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BROHM MINING CORPORATION

GILT EDGE PROJECT

WATER QUALITY REPORT
1988

WATER QUALITY REPORT

FOR 1988

GILT EDGE MINE

Prepared by:

BROHM MINING CORPORATION

for the

GILT EDGE OXIDE PROJECT

Submitted to:

SOUTH DAKOTA

DEPARTMENT OF WATER

AND

NATURAL RESOURCES

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INTRODUCTION

Brohm Mining Corporation reinitiated operational water quality monitoring for the Gilt Edge Mine in June of 1987. The sampling scheme has undergone numerous additions and modifications since then resulting in a more comprehensive database.

The number of sampling locations has grown considerably over the past year. Nineteen ground-water and 11 surface water sites comprise the current sampling scheme (Figure 1, Table 1) compared to six ground-water and ten surface water sites at the end of 1987.

One of the more significant modifications to the water quality program is the addition and eventual changeover to testing for total dissolved metals instead of total metals. Utilizing total dissolved metals more accurately accounts for changes in water quality and gives a truer representation of aquifer characteristics and chemically active metal concentrations.

This report discusses the data collected during 1988 while presenting all the data from the onset of sampling in the Appendix.

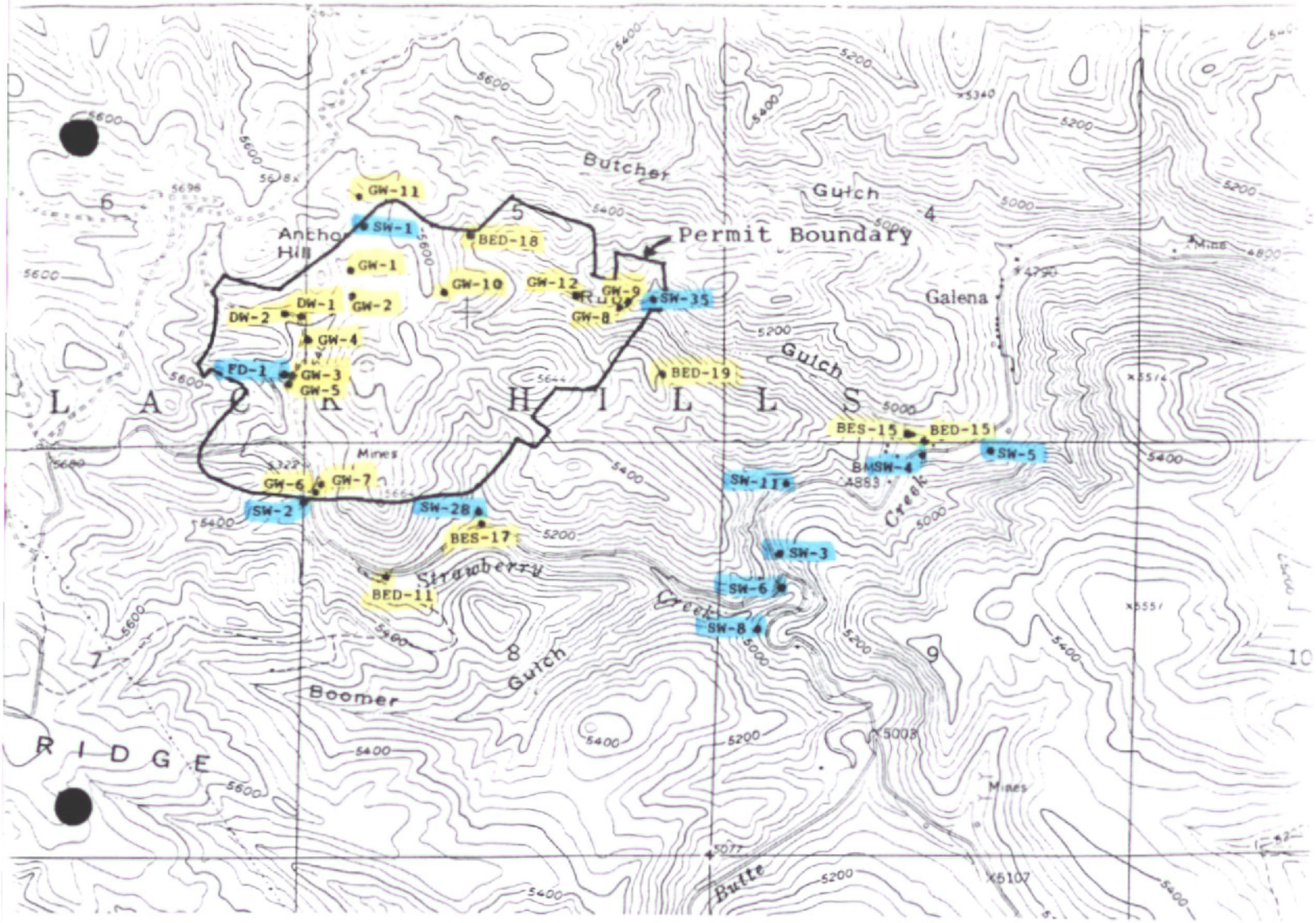


Figure 1. Map of Surface and Ground-Water Monitoring Sites.

Brohm Mining Corporation - Gilt Edge Mine

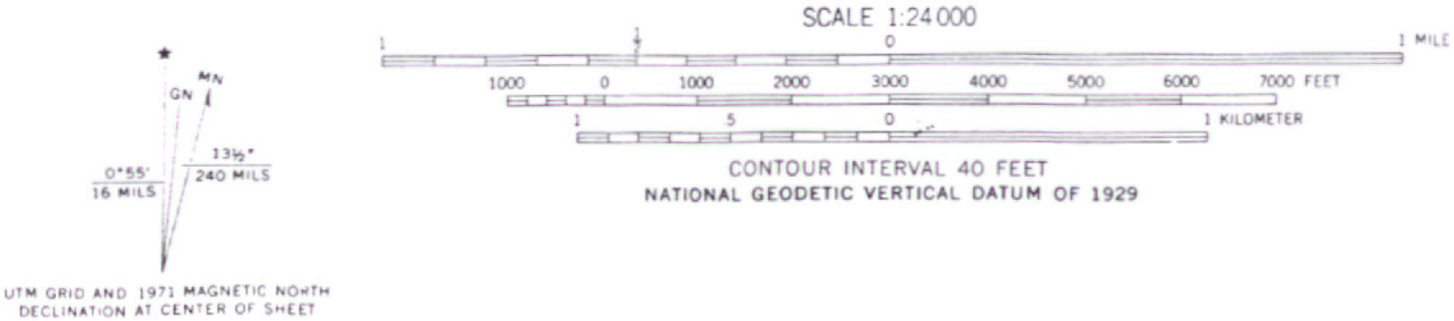


Table 1. **Operational Water Quality Sampling Site Descriptions.**

Site*	Location**	Purpose/ Facility monitored**
GW-1[1]	Deep aquifer downgradient from Leach Pad NW4, SW4, Sec.5	Leach Pad
GW-2[1]	Shallow aquifer downgradient from Leach Pad NW4, SW4, Sec.5	Leach Pad
GW-3[1]	Shallow aquifer downgradient from Plant Site and Land Application Area SE4, SE4, Sec.6	Plant Site, Land Application Area
GW-4[1]	Deep aquifer downgradient from Plant Site SW4, SW4, Sec.5	Plant Site
GW-5[1]	Deep aquifer downgradient from Plant Site and Land Application Area SE4, SE4, Sec.6	Plant Site, Land Application Area
GW-6[1]	Deep aquifer downgradient from Relic Tailings Area NW4, NW4, Sec.8	Relic Tailings Reclamation
GW-7[1]	Shallow aquifer downgradient From Relic Tailings Area NW4, NW4, Sec.8	Relic Tailings Reclamation
GW-8[1]	Shallow aquifer at Permit Boundary in Ruby Gulch NE4, SE4, Sec.5	Ruby Waste Disposal Area
GW-9[1]	Deep aquifer at Permit Boundary in Ruby Gulch NE4, SE4, Sec.5	Ruby Waste Disposal Area
GW-10[1]	Deep aquifer on ridge east of Leach Pad NE4, SW4, Sec.5	Leach Pad
GW-11[1]	Deep aquifer upgradient from all proposed mining activity SW4, NW4, Sec.5	Background Water Quality

Table 1. (Continued).

Site*	Location**	Purpose/ Facility monitored**
GW-12[1]	Shallow aquifer at ultimate toe of Ruby Waste Disposal Area NW4, SE4, Sec.5	Ruby Waste Disposal Area
BED-11[1]	Deep aquifer adjacent to the Oro Fino Shaft SW4, NW4, Sec.8	Process make-up water
BED-15[1]	Deep aquifer downgradient from Ruby Waste Disposal Area, in Galena	Ruby Waste Disposal Area
BED-18[1]	Deep aquifer upgradient to the Ruby Waste Disposal Area NE4, SW4, Sec.5	Background water quality
BED-19[1]	Deep aquifer on top of ridge east of mine site SE4, SE4, Sec.5	Ground-water quality off of mine site
BES-15[1]	Shallow aquifer downgradient from Ruby Waste Disposal Area, in Galena	Ruby Waste Disposal Area
BES-17[1]	Shallow aquifer downgradient from Hoodoo Waste Disposal Area NE4, NW4, Sec.8	Hoodoo Waste Disposal Area
DW-1 &[1] 2	Shallow seasonal aquifer between Surge and Neut. Ponds NE4, SE4, Sec.6	Dewater water bearing zone next to Surge Pond
SW-1	SBC Headwaters SW4, NW4, Sec.5	SBC Background Water Quality
SW-2[2]	SBC below Relic Tailings NW4, NW4, Sec.8	Relic Tailings Area and General Project Activity
SW-3[3]	BBC below confluence with SBC SW4, NW4, Sec.9	Influence of SBC on BBC

Table 1. (Continued).

Site*	Location**	Purpose/ Facility monitored**
SW-4	RG above confluence with BBC NE4, NW4, Sec.9	Ruby Waste Disposal Area
SW-5[3]	BBC below confluence with RG NW4, NE4, Sec.9	Water quality in BBC below RG
SW-6[2]	SBC above confluence with BBC SW4, NW4, Sec.9	Water quality of SBC above BBC and Buffering effects of SBC
SW-8[3]	BBC above confluence with SBC SW4, NW4, Sec.9	Background water quality of BBC
SW-11	Terrible Gulch above confluence with BBC NW4, NW4, Sec.9	Surface water quality outside of affected area
SW-28	Hoodoo Gulch above confluence with SBC NE4, NW4, Sec.8	Hoodoo Gulch Waste Disposal Area
SW-35	RG at lower extension of permit boundary NE4, SE4, Sec.5	Ruby Waste Disposal Area

* GW = Ground-water
BED = Ground-water
BES = Ground-water
SW = Surface water

** BBC = Bear Butte Creek
RG = Ruby Gulch
SBC = Strawberry Creek

Applicable water quality standards:

[1] = Ground-water of 10,000 mg/L TDS concentration or less, ARSD 74:03:15:02.

[2] = Coldwater marginal fish life propagation waters, ARSD 74:03:02:35.

[3] = Coldwater permanent fish life propagation waters, ARSD 74:03:02:34.

HYDROLOGIC CLASSIFICATION AND WATER QUALITY STANDARDS

ARSD 74:03:04:09 classifies Bear Butte Creek in the vicinity of the Gilt Edge Mine for the beneficial use of 1) Coldwater permanent fish life propagation waters and 2) Limited contact recreation waters. Strawberry Creek, upstream to Sec. 5, T4N, R4E, is classified as 1) Coldwater marginal fish life propagation waters and 2) Limited contact recreation waters. All ground-water within the State having a total dissolved solids (TDS) of 10,000 mg/L or less is classified as having a beneficial use of drinking water supplies, suitable for human consumption (ARSD 74:03:15:02). Thus, human health standards as outlined in ARSD 74:03:15:03 pertain to all ground-water within the Gilt Edge area. Exceptions are allowed under ARSD 74:03:15:02 for ambient concentrations greater than these standards.

Table 2 summarizes the standards for waters within the Gilt Edge operational water quality monitoring program.

TABLE 2. SOUTH DAKOTA WATER QUALITY STANDARDS.

PARAMETER	GROUND WATER [1]	SURFACE WATER STRAWBERRY [2]	SURFACE WATER BEAR BUTTE [3]
Total chlorine residual		<0.02 mg/L	<0.02 mg/L
Un-ionized ammonia nitrogen		<=0.02 mg/L	<=0.02 mg/L
Chlorides	250 mg/L		<=100.0 mg/L
Total Cyanide		<=0.02 mg/L	<=0.02 mg/L
Free Cyanide		<=0.005 mg/L	<=0.005 mg/L
WAD Cyanide	0.75 mg/L		
Dissolved Oxygen (DO)		>5.0 mg/L	>6.0 mg/L
DO in spawning areas during spawning season			>7.0 mg/L
Undisassociated hydrogen sulfide		<=0.002 mg/L	<=0.002 mg/L
Sulfate	500.00 mg/L		
pH	6.5-8.5	>6.5 and <8.8	>6.6 and <8.6
Suspended solids		<=90 mg/L	<30 mg/L
Total dissolved solids	1000.00 mg/L		
Temperature		<75 deg. F	<65 deg. F
Polychlorinated biphenyls (PCBs)	<=0.000001 mg/L	<=0.000001 mg/L	<=0.000001 mg/L
Fecal coliform	<2.2/100 ml	1000/100 ml	1000/100 ml
Arsenic (As)	0.05 mg/L		
Barium (Ba)	1.0 mg/L		
Cadmium (Cd)	0.010 mg/L		
Chromium (Cr)	0.05 mg/L		
Copper (Cu)	1.3 mg/L		
Fluoride (F)	2.4 mg/L		
Lead (Pb)	0.02 mg/L		
Mercury (Hg)	0.002 mg/L		
Nitrate as N	10.0 mg/L		
Nitrite	1.0 mg/L		
Selenium (Se)	0.01 mg/L		
Silver (Ag)	0.05 mg/L		

TABLE 2. (CONTINUED).

PARAMETER	GROUND WATER [1]	SURFACE WATER STRAWBERRY [2]	SURFACE WATER BEAR BUTTE [3]
Endrin	0.0002 mg/L		
Lindane	0.004 mg/L		
Methoxychlor	0.1 mg/L		
Toxaphene	0.005 mg/L		
2,4-D	0.1 mg/L		
2,4,5-TP Silvex	0.01 mg/L		
Total Trihalomethanes	0.10 mg/L		
Radium 226 and 228	5.0 picocuries per liter		
Gross Alpha/Uranium	15.0 picocuries per liter		
Trichloroethylene	0.005 mg/L		
Carbon tetrachloride	0.005 mg/L		
Vinyl chloride	0.002 mg/L		
1,2-Dichloroethane	0.005 mg/L		
Benzene	0.005 mg/L		
1,1,1-Trichloroethane	0.200 mg/L		
para-Dichlorobenzene	0.075 mg/L		
Total Hydrocarbons	0.1 mg/L		

[1] Groundwater: Chapter 74:03:15:02 Human Health Standards (classified as having the beneficial use of drinking water supplies, suitable for human consumption).

Groundwater - When the ambient pH or concentration of any water contaminant exceeds the standard specified, the ambient pH or concentration is the allowable limit. Chapter 74:03:15:03.

Groundwater - These standards apply to the dissolved portion of the contaminants specified, with the exception of mercury and the organic compounds. The standards for mercury and the organic compounds apply to the total unfiltered concentrations of the contaminants. Chapter 74:03:15:03.

[2] Strawberry Creek upstream to Section 5, T4N, R3E: Chapter 74:03:02:35 Coldwater marginal fish life propagation waters and Chapter 74:03:02:41 Limited contact recreation waters.

[3] Bear Butte Creek: Chapter 74:03:02:34 Coldwater permanent fish life propagation waters and Chapter 74:03:02:41 Limited contact recreation waters.

SITE ACTIVITIES

The majority of earthwork was completed in 1987 leaving the detail work of lining and piping systems and process support structures for 1988. On September 27, 1988 leaching commenced.

No deterioration in water quality resulted during this period as erosion and sediment control measures and solution containment structures performed adequately.

WATER QUALITY

Ground-Water:

The ground-water quality in the Gilt Edge area can be generally classified as good with only one site (GW-7, downgradient from the relic tailings) consistently producing poor quality water. Several other wells (GW-1, BED-15 and BED-19) have extraordinarily high pHs most likely due to poor well construction. Sampling revealed a few elemental concentrations above the standards. All lab results for surface and ground-water sampling are presented in the Appendix. Baseline water quality conditions still exist at all sites.

Each parameter analyzed for and regulated by ARSD 74:03:15:02 as it pertains to the 1988 ground-water test results is discussed below.

Chlorides (Cl - limit 250 mg/L)

No problems were detected. All test results show concentrations below the ground-water standard.

Sulfate (SO_4 - limit 500 mg/L)

GW-7 showed elevated sulfate concentrations through most of 1988 resulting from leachate generated by the relic tailings. Test results remained consistent with baseline conditions for this well. Test results for all other monitoring wells show concentrations below the ground-water standard.

pH (allowable range - 6.5 to 8.5)

<u>pH less than 6.5</u>:

As with sulfate, GW-7 did not meet standards with pH. The 1988 mean pH for GW-7 was 3.2. This is again due to leachate generated from the relic tailings and is reflective of baseline conditions.

Several other shallow monitoring wells showed occurrences of pHs below the 6.5 range. GW-2 was slightly acidic with an average pH of 6.6. On two of five samples pH was below the 6.5 range. GW-3 also was slightly acidic with an average pH of 6.3. Three of four samples had a pH below 6.5. GW-12 had one of eight samples with a pH below 6.5 with an average of 6.9. This lower pH is common of shallow alluvial aquifers within the area due to bedrock characteristics and the slightly acidic soils of the area.

The only deep monitoring well with occurrences of the pH below 6.5 was GW-5. On two of five occurrences the pH was below the acceptable range with a mean pH of 6.7. This well was completed in a highly mineralized zone which has historically produced slightly acidic conditions.

pH greater than 8.5:

Several monitoring wells (GW-1, BED-15, and BED-19) consistently had extraordinarily high pHs. The most likely cause being poor well construction. There is also the possibility of some unusual geochemical anomaly contributing to the rise in pH. GW-1 began producing elevated pH levels once the well was retrofitted with PVC casing and sandpack, a bentonite seal, and grout. In early 1989 GW-1 was air lifted for an extended amounts of time resulting in a normal pH from then to date.

BED-18 is slightly alkaline with an average pH of 8.7. This can be explained by the calcarious formation that the aquifer is screened in representing baseline conditions.

Weak Acid Dissociable Cyanide (WAD CN - limit 0.75 mg/L)

No cyanide was detected in any of the water quality samples taken outside of process solution containment structures.

Total Dissolved Solids (TDS - limit 1000 mg/L)

Excessive concentrations of TDS were characteristic of sites with very high or very low pHs. GW-7 has consistently yielded high TDS levels with an average of 880 mg/L in 1988. On two occurrences TDS levels were above 1000 mg/L tending to the higher concentrations during the lower ends of the seasonal hydrograph. These elevated TDS contents result from the effects of the relic tailings and the very low pH at the site with sulfate being the primary contributor to TDS.

The extremely high pHs associated with GW-1, BED-15, and BED-19 also produced elevated TDS concentrations. The primary contributor to the TDS was calcium carbonate.

Mercury (Hg - limit 0.002 mg/L)

During 1988 Brohm only had one test result come back with a mercury concentration above standards. In October mercury concentrations for BED-15 were analyzed at 0.0022 mg/L compared to a standard of 0.002 mg/L. The next highest concentration produced by this well was 0.0005 mg/L leading one to believe that the October measurement was somewhat anomalous.

Nitrate (NO_3 - limit 10 mg/L)

No concentrations above the water quality standards were detected in any of the samples analyzed. A slight increase in nitrate concentrations were anticipated below fill material and/or topsoil stockpiles, but were not strongly evident from test results. Residual nitrate from blasting agent is present in the fill material and may tend to leach resulting in slightly elevated nitrates showing up in the shallow ground-water system. Topsoil stockpiles where organic matter is allowed to decompose may also loose small amounts of nitrate.

Nitrite (NO_2 - limit 1 mg/L)

No problems were detected. All test results show concentrations well below the ground-water standards.

Arsenic (As - limit 0.05 mg/L)

Only one monitoring well (BES-17) yielded arsenic concentration above ground-water standards with a mean concentration of 0.043 mg/L but with three of six sampling events showing concentrations above standards. BES-17 is a shallow well located at the very bottom of Hoodoo Gulch immediately adjacent to an old stamp mill and waste rock dump. The elevated arsenic levels are most likely due to the highly mineralized characteristics of the relic waste rock and is representative of baseline conditions.

Cadmium (Cd - limit 0.01 mg/L)

GW-7 was the only well with cadmium concentrations above ground-water standards. This well yielded an average cadmium concentration of 0.017 mg/L with two of three samples collected being above standards. GW-7 is a shallow monitoring well located immediately below the relic tailings which would account for the abnormally high levels characteristic of baseline conditions.

Chromium (Cr - limit 0.05 mg/L)

No problems were detected. All test results show concentrations below the ground-water standards.

Copper (Cu - limit 1.3 mg/L)

Three different monitoring wells yielded at least one analysis for copper each above standards. They were GW-7, BED-19, and BED-11. GW-7 has historically produced high copper contents, characteristic of the relic tailings influence.

Three of four samples taken from BED-19 were high in copper. It is difficult to account for these high numbers but may be due to a localized "pod" of copper mineralization in the immediate area of the well.

One anomalous report of high copper occurred in BED-11 for November. BED-11 is located immediately adjacent to the Oro Fino Shaft, the water supply for the mine. The single high copper analysis may have resulted from a cave in inside the shaft or lateral workings exposing fresh mineralized surfaces high in copper that could account for the anomaly.

Lead (Pb - limit 0.02 mg/L)

BED-19 was the only monitoring well yielding excessively high concentrations of lead. As with copper for this same well, high levels of lead are difficult to explain but may be due to some type of lead mineralization in BED-19's immediate vicinity.

Selenium (Se - limit 0.01 mg/L)

GW-10 was the only monitoring well yielding any selenium concentrations above ground-water standards. High selenium concentrations occurred only during the first three samples all occurring during the a single week. The well may not have been fully developed at this time due to the poor recharge. Selenium could have originated from a small mineralized pocket encountered during drilling or contamination from drilling. The selenium problem has since cleared up as consecutive sampling produced much lower concentrations with the last three months of 1988 yielding concentrations below detection.

Silver (Ag - limit 0.05 mg/L)

No problems were detected. All test results show concentrations below the ground-water standards.

Iron (Fe - EPA secondary drinking water standard 0.3 mg/L)

Iron is not included under the South Dakota ground-water standards but is mentioned here since EPA does mention suggested guidelines for public water systems as Secondary Drinking Water Standards and the frequently elevated concentrations present within the waters and the area. Secondary standards are

suggested based upon aesthetic qualities rather that potential health risks.

Six of the wells had at least one occurrence of iron content above 0.3 mg/L. GW-1 and GW-5 both had elevated concentrations of iron prior to being retrofitted with casing. This could have been due to an inflow of water from another aquifer that was cased off when retrofitted or by dislodging geologic material from the sides of the hardrock well when bailing.

GW-7 has consistently yielded elevated iron concentrations resulting from the influence of the relic tailings and associated high pH.

GW-10 had one occurrence of iron concentrations above 0.3 mg/L. This occurrence appears quite anomalous and is unexplainable at this time.

BES-15 was high in iron on August 24th. This single occurrence is difficult to explain but was confirmed by a duplicate sample.

