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cc Cover letter S.C.L.

**Coastal States Energy Company**
A SUBSIDIARY OF THE COASTAL CORPORATION

The Energy People

- 0005

January 25, 1990

Dr. Dianne Nielson, Director
Division of Oil Gas & Mining
335 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Dear Dr. Nielson:

Enclosed is an updated partial computer printout of the water quality data for Coastal States' Skyline Coal Mines project. The tabulated data and statistical summaries herewith submitted cover a period through the fourth quarter of 1989 but include only those pages which have been changed during the quarter.

These updated pages are replacements for those pages previously submitted and should be appropriately inserted into your existing loose-leaf document. Please note that no data have been included for discontinued station UPL-3. The existing data for this site should be retained for baseline purposes.

Sincerely,

Keith W. Welch

Keith W. Welch
Environmental Coordinator

KWW/ak/182

enclosure

RECEIVED
JAN 26 1990
DIVISION OF
OIL, GAS & MINING

175 EAST 400 SOUTH, SUITE 800
SALT LAKE CITY, UTAH 84111
801/596-7111

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-1

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -2 | 25 | 12.6 | 7.04 | 42 |
| FLOW (CFS) | 0.04 | 3.85 | 0.6 | 0.83 | 42 |
| WATER TEMPERATURE (C) | 0 | 16 | 7.5 | 4.24 | 42 |
| SPEC. COND. (UMHOS/CM) FIELD | 182 | 704 | 471.5 | 113.44 | 42 |
| PH (SU) FIELD | 7.3 | 8.6 | 7.9 | 0.30 | 40 |
| TURBIDITY (NTU) FIELD | 0.3 | 24 | 6.2 | 6.65 | 36 |
| TOTAL SUSP. SOLIDS | 0.1 | 28 | 6.7 | 6.04 | 36 |
| TOTAL DISS. SOLIDS MEAS. | 174 | 600 | 314.5 | 87.85 | 36 |
| OXYGEN (O) DISS | 7.2 | 8.9 | 8.2 | 0.48 | 8 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 52 | 112 | 74.7 | 12.79 | 36 |
| MAGNESIUM (MG) | 0.1 | 33.6 | 21.0 | 9.23 | 36 |
| SODIUM (NA) | 0.81 | 55 | 9.4 | 13.82 | 36 |
| POTASSIUM (K) | 0.01 | 7.80 | 1.66 | 1.31 | 36 |
| ACIDITY AS CACO3 | 0.0 | 26.4 | 9.3 | 9.16 | 8 |
| ALKALINITY AS CACO3 (LAB) | 201 | 250 | 225.7 | 18.21 | 9 |
| BICARBONATE (HCO3) (LAB) | 176 | 314 | 261.4 | 33.97 | 36 |
| SULFATE (SO4) | 15 | 275 | 65.9 | 47.32 | 36 |
| CHLORIDE (CL) | 0.32 | 50 | 5.8 | 8.99 | 36 |
| FLUORIDE (F) | 0.09 | 0.27 | 0.15 | 0.05 | 8 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 1.67 | 0.30 | 0.47 | 10 |
| AMMONIA (NH3 AS N) | 0.01 | 0.80 | 0.16 | 0.20 | 22 |
| TOTAL PHOSPHATE (PO4) | 0.005 | 0.25 | 0.06 | 0.05 | 22 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.04 | 0.03 | 0.01 | 8 |
| BARIUM (BA) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| BORON (B) TOTAL | 0.000 | 0.270 | 0.074 | 0.09 | 8 |
| BORON (B) DISS | 0.000 | 0.000 | 0.000 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.02 | 0.01 | 0.01 | 8 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.35 | 0.12 | 0.11 | 36 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.0 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.000 | 0.009 | 0.002 | 0.00 | 8 |
| LEAD (PB) DISS | 0.000 | 0.000 | 0.000 | 0.00 | 1 |
| MANGANESE (MN) TOTAL | 0.005 | 0.12 | 0.02 | 0.02 | 36 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.000 | 0.200 | 0.046 | 0.07 | 6 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.10 | 58.44 | 11.07 | 18.16 | 8 |
| PHENOLS | 0.000 | 0.171 | 0.015 | 0.04 | 20 |
| OIL AND GREASE | 0.06 | 1.60 | 0.60 | 0.48 | 21 |
| CYANIDE (CN) | 0.000 | 0.008 | 0.002 | 0.00 | 8 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES SITE CS-1

STATION LOCATION - UPPER SOUTH FORK OF ECCLES CREEK

| SAMPLE DATE | 08/16/88 | 10/20/88 | 06/22/89 | 09/12/89 | 10/19/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 23 | 9 | 17 | 8 | 1.5 |
| FLOW (CFS) | 0.12 | 0.13 | 0.25 | 0.04 | 0.06 |
| WATER TEMPERATURE (C) | 16 | 3 | 7 | 6.5 | 1 |
| SPEC. COND. (UMHOS/CM) FIELD | 417 | 535 | 412 | 464 | 430 |
| PH (SU) FIELD | 7.5 | 7.8 | | 7.3 | 7.95 |
| TURBIDITY (NTU) FIELD | 0.42 | 0.42 | 0.8 | 0.3 | 0.34 |
| TOTAL SUSP. SOLIDS | $1.0 | $1.0 | $1.0 | $1.0 | 4 |
| TOTAL DISS. SOLIDS MEAS. | 250 | 305 | 199 | 245 | 265 |
| OXYGEN (O) DISS | 8.2 | | | 8.9 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 66.4 | 112.00 | 57.85 | 61.45 | 67.77 |
| MAGNESIUM (MG) | 12.74 | $0.10 | 13.24 | 19.36 | 20.35 |
| SODIUM (NA) | 4.33 | 0.81 | 1.40 | 1.43 | 2.00 |
| POTASSIUM (K) | 0.67 | 1.03 | $0.50 | 0.91 | 0.95 |
| ACIDITY AS CACO3 | 8 | | | $0.01 | |
| ALKALINITY AS CACO3 (LAB) | 201 | | | 208 | |
| BICARBONATE (HCO3) (LAB) | 245 | 266 | 233 | 254 | 278 |
| SULFATE (SO4) | 19 | 54 | 15 | 25 | 24 |
| CHLORIDE (CL) | 5.2 | 2.3 | 1.3 | 3.1 | 2.1 |
| FLUORIDE (F) | 0.17 | | | 0.13 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.11 | | 0.13 | 0.12 | 0.32 |
| AMMONIA (NH3 AS N) | 0.07 | 0.04 | $0.03 | 0.04 | 0.10 |
| TOTAL PHOSPHATE (PO4) | 0.06 | $0.04 | $0.04 | 0.06 | $0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | 0.01 | |
| BARIUM (BA) DISS | | | | 0.01 | |
| BORON (B) TOTAL | <0.001 | | | <0.010 | |
| BORON (B) DISS | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.02 | | | $0.01 | |
| COPPER (CU) DISS | | | | $0.01 | |
| IRON (FE) TOTAL | 0.04 | $0.01 | $0.03 | $0.03 | $0.03 |
| IRON (FE) DISS | | | | $0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.02 | $0.01 | 0.03 | $0.01 | $0.01 |
| MANGANESE (MN) DISS | | | | $0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.89 | | | 5.83 | |
| PHENOLS | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.6 | 0.6 | 0.5 | 0.7 | 1.50 |
| CYANIDE (CN) TOTAL | <0.001 | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-2

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -25 | 26 | 8.0 | 9.56 | 77 |
| FLOW (CFS) | 0.17 | 23.9 | 2.54 | 4.32 | 46 |
| WATER TEMPERATURE (C) | 0.5 | 15 | 6.5 | 3.72 | 77 |
| SPEC. COND. (UMHOS/CM) FIELD | 224 | 1138 | 540.8 | 188.03 | 77 |
| PH (SU) FIELD | 7 | 8.3 | 7.6 | 0.30 | 77 |
| TURBIDITY (NTU) FIELD | 0 | 172 | 26.7 | 34.39 | 67 |
| TOTAL SUSP. SOLIDS | 0.1 | 1828 | 90.3 | 274.89 | 77 |
| TOTAL DISS. SOLIDS MEAS. | 156 | 835 | 361.9 | 122.74 | 77 |
| OXYGEN (O) DISS | 6.6 | 10.8 | 8.7 | 1.43 | 16 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 19.2 | 128.8 | 79.9 | 18.56 | 77 |
| MAGNESIUM (MG) | 4.32 | 78.72 | 22.18 | 11.56 | 77 |
| SODIUM (NA) | 2.4 | 76 | 17.7 | 16.06 | 77 |
| POTASSIUM (K) | 0.79 | 10.66 | 2.93 | 1.97 | 77 |
| ACIDITY AS CACO3 | 0.01 | 33 | 7.02 | 8.88 | 11 |
| ALKALINITY AS CACO3 (LAB) | 140 | 289 | 232.3 | 38.55 | 18 |
| BICARBONATE (HCO3) (LAB) | 122 | 366 | 273.6 | 51.00 | 77 |
| SULFATE (SO4) | 2 | 438 | 87.8 | 92.02 | 77 |
| CHLORIDE (CL) | 1.4 | 85 | 10.5 | 12.48 | 77 |
| FLUORIDE (F) | 0.15 | 0.54 | 0.27 | 0.17 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.8 | 0.85 | 0.67 | 15 |
| AMMONIA (NH3 AS N) | 0.01 | 2.68 | 0.18 | 0.44 | 38 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 1.20 | 0.18 | 0.26 | 37 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.026 | 0.080 | 0.057 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.020 | 0.020 | 0.020 | 0.00 | 1 |
| BORON (B) TOTAL | 0.012 | 0.350 | 0.105 | 0.10 | 11 |
| BORON (B) DISS | 0.015 | 0.015 | 0.015 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.020 | 0.010 | 0.01 | 11 |
| COPPER (CU) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 31.2 | 1.31 | 3.78 | 77 |
| IRON (FE) DISS | 0.07 | 0.07 | 0.07 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.004 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.009 | 24.000 | 0.483 | 2.70 | 77 |
| MANGANESE (MN) DISS | 0.030 | 0.030 | 0.030 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.010 | 0.268 | 0.059 | 0.09 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1.00 | 50.29 | 11.16 | 13.60 | 11 |
| PHENOLS | 0.001 | 0.130 | 0.017 | 0.02 | 35 |
| OIL AND GREASE | 0.08 | 9.4 | 0.92 | 1.79 | 25 |
| CYANIDE (CN) | 0.001 | 0.007 | 0.002 | 0.00 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE CS-2

STATION LOCATION - ECCLES CREEK AT USFS BOUNDARY

| SAMPLE DATE | 08/16/88 | 11/02/88 | 02/01/89 | 06/23/89 | 09/12/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 19 | 9 | | 7 | 4 | -6 |
| FLOW (CFS) | 0.58 | 0.13 | | 2.02 | 1.96 | 1.65 |
| WATER TEMPERATURE (C) | 14 | 7 | | 10 | 10 | 7 |
| SPEC. COND. (UMHOS/CM) FIELD | 850 | 759 | | 986 | 1138 | 1056 |
| PH (SU) FIELD | 7.2 | 7.3 | | 7.5 | 7.0 | 8.0 |
| TURBIDITY (NTU) FIELD | 7.8 | 3.4 | | 10.0 | 172 | 165 |
| TOTAL SUSP. SOLIDS | 10 | 4 | | 7 | 17 | 22 |
| TOTAL DISS. SOLIDS MEAS. | 560 | 510 | | 559 | 695 | 635 |
| OXYGEN (O) DISS | 6.8 | | | 8.8 | 6.6 | — |
| **COMMON IONS** | | | | | | |
| CALCIUM (CA) | 80.8 | 126.00 | | 81.82 | 87.19 | 84.61 |
| MAGNESIUM (MG) | 39.12 | 27.60 | | 35.72 | 55.83 | 46.78 |
| SODIUM (NA) | 45.1 | 21.64 | | 54.93 | 55.18 | 55.57 |
| POTASSIUM (K) | 6.13 | 2.93 | | 7.69 | 10.66 | 9.19 |
| ACIDITY AS CACO3 | 10 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 214 | | | | 207 | |
| BICARBONATE (HCO3) (LAB) | 261 | 279 | | 257 | 248 | 240 |
| SULFATE (SO4) | 227 | 112 | | 238 | 336 | 300 |
| CHLORIDE (CL) | 12 | 85.0 | | 13.3 | 22.8 | 14.9 |
| FLUORIDE (F) | 0.42 | | | | 0.48 | |
| **NUTRIENTS** | | | | | | |
| NITRATE (NO3-N) | 0.51 | 2.80 | | 1.23 | 1.60 | 1.51 |
| AMMONIA (NH3 AS N) | 0.2 | 0.18 | | 0.10 | 0.06 | 0.05 |
| TOTAL PHOSPHATE (PO4) | 0.11 | <0.04 | | <0.04 | 0.08 | 0.08 |
| **TRACE ELEMENTS** | | | | | | |
| BARIUM (BA) TOTAL | 0.08 | | | | 0.05 | |
| BARIUM (BA) DISS | | | | | <0.02 | |
| BORON (B) TOTAL | 0.13 | | | | 0.200 | |
| BORON (B) DISS | | | | | 0.015 | |
| COPPER (CU) TOTAL | 0.02 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.77 | 0.76 | | 0.33 | 0.33 | 0.44 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.19 | 0.36 | | 0.09 | 0.06 | 0.06 |
| MANGANESE (MN) DISS | | | | | 0.03 | |
| ZINC (ZN) TOTAL | 0.017 | | | | | |
| **ORGANIC PARAMETERS** | | | | | | |
| ORGANIC CARBON (TOTAL) | 8.49 | | | | 4.10 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 1.2 | 0.2 | | 0.4 | 0.7 | 0.9 |
| CYANIDE (CN) | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

11-Dec-89 KWW

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-3

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -8 | 27 | 10.9 | 8.98 | 61 |
| FLOW (CFS) | 0.013 | 10.05 | 0.8 | 1.86 | 50 |
| WATER TEMPERATURE (C) | 0 | 16 | 6.3 | 4.84 | 61 |
| SPEC. COND. (UMHOS/CM) FIELD | 198 | 557 | 402.4 | 81.78 | 61 |
| PH (SU) FIELD | 7.05 | 8.4 | 7.8 | 0.31 | 61 |
| TURBIDITY (NTU) FIELD | 0 | 90 | 10.2 | 16.08 | 56 |
| TOTAL SUSP. SOLIDS | 1 | 233 | 13.8 | 31.35 | 61 |
| TOTAL DISS. SOLIDS MEAS. | 130 | 470 | 256.7 | 59.21 | 61 |
| OXYGEN (D) DISS | 6.2 | 12.1 | 9.1 | 1.34 | 15 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 30.4 | 196 | 77.5 | 20.76 | 61 |
| MAGNESIUM (MG) | 1 | 60 | 13.6 | 9.50 | 61 |
| SODIUM (NA) | 1.6 | 55 | 7.6 | 10.18 | 61 |
| POTASSIUM (K) | 0.01 | 6.1 | 1.2 | 0.83 | 61 |
| ACIDITY AS CACO3 | 0.01 | 30 | 6.3 | 9.85 | 11 |
| ALKALINITY AS CACO3 (LAB) | 129 | 289 | 229.7 | 39.36 | 15 |
| BICARBONATE (HCO3) (LAB) | 122 | 353.9 | 261.8 | 51.42 | 61 |
| SULFATE (SO4) | 0.1 | 310 | 26.1 | 44.30 | 61 |
| CHLORIDE (CL) | 0.8 | 80 | 5.5 | 10.17 | 61 |
| FLUORIDE (F) | 0.14 | 0.24 | 0.2 | 0.03 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 3.3 | 0.9 | 0.71 | 15 |
| AMMONIA (NH3 AS N) | 0.01 | 0.42 | 0.1 | 0.11 | 32 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 1.15 | 0.1 | 0.25 | 32 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.010 | 0.200 | 0.038 | 0.05 | 11 |
| BARIUM (BA) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.110 | 0.028 | 0.03 | 11 |
| BORON (B) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.020 | 0.011 | 0.01 | 11 |
| COPPER (CU) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 2.77 | 0.30 | 0.47 | 61 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.003 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.005 | 0.280 | 0.055 | 0.06 | 61 |
| MANGANESE (MN) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.025 | 0.012 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.2 | 61.47 | 10.3 | 17.43 | 10 |
| PHENOLS | 0.001 | 0.08 | 0.0 | 0.01 | 31 |
| OIL AND GREASE | 0.01 | 3.8 | 0.6 | 0.75 | 27 |
| CYANIDE (CN) TOTAL | 0.001 | 0.016 | 0.0 | 0.00 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES -SITE CS-3

STATION LOCATION - UPPER MIDDLE FORK OF ECCLES CREEK

| SAMPLE DATE | 08/15/88 | 11/02/88 | 02/01/89 | 06/22/89 | 09/12/89 | 10/30/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 20 | 8 | | 18 | 13 | -6 |
| FLOW (CFS) | 0.04 | 0.05 | | 0.013 | 0.028 | |
| WATER TEMPERATURE (C) | 15 | 1 | | 11 | 7.5 | 0.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 460 | 505 | | 436 | 483 | 455 |
| PH (SU) FIELD | 7.1 | 7.4 | | 7.4 | 7.3 | 7.05 |
| TURBIDITY (NTU) FIELD | 1.25 | 1.9 | | 1.0 | 0.6 | 2.8 |
| TOTAL SUSP. SOLIDS | 2 | 6 | | <1.00 | 4 | 9 |
| TOTAL DISS. SOLIDS MEAS. | 268 | 350 | | 218 | 245 | 245 |
| OXYGEN (O) DISS | 7.8 | | | | 8.8 | |
| **COMMON IONS** | | | | | | |
| CALCIUM (CA) | 92 | 100.00 | | 62.44 | 70.93 | 71.00 |
| MAGNESIUM (MG) | 3.12 | 22.80 | | 10.85 | 14.97 | 13.30 |
| SODIUM (NA) | 4.69 | 5.23 | | 5.71 | 2.25 | 5.02 |
| POTASSIUM (K) | 0.98 | 0.64 | | 0.74 | 1.17 | 1.04 |
| ACIDITY AS CACO3 | 6 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 224 | | | | 218 | |
| BICARBONATE (HCO3) (LAB) | 273 | 263 | | 235 | 266 | 287 |
| SULFATE (SO4) | 11 | 14 | | 10 | 17 | 5 |
| CHLORIDE (CL) | 12 | 80.0 | | 5.2 | 5.1 | 3.8 |
| FLUORIDE (F) | 0.18 | | | | 0.15 | |
| **NUTRIENTS** | | | | | | |
| NITRATE (NO3-N) | 0.46 | 3.30 | | 0.43 | 0.54 | 0.73 |
| AMMONIA (NH3 AS N) | 0.1 | <0.03 | | <0.03 | 0.05 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.08 | <0.04 | | <0.04 | 0.07 | 0.10 |
| **TRACE ELEMENTS** | | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | | 0.01 | |
| BARIUM (BA) DISS | | | | | 0.01 | |
| BORON (B) TOTAL | <0.001 | | | | <0.010 | |
| BORON (B) DISS | | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.02 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.09 | 0.09 | | 0.06 | <0.03 | 0.11 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.05 | 0.03 | | <0.01 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| **ORGANIC PARAMETERS** | | | | | | |
| ORGANIC CARBON (TOTAL) | 3.71 | | | | | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.4 | 1.3 | | 0.2 | 0.5 | 0.7 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-4

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -2 | 27 | 12.7 | 8.02 | 54 |
| FLOW (CFS) | 0.006 | 7.120 | 0.345 | 1.07 | 49 |
| WATER TEMPERATURE (C) | 0.0 | 15.5 | 6.1 | 3.93 | 54 |
| SPEC. COND. (UMHOS/CM) FIELD | 166 | 474 | 348.4 | 67.16 | 54 |
| PH (SU) FIELD | 6.80 | 8.50 | 7.9 | 0.38 | 54 |
| TURBIDITY (NTU) FIELD | 0.0 | 91.0 | 11.8 | 18.57 | 49 |
| TOTAL SUSP. SOLIDS | 1.0 | 747.0 | 35.8 | 108.43 | 54 |
| TOTAL DISS. SOLIDS MEAS. | 10 | 365 | 219.4 | 57.48 | 54 |
| OXYGEN (D) DISS | 5.8 | 11.0 | 8.8 | 1.58 | 14 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 35.20 | 96.00 | 64.1 | 12.12 | 53 |
| MAGNESIUM (MG) | 0.10 | 39.60 | 10.2 | 6.43 | 54 |
| SODIUM (NA) | 1.1 | 56.0 | 7.0 | 9.06 | 54 |
| POTASSIUM (K) | 0.01 | 1.68 | 0.70 | 0.35 | 54 |
| ACIDITY AS CACO3 | 0.01 | 26.00 | 4.29 | 8.24 | 11 |
| ALKALINITY AS CACO3 (LAB) | 144 | 262 | 211.0 | 26.16 | 14 |
| BICARBONATE (HCO3) (LAB) | 113 | 429 | 229.7 | 53.24 | 53 |
| SULFATE (SO4) | 0 | 114 | 19.9 | 19.48 | 54 |
| CHLORIDE (CL) | 0.1 | 91.0 | 4.6 | 12.33 | 54 |
| FLUORIDE (F) | 0.10 | 0.21 | 0.14 | 0.03 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 1.41 | 0.32 | 0.36 | 14 |
| AMMONIA (NH3 AS N) | 0.01 | 0.56 | 0.11 | 0.16 | 32 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 1.52 | 0.191 | 0.29 | 31 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.010 | 0.040 | 0.021 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.020 | 0.020 | 0.020 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.023 | 0.03 | 11 |
| BORON (B) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.030 | 0.013 | 0.01 | 11 |
| COPPER (CU) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.00 | 13.50 | 0.65 | 2.08 | 54 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.003 | 0.001 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.00 | 0.25 | 0.03 | 0.04 | 54 |
| MANGANESE (MN) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.075 | 0.018 | 0.02 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.50 | 56.77 | 9.49 | 16.16 | 10 |
| PHENOLS | 0.00 | 0.03 | 0.003 | 0.01 | 32 |
| OIL AND GREASE | 0.10 | 6.60 | 0.8 | 1.37 | 27 |
| CYANIDE (CN) TOTAL | 0.001 | 0.01 | 0.0 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES -SITE CS-4

