

Water-Data Report 2008

## 12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA

Spokane Basin  
Lower Spokane Subbasin

LOCATION (REVISED).--Lat 47°51'48", long 117°51'26" referenced to North American Datum of 1927, in SE ¼ SW ¼ sec.2, T.27 N., R.39 E., Stevens County, WA, Hydrologic Unit 17010307, Spokane Indian Reservation, on right bank 800 ft downstream from Chamokane Falls, 1.4 mi upstream from mouth, 1.8 mi north of town of Long Lake, and at mile 1.6.

DRAINAGE AREA.--179 mi<sup>2</sup>.

### **SURFACE-WATER RECORDS**

PERIOD OF RECORD.--February 1971 to September 1978, April 1984 to September 1987 (seasonal records), October 1987 to current year.

Water temperature records April 1984 to September 1987 (seasonal records); October 1987 to September 1989.

GAGE.--Water-stage recorder. Elevation of gage is 1,420 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair. No known regulation. Diversions upstream for irrigation, domestic use, and fish hatchery. Pumpage from ground-water wells can cause small fluctuations in discharge. U.S. Geological Survey satellite telemeter at site. This site was measured as part of a 2008 Chamokane Creek Spring High-Flow Investigation, and was measured as part of a 2008 Chamokane Creek Seepage Investigation. See following pages for the complete spring high-flow report and complete seepage report.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--28 years (water years 1972-78, 1988-2008), 62.5 ft<sup>3</sup>/s, 4.74 in/yr, 45,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft<sup>3</sup>/s, Apr. 25, 1975, gage height, 5.06 ft, from rating curve extended above 500 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow; maximum gage height, 5.37 ft, Mar. 20, 1997; minimum discharge, 9.4 ft<sup>3</sup>/s, Dec. 30, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 625 ft<sup>3</sup>/s, Apr. 15, gage height, 3.44 ft; minimum discharge, 24 ft<sup>3</sup>/s, on July 25, 26, 28, 29, 30 and Aug. 9.

## 12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
**DAILY MEAN VALUES**

[e, estimated]