BES-17 has consistently yielded elevated iron concentrations. This is probably due to BES-17's close proximity to an old mining/milling operation.

Manganese (Mn - EPA secondary drinking water std. 0.05 mg/L)

As with iron, manganese has suggested limits through EPA secondary drinking water standard. Manganese, above this standard, is even much more prevalent in the area than iron. It was detected above 0.05 mg/L in all but four wells (BED-15, BED-18, BED-19, and BES-15).

Miscellaneous discussion on ground-water quality

Tom Durkin brought up the question on the correlation between high iron and elevated aluminum concentrations. While a correlation could be found in several of the monitoring wells there was no correlation in others. Therefore the analysis of one will not necessarily give a good indication of the presence or absence of the other.

Surface Water:

The surface water quality in the Gilt Edge area can be generally classified as good except for SW-2. SW-2 is heavily influenced by the relic tailings immediately upstream from this site.

Five of the eleven site are classified under SDCL 74:03:03. Strawberry Creek, upstream to Sec. 5, T4N, R4E (SW-2 and SW-6), is regulated as coldwater marginal fish life propagation waters (CWM). Sites in Bear Butte Creek (SW-3, SW-5, and SW-8) are regulated under the classification of coldwater permanent fish life propagation waters (CWP). The remaining six sites are unclassified but for purposes of discussion the coldwater permanent fish life propagation waters limits are utilized.

Chlorides (Cl - limit CWP 100.0 mg/L)

No problems indicated. All samples indicated very little chlorides present.

Total Cyanide (Total CN - limit 0.02 mg/L)

No cyanide was indicated in any surface water station.

Free Cyanide (Free CN - limit 0.005 mg/L)

No cyanide was indicated in any surface water station.

pH (CWM allowable - 6.5 to 8.8, CWP allowable - 6.6 to 8.6)

SW-2 is characterized by a very low pH. The mean pH for this site was 3.19 during 1988 which is representative of baseline conditions. It is highly influenced by the relic tailings immediately upstream.

SW-1 is an ephemeral stream which flows only during periods of high rainfall or snowmelt. This characteristic coupled with slightly acidic soils of the area produced a pH (6.02) below surface water standards for coldwater permanent fishlife propagation. The buffering capacity of this water is very low and should have very little if any detrimental effects.

SW-5 produced a sample in March of 1988 that was slightly below standards for pH (6.55). This represents a single unexplainable occurrence and does not represent the general characterization of the stream.

SW-28 has a rather low pH (mean pH of 5.94). This site is influenced by a highly mineralized zone upstream, acidic soils, and old mine workings in the immediate area. The low pH is representative of baseline conditions.

Suspended Solids (TSP - CWP limit 30 mg/L, CWM limit 90 mg/L)

No problems were indicated as erosion control measures were constructed and maintained properly.

Temperature (CWP limit 18.3 and CWM limit 23.9 degrees C)

Numerous reports of temperatures exceeding the water quality standards occurred from June through August of 1988. It is questionable whether or not these measurements are representative of actual in-stream conditions or that of a beaker of water allowed to warm up while taking pH, conductivity, and flow measurements. EnecoTech was responsible for taking water quality samples through August of 1988. Samples taken by Brohm personnel during the corresponding period of 1989 were not able to duplicate the seasonally high results.

Stations reporting temperatures above standards in 1989 include: SW-3, June - August; SW-4, June - August; SW-5, June - August; SW-8, June - August; SW-11, June; and SW-35, June.

APPENDIX

WATER QUALITY DATA

GROUND-WATER FIELD DATA

SITE	DATE	DEPTH TO WATER (FE)	TEMP C	pH	CONDUCT	
BED-11	1987/12/16	22.15				
BED-11	1988/02/03	8.45				
BED-11	1988/03/29	8.47				
BED-11	1988/04/29	8.30				
BED-11	1988/06/03	9.98	9.5	7.58	461	
BED-11	1988/06/30	20.56				
BED-11	1988/07/	25.22				
BED-11	1988/08/		13.8	7.74	665	
BED-11	1988/08/	76.05				
BED-11	1988/09/28	117.69	7.0	8.02	705	
BED-11	1988/10/24	123.42				
BED-11	1988/10/26		8.3	7.61	683	
BED-11	1988/11/22	27.46				
BED-11	1988/11/30		8.5	7.87	770	
BED-11	1988/12/16	31.42				
BED-11	1988/12/19		7.0	7.43	763	
BED-15	1987/12/16	124.20				
BED-15	1988/02/02	0.00				
BED-15	1988/03/29	0.00				
BED-15	1988/06/03	46.20	12.8	12.42	4610	
BED-15	1988/06/30	0.00				
BED-15	1988/07/	0.00				
BED-15	1988/08/		13.9	11.90	4230	
BED-15	1988/08/	0.00				
BED-15	1988/09/28	0.00	7.8	12.42	3470	
BED-15	1988/10/19	29.23				
BED-15	1988/10/26		8.1	12.30	3100	
BED-15	1988/11/23	1.04				
BED-15	1988/11/29		6.8	12.67	3040	
BED-15	1988/12/13	93.81				
BED-15	1988/12/19		8.2	8.20	8.2	
BED-18	1987/12/16	233.00				
BED-18	1988/03/29	234.52				
BED-18	1988/06/01	233.77				
BED-18	1988/06/30	234.55				
BED-18	1988/07/	234.12				
BED-18	1988/08/	233.97				
BED-18	1988/09/29		8.0	9.42	260	PROBE STUCK
BED-18	1988/10/25	232.81				
BED-18	1988/10/27		6.3	8.67	233	
BED-18	1988/11/26	232.81				
BED-18	1988/11/29		7.1	8.27	345	
BED-18	1988/12/13	UNABLE TO GET PROBE TO WATER (STUCK)				
BED-18	1988/12/20		7.0	8.60	202	
BED-19	1987/12/16	245.70				
BED-19	1988/03/29	227.82				
BED-19	1988/06/01	223.55				
BED-19	1988/06/30	329.60				
BED-19	1988/07/	325.32				
BED-19	1988/08/	318.99				
BED-19	1988/09/29		8.6	13.10	19500	TO LITTLE WATER TO SAMPLE
BED-19	1988/10/26	374.88	8.2	13.10	14520	
BED-19	1988/11/22	368.84				

GROUND-WATER FIELD DATA

SITE	DATE	DEPTH TO WATER (ft)	TEMP C	pH	CONDUCT	
BED-19	1988/11/30		6.1	13.13	13920	
BED-19	1988/12/12			13.09	14210	PROBE STUCK
BED-19	1988/12/29		6.6	13.01	14200	
BES-15	1987/12/16	9.10				
BES-15	1988/02/08	9.35				
BES-15	1988/03/29	5.47				
BES-15	1988/04/29	6.90				
BES-15	1988/06/03	6.35	8.3	7.48	220	
BES-15	1988/06/30	8.57				
BES-15	1988/07/	8.91				
BES-15	1988/08/	8.68				
BES-15	1988/08/		17.2	7.34	387	
BES-15	1988/09/28	8.98	10.3	8.03	378	
BES-15	1988/10/19	8.40				
BES-15	1988/10/26		7.2	7.39	312	
BES-15	1988/11/23	8.82				
BES-15	1988/11/28		5.5	7.89	330	
BES-15	1988/12/13	8.77				
BES-15	1988/12/19		2.6	7.65	322	
BES-17	1987/12/16	8.40				
BES-17	1988/02/08	8.60				
BES-17	1988/04/29	8.22				
BES-17	1988/06/03	9.68	10.2	7.28	386	
BES-17	1988/06/30	8.47				
BES-17	1988/07/	8.56				
BES-17	1988/08/		13.1	6.78	409	
BES-17	1988/08/	8.35				
BES-17	1988/09/29	8.48	9.6	6.99	388	
BES-17	1988/10/24	8.38				
BES-17	1988/10/26		9.1	6.93	350	
BES-17	1988/11/23	8.50				
BES-17	1988/11/29		6.0	7.28	357	
BES-17	1988/12/16	8.73				
BES-17	1988/12/19		6.4	7.08	361	
DW-1 & 2	1988/10/26	DRY				
DW-1 & 2	1988/12/26	DRY				
DW-1 & 2	1988/12/29	DRY				
GW-1	1988/04/29	10.67				
GW-1	1988/06/01	Unaccessible - covered over				
GW-1	1988/06/30	147.64				
GW-1	1988/07/	155.40				
GW-1	1988/08/	162.47				
GW-1	1988/10/24	177.24				
GW-1	1988/10/26		8.3	12.38	2320	
GW-1	1988/10/27			12.19		
GW-1	1988/11/22	178.86				
GW-2	1988/07/	11.41				
GW-2	1988/09/27	NEW WELL INSTALLED				
GW-2	1988/09/29	14.13	11.7	6.28	593	
GW-2	1988/10/24	14.21				
GW-2	1988/10/26		10.1	6.67	331	
GW-2	1988/10/27			7.09		
GW-2	1988/11/30	14.42	7.8	6.76	348	

GROUND-WATER FIELD DATA

SITE	DATE	DEPTH TO WATER (ft)	TEMP C	pH	CONDUCT
GW-2	1988/12/28	14.48	7.7	6.56	362
GW-3	1988/07/	8.65			
GW-3	1988/09/28	9.10	9.0	5.92	301
GW-3	1988/10/24	7.64			
GW-3	1988/10/26	7.74	9.6	5.77	453
GW-3	1988/11/22	9.62			
GW-3	1988/11/30		6.2	6.06	351
GW-3	1988/12/16	8.22			
GW-3	1988/12/29		5.4	5.58	340
GW-4	1988/01/28	109.25	7.8	8.67	424.0
GW-4	1988/03/29	114.29			
GW-4	1988/04/28	109.90			
GW-4	1988/06/02	104.77	10.3	7.79	518
GW-4	1988/06/30	109.52			
GW-4	1988/07/	110.19			
GW-4	1988/08/		8.6	8.41	519
GW-4	1988/08/	112.83			
GW-5	1988/01/28	22.15	6.7	6.67	220
GW-5	1988/03/29	8.88			
GW-5	1988/04/29	5.98			
GW-5	1988/06/02	5.08	9.6	7.07	283
GW-5	1988/06/30	BEING RETROFITTED			
GW-5	1988/07/	41.69			
GW-5	1988/08/	46.44			
GW-5	1988/12/22	72.90			
GW-6	1988/01/28	19.25	6.3	7.52	307
GW-6	1988/03/29	17.47			
GW-6	1988/04/25	16.18			
GW-6	1988/06/03	14.85	8.4	7.11	260
GW-6	1988/06/30	16.27			
GW-6	1988/07/	15.74			
GW-6	1988/08/		9.2	6.67	241
GW-6	1988/08/	19.00			
GW-7	1988/01/28	12.40	5.2	3.28	1300
GW-7	1988/03/29	8.34			
GW-7	1988/04/29	8.35			
GW-7	1988/06/03	10.58	8.4	3.84	800
GW-7	1988/06/30	10.75			
GW-7	1988/07/	10.73			
GW-7	1988/08/	10.77			
GW-7	1988/08/		12.5	3.61	1276
GW-7	1988/12/16	11.04			
GW-7	1988/12/20		4.2	3.12	636
GW-8	1988/07/	DRY			
GW-8	1988/09/29	DRY - HEAVY RAINS ON 28TH			
GW-8	1988/10/26	DRY			
GW-8	1988/11/26	DRY			
GW-8	1988/12/13	DRY			
GW-9	1988/07/	53.10			
GW-9	1988/09/28	54.33	7.9	7.05	391
GW-9	1988/10/26	55.52	7.5	6.71	310
GW-9	1988/11/26	55.03			
GW-9	1988/11/29		6.3	6.88	330

GROUND-WATER FIELD DATA

SITE	DATE	DEPTH TO WATER (ft)	TEMP C	pH	CONDUCT
GW-9	1988/12/13	55.50			
GW-9	1988/12/20		5.2	6.16	301
GW-10	1988/07/	210.88			
GW-10	1988/09/29	215.97	8.0	7.64	333
GW-10	1988/10/25	216.78	6.4	7.64	
GW-10	1988/10/26		7.9	7.28	350
GW-10	1988/10/27			7.41	
GW-10	1988/11/30	219.73	5.3	7.90	359
GW-10	1988/12/21	224.13	9.7	7.14	392
GW-11	1988/01/28	126.90	5.9	7.66	375
GW-11	1988/03/29	127.00			
GW-11	1988/04/28	126.84			
GW-11	1988/06/02	126.78	13.2	7.50	421
GW-11	1988/06/30	126.75			
GW-11	1988/07/	126.72			
GW-11	1988/08/	126.74			
GW-11	1988/08/		10.9	7.42	401
GW-11	1988/12/22	126.55			
GW-11	1988/12/29		6.5	7.10	398
GW-12	1988/07/	15.68			
GW-12	1988/09/29	15.58	9.0	6.68	353
GW-12	1988/10/26	15.63			
GW-12	1988/10/27		6.2	6.51	307
GW-12	1988/11/26	15.87			
GW-12	1988/11/29		6.8	7.07	312
GW-12	1988/12/13	15.87			
GW-12	1988/12/20				
GW-12	1988/12/20		5.4	6.48	311

PARAMETER	STANDARD	BED-11	BED-11	BED-11	BED-11	BED-11	BED-11	BED-11	MAX	MIN	MEAN	STDV
Date		05-03-88	06-03-88	08-31-88	09-28-88	10-26-88	11-30-88	12-19-88				
MINERALS												
Alkalinity (CaCO3),mg/l		144	138	132	125	74	52	58	144	52	103.2857	37.22024
Bicarbonate (HCO3),mg/l		176	168	161	153	90	63	71	176	63	126	45.52550
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	<1	4	1	1	1	3	1	4	0	1.57142[P]	1.293626
Fluoride (F), mg/l				0.66					0.66	0	0.3.	0.33
Sulfate (SO4),mg/l	500	89	102	222	295	298	364	347	364	89	245.2857	103.6390
Calcium (Ca),mg/l		77	73	110	132	120	125	121	132	73	108.2857	21.93310
Magnesium (Mg), mg/l		11	11	18	19	18	20	19	20	11	16.57142	3.579989
Potassium (K), mg/l		4	5	6	6	5	5	5	6	4	5.142857	0.638876
Sodium (Na), mg/l		9	8	8	10	9	10	9	10	8	9	0.755928
Major Anion, MEQ/L		4.73	5	7.33	8.68	7.72	8.71	8.42	8.71	4.73	7.227142	1.566704
Major Cations, MEQ/L		5.23	5.02	7.47	8.55	7.99	8.45	8.12	8.55	5.02	7.261428	1.390543
Cation - Anion Balance, %		5.02	0.2	0.95	0.75	1.72	1.52	1.81	5.02	0.2	1.71	1.453154
MISCELLANEOUS									0	0	0	0
pH, Units	6.5-8.5	7.76	7.53	8.31	7.51	7.71	7.37	7.45	8.31	7.37	7.662857	0.293389
Conductivity, umhos/cm		460	450	655	700	660	760	750	760	450	633.5714	118.8851
Cyanide, Total, mg/l					<.010	<0.01	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75											
Cyanide, Free, mg/l												
Hardness (CaCO3), GPG:mg/l		238	228	349	408	374	395	381	408	228	339	69.18711
Solids, Dissolved, mg/l	1000	334	336	432	538	478	554	622	622	334	470.5714	101.9395
Solids, Suspended, mg/l		2	8	27	202	<1	10	6	202	0	36.42857	68.08368
Turbidity, NTU		3	8	8	190	4	8	4	190	3	32.14285	64.47685
METALS (TOTAL)												
Antimony (Sb), mg/l		0.005	0.012	<.005	<.005	0.024	<.005	<.005	0.024	0	0.005857	0.008492
Aluminum (Al), mg/l		0.15	<.10	0.64	3.9	0.31	1.29	0.1	3.9	0	0.912857	1.286142
Arsenic (As), mg/l		0.006	0.009	0.006	0.063	0.008	<.005	0.006	0.063	0	0.014	0.020177
Barium (Ba), mg/l				<.1	<.10				0	0	0	0
Beryllium (Be), mg/l		<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<.20	<.2	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0046	0.0012	0.0013	<.0005	<.0005	0.0024	0.0016	0.0046	0	0.001585	0.001464
Chromium (Cr), mg/l		0.016	0.02	0.076	0.019	0.032	0.025	0.01	0.076	0.01	0.028285	0.020498
Cobalt (Co), mg/l		<0.005	<.005	0.008	0.009	<.005	0.04	<.005	0.04	0	0.008142	0.013526
Copper (Cu), mg/l		0.032	<.005	<.005	0.079	0.019	2.77	<.005	2.77	0	0.414285	0.962073
Iron (Fe), mg/l		0.29	0.5	1	19.9	0.52	0.23	0.41	19.9	0.23	3.264285	6.795445
Lead (Pb), mg/l		<0.005	<.005	0.01	0.04				0.04	0	0.0125	0.016393
Lithium (Li), mg/l		<0.005	0.01	0.012	0.014	<.005	1.67	0.01	1.67	0	0.245142	0.581718
Manganese (Mn), mg/l		0.28	0.26	0.9	0.53	0.32	<.03	0.65	0.9	0	0.42	0.274382
Mercury (Hg), mg/l	0.002	0.0005	<.0002	0.0006	0.0003	0.0012	0.0003	0.0002	0.0012	0	0.000442	0.000357
Molybdenum (Mo), mg/l		<0.05	<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.014	0.122	0.068	0.03	0.006	0.009	0.006	0.122	0.006	0.036428	0.040475
Selenium (Se), mg/l		0.002	<.002	<.002	0.014	0.009	<.002	0.005	0.014	0	0.004285	0.005034
Silicon (Si), mg/l				11.7					11.7	11.7	11.7	0.000000
Silver (Ag), mg/l		0.0006	<.0005	0.0006	<.0005	0.0015	0.0032	<.0005	0.0032	0	0.000842	0.001084
Strontium (Sr), mg/l												
Vanadium (V), mg/l		0.02	<.005	0.046	0.048	<.005	0.009	<.005	0.048	0	0.017571	0.019783
Zinc (Zn), mg/l		0.05	0.04	0.24	0.16	0.07	0.4	0.06	0.4	0.04	0.145714	0.123734
NUTRIENTS												
Nitrogen, Ammonia, mg/l		<0.03	<.03	0.07	0.04	0.06	1.22	0.06	1.22	0	0.207142	0.414339
Nitrogen, Nitrate, mg/l	10	<0.10	<.10	<.10	<.10	<.10	0.16	0.12	0.16	0	0.04	0.064142
Nitrogen, Nitrite, mg/l	1	<0.01	<.01	<.01	<.010	<.01	<.010	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.27	0.27	0.26	0.32	0.19	2.56	0.29	2.56	0.19	0.594285	0.803329
Phosphorus, Total, mg/l		0.017	0.026	0.03	0.138	0.01	0.012	0.011	0.138	0.01	0.034857	0.042709

PARAMETER	STANDARD	BED-11	BED-11	BED-11	BED-11	BED-11	BED-11	MAX	MIN	MEAN	STDV
Date		06-03-88	08-31-88	09-28-88	10-26-88	11-30-88	12-19-88				
METALS (DISS.)											
Antimony (Sb), mg/l		0.007	<.005	<.005	0.017	<.005	<.005	0.017	0	0.004	0.006350
Aluminum (Al), mg/l		<.10	<.10	0.1	0.14	1.03	<.10	1.03	0	0.211666	0.370063
Arsenic (As), mg/l	0.05	0.007	<.005	<.005	0.01	<.005	<.005	0.01	0	0.002833	0.004099
Barium (Ba), mg/l			<.10	<.10			<.10	0	0	0	0
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.2	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0009	<.0005	<.0005	0.0007	0.0007	0.0015	0.0015	0	0.000633	0.000521
Chromium (Cr), mg/l	0.05	<.005	0.016	<.005	0.01	0.017	<.005	0.017	0	0.007166	0.007492
Cobalt (Co), mg/l		<.005	<.005	0.006	<.005	0.007	<.005	0.007	0	0.002166	0.003077
Copper (Cu), mg/l	1.3	0.006	<.005	<.005	<.005	2.47	<.005	2.47	0	0.412666	0.920070
Iron (Fe), mg/l		0.05	<.05	<.05	<.05	0.05	<.05	0.05	0	0.016666	0.023570
Lead (Pb), mg/l	0.02	<.005	<.005	<.005				0	0	0	0
Lithium (Li), mg/l		0.01	0.009	0.011	<.005	1.55	0.01	1.55	0	0.265	0.574681
Manganese (Mn), mg/l		0.28	0.42	0.37	0.23	<.03	0.65	0.65	0	0.325	0.197209
Mercury (Hg), mg/l		<.0002	0.0006	0.0003	0.0013	0.0003	0.0002	0.0013	0	0.00045	0.000419
Molybdenum (Mo), mg/l		<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.121	<.005	<.005	<.005	<.005	<.005	0.121	0	0.020166	0.045094
Selenium (Se), mg/l	0.01	<.002	<.002	0.005	0.003	<.002	0.005	0.005	0	0.002166	0.002266
Silicon (Si), mg/l			11.2					11.2	11.2	11.2	
Silver (Ag), mg/l	0.05	<.0005	0.0006	<.0005	0.0007	0.0017	<.0005	0.0017	0	0.0005	0.000611
Strontium (Sr), mg/l											
Vanadium (V), mg/l		<.005	<.005	<.005	<.005	0.009	<.005	0.009	0	0.0015	0.003354
Zinc (Zn), mg/l		0.03	0.024	<.005	0.02	0.34	0.03	0.34	0	0.074	0.119387

