters from nonpoint sources shall be provided with all known, available, and reasonable best management practices; and

(c) When the lowering of water quality in high quality waters is authorized, the lower water quality shall still be of high enough quality to fully support all existing beneficial uses.

(5) Short-term modification of water quality may be permitted as conditioned by WAC 173-201A-110.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-070, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-080 Outstanding resource waters. Waters meeting one or more of the following criteria shall be considered for outstanding resource water designation. Designations shall be adopted in accordance with the provisions of chapter 34.05 RCW, Administrative Procedure Act.

(1) Waters in national parks, national monuments, national preserves, national wildlife refuges, national wilderness areas, federal wild and scenic rivers, national seashores, national marine sanctuaries, national recreation

areas, national scenic areas, and national estuarine research reserves;

(2) Waters in state parks, state natural areas, state wildlife management areas, and state scenic rivers;

(3) Documented aquatic habitat of priority species as determined by the department of wildlife;

(4) Documented critical habitat for populations of threatened or endangered species of native anadromous fish;

(5) Waters of exceptional recreational or ecological significance.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-080, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-100 Mixing zones. (1) The allowable size and location of a mixing zone and the associated effluent limits shall be established in discharge permits, general permits, or orders, as appropriate.

(2) A discharger shall be required to fully apply AKART prior to being authorized a mixing zone.

(3) Mixing zone determinations shall consider critical discharge conditions.

(4) No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department.

(5) Water quality criteria shall not be violated outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

(6) The size of a mixing zone and the concentrations of pollutants present shall be minimized.

(7) The maximum size of a mixing zone shall comply with the following:

(a) In rivers and streams, mixing zones, singularly or in combination with other mixing zones, shall comply with the most restrictive combination of the following (this size limitation may be applied to estuaries having flow characteristics that resemble rivers):

(i) Not extend in a downstream direction for a distance from the discharge port(s) greater than three hundred feet plus the depth of water over the discharge port(s), or extend upstream for a distance of over one hundred feet;

(ii) Not utilize greater than twenty-five percent of the flow; and

(iii) Not occupy greater than twenty-five percent of the width of the water body.

(b) In estuaries, mixing zones, singularly or in combination with other mixing zones, shall:

(i) Not extend in any horizontal direction from the discharge port(s) for a distance greater than two hundred feet plus the depth of water over the discharge port(s) as measured during mean lower low water; and

(ii) Not occupy greater than twenty-five percent of the width of the water body as measured during mean lower low water. For the purpose of this section, areas to the east of a line from Green Point (Fidalgo Island) to Lawrence Point (Orcas Island) are considered estuarine, as are all of the Strait of Georgia and the San Juan Islands north of Orcas Island. To the east of Deception Pass, and to the south and

east of Admiralty Head, and south of Point Wilson on the Quimper Peninsula, is Puget Sound proper, which is considered to be entirely estuarine. All waters existing within bays from Point Wilson westward to Cape Flattery and south to the North Jetty of the Columbia River shall also be categorized as estuarine.

(c) In oceanic waters, mixing zones, singularly or in combination with other mixing zones, shall not extend in any horizontal direction from the discharge port(s) for a distance greater than three hundred feet plus the depth of water over the discharge port(s) as measured during mean lower low water. For the purpose of this section, all marine waters not classified as estuarine in (b)(ii) of this subsection shall be categorized as oceanic.

(d) In lakes, and in reservoirs having a mean detention time greater than fifteen days, mixing zones shall not be allowed unless it can be demonstrated to the satisfaction of the department that:

(i) Other siting, technological, and managerial options that would avoid the need for a lake mixing zone are not reasonably achievable;

(ii) Overriding considerations of the public interest will be served; and

(iii) All technological and managerial methods available for pollution reduction and removal that are economically achievable would be implemented prior to discharge. Such methods may include, but not be limited to, advanced waste treatment techniques.

(e) In lakes, and in reservoirs having a mean detention time greater than fifteen days, mixing zones, singularly or in combination with other mixing zones, shall comply with the most restrictive combination of the following:

(i) Not exceed ten percent of the water body volume;

(ii) Not exceed ten percent of the water body surface area (maximum radial extent of the plume regardless of whether it reaches the surface); and

(iii) Not extend beyond fifteen percent of the width of the water body.

(8) Acute criteria are based on numeric criteria and toxicity tests approved by the department, as generally guided under WAC 173-201A-040 (1) through (5), and shall be met as near to the point of discharge as practicably attainable. Compliance shall be determined by monitoring data or calibrated models approved by the department utilizing representative dilution ratios. A zone where acute criteria may be exceeded is allowed only if it can be demonstrated to the department's satisfaction the concentration of, and duration and frequency of exposure to the discharge, will not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem. A zone of acute criteria exceedance shall singularly or in combination with other such zones comply with the following maximum size requirements:

(a) In rivers and streams, a zone where acute criteria may be exceeded shall comply with the most restrictive combination of the following (this size limitation may also be applied to estuaries having flow characteristics resembling rivers):

(i) Not extend beyond ten percent of the distance towards the upstream and downstream boundaries of an

authorized mixing zone, as measured independently from the discharge port(s);

(ii) Not utilize greater than two and one-half percent of the flow; and

(iii) Not occupy greater than twenty-five percent of the width of the water body.

(b) In oceanic and estuarine waters a zone where acute criteria may be exceeded shall not extend beyond ten percent of the distance established in subsection (7)(b) of this section as measured independently from the discharge port(s).

(9) Overlap of mixing zones.