STATION LOCATION - UPPER LEFT FORK OF ECCLES CREEK

| SAMPLE DATE | 08/15/88 | 11/02/88 | 06/22/89 | 09/12/89 | 10/30/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 20.0 | 8.0 | 22.0 | 9.5 | -2.0 |
| FLOW (CFS) | 0.030 | 0.016 | 0.100 | 0.022 | 0.019 |
| WATER TEMPERATURE (C) | 12.5 | 3.0 | 7.0 | 6.0 | 0.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 418 | 465 | 382 | 474 | 385 |
| PH (SU) FIELD | 7.30 | 7.60 | 7.0 | 7.30 | 7.20 |
| TURBIDITY (NTU) FIELD | 1.9 | 3.4 | 1.0 | 4.1 | 4.9 |
| TOTAL SUSP. SOLIDS | 4.0 | 8.0 | 2.0 | 8.0 | 12.0 |
| TOTAL DISS. SOLIDS MEAS. | 266 | 349 | 190 | 240 | 238 |
| OXYGEN (D) DISS | 9.20 | | | 9.40 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 84.00 | 96.00 | 52.66 | 73.27 | 66.52 |
| MAGNESIUM (MG) | 8.40 | 26.40 | 7.12 | 12.65 | 11.63 |
| SODIUM (NA) | 4.00 | 4.57 | 4.52 | 1.69 | 7.46 |
| POTASSIUM (K) | <0.50 | <0.01 | <0.50 | 0.92 | 1.10 |
| ACIDITY AS CACO3 | <0.05 | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 212 | | | 219 | |
| BICARBONATE (HCO3) (LAB) | 259 | 256 | 200 | 267 | 256 |
| SULFATE (SO4) | 34 | 9 | 5 | 11 | 6 |
| CHLORIDE (CL) | 1.90 | 91.0 | 3.30 | 4.0 | 12.4 |
| FLUORIDE (F) | 0.15 | | | 0.12 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.23 | 1.41 | 0.27 | 0.25 | 0.32 |
| AMMONIA (NH3 AS N) | 0.07 | <0.03 | 0.04 | <0.03 | 0.05 |
| TOTAL PHOSPHATE (PO4) | 0.10 | 0.23 | <0.04 | <0.11 | 0.10 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | 0.02 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | <0.001 | | | <0.010 | |
| BORON (B) DISS | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.03 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.13 | 0.08 | 0.06 | 0.04 | 0.20 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.02 | <0.01 | <0.01 | <0.01 | 0.03 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | 0.01 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 3.08 | | | | |
| PHENOLS | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.7 | 0.5 | 0.4 | 0.4 | 1.1 |
| CYANIDE (CN) TOTAL | <0.001 | | | 0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-6

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -23 | 28 | 8.0 | 9.92 | 90 |
| FLOW (CFS) | 1.33 | 71.2 | 6.9 | 11.58 | 54 |
| WATER TEMPERATURE (C) | 0 | 17 | 6.1 | 4.52 | 90 |
| SPEC. COND. (UMHOS/CM) FIELD | 279 | 2240 | 607.6 | 262.60 | 90 |
| PH (SU) FIELD | 7.2 | 8.8 | 7.9 | 0.32 | 90 |
| TURBIDITY (NTU) FIELD | 0 | 100 | 19.9 | 24.60 | 79 |
| TOTAL SUSP. SOLIDS | 1.4 | 3190 | 107.9 | 360.76 | 90 |
| TOTAL DISS. SOLIDS MEAS. | 198 | 1282 | 385.9 | 144.28 | 90 |
| OXYGEN (D) DISS | 5.4 | 11 | 9.0 | 1.39 | 16 |
| COMMON IONS | | | | | |
| CALCIUM (CA) | 4 | 158 | 77.0 | 19.76 | 88 |
| MAGNESIUM (MG) | 0.1 | 64.08 | 25.1 | 9.86 | 90 |
| SODIUM (NA) | 1.2 | 358 | 24.4 | 47.10 | 90 |
| POTASSIUM (K) | 0.92 | 6.57 | 2.8 | 1.07 | 90 |
| ACIDITY AS CACO3 | 0.01 | 27 | 5.4 | 7.84 | 11 |
| ALKALINITY AS CACO3 (LAB) | 178 | 278 | 240.3 | 26.17 | 18 |
| BICARBONATE (HCO3) (LAB) | 144 | 641.72 | 280.8 | 55.76 | 90 |
| SULFATE (SO4) | 3 | 228 | 77.1 | 49.34 | 89 |
| CHLORIDE (CL) | 3.1 | 428 | 24.1 | 46.87 | 89 |
| FLUORIDE (F) | 0 | 1.17 | 0.3 | 0.29 | 11 |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | 0.01 | 2.17 | 0.4 | 0.53 | 16 |
| AMMONIA (NH3 AS N) | 0.01 | 3.5 | 0.3 | 0.68 | 38 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.76 | 0.1 | 0.17 | 35 |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | 0.05 | 0.175 | 0.1 | 0.04 | 11 |
| BARIUM (BA) DISS | 0.06 | 0.06 | 0.1 | 0.00 | 1 |
| BORON (B) TOTAL | 0.015 | 0.35 | 0.1 | 0.09 | 11 |
| BORON (B) DISS | 0.075 | 0.075 | 0.1 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.01 | 24.5 | 2.2 | 5.41 | 21 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.03 | 19.2 | 1.1 | 2.24 | 80 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.0 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.74 | 0.1 | 0.18 | 21 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.0 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.03 | 0.7 | 0.1 | 0.08 | 80 |
| MANGANESE (MN) DISS | 0.04 | 0.04 | 0.0 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.025 | 0.0 | 0.01 | 9 |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | 0.001 | 59.48 | 5.3 | 15.07 | 13 |
| PHENOLS | 0.001 | 0.144 | 0.0 | 0.03 | 36 |
| OIL AND GREASE | 0.02 | 6.6 | 0.6 | 1.22 | 27 |
| CYANIDE (CN) TOTAL | 0.001 | 0.044 | 0.0 | 0.01 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE CS-6

STATION LOCATION - ECCLES CREEK AT USGS GAGING STATION

| SAMPLE DATE | 08/16/88 | 11/02/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 26 | 10 | | 11 | 13 | -1 |
| FLOW (CFS) | 1.5 | 2.16 | | 2.29 | 1.99 | 3.30 |
| WATER TEMPERATURE (C) | 15 | 7 | | 8 | 8 | 2 |
| SPEC. COND. (UMHOS/CM) FIELD | 717 | 736 | | 814 | 879 | 862 |
| PH (SU) FIELD | 7.4 | 7.5 | | 7.4 | 7.2 | 7.85 |
| TURBIDITY (NTU) FIELD | 7.3 | 4.4 | | 4.0 | 3.6 | 4.4 |
| TOTAL SUSP. SOLIDS | 22 | 10 | | 15 | 4 | 10 |
| TOTAL DISS. SOLIDS MEAS. | 476 | 492 | | 580 | 510 | 556 |
| OXYGEN (O) DISS | 7.8 | | | 8.4 | 7.7 | |
| COMMON IONS | | | | | | |
| CALCIUM (CA) | 83.2 | 158.00 | | 120.00 | 85.90 | 83.77 |
| MAGNESIUM (MG) | 36 | <0.10 | | 30.03 | 41.21 | 42.31 |
| SODIUM (NA) | 26.66 | 12.77 | | 35.19 | 27.45 | 38.43 |
| POTASSIUM (K) | 4.12 | 3.11 | | 4.80 | 5.85 | 6.57 |
| ACIDITY AS CACO3 | 5 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 218 | | | | 234 | |
| BICARBONATE (HCO3) (LAB) | 266 | 283 | | 283 | 285 | 272 |
| SULFATE (SO4) | 169 | 161 | | 228 | 177 | 220 |
| CHLORIDE (CL) | 15.7 | 15.9 | | 19.4 | 26.6 | 19.4 |
| FLUORIDE (F) | 0.27 | | | | 0.29 | |
| NUTRIENTS | | | | | | |
| NITRATE (NO3-N) | 0.15 | 0.20 | | 0.50 | 0.55 | 0.93 |
| AMMONIA (NH3 AS N) | 0.06 | <0.03 | | <0.03 | 0.05 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.07 | <0.04 | | <0.04 | 0.05 | 0.06 |
| TRACE ELEMENTS | | | | | | |
| BARIUM (BA) TOTAL | 0.07 | | | | 0.06 | |
| BARIUM (BA) DISS | | | | | 0.06 | |
| BORON (B) TOTAL | 0.08 | | | | 0.080 | |
| BORON (B) DISS | | | | | 0.075 | |
| COPPER (CU) TOTAL | 0.02 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.55 | 0.51 | | 0.39 | 0.38 | 0.40 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.06 | 0.06 | | 0.05 | 0.04 | 0.07 |
| MANGANESE (MN) DISS | | | | | <0.04 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| ORGANIC PARAMETERS | | | | | | |
| ORGANIC CARBON (TOTAL) | 4.06 | | | | 8.78 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.9 | 0.4 | | 0.4 | 0.3 | 0.6 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-7

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 1 | 23 | 14.9 | 5.31 | 46 |
| FLOW (CFS) | 0.09 | 10.24 | 1.32 | 2.14 | 45 |
| WATER TEMPERATURE (C) | 0 | 19 | 8.7 | 4.47 | 46 |
| SPEC. COND. (UMHOS/CM) FIELD | 263 | 484 | 357.1 | 55.35 | 46 |
| PH (SU) FIELD | 6.6 | 8.6 | 7.8 | 0.42 | 46 |
| TURBIDITY (NTU) FIELD | 0.65 | 19 | 4.40 | 4.36 | 40 |
| TOTAL SUSP. SOLIDS | 1 | 20 | 7.4 | 5.87 | 18 |
| TOTAL DISS. SOLIDS MEAS. | 176 | 309 | 217.9 | 35.79 | 18 |
| OXYGEN (D) DISS | 5.0 | 13.0 | 8.5 | 2.00 | 11 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 49.6 | 70.5 | 60.4 | 6.22 | 18 |
| MAGNESIUM (MG) | 5.28 | 15.84 | 10.82 | 2.62 | 18 |
| SODIUM (NA) | 1.48 | 76 | 10.14 | 11.17 | 18 |
| POTASSIUM (K) | 0.46 | 4.5 | 0.91 | 0.89 | 18 |
| ACIDITY AS CACO3 | 0.01 | 22 | 4.6 | 7.03 | 11 |
| ALKALINITY AS CACO3 (LAB) | 170 | 287 | 198.8 | 27.95 | 10 |
| BICARBONATE (HCO3) (LAB) | 185 | 345 | 232.0 | 32.30 | 18 |
| SULFATE (SO4) | 7 | 79 | 16.6 | 18.12 | 18 |
| CHLORIDE (CL) | 1.9 | 20.1 | 3.9 | 4.32 | 18 |
| FLUORIDE (F) | 0.09 | 0.16 | 0.13 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 1.75 | 0.54 | 0.41 | 18 |
| AMMONIA (NH3 AS N) | 0.001 | 2.70 | 0.26 | 0.62 | 18 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 5.00 | 0.88 | 2.27 | 17 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.010 | 0.040 | 0.023 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.020 | 0.020 | 0.020 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.023 | 0.03 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.03 | 0.01 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.70 | 0.21 | 0.17 | 18 |
| IRON (FE) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.003 | 0.001 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 0.03 | 0.02 | 0.01 | 18 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.036 | 0.014 | 0.01 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 43.95 | 10.60 | 13.03 | 10 |
| PHENOLS | 0.001 | 0.006 | 0.002 | 0.00 | 10 |
| OIL AND GREASE | 0.01 | 15 | 4.35 | 5.37 | 13 |
| CYANIDE (CN) TOTAL | 0.001 | 0.011 | 0.002 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - SITE CS-7

STATION LOCATION - BURNOUT CREEK AT CONFLUENCE WITH HUNTINGTON CREEK

| SAMPLE DATE | 08/18/88 | 10/11/88 | 06/22/89 | 09/07/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 19 | 13 | 15 | 17 | 8 |
| FLOW (CFS) | 0.09 | 0.21 | 0.58 | 0.14 | 0.13 |
| WATER TEMPERATURE (C) | 9.5 | 8 | 7 | 5.5 | 3 |
| SPEC. COND. (UMHOS/CM) FIELD | 407 | 413 | 410 | 447 | 320 |
| PH (SU) FIELD | 7.3 | 7.2 | 7.3 | 7.1 | 8.15 |
| TURBIDITY (NTU) FIELD | 1.8 | 0.8 | 1.0 | 0.88 | 0.83 |
| TOTAL SUSP. SOLIDS | 7 | | 3 | <1.00 | <1.00 |
| TOTAL DISS. SOLIDS MEAS. | 230 | | 212 | 209 | 225 |
| OXYGEN (O) DISS | 8.4 | | | 9.2 | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | 69.6 | | 61.71 | 60.83 | 60.75 |
| MAGNESIUM (MG) | 8.16 | | 9.22 | 12.91 | 11.65 |
| SODIUM (NA) | 4.18 | | 9.20 | 1.48 | 1.83 |
| POTASSIUM (K) | <0.50 | | <0.50 | 0.92 | 0.67 |
| ACIDITY AS CACO3 | 7 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 194 | | | 189 | |
| BICARBONATE (HCO3) (LAB) | 237 | | 251 | 230 | 227 |
| SULFATE (SO4) | 19 | | 7 | 14 | 11 |
| CHLORIDE (CL) | 1.9 | | 1.9 | 2.1 | 2.0 |
| FLUORIDE (F) | 0.13 | | | 0.10 | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | 0.62 | | 0.57 | 0.72 | 1.22 |
| AMMONIA (NH3 AS N) | 0.08 | | <0.03 | 0.15 | 0.11 |
| TOTAL PHOSPHATE (PO4) | <0.04 | | <0.04 | <0.04 | <0.04 |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | 0.02 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | <0.001 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | 0.02 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.12 | | 0.13 | 0.09 | <0.07 |
| IRON (FE) DISS | | | | <0.01 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.03 | | 0.02 | <0.02 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| ORGANIC PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | 2.77 | | | | |
| PHENOLS | <0.001 | | | | |
| OIL AND GREASE | 0.4 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-B

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -12 | 28 | 14.0 | 7.66 | 53 |
| FLOW (CFS) | 0.04 | 60.70 | 2.57 | 8.91 | 51 |
| WATER TEMPERATURE (C) | 1 | 13 | 7.5 | 3.50 | 53 |
| SPEC. CONC. (UMHOS/CM) FIELD | 68 | 448 | 265.1 | 90.39 | 53 |
| PH (SU) FIELD | 6.0 | 8.4 | 7.5 | 0.48 | 53 |
| TURBIDITY (NTU) FIELD | 0.48 | 165 | 15.7 | 27.25 | 47 |
| TOTAL SUSP. SOLIDS | 1 | 87 | 9.8 | 19.82 | 18 |
| TOTAL DISS. SOLIDS MEAS. | 75 | 245 | 187.8 | 40.02 | 19 |
| OXYGEN (D) DISS | 7.6 | 12.5 | 9.5 | 1.30 | 15 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 20 | 75.2 | 51.8 | 12.19 | 18 |
| MAGNESIUM (MG) | 2.4 | 16.8 | 8.7 | 3.06 | 18 |
| SODIUM (NA) | 2 | 24 | 7.8 | 7.01 | 18 |
| POTASSIUM (K) | 0.5 | 3.6 | 0.8 | 0.69 | 18 |
| ACIDITY AS CACO3 | 0.01 | 16.00 | 4.05 | 5.19 | 11 |
| ALKALINITY AS CACO3 (LAB) | 60 | 197 | 156.4 | 31.45 | 17 |
| BICARBONATE (HCO3) (LAB) | 73.2 | 235 | 184.9 | 40.18 | 18 |
| SULFATE (SO4) | 1 | 50 | 20.7 | 11.66 | 18 |
| CHLORIDE (CL) | 0.1 | 20.0 | 4.5 | 5.13 | 18 |
| FLUORIDE (F) | 0.08 | 0.16 | 0.12 | 0.03 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 1.07 | 0.42 | 0.26 | 13 |
| AMMONIA (NH3 AS N) | 0.01 | 0.52 | 0.17 | 0.16 | 18 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 6.30 | 0.82 | 1.69 | 17 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.029 | 0.020 | 0.00 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.020 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.034 | 0.03 | 11 |
| BORON (B) DISS | 0.035 | 0.035 | 0.035 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.02 | 0.010 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.08 | 6.20 | 0.543 | 1.38 | 18 |
| IRON (FE) DISS | 0.07 | 0.07 | 0.030 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.007 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 0.135 | 0.029 | 0.03 | 18 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.003 | 0.041 | 0.014 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 45.45 | 7.79 | 12.81 | 10 |
| PHENOLS | 0.001 | 11.8 | 0.791 | 2.94 | 15 |
| OIL AND GREASE | 0.001 | 4 | 0.720 | 1.15 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.002 | 0.001 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - SITE CS-8

STATION LOCATION - RIGHT FORK OF UPPER HUNTINGTON CREEK

| SAMPLE DATE | 08/18/88 | 10/11/88 | 06/21/89 | 09/06/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 13 | 12 | 14 | 24 | 3 |
| FLOW (CFS) | 0.1 | 0.10 | 0.32 | 0.05 | 0.04 |
| WATER TEMPERATURE (C) | 7 | 7 | 12 | 12 | 2 |
| SPEC. COND. (UMHOS/CM) FIELD | 393 | 418 | 293 | 448 | 350 |
| PH (SU) FIELD | 7.2 | 7.0 | 7.4 | 7.0 | 7.9 |
| TURBIDITY (NTU) FIELD | 1.6 | 2.35 | 1.5 | 1.5 | 1 |
| TOTAL SUSP. SOLIDS | 2 | | 2 | 3 | <1 |
| TOTAL DISS. SOLIDS MEAS. | 245 | | 158 | 204 | 225 |
| OXYGEN (O) DISS | 8.8 | | | 8.1 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 75.2 | | 39.46 | 63.09 | 62.19 |
| MAGNESIUM (MG) | 9.12 | | 5.44 | 12.06 | 11.16 |
| SODIUM (NA) | 4.28 | | 5.08 | 2.08 | 2.72 |
| POTASSIUM (K) | <0.50 | | <0.50 | 0.92 | 1.04 |
| ACIDITY AS CACO3 | <0.05 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 193 | | | 173 | |
| BICARBONATE (HCO3) (LAB) | 235 | | 146 | 211 | 211 |
| SULFATE (SO4) | 34 | | 9 | 30 | 25 |
| CHLORIDE (CL) | 2.1 | | 2.3 | 2.9 | 3.9 |
| FLUORIDE (F) | 0.12 | | | 0.16 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.56 | | 0.27 | 0.47 | 0.47 |
| AMMONIA (NH3 AS N) | 0.08 | | <0.03 | 0.04 | 0.13 |
| TOTAL PHOSPHATE (PO4) | <0.04 | | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | | | 0.02 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | <0.001 | | | 0.040 | |
| BORON (B) DISS | | | | 0.035 | |
| COPPER (CU) TOTAL | 0.02 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.16 | | 0.22 | 0.09 | 0.10 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.03 | | 0.04 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.49 | | | | |
| PHENOLS | <0.001 | | | | |
| OIL AND GREASE | 0.7 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-9

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -6 | 26 | 11.9 | 8.46 | 61 |
| FLOW (CFS) | 0.001 | 8.8 | 0.324 | 1.22 | 56 |
| WATER TEMPERATURE (C) | 0 | 18 | 8.0 | 5.30 | 61 |
| SPEC. COND. (UMHOS/CM) FIELD | 202 | 636 | 489.5 | 80.74 | 61 |
| PH (SU) FIELD | 6.9 | 8.4 | 7.8 | 0.33 | 61 |
| TURBIDITY (NTU) FIELD | 0 | 100 | 13.5 | 15.90 | 53 |
| TOTAL SUSP. SOLIDS | 1 | 3580 | 93.4 | 452.94 | 61 |
| TOTAL DISS. SOLIDS MEAS. | 120 | 828 | 311.1 | 81.65 | 61 |
| OXYGEN (O) DISS | 5.8 | 10.5 | 8.5 | 1.29 | 14 |
| COMMON IONS | | | | | |
| CALCIUM (CA) | 36 | 128 | 80.0 | 14.40 | 61 |
| MAGNESIUM (MG) | 0.1 | 46.1 | 16.3 | 7.74 | 61 |
| SODIUM (NA) | 2 | 53 | 10.0 | 10.64 | 61 |
| POTASSIUM (K) | 0.01 | 16.00 | 1.85 | 2.41 | 61 |
| ACIDITY AS CACO3 | 0.01 | 33.00 | 7.47 | 10.71 | 11 |
| ALKALINITY AS CACO3 (LAB) | 185 | 314 | 252.1 | 28.13 | 15 |
| BICARBONATE (HCO3) (LAB) | 194 | 383 | 285.7 | 36.69 | 61 |
| SULFATE (SO4) | 3 | 97 | 38.0 | 18.00 | 61 |
| CHLORIDE (CL) | 3 | 81 | 9.1 | 9.84 | 61 |
| FLUORIDE (F) | 0.17 | 0.34 | 0.21 | 0.05 | 11 |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | 0.02 | 4.25 | 2.02 | 1.07 | 16 |
| AMMONIA (NH3 AS N) | 0.01 | 0.91 | 0.12 | 0.19 | 34 |
| TOTAL PHOSPHATE (PO4) | 0.001 | 7.50 | 0.447 | 1.38 | 33 |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.03 | 0.02 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.170 | 0.035 | 0.04 | 11 |
| BORON (B) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 1.100 | 0.191 | 0.39 | 13 |
| COPPER (CU) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.04 | 45.10 | 1.14 | 5.70 | 61 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.004 | 0.001 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 2.000 | 0.132 | 0.27 | 59 |
| MANGANESE (MN) DISS | 0.100 | 0.100 | 0.100 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.053 | 0.014 | 0.02 | 9 |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | 0.001 | 59.010 | 7.027 | 14.62 | 14 |
| PHENOLS | 0.001 | 0.023 | 0.004 | 0.01 | 30 |
| OIL AND GREASE | 0.1 | 2.8 | 0.6 | 0.57 | 26 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.001 | ERR | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

04-Dec-89 KWW

MMARY OF WATER QUALITY
ATA - SITE CS-9

STATION LOCATION - RIGHT FORK OF ECCLES CREEK ABOVE MINE

| SAMPLE DATE | 08/15/88 | 11/02/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| PHYSICAL PARAMETERS | | | | | | |
| AIR TEMPERATURE (C) | 23 | 8 | | 18 | 11 | 5 |
| FLOW (CFS) | 0.01 | 0.011 | | 0.019 | 0.012 | 0.009 |
| WATER TEMPERATURE (C) | 14 | 7 | | 12 | 11.5 | 1.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 513 | 587 | | 546 | 618 | 485 |
| PH (SU) FIELD | 7.3 | 7.4 | | 7.1 | 7.2 | 7.85 |
| TURBIDITY (NTU) FIELD | 5.4 | 19 | | 6.0 | 19 | 21.5 |
| TOTAL SUSP. SOLIDS | 21 | 58 | | 96 | 105 | 91 |
| TOTAL DISS. SOLIDS MEAS. | 310 | 405 | | 278 | 330 | 310 |
| OXYGEN (O) DISS | 7.4 | | | | 7.8 | |
| COMMON IONS | | | | | | |
| CALCIUM (CA) | 79.2 | 128.00 | | 73.22 | 86.92 | 83.07 |
| MAGNESIUM (MG) | 18.24 | 13.20 | | 16.22 | 22.65 | 19.19 |
| SODIUM (NA) | 6.64 | 7.24 | | 7.77 | 5.07 | 7.13 |
| POTASSIUM (K) | <0.50 | 1.14 | | 1.18 | 1.46 | 1.71 |
| ACIDITY AS CACO3 | 6 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 224 | | | | 251 | |
| BICARBONATE (HCO3) (LAB) | 273 | 271 | | 267 | 306 | 302 |
| SULFATE (SO4) | 49 | 39 | | 31 | 50 | 39 |
| CHLORIDE (CL) | 6.9 | 81.0 | | 6.8 | 9.8 | 8.0 |
| FLUORIDE (F) | 0.17 | | | | 0.18 | |
| NUTRIENTS | | | | | | |
| NITRATE (NO3-N) | 1.96 | 3.70 | | 2.05 | 1.74 | 1.56 |
| AMMONIA (NH3 AS N) | 0.08 | <0.03 | | 0.04 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.08 | 0.08 | | <0.04 | 0.10 | 0.20 |
| TRACE ELEMENTS | | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | | <0.01 | |
| BARIUM (BA) DISS | | | | | <0.01 | |
| BORON (B) TOTAL | <0.001 | | | | 0.030 | |
| BORON (B) DISS | | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.02 | | | | 0.02 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.31 | 0.66 | | 0.46 | 1.10 | 1.24 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.07 | 0.16 | | 0.09 | 0.21 | 0.23 |
| MANGANESE (MN) DISS | | | | | 0.10 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| ORGANIC PARAMETERS | | | | | | |
| ORGANIC CARBON (TOTAL) | 3.67 | | | | 7.09 | |
| PHENOLS | 0.023 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.7 | 0.5 | | 0.4 | 0.7 | 2.8 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-10