PARAMETER	STANDARD	BED-15	BED-15	BED-15	BED-15	BED-15	BED-15	BED-15	MAX	MIN	MEAN	STDV
Date		05-03-88	06-03-88	08-30-88	09-28-88	10-26-88	11-29-88	12-19-88				
MINERALS												
Alkalinity (CaCO3),mg/l		1116	1014	783	670	619	632	670	1116	619	786.2857	184.9360
Bicarbonate (HCO3),mg/l		0	0	955	0	0	0	0	955	0	136.4285	334.1803
Carbonate (CO3),mg/l		232	48	0	200	208	164	160	232	0	144.5714	80.69494
Chloride (Cl),mg/l	250	<1	3	2	1	<1	<1	<1	3	0	0.857142	1.124858
Fluoride (F), mg/l				0.22					0.22	0.22	0.22	
Sulfate (SO4),mg/l	500	60	60	79	80	84	105	89	105	60	79.57142	14.74407
Calcium (Ca),mg/l		250	345	255	245	188	171	170	345	170	232	57.68386
Magnesium (Mg), mg/l		<1	1	2	1	<1	<1	1	2	0	0.714285	0.699854
Potassium (K), mg/l		175	38	60	7	86	95	81	175	7	77.42857	48.89305
Sodium (Na), mg/l		109	23	62	71	61	61	83	109	23	67.14285	24.10944
Major Anion, MEQ/L		23.57	21.61	17.38	15.1	14.13	14.83	15.25	23.57	14.13	17.41	3.443482
Major Cations, MEQ/L		21.7	19.58	17.11	15.58	14.23	13.61	14.24	21.7	13.61	16.57857	2.836352
Cation - Anion Balance, %		4.13	4.93	0.78	1.56	0.35	4.29	3.42	4.93	0.35	2.78	1.712475
MISCELLANEOUS												
pH, Units	6.5-8.5	12.12	12.18	11.91	11.82	11.86	11.58	11.82	12.18	11.58	11.89857	0.186580
Conductivity, umhos/cm		4900	5000	3850	2995	2900	2700	2950	5000	2700	3613.571	910.2382
Cyanide, Total, mg/l					<.010	<0.01	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75											
Cyanide, Free, mg/l												
Hardness (CaCO3), GPG:mg/l		625	867	646	617	470	428	429	867	428	583.1428	145.4327
Solids, Dissolved, mg/l	1000	1296	2220	1925	1796	718	742	808	2220	718	1357.857	579.6275
Solids, Suspended, mg/l		16	28	60	24	<1	56	69	69	0	36.14285	23.81133
Turbidity, NTU		32	59	125	53	20	188	106	188	20	83.28571	55.24417
METALS (TOTAL)												
Antimony (Sb), mg/l		0.017	0.011	<.005	<.005	0.015	0.008	<.005	0.017	0	0.007285	0.006839
Aluminum (Al), mg/l		0.24	0.22	0.7	0.33	0.5	0.6	0.52	0.7	0.22	0.444285	0.170533
Arsenic (As), mg/l		0.006	0.006	0.012	0.007	0.011	0.012	0.007	0.012	0.006	0.008714	0.002602
Barium (Ba), mg/l				0.48	1.7		0.28		1.7	0.28	0.82	0.627587
Beryllium (Be), mg/l		<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<.20	<.20	<.2	<.02	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0008	<.0005	<.0005	<.0005	0.0007	0.0005	0.001	0.001	0	0.000428	0.000395
Chromium (Cr), mg/l		0.023	0.031	0.019	0.019	0.054	0.03	0.015	0.054	0.015	0.027285	0.012197
Cobalt (Co), mg/l		<0.005	<.005	<.005	<.005	<.005	0.01	<.005	0.01	0	0.001428	0.003499
Copper (Cu), mg/l		0.027	0.011	0.033	0.016	0.02	0.009	0.011	0.033	0.009	0.018142	0.008390
Iron (Fe), mg/l		0.29	0.59	0.55	<.05	0.5	0.51	0.84	0.84	0	0.468571	0.243041
Lead (Pb), mg/l		<0.005	<.005	0.016	<.005				0.016	0	0.004	0.006928
Lithium (Li), mg/l		0.062	0.28	0.21	0.19	0.18	0.21	0.19	0.28	0.062	0.188857	0.060207
Manganese (Mn), mg/l		<0.03	<.03	<.03	<.03	<.03	0.03	<.03	0.03	0	0.004285	0.010497
Mercury (Hg), mg/l	0.002	0.0003	0.0002	0.0002	0.0003	0.0022	0.0005	0.0004	0.0022	0.0002	0.000585	0.000666
Molybdenum (Mo), mg/l		0.05	0.065	<.05	<.05				0.065	0	0.02875	0.029235
Nickel (Ni), mg/l		0.014	0.109	0.033	0.007	0.009	0.014	0.011	0.109	0.007	0.028142	0.033951
Selenium (Se), mg/l		0.003	<.002	0.003	<.002	<.002	<.002	<.002	0.003	0	0.000857	0.001355
Silicon (Si), mg/l				5.5					5.5	5.5	5.5	0
Silver (Ag), mg/l		0.0022	<.0005	0.0028	<.0005	0.0059	0.0024	<.0005	0.0059	0	0.0019	0.001999
Strontium (Sr), mg/l												
Vanadium (V), mg/l		0.056	0.069	0.048	0.066	<.005	0.017	0.019	0.069	0	0.039285	0.025081
Zinc (Zn), mg/l		0.11	0.12	0.19	0.059	0.06	0.06	0.08	0.19	0.059	0.097	0.044429
NUTRIENTS												
Nitrogen, Ammonia, mg/l		0.75	0.38	0.39	0.28	0.38	0.35	0.32	0.75	0.28	0.407142	0.144589
Nitrogen, Nitrate, mg/l	10	<0.10	<.10	0.17	<.10	<.10	<.10	0.15	0.17	0	0.045714	0.072478
Nitrogen, Nitrite, mg/l	1	0.02	<.01	<.01	<.010	<.01	<.01	<.01	0.02	0	0.002857	0.006998
Nitrogen, Total Kjeldahl, mg/l		1.45	1.4	0.8	0.6	0.8	1.03	0.6	1.45	0.6	0.954285	0.327058
Phosphorus, Total, mg/l		0.022	0.033	0.048	<.010	0.008	0.035	<.010	0.048	0	0.020857	0.017406

PARAMETER	STANDARD	BED-15	BED-15	BED-15	BED-15	BED-15	BED-15	MAX	MIN	MEAN	STDV
Date		06-03-88	08-30-88	09-28-88	10-26-88	11-29-88	12-19-88				
METALS (DISS.)											
Antimony (Sb), mg/l		0.007	<.005	<.005	0.013	<.005	<.005	0.013	0	0.003333	0.005022
Aluminum (Al), mg/l		<.10	<.10	0.13	0.21	0.1	0.1	0.21	0	0.09	0.073484
Arsenic (As), mg/l	0.05	0.005	0.006	0.007	0.01	0.012	<.005	0.012	0	0.006666	0.003815
Barium (Ba), mg/l			0.29	1.7		0.24	0.64	1.7	0.24	0.7175	0.587808
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.2	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	<.0005	<.0005	<.0005	0.0006	<.0005	0.0008	0.0008	0	0.000233	0.000334
Chromium (Cr), mg/l	0.05	<.005	<.005	<.005	0.005	0.022	<.005	0.022	0	0.0045	0.008036
Cobalt (Co), mg/l		<.005	<.005	<.005	<.005	0.01	<.005	0.01	0	0.001666	0.003726
Copper (Cu), mg/l		0.015	0.007	0.016	0.007	0.006	0.009	0.016	0.006	0.01	0.004
Iron (Fe), mg/l		0.05	0.1	<.05	<.05	<.03	<.05	0.1	0	0.025	0.038188
Lead (Pb), mg/l	0.02	<.005	<.005	<.005				0	0	0	0
Lithium (Li), mg/l		0.24	0.19	0.19	0.19	0.21	0.18	0.24	0.18	0.2	0.02
Manganese (Mn), mg/l		<.03	<.03	<.03	<.03	<.03	<.03	0	0	0	0
Mercury (Hg), mg/l		<.0002	0.0002	0.0003	0.0024	0.0002	0.0004	0.0024	0	0.000583	0.000821
Molybdenum (Mo), mg/l		0.063	<.05	<.05				0.063	0	0.021	0.029698
Nickel (Ni), mg/l		0.105	<.005	<.005	<.005	0.006	<.005	0.105	0	0.0185	0.038745
Selenium (Se), mg/l	0.01	<.002	<.002	<0.002	<.002	<.002	0.002	0.002	0	0.000333	0.000745
Silicon (Si), mg/l			2.9					2.9	2.9	2.9	0.000000
Silver (Ag), mg/l	0.05	<.0005	0.0028	<.0005	0.0036	0.0024	<.0005	0.0036	0	0.001466	0.001508
Strontium (Sr), mg/l											
Vanadium (V), mg/l		0.039	0.03	<.005	<.005	0.017	0.019	0.039	0	0.0175	0.014338
Zinc (Zn), mg/l		0.03	<.005	0.007	<.005	0.01	0.01	0.03	0	0.0095	0.010062

PARAMETER	STANDARD	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-19-88				
MINERALS													
Alkalinity (CaCO3),mg/l		90	34	190	90	80	92	83	82	190	34	92.625	40.77050
Bicarbonate (HCO3),mg/l		22	41	0	110	98	112	101	100	112	0	73	41.30610
Carbonate (CO3),mg/l		43	0	160	0	0	0	0	0	160	0	25.375	52.79426
Chloride (Cl),mg/l	250	1	1	3	2	<1	1	<1	<1	3	0	1	1
Fluoride (F), mg/l					1.23		0.56	0.89		1.23	0.56	0.893333	0.273536
Sulfate (SO4),mg/l	500	52	56	52	59	51	35	31	3	59	3	42.375	17.52096
Calcium (Ca),mg/l		21	15	69	41	36	33	26	21	69	15	32.75	15.92757
Magnesium (Mg), mg/l		4	4	5	5	5	4	4	3	5	3	4.25	0.661437
Potassium (K), mg/l		17	8	10	8	4	7	9	10	17	4	9.125	3.479852
Sodium (Na), mg/l		15	10	10	11	10	10	10	23	23	10	12.375	4.328322
Major Anion, MEQ/L		2.91	1.88	4.96	3.15	2.66	2.63	2.36	2.32	4.96	1.88	2.85875	0.872602
Major Cations, MEQ/L		3.1	1.81	4.59	3.14	2.74	2.59	2.29	2.56	4.59	1.81	2.8525	0.769183
Cation - Anion Balance, %		3.16	1.9	3.87	0.16	1.48	0.77	1.51	4.92	4.92	0.16	2.22125	1.516422
MISCELLANEOUS													
pH, Units	6.5-8.5	9.45	6.51	11.3	8.4	8.36	8.92	8.1	8.27	11.3	6.51	8.66375	1.270186
Conductivity, umhos/cm		250	200	645	300	250	245	240	210	645	200	292.5	136.1524
Cyanide, Total, mg/l						<.010	<.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75												
Cyanide, Free, mg/l													
Hardness (CaCO3), GPG:mg/l		69	54	194	123	111	99	81	65	194	54	99.5	42.05353
Solids, Dissolved, mg/l	1000	187	148	372	186	200	184	150	198	372	148	203.125	66.45945
Solids, Suspended, mg/l		227	109	217	101	54	32	32	28	227	28	100	76.19711
Turbidity, NTU		380	125	250	138	86	80	175	44	380	44	159.75	102.3263
METALS (TOTAL)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	0.005	0.006	0.005	0.009	<.005	0.009	0	0.003125	0.003333
Aluminum (Al), mg/l		9.8	0.42	1.5	0.66	1.42	1.12	0.81	0.48	9.8	0.42	2.02625	2.962553
Arsenic (As), mg/l		0.033	<0.005	0.009	0.016	0.016	0.014	0.02	0.006	0.033	0	0.01425	0.009283
Barium (Ba), mg/l					<.10	<.10	<.01	<.10		0	0	0	0
Beryllium (Be), mg/l		0.0015	0.0005	<0.0005	<.0005	0.0011	<.0005	<.0005	<.0005	0.0015	0	0.000387	0.000559
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.2	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0012	<0.0005	<0.0005	<.0005	<.0005	<.0005	0.0006	<.0005	0.0012	0	0.000225	0.000417
Chromium (Cr), mg/l		0.046	0.043	0.028	0.032	0.009	0.036	0.023	0.011	0.046	0.009	0.0285	0.012757
Cobalt (Co), mg/l		0.04	0.01	0.009	0.005	<.005	<.005	0.009	<.005	0.04	0	0.009125	0.012353
Copper (Cu), mg/l		0.033	0.005	0.009	0.06	0.071	0.022	0.045	0.037	0.071	0.005	0.03525	0.021718
Iron (Fe), mg/l		11.5	0.88	0.81	0.61	2.89	1.32	1.05	0.17	11.5	0.17	2.40375	3.518777
Lead (Pb), mg/l		0.033	0.01	<0.005	0.03	0.03	0.029	0.005		0.033	0	0.019571	0.012948
Lithium (Li), mg/l		0.017	0.009	0.013	0.031	0.012	0.011	0.025	0.013	0.031	0.009	0.016375	0.007192
Manganese (Mn), mg/l		0.34	0.03	<0.03	0.03	0.1	0.05	0.04	0.03	0.34	0	0.0775	0.102682
Mercury (Hg), mg/l	0.002	0.0004	0.0002	0.0004	0.0005	0.0005	0.0002	0.0006	0.0003	0.0006	0.0002	0.000387	0.000136
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.007	<0.005	<0.005	0.028	0.033	0.007	0.005	0.009	0.033	0	0.011125	0.011655
Selenium (Se), mg/l		0.002	<0.002	<0.002	<.002	0.003	<.002	<.002	<.002	0.003	0	0.000625	0.001111
Silicon (Si), mg/l					14.8					14.8	14.8	14.8	
Silver (Ag), mg/l		<0.0005	<0.0005	0.0005	0.001	0.0006	0.0012	0.0005	<.0005	0.0012	0	0.000475	0.000432
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.097	0.035	0.044	0.005	<.005	0.006	0.016	<.005	0.097	0	0.025375	0.031096
Zinc (Zn), mg/l		0.1	0.045	0.02	0.04	0.11	0.04	0.04	0.04	0.11	0.02	0.054375	0.030149
NUTRIENTS													
Nitrogen, Ammonia, mg/l		<0.03	<0.03	<0.03	<.03	<.03	0.03	0.04	<.03	0.04	0	0.00875	0.015360
Nitrogen, Nitrate, mg/l	10	<0.10	0.15	<0.10	0.11	0.17	0.11	<.10	<.10	0.17	0	0.0675	0.069955
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.010	<.01	<.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.48	0.39	0.28	0.23	0.2	0.19	0.26	0.16	0.48	0.16	0.27375	0.102217
Phosphorus, Total, mg/l		0.015	0.515	0.125	0.196	0.24	0.164	0.131	0.138	0.515	0.015	0.1905	0.136871

PARAMETER	STANDARD	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	BED-18	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-19-88				
METALS (DISS.)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	<.005	0.006	0.009	<.005	0.009	0	0.001875	0.003333
Aluminum (Al), mg/l		0.1	0.1	1.2	<.10	0.1	0.1	<.10	<.10	1.2	0	0.2	0.380788
Arsenic (As), mg/l	0.05	<0.005	0.005	0.009	0.016	0.01	0.005	0.01	0.006	0.016	0	0.007625	0.004442
Barium (Ba), mg/l					<.10	<.10	<.1	<.10	<.100	0	0	0	0
Beryllium (Be), mg/l		<0.0005	0.0007	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0.0007	0	0.000087	0.000231
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.2	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	0.0006	<.0005	0.0006	0	0.000075	0.000198
Chromium (Cr), mg/l	0.05	<0.005	<0.005	0.007	<.005	<.005	0.008	0.018	<.005	0.018	0	0.004125	0.006132
Cobalt (Co), mg/l		0.006	0.005	0.007	<.005	<.005	<.005	<.005	<.005	0.007	0	0.00225	0.002947
Copper (Cu), mg/l	1.3	<0.005	<0.005	0.008	0.008	0.012	0.009	0.019	0.012	0.019	0	0.0085	0.005916
Iron (Fe), mg/l		<0.05	<0.05	<0.05	<.05	<.05	<.05	<.05	<.05	0	0	0	0
Lead (Pb), mg/l	0.02	<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005		0	0	0	0
Lithium (Li), mg/l		0.017	0.005	0.013	0.026	0.007	0.012	0.015	0.013	0.026	0.005	0.0135	0.006
Manganese (Mn), mg/l		<0.03	<0.03	<0.03	<.03	<.03	<.03	<.03	<.03	0	0	0	0
Mercury (Hg), mg/l		0.0004	0.0002	0.0004	0.0003	0.0004	0.0003	0.0004	0.0002	0.0004	0.0002	0.000325	0.000082
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	<0.005	<0.005	0.024	<.005	<.005	<.005	<.005	0.024	0	0.003	0.007937
Selenium (Se), mg/l	0.01	<0.002	<0.002	<0.002	0.002	0.003	<.002	<.002	<.002	0.003	0	0.000625	0.001111
Silicon (Si), mg/l					14.3					14.3	14.3	14.3	ERR
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	0.0005	0.001	0.0006	0.0006	<.0005	<.0005	0.001	0	0.000337	0.000363
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.039	0.011	0.043	0.005	<.005	<.005	0.009	<.005	0.043	0	0.013375	0.016454
Zinc (Zn), mg/l		0.013	0.015	<0.005	0.006	0.02	<.005	0.01	<.005	0.02	0	0.008	0.007228

PARAMETER	STANDARD	BED-19	BED-19	BED-19	BED-19	MAX	MIN	MEAN	STDV
Date		09-01-88	10-26-88	11-30-88	12-29-88				
MINERALS									
Alkalinity (CaCO3),mg/l		3400	3380	3260	3250	3400	3250	3322.5	67.96138
Bicarbonate (HCO3),mg/l		0	0	2455	0	2455	0	613.75	1063.046
Carbonate (CO3),mg/l		200	420	749	620	749	200	497.25	207.8285
Chloride (Cl),mg/l	250	13	10	200	10	200	10	58.25	81.84856
Fluoride (F), mg/l		0.4	0.38			0.4	0.38	0.39	0.01
Sulfate (SO4),mg/l	500	26	15	11	6	26	6	14.5	7.365459
Calcium (Ca),mg/l		355	400	394	438	438	355	396.75	29.42256
Magnesium (Mg), mg/l		<1	<1	<1	<1	0	0	0	0
Potassium (K), mg/l		960	705	863	812	960	705	835	91.97554
Sodium (Na), mg/l		480	650	550	448	650	448	532	77.47257
Major Anion, MEQ/L		68.93	68.21	71.06	65.41	71.06	65.41	68.4025	2.020685
Major Cations, MEQ/L		63.13	66.25	65.64	62.11	66.25	62.11	64.2825	1.714779
Cation - Anion Balance, %		4.39	1.46	3.96	2.59	4.39	1.46	3.1	1.156870
MISCELLANEOUS									
pH, Units	6.5-8.5	13.03	12.74	12.73	12.7	13.03	12.7	12.8	0.133603
Conductivity, umhos/cm		17250	13850	13500	13250	17250	13250	14462.5	1623.412
Cyanide, Total, mg/l			<.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75								
Cyanide, Free, mg/l									
Hardness (CaCO3), GPG:mg/l		888	1000	985	1095	1095	888	992	73.37915
Solids, Dissolved, mg/l	1000	8625	3432	2926	3045	8625	2926	4507	2384.877
Solids, Suspended, mg/l		9	10	20	<1	20	0	9.75	7.084313
Turbidity, NTU		17	42	51	12	51	12	30.5	16.40883
METALS (TOTAL)									
Antimony (Sb), mg/l		0.007	0.043	0.007	0.007	0.043	0.007	0.016	0.015588
Aluminum (Al), mg/l		0.46	0.54	0.94	0.18	0.94	0.18	0.53	0.271845
Arsenic (As), mg/l		0.009	0.01	<.005	<.005	0.01	0	0.00475	0.004763
Barium (Ba), mg/l		1.5	2.6			2.6	1.5	2.05	0.55
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0008	0.001	0.0029	0.0029	0.0029	0.0008	0.0019	0.001002
Chromium (Cr), mg/l		0.1	0.054	<.005	0.029	0.1	0	0.04575	0.036690
Cobalt (Co), mg/l		0.042	<.005	<.005	0.02	0.042	0	0.0155	0.017342
Copper (Cu), mg/l		1.6	3.51	0.06	2.69	3.51	0.06	1.965	1.291791
Iron (Fe), mg/l		0.17	0.39	0.72	0.43	0.72	0.17	0.4275	0.195751
Lead (Pb), mg/l		1.52	3.81			3.81	1.52	2.665	1.145
Lithium (Li), mg/l		1.84	1.52	0.023	1.59	1.84	0.023	1.24325	0.714483
Manganese (Mn), mg/l		<.03	<.03	0.06	<.03	0.06	0	0.015	0.025980
Mercury (Hg), mg/l	0.002	0.0003	0.0018	0.0005	0.0004	0.0018	0.0003	0.00075	0.000610
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.017	0.007	0.006	0.007	0.017	0.006	0.00925	0.004493
Selenium (Se), mg/l		0.002	<.002	<.002	0.002	0.002	0	0.001	0.001
Silicon (Si), mg/l		2.9				2.9	2.9	2.9	0.000000
Silver (Ag), mg/l		0.0086	0.0082	0.0009	0.0053	0.0086	0.0009	0.00575	0.003076
Strontium (Sr), mg/l									
Vanadium (V), mg/l		0.023	0.013	<.005	0.015	0.023	0	0.01275	0.008257
Zinc (Zn), mg/l		0.19	0.48	0.3	0.39	0.48	0.19	0.34	0.107470
NUTRIENTS									
Nitrogen, Ammonia, mg/l		1	1.21	0.05	1.2	1.21	0.05	0.865	0.477938
Nitrogen, Nitrate, mg/l	10	0.28	0.62	0.59	0.39	0.62	0.28	0.47	0.140890
Nitrogen, Nitrite, mg/l	1	<.01	<.01	<.010	0.03	0.03	0	0.0075	0.012990
Nitrogen, Total Kjeldahl, mg/l		2.97	2.98	0.26	2.21	2.98	0.26	2.105	1.110056
Phosphorus, Total, mg/l		0.02	0.046	<.010	0.021	0.046	0	0.02175	0.016315

PARAMETER	STANDARD	BED-19	BED-19	BED-19	BED-19	MAX	MIN	MEAN	STDV
Date		09-01-88	10-26-88	11-30-88	12-28-88				
METALS (DISS.)									
Antimony (Sb), mg/l		<.005	0.028	<.005	<.005	0.028	0	0.007	0.012124
Aluminum (Al), mg/l		0.1	0.21	<.10	0.1	0.21	0	0.1025	0.074288
Arsenic (As), mg/l	0.05	0.007	0.008	<.005	<.005	0.008	0	0.00375	0.003766
Barium (Ba), mg/l		1.5	2.2		<.100	2.2	0	1.233333	0.917726
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0008	<.0005	0.0022	<.0005	0.0022	0	0.00075	0.000898
Chromium (Cr), mg/l	0.05	0.035	0.032	<.005	0.013	0.035	0	0.02	0.014300
Cobalt (Co), mg/l		0.042	<.005	<.005	<.005	0.042	0	0.0105	0.018186
Copper (Cu), mg/l	1.3	1.6	3.5	0.009	1.82	3.5	0.009	1.73225	1.236903
Iron (Fe), mg/l		0.1	0.13	<.05	0.1	0.13	0	0.0825	0.049180
Lead (Pb), mg/l	0.02	1.52	3.52			3.52	1.52	2.52	1
Lithium (Li), mg/l		1.74	1.55	0.022	<.005	1.74	0	0.828	0.819793
Manganese (Mn), mg/l		<.03	<.03	0.05	<.03	0.05	0	0.0125	0.021650
Mercury (Hg), mg/l		0.0003	0.001	0.0004	0.0002	0.001	0.0002	0.000475	0.000311
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.006	0.007	0.005	<.005	0.007	0	0.0045	0.002692
Selenium (Se), mg/l	0.01	0.002	<.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l		1.7				1.7	1.7	1.7	
Silver (Ag), mg/l	0.05	0.0061	0.0076	0.0007	<.0005	0.0076	0	0.0036	0.003302
Strontium (Sr), mg/l									
Vanadium (V), mg/l		0.023	0.006	<.005	0.006	0.023	0	0.00875	0.008584
Zinc (Zn), mg/l		0.11	0.48	0.25	0.25	0.48	0.11	0.2725	0.132735