(a) Where allowing the overlap of mixing zones would result in a combined area of water quality criteria nonattainment which does not exceed the numeric size limits established under subsection (7) of this section, the overlap may be permitted if:

(i) The separate and combined effects of the discharges can be reasonably determined; and

(ii) The combined effects would not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

(b) Where allowing the overlap of mixing zones would result in exceedance of the numeric size limits established under subsection (7) of this section, the overlap may be allowed only where:

(i) The overlap qualifies for exemption under subsections (12) and (13) of this section; and

(ii) The overlap meets the requirements established in (a) of this subsection.

(10) Storm water:

(a) Storm water discharge from any "point source" containing "process wastewater" as defined in 40 C.F.R. Part 122.2 shall fully conform to the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section.

(b) Storm water discharges not described by (a) of this subsection may be granted an exemption to the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section, provided the discharger clearly demonstrates to the department's satisfaction that:

(i) All appropriate best management practices established for storm water pollutant control have been applied to the discharge.

(ii) The proposed mixing zone shall not have a reasonable potential to result in a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department; and

(iii) The proposed mixing zone shall not create a barrier to the migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.

(c) All mixing zones for storm water discharges shall be based on a volume of runoff corresponding to a design storm approved by the department. Exceedances from the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section due to precipitation events greater than the approved design storm may be allowed by the department, if it would not result in

adverse impact to existing or characteristic uses of the water body or result in damage to the ecosystem, or adversely affect public health as determined by the department.

(11) Combined sewer overflows complying with the requirements of chapter 173-245 WAC, may be allowed an average once per year exemption to the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section, provided the discharge complies with subsection (4) of this section.

(12) Exceedances from the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section may be considered by the department in the following cases:

(a) For discharges existing prior to November 24, 1992, (or for proposed discharges with engineering plans formally approved by the department prior to November 24, 1992);

(b) Where altering the size configuration is expected to result in greater protection to existing and characteristic uses;

(c) Where the volume of water in the effluent is providing a greater benefit to the existing or characteristic uses of the water body due to flow augmentation than the benefit of removing the discharge, if such removal is the remaining feasible option; or

(d) Where the exceedance is clearly necessary to accommodate important economic or social development in the area in which the waters are located.

(13) Before an exceedance from the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section may be allowed under subsection (12) of this section, it must clearly be demonstrated to the department's satisfaction that:

(a) AKART appropriate to the discharge is being fully applied;

(b) All siting, technological, and managerial options which would result in full or significantly closer compliance that are economically achievable are being utilized; and

(c) The proposed mixing zone complies with subsection (4) of this section.

(14) Any exemptions granted to the size criteria under subsection (12) of this section shall be reexamined during each permit renewal period for changes in compliance capability. Any significant increase in capability to comply shall be reflected in the renewed discharge permit.

(15) The department may establish permit limits and measures of compliance for human health based criteria (based on lifetime exposure levels), independent of this section.

(16) Sediment impact zones authorized by the department pursuant to chapter 173-204 WAC, Sediment management standards, do not satisfy the requirements of this section.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-100, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-110 Short-term modifications. (1)

The criteria and special conditions established in WAC 173-201A-030 through 173-201A-140 may be modified for a specific water body on a short-term basis when necessary to accommodate essential activities, respond to emergencies, or to otherwise protect the public interest, even though such activities may result in a temporary reduction of water

quality conditions below those criteria and classifications established by this regulation. Such modification shall be issued in writing by the director or his/her designee subject to such terms and conditions as he/she may prescribe, and such modification shall not exceed a twelve-month period.

(2) In no case will any degradation of water quality be allowed if this degradation significantly interferes with or becomes injurious to existing water uses or causes long-term harm to the environment.

(3) Notwithstanding the above, the aquatic application of herbicides which result in water use restrictions shall be considered an activity for which a short-term modification generally may be issued subject to the following conditions:

(a) A request for a short-term modification shall be made to the department on forms supplied by the department. Such request generally shall be made at least thirty days prior to herbicide application;

(b) Such herbicide application shall be in accordance with state of Washington department of agriculture regulations;

(c) Such herbicide application shall be in accordance with label provisions promulgated by USEPA under the federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136, et seq.);

(d) Notice, including identification of the herbicide, applicator, location where the herbicide will be applied, proposed timing and method of application, and water use restrictions shall be given according to the following requirements:

(i) Appropriate public notice as determined and prescribed by the director or his/her designee shall be given of any water use restrictions specified in USEPA label provisions;

(ii) The appropriate regional offices of the departments of fisheries and wildlife shall be notified twenty-four hours prior to herbicide application; and

(iii) In the event of any fish kills, the departments of ecology, fisheries, and wildlife shall be notified immediately;

(e) The herbicide application shall be made at times so as to:

(i) Minimize public water use restrictions during weekends; and

(ii) Completely avoid public water use restrictions during the opening week of fishing season, Memorial Day weekend, Independence Day weekend, and Labor Day weekend;

(f) Any additional conditions as may be prescribed by the director or his/her designee.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-110, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-120 General classifications. General classifications applying to various surface water bodies not specifically classified under WAC 173-201A-130 or 173-201A-140 are as follows:

(1) All surface waters lying within national parks, national forests, and/or wilderness areas are classified Class AA or Lake Class.

(2) All lakes and their feeder streams within the state are classified Lake Class and Class AA respectively, except for those feeder streams specifically classified otherwise.

(3) All reservoirs with a mean detention time of greater than 15 days are classified Lake Class.

(4) All reservoirs with a mean detention time of 15 days or less are classified the same as the river section in which they are located.

(5) All reservoirs established on preexisting lakes are classified as Lake Class.