| Day          | Oct   | Nov   | Dec   | Jan   | Feb   | Mar   | Apr    | May   | Jun   | Jul   | Aug   | Sep   |
|--------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| 1            | 30    | 28    | 31    | 32    | e33   | 39    | 77     | 159   | 48    | 37    | 26    | 28    |
| 2            | 29    | 29    | 31    | 32    | e33   | 39    | 73     | 143   | 47    | 40    | 26    | 28    |
| 3            | 30    | 29    | 38    | 32    | e32   | 39    | 74     | 132   | 46    | 37    | 26    | 27    |
| 4            | 28    | 29    | 36    | 33    | e32   | 41    | 83     | 127   | 45    | 36    | 26    | 27    |
| 5            | 28    | 29    | 38    | 33    | e32   | 48    | 97     | 129   | 45    | e35   | 26    | 27    |
| 6            | 28    | 29    | 36    | 32    | e33   | 52    | 125    | 132   | 44    | e35   | 26    | 27    |
| 7            | 28    | 30    | 34    | 32    | e33   | 52    | 171    | 131   | 44    | e34   | 25    | 27    |
| 8            | 28    | 30    | 32    | 32    | e33   | 56    | 191    | 127   | 43    | e34   | 26    | 27    |
| 9            | 28    | 30    | 32    | 33    | e33   | 62    | 196    | 120   | 43    | e33   | 25    | 26    |
| 10           | 28    | 30    | 32    | 33    | 33    | 78    | 213    | 107   | 44    | e32   | 26    | 26    |
| 11           | 28    | 30    | 32    | 33    | 33    | 97    | 224    | 98    | 43    | e31   | 26    | 26    |
| 12           | 28    | 30    | 32    | 33    | 35    | 125   | 260    | 92    | 42    | e30   | 27    | 27    |
| 13           | 28    | 30    | 32    | 33    | 35    | 167   | 327    | 89    | 41    | e29   | 26    | 26    |
| 14           | 28    | 30    | 31    | 33    | 35    | 152   | 421    | 86    | 40    | e28   | 26    | 27    |
| 15           | 28    | 31    | 31    | 33    | 35    | 144   | 558    | 82    | 39    | 27    | 27    | 27    |
| 16           | 28    | 33    | 32    | 32    | 34    | 142   | 449    | 81    | 39    | 27    | 27    | 27    |
| 17           | 28    | 33    | 32    | 33    | 35    | 136   | 350    | 80    | 38    | 28    | 25    | 27    |
| 18           | 28    | 32    | 32    | 33    | 35    | 151   | 324    | 76    | 38    | 27    | 27    | 27    |
| 19           | 31    | 31    | 32    | 33    | 35    | 173   | 298    | 70    | 38    | 27    | 29    | 26    |
| 20           | 29    | 30    | 33    | 33    | 35    | 154   | 265    | 68    | 38    | 26    | 30    | 26    |
| 21           | 28    | 30    | 32    | e32   | 35    | 130   | 240    | 66    | 38    | 26    | 29    | 28    |
| 22           | 28    | 30    | 32    | e32   | 35    | 115   | 218    | 64    | 39    | 26    | 29    | 28    |
| 23           | 28    | 30    | 32    | e32   | 35    | 108   | 193    | 62    | 37    | 26    | 29    | 28    |
| 24           | 28    | 30    | 32    | e32   | 35    | 116   | 182    | 59    | 37    | 25    | 28    | 29    |
| 25           | 28    | 30    | 32    | e32   | 35    | 124   | 162    | 56    | 37    | 25    | 28    | 29    |
| 26           | 28    | 31    | 32    | e32   | 35    | 116   | 156    | 53    | 37    | 25    | 29    | 29    |
| 27           | 28    | 31    | 32    | e33   | 36    | 107   | 152    | 51    | 36    | 25    | 29    | 29    |
| 28           | 28    | 31    | 32    | e33   | 37    | 98    | 155    | 49    | 36    | 25    | 28    | 29    |
| 29           | 28    | 31    | 32    | e33   | 38    | 94    | 169    | 48    | 35    | 24    | 28    | 28    |
| 30           | 28    | 31    | 32    | e33   | ---   | 91    | 176    | 49    | 35    | 25    | 28    | 28    |
| 31           | 28    | ---   | 32    | e33   | ---   | 83    | ---    | 48    | ---   | 26    | 28    | ---   |
| <b>Total</b> | 877   | 908   | 1,011 | 1,010 | 995   | 3,129 | 6,579  | 2,734 | 1,212 | 911   | 841   | 821   |
| <b>Mean</b>  | 28.3  | 30.3  | 32.6  | 32.6  | 34.3  | 101   | 219    | 88.2  | 40.4  | 29.4  | 27.1  | 27.4  |
| <b>Max</b>   | 31    | 33    | 38    | 33    | 38    | 173   | 558    | 159   | 48    | 40    | 30    | 29    |
| <b>Min</b>   | 28    | 28    | 31    | 32    | 32    | 39    | 73     | 48    | 35    | 24    | 25    | 26    |
| <b>Ac-ft</b> | 1,740 | 1,800 | 2,010 | 2,000 | 1,970 | 6,210 | 13,050 | 5,420 | 2,400 | 1,810 | 1,670 | 1,630 |
| <b>Cfs/m</b> | 0.16  | 0.17  | 0.18  | 0.18  | 0.19  | 0.56  | 1.23   | 0.49  | 0.23  | 0.16  | 0.15  | 0.15  |
| <b>In.</b>   | 0.18  | 0.19  | 0.21  | 0.21  | 0.21  | 0.65  | 1.37   | 0.57  | 0.25  | 0.19  | 0.17  | 0.17  |