PARAMETER	STANDARD	BES-15	BES-15	BES-15	BES-15 DU	BES-15	BES-15	BES-15	BES-15	MAX	MIN	MEAN	STDV
Date		05-03-88	06-03-88	08-24-88	08-24-88	09-28-88	10-26-88	11-28-88	12-19-88				
MINERALS													
Alkalinity (CaCO3),mg/l		56	80	133	131	158	114	117	108	158	56	112.125	29.83889
Bicarbonate (HCO3),mg/l		68	98	162	160	193	139	143	132	193	68	136.875	36.46380
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	<1	<1	1	1	1	<1	1	1	1	0	0.625	0.484122
Fluoride (F), mg/l				0.11	0.1					0.11	0	0.07	0.049665
Sulfate (SO4),mg/l	500	20	33	69	68	63	57	63	48	69	20	52.625	16.62030
Calcium (Ca),mg/l		20	28	53	51	70	47	48	46	70	20	45.375	14.36956
Magnesium (Mg), mg/l		4	6	12	12	12	10	10	10	12	4	9.5	2.783882
Potassium (K), mg/l		2	3	4	4	4	3	3	3	4	2	3.25	0.661437
Sodium (Na), mg/l		2	3	5	4	5	3	4	4	5	2	3.75	0.968245
Major Anion, MEQ/L		1.54	2.29	4.13	4.07	4.5	3.47	3.68	3.19	4.5	1.54	3.35875	0.935233
Major Cations, MEQ/L		1.47	2.1	3.95	3.8	4.8	3.38	3.47	3.37	4.8	1.47	3.2925	0.984324
Cation - Anion Balance, %		2.33	4.33	2.23	3.43	3.23	1.31	2.94	2.74	4.33	1.31	2.8175	0.844789
MISCELLANEOUS										0	0	0	0
pH, Units	6.5-8.5	7.43	7.57	7.4	7.34	7.45	7.76	7.38	7.67	7.76	7.34	7.5	0.140890
Conductivity, umhos/cm		150	210	370	365	390	310	335	335	390	150	308.125	78.93579
Cyanide, Total, mg/l						<0.010	<.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75												
Cyanide, Free, mg/l													
Hardness (CaCO3), GPG:mg/l		66	95	182	177	224	159	161	156	224	66	152.5	46.76804
Solids, Dissolved, mg/l	1000	104	146	288	228	270	188	210	206	288	104	205	55.61271
Solids, Suspended, mg/l		2	40	68	139	32	10	67	22	139	2	47.5	41.22499
Turbidity, NTU		12	51	106	106	48	22	164	26	164	12	66.875	49.74795
METALS (TOTAL)													
Antimony (Sb), mg/l		<0.005	<.005	<.005	<.005	<.005	0.013	0.006	<.005	0.013	0	0.002375	0.004470
Aluminum (Al), mg/l		0.26	0.9	7.89	7.48	0.011	0.27	0.76	1.2	7.89	0.011	2.346375	3.104974
Arsenic (As), mg/l		<0.005	0.009	0.02	0.019	0.01	0.016	0.013	0.013	0.02	0	0.0125	0.005979
Barium (Ba), mg/l				0.1	0.1	<.10		<.10		0.1	0	0.05	0.05
Beryllium (Be), mg/l		<0.0005	<.0005	0.0012	0.0014	<.0005	<.0005	<.0005	<.0005	0.0014	0	0.000325	0.000565
Boron (B), mg/l		<0.20	<.20	<.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0005	0.0036	0.0014	0.0012	<.0005	0.0005	0.001	0.0008	0.0036	0	0.001125	0.001023
Chromium (Cr), mg/l		0.012	0.051	0.041	0.03	0.015	0.045	0.024	0.024	0.051	0.012	0.03025	0.013264
Cobalt (Co), mg/l		<0.005	<.005	0.006	0.006	<.005	<.005	<.005	<.005	0.006	0	0.0015	0.002598
Copper (Cu), mg/l		<0.005	0.01	0.022	0.023	0.005	<.005	0.01	<.005	0.023	0	0.00875	0.008842
Iron (Fe), mg/l		0.29	1.2	7.2	7.22	<.05	0.41	2.08	1.77	7.22	0	2.52125	2.789854
Lead (Pb), mg/l		<0.005	<.005	0.014	0.009	<.005				0.014	0	0.0046	0.005851
Lithium (Li), mg/l		<0.005	0.006	0.007	0.009	0.005	<.005	0.006	0.013	0.013	0	0.00575	0.004054
Manganese (Mn), mg/l		<0.03	0.05	0.26	0.26	<.03	<.03	0.07	0.05	0.26	0	0.08625	0.103433
Mercury (Hg), mg/l	0.002	0.0002	0.0002	0.0003	0.0007	0.0003	0.0004	0.0005	0.0003	0.0007	0.0002	0.000362	0.000157
Molybdenum (Mo), mg/l		<0.05	<.050	<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	0.087	0.058	0.053	0.01	<.005	<.005	0.01	0.087	0	0.02725	0.031625
Selenium (Se), mg/l		0.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0.002	0	0.00025	0.000661
Silicon (Si), mg/l				19.4	15.4					19.4	15.4	17.4	2
Silver (Ag), mg/l		<0.0005	<.0005	<.0005	<.0005	<.0005	0.0006	0.0006	<.0005	0.0006	0	0.00015	0.000259
Strontium (Sr), mg/l													
Vanadium (V), mg/l		<0.005	<.005	0.042	0.041	<.005	<.005	0.012	0.012	0.042	0	0.013375	0.016962
Zinc (Zn), mg/l		0.05	0.07	0.08	0.07	0.06	0.05	0.04	0.04	0.08	0.04	0.0575	0.013919
NUTRIENTS													
Nitrogen, Ammonia, mg/l		<0.03	0.03	<.03	0.03	<.03	<.03	<.03	<.03	0.03	0	0.0075	0.012990
Nitrogen, Nitrate, mg/l	10	<0.10	<.10	0.31	0.33	0.24	<.10	0.23	0.14	0.33	0	0.15625	0.132187
Nitrogen, Nitrite, mg/l	1	<0.01	<.01	<.01	<.01	<.010	<.01	<.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.64	0.39	0.25	0.38	0.28	0.16	0.28	0.24	0.64	0.16	0.3275	0.137181
Phosphorus, Total, mg/l		0.02	0.055	0.183	0.155	0.07	0.028	0.092	0.049	0.183	0.02	0.0815	0.055170

PARAMETER	STANDARD	BES-15	BES-15	BES-15 DU	BES-15	BES-15	BES-15	BES-15	MAX	MIN	MEAN	STDV
Date		06-03-88	08-24-88	08-24-88	09-28-88	10-26-88	11-28-88	12-19-88				
METALS (DISS.)												
Antimony (Sb), mg/l		<.005	<.005	<.005	<.005	0.007	<.005	<.005	0.007	0	0.001	0.002449
Aluminum (Al), mg/l		<.10	1.13	2.99	<.10	0.1	<.10	<.10	2.99	0	0.602857	1.047646
Arsenic (As), mg/l	0.05	<.005	<.005	0.008	0.009	<.005	0.013	<.005	0.013	0	0.004285	0.005146
Barium (Ba), mg/l			0.1	<.100	<.10		<.10	0.11	0.11	0	0.042	0.051536
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0009	0.001	0.001	<.0005	<.0005	0.0006	<.0005	0.001	0	0.0005	0.000450
Chromium (Cr), mg/l	0.05	<.005	0.02	0.014	<.005	<.005	0.017	<.005	0.02	0	0.007285	0.008564
Cobalt (Co), mg/l		<.005	<.005	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	1.3	0.01	<.005	<.005	0.005	<.005	<.005	<.005	0.01	0	0.002142	0.003642
Iron (Fe), mg/l		<.05	0.89	1.91	<.05	0.03	<.05	<.05	1.91	0	0.404285	0.686291
Lead (Pb), mg/l	0.02	<.005	<.005	<.005	<.005				0	0	0	0
Lithium (Li), mg/l		0.007	<.005	<.005	0.005	<.005	<.005	<.005	0.007	0	0.001714	0.002762
Manganese (Mn), mg/l		<.03	<.03	<.03	<.03	<.03	<.03	<.03	0	0	0	0
Mercury (Hg), mg/l		<.0002	<.0002	<.0002	0.0003	0.0006	0.0005	0.0003	0.0006	0	0.000242	0.000232
Molybdenum (Mo), mg/l		<.050	<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.086	<.005	<.005	<.005	<.005	<.005	<.005	0.086	0	0.012285	0.030093
Selenium (Se), mg/l	0.01	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0	0	0	0
Silicon (Si), mg/l			7.3	8.6					8.6	7.3	7.95	0.65
Silver (Ag), mg/l	0.05	<.0005	<.0005	<.0005	<.0005	<.0005	0.0006	<.0005	0.0006	0	0.000085	0.000209
Strontium (Sr), mg/l												
Vanadium (V), mg/l		<.005	0.016	0.015	<.005	<.005	<.005	<.005	0.016	0	0.004428	0.007007
Zinc (Zn), mg/l		0.01	0.02	0.02	0.01	0.01	0.008	0.02	0.02	0.008	0.014	0.005237

PARAMETER	STANDARD	BES-17	BES-17 DU	BES-17	BES-17	BES-17 DU	BES-17	BES-17	BES-17	BES-17	MAX	MIN	MEAN	STDV
Date		05-03-88	05-03-88	06-03-88	08-30-88	08-30-88	09-29-88	10-26-88	11-29-88	12-19-88				
MINERALS														
Alkalinity (CaCO3),mg/l		110	114	110	101	112	88	103	102	90	114	88	103.3333	8.806563
Bicarbonate (HCO3),mg/l		134	139	134	123	137	107	126	124	110	139	107	126	10.79094
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	<1	<1	<1	<1	<1	<1	<1	1	1	1	0	0.222222	0.415739
Fluoride (F), mg/l					1.27	1.3					1.3	1.27	1.285	0.015
Sulfate (SO4),mg/l	500	79	83	97	104	98	89	94	99	103	104	79	94	8.178562
Calcium (Ca),mg/l		55	48	52	48	44	50	48	49	46	55	44	48.88888	3.034777
Magnesium (Mg), mg/l		12	12	12	12	12	12	11	10	11	12	10	11.55555	0.684934
Potassium (K), mg/l		6	7	8	4	4	5	5	5	5	8	4	5.444444	1.257078
Sodium (Na), mg/l		6	5	5	9	9	6	6	6	6	9	5	6.444444	1.422916
Major Anion, MEQ/L		3.85	4.01	4.22	4.26	4.35	3.61	4.02	4.13	3.98	4.35	3.61	4.047777	0.213530
Major Cations, MEQ/L		4.14	3.79	4	4.12	4.07	3.88	3.88	4.12	3.6	4.14	3.6	3.955555	0.172698
Cation - Anion Balance, %		3.63	2.82	2.68	1.67	3.33	3.6	1.77	0.12	5.01	5.01	0.12	2.736666	1.333033
MISCELLANEOUS														
pH, Units	6.5-8.5	7.22	7.23	7.09	7.01	6.93	6.96	7.36	6.83	7.06	7.36	6.83	7.076666	0.158184
Conductivity, umhos/cm		375	375	350	380	375	375	352	352	360	380	350	366	11.56623
Cyanide, Total, mg/l							<.010	<0.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75													
Cyanide, Free, mg/l														
Hardness (CaCO3), GPG:mg/l		187	169	179	169	159	174	165	164	160	187	159	169.5555	8.616664
Solids, Dissolved, mg/l	1000	296	253	228	226	212	256	226	233	256	296	212	242.8888	23.83016
Solids, Suspended, mg/l		55	98	89	43	48	26	24	34	77	98	24	54.88888	25.65776
Turbidity, NTU		120	137	147	134	131	51	56	250	113	250	51	126.5555	54.52239
METALS (TOTAL)														
Antimony (Sb), mg/l		<0.005	0.009	<.005	<.005	<.005	0.005	0.008	<.005	<.005	0.009	0	0.002444	0.003593
Aluminum (Al), mg/l		<0.10	<0.10	4.16	1.15	1.2	0.51	0.59	0.13	0.78	4.16	0	0.946666	1.212710
Arsenic (As), mg/l		0.054	0.05	0.054	0.049	0.049	0.084	0.08	0.039	0.222	0.222	0.039	0.075666	0.053609
Barium (Ba), mg/l					<.10	<.10	<.10		<.10		0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<.0005	<.0005	<.0005	0.0005	<.0005	<.0005	<.0005	0.0005	0	0.000055	0.000157
Boron (B), mg/l		<0.20	<0.20	<.20	<.20	<.20	<.20	<.2	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0026	0.0024	0.0028	0.0011	0.0015	<.0005	<.0005	0.0017	0.0008	0.0028	0	0.001433	0.000992
Chromium (Cr), mg/l		0.02	0.027	0.3	0.013	0.023	<.005	0.043	0.02	0.017	0.3	0	0.051444	0.088535
Cobalt (Co), mg/l		0.018	0.022	0.015	0.013	0.013	0.011	0.013	0.034	0.016	0.034	0.011	0.017222	0.006696
Copper (Cu), mg/l		0.007	<0.005	0.019	0.014	0.02	0.016	0.011	0.006	0.007	0.02	0	0.011111	0.006297
Iron (Fe), mg/l		1.17	1.48	9.5	4.28	4.28	3.81	3.35	8.24	6.62	9.5	1.17	4.747777	2.688125
Lead (Pb), mg/l		<0.005	<0.005	0.023	0.006	0.005	0.01				0.023	0	0.007333	0.007824
Lithium (Li), mg/l		<0.005	0.006	0.019	0.012	0.012	0.01	0.008	0.012	0.01	0.019	0	0.009888	0.004863
Manganese (Mn), mg/l		0.11	0.22	0.42	0.27	0.27	0.3	0.32	0.35	0.38	0.42	0.11	0.293333	0.086666
Mercury (Hg), mg/l	0.002	<0.0002	<0.0002	0.0002	0.0003	0.0002	0.0004	<.0002	0.0005	0.0004	0.0005	0	0.000222	0.000181
Molybdenum (Mo), mg/l		<0.05	<0.05	<.050	<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	0.006	0.072	0.042	0.041	0.015	0.021	0.013	0.017	0.072	0	0.025222	0.021248
Selenium (Se), mg/l		<0.002	<0.002	<.002	<.002	<.002	0.003	0.002	<.002	<.002	0.003	0	0.000555	0.001065
Silicon (Si), mg/l					13.2	13.1					13.2	13.1	13.15	0.05
Silver (Ag), mg/l		0.0005	0.0006	<.0005	0.0012	0.0013	0.0017	0.0005	<.0005	<.0005	0.0017	0	0.000644	0.000590
Strontium (Sr), mg/l														
Vanadium (V), mg/l		<0.005	0.01	0.028	0.019	0.021	<.005	<.005	<.005	<.005	0.028	0	0.008666	0.010593
Zinc (Zn), mg/l		0.28	0.24	0.12	0.11	0.13	0.09	0.08	0.04	0.06	0.28	0.04	0.127777	0.076125
NUTRIENTS														
Nitrogen, Ammonia, mg/l		0.04	<0.03	0.12	0.06	0.04	<.03	0.04	0.05	<.03	0.12	0	0.038888	0.036038
Nitrogen, Nitrate, mg/l	10	<0.10	<0.10	0.18	0.13	0.12	0.14	0.13	<.10	<.10	0.18	0	0.077777	0.071301
Nitrogen, Nitrite, mg/l	1	0.03	0.03	<.01	<.01	<.01	<0.010	<.01	<.01	<.01	0.03	0	0.006666	0.012472
Nitrogen, Total Kjeldahl, mg/l		0.22	0.25	0.23	0.21	0.18	0.27	0.13	0.15	0.21	0.27	0.13	0.205555	0.042716
Phosphorus, Total, mg/l		0.22	0.256	0.03	0.06	0.067	0.09	0.016	0.021	0.122	0.256	0.016	0.098	0.081765

PARAMETER	STANDARD	BES-17	BES-17	BES-17 DU	BES-17	BES-17	BES-17	BES-17	MAX	MIN	MEAN	STDV
Date		06-03-88	08-30-88	08-30-88	09-29-88	10-26-88	11-29-88	12-19-88				
METALS (DISS.)												
Antimony (Sb), mg/l		0.005	<.005	<.005	<.005	0.013	<.005	<.005	0.013	0	0.002571	0.004593
Aluminum (Al), mg/l		<.10	<.10	<.10	0.1	0.31	<.10	<.10	0.31	0	0.058571	0.108289
Arsenic (As), mg/l	0.05	0.043	0.018	0.02	0.061	0.051	0.039	0.069	0.069	0.018	0.043	0.017864
Barium (Ba), mg/l			<.10	<.1	<.10		<.10	<.10	0	0	0	0
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	0.0005	<.0005	<.0005	<.0005	0.0005	0	0.000071	0.000174
Boron (B), mg/l		<.20	<.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0008	0.0009	0.001	<.0005	<.0005	0.0017	0.0008	0.0017	0	0.000742	0.000549
Chromium (Cr), mg/l	0.05	0.008	<.005	<.005	<.005	<.005	0.02	<.005	0.02	0	0.004	0.007091
Cobalt (Co), mg/l		0.009	0.007	0.007	0.011	0.014	0.03	0.014	0.03	0.007	0.013142	0.007395
Copper (Cu), mg/l	1.3	<.005	0.01	<.005	<.005	0.013	<.005	<.005	0.013	0	0.003285	0.005256
Iron (Fe), mg/l		2.1	0.59	0.61	2.16	2.71	2.73	2.74	2.74	0.59	1.948571	0.888167
Lead (Pb), mg/l	0.02	<.005	<.005	<.005	<.005				0	0	0	0
Lithium (Li), mg/l		0.014	0.011	0.011	0.01	0.009	0.011	0.01	0.014	0.009	0.010857	0.001456
Manganese (Mn), mg/l		0.3	0.24	0.24	0.3	0.34	0.35	0.35	0.35	0.24	0.302857	0.044308
Mercury (Hg), mg/l		<.0002	0.0002	0.0002	0.0003	<.0002	0.0004	0.0003	0.0004	0	0.0002	0.000141
Molybdenum (Mo), mg/l		<0.050	<.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.072	0.008	0.005	0.012	0.009	0.013	0.007	0.072	0.005	0.018	0.022193
Selenium (Se), mg/l	0.01	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0	0	0	0
Silicon (Si), mg/l			11.3	11.7					11.7	11.3	11.5	0.2
Silver (Ag), mg/l	0.05	<.0005	0.0012	0.0013	0.0007	0.0006	<.0005	<.0005	0.0013	0	0.000542	0.000523
Strontium (Sr), mg/l												
Vanadium (V), mg/l		<.005	0.007	0.014	<.005	<.005	<.005	<.005	0.014	0	0.003	0.005099
Zinc (Zn), mg/l		0.04	<.005	<.005	0.03	0.04	0.01	0.01	0.04	0	0.018571	0.016413

PARAMETER	STANDARD	GW-1	GW-1	GW-1	GW-1	GW-1	GW-1	GW-1	GW-1	GW-1	MAX	MIN	MEAN	STDV
Date		10-09-85	06-22-87	08-28-87	11-13-87	12-17-87	02-22-88	05-04-88	08-31-88	10-26-88				
MINERALS														
Alkalinity (CaCO3),mg/l		102	68	78	102	112	113	206	278	458	458	68	168.5555	120.4686
Bicarbonate (HCO3),mg/l		124	83	95	124	137	138	251	0	0	251	0	105.7777	72.09527
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	98	214	214	0	34.66666	70.38307
Chloride (Cl),mg/l	250	5	3	2	3	1	1	2	3	3	5	1	2.555555	1.165343
Fluoride (F), mg/l									0.46		0.46	0	0.23	0.23
Sulfate (SO4),mg/l	500	60	44	46	50	48	84	121	146	75	146	44	74.88888	34.34933
Calcium (Ca),mg/l		56	39	42	46	50	60	86	57	152	152	39	65.33333	33.28329
Magnesium (Mg), mg/l		8	5	7	8	8	10	12	<1	1	12	0	6.555555	3.715167
Potassium (K), mg/l		1	4	1	2	2	1	2	105	85	105	1	22.55555	39.01883
Sodium (Na), mg/l		4	3	3	4	4	4	6	64	43	64	3	15	21.18175
Major Anion, MEQ/L		3.43	2.37	2.58	3.17	3.27	4.04	6.7	8.71	10.81	10.81	2.37	5.008888	2.846266
Major Cations, MEQ/L		3.65	2.31	2.84	3.18	3.38	4.01	6.95	8.31	11.7	11.7	2.31	5.147777	2.983159
Cation - Anion Balance, %		3.11	1.28	4.8	0.16	1.65	0.37	1.83	2.35	3.95	4.8	0.16	2.166666	1.470426
MISCELLANEOUS											0	0	0	0
pH, Units	6.5-8.5	7.11	6.88	7.03	7.01	7.31	7.59	7.6	11.77	11.81	11.81	6.88	8.234444	1.915028
Conductivity, umhos/cm		360	220	275	330	340	360	500	1450	2400	2400	220	692.7777	699.2659
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01			<0.010	0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<0.01	<0.010	<.010	<.010	<0.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		173	119	134	148	158	191	264	143	384	384	119	190.4444	79.28445
Solids, Dissolved, mg/l	1000		136	192	170	220	222	314	725	610	725	136	323.625	206.2764
Solids, Suspended, mg/l		16	339	5	38	12	89	60	69	52	339	5	75.55555	96.83790
Turbidity, NTU		25	900	12	51	54	88	180	72	80	900	12	162.4444	264.6843
METALS (TOTAL)														
Antimony (Sb), mg/l		0.011	<0.005	0.021	<.005	0.7	0.011	0.013	0.007	0.011	0.7	0	0.086	0.217168
Aluminum (Al), mg/l		0.99	3.21	0.37	0.86	1.73	1.46	<0.10	1.44	0.95	3.21	0	1.223333	0.868741
Arsenic (As), mg/l		0.013	0.01	0.006	<.005	<.005	0.035	0.009	<.005	0.008	0.035	0	0.009	0.010252
Barium (Ba), mg/l									<.10		0	0	0	0
Beryllium (Be), mg/l			<0.0005	<0.0005	<.0005	0.0008	0.0005	<0.0005	<.0005	<.0005	0.0008	0	0.000162	0.000291
Boron (B), mg/l			<0.25	<0.20	<.2	0.61	<0.20	<0.20	<.20	<.2	0.61	0	0.07625	0.201738
Cadmium (Cd), mg/l		0.0013	<0.0005	0.0006	0.0119	0.0007	0.0009	0.0023	0.0006	0.0005	0.0119	0	0.002088	0.003521
Chromium (Cr), mg/l		0.032	0.036	0.033	0.037	0.033	0.27	0.009	0.044	0.055	0.27	0.009	0.061	0.074773
Cobalt (Co), mg/l			0.007	0.005	0.045	0.018	0.024	0.006	0.012	0.005	0.045	0.005	0.01525	0.012959
Copper (Cu), mg/l		0.02	0.031	0.016	0.04	0.041	0.04	0.05	0.028	0.012	0.05	0.012	0.030888	0.012196
Iron (Fe), mg/l		3.9	62.6	1.87	4.94	15.9	23.8	24.4	1.57	0.65	62.6	0.65	15.51444	18.89469
Lead (Pb), mg/l		0.016	0.016	<0.005	0.013	0.024	0.014	0.007	0.025		0.025	0	0.014375	0.007696
Lithium (Li), mg/l			0.01	0.006	0.007	0.017	<0.005	0.007	0.07	0.05	0.07	0	0.020875	0.023550
Manganese (Mn), mg/l		0.07	0.79	0.06	0.27	0.61	1.47	0.45	0.84	0.04	1.47	0.04	0.511111	0.446851
Mercury (Hg), mg/l	0.002	0.0002	0.0004	0.002	<.0002	0.0005	0.0004	0.0006	<.0002	0.0004	0.002	0	0.0005	0.000565
Molybdenum (Mo), mg/l			<0.05	<0.05	<.05	<.05	0.041	<0.05	0.05		0.05	0	0.013	0.020695
Nickel (Ni), mg/l		0.06	0.048	0.014	0.006	0.11	0.036	0.121	0.036	0.009	0.121	0.006	0.048888	0.039495
Selenium (Se), mg/l		0.011	0.008	<0.002	<.002	0.003	0.004	<0.002	0.003	0.002	0.011	0	0.003444	0.003593
Silicon (Si), mg/l									12.9		12.9	12.9	12.9	
Silver (Ag), mg/l		0.0075	<0.0005	<0.0005	0.0016	0.0008	0.0014	0.0007	0.0008	0.0022	0.0075	0	0.001666	0.002169
Strontium (Sr), mg/l														
Vanadium (V), mg/l			0.039	<0.005	0.011	0.222	0.01	0.059	0.031	0.013	0.222	0	0.048125	0.068107
Zinc (Zn), mg/l		0.04	0.1	0.01	0.03	0.08	0.03	0.16	0.04	0.05	0.16	0.01	0.06	0.043716
NUTRIENTS														
Nitrogen, Ammonia, mg/l		<0.03	0.03	<0.03	<.03	0.03	0.05	0.03	0.54	0.5	0.54	0	0.131111	0.208723
Nitrogen, Nitrate, mg/l	10	<0.10	0.23	0.15	<.10	0.59	0.47	<0.10	0.2	<.10	0.59	0	0.182222	0.206977
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.01	<0.01	<0.01	0.1	0.057	0.1	0	0.017444	0.034173
Nitrogen, Total Kjeldahl, mg/l		0.15	0.37	0.21	0.16	0.26	0.15	0.58	1.3	1.34	1.34	0.15	0.502222	0.455967
Phosphorus, Total, mg/l		0.027	0.208	0.094	0.01	0.175	0.13	0.033	0.065	0.032	0.208	0.01	0.086	0.066856