(6) All unclassified surface waters that are tributaries to Class AA waters are classified Class AA. All other unclassified surface waters within the state are hereby classified Class A.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-120, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-130 Specific classifications—Freshwater. Specific fresh surface waters of the state of Washington are classified as follows:

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| (1) American River. | Class AA |
| (2) Big Quilcene River and tributaries. | Class AA |
| (3) Bumping River. | Class AA |
| (4) Burnt Bridge Creek. | Class A |
| (5) Cedar River from Lake Washington to the Maplewood Bridge (river mile 4.1). | Class A |
| (6) Cedar River and tributaries from the Maplewood Bridge (river mile 4.1) to Landsburg Dam (river mile 21.6). | Class AA |
| (7) Cedar River and tributaries from Landsburg Dam (river mile 21.6) to headwaters. Special condition - no waste discharge will be permitted. | Class AA |
| (8) Chehalis River from upper boundary of Grays Harbor at Cosmopolis (river mile 3.1, longitude 123°45'45" W) to Scammon Creek (river mile 65.8). | Class A |
| (9) Chehalis River from Scammon Creek (river mile 65.8) to Newaukum River (river mile 75.2). Special condition - dissolved oxygen shall exceed 5.0 mg/L from June 1 to September 15. For the remainder of the year, the dissolved oxygen shall meet Class A criteria. | Class A |
| (10) Chehalis River from Newaukum River (river mile 75.2) to Rock Creek (river mile 106.7). | Class A |
| (11) Chehalis River, from Rock Creek (river mile 106.7) to headwaters. | Class AA |
| (12) Chehalis River, south fork. | Class A |
| (13) Chewuch River. | Class AA |
| (14) Chiwawa River. | Class AA |
| (15) Cispus River. | Class AA |
| (16) Clearwater River. | Class A |
| (17) Cle Elum River. | Class AA |
| (18) Cloquallum Creek. | Class A |
| (19) Clover Creek from outlet of Lake Spanaway to inlet of Lake Steilacoom. | Class A |
| (20) Columbia River from mouth to the Washington-Oregon border (river mile 309.3). Special conditions - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed 0.3°C due to any single source or 1.1°C due to all such activities combined. Dissolved oxygen shall exceed 90 percent of saturation. | Class A |