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -5 | 27 | 14.3 | 6.85 | 51 |
| FLOW (CFS) | 0.22 | 28.4 | 3.34 | 6.02 | 46 |
| WATER TEMPERATURE (C) | 0 | 15 | 8.5 | 4.19 | 51 |
| SPEC. COND. (UMHOS/CM) FIELD | 74 | 360 | 218.0 | 61.55 | 51 |
| PH (SU) FIELD | 6.3 | 8.6 | 7.5 | 0.51 | 51 |
| TURBIDITY (NTU) FIELD | 0 | 72 | 14.6 | 15.69 | 45 |
| TOTAL SUSP. SOLIDS | 0.1 | 16 | 4.8 | 5.09 | 18 |
| TOTAL DISS. SOLIDS MEAS. | 75 | 213 | 148.1 | 29.67 | 18 |
| OXYGEN (O) DISS | 7.6 | 13.2 | 9.5 | 1.48 | 13 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 21.6 | 56 | 41.8 | 6.77 | 18 |
| MAGNESIUM (MG) | 0.04 | 8.64 | 5.1 | 2.16 | 18 |
| SODIUM (NA) | 1.1 | 24 | 5.2 | 6.50 | 18 |
| POTASSIUM (K) | 0.5 | 1.5 | 0.8 | 0.27 | 18 |
| ACIDITY AS CACO3 | 0.1 | 16 | 4.7 | 4.31 | 11 |
| ALKALINITY AS CACO3 (LAB) | 54 | 150 | 110.8 | 22.74 | 13 |
| BICARBONATE (HCO3) (LAB) | 66 | 183 | 132.6 | 24.49 | 18 |
| SULFATE (SO4) | 9.5 | 39 | 20.1 | 8.62 | 18 |
| CHLORIDE (CL) | 1.6 | 20 | 4.3 | 4.78 | 18 |
| FLUORIDE (F) | 0.06 | 0.13 | 0.09 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 0.59 | 0.2 | 0.16 | 13 |
| AMMONIA (NH3 AS N) | 0.01 | 1.92 | 0.2 | 0.45 | 18 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 6.2 | 0.7 | 1.56 | 16 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.05 | 0.0 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.03 | 0.03 | 0.0 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.190 | 0.046 | 0.06 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.15 | 0.03 | 0.04 | 9 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.14 | 1.05 | 0.69 | 0.21 | 16 |
| IRON (FE) DISS | 0.16 | 0.16 | 0.16 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.003 | 0.001 | 0.00 | 9 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.02 | 0.08 | 0.05 | 0.01 | 16 |
| MANGANESE (MN) DISS | 0.06 | 0.06 | 0.06 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.020 | 0.010 | 0.01 | 8 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1 | 31.17 | 7.3 | 9.26 | 8 |
| PHENOLS | 0.001 | 0.023 | 0.004 | 0.01 | 13 |
| OIL AND GREASE | 0.01 | 2.40 | 0.56 | 0.73 | 8 |
| CYANIDE (CN) | 0.001 | 0.001 | 0.001 | ERR | 8 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

04-Dec-89 KWW

SUMMARY OF WATER QUALITY
ANALYSIS - SITE CS-10

STATION LOCATION - UPPER LEFT FORK OF HUNTINGTON CREEK

| SAMPLE DATE | 08/18/88 | 10/11/88 | 06/21/89 | 09/06/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 15 | 10 | 14 | 20 | -5 |
| FLOW (CFS) | 0.29 | 0.30 | 1.66 | 0.28 | 0.25 |
| WATER TEMPERATURE (C) | 9.5 | 5.50 | 13 | 12 | 1 |
| SPEC. COND. (UMHOS/CM) FIELD | 292 | 309 | 262 | 330 | 235 |
| PH (SU) FIELD | 7.0 | 7.1 | 7.4 | 6.8 | 7.7 |
| TURBIDITY (NTU) FIELD | 4.7 | 4.9 | 2.6 | 5.5 | 6.3 |
| TOTAL SUSP. SOLIDS | 1 | | 1 | <1.0 | 2 |
| TOTAL DISS. SOLIDS MEAS. | 180 | | 114 | 135 | 158 |
| OXYGEN (O) DISS | 7.6 | | | 8.9 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 56.00 | | 36.61 | 44.13 | 45.54 |
| MAGNESIUM (MG) | 3.84 | | 3.81 | 6.38 | 5.66 |
| SODIUM (NA) | 3.24 | | 2.00 | 1.10 | 1.63 |
| POTASSIUM (K) | 1.06 | | <0.50 | 1.08 | 1.09 |
| ACIDITY AS CACO3 | 3.00 | | | <0.1 | |
| ALKALINITY AS CACO3 (LAB) | 118 | | | 104 | |
| BICARBONATE (HCO3) (LAB) | 144 | | 124 | 127 | 133 |
| SULFATE (SO4) | 39 | | 10 | 29 | 26 |
| CHLORIDE (CL) | 3.0 | | 1.6 | 1.8 | 2.5 |
| FLUORIDE (F) | 0.10 | | | 0.09 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.17 | | 0.16 | 0.15 | 0.18 |
| AMMONIA (NH3 AS N) | 0.04 | | <0.03 | <0.03 | 0.06 |
| TOTAL PHOSPHATE (PO4) | 0.06 | | | <0.04 | 0.07 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | 0.03 | |
| BARIUM (BA) DISS | | | | 0.03 | |
| BORON (B) TOTAL | <0.001 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | 0.02 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.61 | | 0.45 | 0.69 | 0.72 |
| IRON (FE) DISS | | | | 0.16 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.05 | | 0.05 | 0.08 | 0.06 |
| MANGANESE (MN) DISS | | | | 0.06 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.82 | | | | |
| PHENOLS | <0.001 | | | | |
| OIL AND GREASE | 0.3 | | | | |
| CYANIDE (CN) | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-11

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -2 | 27 | 12.1 | 7.84 | 53 |
| FLOW (CFS) | 0.002 | 3.31 | 0.466 | 0.71 | 37 |
| WATER TEMPERATURE (C) | 0 | 13 | 6.1 | 4.06 | 53 |
| SPEC. COND. (UMHOS/CM) FIELD | 194 | 534 | 376.1 | 80.26 | 53 |
| PH (SU) FIELD | 7.2 | 8.5 | 7.9 | 0.34 | 53 |
| TURBIDITY (NTU) FIELD | 0 | 180 | 21.0 | 30.65 | 49 |
| TOTAL SUSP. SOLIDS | 1 | 626 | 61.5 | 110.53 | 53 |
| TOTAL DISS. SOLIDS MEAS. | 128 | 328 | 233.8 | 45.54 | 53 |
| OXYGEN (D) DISS | 5 | 11.5 | 9.2 | 1.65 | 14 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 24 | 97.6 | 64.3 | 13.33 | 53 |
| MAGNESIUM (MG) | 0.01 | 28.8 | 11.86 | 5.45 | 53 |
| SODIUM (NA) | 1.5 | 67 | 7.8 | 10.39 | 53 |
| POTASSIUM (K) | 0.01 | 6.3 | 1.1 | 0.97 | 52 |
| ACIDITY AS CACO3 | 0.01 | 33 | 6.00 | 9.71 | 11 |
| ALKALINITY AS CACO3 (LAB) | 123 | 267 | 215.9 | 37.12 | 14 |
| BICARBONATE (HCO3) (LAB) | 133 | 339 | 241.2 | 50.41 | 53 |
| SULFATE (SO4) | 0.1 | 118 | 20.1 | 17.65 | 53 |
| CHLORIDE (CL) | 0.1 | 40.7 | 5.5 | 7.64 | 53 |
| FLUORIDE (F) | 0.1 | 0.27 | 0.15 | 0.04 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 2.65 | 0.40 | 0.62 | 15 |
| AMMONIA (NH3 AS N) | 0.01 | 1.5 | 0.13 | 0.27 | 31 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 0.66 | 0.14 | 0.15 | 31 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.011 | 0.28 | 0.049 | 0.07 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.020 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.070 | 0.023 | 0.02 | 11 |
| BORON (B) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.10 | 0.020 | 0.03 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.02 | 9.10 | 1.12 | 2.11 | 53 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.004 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.002 | 0.27 | 0.049 | 0.05 | 53 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.058 | 0.021 | 0.02 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.3 | 59.72 | 10.95 | 16.45 | 11 |
| PHENOLS | 0.001 | 10.22 | 0.349 | 1.83 | 30 |
| OIL AND GREASE | 0.01 | 1.9 | 0.42 | 0.45 | 27 |
| CYANIDE (CN) TOTAL | 0.001 | 0.042 | 0.005 | 0.01 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE CS-11

STATION LOCATION - LEFT FORK OF ECCLES CREEK IMMEDIATELY ABOVE MINE

| SAMPLE DATE | 08/15/88 | 11/02/88 | 02/01/89 | 06/22/89 | 09/12/89 | 10/30/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 20 | 5 | | 18 | 10 | -2 |
| FLOW (CFS) | 0.07 | 0.026 | | 0.22 | 0.03 | |
| WATER TEMPERATURE (C) | 9 | 3 | | 9 | 6 | 0.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 419 | 506 | | 437 | 534 | 490 |
| PH (SU) FIELD | 7.5 | 7.6 | | 7.5 | 7.3 | 7.7 |
| TURBIDITY (NTU) FIELD | 4.45 | 2.4 | | 2.0 | 2.7 | 4.6 |
| TOTAL SUSP. SOLIDS | 7 | 12 | | 8 | 6 | 15 |
| TOTAL DISS. SOLIDS MEAS. | 240 | 294 | | 234 | 328 | 320 |
| OXYGEN (O) DISS | 9.4 | | | | 9.2 | |
| **COMMON IONS** | | | | | | |
| CALCIUM (CA) | 64.00 | 68.00 | | 59.80 | 73.74 | 78.20 |
| MAGNESIUM (MG) | 11.52 | 28.80 | | 10.12 | 17.73 | 16.14 |
| SODIUM (NA) | 4.06 | 5.25 | | 7.38 | 28.00 | 17.36 |
| POTASSIUM (K) | 0.60 | 0.56 | | 0.60 | 0.99 | 1.13 |
| ACIDITY AS CACO3 | 6.00 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 202 | | | | 228 | |
| BICARBONATE (HCO3) (LAB) | 246 | 274 | | 222 | 339 | 279 |
| SULFATE (SO4) | 10 | 16 | | 9 | 21 | 18 |
| CHLORIDE (CL) | 3.7 | 36.0 | | 11.9 | 20.0 | 40.7 |
| FLUORIDE (F) | 0.14 | | | | 0.15 | |
| **NUTRIENTS** | | | | | | |
| NITRATE (NO3-N) | 0.14 | 2.65 | | 0.24 | 0.17 | 0.32 |
| AMMONIA (NH3 AS N) | 0.05 | <0.03 | | <0.03 | 0.04 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.06 | 0.06 | | <0.04 | 0.06 | 0.10 |
| **TRACE ELEMENTS** | | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | | 0.02 | |
| BARIUM (BA) DISS | | | | | 0.02 | |
| BORON (B) TOTAL | <0.001 | | | | <0.010 | |
| BORON (B) DISS | | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.02 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.19 | 0.10 | | 0.09 | 0.05 | 0.28 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.02 | 0.02 | | <0.01 | <0.01 | 0.04 |
| MANGANESE (MN) DISS | | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| **ORGANIC PARAMETERS** | | | | | | |
| ORGANIC CARBON (TOTAL) | 3.69 | | | | 4.24 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.5 | 0.7 | | <0.10 | 0.3 | 1.9 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-12

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -23 | 26 | 6.6 | 9.96 | 66 |
| FLOW (CFS) | 0.18 | 0.99 | 0.5 | 0.20 | 58 |
| WATER TEMPERATURE (C) | 4 | 16.5 | 11.6 | 1.87 | 67 |
| SPEC. COND. (UMHOS/CM) FIELD | 8 | 1274 | 777.3 | 232.49 | 66 |
| PH (SU) FIELD | 6.8 | 8 | 7.3 | 0.31 | 67 |
| TURBIDITY (NTU) FIELD | 0 | 180 | 29.6 | 32.45 | 66 |
| TOTAL SUSP. SOLIDS | 2 | 4750 | 214.7 | 777.93 | 67 |
| TOTAL DISS. SOLIDS MEAS. | 310 | 938 | 533.3 | 154.43 | 67 |
| OXYGEN (D) DISS | 3.2 | 9 | 6.3 | 1.82 | 6 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 42 | 238 | 96.9 | 36.92 | 65 |
| MAGNESIUM (MG) | 9.1 | 52.35 | 29.7 | 10.86 | 65 |
| SODIUM (NA) | 7.4 | 90 | 32.1 | 22.61 | 65 |
| POTASSIUM (K) | 2.4 | 11 | 6.8 | 1.95 | 64 |
| ACIDITY AS CACO3 | 0.01 | 12 | 5.8 | 4.25 | 7 |
| ALKALINITY AS CACO3 (LAB) | 165 | 250 | 205.3 | 31.26 | 7 |
| BICARBONATE (HCO3) (LAB) | 170.8 | 305 | 226.4 | 27.35 | 65 |
| SULFATE (SO4) | 44 | 516 | 225.0 | 104.76 | 65 |
| CHLORIDE (CL) | 1 | 70 | 9.3 | 10.36 | 65 |
| FLUORIDE (F) | 0.1 | 0.58 | 0.4 | 0.15 | 7 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 2 | 1.0 | 0.67 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 1.8 | 0.2 | 0.40 | 18 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.21 | 0.1 | 0.05 | 21 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.05 | 0.11 | 0.1 | 0.02 | 7 |
| BARIUM (BA) DISS | 0.04 | 0.04 | 0.0 | 0.00 | 1 |
| BORON (B) TOTAL | 0.141 | 0.55 | 0.2 | 0.13 | 7 |
| BORON (B) DISS | 0.15 | 0.15 | 0.2 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.01 | 0.08 | 0.0 | 0.02 | 7 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.02 | 32.4 | 1.5 | 4.73 | 65 |
| IRON (FE) DISS | 0.07 | 0.07 | 0.0 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.009 | 0.0 | 0.00 | 7 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.0 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 14.4 | 0.3 | 1.82 | 61 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.003 | 0.062 | 0.0 | 0.02 | 6 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.1 | 54.23 | 12.1 | 17.95 | 7 |
| PHENOLS | 0.001 | 0.018 | 0.0 | 0.00 | 19 |
| OIL AND GREASE | 0.1 | 12.5 | 1.4 | 2.06 | 52 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.0 | ERR | 7 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE CS-12

STATION LOCATION - DISCHARGE FROM MINE NO. 3

| SAMPLE DATE | 08/15/88 | 11/03/88 | 02/27/89 | 06/22/89 | 09/12/89 | 10/30/89 |
|---|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 21 | 4 | 2 | 14 | 9 | 6 |
| FLOW (CFS) | 0.76 | 0.87 | 0.95 | 0.67 | 0.76 | 0.93 |
| WATER TEMPERATURE (C) | 14.5 | 11 | 10.5 | 11 | 11.5 | 11 |
| SPEC. COND. (UMHOS/CM) FIELD | 956 | 1098 | 1074 | 1112 | 1080 | 900 |
| PH (SU) FIELD | 7.1 | 7.4 | 7.6 | 7.3 | 7.1 | 7.8 |
| TURBIDITY (NTU) FIELD | 7.55 | 8.7 | 9.85 | 13 | 31 | 8 |
| TOTAL SUSP. SOLIDS | 21 | 11 | 3 | 10 | 30 | 6 |
| TOTAL DISS. SOLIDS MEAS. | 645 | 838 | 786 | 655 | 675 | 589 |
| OXYGEN (O) DISS | 5.8 | | | | 7.8 | |
| **COMMON IONS** | | | | | | |
| CALCIUM (CA) | 96.40 | 160.00 | 156.40 | 76.92 | 77.52 | 63.78 |
| MAGNESIUM (MG) | 43.20 | 36.00 | 22.56 | 43.12 | 53.35 | 44.88 |
| SODIUM (NA) | 61.45 | 56.98 | 59.73 | 70.52 | 62.26 | 61.68 |
| POTASSIUM (K) | 9.04 | 8.00 | 7.96 | 9.97 | 11.00 | 9.58 |
| ACIDITY AS CACO3 | 5.00 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 189 | | | | 203 | |
| BICARBONATE (HCO3) (LAB) | 231 | 233 | 217 | 227 | 248 | 234 |
| SULFATE (SO4) | 223 | 450 | 323 | 330 | 338 | 284 |
| CHLORIDE (CL) | 5.9 | 7.9 | 70.0 | 6.0 | 7.0 | 4.5 |
| FLUORIDE (F) | 0.58 | | | | 0.49 | |
| **NUTRIENTS** | | | | | | |
| NITRATE (NO3-N) | 1.16 | 1.63 | 1.21 | 1.54 | 1.88 | 2.00 |
| AMMONIA (NH3 AS N) | 0.14 | 0.15 | <0.03 | 0.12 | 0.05 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.05 | <0.04 | 0.21 | <0.04 | 0.15 | 0.10 |
| **TRACE ELEMENTS** | | | | | | |
| BARIUM (BA) TOTAL | 0.09 | | | | 0.05 | |
| BARIUM (BA) DISS | | | | | 0.04 | |
| BORON (B) TOTAL | 0.240 | | | | 0.180 | |
| BORON (B) DISS | | | | | 0.150 | |
| COPPER (CU) TOTAL | <0.01 | | | | 0.03 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.26 | 0.15 | 0.13 | 0.27 | 0.35 | 0.12 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.03 | <0.01 | <0.01 | 0.02 | 0.02 | <0.01 |
| MANGANESE (MN) DISS | | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| **OTHER PARAMETERS** | | | | | | |
| ORGANIC CARBON (TOTAL) | 16.75 | | | | 5.62 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 1.8 | 0.9 | 0.5 | 0.4 | 0.9 | 1.4 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE CS-13

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -14 | 28 | 9.2 | 9.57 | 48 |
| FLOW (CFS) | 0.01 | 4 | 0.11 | 0.57 | 48 |
| WATER TEMPERATURE (C) | 0.5 | 15 | 7.9 | 3.32 | 48 |
| SPEC. COND. (UMHOS/CM) FIELD | 591 | 1067 | 755.6 | 112.87 | 48 |
| PH (SU) FIELD | 6.7 | 7.7 | 7.2 | 0.26 | 48 |
| TURBIDITY (NTU) FIELD | 0.07 | 40 | 5.43 | 7.68 | 48 |
| TOTAL SUSP. SOLIDS | 0.1 | 227 | 16.3 | 34.24 | 48 |
| TOTAL DISS. SOLIDS MEAS. | 360 | 665 | 471.3 | 63.17 | 48 |
| OXYGEN (O) DISS | 6.4 | 9.8 | 7.9 | 1.15 | 6 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 65.6 | 220 | 112.1 | 26.15 | 48 |
| MAGNESIUM (MG) | 2.4 | 53.28 | 28.1 | 9.84 | 48 |
| SODIUM (NA) | 8.1 | 45 | 19.4 | 9.66 | 48 |
| POTASSIUM (K) | 1.47 | 5.21 | 2.42 | 0.56 | 48 |
| ACIDITY AS CACO3 | 0.01 | 20.2 | 8.7 | 7.43 | 6 |
| ALKALINITY AS CACO3 (LAB) | 282 | 340 | 306.0 | 18.98 | 6 |
| BICARBONATE (HCO3) (LAB) | 240.3 | 414.8 | 356.1 | 29.25 | 49 |
| SULFATE (SO4) | 51 | 216 | 90.7 | 33.42 | 47 |
| CHLORIDE (CL) | 9.6 | 110 | 35.0 | 21.27 | 48 |
| FLUORIDE (F) | 0.12 | 0.18 | 0.16 | 0.02 | 6 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.05 | 0.95 | 0.34 | 0.31 | 9 |
| AMMONIA (NH3 AS N) | 0.01 | 0.51 | 0.13 | 0.17 | 19 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.1 | 0.04 | 0.02 | 18 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.05 | 0.08 | 0.07 | 0.01 | 6 |
| BARIUM (BA) DISS | 0.07 | 0.07 | 0.07 | ERR | 1 |
| BORON (B) TOTAL | 0.01 | 0.27 | 0.08 | 0.09 | 6 |
| BORON (B) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.01 | 0.05 | 0.02 | 0.01 | 6 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 1.11 | 0.18 | 0.21 | 48 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.013 | 0.00 | 0.00 | 6 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.00 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 0.3 | 0.04 | 0.04 | 46 |
| MANGANESE (MN) DISS | 0.06 | 0.06 | 0.06 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.056 | 0.020 | 0.02 | 5 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 77.06 | 19.08 | 29.14 | 5 |
| PHENOLS | 0.001 | 0.19 | 0.012 | 0.04 | 19 |
| OIL AND GREASE | 0.02 | 1.2 | 0.40 | 0.30 | 19 |
| CYANIDE (CN) TOTAL | 0.001 | 0.008 | 0.002 | 0.00 | 6 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE CS-13