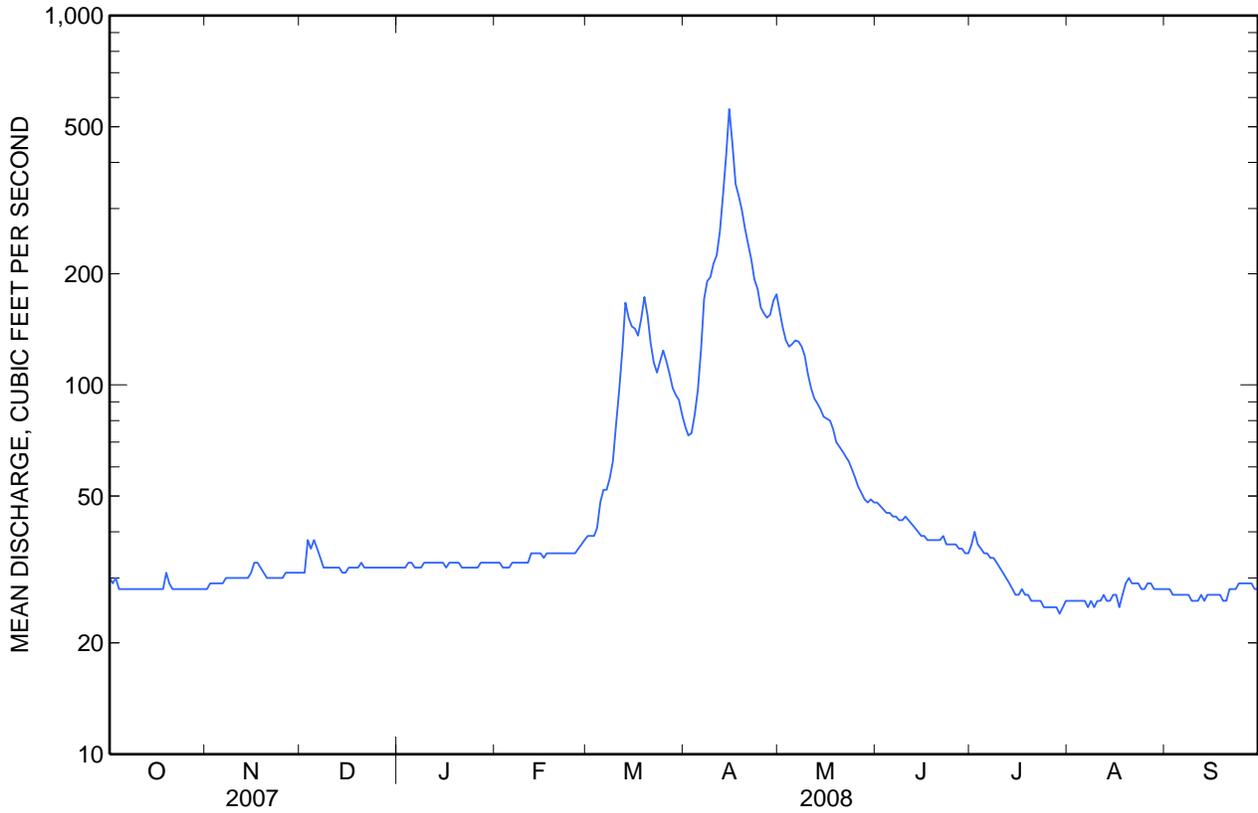
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2008, BY WATER YEAR (WY)**

|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 28.5   | 29.8   | 42.4   | 63.0   | 75.9   | 168    | 157    | 64.6   | 38.5   | 29.2   | 26.9   | 27.1   |
| <b>Max</b>  | 41.5   | 47.5   | 236    | 239    | 232    | 626    | 564    | 257    | 115    | 59.5   | 47.2   | 43.0   |
| <b>(WY)</b> | (1998) | (1974) | (1974) | (1997) | (1995) | (1997) | (1975) | (1975) | (1997) | (1997) | (1997) | (1997) |
| <b>Min</b>  | 18.9   | 19.1   | 17.1   | 17.4   | 21.2   | 29.9   | 22.6   | 19.6   | 19.4   | 18.2   | 18.4   | 18.1   |
| <b>(WY)</b> | (1993) | (1993) | (1993) | (1993) | (1994) | (1977) | (1992) | (1992) | (1994) | (1994) | (1994) | (1990) |