PARAMETER	STANDARD	GW-1	GW-1	GW-1	MAX	MIN	MEAN	STDV
Date		05-04-88	08-31-88	10-26-88				
METALS (DISS.)								
Antimony (Sb), mg/l		0.014	<.005	0.011	0.014	0	0.008333	0.006018
Aluminum (Al), mg/l		<0.10	0.91	0.79	0.91	0	0.566666	0.403677
Arsenic (As), mg/l	0.05	0.01	<.005	0.009	0.01	0	0.006333	0.004496
Barium (Ba), mg/l			<.10		0	0	0	0
Beryllium (Be), mg/l		<0.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<.20	<.02	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0021	<.0005	0.0007	0.0021	0	0.000933	0.000873
Chromium (Cr), mg/l	0.05	0.009	0.044	0.013	0.044	0.009	0.022	0.015641
Cobalt (Co), mg/l		0.006	0.012	<.005	0.012	0	0.006	0.004898
Copper (Cu), mg/l	1.3	0.03	0.014	0.013	0.03	0.013	0.019	0.007788
				<.005	0	0	0	0
Iron (Fe), mg/l		23	0.29	0.23	23	0.23	7.84	10.71976
Lead (Pb), mg/l	0.02	0.007	0.01		0.01	0.007	0.0085	0.0015
Lithium (Li), mg/l		0.007	0.07	0.059	0.07	0.007	0.045333	0.027475
Manganese (Mn), mg/l		0.45	<.03	<.03	0.45	0	0.15	0.212132
Mercury (Hg), mg/l		0.0004	<.0002	0.0005	0.0005	0	0.0003	0.000216
Molybdenum (Mo), mg/l		<0.05	0.05		0.05	0	0.025	0.025
Nickel (Ni), mg/l		0.034	0.017	0.005	0.034	0.005	0.018666	0.011897
Selenium (Se), mg/l	0.01	<0.002	0.002	0.002	0.002	0	0.001333	0.000942
Silicon (Si), mg/l			12.9		12.9	12.9	12.9	
Silver (Ag), mg/l	0.05	0.0007	<.0005	0.0026	0.0026	0	0.0011	0.001098
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.054	0.028	<.005	0.054	0	0.027333	0.022050
Zinc (Zn), mg/l		0.06	<.005	0.01	0.06	0	0.023333	0.026246

PARAMETER	STANDARD	GW-2	GW-2	GW-2	GW-2	MAX	MIN	MEAN	STDV
Date		09-29-88	10-26-88	11-30-88	12-28-88				
MINERALS									
Alkalinity (CaCO3),mg/l		285	192	150	172	285	150	199.75	51.41193
Bicarbonate (HCO3),mg/l		348	234	183	210	348	183	243.75	62.83460
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	8	3	4	3	8	3	4.5	2.061552
Fluoride (F), mg/l									
Sulfate (SO4),mg/l	500	45	14	40	<1	45	0	24.75	18.51182
Calcium (Ca),mg/l		92	44	40	47	92	40	55.75	21.07575
Magnesium (Mg), mg/l		21	11	9	11	21	9	13	4.690415
Potassium (K), mg/l		14	3	2	2	14	2	5.25	5.068283
Sodium (Na), mg/l		14	8.6	10	6	14	6	9.65	2.892663
Major Anion, MEQ/L		6.89	4.22	3.94	3.53	6.89	3.53	4.645	1.319175
Major Cations, MEQ/L		7.29	3.9	3.93	3.56	7.29	3.56	4.67	1.519621
Cation - Anion Balance, %		2.82	3.94	0.13	0.42	3.94	0.13	1.8275	1.605480
MISCELLANEOUS									
pH, Units	6.5-8.5	6.33	7.18	6.44	6.52	7.18	6.33	6.6175	0.331690
Conductivity, umhos/cm		600	320	352	350	600	320	405.5	113.0077
Cyanide, Total, mg/l		<0.010	<0.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75								
Cyanide, Free, mg/l									
Hardness (CaCO3), GPG:mg/l		317	155	137	163	317	137	193	72.20803
Solids, Dissolved, mg/l	1000	342	196	481	222	481	196	310.25	112.9211
Solids, Suspended, mg/l		325	630	3395	574	3395	325	1231	1254.649
Turbidity, NTU		224	1120	3550	1310	3550	224	1551	1224.823
METALS (TOTAL)									
Antimony (Sb), mg/l		0.008	0.008	0.006	<.005	0.008	0	0.0055	0.003278
Aluminum (Al), mg/l		3.36	1.06	0.01	3.98	3.98	0.01	2.1025	1.625705
Arsenic (As), mg/l		0.02	0.016	9.94	0.032	9.94	0.016	2.502	4.294335
Barium (Ba), mg/l		<.10		0.23		0.23	0	0.115	0.115
Beryllium (Be), mg/l		0.0024	<.0005	0.0055	0.0016	0.0055	0	0.002375	0.002000
Boron (B), mg/l		<.20	<.2	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		<.0005	<.0005	0.0005	0.0009	0.0009	0	0.00035	0.000377
Chromium (Cr), mg/l		0.016	0.049	0.033	0.031	0.049	0.016	0.03225	0.011691
Cobalt (Co), mg/l		0.015	0.036	0.086	0.019	0.086	0.015	0.039	0.028257
Copper (Cu), mg/l		0.042	0.012	0.027	0.018	0.042	0.012	0.02475	0.011299
Iron (Fe), mg/l		14.15	4.73	8.76	27.4	27.4	4.73	13.76	8.554861
Lead (Pb), mg/l		0.01				0.01	0.01	0.01	2.5E-11
Lithium (Li), mg/l		0.013	<.005	0.012	0.007	0.013	0	0.008	0.005147
Manganese (Mn), mg/l		2.47	3.12	5.24	2.48	5.24	2.47	3.3275	1.135151
Mercury (Hg), mg/l	0.002	0.0007	0.0007	<.0002	0.0003	0.0007	0	0.000425	0.000294
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.048	0.067	0.092	0.07	0.092	0.048	0.06925	0.015610
Selenium (Se), mg/l		0.002	<.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l									
Silver (Ag), mg/l		0.0009	0.0016	0.001	0.0008	0.0016	0.0008	0.001075	0.000311
Strontium (Sr), mg/l									
Vanadium (V), mg/l		<.005	<.005	0.019	<.018	0.019	0	0.00925	0.009256
Zinc (Zn), mg/l		0.12	0.07	0.17	0.1	0.17	0.07	0.115	0.036400
NUTRIENTS									
Nitrogen, Ammonia, mg/l		0.15	0.06	<.03	<.03	0.15	0	0.0525	0.061390
Nitrogen, Nitrate, mg/l	10	0.73	1.2	0.12	0.13	1.2	0.12	0.545	0.451691
Nitrogen, Nitrite, mg/l	1	<.010	<.01	<.010	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.71	0.51	0.28	0.33	0.71	0.28	0.4575	0.169022
Phosphorus, Total, mg/l		0.52	0.225	0.018	0.365	0.52	0.018	0.282	0.184714

PARAMETER	STANDARD	GW-2	GW-2	GW-2	GW-2	MAX	MIN	MEAN	STDV
Date		09-29-88	10-26-88	11-30-88	12-28-88				
METALS (DISS.)									
Antimony (Sb), mg/l		0.006	0.012	<.005	<.005	0.012	0	0.0045	0.004974
Aluminum (Al), mg/l		0.1	0.23	<.10	<.10	0.23	0	0.0825	0.094439
Arsenic (As), mg/l	0.05	0.009	0.013	0.015	0.019	0.019	0.009	0.014	0.003605
Barium (Ba), mg/l		<.10		<.10	0.11	0.11	0	0.036666	0.051854
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	<.0005	0.0005	<.0005	0.0008	0.0008	0	0.000325	0.000341
Chromium (Cr), mg/l	0.05	<.005	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l		0.006	0.034	0.014	0.009	0.034	0.006	0.01575	0.010917
Copper (Cu), mg/l	1.3	0.02	0.008	<.005	<.005	0.02	0	0.007	0.008185
			<.005			0	0	0	0
Iron (Fe), mg/l		0.07	0.25	<.05	<.05	0.25	0	0.08	0.102225
Lead (Pb), mg/l	0.02	<.005				0	0	0	0
Lithium (Li), mg/l		0.011	0.006	<.005	0.006	0.011	0	0.00575	0.003897
Manganese (Mn), mg/l		1.74	2.54	1.76	1.6	2.54	1.6	1.91	0.368917
Mercury (Hg), mg/l		0.0007	0.0006	<.0002	0.0002	0.0007	0	0.000375	0.000286
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.022	0.048	0.011	0.015	0.048	0.011	0.024	0.014404
Selenium (Se), mg/l	0.01	0.002	<.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l									
Silver (Ag), mg/l	0.05	0.0006	<.0005	<.0005	<.0005	0.0006	0	0.00015	0.000259
Strontium (Sr), mg/l									
Vanadium (V), mg/l		<.005	<.005	0.005	<.005	0.005	0	0.00125	0.002165
Zinc (Zn), mg/l		0.04	0.02	<.005	0.01	0.04	0	0.0175	0.014790

PARAMETER	STANDARD	GW-3	GW-3	GW-3	GW-3	MAX	MIN	MEAN	STDV
Date		09-28-88	10-26-88	11-30-88	12-29-88				
MINERALS									
Alkalinity (CaCO3),mg/l		54	58	38	46	58	38	49	7.681145
Bicarbonate (HCO3),mg/l		66	71	46	56	71	46	59.75	9.601432
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	1	4	3	4	4	1	3	1.224744
Fluoride (F), mg/l									
Sulfate (SO4),mg/l	500	82	165	120	102	165	82	117.25	30.67062
Calcium (Ca),mg/l		39	61	38	39	61	38	44.25	9.679230
Magnesium (Mg), mg/l		8	16	10	10	16	8	11	3
Potassium (K), mg/l		2	3	2	2	3	2	2.25	0.433012
Sodium (Na), mg/l		8	8	7	6	8	6	7.25	0.829156
Major Anion, MEQ/L		2.82	4.71	3.34	3.05	4.71	2.82	3.48	0.733655
Major Cations, MEQ/L		3.01	4.79	3.07	3.08	4.79	3.01	3.4875	0.752475
Cation - Anion Balance, %		3.26	0.84	4.21	0.49	4.21	0.49	2.2	1.576182
MISCELLANEOUS									
pH, Units	6.5-8.5	6.74	6.39	6.03	6.04	6.74	6.03	6.3	0.292489
Conductivity, umhos/cm		295	460	330	340	460	295	356.25	62.18671
Cyanide, Total, mg/l		<0.010	<0.010	0.01	<.010	0.01	0	0.0025	0.004330
Cyanide, WAD, mg/l	0.75								
Cyanide, Free, mg/l									
Hardness (CaCO3), GPG:mg/l		131	218	136	139	218	131	156	35.90960
Solids, Dissolved, mg/l	1000	220	290	162	220	290	162	223	45.35416
Solids, Suspended, mg/l		58	53	110	34	110	34	63.75	28.16358
Turbidity, NTU		43	75	71	47	75	43	59	14.14213
METALS (TOTAL)									
Antimony (Sb), mg/l		<.005	0.02	0.017	<.005	0.02	0	0.00925	0.009310
Aluminum (Al), mg/l		0.91	0.71	1.98	<.10	1.98	0	0.9	0.709330
Arsenic (As), mg/l		0.011	0.021	0.016	<.005	0.021	0	0.012	0.007778
Barium (Ba), mg/l		0.1				0.1	0.1	0.1	0.000000
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.2	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0016	0.0012	0.0021	0.0009	0.0021	0.0009	0.00145	0.00045
Chromium (Cr), mg/l		<.005	0.073	0.01	0.013	0.073	0	0.024	0.028696
Cobalt (Co), mg/l		0.027	0.016	0.012	0.008	0.027	0.008	0.01575	0.007084
Copper (Cu), mg/l		0.013	0.008	0.01	0.005	0.013	0.005	0.009	0.002915
Iron (Fe), mg/l		2.93	3.14	5.4	2.46	5.4	2.46	3.4825	1.134115
Lead (Pb), mg/l		0.012				0.012	0.012	0.012	
Lithium (Li), mg/l		0.017	0.006	0.014	0.008	0.017	0.006	0.01125	0.004437
Manganese (Mn), mg/l		0.08	0.1	0.06	0.07	0.1	0.06	0.0775	0.014790
Mercury (Hg), mg/l	0.002	0.0003	0.0004	0.0005	0.0003	0.0005	0.0003	0.000375	0.000082
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.04	0.036	0.032	0.023	0.04	0.023	0.03275	0.006299
Selenium (Se), mg/l		<.002	<.002	0.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l									
Silver (Ag), mg/l		<.0005	0.001	0.0012	0.0005	0.0012	0	0.000675	0.000465
Strontium (Sr), mg/l									
Vanadium (V), mg/l		<.005	<.005	0.005	<.005	0.005	0	0.00125	0.002165
Zinc (Zn), mg/l		0.09	0.16	0.07	0.07	0.16	0.07	0.0975	0.036996
NUTRIENTS									
Nitrogen, Ammonia, mg/l		0.06	0.04	0.03	<.03	0.06	0	0.0325	0.021650
Nitrogen, Nitrate, mg/l	10	0.93	1.05	0.9	1.36	1.36	0.9	1.06	0.182071
Nitrogen, Nitrite, mg/l	1	<0.010	0.415	<.01	0.03	0.415	0	0.11125	0.175797
Nitrogen, Total Kjeldahl, mg/l		0.23	0.22	0.27	0.22	0.27	0.22	0.235	0.020615
Phosphorus, Total, mg/l		0.014	0.026	0.01	0.024	0.026	0.01	0.0185	0.006689

PARAMETER	STANDARD	GW-3	GW-3	GW-3	GW-3	MAX	MIN	MEAN	STDV
Date		09-28-88	10-26-88	11-30-88	12-29-88				
METALS (DISS.)									
Antimony (Sb), mg/l		<.005	0.02	<.005	<.005	0.02	0	0.005	0.008660
Aluminum (Al), mg/l		<.10	0.17	<.10	<.10	0.17	0	0.0425	0.073612
Arsenic (As), mg/l	0.05	0.005	<.005	<.005	<.005	0.005	0	0.00125	0.002165
Barium (Ba), mg/l		<.10			<.10	0	0	0	0
Beryllium (Be), mg/l		<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	<.0005	0.0013	0.0018	0.0009	0.0018	0	0.001	0.000659
Chromium (Cr), mg/l	0.05	<.005	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l		0.018	0.013	0.01	0.008	0.018	0.008	0.01225	0.003766
Copper (Cu), mg/l	1.3	<.005	0.005	<.005	0.005	0.005	0	0.0025	0.0025
Iron (Fe), mg/l		<.05	0.11	<.05	<.05	0.11	0	0.0275	0.047631
Lead (Pb), mg/l	0.02	<.005				0	0	0	0
Lithium (Li), mg/l		0.01	0.006	0.012	0.008	0.012	0.006	0.009	0.002236
Manganese (Mn), mg/l		0.08	0.1	0.04	0.04	0.1	0.04	0.065	0.025980
Mercury (Hg), mg/l		0.0002	<.0002	0.0004	0.0002	0.0004	0	0.0002	0.000141
Molybdenum (Mo), mg/l		<.05				0	0	0	0
Nickel (Ni), mg/l		0.024	0.021	0.016	0.015	0.024	0.015	0.019	0.003674
Selenium (Se), mg/l	0.01	<.002	0.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l									
Silver (Ag), mg/l	0.05	<.0005	0.0006	<.0005	<.0005	0.0006	0	0.00015	0.000259
Strontium (Sr), mg/l									
Vanadium (V), mg/l		<.005	<.005	<.005	<.005	0	0	0	0
Zinc (Zn), mg/l		0.05	0.1	0.04	0.04	0.1	0.04	0.0575	0.024874

PARAMETER	STANDARD	GW-4	GW-4	GW-4	GW-4	GW-4	GW-4	GW-4	GW-4	GW-4 DUP	GW-4	GW-4	GW-4	MAX	MIN	MEAN	STDV
Date		07-02-85	10-09-85	06-22-87	08-28-87	11-12-87	12-17-87	01-28-88	02-22-88	02-22-88	05-04-88	06-02-88	08-31-88				
MINERALS																	
Alkalinity (CaCO3),mg/l		134	116	126	128	130	116	91	129	128	116	112	122	134	91	120.6666	11.15297
Bicarbonate (HCO3),mg/l		164	142	154	156	159	142	111	157	156	142	137	149	164	111	147.4166	13.59202
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	3	4	2	1	2	2	2	1	<1	1	1	1	4	0	1.666666	1.027402
Fluoride (F), mg/l													0.7	0.7	0.7	0.7	
Sulfate (SO4),mg/l	500	128	122	88	57	100	113	116	123	122	125	146	159	159	57	116.5833	25.20072
Calcium (Ca),mg/l		59	88	85	66	74	71	65	88	87	80	80	89	89	59	77.66666	9.986101
Magnesium (Mg), mg/l		6.9	7	6	6	8	9	7	9	9	8	8	12	12	6	7.991666	1.586641
Potassium (K), mg/l			6	4	3	5	15	8	1	2	5	4	6	15	1	5.363636	3.574473
Sodium (Na), mg/l		5.3	5	5	4	6	10	14	8	8	8	7	9	14	4	7.441666	2.638641
Major Anion, MEQ/L		5.22	4.97	4.64	3.78	4.74	4.73	4.3	5.17	5.1	4.95	5.31	5.82	5.82	3.78	4.894166	0.497769
Major Cations, MEQ/L		3.69	5.34	4.41	4.03	4.74	5.09	4.63	5.51	5.48	5.12	5.07	5.97	5.97	3.69	4.923333	0.626728
Cation - Anion Balance, %		17.19	3.59	2.54	3.2	0	3.67	3.7	3.18	3.59	1.69	2.31	1.27	17.19	0	3.8275	4.175755
MISCELLANEOUS																	
pH, Units	6.5-8.5	7.67	7.04	7.47	7.39	7.22	8.01	7.82	7.88	7.9	7.8	7.94	8.48	8.48	7.04	7.718333	0.373136
Conductivity, umhos/cm		500	500	360	360	445	480	445	495	495	500	470	500	500	360	462.5	49.77030
Cyanide, Total, mg/l		<0.01	<0.010	<0.01	<0.010	<.010	<.010	<0.01	<.01	<.01				0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<0.010	<0.01	<0.010	<.010	<.010	<0.01	<.01	<.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<0.010	<0.01	<0.010	<.010	<.010	<0.01	<.01	<.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		176	249	238	190	218	215	192	257	255	233	233	272	272	176	227.3333	28.58418
Solids, Dissolved, mg/l	1000	350		234	247	254	318	344	302	302	310	290	314	350	234	296.8181	36.09789
Solids, Suspended, mg/l			38	180	6	159	126	25	18	20	26	18	84	180	6	63.63636	60.22423
Turbidity, NTU			70	395	20	188	117	20	47	47	31	26	22	395	20	89.36363	108.4823
METALS (TOTAL)																	
Antimony (Sb), mg/l		0.005	0.01	<0.005	0.009	0.006	1.01	<0.005	0.006	0.006	0.013	0.006	<.005	1.01	0	0.08525	0.277643
Aluminum (Al), mg/l		0.2	0.48	2.07	0.19	1.64	3.78	0.35	0.72	0.61	<0.10	<0.10	1.56	3.78	0	0.966666	1.072484
Arsenic (As), mg/l		0.005	<0.005	0.019	0.01	0.109	0.036	0.006	0.027	0.037	0.017	<0.005	0.02	0.109	0	0.023833	0.028386
Barium (Ba), mg/l													<.10	0	0	0	0
Beryllium (Be), mg/l				0.0024	<0.0005	0.0009	0.0018	<0.0005	<.0005	<.0005	<0.0005	<0.0005	<.0005	0.0024	0	0.00051	0.000849
Boron (B), mg/l				<0.25	<0.20	<.2	<.20	<0.20	<.20	<.20	<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0039	<.0005	0.0017	0.0017	0.0019	0.0014	0.006	0.006	0	0.001558	0.001737
Chromium (Cr), mg/l		0.055	0.036	0.044	0.019	0.017	0.043	0.061	0.065	0.04	0.035	0.011	0.009	0.065	0.009	0.03625	0.018166
Cobalt (Co), mg/l				0.007	<0.005	<.005	0.008	<0.005	<.005	<.005	<0.005	<0.005	<.005	0.008	0	0.001363	0.002900
Copper (Cu), mg/l		0.01	0.02	0.03	0.011	0.03	1.34	0.009	0.09	0.1	0.07	0.032	0.14	1.34	0.009	0.156833	0.358999
Gold (Au), mg/l			<.005											0	0	0	0
Iron (Fe), mg/l		0.85	5.51	42.3	1.68	10.74	10.9	0.84	2.53	2.4	3.24	0.42	1.5	42.3	0.42	6.909166	11.21867
Lead (Pb), mg/l		0.011	0.024	0.277	0.006	0.104	0.21	0.007	0.01	0.009	0.007	<0.005	0.017	0.277	0	0.056833	0.088593
Lithium (Li), mg/l				0.007	<0.005	<.005	0.019	0.022	<.005	<.005	<0.005	<0.005	0.007	0.022	0	0.0055	0.008003
Manganese (Mn), mg/l		0.22	0.32	6.56	0.27	2.69	2.45	0.05	0.55	0.5	0.5	0.16	0.66	6.56	0.05	1.244166	1.807085
Mercury (Hg), mg/l	0.002	<0.0002	<0.0002	<0.0002	0.012	<.0002	0.0002	0.0006	0.0004	0.0004	<0.0002	0.0003	<.0002	0.012	0	0.001158	0.003275
Molybdenum (Mo), mg/l				<0.05	<0.05	<.05	<.05	<0.005	0.033	0.039	<0.05	<0.05	<.05	0.039	0	0.0072	0.014462
Nickel (Ni), mg/l		0.033	0.073	0.025	<0.005	<.005	<.005	<0.005	<.005	<.005	<0.005	0.008	0.041	0.073	0	0.015	0.022524
Selenium (Se), mg/l			0.01	0.007	<0.002	<.002	0.007	<0.002	0.008	0.008	0.002	<0.002	0.002	0.01	0	0.004	0.003789
Silicon (Si), mg/l													20.1	20.1	20.1	20.1	
Silver (Ag), mg/l		0.0008	0.0035	0.001	<0.0005	0.0022	0.0029	0.0005	0.0021	0.0027	0.0014	0.0005	0.0008	0.0035	0	0.001533	0.001069
Strontium (Sr), mg/l																	
Vanadium (V), mg/l				0.054	<0.005	0.027	0.262	0.022	<.005	<.005	0.127	0.025	0.005	0.262	0	0.0422	0.075062
Zinc (Zn), mg/l		0.12	0.04	0.22	0.04	0.09	0.14	0.09	0.13	0.19	0.1	0.02	0.11	0.22	0.02	0.1075	0.056734
NUTRIENTS																	
Nitrogen, Ammonia, mg/l			<0.03	<0.03	<0.03	0.03	<.03	<0.03	<.03	<.03	0.05	<0.03	<.03	0.05	0	0.007272	0.016006
Nitrogen, Nitrate, mg/l	10	0.11	0.14	<0.10	0.13	0.22	0.35	<0.10	<.10	0.1	<0.10	<0.10	<.10	0.35	0	0.0875	0.107092
Nitrogen, Nitrite, mg/l	1		<0.01	<0.01	<0.01	<.01	<.01	<0.01	<.01	<.01	<0.01	<0.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l			0.12	0.056	0.18	0.27	1.04	0.32	0.05	0.09	0.21	0.22	0.34	1.04	0.05	0.263272	0.263386
Phosphorus, Total, mg/l			0.35	3.25	0.64	1.41	0.65	0.03	0.14	0.121	0.089	<0.010	0.062	3.25	0	0.612909	0.925392