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| <p>(21) Columbia River from Washington-Oregon border (river mile 309.3) to Grand Coulee Dam (river mile 596.6). Special condition from Washington-Oregon border (river mile 309.3) to Priest Rapids Dam (river mile 397.1). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$.</p> | <p>Class A</p> | <p>(51) Hoquiam River (continues as west fork above east fork) from mouth to river mile 9.3 (Dekay Road Bridge) (upper limit of tidal influence).</p> | <p>Class B</p> |
| <p>(22) Columbia River from Grand Coulee Dam (river mile 596.6) to Canadian border (river mile 745.0).</p> | <p>Class AA</p> | <p>(52) Humptulips River and tributaries from mouth to Olympic National Forest boundary on east fork (river mile 12.8) and west fork (river mile 40.4) (main stem continues as west fork).</p> | <p>Class A</p> |
| <p>(23) Colville River.</p> | <p>Class A</p> | <p>(53) Humptulips River, east fork from Olympic National Forest boundary (river mile 12.8) to headwaters.</p> | <p>Class AA</p> |
| <p>(24) Coweeman River from mouth to Mulholland Creek (river mile 18.4).</p> | <p>Class A</p> | <p>(54) Humptulips River, west fork from Olympic National Forest boundary (river mile 40.4) to headwaters.</p> | <p>Class AA</p> |
| <p>(25) Coweeman River from Mulholland Creek (river mile 18.4) to headwaters.</p> | <p>Class AA</p> | <p>(55) Issaquah Creek.</p> | <p>Class A</p> |
| <p>(26) Cowlitz River from mouth to base of Riffe Lake Dam (river mile 52.0).</p> | <p>Class A</p> | <p>(56) Kalama River from lower Kalama River Falls (river mile 10.4) to headwaters.</p> | <p>Class AA</p> |
| <p>(27) Cowlitz River from base of Riffe Lake Dam (river mile 52.0) to headwaters.</p> | <p>Class AA</p> | <p>(57) Klickitat River from Little Klickitat River (river mile 19.8) to boundary of Yakima Indian Reservation.</p> | <p>Class AA</p> |
| <p>(28) Crab Creek and tributaries.</p> | <p>Class B</p> | <p>(58) Lake Washington Ship Canal from Government Locks (river mile 1.0) to Lake Washington (river mile 8.6). Special condition - salinity shall not exceed one part per thousand (1.0 ppt) at any point or depth along a line that transects the ship canal at the University Bridge (river mile 6.1).</p> | <p>Lake Class</p> |
| <p>(29) Decker Creek.</p> | <p>Class AA</p> | <p>(59) Lewis River, east fork, from Multon Falls (river mile 24.6) to headwaters.</p> | <p>Class AA</p> |
| <p>(30) Deschutes River from mouth to boundary of Snoqualmie National Forest (river mile 48.2).</p> | <p>Class A</p> | <p>(60) Little Wenatchee River.</p> | <p>Class AA</p> |
| <p>(31) Deschutes River from boundary of Snoqualmie National Forest (river mile 48.2) to headwaters.</p> | <p>Class AA</p> | <p>(61) Methow River from mouth to Chewuch River (river mile 50.1).</p> | <p>Class A</p> |
| <p>(32) Dickey River.</p> | <p>Class A</p> | <p>(62) Methow River from Chewuch River (river mile 50.1) to headwaters.</p> | <p>Class AA</p> |
| <p>(33) Dosewallips River and tributaries.</p> | <p>Class AA</p> | <p>(63) Mill Creek from mouth to 13th Street Bridge in Walla Walla (river mile 6.4). Special condition - dissolved oxygen concentration shall exceed 5.0 mg/L.</p> | <p>Class B</p> |
| <p>(34) Duckabush River and tributaries.</p> | <p>Class AA</p> | <p>(64) Mill Creek from 13th Street Bridge in Walla Walla (river mile 6.4) to Walla Walla Waterworks Dam (river mile 25.2).</p> | <p>Class A</p> |
| <p>(35) Dungeness River from mouth to Canyon Creek (river mile 10.8).</p> | <p>Class A</p> | <p>(65) Mill Creek and tributaries from city of Walla Walla Waterworks Dam (river mile 25.2) to headwaters. Special condition - no waste discharge will be permitted.</p> | <p>Class AA</p> |
| <p>(36) Dungeness River and tributaries from Canyon Creek (river mile 10.8) to headwaters.</p> | <p>Class AA</p> | <p>(66) Naches River from Snoqualmie National Forest boundary (river mile 35.7) to headwaters.</p> | <p>Class AA</p> |
| <p>(37) Duwamish River from mouth south of a line bearing 254° true from the NW corner of berth 3, terminal No. 37 to the Black River (river mile 11.0) (Duwamish River continues as the Green River above the Black River).</p> | <p>Class B</p> | <p>(67) Naselle River from Naselle "Falls" (cascade at river mile 18.6) to headwaters.</p> | <p>Class AA</p> |
| <p>(38) Elochoman River.</p> | <p>Class A</p> | <p>(68) Newaukum River.</p> | <p>Class A</p> |
| <p>(39) Elwha River and tributaries.</p> | <p>Class AA</p> | <p>(69) Nisqually River from mouth to Alder Dam (river mile 44.2).</p> | <p>Class A</p> |
| <p>(40) Entiat River from Wenatchee National Forest boundary (river mile 20.5) to headwaters.</p> | <p>Class AA</p> | <p>(70) Nisqually River from Alder Dam (river mile 44.2) to headwaters.</p> | <p>Class AA</p> |
| <p>(41) Grande Ronde River from mouth to Oregon border (river mile 37). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$.</p> | <p>Class A</p> | <p>(71) Nooksack River from mouth to Maple Creek (river mile 49.7).</p> | <p>Class A</p> |
| <p>(42) Grays River from Grays River Falls (river mile 15.8) to headwaters.</p> | <p>Class AA</p> | <p>(72) Nooksack River from Maple Creek (river mile 49.7) to headwaters.</p> | <p>Class AA</p> |
| <p>(43) Green River (Cowlitz County).</p> | <p>Class AA</p> | <p>(73) Nooksack River, south fork, from mouth to Skookum Creek (river mile 14.3).</p> | <p>Class A</p> |
| <p>(44) Green River (King County) from Black River (river mile 11.0 and point where Duwamish River continues as the Green River) to west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park at river mile 42.3).</p> | <p>Class A</p> | <p>(74) Nooksack River, south fork, from Skookum Creek (river mile 14.3) to headwaters.</p> | <p>Class AA</p> |
| <p>(45) Green River (King County) from west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park, river mile 42.3) to west boundary of Sec. 13-T21N-R7E (river mile 59.1).</p> | <p>Class AA</p> | <p>(75) Nooksack River, middle fork.</p> | <p>Class AA</p> |
| <p>(46) Green River and tributaries (King County) from west boundary of Sec. 13-T21N-R7E (river mile 59.1) to headwaters. Special condition - no waste discharge will be permitted.</p> | <p>Class AA</p> | <p>(76) Okanogan River.</p> | <p>Class A</p> |
| <p>(47) Hamma Hamma River and tributaries.</p> | <p>Class AA</p> | <p>(77) Palouse River from mouth to south fork (Colfax, river mile 89.6).</p> | <p>Class B</p> |
| <p>(48) Hanaford Creek from mouth to east boundary of Sec. 25-T15N-R2W (river mile 4.1). Special condition - dissolved oxygen shall exceed 6.5 mg/L.</p> | <p>Class A</p> | <p>(78) Palouse River from south fork (Colfax, river mile 89.6) to Idaho border (river mile 123.4). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$.</p> | <p>Class A</p> |
| <p>(49) Hanaford Creek from east boundary of Sec. 25-T15N-R2W (river mile 4.1) to headwaters.</p> | <p>Class A</p> | | |
| <p>(50) Hoh River and tributaries.</p> | <p>Class AA</p> | | |