12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued

SUMMARY STATISTICS

|                                 | Calendar Year 2007 |        | Water Year 2008 |        | Water Years 1971 - 2008 |              |
|---------------------------------|--------------------|--------|-----------------|--------|-------------------------|--------------|
| <b>Annual total</b>             | 18,668             |        | 21,028          |        |                         |              |
| <b>Annual mean</b>              | 51.1               |        | 57.5            |        | 62.5                    |              |
| <b>Highest annual mean</b>      |                    |        |                 |        | 170                     | 1997         |
| <b>Lowest annual mean</b>       |                    |        |                 |        | 25.8                    | 1994         |
| <b>Highest daily mean</b>       | 591                | Mar 13 | 558             | Apr 15 | 1,750                   | Mar 20, 1997 |
| <b>Lowest daily mean</b>        | 26                 | Jul 30 | 24              | Jul 29 | 15                      | Dec 26, 1977 |
| <b>Annual seven-day minimum</b> | 27                 | Jul 28 | 25              | Jul 24 | 16                      | Jan 2, 1993  |
| <b>Annual runoff (ac-ft)</b>    | 37,030             |        | 41,710          |        | 45,280                  |              |
| <b>Annual runoff (cfsm)</b>     | 0.286              |        | 0.321           |        | 0.349                   |              |
| <b>Annual runoff (inches)</b>   | 3.88               |        | 4.37            |        | 4.74                    |              |
| <b>10 percent exceeds</b>       | 91                 |        | 131             |        | 131                     |              |
| <b>50 percent exceeds</b>       | 32                 |        | 32              |        | 31                      |              |
| <b>90 percent exceeds</b>       | 27                 |        | 27              |        | 20                      |              |



**12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued**

## SPOKANE RIVER BASIN

## Chamokane Creek Spring High-Flow Investigation

A series of discharge measurements were made April 14 - 17, 2008, on Chamokane Creek and some of its tributaries to study near-peak discharge. The reach covered 30.7 miles. Two additional discharge measurements, made just outside of the Chamokane Creek drainage, are included in this table. These two sites, Sams Creek near Ford and Unnamed Springs outflow near Sams Creek Tributary near Ford, are both tributary to Little Chamokane Creek.

[River Mile, as measured from the confluence of the Spokane River and Lake Roosevelt; ft<sup>3</sup>/s, cubic foot per second; °C, degrees Celsius; --, no data]