PARAMETER	STANDARD	GW-4	GW-4	GW-4	MAX	MIN	MEAN	STDV
Date		05-04-88	06-02-88	08-31-88				
METALS (DISS.)								
Antimony (Sb), mg/l		0.015	0.008	<.005	0.015	0	0.007666	0.006128
Aluminum (Al), mg/l		<0.10	<0.10	<.10	0	0	0	0
Arsenic (As), mg/l	0.05	<0.005	<0.005	0.02	0.02	0	0.006666	0.009428
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0016	0.0009	0.0023	0.0023	0.0009	0.0016	0.000571
Chromium (Cr), mg/l	0.05	0.007	0.009	0.007	0.009	0.007	0.007666	0.000942
Cobalt (Co), mg/l		<0.005	<0.005	<.005	0	0	0	0
Copper (Cu), mg/l	1.3	0.03	0.022	0.03	0.03	0.022	0.027333	0.003771
Gold (Au), mg/l								
Iron (Fe), mg/l		<0.05	<0.05	<.05	0	0	0	0
Lead (Pb), mg/l	0.02	<0.005	<0.005	<.005	0	0	0	0
Lithium (Li), mg/l		<0.005	<0.005	0.006	0.006	0	0.002	0.002828
Manganese (Mn), mg/l		0.28	0.15	0.06	0.28	0.06	0.163333	0.090308
Mercury (Hg), mg/l		<0.0002	0.0003	<.0002	0.0003	0	0.0001	0.000141
Molybdenum (Mo), mg/l		<0.05	<0.05	<.05	0	0	0	0
Nickel (Ni), mg/l		<0.005	0.006	<.005	0.006	0	0.002	0.002828
Selenium (Se), mg/l	0.01	0.002	<0.002	0.002	0.002	0	0.001333	0.000942
Silicon (Si), mg/l				10.7	10.7	10.7	10.7	
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.028	0.011	<.005	0.028	0	0.013	0.011518
Zinc (Zn), mg/l		0.02	0.03	0.074	0.074	0.02	0.041333	0.023456

PARAMETER	STANDARD	GW-5	GW-5	GW-5	GW-5	GW-5	GW-5	GW-5	GW-5	GW-5	GW-5	MAX	MIN	MEAN	STDV
Date		10-09-85	06-22-87	08-28-87	11-12-87	12-16-87	01-28-88	02-22-88	05-04-88	06-02-88	08-31-88				
MINERALS															
Alkalinity (CaCO3),mg/l		20	16	38	50	66	48	38	54	62	26	66	16	41.8	16.33278
Bicarbonate (HCO3),mg/l		24	20	46	61	81	59	46	66	76	32	81	20	51.1	20.03721
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	3.5	5	<1	6	1	2	2	4	2	2	6	0	2.75	1.75
Fluoride (F), mg/l											0.21	0.21	0.21	0.21	
Sulfate (SO4),mg/l	500	41	21	39	48	54	66	59	75	86	56	86	21	54.5	17.76091
Calcium (Ca),mg/l		18	10	14	25	31	26	23	29	33	18	33	10	22.7	7.156116
Magnesium (Mg), mg/l		3	3	4	7	7	7	6	7	8	4	8	3	5.6	1.8
Potassium (K), mg/l		1	2	2	3	3	2	1	2	2	5	5	1	2.3	1.1
Sodium (Na), mg/l		4	3	4	6	5	4	4	5	6	7	7	3	4.8	1.166190
Major Anion, MEQ/L		1.35	0.9	1.57	2.17	2.48	2.4	2.05	2.75	3.13	1.76	3.13	0.9	2.056	0.640690
Major Cations, MEQ/L		1.35	0.93	1.57	2.17	2.43	2.3	2.16	2.6	3.43	1.66	3.43	0.93	2.06	0.675736
Cation - Anion Balance, %		0	1.64	0	0	1.02	2.13	2.61	2.8	4.57	2.92	4.57	0	1.769	1.450403
MISCELLANEOUS												0	0	0	0
pH, Units	6.5-8.5	5.65	6.08	5.9	5.68	6.24	5.71	6.89	7.22	6.24	7.36	7.36	5.65	6.297	0.607339
Conductivity, umhos/cm		149	104	125	215	245	230	190	250	275	192	275	104	197.5	53.68286
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01	<0.01				0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<0.01	<0.010	<.010	<.010	<0.01	<0.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		58	37	71	91	106	94	82	102	116	61	116	37	81.8	23.49382
Solids, Dissolved, mg/l	1000		68	152	100	162	218	122	162	150	104	218	68	137.5555	41.69495
Solids, Suspended, mg/l		10	256	57	378	164	9	12	10	23	26	378	9	94.5	122.8383
Turbidity, NTU		15	1090	175	1360	335	36	54	47	147	47	1360	15	330.6	460.2228
METALS (TOTAL)												0	0	0	0
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	<.005	<0.005	0.005	0.006	<0.005	<.005	0.006	0	0.0011	0.002211
Aluminum (Al), mg/l		3.91	0.78	2.27	28.6	0.89	0.44	1.01	0.12	<0.10	0.71	28.6	0	3.873	8.315842
Arsenic (As), mg/l		0.0138	<0.005	0.007	0.78	<.005	0.009	0.019	0.005	<0.005	<.005	0.78	0	0.08338	0.232289
Barium (Ba), mg/l											0.1	0.1	0.1	0.1	0.000000
Beryllium (Be), mg/l			<0.0005	<0.0005	0.0008	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0011	0	0.000277	0.000410
Boron (B), mg/l			<0.25	<0.20	<.2	<.20	<0.20	<0.20	<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0009	0.0005	0.0012	0.0009	0.0018	0.0009	0.0006	0.0013	0.0013	0.0009	0.0018	0.0005	0.00103	0.000360
Chromium (Cr), mg/l		0.29	0.033	0.032	0.04	0.034	0.065	0.06	0.045	0.014	<.005	0.29	0	0.0613	0.078382
Cobalt (Co), mg/l			<0.005	<0.005	<.005	0.012	0.005	<0.005	<0.005	<0.005	0.005	0.012	0	0.002444	0.003947
Copper (Cu), mg/l		0.03	0.008	0.024	0.09	0.015	0.012	0.022	0.027	<0.005	0.007	0.09	0	0.0235	0.023976
Iron (Fe), mg/l		13.8	36.4	5.68	121.2	22.2	2.67	5.71	5.45	14.5	1.51	121.2	1.51	22.912	34.29622
Lead (Pb), mg/l		0.015	0.013	0.007	0.23	0.152	<0.005	<0.005	<0.005	<0.005	0.007	0.23	0	0.0424	0.076497
Lithium (Li), mg/l			0.006	0.006	0.01	0.019	0.008	<0.005	<0.005	<0.005	0.009	0.019	0	0.006444	0.005813
Manganese (Mn), mg/l		0.08	0.25	0.08	0.47	1.12	0.03	0.12	0.12	0.16	0.75	1.12	0.03	0.318	0.340170
Mercury (Hg), mg/l	0.002	<0.0002	<0.0002	<0.0002	<.0002	0.0003	0.0004	0.0004	0.0004	0.0003	<.0002	0.0004	0	0.00018	0.000183
Molybdenum (Mo), mg/l			<0.05	<0.05	<.05	<.05	0.005	<0.005	<0.05	<0.05	<.05	0.005	0	0.000555	0.001571
Nickel (Ni), mg/l		0.092	0.029	0.018	0.021	<.005	0.005	<0.005	0.041	0.019	0.035	0.092	0	0.026	0.025694
Selenium (Se), mg/l		0.005	0.005	<0.002	<.002	0.002	<0.002	0.003	0.002	<0.002	0.002	0.005	0	0.0019	0.001868
Silicon (Si), mg/l											16.8	16.8	16.8	16.8	
Silver (Ag), mg/l		0.0105	0.0035	<0.0005	0.0098	0.001	<0.0005	0.001	<0.0005	<0.0005	<.0005	0.0105	0	0.00258	0.003923
Strontium (Sr), mg/l															
Vanadium (V), mg/l			0.03	<0.005	0.063	0.155	0.01	<0.005	0.018	0.025	0.006	0.155	0	0.034111	0.046555
Zinc (Zn), mg/l		0.1	0.01	0.05	0.2	0.08	0.08	0.04	0.16	0.07	0.07	0.2	0.01	0.086	0.053329
NUTRIENTS															
Nitrogen, Ammonia, mg/l		<0.03	0.04	<0.03	0.06	<.03	<0.03	0.03	<0.03	0.06	0.11	0.11	0	0.03	0.035777
Nitrogen, Nitrate, mg/l	10	0.19	0.68	0.13	0.8	1.65	<0.10	0.13	0.52	0.55	<.10	1.65	0	0.465	0.480151
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.01	<0.01	<0.01	0.02	0.06	<.01	0.06	0	0.008	0.018330
Nitrogen, Total Kjeldahl, mg/l		0.19	<0.030	0.21	0.53	0.42	0.77	0.03	0.3	0.34	0.37	0.77	0	0.316	0.218
Phosphorus, Total, mg/l		0.015	0.021	0.093	0.605	0.115	0.042	0.033	0.015	0.019	0.05	0.605	0.015	0.1008	0.171142

PARAMETER	STANDARD	GW-5	GW-5	GW-5	MAX	MIN	MEAN	STDV
Date		05-04-88	06-02-88	08-31-88				
METALS (DISS.)								
Antimony (Sb), mg/l		0.006	<0.005	<.005	0.006	0	0.002	0.002828
Aluminum (Al), mg/l		<0.10	<0.10	0.11	0.11	0	0.036666	0.051854
Arsenic (As), mg/l	0.05	<0.005	<0.005	<.005	0	0	0	0
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0007	0.0006	<.0005	0.0007	0	0.000433	0.000309
Chromium (Cr), mg/l	0.05	0.006	0.014	<.005	0.014	0	0.006666	0.005734
Cobalt (Co), mg/l		<0.005	<0.005	<.005	0	0	0	0
Copper (Cu), mg/l	1.3	0.01	<0.005	<.005	0.01	0	0.003333	0.004714
Iron (Fe), mg/l		5.4	5.1	<.05	5.4	0	3.5	2.477902
Lead (Pb), mg/l	0.02	<0.005	<0.005	<.005	0	0	0	0
Lithium (Li), mg/l		<0.005	<0.005	<.005	0	0	0	0
Manganese (Mn), mg/l		0.12	0.15	0.16	0.16	0.12	0.143333	0.016996
Mercury (Hg), mg/l		0.0003	0.0002	0.0002	0.0003	0.0002	0.000233	0.000047
Molybdenum (Mo), mg/l		<0.05	<0.05	<.05	0	0	0	0
Nickel (Ni), mg/l		0.008	<0.005	0.015	0.015	0	0.007666	0.006128
Selenium (Se), mg/l	0.01	<0.002	<0.002	0.002	0.002	0	0.000666	0.000942
Silicon (Si), mg/l				16.8	16.8	16.8	16.8	
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.019	0.019	<.005	0.019	0	0.012666	0.008956
Zinc (Zn), mg/l		0.07	0.06	0.03	0.07	0.03	0.053333	0.016996

PARAMETER	STANDARD	GW-6	GW-6	GW-6	GW-6	GW-6	GW-6	GW-6 DUP	GW-6	GW-6	GW-6	GW-6	GW-6	MAX	MIN	MEAN	STDV
Date		07-02-85	10-09-85	06-22-87	08-28-87	11-12-87	12-14-87	01-28-88	01-28-88	02-19-88	05-03-88	06-03-88	08-31-88				
MINERALS																	
Alkalinity (CaCO3),mg/l		147	21	20	67	110	89	99	94	105	78	66	48	147	20	78.66666	35.47847
Bicarbonate (HCO3),mg/l		0	26	24	82	134	109	121	115	128	95	81	59	134	0	81.16666	42.88906
Carbonate (CO3),mg/l		54	0	0	0	0	0	0	0	0	0	0	0	54	0	4.5	14.92481
Chloride (Cl),mg/l	250	4	4.5	7	2	4	1	2	1	1	2	<1	<1	7	0	2.375	2.011684
Fluoride (F), mg/l													2.23	2.23	2.23	2.23	0.000000
Sulfate (SO4),mg/l	500	50	47	62	45	73	55	47	56	60	52	57	57	73	45	55.08333	7.466127
Calcium (Ca),mg/l		74	20	21	28	53	30	44	45	45	33	30	26	74	20	37.41666	14.89103
Magnesium (Mg), mg/l		0.6	0.3	3	6	12	6	7	7	10	7	7	6	12	0.3	5.991666	3.248707
Potassium (K), mg/l			7	6	4	5	5	4	4	2	3	4	3	7	2	4.272727	1.354514
Sodium (Na), mg/l		92	7	7	7	7	7	9	9	9	8	8	6	92	6	14.66666	23.33571
Major Anion, MEQ/L		4.09	1.49	1.89	2.34	3.83	2.96	3.02	3.08	3.38	2.7	2.51	2.27	4.09	1.49	2.796666	0.727121
Major Cations, MEQ/L		4.07	1.48	1.75	2.29	4.06	2.68	3.27	3.32	3.51	2.66	2.53	2.13	4.07	1.48	2.8125	0.809054
Cation - Anion Balance, %		0.22	0.34	3.85	1.08	2.92	4.96	3.97	3.75	1.89	0.75	0.4	3.18	4.96	0.22	2.275833	1.616536
MISCELLANEOUS																	
pH, Units	6.5-8.5	11.03	9.26	7.21	6.45	6.8	6.77	6.76	6.75	7.21	7.52	6.78	7.37	11.03	6.45	7.4925	1.274664
Conductivity, umhos/cm		480	171	182	240	350	275	340	340	325	280	260	235	480	171	289.8333	80.88039
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01	<0.01				0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01	<0.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		188	51	165	25	182	100	139	142	154	112	104	90	188	25	121	48.20788
Solids, Dissolved, mg/l	1000	345		88	270	212	164	236	233	194	188	202	152	345	88	207.6363	63.34648
Solids, Suspended, mg/l			40	33	88	331	65	<1	3	7	1	10	10	331	0	53.45454	91.97169
Turbidity, NTU			70	97	250	1680	164	16	20	32	2	39	20	1680	2	217.2727	468.1130
METALS (TOTAL)																	
Antimony (Sb), mg/l		0.007	<0.005	<0.005	<0.005	0.018	0.044	<0.005	<0.005	0.011	<0.005	<.005	<.005	0.044	0	0.006666	0.012572
Aluminum (Al), mg/l		0.6	<.10	0.39	0.78	3.66	1.42	0.16	0.16	0.26	<0.10	0.29	0.45	3.66	0	0.680833	0.973631
Arsenic (As), mg/l		<0.005	<0.005	0.005	<0.005	0.914	<.005	0.018	0.009	<0.005	<0.005	0.009	0.005	0.914	0	0.38	0.251517
Barium (Ba), mg/l													<.10	0	0	0	0
Beryllium (Be), mg/l				<0.0005	<0.0005	0.0017	<.0005	0.0009	<0.0005	<0.0005	<0.0005	<.0005	<.0005	0.0017	0	0.00026	0.000549
Boron (B), mg/l				<0.25	<0.20	<.20	<.20	<0.20	<0.20	<0.20	<0.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		<0.0005	0.0007	0.0005	0.0017	0.0088	0.0015	<0.0005	0.0005	<0.0005	0.0021	0.0073	0.0026	0.0088	0	0.002141	0.002783
Chromium (Cr), mg/l		0.055	0.2	0.029	0.036	0.04	0.037	0.044	0.044	0.05	0.04	0.04	0.008	0.2	0.008	0.051916	0.046027
Cobalt (Co), mg/l				<0.005	0.015	0.026	0.011	0.005	0.005	<0.005	<0.005	<.005	<.005	0.026	0	0.0052	0.008292
Copper (Cu), mg/l		0.02	0.02	0.012	0.036	0.065	0.028	0.03	0.04	0.008	0.012	0.016	<.005	0.065	0	0.023916	0.016705
Iron (Fe), mg/l		2.4	11.8	20.9	29	83.6	53.6	0.05	0.03	0.8	0.25	0.71	0.87	83.6	0.03	17.00083	25.52508
Lead (Pb), mg/l		0.008	0.009	0.008	0.015	0.54	0.015	<0.005	<0.005	0.016	<0.005	0.006	<.005	0.54	0	0.051416	0.147429
Lithium (Li), mg/l				0.024	0.011	0.011	0.012	0.015	0.015	<0.005	0.009	0.015	0.008	0.024	0	0.012	0.005848
Manganese (Mn), mg/l		0.07	0.23	0.56	1.45	2.87	0.44	0.66	0.66	0.74	0.44	0.32	0.63	2.87	0.07	0.755833	0.716513
Mercury (Hg), mg/l	0.002	0.0005	<0.0002	<0.0002	<0.0002	<.0002	0.0003	0.0003	0.0003	0.0005	0.0008	0.0003	0.0006	0.0008	0	0.0003	0.000254
Molybdenum (Mo), mg/l				0.24	0.108	0.129	0.053	0.012	0.005	0.045	<0.05	<.050	<.05	0.24	0	0.0592	0.074740
Nickel (Ni), mg/l		0.02	0.057	0.01	0.172	0.026	0.11	<0.005	<0.005	0.029	0.01	0.073	0.011	0.172	0	0.043166	0.050116
Selenium (Se), mg/l			<0.002	0.01	<0.002	<.002	0.003	0.004	0.003	0.002	0.003	<.002	<.002	0.01	0	0.002272	0.002863
Silicon (Si), mg/l													22.5	22.5	22.5	22.5	0
Silver (Ag), mg/l		0.0015	0.0068	0.001	0.0129	0.0032	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<.0005	<.0005	0.0129	0	0.002158	0.003769
Strontium (Sr), mg/l																	
Vanadium (V), mg/l				0.037	<0.005	0.077	0.08	<0.005	0.012	<0.005	0.018	<.005	<.005	0.08	0	0.022	0.030246
Zinc (Zn), mg/l		0.11	0.04	0.01	0.06	0.26	0.1	0.03	0.03	0.01	0.07	0.09	0.055	0.26	0.01	0.072083	0.064918
NUTRIENTS																	
Nitrogen, Ammonia, mg/l			0.06	0.04	<0.03	<.03	<.03	<0.03	<0.03	<0.03	<0.03	0.08	<.03	0.08	0	0.016363	0.028049
Nitrogen, Nitrate, mg/l	10	0.21	0.14	<0.10	0.15	0.91	0.19	<0.10	<0.10	<0.10	<0.10	0.16	0.1	0.91	0	0.155	0.241125
Nitrogen, Nitrite, mg/l	1		<0.01	<0.01	0.06	<.01	<.01	<0.01	<0.01	<0.01	<0.01	<.01	<.01	0.06	0	0.005454	0.017248
Nitrogen, Total Kjeldahl, mg/l			0.24	0.067	0.13	0.47	0.26	0.44	0.5	<0.03	0.17	0.27	0.18	0.5	0	0.247909	0.156449
Phosphorus, Total, mg/l			0.02	0.013	0.06	0.519	0.195	0.032	0.027	0.036	<0.010	0.026	0.028	0.519	0	0.086909	0.145533

PARAMETER	STANDARD	GW-6	GW-6	GW-6	MAX	MIN	MEAN	STDV
Date		05-03-88	06-03-88	08-31-88				
METALS (DISS.)								
Antimony (Sb), mg/l		<0.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l		<0.10	<.10	0.15	0.15	0	0.05	0.070710
Arsenic (As), mg/l	0.05	<0.005	<.005	0.005	0.005	0	0.001666	0.002357
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0021	0.003	0.0026	0.003	0.0021	0.002566	0.000368
Chromium (Cr), mg/l	0.05	0.006	0.005	0.008	0.008	0.005	0.006333	0.001247
Cobalt (Co), mg/l		<0.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	1.3	<0.005	0.018	<.005	0.018	0	0.006	0.008485
Iron (Fe), mg/l		0.05	<.05	<.05	0.05	0	0.016666	0.023570
Lead (Pb), mg/l	0.02	<0.005	<.005	<.005	0	0	0	0
Lithium (Li), mg/l		0.01	0.014	0.008	0.014	0.008	0.010666	0.002494
Manganese (Mn), mg/l		0.45	0.32	0.43	0.45	0.32	0.4	0.057154
Mercury (Hg), mg/l		0.0008	0.0002	0.0006	0.0008	0.0002	0.000533	0.000249
Molybdenum (Mo), mg/l		<0.05	<.050	<.05	0	0	0	0
Nickel (Ni), mg/l		0.01	0.068	<.005	0.068	0	0.026	0.029977
Selenium (Se), mg/l	0.01	0.002	<.002	<.002	0.002	0	0.000666	0.000942
Silicon (Si), mg/l				19	19	19	19	0
Silver (Ag), mg/l	0.05	<0.0005	<.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.019	<.005	<.005	0.019	0	0.006333	0.008956
Zinc (Zn), mg/l		0.06	0.02	0.015	0.06	0.015	0.031666	0.020138