- (79) Pend Oreille River from Canadian border (river mile 16.0) to Idaho border (river mile 87.7). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$. Class A
- (80) Pilchuck River from city of Snohomish Waterworks Dam (river mile 26.8) to headwaters. Class AA
- (81) Puyallup River from mouth to river mile 1.0. Class B
- (82) Puyallup River from river mile 1.0 to Kings Creek (river mile 31.6). Class A
- (83) Puyallup River from Kings Creek (river mile 31.6) to headwaters. Class AA
- (84) Queets River and tributaries. Class AA
- (85) Quillayute River. Class AA
- (86) Quinault River and tributaries. Class AA
- (87) Salmon Creek (Clark County). Class A
- (88) Satsop River from mouth to west fork (river mile 6.4). Class A
- (89) Satsop River, east fork. Class AA
- (90) Satsop River, middle fork. Class AA
- (91) Satsop River, west fork. Class AA
- (92) Skagit River from mouth to Skiyou Slough-lower end (river mile 25.6). Class A
- (93) Skagit River and tributaries (includes Baker, Suak, Suiattle, and Cascade rivers) from Skiyou Slough-lower end, (river mile 25.6) to Canadian border (river mile 127.0). Special condition - Skagit River (Gorge by-pass reach) from Gorge Dam (river mile 96.6) to Gorge Powerhouse (river mile 94.2). Temperature shall not exceed 21°C due to human activities. When natural conditions exceed 21°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C, nor shall such temperature increases, at any time, exceed $t=34/(T+9)$. Class AA
- (94) Skokomish River and tributaries. Class AA
- (95) Skookumchuck River from Bloody Run Creek (river mile 21.4) to headwaters. Class AA
- (96) Skykomish River from mouth to May Creek (above Gold Bar at river mile 41.2). Class A
- (97) Skykomish River from May Creek (above Gold Bar at river mile 41.2) to headwaters. Class AA
- (98) Snake River from mouth to Washington-Idaho-Oregon border (river mile 176.1). Special condition:
- (a) Below Clearwater River (river mile 139.3). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$.
- (b) Above Clearwater River (river mile 139.3). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed 0.3°C due to any single source or 1.1°C due to all such activities combined. Class A
- (99) Snohomish River from mouth and east of longitude 122°13'40"W upstream to latitude 47°56'30"N (southern tip of Ebey Island at river mile 8.1). Special condition - fecal coliform organism levels shall both not exceed a geometric mean value of 200 colonies/100 mL and not have more than 10 percent of the samples obtained for calculating the mean value exceeding 400 colonies/100 mL. Class A
- (100) Snohomish River upstream from latitude 47°56'30"N (southern tip of Ebey Island river mile 8.1) to confluence with Skykomish and Snoqualmie River (river mile 20.5). Class A
- (101) Snoqualmie River and tributaries from mouth to west boundary of Twin Falls State Park on south fork (river mile 9.1). Class A
- (102) Snoqualmie River, middle fork. Class AA
- (103) Snoqualmie River, north fork. Class AA
- (104) Snoqualmie River, south fork, from west boundary of Twin Falls State Park (river mile 9.1) to headwaters. Class AA
- (105) Soleduck River and tributaries. Class AA
- (106) Spokane River from mouth to Long Lake Dam (river mile 33.9). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$. Class A
- (107) Spokane River from Long Lake Dam (river mile 33.9) to Nine Mile Bridge (river mile 58.0). Special conditions:
- (a) The average euphotic zone concentration of total phosphorus (as P) shall not exceed 25µg/L during the period of June 1 to October 31.
- (b) Temperature shall not exceed 20.0°C, due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time exceed $t=34/(T+9)$. Lake Class
- (108) Spokane River from Nine Mile Bridge (river mile 58.0) to the Idaho border (river mile 96.5). Temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time exceed $t=34/(T+9)$. Class A
- (109) Stehekin River. Class AA
- (110) Stillaguamish River from mouth to north and south forks (river mile 17.8). Class A
- (111) Stillaguamish River, north fork, from mouth to Squire Creek (river mile 31.2). Class A
- (112) Stillaguamish River, north fork, from Squire Creek (river mile 31.2) to headwaters. Class AA
- (113) Stillaguamish River, south fork, from mouth to Canyon Creek (river mile 33.7). Class A
- (114) Stillaguamish River, south fork, from Canyon Creek (river mile 33.7) to headwaters. Class AA
- (115) Sulphur Creek. Class B
- (116) Sultan River from mouth to Chaplain Creek (river mile 5.9). Class A
- (117) Sultan River and tributaries from Chaplain Creek (river mile 5.9) to headwaters. Special condition - no waste discharge will be permitted above city of Everett Diversion Dam (river mile 9.4). Class AA
- (118) Sumas River from Canadian border (river mile 12) to headwaters (river mile 23). Class A
- (119) Tieton River. Class AA
- (120) Tolt River, south fork and tributaries from mouth to west boundary of Sec. 31-T26N-R9E (river mile 6.9). Class AA
- (121) Tolt River, south fork from west boundary of Sec. 31-T26N-R9E (river mile 6.9) to headwaters. Special condition - no waste discharge will be permitted. Class AA
- (122) Touchet River, north fork from Dayton water intake structure (river mile 3.0) to headwaters. Class AA
- (123) Toutle River, north fork, from Green River to headwaters. Class AA
- (124) Toutle River, south fork. Class AA
- (125) Tucannon River from Umatilla National Forest boundary (river mile 38.1) to headwaters. Class AA
- (126) Twisp River. Class AA
- (127) Union River and tributaries from Bremerton Waterworks Dam (river mile 6.9) to headwaters. Special condition - no waste discharge will be permitted. Class AA