| River Mile | Stream and Location  | Measured Discharge (ft <sup>3</sup> /s) | Date      | Gain or Loss | Water temperature (°C) |
|------------|--|---|-----------|--------------|------------------------|
| 62.3       | Middle Fork Chamokane Creek near Springdale (12433020)                     | 206                                     | 4/14/2008 | --           | 3.7                    |
| 62.5       | South Fork Chamokane Creek near Springdale (12433030)                      | 159                                     | 4/15/2008 | --           | 2.9                    |
| 59.1       | Chamokane Creek below Forks near Springdale (12433035)                     | 333                                     | 4/15/2008 | -32.0        | 2.9                    |
| 59.4       | Unnamed Tributary at Rose Hill Road near Springdale (12433040)             | 11.1                                    | 4/14/2008 | --           | 3.8                    |
| 58.9       | Unnamed Tributary at Springdale-Hunters Hwy near Springdale (12433043)     | 37.6                                    | 4/14/2008 | --           | 4.5                    |
| 56.7       | Chamokane Creek at West Lyons Hill Road near Springdale (12433055)         | 425                                     | 4/15/2008 | +54.4        | 5.0                    |
| 58.4       | Unnamed Tributary Site 2 off Mickelson Road near Springdale (12433062)     | 6.23                                    | 4/14/2008 | --           | 4.5                    |
| 58.0       | Unnamed Tributary above Drum Road near Springdale (12433067)               | 3.66                                    | 4/17/2008 | --           | 7.6                    |
| 53.6       | Chamokane Creek at East Lyons Hill Road near Springdale (12433070)         | 522                                     | 4/15/2008 | +87.1(b)     | 2.7                    |
| 51.4       | Chamokane Creek above Swamp Creek near Springdale (12433075)               | 502                                     | 4/15/2008 | -20.0        | 4.0                    |
| 53.8       | Swamp Creek at Cemetery Road near Springdale (12433078)                    | 2.87                                    | 4/14/2008 | --           | 12.6                   |
| 53.4       | Swamp Creek off Canfield Road near Springdale (12433085)                   | 2.10                                    | 4/15/2008 | --           | 10.5                   |
| 52.3       | Unnamed Tributary off Hidden Road near Springdale (12433090)               | 1.44                                    | 4/14/2008 | --           | --                     |
| 51.8       | Unnamed Tributary at Hidden Road near Springdale (12433094)                | 1.46                                    | 4/14/2008 | --           | --                     |
| 48.6       | Chamokane Creek near Springdale (12433100)                                 | 348                                     | 4/16/2008 | -159(b)      | 5.9                    |
| 49.2       | Unnamed Tributary at Fortymile Canyon Road near Springdale (12433105)      | 6.50                                    | 4/14/2008 | --           | --                     |
| 49.9       | Unnamed Tributary at Fortymile Canyon near Springdale (12433110)           | 6.78                                    | 4/14/2008 | --           | --                     |
| 46.0       | Unnamed Tributary off Reservation Road near Ford (12433135)                | 1.09                                    | 4/15/2008 | --           | 4.5                    |
| 45.1       | Rail Creek below Bartlett Creek near Ford (12433145)                       | 15.9                                    | 4/14/2008 | --           | 4.9                    |
| 44.2       | Thomas Creek near Ford (12433155)  | 1.14                                    | 4/15/2008 | --           | 8.3                    |
| 41.6       | Negro Creek near Ford (12433170)   | 8.08                                    | 4/14/2008 | --           | 5.1                    |
| 39.4       | Chamokane Creek at Ford-Wellpinit Road near Ford (12433175)                | 420                                     | 4/16/2008 | +32.5(b)     | 6.0                    |
| 40.1       | Moses Creek near Ford (12433180)   | 3.57                                    | 4/15/2008 | --           | 4.3                    |
| 37.8       | Galbraith Springs outflow near Ford (12433187)                             | 7.23                                    | 4/17/2008 | --           | 12.6                   |
| 37.8       | Tribal hatchery outflow near Ford (12433190)                               | 9.87                                    | 4/17/2008 | --           | 11.7                   |
| 34.1       | Chamokane Creek below Falls near Long Lake (12433200)                      | 422                                     | 4/16/2008 | -18.7(b)     | --                     |
| 38.4       | Sams Creek near Ford (a) (12433250)  | 32.0                                    | 4/15/2008 | --           | 3.4                    |
| 38.3       | Unnamed Springs outflow near Sams Creek Tributary near Ford (a) (12433255) | 0.001                                   | 4/15/2008 | --           | 8.4                    |

RM 31.8 - Confluence of Little Chamokane Creek and Spokane River

RM 32.5 - Confluence of Chamokane Creek and Spokane River

(a) Sites tributary to Little Chamokane Creek

(b) Value may not be representative of actual gain or loss along the main stem of Chamokane Creek because discharge from tributary streams was measured closer to the headwaters of the tributaries than to their confluence with Chamokane Creek.

**12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued**

## SPOKANE RIVER BASIN

## Chamokane Creek Seepage Investigation

A series of discharge measurements were made August 25 - September 2, 2008, on Chamokane Creek and some of its tributaries to study gains and losses. The reach covered 30.7 miles. Two additional discharge measurements, made just outside of the Chamokane Creek drainage, are included in this table. These two sites, Sams Creek near Ford and Unnamed Springs outflow near Sams Creek Tributary near Ford, are both tributary to Little Chamokane Creek.

[River Mile, as measured from the confluence of the Spokane River and Lake Roosevelt; ft<sup>3</sup>/s, cubic foot per second; °C, degrees Celsius; --, no data]