PARAMETER	STANDARD	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	GW-7	MAX	MIN	MEAN	STDV
Date		07-02-85	10-09-85	06-22-87	08-28-87	11-12-87	12-16-87	01-28-88	02-19-88	05-03-88	06-03-88	08-31-88				
MINERALS																
Alkalinity (CaCO3),mg/l		0	0	0	<1	<1	<1	<1	<1	<1	<1	<1	0	0	0	0
Bicarbonate (HCO3),mg/l		0	0	0	<1	0	0	<1	0	<1	<1	<1	0	0	0	0
Carbonate (CO3),mg/l		0	0	0	<1	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	4.5	7.5	5	3	6	5	4	4	1	16	1	16	1	5.181818	3.886297
Fluoride (F), mg/l												0.78	0.78	0.78	0.78	0.000000
Sulfate (SO4),mg/l	500	545	1020	350	678	785	690	670	829	125	365	726	1020	125	616.6363	241.4645
Calcium (Ca),mg/l		18	109	47	90	94	109	110	158	32	57	47	158	18	79.18181	40.23751
Magnesium (Mg), mg/l		19	32	10	24	26	27	27	33	7	21	12	33	7	21.63636	8.358694
Potassium (K), mg/l			5	2	4	3	5	3	1	2	3	2	5	1	3	1.264911
Sodium (Na), mg/l		12	13	7	10	14	12	12	17	5	8	10	17	5	10.90909	3.232070
Major Anion, MEQ/L		11.48	21.46	6.79	14.22	16.42	14.52	14.07	16.98	2.63	8.05	15.2	21.46	2.63	12.89272	5.060357
Major Cations, MEQ/L		2.97	23.66	5.67	13.02	15.69	15.43	13.46	17.38	2.45	7.46	15.32	23.66	2.45	12.04636	6.309269
Cation - Anion Balance, %		57.59	4.88	8.99	4.41	2.27	3.04	2.22	1.16	3.54	3.8	0.39	57.59	0.39	8.39	15.70804
MISCELLANEOUS																
pH, Units	6.5-8.5	2.85	2.36	3.2	3.19	3.14	3.48	3.23	3.35	3.78	3.07	2.75	3.78	2.36	3.127272	0.360708
Conductivity, umhos/cm		1280	1780	801	1347	1350	1300	1300	1440	400	775	1253	1780	400	1184.181	362.3649
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010	<.01	<0.01				0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<0.01	<0.010	<0.010	<.010	<.010	<.01	<0.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010	<.01	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		124	405	159	324	342	384	386	531	109	230	167	531	109	287.3636	131.2002
Solids, Dissolved, mg/l	1000	890		526	1108	1246	1118	1282	1276	296	562	982	1282	296	928.6	333.9737
Solids, Suspended, mg/l			15	13	2	112	57	<1	2	<1	6	5	112	0	21.2	34.29518
Turbidity, NTU			25	22	8	109	80	12	12	2	26	8	109	2	30.4	33.53267
METALS (TOTAL)																
Antimony (Sb), mg/l		<0.005	0.07	<0.005	<0.005	<.005	0.7	<.005	0.13	0.005	0.008	<.005	0.7	0	0.083	0.199113
Aluminum (Al), mg/l		42.5	76	23.9	45.1	60	58.3	37.2	47.6	3.65	19.2	36.3	76	3.65	40.88636	19.41641
Arsenic (As), mg/l		0.01	0.0091	0.019	<0.005	0.31	0.03	0.022	0.222	<0.005	0.02	0.032	0.31	0	0.061281	0.098822
Barium (Ba), mg/l												<.10	0	0	0	0
Beryllium (Be), mg/l				0.014	0.22	0.0085	0.011	0.0068	0.0076	0.0019	<.0005	0.0085	0.22	0	0.030922	0.066968
Boron (B), mg/l				<0.25	<0.20	<.2	<.20	<.20	<0.20	<0.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.03	0.041	0.0053	0.03	0.0124	0.0165	0.0005	0.0219	0.0062	0.015	0.023	0.041	0.0005	0.018345	0.011698
Chromium (Cr), mg/l		0.225	0.29	0.017	0.047	0.057	0.055	0.206	0.16	0.032	0.029	0.042	0.29	0.017	0.105454	0.091866
Cobalt (Co), mg/l				0.084	0.199	0.04	0.19	0.105	0.052	0.026	0.093	0.1	0.199	0.026	0.098777	0.057346
Copper (Cu), mg/l		4.55	4.99	1.97	3.71	4.24	6.67	8.9	3.78	0.35	1.51	3	8.9	0.35	3.97	2.281251
Gold (Au), mg/l			0.009										0.009	0.009	0.009	4.9E-11
Iron (Fe), mg/l		19.5	12	5.78	9.93	27	11.5	7.44	5.99	0.49	2.9	7.6	27	0.49	10.01181	7.214603
Lead (Pb), mg/l		0.075	0.043	0.01	0.015	0.046	0.024	0.014	0.024	<0.005	0.008	0.015	0.075	0	0.024909	0.020729
Lithium (Li), mg/l				0.019	0.05	0.05	0.038	0.042	<0.005	0.014	0.015	0.029	0.05	0	0.028555	0.016640
Manganese (Mn), mg/l		4.8	6.49	2.12	3.78	4.12	4.21	3.78	9.13	0.89	2.4	4.7	9.13	0.89	4.22	2.111363
Mercury (Hg), mg/l	0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.0046	0.0008	0.0007	0.0003	0.0005	0.0002	0.0005	0.0046	0	0.000690	0.001267
Molybdenum (Mo), mg/l				<0.05	<0.05	<.05	<.05	0.039	0.039	<0.05	<.050	<.05	0.039	0	0.008666	0.016213
Nickel (Ni), mg/l		0.062	1.25	0.84	0.083	0.098	0.42	0.201	0.201	0.031	0.07	0.13	1.25	0.031	0.307818	0.372476
Selenium (Se), mg/l			0.01	0.007	<0.002	<.002	<.002	0.004	0.004	<0.002	<.002	<.002	0.01	0	0.0025	0.003442
Silicon (Si), mg/l												80.5	80.5	80.5	80.5	0
Silver (Ag), mg/l		0.0023	0.0118	0.0017	0.0015	0.0047	0.0016	0.0017	0.0018	<0.0005	<.0005	0.0005	0.0118	0	0.002509	0.003183
Strontium (Sr), mg/l																
Vanadium (V), mg/l				0.1	0.28	0.135	0.158	0.1	0.117	0.029	0.062	0.045	0.28	0.029	0.114	0.070729
Zinc (Zn), mg/l		2.8	3.14	1.1	2.25	2.59	2.61	2.37	2.41	0.84	1.51	1.28	3.14	0.84	2.082727	0.730579
NUTRIENTS																
Nitrogen, Ammonia, mg/l			0.63	0.36	0.37	0.4	0.39	0.68	0.25	<0.03	0.32	0.36	0.68	0	0.376	0.178504
Nitrogen, Nitrate, mg/l	10	0.91	0.27	0.6	0.61	0.77	0.87	0.51	0.67	0.31	0.32	0.46	0.91	0.27	0.572727	0.211878
Nitrogen, Nitrite, mg/l	1		<0.01	<0.01	0.05	<.01	<.01	<.01	<0.01	<0.01	<0.01	0.02	0.05	0	0.007	0.015524
Nitrogen, Total Kjeldahl, mg/l			1.1	0.25	0.43	0.79	1.07	1.52	0.26	0.29	0.56	0.56	1.52	0.25	0.683	0.406301
Phosphorus, Total, mg/l			0.049	0.02	0.058	0.442	0.06	0.024	0.02	0.02	0.01	<0.010	0.442	0	0.0703	0.125373

PARAMETER	STANDARD	GW-7	GW-7	GW-7	MAX	MIN	MEAN	STDV
Date		05-03-88	06-03-88	08-31-88				
METALS (DISS.)								
Antimony (Sb), mg/l		0.005	0.007	<.005	0.007	0	0.004	0.002943
Aluminum (Al), mg/l		3.19	19.6	33.7	33.7	3.19	18.83	12.46754
Arsenic (As), mg/l	0.05	<0.005	0.02	0.032	0.032	0	0.017333	0.013199
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l		0.0019	<.0005	0.0084	0.0084	0	0.003433	0.003596
Boron (B), mg/l		<0.20	<.20	0.2	0.2	0	0.066666	0.094280
Cadmium (Cd), mg/l	0.01	0.0051	0.015	0.015	0.015	0.0051	0.0117	0.004666
Chromium (Cr), mg/l	0.05	0.009	0.005	0.023	0.023	0.005	0.012333	0.007717
Cobalt (Co), mg/l		0.025	0.091	0.05	0.091	0.025	0.055333	0.027207
Copper (Cu), mg/l	1.3	0.35	1.51	2.91	2.91	0.35	1.59	1.046645
Gold (Au), mg/l								
Iron (Fe), mg/l		0.3	2.9	7.3	7.3	0.3	3.5	2.889059
Lead (Pb), mg/l	0.02	0.005	0.008	0.009	0.009	0.005	0.007333	0.001699
Lithium (Li), mg/l		0.015	0.013	0.026	0.026	0.013	0.018	0.005715
Manganese (Mn), mg/l		0.91	2.5	4.6	4.6	0.91	2.67	1.511224
Mercury (Hg), mg/l		0.0005	<.0002	0.0005	0.0005	0	0.000333	0.000235
Molybdenum (Mo), mg/l		<0.05	<.050	<.05	0	0	0	0
Nickel (Ni), mg/l		0.025	0.069	0.13	0.13	0.025	0.074666	0.043052
Selenium (Se), mg/l	0.01	<0.002	<.002	<.002	0	0	0	0
Silicon (Si), mg/l				48	48	48	48	0
Silver (Ag), mg/l	0.05	<0.0005	<.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.029	0.042	0.045	0.045	0.029	0.038666	0.006944
Zinc (Zn), mg/l		0.84	1.51	1.26	1.51	0.84	1.203333	0.276445

PARAMETER	STANDARD	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-20-89				
MINERALS													
Alkalinity (CaCO3),mg/l		104	98	86	106	88	81	65	56	106	56	85.5	16.71825
Bicarbonate (HCO3),mg/l		127	120	105	129	107	99	79	68	129	68	104.25	20.51066
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	1	2	2	<1	<1	<1	<1	<1	2	0	0.625	0.856956
Fluoride (F), mg/l					0.15		<0.10	<0.10	<.10	0.15	0	0.0375	0.064951
Sulfate (SO4),mg/l	500	100	98	105	107	102	117	109	99	117	98	104.625	5.935855
Calcium (Ca),mg/l		60	60	62	64	63	52	51	46	64	46	57.25	6.219927
Magnesium (Mg), mg/l		7	6	6	7	7	6	5	5	7	5	6.125	0.780624
Potassium (K), mg/l		10	6	4	4	3	3	2	2	10	2	4.25	2.487468
Sodium (Na), mg/l		9	6	6	5	5	6	6	6	9	5	6.125	1.165922
Major Anion, MEQ/L		4.19	4.06	3.97	4.36	3.89	4.06	3.57	3.18	4.36	3.18	3.91	0.349714
Major Cations, MEQ/L		4.22	3.89	3.97	4.09	4.02	3.81	3.26	3.02	4.22	3.02	3.785	0.394366
Cation - Anion Balance, %		0.36	2.14	0	3.2	1.64	3.18	4.54	2.58	4.54	0	2.205	1.419639
MISCELLANEOUS													
pH, Units	6.5-8.5	7.82	7.04	7.33	7.57	7.11	7.04	6.64	6.67	7.82	6.64	7.1525	0.383071
Conductivity, umhos/cm		400	375	375	403	380	320	325	310	403	310	361	34.66987
Cyanide, Total, mg/l						<0.010	<0.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75												
Cyanide, Free, mg/l													
Hardness (CaCO3), GPG:mg/l		179	175	180	189	187	155	148	136	189	136	168.625	18.39114
Solids, Dissolved, mg/l	1000	208	254	270	238	264	216	178	206	270	178	229.25	30.31398
Solids, Suspended, mg/l		70	23	1	195	35	167	14	16	195	1	65.125	69.90249
Turbidity, NTU		144	54	12	147	50	144	157	26	157	12	91.75	57.68611
METALS (TOTAL)													
Antimony (Sb), mg/l		<0.005	0.005	<0.005	<.005	0.005	0.015	<.005	<.005	0.015	0	0.003125	0.004960
Aluminum (Al), mg/l		0.34	0.93	<0.10	1.59	0.36	2.55	0.34	0.42	2.55	0	0.81625	0.798638
Arsenic (As), mg/l		0.007	<0.005	0.007	<.005	0.008	0.031	<.005	0.006	0.031	0	0.007375	0.009512
Barium (Ba), mg/l					0.2	<.10	<.1	<.10		0.2	0	0.05	0.086602
Beryllium (Be), mg/l		<0.0005	<0.0005	<0.0005	0.0009	<.0005	0.0007	<.0005	<.0005	0.0009	0	0.0002	0.00035
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0008	0.0006	0.0007	<.0005	<.0005	0.0011	<.0005	<.0005	0.0011	0	0.0004	0.000421
Chromium (Cr), mg/l		0.037	0.04	0.034	0.01	0.006	0.039	0.016	0.017	0.04	0.006	0.024875	0.013119
Cobalt (Co), mg/l		0.008	0.016	0.008	0.006	<.005	0.006	<.005	<.005	0.016	0	0.0055	0.005172
Copper (Cu), mg/l		0.005	<0.005	<0.005	0.013	0.025	0.013	0.031	0.035	0.035	0	0.01525	0.012813
Iron (Fe), mg/l		0.75	1.4	0.56	1.78	1.66	3.76	0.67	1.68	3.76	0.56	1.5325	0.960504
Lead (Pb), mg/l		0.016	0.016	<0.005	0.19	0.046	0.091	0.009		0.19	0	0.052571	0.062955
Lithium (Li), mg/l		0.015	0.01	0.011	0.011	0.007	0.008	<.005	<.005	0.015	0	0.00775	0.004993
Manganese (Mn), mg/l		0.26	0.15	0.07	0.76	0.29	0.51	0.06	0.06	0.76	0.06	0.27	0.234733
Mercury (Hg), mg/l	0.002	0.0004	0.0004	0.0003	<.0002	0.0005	0.0002	<.0002	0.0003	0.0005	0	0.000262	0.000172
Molybdenum (Mo), mg/l		<0.05	<0.05	<.005	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.006	0.005	0.008	0.006	0.028	0.028	0.008	0.007	0.028	0.005	0.012	0.009287
Selenium (Se), mg/l		<0.002	<0.002	<0.002	0.002	0.002	<.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l					33.6					33.6	33.6	33.6	
Silver (Ag), mg/l		0.0005	0.0007	0.0006	0.0006	0.0006	0.0005	<.0005	0.0077	0.0077	0	0.0014	0.002389
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.042	0.018	0.039	0.01	<.005	<.005	<.005	<.005	0.042	0	0.013625	0.016672
Zinc (Zn), mg/l		0.038	0.07	0.038	0.04	0.06	0.11	0.02	0.03	0.11	0.02	0.05075	0.026887
NUTRIENTS													
Nitrogen, Ammonia, mg/l		<0.03	<0.03	<0.03	0.04	0.04	<.03	<.03	<.03	0.04	0	0.01	0.017320
Nitrogen, Nitrate, mg/l	10	<0.10	<0.10	<0.10	0.14	0.11	0.25	0.11	0.12	0.25	0	0.09125	0.082224
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.010	<.01	<.010	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.18	0.16	0.14	0.14	0.15	0.12	0.11	0.11	0.18	0.11	0.13875	0.023150
Phosphorus, Total, mg/l		0.05	0.055	0.017	0.032	0.02	0.029	0.024	0.039	0.055	0.017	0.03325	0.012901

PARAMETER	STANDARD	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	GW-9	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-20-89				
METALS (DISS.)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	0.005	0.017	<.005	<.005	0.017	0	0.00275	0.005629
Aluminum (Al), mg/l		0.13	<0.10	<0.10	<.10	<.10	0.13	<.10	<.10	0.13	0	0.0325	0.056291
Arsenic (As), mg/l	0.05	0.006	<0.005	0.006	<.005	0.008	<.005	<.005	<.005	0.008	0	0.0025	0.003278
Barium (Ba), mg/l					0.1	<.10	<.1	<.10	<.10	0.1	0	0.02	0.04
Beryllium (Be), mg/l		<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0008	0.0005	<0.0005	<.0005	<.0005	0.0008	<.0005	<.0005	0.0008	0	0.000262	0.000349
Chromium (Cr), mg/l	0.05	<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l		0.006	0.008	0.005	<.005	<.005	<.005	<.005	<.005	0.008	0	0.002375	0.003159
Copper (Cu), mg/l	1.3	0.005	<0.005	<0.005	<.005	0.018	0.014	0.031	0.028	0.031	0	0.012	0.011926
Iron (Fe), mg/l		<0.05	<0.05	<0.05	<.05	0.06	0.08	<.05	<.05	0.08	0	0.0175	0.030720
Lead (Pb), mg/l	0.02	<0.005	<0.005	<0.005	<.005	<.005	<.005	0.007		0.007	0	0.001	0.002449
Lithium (Li), mg/l		0.015	0.009	0.011	0.008	0.007	0.006	<.005	0.005	0.015	0	0.007625	0.004121
Manganese (Mn), mg/l		0.15	0.09	0.07	0.31	0.23	0.15	0.06	<.03	0.31	0	0.1325	0.093641
Mercury (Hg), mg/l		0.0003	0.0006	0.0003	<.0002	0.0004	0.0004	<.0002	0.0003	0.0006	0	0.000287	0.000189
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	0.006	<0.005	0.006	0.012	<.005	<.005	<.005	0.012	0	0.003	0.004242
Selenium (Se), mg/l	0.01	0.002	<0.002	<0.002	0.002	<.002	0.002	<.002	<.002	0.002	0	0.00075	0.000968
Silicon (Si), mg/l					10.8					10.8	10.8	10.8	
Silver (Ag), mg/l	0.05	0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	0.0026	0.0026	0	0.000387	0.000852
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.037	0.011	0.034	0.006	<.005	<.005	<.005	<.005	0.037	0	0.011	0.014637
Zinc (Zn), mg/l		<0.005	0.015	0.005	0.016	0.02	0.02	0.005	0.01	0.02	0	0.011375	0.007034

PARAMETER	STANDARD	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-30-88	12-21-88				
MINERALS													
Alkalinity (CaCO3),mg/l		110	110	106	126	112	128	143	126	143	106	120.125	11.85788
Bicarbonate (HCO3),mg/l		134	134	129	154	137	156	174	154	174	129	146.5	14.43952
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	2	1	1	2	<1	<1	<1	<1	2	0	0.75	0.829156
Fluoride (F), mg/l					0.48		0.44	0.39		0.48	0.39	0.436666	0.036817
Sulfate (SO4),mg/l	500	87	49	41	65	49	61	65	59	87	41	59.5	13.14343
Calcium (Ca),mg/l		41	38	36	47	46	51	53	51	53	36	45.375	5.977823
Magnesium (Mg), mg/l		9	8	7	9	8	9	10	10	10	7	8.75	0.968245
Potassium (K), mg/l		10	6	4	5	3	3	3	2	10	2	4.5	2.397915
Sodium (Na), mg/l		9	8	8	9	10	9	9	10	10	8	9	0.707106
Major Anion, MEQ/L		4.07	3.25	3	3.96	3.26	3.85	4.23	3.75	4.23	3	3.67125	0.416816
Major Cations, MEQ/L		3.81	3.06	2.83	3.61	3.47	3.75	3.93	3.84	3.93	2.83	3.5375	0.371374
Cation - Anion Balance, %		3.3	3.01	2.92	4.62	3.12	1.32	3.68	1.19	4.62	1.19	2.895	1.072846
MISCELLANEOUS													
pH, Units	6.5-8.5	6.75	7.66	7.95	7.89	7.27	7.74	7.41	7.24	7.95	6.75	7.48875	0.375480
Conductivity, umhos/cm		310	300	290	345	335	350	355	375	375	290	332.5	27.72634
Cyanide, Total, mg/l						<.010	<0.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75								<.010	0	0	0	0
Cyanide, Free, mg/l													
Hardness (CaCO3), GPG:mg/l		140	128	119	155	148	165	174	169	174	119	149.75	18.49155
Solids, Dissolved, mg/l	1000	194	178	190	208	234	214	212	244	244	178	209.25	20.71080
Solids, Suspended, mg/l		146	9	<1	78	8	65	74	26	146	0	50.75	46.52620
Turbidity, NTU		320	39	2	96	18	140	193	51	320	2	107.375	100.4240
METALS (TOTAL)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	<.005	0.014	0.009	0.021	0.021	0	0.0055	0.007713
Aluminum (Al), mg/l		1.02	<0.10	<0.10	1.68	0.11	0.96	0.36	0.26	1.68	0	0.54875	0.568406
Arsenic (As), mg/l		0.009	<0.005	0.008	0.021	0.017	0.036	0.013	0.025	0.036	0	0.016125	0.010517
Barium (Ba), mg/l					<.10	<.10	<.1	<.10		0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.001	<0.0005	<0.0005	0.001	<.0005	0.0006	0.0005	<.0005	0.001	0	0.000387	0.000419
Chromium (Cr), mg/l		0.054	0.056	0.05	0.03	<.005	0.063	0.051	0.017	0.063	0	0.040125	0.020708
Cobalt (Co), mg/l		0.024	0.007	0.01	0.009	<.005	0.008	<.005	<.005	0.024	0	0.00725	0.007495
Copper (Cu), mg/l		0.008	<0.005	<0.005	0.065	0.03	0.03	0.029	0.024	0.065	0	0.02325	0.019942
Iron (Fe), mg/l		4.7	0.6	0.66	6.59	3	4.14	1.72	1.61	6.59	0.6	2.8775	1.992603
Lead (Pb), mg/l		0.032	0.005	<0.005	0.17	0.03	0.047	0.02		0.17	0	0.043428	0.053792
Lithium (Li), mg/l		0.008	0.006	0.005	0.012	0.005	0.005	0.008	0.01	0.012	0.005	0.007375	0.002446
Manganese (Mn), mg/l		0.7	0.51	0.34	0.8	0.55	0.61	0.39	0.36	0.8	0.34	0.5325	0.155543
Mercury (Hg), mg/l	0.002	0.0002	0.0004	0.0003	0.001	0.0005	<.0002	<.0002	0.0004	0.001	0	0.00035	0.0003
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.019	0.007	0.007	0.066	0.008	0.035	0.008	0.013	0.066	0.007	0.020375	0.019416
Selenium (Se), mg/l		0.053	0.064	0.024	0.003	0.003	<.002	<.002	0.002	0.064	0	0.018625	0.024310
Silicon (Si), mg/l					18.8					18.8	18.8	18.8	0.000000
Silver (Ag), mg/l		<0.0005	<0.0005	<0.0005	<.0005	<.0005	0.0012	0.001	0.0005	0.0012	0	0.000337	0.000471
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.016	0.018	0.032	0.01	<.005	<.005	<.005	0.01	0.032	0	0.01075	0.010485
Zinc (Zn), mg/l		0.06	0.01	0.04	0.1	0.06	0.15	0.07	0.05	0.15	0.01	0.0675	0.039290
NUTRIENTS													
Nitrogen, Ammonia, mg/l		<0.03	<0.03	<0.03	<.03	<.03	<.03	<.03	0.06	0.06	0	0.0075	0.019843
Nitrogen, Nitrate, mg/l	10	<0.10	<0.10	<0.10	<.10	<.10	0.23	0.11	<.10	0.23	0	0.0425	0.079490
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.010	<.01	<.010	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.28	0.15	0.28	0.17	0.11	0.21	0.13	0.14	0.28	0.11	0.18375	0.062035
Phosphorus, Total, mg/l		0.185	0.05	0.05	0.1	0.021	0.136	0.021	0.032	0.185	0.021	0.074375	0.056318