- (128) Walla Walla River from mouth to Lowden (Dry Creek at river mile 27.2). Class B
- (129) Walla Walla River from Lowden (Dry Creek at river mile 27.2) to Oregon border (river mile 40). Special condition - temperature shall not exceed 20.0°C due to human activities. When natural conditions exceed 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$. Class A
- (130) Wenatchee River from Wenatchee National Forest boundary (river mile 27.1) to headwaters. Class AA
- (131) White River (Pierce-King counties) from Mud Mountain Dam (river mile 27.1) to headwaters. Class AA
- (132) White River (Chelan County). Class AA
- (133) Wildcat Creek. Class A
- (134) Willapa River upstream of a line bearing 70° true through Mailboat Slough light (river mile 1.8). Class A
- (135) Wishkah River from mouth to river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W). Class B
- (136) Wishkah River from river mile 6 (SW 1/4 SW 1/4 NE 1/4 Sec. 21-T18N-R9W) to west fork (river mile 17.7). Class A
- (137) Wishkah River from west fork of Wishkah River (river mile 17.7) to south boundary of Sec. 33-T21N-R8W (river mile 32.0). Class AA
- (138) Wishkah River and tributaries from south boundary of Sec. 33-T21N-R8W (river mile 32.0) to headwaters. Special condition - no waste discharge will be permitted. Class AA
- (139) Wynoochee River from mouth to Olympic National Forest boundary (river mile 45.9). Class A
- (140) Wynoochee River from Olympic National Forest boundary (river mile 45.9) to headwaters. Class AA
- (141) Yakima River from mouth to Cle Elum River (river mile 185.6). Special condition - temperature shall not exceed 21.0°C due to human activities. When natural conditions exceed 21.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time, exceed $t=34/(T+9)$. Class A
- (142) Yakima River from Cle Elum River (river mile 185.6) to headwaters. Class AA
- (11) Grays Harbor east of longitude 123°59'W to longitude 123°45'45"W (Cosmopolis Chehalis River, river mile 3.1). Special condition - dissolved oxygen shall exceed 5.0 mg/L. Class B
- (12) Guemes Channel, Padilla, Samish and Bellingham Bays east of longitude 122°39' W and north of latitude 48°27'20"N. Class A
- (13) Hood Canal. Class AA
- (14) Mukilteo and all North Puget Sound west of longitude 122°39' W (Whidbey, Fidalgo, Guemes and Lummi islands and State Highway 20 Bridge at Deception Pass), except as otherwise noted. Class AA
- (15) Oakland Bay west of longitude 123°05'W (inner Shelton harbor). Class B
- (16) Port Angeles south and west of a line bearing 152° true from buoy "2" at the tip of Ediz Hook. Class A
- (17) Port Gamble south of latitude 47°15'20"N. Class A
- (18) Port Townsend west of a line between Point Hudson and Kala Point. Class A
- (19) Possession Sound, south of latitude 47°57'N. Class AA
- (20) Possession Sound, Port Susan, Saratoga Passage, and Skagit Bay east of Whidbey Island and State Highway 20 Bridge at Deception Pass between latitude 47°57'N (Mukilteo) and latitude 48°27'20"N (Similk Bay), except as otherwise noted. Class A
- (21) Puget Sound through Admiralty Inlet and South Puget Sound, south and west to longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island). Class AA
- (22) Sequim Bay southward of entrance. Class AA
- (23) South Puget Sound west of longitude 122°52'30"W (Brisco Point) and longitude 122°51'W (northern tip of Hartstene Island, except as otherwise noted). Class A
- (24) Strait of Juan de Fuca. Class AA
- (25) Totten Inlet and Little Skookum Inlet, west of longitude 122°5'32" (west side of Steamboat Island). Class AA
- (26) Willapa Bay seaward of a line bearing 70° true through Mailboat Slough light (Willapa River, river mile 1.8). Class A

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-140, filed 11/25/92, effective 12/26/92.]

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-130, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-140 Specific classifications—Marine water. Specific marine surface waters of the state of Washington are classified as follows:

- (1) Budd Inlet south of latitude 47°04'N (south of Priest Point Park). Class B
- (2) Coastal waters: Pacific Ocean from Ilwaco to Cape Flattery. Class AA
- (3) Commencement Bay south and east of a line bearing 258° true from "Brown's Point" and north and west of line bearing 225° true through the Hylebos waterway light. Class A
- (4) Commencement Bay, inner, south and east of a line bearing 225° true through Hylebos waterway light except the city waterway south and east of south 11th Street. Class B
- (5) Commencement Bay, city waterway south and east of south 11th Street. Class C
- (6) Drayton Harbor, south of entrance. Class A
- (7) Dyes and Sinclair Inlets west of longitude 122°37'W. Class A
- (8) Elliott Bay east of a line between Pier 91 and Duwamish head. Class A
- (9) Everett Harbor, inner, northeast of a line bearing 121° true from approximately 47°59'5"N and 122°13'44"W (southwest corner of the pier). Class B
- (10) Grays Harbor west of longitude 123°59'W. Class A

WAC 173-201A-150 Achievement considerations. To fully achieve and maintain the foregoing water quality in the state of Washington, it is the intent of the department to apply the various implementation and enforcement authorities at its disposal, including participation in the programs of the federal Clean Water Act (33 U.S.C. 1251 et seq.) as appropriate. It is also the intent that cognizance will be taken of the need for participation in cooperative programs with other state agencies and private groups with respect to the management of related problems. The department's planned program for water pollution control will be defined and revised annually in accordance with section 106 of said federal act. Further, it shall be required that all activities which discharge wastes into waters within the state, or otherwise adversely affect the quality of said waters, be in compliance with the waste treatment and discharge provisions of state or federal law.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-150, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-160 Implementation. (1) **Discharges from municipal, commercial, and industrial operations.** The primary means to be used for controlling municipal, commercial, and industrial waste discharges shall be through

the issuance of waste disposal permits, as provided for in RCW 90.48.160, 90.48.162, and 90.48.260.

(2) **Miscellaneous waste discharge or water quality effect sources.** The director shall, through the issuance of regulatory permits, directives, and orders, as are appropriate, control miscellaneous waste discharges and water quality effect sources not covered by subsection (1) of this section.

(3) **Nonpoint source and storm water pollution.**

(a) Activities which generate nonpoint source pollution shall be conducted so as to comply with the water quality standards. The primary means to be used for requiring compliance with the standards shall be through best management practices required in waste discharge permits, rules, orders, and directives issued by the department for activities which generate nonpoint source pollution.

(b) Best management practices shall be applied so that when all appropriate combinations of individual best management practices are utilized, violation of water quality criteria shall be prevented. If a discharger is applying all best management practices appropriate or required by the department and a violation of water quality criteria occurs, the discharger shall modify existing practices or apply further water pollution control measures, selected or approved by the department, to achieve compliance with water quality criteria. Best management practices established in permits, orders, rules, or directives of the department shall be reviewed and modified, as appropriate, so as to achieve compliance with water quality criteria.

(c) Activities which contribute to nonpoint source pollution shall be conducted utilizing best management practices to prevent violation of water quality criteria. When applicable best management practices are not being implemented, the department may conclude individual activities are causing pollution in violation of RCW 90.48.080. In these situations, the department may pursue orders, directives, permits, or civil or criminal sanctions to gain compliance with the standards.

(d) Activities which cause pollution of storm water shall be conducted so as to comply with the water quality standards. The primary means to be used for requiring compliance with the standards shall be through best management practices required in waste discharge permits, rules, orders, and directives issued by the department for activities which generate storm water pollution. The consideration and control procedures in (b) and (c) of this subsection apply to the control of pollutants in storm water.