| River Mile | Stream and Location  | Measured Discharge (ft <sup>3</sup> /s) | Date      | Gain or Loss | Water temperature (°C) |
|------------|--|---|-----------|--------------|------------------------|
| 62.3       | Middle Fork Chamokane Creek near Springdale (12433020)                     | 0                                       | 8/25/2008 | --           | 15.7                   |
| 62.5       | South Fork Chamokane Creek near Springdale (12433030)                      | 0.08                                    | 8/25/2008 | --           | 13.7                   |
| 59.1       | Chamokane Creek below Forks near Springdale (12433035)                     | 0                                       | 8/25/2008 | --           | 14.6                   |
| 59.4       | Unnamed Tributary at Rose Hill Road near Springdale (12433040)             | 0                                       | 8/25/2008 | --           | --                     |
| 58.9       | Unnamed Tributary at Springdale-Hunters Hwy near Springdale (12433043)     | 0                                       | 8/25/2008 | --           | --                     |
| 59.7       | Unnamed Tributary at Bowler Road near Springdale (12433048)                | 0                                       | 8/26/2008 | --           | 12.4                   |
| 56.7       | Chamokane Creek at West Lyons Hill Road near Springdale (12433055)         | 0                                       | 8/26/2008 | --           | 16.2                   |
| 58.4       | Unnamed Tributary Site 2 off Mickelson Road near Springdale (12433062)     | 0.02                                    | 8/25/2008 | --           | 8.5                    |
| 58.0       | Unnamed Tributary above Drum Road near Springdale (12433067)               | 0.18                                    | 8/26/2008 | --           | 13.4                   |
| 53.6       | Chamokane Creek at East Lyons Hill Road near Springdale (12433070)         | 0.04                                    | 8/26/2008 | -0.16(b)     | 19.6                   |
| 51.4       | Chamokane Creek above Swamp Creek near Springdale (12433075)               | 1.00                                    | 8/29/2008 | +0.96        | 13.1                   |
| 53.8       | Swamp Creek at Cemetery Road near Springdale (12433078)                    | 1.00                                    | 8/28/2008 | --           | 14.2                   |
| 53.4       | Swamp Creek off Canfield Road near Springdale (12433085)                   | 1.43                                    | 8/28/2008 | --           | 14.5                   |
| 52.3       | Unnamed Tributary off Hidden Road near Springdale (12433090)               | 0                                       | 8/28/2008 | --           | --                     |
| 51.8       | Unnamed Tributary at Hidden Road near Springdale (12433094)                | 0                                       | 8/28/2008 | --           | --                     |
| 48.6       | Chamokane Creek near Springdale (12433100)                                 | 0                                       | 8/28/2008 | -2.43        | 14.4                   |
| 49.2       | Unnamed Tributary at Fortymile Canyon Road near Springdale (12433105)      | 0.02                                    | 8/27/2008 | --           | 11.9                   |
| 49.9       | Unnamed Tributary at Fortymile Canyon near Springdale (12433110)           | 0                                       | 8/27/2008 | --           | --                     |
| 46.0       | Unnamed Tributary off Reservation Road near Ford (12433135)                | 0.05                                    | 8/27/2008 | --           | 13.7                   |
| 45.1       | Rail Creek below Bartlett Creek near Ford (12433145)                       | 0.35                                    | 8/29/2008 | --           | 12.4                   |
| 44.2       | Thomas Creek near Ford (12433155)  | 0.30                                    | 8/28/2008 | --           | 10.6                   |
| 41.6       | Negro Creek near Ford (12433170)   | 0.02                                    | 8/29/2008 | --           | 13.9                   |
| 39.4       | Chamokane Creek at Ford-Wellpinit Road near Ford (12433175)                | 1.65                                    | 8/28/2008 | +0.91(b)     | 13.7                   |
| 40.1       | Moses Creek near Ford (12433180)   | 0.04                                    | 8/28/2008 | --           | 12.7                   |
| 37.8       | Galbraith Springs outflow near Ford (12433187)                             | 1.98                                    | 9/2/2008  | --           | 12.0                   |
| 37.8       | Tribal hatchery outflow near Ford (12433190)                               | 7.95                                    | 9/2/2008  | --           | 12.8                   |
| 34.1       | Chamokane Creek below Falls near Long Lake (12433200)                      | 29.6                                    | 8/29/2008 | +18.0(b)     | --                     |
| 38.4       | Sams Creek near Ford (a) (12433250)  | 0.05                                    | 9/2/2008  | --           | 12.9                   |
| 38.3       | Unnamed Springs outflow near Sams Creek Tributary near Ford (a) (12433255) | 0                                       | 9/2/2008  | --           | 16.3                   |

RM 31.8 - Confluence of Little Chamokane Creek and Spokane River

RM 32.5 - Confluence of Chamokane Creek and Spokane River

(a) Sites tributary to Little Chamokane Creek

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