STATION LOCATION - FRENCH DRAIN ON NORTH SIDE OF LOADOUT

| SAMPLE DATE | 07/20/88 | 08/16/88 | 11/03/88 | 02/01/89 | 06/23/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|---|
| | | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | | |
| AIR TEMPERATURE (C) | 28 | 17 | 6 | | 13 | 14 | 0 |
| FLOW (CFS) | 0.018 | 0.016 | 0.014 | | 0.014 | 0.011 | 0.010 |
| WATER TEMPERATURE (C) | 15 | 11 | 6.5 | | 7 | 13.5 | 7 |
| SPEC. COND. (UMHOS/CM) FIELD | 859 | 847 | 882 | | 967 | 917 | 755 |
| PH (SU) FIELD | 7.4 | 6.8 | 7.1 | | 7.1 | 6.9 | 7.6 |
| TURBIDITY (NTU) FIELD | 5.2 | 0.56 | 13 | | 1.4 | 1.5 | 1.4 |
| TOTAL SUSP. SOLIDS | 8 | 4 | 35 | | 6 | 2 | 4 |
| TOTAL DISS. SOLIDS MEAS. | 470 | 510 | 650 | | 545 | 565 | 485 |
| OXYGEN (D) DISS | | 6.6 | | | | 7.9 | |
| **COMMON IONS** | | | | | | | |
| CALCIUM (CA) | 115.20 | 82.40 | 204.00 | | 122.20 | 130.50 | 107.75 |
| MAGNESIUM (MG) | 51.20 | 53.28 | 2.40 | | 30.62 | 34.00 | 29.77 |
| SODIUM (NA) | 28.16 | 26.57 | 21.47 | | 31.17 | 23.36 | 26.22 |
| POTASSIUM (K) | 2.68 | 2.37 | 1.77 | | 2.48 | 2.61 | 2.53 |
| ACIDITY AS CACO3 | | 9.00 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | | 299 | | | | 308 | |
| BICARBONATE (HCO3) (LAB) | 349 | 365 | 348 | | 374 | 376 | 366 |
| SULFATE (SO4) | 106 | 124 | 216 | | 109 | 128 | 85 |
| CHLORIDE (CL) | 110 | 41.0 | 37.0 | | 62.5 | 57.5 | 45.5 |
| FLUORIDE (F) | | 0.18 | | | | 0.16 | |
| **NUTRIENTS** | | | | | | | |
| NITRATE (NO3-N) | | 0.06 | 0.15 | | 0.18 | 0.05 | 0.24 |
| AMMONIA (NH3 AS N) | | <0.03 | 0.05 | | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | | 0.05 | <0.04 | | <0.04 | 0.06 | <0.04 |
| **TRACE ELEMENTS** | | | | | | | |
| BARIUM (BA) TOTAL | | 0.07 | | | | 0.07 | |
| BARIUM (BA) DISS | | | | | | 0.07 | |
| BORON (B) TOTAL | | 0.060 | | | | <0.010 | |
| BORON (B) DISS | | | | | | <0.010 | |
| COPPER (CU) TOTAL | | 0.02 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.31 | 0.08 | 0.74 | | 0.16 | 0.07 | 0.15 |
| IRON (FE) DISS | | | | | | <0.03 | |
| LEAD (PB) TOTAL | | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.03 | 0.02 | 0.06 | | 0.02 | 0.07 | 0.05 |
| MANGANESE (MN) DISS | | | | | | 0.06 | |
| ZINC (ZN) TOTAL | | <0.005 | | | | | |
| **OTHER PARAMETERS** | | | | | | | |
| ORGANIC CARBON (TOTAL) | | 2.99 | | | | 8.17 | |
| PHENOLS | | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | | 0.6 | 0.6 | | 0.4 | 0.8 | 1.2 |
| CYANIDE (CN) TOTAL | | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSIS FOR SITE CS-14

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 9 | 11 | 9.8 | 0.85 | 3 |
| FLOW (CFS) | 0.28 | 0.46 | 0.35 | 0.08 | 3 |
| WATER TEMPERATURE (C) | 5.5 | 10 | 7.7 | 1.47 | 5 |
| SPEC. COND. (UMHOS/CM) FIELD | 762 | 2740 | 1457.8 | 710.01 | 5 |
| PH (SU) FIELD | 6.5 | 7.45 | 7.2 | 0.33 | 5 |
| TURBIDITY (NTU) FIELD | 3.4 | 100 | 34.6 | 36.85 | 5 |
| TOTAL SUSP. SOLIDS | 7 | 656 | 174.6 | 244.78 | 5 |
| TOTAL DISS. SOLIDS MEAS. | 412 | 2570 | 1133.4 | 773.30 | 5 |
| OXYGEN (O) DISS | 3.4 | 3.4 | 3.4 | ERR | 1 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 85.28 | 700.00 | 281.26 | 220.72 | 5 |
| MAGNESIUM (MG) | 0.27 | 53.91 | 30.32 | 18.87 | 5 |
| SODIUM (NA) | 5.50 | 38.00 | 18.51 | 12.27 | 5 |
| POTASSIUM (K) | 2.35 | 11.59 | 6.22 | 3.02 | 5 |
| ACIDITY AS CACO3 | 0.02 | 2.50 | 1.26 | 1.24 | 2 |
| ALKALINITY AS CACO3 (LAB) | 177 | 203 | 190.0 | 13.00 | 2 |
| BICARBONATE (HCO3) (LAB) | 216 | 267 | 239.8 | 16.99 | 5 |
| SULFATE (SO4) | 147 | 1470 | 609.4 | 482.74 | 5 |
| CHLORIDE (CL) | 3.9 | 75.0 | 31.6 | 26.29 | 5 |
| FLUORIDE (F) | 0.26 | 0.82 | 0.54 | 0.28 | 2 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.07 | 0.70 | 0.26 | 0.23 | 5 |
| AMMONIA (NH3 AS N) | 0.03 | 0.67 | 0.33 | 0.27 | 5 |
| TOTAL PHOSPHATE (PO4) | 0.04 | 0.40 | 0.17 | 0.13 | 5 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.08 | 0.10 | 0.09 | 0.01 | 2 |
| BARIUM (BA) DISS | 0.06 | 0.06 | 0.06 | 0.00 | 1 |
| BORON (B) TOTAL | 0.210 | 0.240 | 0.225 | 0.01 | 2 |
| BORON (B) DISS | 0.170 | 0.170 | 0.170 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.02 | 0.02 | 0.02 | 0.00 | 2 |
| COPPER (CU) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.06 | 7.34 | 2.20 | 2.62 | 5 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.001 | 0.001 | ERR | 2 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 0.23 | 0.10 | 0.08 | 5 |
| MANGANESE (MN) DISS | 0.07 | 0.07 | 0.07 | ERR | 1 |
| ZINC (ZN) TOTAL | 0.037 | 0.037 | 0.037 | ERR | 1 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 5.72 | 7.83 | 6.78 | 1.05 | 2 |
| PHENOLS | 0.001 | 0.001 | 0.001 | ERR | 4 |
| OIL AND GREASE | 0.1 | 4.1 | 1.9 | 1.44 | 5 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.001 | ERR | 2 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - CS-14

STATION LOCATION - DISCHARGE FROM MINE NO. 1

| SAMPLE DATE | 01/25/89 | 02/27/89 | 06/23/89 | 09/18/89 | 10/30/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | | | 9 | 11 | 9.5 |
| FLOW (CFS) | | | 0.28 | 0.46 | 0.31 |
| WATER TEMPERATURE (C) | 5.5 | 8.0 | 7 | 10 | 8 |
| SPEC. COND. (UMHOS/CM) FIELD | 2740 | 896 | 762 | 1641 | 1250 |
| PH (SU) FIELD | 7.2 | 7.3 | 7.3 | 6.5 | 7.45 |
| TURBIDITY (NTU) FIELD | 50.5 | 3.4 | 6.0 | 100 | 13 |
| TOTAL SUSP. SOLIDS | 138 | 7 | 36 | 656 | 36 |
| TOTAL DISS. SOLIDS MEAS. | 2570 | 586 | 412 | 1264 | 835 |
| OXYGEN (D) DISS | | | | 3.4 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 700.00 | 154.40 | 85.28 | 300.90 | 165.70 |
| MAGNESIUM (MG) | 0.23 | 19.68 | 33.47 | 53.91 | 44.33 |
| SODIUM (NA) | 38.00 | 5.50 | 7.22 | 15.23 | 26.60 |
| POTASSIUM (K) | 2.35 | 5.04 | 5.69 | 6.42 | 11.59 |
| ACIDITY AS CACO3 | 2.50 | | | 0.02 | |
| ALKALINITY AS CACO3 (LAB) | 207 | | | 177 | |
| BICARBONATE (HCO3) (LAB) | 248 | 233 | 267 | 216 | 235 |
| SULFATE (SO4) | 1470 | 210 | 147 | 770 | 450 |
| CHLORIDE (CL) | 75.0 | 48.0 | 3.9 | 18.7 | 12.4 |
| FLUORIDE (F) | 0.82 | | | 0.26 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.70 | 0.25 | 0.08 | 0.18 | 0.07 |
| AMMONIA (NH3 AS N) | 0.64 | <0.03 | 0.17 | 0.13 | 0.67 |
| TOTAL PHOSPHATE (PO4) | 0.13 | 0.06 | <0.04 | 0.40 | 0.22 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.08 | | | 0.10 | |
| BARIUM (BA) DISS | | | | 0.06 | |
| BORON (B) TOTAL | 0.240 | | | 0.210 | |
| BORON (B) DISS | | | | 0.170 | |
| COPPER (CU) TOTAL | 0.02 | | | <0.02 | |
| COPPER (CU) DISS | | | | <0.02 | |
| IRON (FE) TOTAL | 1.77 | 0.06 | 0.60 | 7.34 | 1.23 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.23 | <0.01 | 0.03 | 0.16 | 0.08 |
| MANGANESE (MN) DISS | | | | 0.07 | |
| ZINC (ZN) TOTAL | 0.037 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 7.83 | | | 5.72 | |
| PHENOLS | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 2.8 | <0.1 | 4.1 | 2.0 | 0.7 |
| CYANIDE (CN) TOTAL | <0.001 | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSIS FOR SITE CS-15

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | 0 | 0.15 | 0.05 | 0.06 | 5 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - SITE CS-15

STATION LOCATION - RIGHT FORK OF UPPER SOUTH FORK OF ECCLES CREEK

| SAMPLE DATE | 10/20/88 | 05/03/89 | 06/22/89 | 09/12/89 | 10/19/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | 0.0068 | 0.15 | 0.071 | 0 | 0 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE UPL-10

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 0 | 23 | 14.2 | 5.27 | 50 |
| FLOW (CFS) | 0.60 | 79.00 | 8.97 | 15.86 | 41 |
| WATER TEMPERATURE (C) | 0 | 17.5 | 9.6 | 4.71 | 50 |
| SPEC. COND. (UMHOS/CM) FIELD | 35.3 | 406 | 262.7 | 70.07 | 50 |
| PH (SU) FIELD | 6.6 | 8.6 | 7.8 | 0.46 | 50 |
| TURBIDITY (NTU) FIELD | 0 | 50 | 11.5 | 11.24 | 44 |
| TOTAL SUSP. SOLIDS | 1 | 41 | 7.0 | 9.72 | 18 |
| TOTAL DISS. SOLIDS MEAS. | 115 | 225 | 178.1 | 26.22 | 17 |
| OXYGEN (O) DISS | 6.6 | 12.3 | 9.2 | 1.48 | 15 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 29.6 | 60.8 | 49.9 | 7.10 | 18 |
| MAGNESIUM (MG) | 0.02 | 21.60 | 7.32 | 4.29 | 18 |
| SODIUM (NA) | 1.5 | 16 | 7.1 | 5.16 | 17 |
| POTASSIUM (K) | 0.50 | 0.92 | 0.70 | 0.14 | 17 |
| ACIDITY AS CACO3 | 0.01 | 16.00 | 3.79 | 5.67 | 11 |
| ALKALINITY AS CACO3 (LAB) | 84 | 181 | 153.0 | 23.19 | 17 |
| BICARBONATE (HCO3) (LAB) | 102 | 221 | 178.9 | 28.43 | 18 |
| SULFATE (SO4) | 3 | 38 | 16.0 | 9.38 | 17 |
| CHLORIDE (CL) | 0.1 | 20 | 4.4 | 4.77 | 18 |
| FLUORIDE (F) | 0.07 | 0.14 | 0.10 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 0.33 | 0.18 | 0.09 | 13 |
| AMMONIA (NH3 AS N) | 0.01 | 0.90 | 0.15 | 0.24 | 18 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 6.00 | 0.53 | 1.38 | 17 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.20 | 0.05 | 0.05 | 11 |
| BARIUM (BA) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.080 | 0.023 | 0.02 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.020 | 0.009 | 0.00 | 11 |
| COPPER (CU) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.08 | 0.72 | 0.37 | 0.17 | 18 |
| IRON (FE) DISS | 0.05 | 0.05 | 0.05 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.007 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 0.07 | 0.03 | 0.01 | 18 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.044 | 0.013 | 0.01 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 38.46 | 9.19 | 11.54 | 10 |
| PHENOLS | 0.001 | 26.000 | 1.871 | 6.98 | 15 |
| OIL AND GREASE | 0.01 | 23.80 | 2.76 | 7.05 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.005 | 0.002 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES SITE UPL-10

STATION LOCATION - HUNTINGTON CREEK ABOVE ELECTRIC LAKE

| SAMPLE DATE | 08/18/88 | 10/11/88 | 06/21/89 | 09/07/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 19 | 13 | 15 | 17 | 8 |
| FLOW (CFS) | 1.67 | 1.40 | 4.10 | 0.95 | 1.35 |
| WATER TEMPERATURE (C) | 10 | 9 | 16 | 7.5 | 6 |
| SPEC. COND. (UMHOS/CM) FIELD | 341 | 353 | 287 | 383 | 280 |
| PH (SU) FIELD | 7.2 | 7.2 | 7.6 | 6.8 | 8.15 |
| TURBIDITY (NTU) FIELD | 3.0 | 2.95 | 2.0 | 3.15 | 3.6 |
| TOTAL SUSP. SOLIDS | 3 | | 2 | <1 | <1 |
| TOTAL DISS. SOLIDS MEAS. | 185 | | 198 | 188 | 179 |
| OXYGEN (O) DISS | 7.4 | | | 8.7 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 60.80 | | 43.19 | 53.37 | 52.87 |
| MAGNESIUM (MG) | 0.96 | | 0.03 | 9.83 | 8.50 |
| SODIUM (NA) | 8.50 | | 16.00 | 1.50 | 1.97 |
| POTASSIUM (K) | <0.50 | | <0.50 | 0.70 | 0.87 |
| ACIDITY AS CACO3 | <0.05 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 162 | | | 146 | |
| BICARBONATE (HCO3) (LAB) | 198 | | 177 | 178 | 176 |
| SULFATE (SO4) | 10 | | 7 | 24 | 20 |
| CHLORIDE (CL) | 1.9 | | 11.4 | 2.6 | 3.3 |
| FLUORIDE (F) | 0.11 | | | 0.09 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.18 | | 0.17 | 0.11 | 0.24 |
| AMMONIA (NH3 AS N) | 0.05 | | 0.05 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | | <0.04 | <0.04 | 0.47 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | 0.04 | |
| BARIUM (BA) DISS | | | | 0.03 | |
| BORON (B) TOTAL | 0.020 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.33 | | 0.30 | 0.36 | 0.32 |
| IRON (FE) DISS | | | | 0.05 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.04 | | 0.03 | <0.01 | 0.02 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.51 | | | | |
| PHENOLS | <0.001 | | | | |
| OIL AND GREASE | 0.2 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE VC-6

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -24 | 26 | 6.6 | 10.56 | 90 |
| FLOW (CFS) | 0.1 | 25.4 | 2.5 | 4.32 | 59 |
| WATER TEMPERATURE (C) | 0 | 16.5 | 6.3 | 4.65 | 90 |
| SPEC. COND. (UMHOS/CM) FIELD | 248 | 1264 | 579.9 | 216.24 | 90 |
| PH (SU) FIELD | 7.3 | 8.6 | 8.0 | 0.29 | 90 |
| TURBIDITY (NTU) FIELD | 0.7 | 103 | 30.3 | 30.67 | 82 |
| TOTAL SUSP. SOLIDS | 1 | 1868 | 94.5 | 234.31 | 90 |
| TOTAL DISS. SOLIDS MEAS. | 148 | 821 | 387.2 | 139.38 | 90 |
| OXYGEN (O) DISS | 5.9 | 11.4 | 8.4 | 1.67 | 16 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 20.8 | 160 | 82.5 | 23.49 | 90 |
| MAGNESIUM (MG) | 0.10 | 79.68 | 22.02 | 11.92 | 90 |
| SODIUM (NA) | 2.40 | 90.45 | 21.68 | 19.95 | 90 |
| POTASSIUM (K) | 0.55 | 9.83 | 3.35 | 2.11 | 90 |
| ACIDITY AS CACO3 | 0.01 | 27.00 | 5.58 | 7.61 | 11 |
| ALKALINITY AS CACO3 (LAB) | 143 | 294 | 225.3 | 39.62 | 15 |
| BICARBONATE (HCO3) (LAB) | 15 | 359 | 261.1 | 49.63 | 90 |
| SULFATE (SO4) | 3 | 429 | 107.4 | 95.19 | 89 |
| CHLORIDE (CL) | 0.6 | 94.5 | 14.1 | 16.31 | 89 |
| FLUORIDE (F) | 0.15 | 0.49 | 0.28 | 0.13 | 10 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.24 | 1.54 | 0.76 | 0.43 | 14 |
| AMMONIA (NH3 AS N) | 0.01 | 0.62 | 0.13 | 0.16 | 34 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 1.28 | 0.19 | 0.27 | 34 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.03 | 0.08 | 0.06 | 0.01 | 10 |
| BARIUM (BA) DISS | 0.04 | 0.04 | 0.04 | 0.00 | 1 |
| BORON (B) TOTAL | 0.012 | 0.270 | 0.109 | 0.09 | 10 |
| BORON (B) DISS | 0.180 | 0.180 | 0.180 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.020 | 0.011 | 0.00 | 10 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.02 | 28.00 | 1.49 | 3.77 | 87 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.004 | 0.001 | 0.00 | 10 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 1.05 | 0.16 | 0.15 | 85 |
| MANGANESE (MN) DISS | 0.08 | 0.09 | 0.08 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.007 | 0.028 | 0.016 | 0.01 | 8 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.40 | 47.52 | 9.39 | 13.20 | 10 |
| PHENOLS | 0.001 | 0.266 | 0.013 | 0.05 | 30 |
| OIL AND GREASE | 0.01 | 2.80 | 0.63 | 0.66 | 24 |
| CYANIDE (CN) TOTAL | 0.001 | 0.002 | 0.001 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE VC-6

STATION LOCATION - ECCLES CREEK ABOVE CONFLUENCE WITH SOUTH FORK

| SAMPLE DATE | 08/16/88 | 11/02/88 | 02/01/89 | 06/23/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 7 | 10.5 | | 10 | 15 | -3 |
| FLOW (CFS) | 1.57 | 0.10 | | 2.20 | 1.14 | 1.88 |
| WATER TEMPERATURE (C) | 12 | 7 | | 10 | 11 | 6 |
| SPEC. COND. (UMHOS/CM) FIELD | 891 | 972 | | 978 | 1105 | 990 |
| PH (SU) FIELD | 7.6 | 7.7 | | 7.7 | 7.3 | 7.9 |
| TURBIDITY (NTU) FIELD | 6.4 | 1.65 | | 6.5 | 16 | 13 |
| TOTAL SUSP. SOLIDS | 17 | 2 | | 8 | 30 | 25 |
| TOTAL DISS. SOLIDS MEAS. | 625 | 550 | | 575 | 695 | 645 |
| OXYGEN (O) DISS | 8.4 | | | 8.2 | 7.6 | 7.8 |
| COMMON IONS | | | | | | |
| CALCIUM (CA) | 119.20 | 146.00 | | 82.27 | 98.39 | 82.93 |
| MAGNESIUM (MG) | 21.60 | 15.60 | | 35.62 | 53.44 | 45.49 |
| SODIUM (NA) | 56.16 | 29.33 | | 57.60 | 50.23 | 56.23 |
| POTASSIUM (K) | 7.74 | 3.66 | | 4.85 | 9.83 | 9.11 |
| ACIDITY AS CACO3 | 7.00 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 214 | | | | 201 | |
| BICARBONATE (HCO3) (LAB) | 261 | 272 | | 243 | 245 | 238 |
| SULFATE (SO4) | 285 | 144 | | 264 | 335 | 305 |
| CHLORIDE (CL) | 9.3 | 80.0 | | 11.2 | 24.9 | 14.8 |
| FLUORIDE (F) | 0.46 | | | | 0.46 | |
| NUTRIENTS | | | | | | |
| NITRATE (NO3-N) | 0.75 | 1.30 | | 1.21 | 1.40 | 1.54 |
| AMMONIA (NH3 AS N) | 0.11 | 0.10 | | 0.07 | 0.05 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.06 | <0.04 | | <0.04 | 0.33 | 0.13 |
| TRACE ELEMENTS | | | | | | |
| BARIUM (BA) TOTAL | 0.08 | | | | 0.05 | |
| BARIUM (BA) DISS | | | | | 0.04 | |
| BORON (B) TOTAL | 0.210 | | | | 0.200 | |
| BORON (B) DISS | | | | | 0.180 | |
| COPPER (CU) TOTAL | <0.01 | | | | 0.02 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.30 | 0.25 | | 0.27 | 0.47 | 0.45 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.11 | 0.16 | | 0.07 | 0.09 | 0.06 |
| MANGANESE (MN) DISS | | | | | 0.08 | |
| ZINC (ZN) TOTAL | 0.008 | | | | | |
| OTHER PARAMETERS | | | | | | |
| ORGANIC CARBON (TOTAL) | 10.86 | | | | 5.50 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | <0.1 | 0.3 | | 0.7 | 0.4 | 0.8 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE VC-9

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -22 | 28 | 7.6 | 10.43 | 96 |
| FLOW (CFS) | 1.92 | 3.8 | 2.64 | 0.59 | 9 |
| WATER TEMPERATURE (C) | 0 | 18 | 6.0 | 4.50 | 96 |
| SPEC. COND. (UMHOS/CM) FIELD | 265 | 2280 | 616.7 | 256.75 | 96 |
| PH (SU) FIELD | 7 | 8.5 | 7.9 | 0.30 | 96 |
| TURBIDITY (NTU) FIELD | 0 | 103 | 18.3 | 24.00 | 85 |
| TOTAL SUSP. SOLIDS | 1 | 4166 | 120.5 | 456.30 | 96 |
| TOTAL DISS. SOLIDS MEAS. | 176 | 1320 | 382.5 | 144.12 | 96 |
| OXYGEN (O) DISS | 3.4 | 10.9 | 9.0 | 1.64 | 17 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 20.2 | 184 | 77.3 | 20.37 | 96 |
| MAGNESIUM (MG) | 2.4 | 72 | 25.7 | 9.42 | 96 |
| SODIUM (NA) | 2 | 394 | 25.0 | 45.79 | 96 |
| POTASSIUM (K) | 0.78 | 6.90 | 2.85 | 1.14 | 96 |
| ACIDITY AS CACO3 | 0.01 | 16.00 | 5.23 | 5.03 | 11 |
| ALKALINITY AS CACO3 (LAB) | 178 | 319 | 239.0 | 30.33 | 19 |
| BICARBONATE (HCO3) (LAB) | 168 | 389 | 273.6 | 36.04 | 96 |
| SULFATE (SO4) | 4 | 426 | 83.2 | 60.72 | 95 |
| CHLORIDE (CL) | 1.8 | 392 | 25.8 | 43.42 | 95 |
| FLUORIDE (F) | 0.15 | 0.32 | 0.22 | 0.06 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 0.91 | 0.31 | 0.30 | 14 |
| AMMONIA (NH3 AS N) | 0.01 | 2.46 | 0.20 | 0.45 | 38 |
| TOTAL PHOSPHATE (PO4) | 0.001 | 0.850 | 0.134 | 0.20 | 37 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | 0.08 | 0.06 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.06 | 0.06 | 0.06 | 0.00 | 1 |
| BORON (B) TOTAL | 0.014 | 0.430 | 0.093 | 0.11 | 11 |
| BORON (B) DISS | 0.080 | 0.080 | 0.080 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.01 | 0.04 | 0.01 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 36.20 | 1.54 | 4.43 | 96 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.005 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 1.00 | 0.12 | 0.13 | 96 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.030 | 0.013 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.23 | 56.82 | 11.89 | 15.90 | 10 |
| PHENOLS | 0.001 | 0.740 | 0.029 | 0.12 | 38 |
| OIL AND GREASE | 0.1 | 16 | 1.0 | 2.92 | 28 |
| CYANIDE (CN) TOTAL | 0.001 | 0.026 | 0.003 | 0.01 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE VC-9