(4) **Allowance for compliance schedules.**

(a) Permits, orders, and directives of the department for existing discharges may include a schedule for achieving compliance with water quality criteria contained in this chapter. Such schedules of compliance shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time. Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the department. Schedules of compliance may not be issued for new discharges. Schedules of compliance may be issued to allow for: (i) construction of necessary treatment capability; (ii) implementation of necessary best management practices; (iii) implementation of additional storm water best management practices for discharges determined not to meet water quality criteria following implementation of an initial set of best

management practices; (iv) completion of necessary water quality studies; or (v) resolution of a pending water quality standards' issue through rule-making action.

(b) For the period of time during which compliance with water quality criteria is deferred, interim effluent limitations shall be formally established, based on the best professional judgment of the department.

(c) Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-160, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-170 Surveillance. A continuing surveillance program, to ascertain whether the regulations, waste disposal permits, orders, and directives promulgated and/or issued by the department are being complied with, will be conducted by the department staff as follows:

- (1) Inspecting treatment and control facilities.
- (2) Monitoring and reporting waste discharge characteristics.
- (3) Monitoring receiving water quality.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-170, filed 11/25/92, effective 12/26/92.]

WAC 173-201A-180 Enforcement. To insure that the provisions of chapter 90.48 RCW, the standards for water quality promulgated herein, the terms of waste disposal permits, and other orders and directives of the department are fully complied with, the following enforcement tools will be relied upon by the department, in cooperation with the attorney general as it deems appropriate:

- (1) Issuance of notices of violation and regulatory orders as provided for in RCW 90.48.120.
- (2) Initiation of actions requesting injunctive or other appropriate relief in the various courts of the state as provided for in RCW 90.48.037.
- (3) Levying of civil penalties as provided for in RCW 90.48.144.
- (4) Initiation of a criminal proceeding by the appropriate county prosecutor as provided for in RCW 90.48.140.
- (5) Issuance of regulatory orders or directives as provided for in RCW 90.48.240.

[Statutory Authority: Chapter 90.48 RCW. 92-24-037 (Order 92-29), § 173-201A-180, filed 11/25/92, effective 12/26/92.]

APPENDIX 9

Summary of Wateryear 1992 Violations of
Water Quality Standards (Chapter 173-201 WAC)
for Each Ambient Freshwater Station Collected by Ecology

Appendix 9. Summary of Wateryear 1992 violations of Water Quality Standards (Chapter 173-201 WAC) for each ambient freshwater station collected by Ecology.

EAST REGION

DATE: 93/03/08

ANNUAL WATER YEAR VIOLATIONS REPORT
1992

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STANO	STATION NAME	CLASS	TEMPERATURE		OXYGEN			pH			FECAL COLIFORM _a			GEOMETRIC
			NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO EXCEEDED	PCT	MEAN _b NO > GM	
32A070	Walla Walla R nr Touchet	B	12	2	17	12		12	2	17	12			3
32B070	Touchet R @ Touchet	A	12	3	25	12	1	8	12		12	4	33	5
32B130	Touchet R @ Dayton	A	12	3	25	12		12	1	8	12			
33A050	Snake R nr Pasco	A	12	1	8	12	2	17	12		12			1
34A070	Palouse R @ Hooper	B	12	1	8	11		12	5	42	11			1
34A085	Palouse R @ Shields Rd Bridge	B	12			12		12	5	42	11			1
34A170	Palouse R @ Palouse	A	12	3	25	12		12	2	17	11	1	9	2
34B110	SF Palouse R @ Pullman	A	12			12		12	2	17	11	9	82	11 512
34B140	SF Palouse R @ Busby	A	12			12		12	3	25	11	4	36	7 139
34C060	Paradise Cr at Mouth	A	12			12		12			11	5	45	6 142
34C100	Paradise Cr @ Border	A	12	4	33	12	12	100	12		11	5	45	6 113
34E070	Rock Creek at Revere	A	10	3	30	10		10	8	80	9	1	11	2
35A150	Snake R @ Interstate Br	A	12	1	8	12		12			12			
35B060	Tucannon R @ Powers	A	12			12		12			11	1	9	6
54A050	Spokane R @ Mouth	A	12	2	17	12	2	17	12	1	8	11		
54A120	Spokane R @ Riverside State Pk	A	12			12		12	1	8	11	1	9	3
57A150	Spokane R @ Stateline Br	A	12	1	8	12	3	25	12		11			
61A070	Columbia R @ Northport (USGS)	AA	12	2	17	12	1	8	12		11			
62A150	Pend Oreille R @ Newport	A	12	1	8	12		12	1	8	11			

_aUnits are number of colonies/100ml.

_bBased on about 12 monthly samples.

Appendix 9. Continued.

NORTHWEST REGION

DATE: 93/03/08

ANNUAL WATER YEAR VIOLATIONS REPORT
1992

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STANO	STATION NAME	CLASS	TEMPERATURE			OXYGEN			pH		FECAL COLIFORM <u>a</u>			GEOMETRIC MEAN <u>b</u>		
			NO EXCEEDED	PCT		NO EXCEEDED	PCT		NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO	> GM		
01A050	Nooksack R @ Brennan	A	12			12			12			10	5	50	7	148
01B050	Silver Cr nr Brennan	A	12	1	8	12	7	58	12			10	5	50	7	144
01D070	Sumas R nr Huntingdon BC	A	12	1	8	12	4	33	12			10	10	100	10	833
03A060	Skagit R nr Mount Vernon	A	12			12			12			12				
04A100	Skagit R @ Marblemount	AA	12			12			12			10				1
05A070	Stillaguamish R nr Silvana	A	12	1	8	12			12			12	2	17	6	
07A090	Snohomish R @ Snohomish	A	12	2	17	12			12			10	1	10	3	
07B055	Pilchuck R @ Snohomish	A	12			12			12			10	4	40	5	106
07C070	Skykomish R @ Monroe	A	12	2	17	12			12			12				
07C120	Skykomish R nr Gold Bar	AA	12	2	17	12			12			12	2	17	2	
07D050	Snoqualmie R nr Monroe	A	12	2	17	12			12			12	2	17	4	
07D070	Snoqualmie R nr Carnation	A	12	2	17	12			12			12				
07D130	Snoqualmie R @ Snoqualmie	A	12			12			12			12				
07E055	Sultan R @ Sultan	A	12			12			12			12				1
07F055	Woods Cr @ Monroe	A	12	1	8	12			12			11	7	64	10	268
07G070	Tolt R nr Carnation	AA	12	1	8	12			12			12				
07P070	Patterson Ck nr Fall City	A	12			12			12			12	8	67	8	387
07Q070	Raging R @ Fall City	A	12	1	8	12			12	2	17	12	2	17	3	
08B070	Sammamish R @ Bothell	AA	12	2	17	12	6	50	12			12	12	100	12	257
08C070	Cedar R @ Logan St/Renton	A	12			12			12			12	1	8	1	
09A080	Green R @ Tukwila	A	12	1	8	12			12			12	4	33	6	106
09A190	Green R @ Kanaskat	AA	12	1	8	12	1	8	12			12				1

aUnits are number of colonies/100ml.

bBased on about 12 monthly samples.

Appendix 9. Continued.

SOUTHWEST REGION

DATE: 93/03/08

ANNUAL WATER YEAR VIOLATIONS REPORT
1992

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STANO	STATION NAME	CLASS	TEMPERATURE		OXYGEN		pH		FECAL COLIFORM <u>a</u>		GEOMETRIC MEAN <u>b</u>		
			NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO EXCEEDED	PCT	NO > GM		
10A070	Puyallup R @ Meridian St	A	12		12		12		12	5	42	6	150
11A070	Nisqually R @ Nisqually	A	12		12		12		11	1	9	1	
13A060	Deschutes R @ E St Bridge	A	12	2	17		12		12	3	25	3	
16A070	Skokomish R nr Potlatch	AA	12		12		12		12	1	8	2	
22A070	Humtulpips R nr Humtulpips	A	12	1	8		12		12			1	
22C050	Chehalis R nr Montesano	A	12	2	17		12		12				
23A070	Chehalis R @ Porter	A	12	4	33	1	8	12	12			1	
23A160	Chehalis R @ Dryad	A	12	3	25			12	12				
24B090	Willapa R nr Willapa	A	12	2	17			12	11	7	64	9	155
24B130	Willapa R @ Lebam	A	12	1	8			12	12	9	75	9	263
24D090	North R @ Artic	A	12	1	8			12	12				
24F070	Naselle R nr Naselle	A	12	3	25			12	12			2	
26B070	Cowlitz R @ Kelso	A	12	2	17			12	12	1	8	1	
26B150	Cowlitz R @ Toledo	A	12					12	12				
26C070	Coweeman R @ Kelso	A	12	4	33	1	8	12	12	1	8	2	
26D070	Toutle R nr Castle Rock	A	12	4	33			12	12				
27B070	Kalama R nr Kalama	A	12	2	17			12	12				
27C080	Lewis R @ Co Rd 16	A	12					12	12				
27D090	EF Lewis R nr Dollar Corner	A	12	2	17			12	12				
28B070	Washougal R @ Washougal	A	9	1	11	9		9	9			2	
28F070	Lake R nr Ridgefield	A	12	4	33			12	12	1	8	4	33
28G070	Gibbons Ck nr Washougal	A	12					12	12	6	50	10	231

aUnits are number of colonies/100ml.

bBased on about 12 monthly samples.

Appendix 9. Continued.

CENTRAL REGION

DATE: 93/03/08

ANNUAL WATER YEAR VIOLATIONS REPORT
1992

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STANO	STATION NAME	CLASS	TEMPERATURE			OXYGEN			pH			FECAL COLIFORM <u>a</u>			GEOMETRIC	
			NO	EXCEEDED	PCT	NO	EXCEEDED	PCT	NO	EXCEEDED	PCT	NO	EXCEEDED	PCT	MEAN <u>b</u>	NO > GM
31A070	Columbia R @ Umatilla	A	12	1	8	12			12			12	1	8	1	
37A090	Yakima R @ Kiona	A	12	2	17	12	3	25	12			12				
37A190	Yakima R @ Parker	A	12			12			12			12	1	8	5	
37E070	Wide Hollow Cr @ Union Gap	A	12			12			12			12	10	83	12	422
38A050	Naches R @ Yakima @ I-82	A	12	1	8	12			12	5	42	11				
38B070	Tieton R @ Oak Creek	AA	12	1	8	12			12	1	8	12				
38F070	Little Naches nr Cliffdell	AA	12	1	8	12	1	8	12			12				
39A090	Yakima R nr Cle Elum	AA	12	2	17	12	3	25	12			12				
39B090	Cle Elum R nr Roslyn	AA	12	1	8	12	1	8	12			12				
39D070	Teanaway R nr Cle Elum	A	12			12			12			12				
45A070	Wenatchee R @ Wenatchee	A	12	1	8	12			12			12				1
45A110	Wenatchee R nr Leavenworth	AA	12	1	8	11	2	18	12			12				
48A070	Methow R nr Pateros	A	12			12			12			12				
49A070	Okanogan R @ Malott	A	12	3	25	12	1	8	12			12				
49B070	Similkameen R @ Oroville	A	12	1	8	12			12			12				

aUnits are number of colonies/100ml.

bBased on about 12 monthly samples.