STATION LOCATION - ECCLES CREEK ABOVE CONFLUENCE WITH MUD CREEK

| SAMPLE DATE | 08/16/88 | 11/03/88 | 02/01/89 | 06/23/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 18 | 6 | | 14 | 16 | -3 |
| FLOW (CFS) | | | | 2.30 | 2.00 | 3.31 |
| WATER TEMPERATURE (C) | 10 | 9 | | 8 | 9.5 | 2 |
| SPEC. COND. (UMHOS/CM) FIELD | 769 | 820 | | 822 | 904 | 800 |
| PH (SU) FIELD | 7.2 | 7.6 | | 7.3 | 7.0 | 7.3 |
| TURBIDITY (NTU) FIELD | 0.65 | 8.8 | | 4.0 | 3.1 | 3.2 |
| TOTAL SUSP. SOLIDS | 20 | 26 | | 20 | 6 | 11 |
| TOTAL DISS. SOLIDS MEAS. | 484 | 599 | | 455 | 526 | 554 |
| OXYGEN (O) DISS | 8.2 | | | 9.0 | 9.0 | 9.8 |
| **COMMON IONS** | | | | | | |
| CALCIUM (CA) | 92.00 | 184.00 | | 78.33 | 85.76 | 80.95 |
| MAGNESIUM (MG) | 30.24 | 2.40 | | 30.02 | 42.01 | 37.88 |
| SODIUM (NA) | 30.27 | 24.39 | | 33.83 | 28.85 | 37.85 |
| POTASSIUM (K) | 4.44 | 3.37 | | 4.75 | 5.92 | 5.94 |
| ACIDITY AS CACO3 | 9.00 | | | | 10.00 | |
| ALKALINITY AS CACO3 (LAB) | 221 | | | | 227 | |
| BICARBONATE (HCO3) (LAB) | 270 | 265 | | 281 | 277 | 264 |
| SULFATE (SO4) | 175 | 272 | | 142 | 195 | 198 |
| CHLORIDE (CL) | 15.5 | 13.8 | | 17.0 | 25.9 | 19.9 |
| FLUORIDE (F) | 0.32 | | | | 0.30 | |
| **NUTRIENTS** | | | | | | |
| NITRATE (NO3-N) | 0.24 | 0.46 | | 0.50 | 0.58 | 0.91 |
| AMMONIA (NH3 AS N) | 0.06 | <0.03 | | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | 0.05 | <0.04 | | <0.04 | 0.06 | 0.06 |
| **TRACE ELEMENTS** | | | | | | |
| BARIUM (BA) TOTAL | 0.07 | | | | 0.05 | |
| BARIUM (BA) DISS | | | | | 0.06 | |
| BORON (B) TOTAL | 0.100 | | | | 0.080 | |
| BORON (B) DISS | | | | | 0.080 | |
| COPPER (CU) TOTAL | <0.01 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.44 | 0.51 | | 0.36 | 0.20 | 0.40 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.06 | 0.05 | | 0.06 | 0.03 | 0.06 |
| MANGANESE (MN) DISS | | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| **OTHER PARAMETERS** | | | | | | |
| ORGANIC CARBON (TOTAL) | 4.49 | | | | 5.25 | |
| PHENOLS | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | <0.1 | 0.7 | | 0.4 | 0.3 | 0.7 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE VC-10

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -12 | 26 | 9.0 | 9.13 | 74 |
| FLOW (CFS) | 0.06 | 14.47 | 1.9 | 3.08 | 48 |
| WATER TEMPERATURE (C) | 0 | 18 | 4.9 | 4.66 | 74 |
| SPEC. COND. (UMHOS/CM) FIELD | 220 | 654 | 456.5 | 102.54 | 74 |
| PH (SU) FIELD | 7 | 8.6 | 8.0 | 0.30 | 74 |
| TURBIDITY (NTU) FIELD | 0 | 100 | 9.1 | 13.87 | 69 |
| TOTAL SUSP. SOLIDS | 1 | 244 | 19.1 | 42.22 | 74 |
| TOTAL DISS. SOLIDS MEAS. | 144 | 635 | 294.7 | 79.96 | 74 |
| OXYGEN (O) DISS | 5.6 | 10.8 | 8.8 | 1.45 | 12 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 43.2 | 120 | 73.0 | 15.82 | 74 |
| MAGNESIUM (MG) | 0.1 | 37.4 | 20.0 | 8.37 | 74 |
| SODIUM (NA) | 0.9 | 36 | 6.3 | 6.43 | 74 |
| POTASSIUM (K) | 0.01 | 5.5 | 1.5 | 0.80 | 74 |
| ACIDITY AS CACO3 | 0.01 | 20 | 4.6 | 6.92 | 11 |
| ALKALINITY AS CACO3 (LAB) | 166 | 274 | 218.9 | 26.88 | 15 |
| BICARBONATE (HCO3) (LAB) | 165 | 343 | 261.1 | 40.65 | 74 |
| SULFATE (SO4) | 3 | 168 | 55.9 | 37.56 | 74 |
| CHLORIDE (CL) | 1 | 18 | 4.4 | 3.13 | 74 |
| FLUORIDE(F) | 0.11 | 9 | 0.9 | 2.44 | 12 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.09 | 0.3 | 0.50 | 15 |
| AMMONIA (NH3 AS N) | 0.01 | 0.66 | 0.2 | 0.20 | 33 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 1.1 | 0.1 | 0.24 | 32 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.065 | 0.0 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.36 | 0.1 | 0.10 | 11 |
| BORON (B) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.14 | 0.0 | 0.04 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 4.16 | 0.4 | 0.74 | 74 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.0 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.06 | 0.0 | 0.02 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.0 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.007 | 0.18 | 0.0 | 0.03 | 74 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.003 | 0.045 | 0.0 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 54.01 | 8.0 | 14.70 | 11 |
| PHENOLS | 0.001 | 0.036 | 0.0 | 0.01 | 30 |
| OIL AND GREASE | 0 | 1.6 | 0.4 | 0.46 | 27 |
| CYANIDE (CN) TOTAL | 0.001 | 0.005 | 0.0 | 0.00 | 11 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE VC-10

STATION LOCATION - SOUTH FORK ABOVE CONFLUENCE WITH ECCLES CREEK

| SAMPLE DATE | 08/16/88 | 11/02/88 | 02/01/89 | 06/23/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|---|
| | | | STATION NOT ACCESSIBLE | | | |
| **PHYSICAL PARAMETERS** | | | | | | |
| AIR TEMPERATURE (C) | 7 | 8 | | 10 | 15 | -3 |
| FLOW (CFS) | 0.11 | 0.14 | | 0.35 | 0.06 | |
| WATER TEMPERATURE (C) | 7 | 3 | | 6 | 4.5 | 0 |
| SPEC. COND. (UMHOS/CM) FIELD | 436 | 482 | | 434 | 493 | 420 |
| PH (SU) FIELD | 7.5 | 7.6 | | 7.7 | 7.0 | 7.55 |
| TURBIDITY (NTU) FIELD | 0.69 | 1.45 | | 1.5 | 0.88 | 0.63 |
| TOTAL SUSP. SOLIDS | 2 | 1 | | <1.00 | <1.00 | <1.00 |
| TOTAL DISS. SOLIDS MEAS. | 255 | 635 | | 230 | 248 | 286 |
| OXYGEN (D) DISS | 9.0 | | | | 9.3 | |
| COMMON IONS | | | | | | |
| CALCIUM (CA) | 78.40 | 118.00 | | 59.91 | 65.08 | 68.01 |
| MAGNESIUM (MG) | 10.08 | 6.00 | | 13.79 | 20.02 | 20.95 |
| SODIUM (NA) | 3.85 | 4.22 | | 1.65 | 2.45 | 1.66 |
| POTASSIUM (K) | 0.96 | 0.70 | | 0.55 | 0.74 | 1.24 |
| ACIDITY AS CACO3 | <0.05 | | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 220 | | | | 211 | |
| BICARBONATE (HCO3) (LAB) | 268 | 260 | | 238 | 257 | 282 |
| SULFATE (SO4) | 20 | 102 | | 11 | 31 | 24 |
| CHLORIDE (CL) | 2.0 | 2.6 | | 1.7 | 3.3 | 2.6 |
| FLUORIDE(F) | 0.16 | | | | 0.14 | |
| NUTRIENTS | | | | | | |
| NITRATE (NO3-N) | 0.07 | 2.09 | | 0.12 | 0.04 | 0.35 |
| AMMONIA (NH3 AS N) | 0.06 | <0.03 | | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | | <0.04 | 0.05 | 0.05 |
| TRACE ELEMENTS | | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | | 0.02 | |
| BARIUM (BA) DISS | | | | | 0.01 | |
| BORON (B) TOTAL | 0.040 | | | | <0.010 | |
| BORON (B) DISS | | | | | <0.010 | |
| COPPER (CU) TOTAL | 0.01 | | | | <0.01 | |
| COPPER (CU) DISS | | | | | <0.01 | |
| IRON (FE) TOTAL | 0.07 | 0.12 | | 0.05 | 0.09 | 0.12 |
| IRON (FE) DISS | | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | | <0.001 | |
| LEAD (PB) DISS | | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.02 | <0.01 | | 0.02 | <0.01 | 0.04 |
| MANGANESE (MN) DISS | | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | | |
| OTHER PARAMETERS | | | | | | |
| ORGANIC CARBON (TOTAL) | 5.96 | | | | 4.32 | |
| PHENOLS | 0.025 | <0.001 | | <0.001 | <0.001 | <0.001 |
| OIL AND GREASE | 0.6 | 0.4 | | 0.2 | 0.7 | 1.6 |
| CYANIDE (CN) TOTAL | <0.001 | | | | <0.001 | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSIS FOR SITE S10-1

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 5 | 27 | 15.8 | 6.36 | 40 |
| FLOW (CFS) | 0.0001 | 0.07 | 0.0084 | 0.01 | 40 |
| WATER TEMPERATURE (C) | 2 | 16 | 7.0 | 2.88 | 40 |
| SPEC. COND. (UMHOS/CM) FIELD | 77 | 241 | 145.6 | 36.74 | 40 |
| PH (SU) FIELD | 6.1 | 8.5 | 7.2 | 0.52 | 39 |
| TURBIDITY (NTU) FIELD | 0.26 | 33 | 11.1 | 7.98 | 39 |
| TOTAL SUSP. SOLIDS | 0.1 | 41 | 8.2 | 10.96 | 25 |
| TOTAL DISS. SOLIDS MEAS. | 5 | 155 | 90.0 | 27.92 | 25 |
| OXYGEN (O) DISS | 6.7 | 8.5 | 7.7 | 0.56 | 9 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 12 | 45.6 | 21.2 | 7.72 | 25 |
| MAGNESIUM (MG) | 0.01 | 13.20 | 4.52 | 2.73 | 25 |
| SODIUM (NA) | 0.5 | 13 | 4.0 | 3.75 | 25 |
| POTASSIUM (K) | 0.01 | 1.5 | 0.57 | 0.38 | 25 |
| ACIDITY AS CACO3 | 0.01 | 7.2 | 2.20 | 2.36 | 10 |
| ALKALINITY AS CACO3 (LAB) | 27.3 | 96 | 64.1 | 21.45 | 10 |
| BICARBONATE (HCO3) (LAB) | 3.9 | 130 | 68.5 | 31.29 | 25 |
| SULFATE (SO4) | 4 | 44.5 | 14.7 | 10.90 | 25 |
| CHLORIDE (CL) | 0.1 | 20 | 4.4 | 5.42 | 25 |
| FLUORIDE (F) | 0.004 | 0.08 | 0.045 | 0.02 | 10 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.45 | 0.68 | 0.67 | 11 |
| AMMONIA (NH3 AS N) | 0.01 | 0.3 | 0.09 | 0.09 | 25 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 0.24 | 0.07 | 0.06 | 25 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.03 | 0.02 | 0.01 | 10 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.060 | 0.026 | 0.02 | 10 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.020 | 0.010 | 0.00 | 10 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.46 | 0.19 | 0.13 | 25 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.007 | 0.002 | 0.00 | 10 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.002 | 0.020 | 0.010 | 0.01 | 25 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.041 | 0.018 | 0.01 | 9 |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.78 | 20.6 | 7.58 | 7.21 | 9 |
| PHENOLS | 0.001 | 0.055 | 0.008 | 0.02 | 19 |
| OIL AND GREASE | 0.1 | 1.6 | 0.5 | 0.49 | 9 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.001 | ERR | 9 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - S10-1

| SAMPLE DATE | 08/17/88 | 10/11/88 | 06/21/89 | 09/05/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 22 | 11 | 19 | 21 | 5 |
| FLOW (CFS) | 0.0007 | 0.0004 | 0.008 | 0.0002 | 0.0005 |
| WATER TEMPERATURE (C) | 9.5 | 7 | 8 | 14 | 4 |
| SPEC. COND. (UMHOS/CM) FIELD | 172 | 202 | 126 | 216 | 160 |
| PH (SU) FIELD | 6.4 | 6.9 | 7.2 | 6.7 | 7.62 |
| TURBIDITY (NTU) FIELD | 3.2 | 4.5 | 17 | 1.8 | 1 |
| TOTAL SUSP. SOLIDS | 4 | 3 | 1 | 6 | 1 |
| TOTAL DISS. SOLIDS MEAS. | 155 | 115 | 72 | 102 | 102 |
| OXYGEN (O) DISS | 7.2 | | | 6.7 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 32.80 | 45.60 | 13.11 | 23.16 | 24.41 |
| MAGNESIUM (MG) | 1.44 | <0.10 | 2.76 | 6.45 | 6.01 |
| SODIUM (NA) | 3.17 | 1.20 | 4.98 | 1.03 | 1.21 |
| POTASSIUM (K) | <0.01 | 0.94 | <0.50 | 0.81 | 1.08 |
| ACIDITY AS CACO3 | <0.05 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 81.0 | | | 80.0 | |
| BICARBONATE (HCO3) (LAB) | 99.0 | 130 | 27.0 | 98.0 | 94.0 |
| SULFATE (SO4) | 10 | 5 | 6 | 5 | 8 |
| CHLORIDE (CL) | 1.1 | 1.6 | 17.0 | 1.2 | 1.6 |
| FLUORIDE (F) | 0.06 | | | 0.06 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.34 | | 2.45 | 0.27 | 0.21 |
| AMMONIA (NH3 AS N) | 0.08 | <0.03 | 0.04 | <0.03 | 0.05 |
| TOTAL PHOSPHATE (PO4) | <0.04 | 0.05 | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | | | 0.03 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | 0.020 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.09 | <0.08 | 0.36 | 0.06 | 0.06 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.02 | <0.01 | <0.01 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 3.32 | | | | |
| PHENOLS | 0.016 | <0.001 | | | |
| OIL AND GREASE | 0.4 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S12-1

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 6 | 24 | 14.5 | 5.12 | 24 |
| FLOW (CFS) | 0 | 0.19 | 0.0 | 0.05 | 38 |
| WATER TEMPERATURE (C) | 1 | 21 | 11.6 | 5.86 | 24 |
| SPEC. COND. (UMHOS/CM) FIELD | 86 | 339 | 194.5 | 60.20 | 24 |
| PH (SU) FIELD | 6.4 | 8.9 | 7.6 | 0.60 | 24 |
| TURBIDITY (NTU) FIELD | 1.1 | 38 | 13.5 | 9.17 | 24 |
| TOTAL SUSP. SOLIDS | 1 | 105 | 22.1 | 28.11 | 16 |
| TOTAL DISS. SOLIDS MEAS. | 54 | 170 | 104.1 | 30.40 | 16 |
| OXYGEN (O) DISS | 5 | 7.7 | 6.8 | 1.08 | 4 |
| COMMON IONS | | | | | |
| CALCIUM (CA) | 13.6 | 39.2 | 27.0 | 8.19 | 16 |
| MAGNESIUM (MG) | 0.01 | 6 | 2.8 | 1.52 | 16 |
| SODIUM (NA) | 1 | 21 | 5.2 | 6.18 | 15 |
| POTASSIUM (K) | 0.02 | 4.04 | 0.8 | 0.91 | 16 |
| ACIDITY AS CACO3 | 1.7 | 8 | 4.1 | 2.26 | 5 |
| ALKALINITY AS CACO3 (LAB) | 62 | 111.7 | 92.3 | 16.92 | 5 |
| BICARBONATE (HCO3) (LAB) | 46.4 | 136 | 95.7 | 27.08 | 16 |
| SULFATE (SO4) | 3 | 15 | 7.2 | 3.67 | 16 |
| CHLORIDE (CL) | 1 | 30 | 6.8 | 6.97 | 15 |
| FLUORIDE (F) | 0.06 | 0.12 | 0.1 | 0.02 | 5 |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | 0.02 | 0.23 | 0.1 | 0.08 | 6 |
| AMMONIA (NH3 AS N) | 0.01 | 0.59 | 0.2 | 0.15 | 16 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.35 | 0.1 | 0.19 | 16 |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | 0.012 | 0.08 | 0.0 | 0.02 | 5 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | 0.017 | 0.07 | 0.0 | 0.02 | 5 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | 0.001 | 0.07 | 0.0 | 0.02 | 5 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | 0.03 | 0.77 | 0.3 | 0.20 | 16 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | 0.001 | 0.002 | 0.0 | 0.00 | 5 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | 0.007 | 0.76 | 0.2 | 0.20 | 16 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | 0.002 | 0.099 | 0.0 | 0.04 | 5 |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | 0.95 | 24.9 | 12.4 | 12.10 | 5 |
| PHENOLS | 0.001 | 0.525 | 0.0 | 0.14 | 14 |
| OIL AND GREASE | 0.1 | 1.6 | 0.7 | 0.54 | 5 |
| CYANIDE (CN) TOTAL | 0.001 | 0.005 | 0.0 | 0.00 | 5 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE 12-1

| SAMPLE DATE | 08/17/88 | 10/11/88 | 06/21/89 | 09/06/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | | | 9 | | |
| FLOW (CFS) | 0 | 0 | 0.007 | 0 | 0 |
| WATER TEMPERATURE (C) | | | 18 | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | 224 | | |
| PH (SU) FIELD | | | 7.1 | | |
| TURBIDITY (NTU) FIELD | | | 2.0 | | |
| TOTAL SUSP. SOLIDS | | | 12 | | |
| TOTAL DISS. SOLIDS MEAS. | | | 105 | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | 29.72 | | |
| MAGNESIUM (MG) | | | 2.79 | | |
| SODIUM (NA) | | | 4.71 | | |
| POTASSIUM (K) | | | <0.50 | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | 100 | | |
| SULFATE (SO4) | | | 4 | | |
| CHLORIDE (CL) | | | 5.5 | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | 0.10 | | |
| AMMONIA (NH3 AS N) | | | 0.07 | | |
| TOTAL PHOSPHATE (PO4) | | | <0.04 | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | 0.19 | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | <0.13 | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S13-2

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -4 | 26 | 12.3 | 7.85 | 54 |
| FLOW (CFS) | 0.0000 | 0.03 | 0.0026 | 0.00 | 58 |
| WATER TEMPERATURE (C) | 1 | 15 | 7.7 | 3.05 | 54 |
| SPEC. COND. (UMHOS/CM) FIELD | 184 | 704 | 544.0 | 97.42 | 54 |
| PH (SU) FIELD | 6.5 | 8.3 | 7.3 | 0.44 | 52 |
| TURBIDITY (NTU) FIELD | 0.22 | 60 | 9.01 | 13.27 | 51 |
| TOTAL SUSP. SOLIDS | 1 | 240 | 27.0 | 50.45 | 28 |
| TOTAL DISS. SOLIDS MEAS. | 279 | 646 | 356.9 | 61.38 | 28 |
| OXYGEN (D) DISS | 6.4 | 11.2 | 8.1 | 1.49 | 10 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 25.6 | 138 | 88.6 | 18.17 | 28 |
| MAGNESIUM (MG) | 2.8 | 54 | 22.8 | 8.27 | 28 |
| SODIUM (NA) | 1.54 | 33 | 8.8 | 6.33 | 28 |
| POTASSIUM (K) | 0.01 | 2.44 | 1.21 | 0.44 | 27 |
| ACIDITY AS CACO3 | 0.01 | 31.00 | 9.85 | 9.01 | 11 |
| ALKALINITY AS CACO3 (LAB) | 212 | 288 | 259.1 | 24.93 | 12 |
| BICARBONATE (HCO3) (LAB) | 229.4 | 356 | 314.7 | 34.30 | 28 |
| SULFATE (SO4) | 7 | 280 | 61.4 | 46.43 | 28 |
| CHLORIDE (CL) | 2.5 | 25 | 7.5 | 4.59 | 28 |
| FLUORIDE (F) | 0.17 | 0.26 | 0.20 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.60 | 1.01 | 0.72 | 14 |
| AMMONIA (NH3 AS N) | 0.01 | 1.08 | 0.18 | 0.25 | 27 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.68 | 0.09 | 0.14 | 28 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.010 | 0.044 | 0.023 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.035 | 0.03 | 11 |
| BORON (B) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.03 | 0.014 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.91 | 0.18 | 0.25 | 28 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.006 | 0.002 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.07 | 0.013 | 0.01 | 28 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.038 | 0.015 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 73.39 | 12.59 | 20.69 | 10 |
| PHENOLS | 0.001 | 0.405 | 0.025 | 0.09 | 20 |
| OIL AND GREASE | 0.1 | 2.6 | 0.5 | 0.74 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.004 | 0.001 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - S13-2

| SAMPLE DATE | 08/15/88 | 11/02/88 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 23 | 8 | 18 | 11 | 5 |
| FLOW (CFS) | 0.001 | 0.001 | 0.0018 | 0.0009 | 0.0008 |
| WATER TEMPERATURE (C) | 9 | 7.5 | 9 | 10 | 7 |
| SPEC. COND. (UMHOS/CM) FIELD | 618 | 669 | 669 | 673 | 530 |
| PH (SU) FIELD | 6.7 | 6.9 | 6.5 | 6.7 | 7.45 |
| TURBIDITY (NTU) FIELD | 0.3 | 0.56 | 0.3 | 0.34 | 0.25 |
| TOTAL SUSP. SOLIDS | 2 | <1 | <1.00 | <1.00 | 1 |
| TOTAL DISS. SOLIDS MEAS. | 370 | 646 | 344 | 356 | 341 |
| OXYGEN (O) DISS | 7.6 | | | 6.8 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 82.40 | 138.00 | 85.54 | 90.86 | 74.48 |
| MAGNESIUM (MG) | 32.64 | 54.00 | 22.65 | 25.10 | 31.96 |
| SODIUM (NA) | 7.26 | 5.69 | 12.00 | 5.02 | 3.54 |
| POTASSIUM (K) | 0.81 | 1.46 | 0.69 | 1.16 | 2.44 |
| ACIDITY AS CACO3 | 11.00 | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 279 | | | 264 | |
| BICARBONATE (HCO3) (LAB) | 340 | 327 | 342 | 322 | 312 |
| SULFATE (SO4) | 68 | 280 | 47 | 62 | 60 |
| CHLORIDE (CL) | 6.3 | 6.8 | 5.7 | 7.6 | 8.4 |
| FLUORIDE (F) | 0.17 | | | 0.18 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.88 | 2.60 | 0.81 | 0.95 | 0.06 |
| AMMONIA (NH3 AS N) | 0.04 | <0.03 | 0.04 | 0.04 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | <0.04 | 0.09 | 0.07 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | | | 0.01 | |
| BARIUM (BA) DISS | | | | 0.01 | |
| BORON (B) TOTAL | 0.030 | | | <0.010 | |
| BORON (B) DISS | | | | <0.010 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.06 | <0.03 | <0.03 | <0.03 | 0.88 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | 0.02 | <0.01 | 0.07 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 4.46 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.1 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S13-7

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 9 | 26 | 17.3 | 5.25 | 19 |
| FLOW (CFS) | 0 | 0.09 | 0.01 | 0.02 | 39 |
| WATER TEMPERATURE (C) | 3 | 17 | 5.5 | 3.10 | 19 |
| SPEC. COND. (UMHOS/CM) FIELD | 111 | 451 | 259.5 | 93.00 | 19 |
| PH (SU) FIELD | 6.4 | 8.4 | 7.2 | 0.56 | 19 |
| TURBIDITY (NTU) FIELD | 1.3 | 16 | 7.5 | 4.42 | 19 |
| TOTAL SUSP. SOLIDS | 1 | 48 | 10.5 | 15.38 | 13 |
| TOTAL DISS. SOLIDS MEAS. | 54 | 240 | 137.5 | 52.69 | 12 |
| OXYGEN (O) DISS | 7.6 | 10.2 | 8.5 | 1.00 | 4 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 18.4 | 68 | 41.0 | 14.95 | 13 |
| MAGNESIUM (MG) | 0.01 | 14.4 | 5.0 | 4.05 | 13 |
| SODIUM (NA) | 1 | 16 | 4.2 | 3.90 | 12 |
| POTASSIUM (K) | 0.1 | 0.62 | 0.44 | 0.15 | 13 |
| ACIDITY AS CACO3 | 0.1 | 17 | 5.2 | 6.06 | 5 |
| ALKALINITY AS CACO3 (LAB) | 118 | 205 | 160.8 | 32.32 | 4 |
| BICARBONATE (HCO3) (LAB) | 52.3 | 212.3 | 136.1 | 53.00 | 13 |
| SULFATE (SO4) | 2 | 25 | 9.7 | 7.32 | 13 |
| CHLORIDE (CL) | 0.01 | 24 | 6.09 | 6.51 | 13 |
| FLUORIDE (F) | 0.05 | 0.14 | 0.12 | 0.02 | 5 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.6 | 1.42 | 0.97 | 6 |
| AMMONIA (NH3 AS N) | 0.01 | 0.5 | 0.14 | 0.13 | 13 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 0.97 | 0.17 | 0.26 | 13 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.018 | 0.05 | 0.026 | 0.01 | 5 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | 0.01 | 0.05 | 0.027 | 0.02 | 5 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | 0.001 | 0.016 | 0.009 | 0.00 | 5 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | 0.01 | 1.2 | 0.227 | 0.30 | 13 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | 0.001 | 0.002 | 0.001 | 0.00 | 5 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | 0.002 | 0.04 | 0.011 | 0.01 | 13 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | 0.002 | 0.058 | 0.018 | 0.02 | 5 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.001 | 27.4 | 5.817 | 9.84 | 6 |
| PHENOLS | 0.001 | 0.512 | 0.052 | 0.15 | 11 |
| OIL AND GREASE | 0.1 | 1.8 | 0.56 | 0.65 | 5 |
| CYANIDE (CN) TOTAL | 0.001 | 0.007 | 0.002 | 0.00 | 5 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S13-7

| SAMPLE DATE | 08/17/88 | 10/11/88 | 06/21/89 | 09/06/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | | | 9 | | |
| FLOW (CFS) | 0 | 0 | 0.0022 | 0 | 0 |
| WATER TEMPERATURE (C) | | | 4 | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | 263 | | |
| PH (SU) FIELD | | | 6.5 | | |
| TURBIDITY (NTU) FIELD | | | 9.6 | | |
| TOTAL SUSP. SOLIDS | | | <1.00 | | |
| TOTAL DISS. SOLIDS MEAS. | | | 122 | | |
| OXYGEN (D) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | 38.12 | | |
| MAGNESIUM (MG) | | | 3.66 | | |
| SODIUM (NA) | | | 4.60 | | |
| POTASSIUM (K) | | | 0.50 | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | 137 | | |
| SULFATE (SO4) | | | 2 | | |
| CHLORIDE (CL) | | | 3.0 | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | 0.79 | | |
| AMMONIA (NH3 AS N) | | | 0.09 | | |
| TOTAL PHOSPHATE (PO4) | | | 0.05 | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | 0.38 | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | <0.01 | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S14-4

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -4 | 23 | 13.9 | 5.98 | 41 |
| FLOW (CFS) | 0.001 | 0.05 | 0.010 | 0.01 | 41 |
| WATER TEMPERATURE (C) | 2 | 9 | 5.0 | 1.61 | 41 |
| SPEC. COND. (UMHOS/CM) FIELD | 116 | 516 | 370.5 | 88.71 | 41 |
| PH (SU) FIELD | 6.2 | 8.2 | 6.9 | 0.48 | 39 |
| TURBIDITY (NTU) FIELD | 0.36 | 12.5 | 3.20 | 3.47 | 39 |
| TOTAL SUSP. SOLIDS | 1 | 7 | 2.3 | 1.94 | 23 |
| TOTAL DISS. SOLIDS MEAS. | 98 | 298 | 212.4 | 52.75 | 23 |
| OXYGEN (O) DISS | 3.6 | 8.5 | 6.9 | 1.50 | 8 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 24.8 | 102.4 | 63.0 | 17.45 | 23 |
| MAGNESIUM (MG) | 0.01 | 27.36 | 7.67 | 5.86 | 23 |
| SODIUM (NA) | 1.8 | 38 | 7.1 | 8.77 | 23 |
| POTASSIUM (K) | 0.01 | 7.8 | 1.30 | 1.51 | 21 |
| ACIDITY AS CACO3 | 0.1 | 23.3 | 9.5 | 8.20 | 9 |
| ALKALINITY AS CACO3 (LAB) | 154 | 224 | 194.3 | 17.57 | 9 |
| BICARBONATE (HCO3) (LAB) | 75.4 | 373 | 214.4 | 68.04 | 23 |
| SULFATE (SO4) | 5 | 47 | 18.8 | 11.96 | 23 |
| CHLORIDE (CL) | 2 | 26 | 6.1 | 4.81 | 23 |
| FLUORIDE (F) | 0.08 | 0.16 | 0.12 | 0.02 | 9 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 4.70 | 2.56 | 1.21 | 10 |
| AMMONIA (NH3 AS N) | 0.01 | 0.30 | 0.06 | 0.07 | 23 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.46 | 0.08 | 0.10 | 23 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.02 | 0.02 | 0.00 | 9 |
| BARIUM (BA) DISS | 0.01 | 0.010 | 0.010 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.033 | 0.03 | 9 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.02 | 0.01 | 0.00 | 9 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.85 | 0.10 | 0.17 | 23 |
| IRON (FE) DISS | 0.07 | 0.07 | 0.07 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.017 | 0.003 | 0.01 | 9 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.06 | 0.01 | 0.01 | 23 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.050 | 0.018 | 0.02 | 8 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 54.52 | 13.05 | 19.20 | 8 |
| PHENOLS | 0.001 | 0.285 | 0.019 | 0.06 | 18 |
| OIL AND GREASE | 0.1 | 2.6 | 0.8 | 1.01 | 8 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.001 | ERR | 8 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S14-4

| SAMPLE DATE | 08/17/88 | 10/11/88 | 06/21/89 | 09/05/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 19 | 9 | 12 | 20 | 7 |
| FLOW (CFS) | 0.002 | 0.0014 | 0.0059 | 0.0016 | 0.0014 |
| WATER TEMPERATURE (C) | 7 | 5 | 5 | 7.5 | 4.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 449 | 507 | 426 | 516 | 400 |
| PH (SU) FIELD | 6.3 | 6.8 | 6.7 | 6.3 | 7.31 |
| TURBIDITY (NTU) FIELD | 0.40 | 0.44 | 0.8 | 0.44 | 0.67 |
| TOTAL SUSP. SOLIDS | 2 | 4 | <1.00 | <1.00 | <1.00 |
| TOTAL DISS. SOLIDS MEAS. | 218 | 265 | 196 | 224 | 265 |
| OXYGEN (D) DISS | 6.4 | | | 7.6 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 56.00 | 102.40 | 60.74 | 72.79 | 79.04 |
| MAGNESIUM (MG) | 27.36 | <0.10 | 7.30 | 10.61 | 10.66 |
| SODIUM (NA) | 4.52 | 2.88 | 4.00 | 2.31 | 2.70 |
| POTASSIUM (K) | 0.88 | 0.82 | 0.82 | 1.06 | 1.19 |
| ACIDITY AS CACO3 | 7.00 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 205 | | | 200 | |
| BICARBONATE (HCO3) (LAB) | 250 | 292 | 218 | 244 | 251 |
| SULFATE (SO4) | 47 | 13 | 9 | 17 | 28 |
| CHLORIDE (CL) | 4.7 | 4.8 | 3.9 | 4.5 | 4.8 |
| FLUORIDE (F) | 0.14 | | | 0.12 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 3.15 | | 2.50 | 4.70 | 3.60 |
| AMMONIA (NH3 AS N) | 0.08 | <0.03 | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | 0.05 | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | | | 0.01 | |
| BARIUM (BA) DISS | | | | 0.01 | |
| BORON (B) TOTAL | 0.020 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.07 | <0.08 | <0.03 | <0.03 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 3.53 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.1 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSIS FOR SITE S15-3

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -12 | 28 | 12.6 | 8.37 | 53 |
| FLOW (CFS) | 0.010 | 3.000 | 0.255 | 0.56 | 52 |
| WATER TEMPERATURE (C) | 3 | 12 | 4.9 | 1.49 | 53 |
| SPEC. COND. (UMHOS/CM) FIELD | 97 | 452 | 293.8 | 81.43 | 52 |
| PH (SU) FIELD | 6.3 | 8.3 | 7.3 | 0.42 | 51 |
| TURBIDITY (NTU) FIELD | 0.38 | 28 | 5.72 | 7.04 | 49 |
| TOTAL SUSP. SOLIDS | 0.1 | 18 | 3.1 | 3.72 | 29 |
| TOTAL DISS. SOLIDS MEAS. | 88 | 334 | 192.8 | 55.77 | 28 |
| OXYGEN (O) DISS | 7.8 | 11.1 | 9.5 | 1.04 | 10 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 18 | 83.2 | 52.9 | 16.65 | 28 |
| MAGNESIUM (MG) | 0.1 | 28.6 | 7.9 | 5.20 | 28 |
| SODIUM (NA) | 1 | 37 | 7.1 | 8.20 | 28 |
| POTASSIUM (K) | 0.07 | 2.5 | 0.84 | 0.50 | 28 |
| ACIDITY AS CACO3 | 0.01 | 16.00 | 5.57 | 5.61 | 11 |
| ALKALINITY AS CACO3 (LAB) | 76 | 199 | 168.8 | 29.84 | 12 |
| BICARBONATE (HCO3) (LAB) | 85.4 | 316 | 187.3 | 53.21 | 28 |
| SULFATE (SO4) | 3 | 62 | 18.3 | 12.51 | 28 |
| CHLORIDE (CL) | 0.1 | 25 | 3.8 | 4.86 | 28 |
| FLUORIDE (F) | 0.08 | 0.15 | 0.12 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.08 | 0.42 | 0.52 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 0.70 | 0.13 | 0.18 | 28 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.44 | 0.08 | 0.10 | 28 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.09 | 0.02 | 0.02 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.120 | 0.037 | 0.04 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.023 | 0.011 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 1.80 | 0.18 | 0.36 | 28 |
| IRON (FE) DISS | 0.07 | 0.07 | 0.07 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.016 | 0.003 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.050 | 0.010 | 0.01 | 28 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.045 | 0.013 | 0.01 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 46.27 | 8.84 | 13.23 | 10 |
| PHENOLS | 0.001 | 0.059 | 0.008 | 0.01 | 21 |
| OIL AND GREASE | 0.01 | 2.2 | 0.5 | 0.67 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.004 | 0.001 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - S15-3

| SAMPLE DATE | 08/18/88 | 10/12/88 | 06/21/89 | 09/06/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 8 | 4 | 14 | 24 | -4 |
| FLOW (CFS) | 0.03 | 0.025 | 0.13 | 0.026 | 0.0195 |
| WATER TEMPERATURE (C) | 5.5 | 5.5 | 6 | 7 | 3.5 |
| SPEC. COND. (UMHOS/CM) FIELD | 385 | 443 | 314 | 448 | 330 |
| PH (SU) FIELD | 6.9 | 7.2 | 7.2 | 6.9 | 7.7 |
| TURBIDITY (NTU) FIELD | 0.39 | 0.60 | 1.3 | 0.45 | 0.51 |
| TOTAL SUSP. SOLIDS | 2 | <1 | <1 | <1 | <1 |
| TOTAL DISS. SOLIDS MEAS. | 225 | 220 | 154 | 210 | 228 |
| OXYGEN (O) DISS | 9.0 | | | 10.0 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 80.90 | 83.20 | 42.88 | 60.54 | 61.10 |
| MAGNESIUM (MG) | <0.10 | 1.92 | 6.48 | 12.01 | 11.35 |
| SODIUM (NA) | 4.22 | 1.94 | 1.75 | 1.96 | 2.26 |
| POTASSIUM (K) | 0.55 | 0.34 | <0.50 | 0.88 | 0.82 |
| ACIDITY AS CACO3 | <0.01 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 186 | | | 177 | |
| BICARBONATE (HCO3) (LAB) | 227 | 240 | 144 | 216 | 212 |
| SULFATE (SO4) | 19 | 16 | 8 | 20 | 22 |
| CHLORIDE (CL) | 1.8 | 1.9 | 5.5 | 3.0 | 2.8 |
| FLUORIDE (F) | 0.12 | | | 0.15 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.39 | | 0.27 | 0.33 | 0.38 |
| AMMONIA (NH3 AS N) | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | | | 0.02 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | 0.059 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.02 | <0.01 | 0.02 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1.11 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | 0.3 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S17-2

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -23 | 26 | 7.4 | 9.83 | 86 |
| FLOW (CFS) | 0.03 | 0.33 | 0.2 | 0.06 | 85 |
| WATER TEMPERATURE (C) | 6 | 14 | 8.9 | 1.10 | 86 |
| SPEC. COND. (UMHOS/CM) FIELD | 311 | 696 | 558.2 | 78.08 | 86 |
| PH (SU) FIELD | 6.3 | 7.9 | 7.1 | 0.33 | 84 |
| TURBIDITY (NTU) FIELD | 0.3 | 13 | 3.8 | 2.80 | 77 |
| TOTAL SUSP. SOLIDS | 0.1 | 23 | 4.8 | 5.50 | 30 |
| TOTAL DISS. SOLIDS MEAS. | 136 | 535 | 356.5 | 62.65 | 29 |
| OXYGEN (O) DISS | 4.2 | 8.5 | 6.0 | 1.23 | 9 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 5.9 | 128 | 72.9 | 22.91 | 30 |
| MAGNESIUM (MG) | 4.6 | 47.28 | 29.6 | 8.03 | 30 |
| SODIUM (NA) | 2.9 | 46 | 9.8 | 11.19 | 30 |
| POTASSIUM (K) | 0.7 | 2.8 | 2.3 | 0.42 | 30 |
| ACIDITY AS CACO3 | 0.01 | 29 | 10.6 | 8.30 | 10 |
| ALKALINITY AS CACO3 (LAB) | 250 | 300 | 268.6 | 13.43 | 13 |
| BICARBONATE (HCO3) (LAB) | 118 | 405 | 314.8 | 50.94 | 30 |
| SULFATE (SO4) | 16 | 200 | 64.9 | 35.66 | 30 |
| CHLORIDE (CL) | 1.2 | 45 | 7.6 | 7.54 | 30 |
| FLUORIDE (F) | 0.1 | 0.21 | 0.2 | 0.03 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 1.02 | 0.2 | 0.31 | 14 |
| AMMONIA (NH3 AS N) | 0.01 | 2.48 | 0.2 | 0.45 | 30 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.33 | 0.1 | 0.07 | 30 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.036 | 0.093 | 0.1 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.06 | 0.06 | 0.1 | 0.00 | 1 |
| BORON (B) TOTAL | 0.01 | 0.29 | 0.1 | 0.08 | 11 |
| BORON (B) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.04 | 0.0 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.0 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.03 | 1.3 | 0.8 | 0.27 | 30 |
| IRON (FE) DISS | 0.76 | 0.76 | 0.8 | ERR | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.05 | 0.0 | 0.02 | 13 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.0 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.005 | 0.07 | 0.0 | 0.02 | 28 |
| MANGANESE (MN) DISS | 0.04 | 0.04 | 0.0 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.033 | 0.0 | 0.01 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.001 | 65.83 | 8.8 | 17.54 | 12 |
| PHENOLS | 0.001 | 0.16 | 0.0 | 0.03 | 21 |
| OIL AND GREASE | 0.01 | 0.8 | 0.2 | 0.25 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.002 | 0.0 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSIS - S17-2

| SAMPLE DATE | 08/16/88 | 11/02/88 | 06/23/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 16 | 10 | 13 | 13 | 0 |
| FLOW (CFS) | 0.26 | 0.25 | 0.27 | 0.26 | 0.25 |
| WATER TEMPERATURE (C) | 10 | 9 | 9 | 9 | 8 |
| SPEC. COND. (UMHOS/CM) FIELD | 605 | 647 | 666 | 678 | 550 |
| PH (SU) FIELD | 6.5 | 6.8 | 6.3 | 6.8 | 7.2 |
| TURBIDITY (NTU) FIELD | 1.8 | 1.0 | 0.4 | 4.5 | 4.15 |
| TOTAL SUSP. SOLIDS | 2 | 2 | <1 | <1 | <1 |
| TOTAL DISS. SOLIDS MEAS. | 366 | 535 | 352 | | 350 |
| OXYGEN (D) DISS | 5.6 | | | 6.1 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 60.00 | 128.00 | 74.96 | 78.37 | 86.91 |
| MAGNESIUM (MG) | 47.28 | 36.00 | 31.10 | 32.84 | 24.68 |
| SODIUM (NA) | 5.61 | 3.99 | 11.00 | 4.05 | 5.02 |
| POTASSIUM (K) | 2.22 | 2.42 | 2.18 | 2.70 | 1.41 |
| ACIDITY AS CACO3 | 9.00 | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 263 | | | 258 | |
| BICARBONATE (HCO3) (LAB) | 321 | 306 | 334 | 315 | 318 |
| SULFATE (SO4) | 84 | 200 | 59 | 66 | 53 |
| CHLORIDE (CL) | 6.8 | 7.6 | 7.5 | 9.7 | 5.9 |
| FLUORIDE (F) | 0.16 | | | 0.14 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.05 | 0.35 | 0.06 | 0.07 | 1.02 |
| AMMONIA (NH3 AS N) | 0.06 | <0.03 | <0.03 | 0.07 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | <0.04 | 0.06 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.07 | | | 0.07 | |
| BARIUM (BA) DISS | | | | 0.06 | |
| BORON (B) TOTAL | 0.060 | | | <0.010 | |
| BORON (B) DISS | | | | <0.010 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.83 | 0.80 | 0.85 | 0.88 | <0.03 |
| IRON (FE) DISS | | | | 0.76 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | 0.05 | 0.05 | 0.07 | 0.04 | <0.01 |
| MANGANESE (MN) DISS | | | | 0.04 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1.69 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | 0.3 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

# STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S22-5

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -9 | 26 | 13.1 | 7.18 | 47 |
| FLOW (CFS) | 0.0004 | 0.17 | 0.0398 | 0.04 | 46 |
| WATER TEMPERATURE (C) | 3 | 14 | 4.8 | 1.68 | 47 |
| SPEC. COND. (UMHOS/CM) FIELD | 260 | 521 | 370.9 | 53.76 | 47 |
| PH (SU) FIELD | 6.1 | 8.4 | 7.3 | 0.44 | 45 |
| TURBIDITY (NTU) FIELD | 0.03 | 239 | 8.7 | 35.67 | 43 |
| TOTAL SUSP. SOLIDS | 0.1 | 16 | 2.7 | 3.24 | 28 |
| TOTAL DISS. SOLIDS MEAS. | 175 | 330 | 231.9 | 34.03 | 28 |
| OXYGEN (O) DISS | 2.2 | 11.4 | 8.5 | 2.33 | 10 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 47.2 | 98.4 | 66.9 | 9.81 | 28 |
| MAGNESIUM (MG) | 0.1 | 13.2 | 8.1 | 3.07 | 28 |
| SODIUM (NA) | 1.2 | 46 | 7.4 | 9.28 | 28 |
| POTASSIUM (K) | 0.14 | 1.23 | 0.64 | 0.21 | 28 |
| ACIDITY AS CACO3 | 0.01 | 22 | 5.69 | 6.18 | 11 |
| ALKALINITY AS CACO3 (LAB) | 154 | 290 | 199.3 | 31.26 | 12 |
| BICARBONATE (HCO3) (LAB) | 143.9 | 352.8 | 227.2 | 38.09 | 28 |
| SULFATE (SO4) | 3 | 84 | 20.8 | 16.91 | 28 |
| CHLORIDE (CL) | 1.6 | 14.3 | 4.7 | 3.04 | 28 |
| FLUORIDE (F) | 0.08 | 0.17 | 0.14 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.50 | 1.58 | 0.73 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 0.63 | 0.10 | 0.14 | 28 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.82 | 0.10 | 0.15 | 28 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.03 | 0.02 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.100 | 0.033 | 0.03 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.42 | 0.05 | 0.12 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 1.45 | 0.10 | 0.26 | 28 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.032 | 0.005 | 0.01 | 13 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.02 | 0.01 | 0.00 | 27 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.060 | 0.019 | 0.02 | 10 |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.65 | 50.13 | 8.368 | 14.64 | 9 |
| PHENOLS | 0.001 | 0.482 | 0.030 | 0.11 | 19 |
| OIL AND GREASE | 0.01 | 20.6 | 2.33 | 6.10 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.001 | 0.001 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S22-11

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -1 | 23 | 12.7 | 6.47 | 41 |
| FLOW (CFS) | 0.001 | 0.14 | 0.038 | 0.02 | 41 |
| WATER TEMPERATURE (C) | 2 | 5 | 3.7 | 0.58 | 41 |
| SPEC. COND. (UMHOS/CM) FIELD | 262 | 527 | 366.4 | 44.28 | 41 |
| PH (SU) FIELD | 6 | 8.5 | 7.2 | 0.47 | 40 |
| TURBIDITY (NTU) FIELD | 0.18 | 12 | 3.09 | 3.61 | 34 |
| TOTAL SUSP. SOLIDS | 1 | 12 | 2.7 | 2.88 | 22 |
| TOTAL DISS. SOLIDS MEAS. | 178 | 259 | 221.6 | 19.23 | 22 |
| OXYGEN (O) DISS | 4.6 | 13 | 8.6 | 2.55 | 8 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 60 | 92.8 | 66.1 | 8.58 | 22 |
| MAGNESIUM (MG) | 0.1 | 15.6 | 8.4 | 3.13 | 22 |
| SODIUM (NA) | 1.71 | 28.00 | 7.21 | 6.04 | 22 |
| POTASSIUM (K) | 0.50 | 2.11 | 0.85 | 0.33 | 22 |
| ACIDITY AS CACO3 | 0.1 | 20 | 8.0 | 5.90 | 9 |
| ALKALINITY AS CACO3 (LAB) | 173 | 210 | 191.6 | 10.37 | 9 |
| BICARBONATE (HCO3) (LAB) | 210 | 266 | 232.9 | 14.02 | 22 |
| SULFATE (SO4) | 3 | 48 | 15.8 | 11.29 | 22 |
| CHLORIDE (CL) | 1.3 | 20 | 4.5 | 4.23 | 22 |
| FLUORIDE (F) | 0.09 | 0.18 | 0.14 | 0.07 | 9 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 4.1 | 1.04 | 0.98 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 0.55 | 0.13 | 0.15 | 26 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.85 | 0.14 | 0.21 | 26 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.01 | 0.038 | 0.02 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.110 | 0.030 | 0.03 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.02 | 0.01 | 0.01 | 10 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.1 | 0.03 | 0.03 | 26 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.003 | 0.001 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.020 | 0.009 | 0.00 | 26 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.002 | 0.185 | 0.029 | 0.05 | 10 |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 49.61 | 10.41 | 14.99 | 10 |
| PHENOLS | 0.001 | 0.050 | 0.005 | 0.01 | 20 |
| OIL AND GREASE | 0.1 | 1.6 | 0.5 | 0.53 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.011 | 0.002 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S23-4

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -1 | 24 | 14.3 | 6.51 | 37 |
| FLOW (CFS) | ERR | ERR | ERR | ERR | 0 |
| WATER TEMPERATURE (C) | 1 | 25 | 10.4 | 5.29 | 37 |
| SPEC. COND. (UMHOS/CM) FIELD | 227 | 595 | 448.2 | 75.56 | 37 |
| PH (SU) FIELD | 6.2 | 8 | 7.0 | 0.41 | 36 |
| TURBIDITY (NTU) FIELD | 0.86 | 82 | 15.1 | 20.30 | 34 |
| TOTAL SUSP. SOLIDS | 2.3 | 3262 | 319.1 | 698.66 | 23 |
| TOTAL DISS. SOLIDS MEAS. | 222 | 325 | 272.3 | 25.94 | 23 |
| OXYGEN (O) DISS | 2.8 | 9.1 | 5.0 | 2.26 | 8 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 48 | 104.8 | 77.0 | 12.46 | 23 |
| MAGNESIUM (MG) | 2.88 | 30.72 | 14.9 | 5.82 | 23 |
| SODIUM (NA) | 1.33 | 35 | 6.8 | 6.78 | 23 |
| POTASSIUM (K) | 0.32 | 26.4 | 2.44 | 5.27 | 23 |
| ACIDITY AS CACO3 | 0.01 | 20 | 8.6 | 6.38 | 10 |
| ALKALINITY AS CACO3 (LAB) | 238 | 285 | 268.1 | 14.77 | 10 |
| BICARBONATE (HCO3) (LAB) | 227 | 359 | 304.5 | 30.21 | 23 |
| SULFATE (SO4) | 3 | 42 | 12.8 | 9.12 | 23 |
| CHLORIDE (CL) | 1 | 33 | 4.2 | 6.73 | 23 |
| FLUORIDE (F) | 0.12 | 0.23 | 0.17 | 0.03 | 10 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 0.96 | 0.56 | 0.29 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 0.49 | 0.12 | 0.13 | 23 |
| TOTAL PHOSPHATE (PO4) | 0.02 | 0.7 | 0.18 | 0.19 | 23 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.1 | 0.05 | 0.02 | 10 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.43 | 0.07 | 0.12 | 10 |
| BORON (B) DISS | 0.001 | 0.001 | 0.00 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.18 | 0.03 | 0.05 | 10 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.02 | 275.8 | 15.17 | 56.07 | 23 |
| IRON (FE) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.009 | 0.00 | 0.00 | 10 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.00 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.01 | 2.42 | 0.17 | 0.49 | 23 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.005 | 0.118 | 0.03 | 0.03 | 9 |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.88 | 65.95 | 14.72 | 19.24 | 9 |
| PHENOLS | 0.001 | 0.269 | 0.018 | 0.06 | 17 |
| OIL AND GREASE | 0.1 | 1.2 | 0.3 | 0.34 | 9 |
| CYANIDE (CN) TOTAL | 0.001 | 0.009 | 0.002 | 0.00 | 9 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S23-4

| SAMPLE DATE | 08/17/88 | 10/12/88 | 06/21/89 | 09/06/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 10 | 5 | 8 | 11 | 5 |
| FLOW (CFS) | | | | | |
| WATER TEMPERATURE (C) | 8.5 | 4 | 4 | 6 | 6 |
| SPEC. COND. (UMHOS/CM) FIELD | 227 | 514 | 530 | 533 | 385 |
| PH (SU) FIELD | 6.4 | 6.8 | 6.9 | 6.2 | 7.42 |
| TURBIDITY (NTU) FIELD | 2.2 | 9.0 | 14 | 1.2 | 0.86 |
| TOTAL SUSP. SOLIDS | 5 | 36 | 92 | 7 | 6 |
| TOTAL DISS. SOLIDS MEAS. | 268 | 290 | 262 | 265 | 246 |
| OXYGEN (O) DISS | 3.2 | | | 2.9 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 55.60 | 104.80 | 77.36 | 72.99 | 71.18 |
| MAGNESIUM (MG) | 30.72 | 8.88 | 15.28 | 17.83 | 16.04 |
| SODIUM (NA) | 4.00 | 1.59 | 5.66 | 1.33 | 1.61 |
| POTASSIUM (K) | 0.78 | 0.77 | 1.26 | 1.00 | 0.86 |
| ACIDITY AS CACO3 | 11.00 | | | <0.01 | |
| ALKALINITY AS CACO3 (LAB) | 259 | | | 245 | |
| BICARBONATE (HCO3) (LAB) | 316 | 338 | 317 | 299 | 276 |
| SULFATE (SO4) | 15 | 18 | 7 | 7 | 15 |
| CHLORIDE (CL) | 1.7 | 1.8 | 1.7 | 1.7 | 2.0 |
| FLUORIDE (F) | 0.15 | | | 0.14 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.72 | | 0.92 | 0.82 | 0.73 |
| AMMONIA (NH3 AS N) | 0.07 | <0.03 | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | 0.05 | 0.18 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | 0.03 | |
| BARIUM (BA) DISS | | | | 0.03 | |
| BORON (B) TOTAL | 0.040 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.13 | 0.28 | 2.38 | 0.06 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | 0.03 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 3.97 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.20 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S24-12

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -1 | 25 | 12.9 | 6.47 | 38 |
| FLOW (CFS) | 0.000 | 0.01 | 0.002 | 0.00 | 40 |
| WATER TEMPERATURE (C) | 3 | 21 | 8.2 | 3.75 | 38 |
| SPEC. COND. (UMHOS/CM) FIELD | 1.38 | 744 | 571.1 | 128.65 | 38 |
| PH (SU) FIELD | 7.2 | 8.3 | 7.7 | 0.26 | 37 |
| TURBIDITY (NTU) FIELD | 0.34 | 65 | 9.05 | 12.24 | 37 |
| TOTAL SUSP. SOLIDS | 0.1 | 83 | 20.0 | 24.17 | 23 |
| TOTAL DISS. SOLIDS MEAS. | 280 | 440 | 368.2 | 43.54 | 23 |
| OXYGEN (O) DISS | 4.4 | 10 | 7.9 | 1.45 | 9 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 46.8 | 152.8 | 83.5 | 18.65 | 23 |
| MAGNESIUM (MG) | 0.1 | 47.7 | 29.2 | 9.38 | 23 |
| SODIUM (NA) | 2 | 55 | 9.1 | 11.34 | 23 |
| POTASSIUM (K) | 0.01 | 2.70 | 1.77 | 0.59 | 23 |
| ACIDITY AS CACO3 | 0.01 | 25.60 | 9.26 | 7.78 | 10 |
| ALKALINITY AS CACO3 (LAB) | 252 | 310 | 283.7 | 17.41 | 10 |
| BICARBONATE (HCO3) (LAB) | 284 | 373 | 334.4 | 23.12 | 23 |
| SULFATE (SO4) | 12 | 118 | 63.1 | 28.76 | 23 |
| CHLORIDE (CL) | 0.6 | 30 | 5.9 | 6.53 | 23 |
| FLUORIDE (F | 0.13 | 0.24 | 0.16 | 0.03 | 10 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 1.37 | 0.21 | 0.37 | 11 |
| AMMONIA (NH3 AS N) | 0.01 | 0.6 | 0.11 | 0.15 | 23 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.28 | 0.07 | 0.07 | 23 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.05 | 0.07 | 0.06 | 0.01 | 10 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | 0.012 | 0.23 | 0.06 | 0.06 | 10 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | 0.001 | 0.02 | 0.01 | 0.00 | 10 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | 0.01 | 0.85 | 0.13 | 0.20 | 23 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | 0.001 | 0.006 | 0.00 | 0.00 | 10 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | 0.005 | 0.03 | 0.01 | 0.01 | 23 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | 0.001 | 0.02 | 0.008 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 71.93 | 10.81 | 20.66 | 10 |
| PHENOLS | 0.001 | 0.023 | 0.004 | 0.01 | 19 |
| OIL AND GREASE | 0.01 | 2 | 0.54 | 0.71 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.015 | 0.003 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S26-13

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 3 | 27 | 15.6 | 5.76 | 38 |
| FLOW (CFS) | 0 | 0.02 | 0.0044 | 0.01 | 39 |
| WATER TEMPERATURE (C) | 2 | 14 | 6.0 | 2.18 | 38 |
| SPEC. COND. (UMHOS/CM) FIELD | 194 | 468 | 366.8 | 64.85 | 38 |
| PH (SU) FIELD | 6 | 8 | 6.7 | 0.48 | 36 |
| TURBIDITY (NTU) FIELD | 0.23 | 11.5 | 3.10 | 3.22 | 36 |
| TOTAL SUSP. SOLIDS | 1 | 11 | 2.6 | 2.60 | 23 |
| TOTAL DISS. SOLIDS MEAS. | 115 | 275 | 220.8 | 39.07 | 23 |
| OXYGEN (D) DISS | 1.9 | 6.7 | 5.1 | 1.36 | 9 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 32.8 | 102.8 | 63.3 | 15.27 | 23 |
| MAGNESIUM (MG) | 0.10 | 30.24 | 9.01 | 7.04 | 23 |
| SODIUM (NA) | 1.5 | 34 | 7.1 | 8.19 | 23 |
| POTASSIUM (K) | 0.61 | 4.5 | 2.3 | 1.19 | 23 |
| ACIDITY AS CACO3 | 0.05 | 20.00 | 8.39 | 6.88 | 10 |
| ALKALINITY AS CACO3 (LAB) | 158 | 232 | 202.6 | 21.02 | 10 |
| BICARBONATE (HCO3) (LAB) | 105 | 295 | 220.4 | 55.64 | 23 |
| SULFATE (SO4) | 3 | 114 | 19.1 | 22.62 | 23 |
| CHLORIDE (CL) | 2.2 | 20 | 5.8 | 4.88 | 23 |
| FLUORIDE (F) | 0.12 | 0.19 | 0.15 | 0.02 | 10 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 2.90 | 1.75 | 0.76 | 10 |
| AMMONIA (NH3 AS N) | 0.01 | 0.35 | 0.08 | 0.09 | 23 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.69 | 0.13 | 0.15 | 23 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.04 | 0.03 | 0.01 | 10 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.080 | 0.025 | 0.02 | 10 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.019 | 0.01 | 0.00 | 10 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.27 | 0.06 | 0.07 | 22 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.023 | 0.003 | 0.01 | 10 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.020 | 0.009 | 0.00 | 22 |
| MANGANESE (MN) DISS | 0.010 | 0.010 | 0.010 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.031 | 0.008 | 0.01 | 9 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 53.6 | 12.78 | 18.22 | 9 |
| PHENOLS | 0.001 | 0.042 | 0.006 | 0.01 | 18 |
| OIL AND GREASE | 0.1 | 1.6 | 0.7 | 0.60 | 9 |
| CYANIDE (CN) TOTAL | 0.001 | 0.004 | 0.001 | 0.00 | 9 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S26-13

| SAMPLE DATE | 08/17/88 | 10/20/88 | 06/21/89 | 09/06/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 11 | 3 | 6 | 16 | |
| FLOW (CFS) | 0.001 | 0.0007 | 0.010 | 0.0002 | 0 |
| WATER TEMPERATURE (C) | 8 | 6 | 4.5 | 9.5 | |
| SPEC. COND. (UMHOS/CM) FIELD | 422 | 450 | 405 | 468 | |
| PH (SU) FIELD | 6.2 | 6.7 | 6.7 | 6.2 | |
| TURBIDITY (NTU) FIELD | 0.30 | 0.30 | 1.2 | 0.4 | |
| TOTAL SUSP. SOLIDS | 1 | 1 | <1.00 | <1.00 | |
| TOTAL DISS. SOLIDS MEAS. | 255 | 250 | 196 | 230 | |
| OXYGEN (O) DISS | 4.8 | | | 4.2 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 48.00 | 102.80 | 60.12 | 69.23 | |
| MAGNESIUM (MG) | 30.24 | <0.10 | 7.55 | 9.70 | |
| SODIUM (NA) | 4.15 | 1.70 | 16.00 | 1.50 | |
| POTASSIUM (K) | 1.07 | 0.61 | 2.13 | 1.30 | |
| ACIDITY AS CACO3 | <0.05 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 205 | | | 198 | |
| BICARBONATE (HCO3) (LAB) | 250 | 295 | 238 | 242 | |
| SULFATE (SO4) | 39 | 7 | 7 | 12 | |
| CHLORIDE (CL) | 2.7 | 2.6 | 13.1 | 3.0 | |
| FLUORIDE (F) | 0.14 | | | 0.18 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 1.53 | | 1.91 | 1.46 | |
| AMMONIA (NH3 AS N) | 0.04 | <0.03 | <0.03 | 0.05 | |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | 0.07 | 0.05 | |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | 0.02 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | 0.030 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | <0.03 | <0.03 | <0.03 | <0.03 | |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | <0.01 | <0.01 | |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | 0.009 | | | | |
| **ORGANIC PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.30 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.1 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

# STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE 534-12

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 6 | 20 | 13.5 | 4.22 | 13 |
| FLOW (CFS) | 0.010 | 0.100 | 0.024 | 0.02 | 13 |
| WATER TEMPERATURE (C) | 4 | 8.5 | 6.1 | 1.27 | 13 |
| SPEC. COND. (UMHOS/CM) FIELD | 330 | 482 | 403.5 | 38.68 | 13 |
| PH (SU) FIELD | 6.4 | 8.0 | 7.4 | 0.49 | 12 |
| TURBIDITY (NTU) FIELD | 0.16 | 11 | 1.88 | 3.11 | 12 |
| TOTAL SUSP. SOLIDS | 1 | 67 | 9.3 | 18.57 | 11 |
| TOTAL DISS. SOLIDS MEAS. | 175 | 268 | 229.7 | 22.67 | 11 |
| OXYGEN (O) DISS | 8.0 | 10.0 | 9.1 | 0.79 | 4 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 55.03 | 78 | 64.67 | 5.75 | 11 |
| MAGNESIUM (MG) | 0.01 | 16.32 | 9.27 | 5.85 | 11 |
| SODIUM (NA) | 1.6 | 16 | 5.8 | 4.23 | 11 |
| POTASSIUM (K) | 0.01 | 1.5 | 0.79 | 0.43 | 11 |
| ACIDITY AS CACO3 | 0.01 | 8 | 3.25 | 3.31 | 6 |
| ALKALINITY AS CACO3 (LAB) | 186 | 209 | 199.8 | 8.23 | 6 |
| BICARBONATE (HCO3) (LAB) | 195 | 262 | 238.6 | 17.63 | 11 |
| SULFATE (SO4) | 6 | 40 | 18.4 | 9.77 | 11 |
| CHLORIDE (CL) | 2.1 | 3.1 | 2.4 | 0.39 | 11 |
| FLUORIDE (F) | 0.11 | 0.19 | 0.14 | 0.02 | 6 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 1.22 | 1.97 | 1.59 | 0.20 | 8 |
| AMMONIA (NH3 AS N) | 0.01 | 28.3 | 2.64 | 8.11 | 11 |
| TOTAL PHOSPHATE (PO4) | 0.04 | 0.44 | 0.11 | 0.12 | 11 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.04 | 0.03 | 0.01 | 6 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.030 | 0.019 | 0.01 | 6 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.01 | 0.03 | 0.02 | 0.01 | 6 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.001 | 0.56 | 0.08 | 0.15 | 11 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.007 | 0.002 | 0.00 | 6 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.07 | 0.02 | 0.02 | 11 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.090 | 0.045 | 0.04 | 5 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1.66 | 43.76 | 12.14 | 15.98 | 5 |
| PHENOLS | 0.001 | 0.482 | 0.065 | 0.16 | 8 |
| OIL AND GREASE | 0.1 | 1.4 | 0.7 | 0.52 | 5 |
| CYANIDE (CN) TOTAL | 0.001 | 0.140 | 0.036 | 0.06 | 4 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S34-12

| SAMPLE DATE | 08/17/88 | 10/19/88 | 06/22/89 | 09/07/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 20 | 12 | 15 | 16 | 8 |
| FLOW (CFS) | 0.02 | 0.017 | 0.019 | 0.015 | 0.013 |
| WATER TEMPERATURE (C) | 8.5 | 8 | 7 | 7 | 7 |
| SPEC. COND. (UMHOS/CM) FIELD | 415 | 438 | 444 | 482 | 410 |
| PH (SU) FIELD | 6.9 | 7.2 | 6.9 | 6.4 | 7.83 |
| TURBIDITY (NTU) FIELD | 0.82 | 0.83 | 0.4 | 11 | 0.46 |
| TOTAL SUSP. SOLIDS | 3 | 2 | <1.00 | 6 | 1 |
| TOTAL DISS. SOLIDS MEAS. | 233 | 235 | 230 | 220 | 268 |
| OXYGEN (D) DISS | 8.6 | | | 8.0 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 70.40 | 78.00 | 64.64 | 63.64 | 63.69 |
| MAGNESIUM (MG) | 10.56 | <0.10 | 0.03 | 14.10 | 12.74 |
| SODIUM (NA) | 4.59 | 5.28 | 5.80 | 1.60 | 1.98 |
| POTASSIUM (K) | <0.50 | 0.58 | <0.50 | 0.88 | 0.71 |
| ACIDITY AS CACO3 | 6.00 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 209 | | | 186 | |
| BICARBONATE (HCO3) (LAB) | 255 | 244 | 262 | 227 | 233 |
| SULFATE (SO4) | 16 | 20 | 7 | 29 | 16 |
| CHLORIDE (CL) | 2.1 | 2.1 | 2.1 | 2.2 | 2.2 |
| FLUORIDE (F) | 0.12 | | | 0.11 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 1.54 | | 1.68 | 1.49 | 1.56 |
| AMMONIA (NH3 AS N) | 0.04 | <0.03 | <0.03 | 0.53 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | 0.06 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.04 | | | 0.03 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | 0.030 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.04 | 0.07 | <0.03 | <0.03 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | 0.03 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 1.66 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.10 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S35-8

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 1 | 21 | 12.0 | 5.34 | 42 |
| FLOW (CFS) | 0.003 | 0.27 | 0.049 | 0.07 | 42 |
| WATER TEMPERATURE (C) | 2 | 7 | 3.8 | 0.89 | 42 |
| SPEC. COND. (UMHOS/CM) FIELD | 221 | 579 | 397.1 | 65.02 | 42 |
| PH (SU) FIELD | 6.9 | 8.1 | 7.5 | 0.32 | 41 |
| TURBIDITY (NTU) FIELD | 0.16 | 11 | 2.81 | 3.07 | 41 |
| TOTAL SUSP. SOLIDS | 0.1 | 13 | 3.2 | 3.49 | 27 |
| TOTAL DISS. SOLIDS MEAS. | 178 | 296 | 236.4 | 28.83 | 27 |
| OXYGEN (O) DISS | 7.6 | 13.2 | 9.8 | 1.88 | 10 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 47.2 | 88 | 69.0 | 8.63 | 27 |
| MAGNESIUM (MG) | 5.28 | 15.60 | 11.40 | 2.85 | 27 |
| SODIUM (NA) | 1.8 | 34 | 6.6 | 6.66 | 27 |
| POTASSIUM (K) | 0.4 | 1.6 | 0.8 | 0.27 | 27 |
| ACIDITY AS CACO3 | 0.01 | 18.4 | 5.15 | 5.84 | 11 |
| ALKALINITY AS CACO3 (LAB) | 208 | 249 | 223.6 | 12.13 | 11 |
| BICARBONATE (HCO3) (LAB) | 176 | 304 | 255.8 | 31.44 | 27 |
| SULFATE (SO4) | 3 | 55 | 16.0 | 10.30 | 27 |
| CHLORIDE (CL) | 0.2 | 17.3 | 3.9 | 3.77 | 27 |
| FLUORIDE (F) | 0.08 | 0.19 | 0.12 | 0.03 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.01 | 0.96 | 0.21 | 0.24 | 13 |
| AMMONIA (NH3 AS N) | 0.01 | 0.75 | 0.14 | 0.18 | 27 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.24 | 0.07 | 0.05 | 27 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | 0.038 | 0.03 | 0.01 | 11 |
| BARIUM (BA) DISS | 0.02 | 0.02 | 0.02 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.110 | 0.029 | 0.03 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.05 | 0.01 | 0.01 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.009 | 0.12 | 0.04 | 0.03 | 26 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.002 | 0.001 | 0.00 | 11 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.0002 | 0.02 | 0.01 | 0.01 | 26 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.039 | 0.013 | 0.01 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.01 | 58.15 | 10.35 | 16.84 | 10 |
| PHENOLS | 0.001 | 0.026 | 0.003 | 0.01 | 21 |
| OIL AND GREASE | 0.08 | 1.0 | 0.39 | 0.37 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.046 | 0.006 | 0.01 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S35-8

| SAMPLE DATE | 08/17/88 | 10/19/88 | 06/21/89 | 09/07/89 | 10/17/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 16 | 11 | 12 | 10 | 2 |
| FLOW (CFS) | 0.006 | 0.005 | 0.0036 | 0.003 | 0.0036 |
| WATER TEMPERATURE (C) | 4 | 4 | 5 | 4 | 3 |
| SPEC. COND. (UMHOS/CM) FIELD | 464 | 483 | 488 | 496 | 390 |
| PH (SU) FIELD | 6.9 | 7.3 | 7.0 | 6.9 | 7.45 |
| TURBIDITY (NTU) FIELD | 0.37 | 0.71 | 0.4 | 0.62 | 0.95 |
| TOTAL SUSP. SOLIDS | 3 | <1 | <1 | <1 | 6 |
| TOTAL DISS. SOLIDS MEAS. | 258 | 296 | 228 | 244 | 255 |
| OXYGEN (O) DISS | 8.6 | | | 9.0 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 78.40 | 88.00 | 70.45 | 69.19 | 70.35 |
| MAGNESIUM (MG) | 12.24 | 12.48 | 13.54 | 15.37 | 14.51 |
| SODIUM (NA) | 4.13 | 4.81 | 8.00 | 1.80 | 2.03 |
| POTASSIUM (K) | 0.57 | 0.95 | 0.77 | 1.06 | 0.78 |
| ACIDITY AS CACO3 | 1.00 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 231 | | | 212 | |
| BICARBONATE (HCO3) (LAB) | 282 | 267 | 292 | 259 | 264 |
| SULFATE (SO4) | 18 | 55 | 11 | 20 | 17 |
| CHLORIDE (CL) | 2.3 | 2.5 | 2.6 | 2.4 | 2.3 |
| FLUORIDE (F) | 0.11 | | | 0.15 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.25 | | 0.36 | 0.30 | 0.29 |
| AMMONIA (NH3 AS N) | 0.04 | <0.03 | <0.03 | <0.03 | <0.03 |
| TOTAL PHOSPHATE (PO4) | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.03 | | | 0.03 | |
| BARIUM (BA) DISS | | | | 0.02 | |
| BORON (B) TOTAL | 0.030 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | <0.05 | 0.05 | <0.03 | <0.03 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | 0.02 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 2.71 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | 0.3 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE S36-12

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | -3 | 25 | 12.5 | 6.24 | 41 |
| FLOW (CFS) | 0.0043 | 0.020 | 0.0106 | 0.00 | 41 |
| WATER TEMPERATURE (C) | 2 | 6 | 4.1 | 0.91 | 41 |
| SPEC. COND. (UMHOS/CM) FIELD | 269 | 530 | 382.4 | 51.99 | 41 |
| PH (SU) FIELD | 6.1 | 8.1 | 7.0 | 0.44 | 39 |
| TURBIDITY (NTU) FIELD | 0.54 | 12.5 | 2.57 | 2.75 | 39 |
| TOTAL SUSP. SOLIDS | 0.1 | 15 | 2.7 | 3.19 | 26 |
| TOTAL DISS. SOLIDS MEAS. | 164 | 290 | 225.6 | 31.33 | 26 |
| OXYGEN (D) DISS | 4.0 | 10.2 | 6.7 | 1.48 | 10 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 47.2 | 103.6 | 68.5 | 10.82 | 26 |
| MAGNESIUM (MG) | 0.01 | 34.80 | 8.67 | 6.36 | 26 |
| SODIUM (NA) | 0.9 | 35 | 7.5 | 8.70 | 26 |
| POTASSIUM (K) | 0.01 | 1.10 | 0.47 | 0.21 | 26 |
| ACIDITY AS CACO3 | 0.1 | 18.4 | 8.8 | 6.31 | 11 |
| ALKALINITY AS CACO3 (LAB) | 168 | 283 | 215.1 | 26.58 | 11 |
| BICARBONATE (HCO3) (LAB) | 173.2 | 315 | 246.2 | 32.77 | 25 |
| SULFATE (SO4) | 3 | 102 | 12.8 | 18.87 | 26 |
| CHLORIDE (CL) | 0.6 | 20 | 3.3 | 4.42 | 26 |
| FLUORIDE (F) | 0.07 | 0.15 | 0.11 | 0.02 | 11 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.02 | 0.91 | 0.47 | 0.23 | 12 |
| AMMONIA (NH3 AS N) | 0.01 | 1.75 | 0.18 | 0.35 | 26 |
| TOTAL PHOSPHATE (PO4) | 0.01 | 0.19 | 0.07 | 0.06 | 26 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.009 | 0.07 | 0.020 | 0.02 | 11 |
| BARIUM (BA) DISS | 0.01 | 0.01 | 0.010 | 0.00 | 1 |
| BORON (B) TOTAL | 0.001 | 0.08 | 0.027 | 0.02 | 11 |
| BORON (B) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| COPPER (CU) TOTAL | 0.001 | 0.019 | 0.009 | 0.00 | 11 |
| COPPER (CU) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| IRON (FE) TOTAL | 0.01 | 0.90 | 0.08 | 0.17 | 25 |
| IRON (FE) DISS | 0.03 | 0.03 | 0.03 | 0.00 | 1 |
| LEAD (PB) TOTAL | 0.001 | 0.010 | 0.002 | 0.00 | 12 |
| LEAD (PB) DISS | 0.001 | 0.001 | 0.001 | ERR | 1 |
| MANGANESE (MN) TOTAL | 0.001 | 0.01 | 0.01 | 0.00 | 24 |
| MANGANESE (MN) DISS | 0.01 | 0.01 | 0.01 | 0.00 | 1 |
| ZINC (ZN) TOTAL | 0.001 | 0.067 | 0.020 | 0.02 | 10 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 0.001 | 55.19 | 10.34 | 15.74 | 11 |
| PHENOLS | 0.001 | 0.110 | 0.010 | 0.02 | 19 |
| OIL AND GREASE | 0.01 | 66.8 | 7.2 | 19.88 | 10 |
| CYANIDE (CN) TOTAL | 0.001 | 0.008 | 0.002 | 0.00 | 10 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY
ANALYSES - SITE S36-12

| SAMPLE DATE | 08/17/88 | 10/12/88 | 06/21/89 | 09/06/89 | 10/16/89 |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | 14 | 2 | 2.5 | 14 | 5 |
| FLOW (CFS) | 0.007 | 0.0055 | 0.0088 | 0.0054 | 0.0043 |
| WATER TEMPERATURE (C) | 5.5 | 4 | 2 | 5 | 5 |
| SPEC. COND. (UMHOS/CM) FIELD | 412 | 442 | 435 | 473 | 360 |
| PH (SU) FIELD | 6.3 | 6.8 | 6.9 | 6.1 | 7.4 |
| TURBIDITY (NTU) FIELD | 0.64 | 0.86 | 0.8 | 0.6 | 0.92 |
| TOTAL SUSP. SOLIDS | 2 | <1 | <1 | <1 | <1 |
| TOTAL DISS. SOLIDS MEAS. | 225 | 266 | 188 | 206 | 232 |
| OXYGEN (O) DISS | 6.6 | | | 6.6 | |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | 56.80 | 103.60 | 64.07 | 71.06 | 73.26 |
| MAGNESIUM (MG) | 18.24 | 1.20 | 7.16 | 9.50 | 9.15 |
| SODIUM (NA) | 4.48 | 1.63 | 13.00 | 0.98 | 1.77 |
| POTASSIUM (K) | <0.50 | <0.10 | <0.50 | 0.52 | <0.30 |
| ACIDITY AS CACO3 | 11.00 | | | <0.10 | |
| ALKALINITY AS CACO3 (LAB) | 210 | | | 200 | |
| BICARBONATE (HCO3) (LAB) | 256 | 315 | 261 | 244 | 250 |
| SULFATE (SO4) | 16 | 4 | 4 | 13 | 12 |
| CHLORIDE (CL) | 1.2 | 1.1 | 2.0 | 1.0 | 1.4 |
| FLUORIDE (F) | 0.11 | | | 0.15 | |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | 0.48 | | 0.54 | 0.49 | 0.53 |
| AMMONIA (NH3 AS N) | 0.04 | <0.03 | <0.03 | <0.03 | 0.04 |
| TOTAL PHOSPHATE (PO4) | 0.19 | <0.04 | <0.04 | <0.04 | <0.04 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | 0.02 | | | <0.01 | |
| BARIUM (BA) DISS | | | | <0.01 | |
| BORON (B) TOTAL | 0.030 | | | <0.001 | |
| BORON (B) DISS | | | | <0.001 | |
| COPPER (CU) TOTAL | <0.01 | | | <0.01 | |
| COPPER (CU) DISS | | | | <0.01 | |
| IRON (FE) TOTAL | 0.06 | <0.03 | 0.06 | <0.03 | <0.03 |
| IRON (FE) DISS | | | | <0.03 | |
| LEAD (PB) TOTAL | <0.001 | | | <0.001 | |
| LEAD (PB) DISS | | | | <0.001 | |
| MANGANESE (MN) TOTAL | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| MANGANESE (MN) DISS | | | | <0.01 | |
| ZINC (ZN) TOTAL | <0.005 | | | | |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | 3.14 | | | | |
| PHENOLS | <0.001 | <0.001 | | | |
| OIL AND GREASE | <0.1 | | | | |
| CYANIDE (CN) TOTAL | <0.001 | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE WRDS #1

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| FLOW (CFS) | 0 | 0 | 0.00 | 0.00 | 31 |
| WATER TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| SPEC. COND. (UMHOS/CM) FIELD | ERR | ERR | ERR | ERR | 0 |
| PH (SU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TURBIDITY (NTU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TOTAL SUSP. SOLIDS | ERR | ERR | ERR | ERR | 0 |
| TOTAL DISS. SOLIDS MEAS. | ERR | ERR | ERR | ERR | 0 |
| OXYGEN (O) DISS | ERR | ERR | ERR | ERR | 0 |
| COMMON IONS | | | | | |
| CALCIUM (CA) | ERR | ERR | ERR | ERR | 0 |
| MAGNESIUM (MG) | ERR | ERR | ERR | ERR | 0 |
| SODIUM (NA) | ERR | ERR | ERR | ERR | 0 |
| POTASSIUM (K) | ERR | ERR | ERR | ERR | 0 |
| ACIDITY AS CACO3 | ERR | ERR | ERR | ERR | 0 |
| ALKALINITY AS CACO3 (LAB) | ERR | ERR | ERR | ERR | 0 |
| BICARBONATE (HCO3) (LAB) | ERR | ERR | ERR | ERR | 0 |
| SULFATE (SO4) | ERR | ERR | ERR | ERR | 0 |
| CHLORIDE (CL) | ERR | ERR | ERR | ERR | 0 |
| FLUORIDE (F) | ERR | ERR | ERR | ERR | 0 |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | ERR | ERR | ERR | ERR | 0 |
| AMMONIA (NH3 AS N) | ERR | ERR | ERR | ERR | 0 |
| TOTAL PHOSPHATE (PO4) | ERR | ERR | ERR | ERR | 0 |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | ERR | ERR | ERR | ERR | 0 |
| PHENOLS | ERR | ERR | ERR | ERR | 0 |
| OIL AND GREASE | ERR | ERR | ERR | ERR | 0 |
| CYANIDE (CN) TOTAL | ERR | ERR | ERR | ERR | 0 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE WRDS #1

STATION LOCATION - MAIN CHANNEL DRAINAGE BELOW WASTE DISPOSAL SITE

| SAMPLE DATE | 11/03/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| PHYSICAL PARAMETERS | STATION NOT ACCESSIBLE | STATION NOT ACCESSIBLE | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | | | 0 | 0 | 0 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE WRDS #2

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| FLOW (CFS) | 0 | 0 | 0.00 | 0.00 | 31 |
| WATER TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| SPEC. COND. (UMHOS/CM) FIELD | ERR | ERR | ERR | ERR | 0 |
| PH (SU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TURBIDITY (NTU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TOTAL SUSP. SOLIDS | ERR | ERR | ERR | ERR | 0 |
| TOTAL DISS. SOLIDS MEAS. | ERR | ERR | ERR | ERR | 0 |
| OXYGEN (O) DISS | ERR | ERR | ERR | ERR | 0 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | ERR | ERR | ERR | ERR | 0 |
| MAGNESIUM (MG) | ERR | ERR | ERR | ERR | 0 |
| SODIUM (NA) | ERR | ERR | ERR | ERR | 0 |
| POTASSIUM (K) | ERR | ERR | ERR | ERR | 0 |
| ACIDITY AS CACO3 | ERR | ERR | ERR | ERR | 0 |
| ALKALINITY AS CACO3 (LAB) | ERR | ERR | ERR | ERR | 0 |
| BICARBONATE (HCO3) (LAB) | ERR | ERR | ERR | ERR | 0 |
| SULFATE (SO4) | ERR | ERR | ERR | ERR | 0 |
| CHLORIDE (CL) | ERR | ERR | ERR | ERR | 0 |
| FLUORIDE (F) | ERR | ERR | ERR | ERR | 0 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | ERR | ERR | ERR | ERR | 0 |
| AMMONIA (NH3 AS N) | ERR | ERR | ERR | ERR | 0 |
| TOTAL PHOSPHATE (PO4) | ERR | ERR | ERR | ERR | 0 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | ERR | ERR | ERR | ERR | 0 |
| PHENOLS | ERR | ERR | ERR | ERR | 0 |
| OIL AND GREASE | ERR | ERR | ERR | ERR | 0 |
| CYANIDE (CN) TOTAL | ERR | ERR | ERR | ERR | 0 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT. THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE WRDS #2

STATION LOCATION - MAIN CHANNEL DRAINAGE IMMEDIATELY BELOW WASTE DISPOSAL SITE

| SAMPLE DATE | 11/03/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| PHYSICAL PARAMETERS | STATION NOT ACCESSIBLE | STATION NOT ACCESSIBLE | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | | | 0 | 0 | 0 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE WRDS #3

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| FLOW (CFS) | 0 | 0 | 0.00 | 0.00 | 31 |
| WATER TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| SPEC. COND. (UMHOS/CM) FIELD | ERR | ERR | ERR | ERR | 0 |
| PH (SU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TURBIDITY (NTU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TOTAL SUSP. SOLIDS | ERR | ERR | ERR | ERR | 0 |
| TOTAL DISS. SOLIDS MEAS. | ERR | ERR | ERR | ERR | 0 |
| OXYGEN (O) DISS | ERR | ERR | ERR | ERR | 0 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | ERR | ERR | ERR | ERR | 0 |
| MAGNESIUM (MG) | ERR | ERR | ERR | ERR | 0 |
| SODIUM (NA) | ERR | ERR | ERR | ERR | 0 |
| POTASSIUM (K) | ERR | ERR | ERR | ERR | 0 |
| ACIDITY AS CACO3 | ERR | ERR | ERR | ERR | 0 |
| ALKALINITY AS CACO3 (LAB) | ERR | ERR | ERR | ERR | 0 |
| BICARBONATE (HCO3) (LAB) | ERR | ERR | ERR | ERR | 0 |
| SULFATE (SO4) | ERR | ERR | ERR | ERR | 0 |
| CHLORIDE (CL) | ERR | ERR | ERR | ERR | 0 |
| FLUORIDE (F) | ERR | ERR | ERR | ERR | 0 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | ERR | ERR | ERR | ERR | 0 |
| AMMONIA (NH3 AS N) | ERR | ERR | ERR | ERR | 0 |
| TOTAL PHOSPHATE (PO4) | ERR | ERR | ERR | ERR | 0 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | ERR | ERR | ERR | ERR | 0 |
| PHENOLS | ERR | ERR | ERR | ERR | 0 |
| OIL AND GREASE | ERR | ERR | ERR | ERR | 0 |
| CYANIDE (CN) TOTAL | ERR | ERR | ERR | ERR | 0 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE WRDS #3

STATION LOCATION - SIDE CHANNEL DRAINAGE ABOVE WASTE DISPOSAL SITE

| SAMPLE DATE | 11/03/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| PHYSICAL PARAMETERS | STATION NOT ACCESSIBLE | STATION NOT ACCESSIBLE | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | | | 0 | 0 | 0 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.

STATISTICAL SUMMARY OF WATER QUALITY ANALYSES FOR SITE WRDS #4

| | RANGE MIN | RANGE MAX | MEAN | STANDARD DEVIATION | NUMBER OF SAMPLES |
|---|---|---|---|---|---|
| **PHYSICAL PARAMETERS** | | | | | |
| AIR TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| FLOW (CFS) | 0 | 0 | 0.00 | 0.00 | 31 |
| WATER TEMPERATURE (C) | ERR | ERR | ERR | ERR | 0 |
| SPEC. COND. (UMHOS/CM) FIELD | ERR | ERR | ERR | ERR | 0 |
| PH (SU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TURBIDITY (NTU) FIELD | ERR | ERR | ERR | ERR | 0 |
| TOTAL SUSP. SOLIDS | ERR | ERR | ERR | ERR | 0 |
| TOTAL DISS. SOLIDS MEAS. | ERR | ERR | ERR | ERR | 0 |
| OXYGEN (O) DISS | ERR | ERR | ERR | ERR | 0 |
| **COMMON IONS** | | | | | |
| CALCIUM (CA) | ERR | ERR | ERR | ERR | 0 |
| MAGNESIUM (MG) | ERR | ERR | ERR | ERR | 0 |
| SODIUM (NA) | ERR | ERR | ERR | ERR | 0 |
| POTASSIUM (K) | ERR | ERR | ERR | ERR | 0 |
| ACIDITY AS CACO3 | ERR | ERR | ERR | ERR | 0 |
| ALKALINITY AS CACO3 (LAB) | ERR | ERR | ERR | ERR | 0 |
| BICARBONATE (HCO3) (LAB) | ERR | ERR | ERR | ERR | 0 |
| SULFATE (SO4) | ERR | ERR | ERR | ERR | 0 |
| CHLORIDE (CL) | ERR | ERR | ERR | ERR | 0 |
| FLUORIDE (F) | ERR | ERR | ERR | ERR | 0 |
| **NUTRIENTS** | | | | | |
| NITRATE (NO3-N) | ERR | ERR | ERR | ERR | 0 |
| AMMONIA (NH3 AS N) | ERR | ERR | ERR | ERR | 0 |
| TOTAL PHOSPHATE (PO4) | ERR | ERR | ERR | ERR | 0 |
| **TRACE ELEMENTS** | | | | | |
| BARIUM (BA) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BARIUM (BA) DISS | ERR | ERR | ERR | ERR | 0 |
| BORON (B) TOTAL | ERR | ERR | ERR | ERR | 0 |
| BORON (B) DISS | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) TOTAL | ERR | ERR | ERR | ERR | 0 |
| COPPER (CU) DISS | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) TOTAL | ERR | ERR | ERR | ERR | 0 |
| IRON (FE) DISS | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) TOTAL | ERR | ERR | ERR | ERR | 0 |
| LEAD (PB) DISS | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| MANGANESE (MN) DISS | ERR | ERR | ERR | ERR | 0 |
| ZINC (ZN) TOTAL | ERR | ERR | ERR | ERR | 0 |
| **OTHER PARAMETERS** | | | | | |
| ORGANIC CARBON (TOTAL) | ERR | ERR | ERR | ERR | 0 |
| PHENOLS | ERR | ERR | ERR | ERR | 0 |
| OIL AND GREASE | ERR | ERR | ERR | ERR | 0 |
| CYANIDE (CN) TOTAL | ERR | ERR | ERR | ERR | 0 |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED. FOR VALUES BELOW THE DETECTION LIMIT, THE DETECTION LIMIT WAS USED IN THE STATISTICAL ANALYSIS.

SUMMARY OF WATER QUALITY ANALYSES - SITE WRDS #4

STATION LOCATION - MAIN CHANNEL DRAINAGE ABOVE WASTE DISPOSAL SITE

| SAMPLE DATE | 11/03/88 | 02/01/89 | 06/22/89 | 09/13/89 | 10/31/89 |
|---|---|---|---|---|---|
| PHYSICAL PARAMETERS | STATION NOT ACCESSIBLE | STATION NOT ACCESSIBLE | | | |
| AIR TEMPERATURE (C) | | | | | |
| FLOW (CFS) | | | 0 | 0 | 0 |
| WATER TEMPERATURE (C) | | | | | |
| SPEC. COND. (UMHOS/CM) FIELD | | | | | |
| PH (SU) FIELD | | | | | |
| TURBIDITY (NTU) FIELD | | | | | |
| TOTAL SUSP. SOLIDS | | | | | |
| TOTAL DISS. SOLIDS MEAS. | | | | | |
| OXYGEN (O) DISS | | | | | |
| COMMON IONS | | | | | |
| CALCIUM (CA) | | | | | |
| MAGNESIUM (MG) | | | | | |
| SODIUM (NA) | | | | | |
| POTASSIUM (K) | | | | | |
| ACIDITY AS CACO3 | | | | | |
| ALKALINITY AS CACO3 (LAB) | | | | | |
| BICARBONATE (HCO3) (LAB) | | | | | |
| SULFATE (SO4) | | | | | |
| CHLORIDE (CL) | | | | | |
| FLUORIDE (F) | | | | | |
| NUTRIENTS | | | | | |
| NITRATE (NO3-N) | | | | | |
| AMMONIA (NH3 AS N) | | | | | |
| TOTAL PHOSPHATE (PO4) | | | | | |
| TRACE ELEMENTS | | | | | |
| BARIUM (BA) TOTAL | | | | | |
| BARIUM (BA) DISS | | | | | |
| BORON (B) TOTAL | | | | | |
| BORON (B) DISS | | | | | |
| COPPER (CU) TOTAL | | | | | |
| COPPER (CU) DISS | | | | | |
| IRON (FE) TOTAL | | | | | |
| IRON (FE) DISS | | | | | |
| LEAD (PB) TOTAL | | | | | |
| LEAD (PB) DISS | | | | | |
| MANGANESE (MN) TOTAL | | | | | |
| MANGANESE (MN) DISS | | | | | |
| ZINC (ZN) TOTAL | | | | | |
| OTHER PARAMETERS | | | | | |
| ORGANIC CARBON (TOTAL) | | | | | |
| PHENOLS | | | | | |
| OIL AND GREASE | | | | | |
| CYANIDE (CN) TOTAL | | | | | |

ALL QUANTITIES IN MILLIGRAMS PER LITER UNLESS OTHERWISE NOTED.