PARAMETER	STANDARD	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	GW-10	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-30-88	12-21-88				
METALS (DISS.)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	<.005	0.014	<.005	<.005	0.014	0	0.00175	0.004630
Aluminum (Al), mg/l		0.1	<0.10	<0.10	0.11	<.10	0.17	<.10	0.16	0.17	0	0.0675	0.070843
Arsenic (As), mg/l	0.05	<0.005	<0.005	0.008	0.01	0.01	0.01	<.005	0.005	0.01	0	0.005375	0.004442
Barium (Ba), mg/l					<.10	<.10	<.1	<.10	<.100	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0008	<0.0005	<0.0005	0.0008	<.0005	0.0005	0.0005	0.0005	0.0008	0	0.000387	0.000321
Chromium (Cr), mg/l	0.05	0.008	<0.005	<0.005	<.005	<.005	0.008	<.005	<.005	0.008	0	0.002	0.003464
Cobalt (Co), mg/l		0.01	<0.005	0.005	0.006	<.005	<.005	<.005	<.005	0.01	0	0.002625	0.003637
Copper (Cu), mg/l	1.3	0.01	<0.005	<0.005	0.017	0.017	<.005	0.009	0.018	0.018	0	0.008875	0.007523
							<.005		<.005	0	0	0	0
Iron (Fe), mg/l		<0.05	<0.05	<0.05	<.05	0.06	0.11	<.05	1.13	1.13	0	0.1625	0.367653
Lead (Pb), mg/l	0.02	0.005	0.005	<0.005	<.005	<.005	<.005	<.005		0.005	0	0.001428	0.002258
Lithium (Li), mg/l		0.007	0.005	<0.005	0.012	<.005	0.005	0.005	0.007	0.012	0	0.005125	0.003655
Manganese (Mn), mg/l		0.4	0.5	0.34	0.8	0.48	0.54	0.37	0.36	0.8	0.34	0.47375	0.140795
Mercury (Hg), mg/l		0.0002	0.0004	0.0003	0.0002	0.0004	<.0002	<.0002	0.0002	0.0004	0	0.000212	0.000145
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		0.009	<0.005	<0.005	0.013	<.005	<.005	0.008	0.012	0.013	0	0.00525	0.005448
Selenium (Se), mg/l	0.01	0.053	0.064	0.024	0.003	0.002	<.002	<.002	<.002	0.064	0	0.01825	0.024570
Silicon (Si), mg/l					11.6					11.6	11.6	11.6	0.000000
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l													
Vanadium (V), mg/l		<0.005	<0.005	0.03	<.005	<.005	<.005	<.005	0.005	0.03	0	0.004375	0.009822
Zinc (Zn), mg/l		0.01	0.01	0.01	0.01	0.02	0.02	0.005	0.02	0.02	0.005	0.013125	0.005555

PARAMETER	STANDARD	GW-11	GW-11	GW-11	GW-11	GW-11	GW-11	GW-11	GW-11	MAX	MIN	MEAN	STDV
Date		10-09-85	11-13-87	12-16-87	01-28-88	02-19-88	05-04-88	06-02-88	08-31-88				
MINERALS													
Alkalinity (CaCO3),mg/l		93	88	110	106	103	112	106	127	127	88	11.14604	11.14604
Bicarbonate (HCO3),mg/l		113	107	134	129	126	137	129	155	155	107	13.75454	13.75454
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	10	1	<1	2	<1	2	1	1	10	0	3.059309	3.059309
Fluoride (F), mg/l									1.73	1.73	1.73	0.000000	0.000000
Sulfate (SO4),mg/l	500	62	73	41	87	72	93	104	88	104	41	18.59435	18.59435
Calcium (Ca),mg/l		47	44	45	62	71	64	59	61	71	44	9.366662	9.366662
Magnesium (Mg), mg/l		6	8	6	7	9	7	7	8	9	6	0.968245	0.968245
Potassium (K), mg/l		7	2	3	3	2	4	4	3	7	2	1.5	1.5
Sodium (Na), mg/l		6	6	9	11	2	10	11	10	11	2	2.976470	2.976470
Major Anion, MEQ/L		3.43	3.31	3.05	3.99	3.56	4.24	4.32	4.49	4.49	3.05	0.496649	0.496649
Major Cations, MEQ/L		3.28	3.17	3.21	4.23	3.65	4.3	4.1	4.21	4.3	3.17	0.464096	0.464096
Cation - Anion Balance, %		2.24	2.16	2.56	2.92	1.25	0.7	2.61	3.22	3.22	0.7	0.791497	0.791497
MISCELLANEOUS													
pH, Units	6.5-8.5	7.28	7.29	7.7	7.08	7.43	7.78	7.78	7.19	7.78	7.08	0.259588	0.259588
Conductivity, umhos/cm		350	245	325	400	410	395	400	398	410	245	53.25396	53.25396
Cyanide, Total, mg/l		<0.01	<.010	<.010	<0.01	<0.01				0	0	0	0
Cyanide, WAD, mg/l	0.75	<0.01	<.010	<.010	<0.01	<0.01				0	0	0	0
Cyanide, Free, mg/l		<0.01	<.010	<.010	<0.01	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l		143	143	137	184	215	189	177	186	215	137	26.00360	26.00360
Solids, Dissolved, mg/l	1000		146	230	352	274	264	248	264	352	146	56.66946	56.66946
Solids, Suspended, mg/l		7	37	32	44	128	41	44	39	128	7	32.79100	32.79100
Turbidity, NTU		8	49	51	200	300	57	73	42	300	8	93.11149	93.11149
METALS (TOTAL)													
Antimony (Sb), mg/l		0.006	<.005	0.048	<0.005	0.021	0.008	<0.005	<.005	0.048	0	0.015747	0.015747
Aluminum (Al), mg/l		0.28	1.55	1.29	0.76	0.7	1.33	1.34	0.81	1.55	0.28	0.405084	0.405084
Arsenic (As), mg/l		0.008	<.005	<.005	0.043	0.044	0.043	0.031	0.021	0.044	0	0.017984	0.017984
Barium (Ba), mg/l									<.10	0	0	0	0
Beryllium (Be), mg/l			<.0005	<.0005	<0.0005	0.0007	0.0015	0.0017	0.0006	0.0017	0	0.000665	0.000665
Boron (B), mg/l			<.2	<.20	<0.20	<0.20	<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0006	0.0057	0.0005	0.0006	0.0008	0.004	0.0019	0.0025	0.0057	0.0005	0.001785	0.001785
Chromium (Cr), mg/l		0.29	0.017	0.037	0.079	0.037	0.042	0.015	0.039	0.29	0.015	0.085319	0.085319
Cobalt (Co), mg/l			0.046	0.005	0.01	<0.005	<0.005	<0.005	<.005	0.046	0	0.015627	0.015627
Copper (Cu), mg/l		0.02	0.04	0.013	0.014	0.008	0.1	0.011	0.011	0.1	0.008	0.029122	0.029122
Gold (Au), mg/l		<.005								0	0	0	0
Iron (Fe), mg/l		1.75	5.18	2.83	10.63	4.12	5.3	4.9	7.8	10.63	1.75	2.620295	2.620295
Lead (Pb), mg/l		0.01	0.011	0.009	0.008	0.01	0.019	0.012	0.007	0.019	0.007	0.003455	0.003455
Lithium (Li), mg/l			0.005	0.014	0.01	<0.005	0.007	0.006	0.026	0.026	0	0.007759	0.007759
Manganese (Mn), mg/l		<0.05	0.3	0.28	0.51	0.69	0.49	0.41	3.9	3.9	0	1.178492	1.178492
Mercury (Hg), mg/l	0.002	0.0002	<.0002	0.0002	0.0003	0.0006	0.0005	0.0006	0.0004	0.0006	0	0.0002	0.0002
Molybdenum (Mo), mg/l			<.05	<.05	0.005	0.018	<0.05	<0.05	<.05	0.018	0	0.006249	0.006249
Nickel (Ni), mg/l		0.063	<.005	0.11	0.036	0.007	<0.005	<0.005	0.033	0.11	0	0.036662	0.036662
Selenium (Se), mg/l		0.008	<.002	<.002	0.004	0.002	0.002	<0.002	<.002	0.008	0	0.002645	0.002645
Silicon (Si), mg/l									25.5	25.5	25.5	0	0
Silver (Ag), mg/l		0.0095	0.0013	0.0006	<0.0005	0.0005	0.0098	<0.0005	<.0005	0.0098	0	0.004026	0.004026
Strontium (Sr), mg/l													
Vanadium (V), mg/l			0.011	0.094	0.033	<0.005	0.025	0.025	0.009	0.094	0	0.028866	0.028866
Zinc (Zn) mg/l		0.05	0.06	0.04	0.2	0.02	0.3	0.24	0.34	0.34	0.02	0.120409	0.120409
NUTRIENTS										0	0	0	0
Nitrogen, Ammonia, mg/l		<0.03	<.03	0.05	<0.03	0.04	<0.03	<0.03	0.06	0.06	0	0.024717	0.024717
Nitrogen, Nitrate, mg/l	10	0.13	0.11	<.10	0.33	0.38	<0.10	0.17	<.10	0.38	0	0.138924	0.138924
Nitrogen, Nitrite, mg/l	1	<0.01	<.01	<.01	<0.01	<0.01	<0.01	<0.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.09	0.09	0.2	0.36	0.28	0.24	0.34	0.27	0.36	0.09	0.095647	0.095647
										0	0	0	0
Phosphorus, Total, mg/l		0.161	0.16	0.093	0.257	0.367	0.109	0.14	0.11	0.367	0.093	0.086989	0.086989

PARAMETER	STANDARD	GW-11	GW-11	GW-11	MAX	MIN	MEAN	STDV
Date		05-04-88	06-02-88	08-31-88				
METALS (DISS.)								
Antimony (Sb), mg/l		0.008	<0.005	<.005	0.008	0	0.002666	0.003771
Aluminum (Al), mg/l		<0.10	<0.10	0.16	0.16	0	0.053333	0.075424
Arsenic (As), mg/l	0.05	<0.005	<0.005	0.008	0.008	0	0.002666	0.003771
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	<0.0005	0.0009	0.0007	0.0009	0	0.000533	0.000385
Chromium (Cr), mg/l	0.05	<0.005	0.012	<.005	0.012	0	0.004	0.005656
Cobalt (Co), mg/l		<0.005	<0.005	<.005	0	0	0	0
Copper (Cu), mg/l	1.3	0.023	<0.005	<.005	0.023	0	0.007666	0.010842
Gold (Au), mg/l								
Iron (Fe), mg/l		<0.05	0.08	<.05	0.08	0	0.026666	0.037712
Lead (Pb), mg/l	0.02	<0.005	<0.005	<.005	0	0	0	0
Lithium (Li), mg/l		0.007	0.005	0.009	0.009	0.005	0.007	0.001632
Manganese (Mn), mg/l		0.36	0.21	0.06	0.36	0.06	0.21	0.122474
Mercury (Hg), mg/l		0.0005	0.0005	0.0004	0.0005	0.0004	0.000466	0.000047
Molybdenum (Mo), mg/l		<0.05	<0.05	<.05	0	0	0	0
Nickel (Ni), mg/l		<0.005	<0.005	<.005	0	0	0	0
Selenium (Se), mg/l	0.01	0.002	<0.002	<.002	0.002	0	0.000666	0.000942
Silicon (Si), mg/l				18	18	18	18	0
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l								
Vanadium (V), mg/l		0.027	0.015	0.007	0.027	0.007	0.016333	0.008219
Zinc (Zn), mg/l		0.01	0.07	0.015	0.07	0.01	0.031666	0.027182

PARAMETER	STANDARD	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-20-88				
MINERALS													
Alkalinity (CaCO3),mg/l		54	42	48	60	52	59	56	38	60	38	51.125	7.406711
Bicarbonate (HCO3),mg/l		66	51	59	73	63	72	68	46	73	46	62.25	9.079509
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	250	1	2	2	<1	<1	<1	<1	<1	2	0	0.625	0.856956
Fluoride (F), mg/l					0.29		0.27	0.27	0.27	0.29	0.27	0.275	0.008660
Sulfate (SO4),mg/l	500	76	35	48	115	102	95	110	114	115	35	86.875	28.88960
Calcium (Ca),mg/l		44	19	25	55	54	45	48	46	55	19	42	12.22701
Magnesium (Mg), mg/l		4	3	3	5	5	4	4	5	5	3	4.125	0.780624
Potassium (K), mg/l		2	1	2	3	2	2	2	2	3	1	2	0.5
Sodium (Na), mg/l		4	3	4	5	5	5	5	5	5	3	4.5	0.707106
Major Anion, MEQ/L		2.69	1.63	2.02	3.62	3.17	3.17	3.42	3.15	3.62	1.63	2.85875	0.653345
Major Cations, MEQ/L		2.75	1.64	1.87	3.45	3.37	2.96	3.15	2.98	3.45	1.64	2.77125	0.625928
Cation - Anion Balance, %		1.1	0.31	3.86	2.4	3.06	3.43	4.11	2.77	4.11	0.31	2.63	1.241168
MISCELLANEOUS													
pH, Units	6.5-8.5	7.01	6.56	6.87	7.46	7.1	7.03	6.83	6.43	7.46	6.43	6.91125	0.300808
Conductivity, umhos/cm		290	150	195	347	340	299	305	310	347	150	279.5	65.38157
Cyanide, Total, mg/l						<.010	<.010	<.010	<.010	0	0	0	0
Cyanide, WAD, mg/l	0.75												
Cyanide, Free, mg/l													
Hardness (CaCO3), GPG:mg/l		126	60	75	158	156	129	136	136	158	60	122	33.47013
Solids, Dissolved, mg/l	1000	208	106	140	212	288	212	176	266	288	106	201	56.40921
Solids, Suspended, mg/l		1	2	70	68	37	2	70	118	118	1	46	39.99687
Turbidity, NTU		39	93	101	123	67	16	172	90	172	16	87.625	45.42008
METALS (TOTAL)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	0.009	0.014	0.005	<.005	0.014	0	0.0035	0.005049
Aluminum (Al), mg/l		1.68	1.14	0.72	1.14	0.4	0.65	0.7	1.72	1.72	0.4	1.01875	0.456629
Arsenic (As), mg/l		0.017	0.005	0.007	0.009	0.017	0.02	0.005	0.026	0.026	0.005	0.01325	0.007327
Barium (Ba), mg/l					<.10	<.10	<.1	<.10		0	0	0	0
Beryllium (Be), mg/l		0.0006	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0.0006	0	0.000075	0.000198
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0012	0.0013	<0.0005	0.0006	<.0005	<.0005	<.0005	0.0008	0.0013	0	0.000487	0.000527
Chromium (Cr), mg/l		0.033	0.028	0.036	<.005	<.005	0.036	0.022	0.015	0.036	0	0.02125	0.013970
Cobalt (Co), mg/l		0.021	0.02	0.008	0.005	<.005	<.005	<.005	<.005	0.021	0	0.00675	0.008407
Copper (Cu), mg/l		0.008	0.01	<0.005	0.007	0.006	<.005	0.005	0.007	0.01	0	0.005375	0.003388
Iron (Fe), mg/l		4	2.7	1.2	1.73	1.81	1.89	2.69	6.95	6.95	1.2	2.87125	1.737709
Lead (Pb), mg/l		0.013	0.016	<0.005	0.01	0.006	<.005	0.007		0.016	0	0.007428	0.005653
Lithium (Li), mg/l		0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0.005	0	0.000625	0.001653
Manganese (Mn), mg/l		0.33	0.24	0.04	0.17	0.12	0.14	0.14	0.2	0.33	0.04	0.1725	0.081047
Mercury (Hg), mg/l	0.002	0.0003	0.0004	0.0004	0.0002	0.0006	0.0009	<.0002	0.0003	0.0009	0	0.000387	0.000252
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	0.013	<0.005	0.03	<.005	<.005	0.008	0.007	0.03	0	0.00725	0.009756
Selenium (Se), mg/l		0.006	0.005	0.002	0.003	0.003	0.003	<.002	0.003	0.006	0	0.003125	0.001690
Silicon (Si), mg/l					14.6					14.6	14.6	14.6	0.000000
Silver (Ag), mg/l		<0.0005	<0.0005	<0.0005	<.0005	0.0006	<.0005	0.0006	0.0018	0.0018	0	0.000375	0.000595
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.051	0.017	0.015	0.005	<.005	<.005	<.005	0.01	0.051	0	0.01225	0.015966
Zinc (Zn), mg/l		0.07	0.08	0.01	0.02	0.06	0.07	0.04	0.05	0.08	0.01	0.05	0.023452
NUTRIENTS													
Nitrogen, Ammonia, mg/l		<0.03	<0.03	<0.03	<.03	0.04	<.03	<.03	<.03	0.04	0	0.005	0.013228
Nitrogen, Nitrate, mg/l	10	<0.10	<0.10	<0.10	0.13	0.16	<.10	0.12	<.10	0.16	0	0.05125	0.066977
Nitrogen, Nitrite, mg/l	1	<0.01	<0.01	<0.01	<.01	<.010	<.01	<.010	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l		0.18	0.14	0.29	0.14	0.14	0.1	0.12	0.29	0.29	0.1	0.175	0.069641
Phosphorus, Total, mg/l		0.375	0.238	0.25	0.105	0.345	0.418	0.417	0.468	0.468	0.105	0.327	0.112929

PARAMETER	STANDARD	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	GW-12	MAX	MIN	MEAN	STDV
Date		06-28-88	07-01-88	07-05-88	08-31-88	09-29-88	10-26-88	11-29-88	12-20-88				
METALS (DISS.)													
Antimony (Sb), mg/l		<0.005	<0.005	<0.005	<.005	0.006	0.016	0.005	<.005	0.016	0	0.003375	0.005313
Aluminum (Al), mg/l		<0.10	<0.10	0.17	0.13	<.10	0.14	<.10	<.10	0.17	0	0.055	0.071763
Arsenic (As), mg/l	0.05	0.012	0.006	<0.005	<.005	0.008	<.005	<.005	0.006	0.012	0	0.004	0.004358
Barium (Ba), mg/l					<.10	<.10	<.01	<.10	<.10	0	0	0	0
Beryllium (Be), mg/l		<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l		<0.20	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.01	0.0007	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0.0007	0	0.000087	0.000231
Chromium (Cr), mg/l	0.05	<0.005	<0.005	<0.005	<.005	<.005	0.01	<.005	<.005	0.01	0	0.00125	0.003307
Cobalt (Co), mg/l		0.014	<0.005	0.008	<.005	<.005	<.005	<.005	<.005	0.014	0	0.00275	0.004993
Copper (Cu), mg/l	1.3	<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Iron (Fe), mg/l		0.05	<0.05	0.22	<.05	<.05	<.05	<.05	<.05	0.22	0	0.03375	0.072273
Lead (Pb), mg/l	0.02	<0.005	0.005	<0.005	0.006	0.005	<.005	<.005		0.006	0	0.002285	0.002657
Lithium (Li), mg/l		<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Manganese (Mn), mg/l		0.1	0.09	0.05	0.12	0.12	0.11	0.06	0.05	0.12	0.05	0.0875	0.028173
Mercury (Hg), mg/l		0.0003	0.0003	0.0003	0.0002	0.0005	0.001	<.0002	0.0003	0.001	0	0.000362	0.000273
Molybdenum (Mo), mg/l		<0.05	<0.05	<0.05	<.05	<.05				0	0	0	0
Nickel (Ni), mg/l		<0.005	0.006	<0.005	0.009	<.005	<.005	0.008	<.005	0.009	0	0.002875	0.003789
Selenium (Se), mg/l	0.01	0.004	0.002	0.002	0.003	0.003	<.002	<.002	0.003	0.004	0	0.002125	0.001363
Silicon (Si), mg/l					14.5					14.5	14.5	14.5	0
Silver (Ag), mg/l	0.05	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Strontium (Sr), mg/l													
Vanadium (V), mg/l		0.041	0.014	0.015	<.005	<.005	<.005	<.005	0.006	0.041	0	0.0095	0.013304
Zinc (Zn), mg/l		0.04	0.005	0.01	0.005	0.03	0.02	0.006	<.005	0.04	0	0.0145	0.013247

SURFACE WATER FIELD DATA

SITE	DATE	FLOW (gpm)	TEMP C	pH	CONDUCT
FD-1	1988/06/20	2.0	16.7	6.73	487
FD-1	1988/07/15	0.0			
FD-1	1988/08/24	0.0			
FD-1	1988/09/27	0.0			
FD-1	1988/10/26	0.0			
FD-1	1988/11/26	0.0			
FD-1	1988/12/16	0.0			
SW-1	1987/10/14	0.0			
SW-1	1987/11/13	0.0			
SW-1	1987/12/23	0.0			
SW-1	1988/01/19	0.0			
SW-1	1988/03/31	0.0			
SW-1	1988/04/21	0.8	3.7	6.63	58
SW-1	1988/06/09	0.0			
SW-2	1987/10/14	2.0	6.7	5.69	1828
SW-2	1987/11/18	1.0	0.8	5.10	1580
SW-2	1987/12/22	0.5	0.7		1660
SW-2	1988/01/19	0.0			
SW-2	1988/04/01	39.2	2.4	3.35	855
SW-2	1988/04/21	176.6	3.6	5.07	293
SW-2	1988/06/09	28.0	15.2	4.90	612
SW-2	1988/07/01	16.0	16.1	2.95	945
SW-2	1988/07/12	30.3	18.1	6.69	495
SW-2	1988/08/10	13.5	20.3	4.56	1049
SW-2	1988/12/20	60.0	0.1	2.92	1120
SW-3	1987/10/15	406.0	6.3	8.35	312
SW-3	1987/11/15	905.0	0.3	7.37	268
SW-3	1987/12/22	406.0	0.4		316
SW-3	1988/01/18	283.2	-0.8	7.85	306
SW-3	1988/03/29	2173.1	4.7	7.33	226
SW-3	1988/04/21	2823.8	2.5	7.65	187
SW-3	1988/06/07	1073.9	25.3	8.30	206
SW-3	1988/07/01	461.9	22.2	8.22	257
SW-3	1988/07/12	401.4	24.2	8.40	254
SW-3	1988/08/09	307.2	21.9	8.42	309
SW-4	1987/10/15	1.0	7.4	7.65	353
SW-4	1987/11/19	1.0	0.5	7.38	364
SW-4	1987/12/21	0.0			
SW-4	1988/01/14	0.0			
SW-4	1988/03/28	137.3	-0.1	6.73	144
SW-4	1988/04/20	19.8	8.9	7.55	159
SW-4	1988/06/07	1.8	22.9	8.26	238
SW-4	1988/07/01	1.5	18.8	7.46	299
SW-4	1988/07/12	0.3	19.7	7.93	303
SW-4	1988/08/05	0.7	19.3	8.05	343
SW-5	1987/10/15	341.0	7.3	8.24	292
SW-5	1987/11/15	752.0	0.1	7.50	278
SW-5	1987/[illegible]/22	222.0			312
SW-5	1988/01/14	165.8	-0.3	7.46	352
SW-5	1988/03/28	4157.4	4.5	6.49	156
SW-5	1988/04/20	3723.2	9.2	7.80	144
SW-5	1988/06/07	1331.8	24.5	8.83	204
SW-5	1988/07/05	544.9			
SW-5	1988/07/12	347.4	25.2	8.48	278

SURFACE WATER FIELD DATA

SITE	DATE	FLOW (gpm)	TEMP C	pH	CONDUCT	
SW-5	1988/08/09	298.2	24.9	8.51	304	
SW-6	1987/10/14	77.0	1.6	8.80	332	
SW-6	1987/11/18	85.0	0.7	7.37	331	
SW-6	1987/12/22	72.0	0.5		304	
SW-6	1988/01/18	26.9	0.0	8.14	298	
SW-6	1988/03/29	439.6	1.3	6.45	322	
SW-6	1988/04/21	294.3	1.9	7.52	235	
SW-6	1988/06/07	142.9	22.8	7.82	276	
SW-6	1988/07/01	74.0	18.4	7.98	318	
SW-6	1988/07/12	60.5	19.2	8.02	320	
SW-6	1988/08/10	91.9	19.0	8.00	376	
SW-8	1987/10/15	303.0	7.2	8.17	294	
SW-8	1987/11/15	592.0	0.6	7.87	256	
SW-8	1987/12/31	169.0	-0.4	4.19	271	
SW-8	1988/01/18	272.3	-1.3	7.78	339	
SW-8	1988/03/29	1830.0	6.1	7.12	185	
SW-8	1988/04/21	2602.8	2.7	7.65	147	
SW-8	1988/06/07	1015.7	24.4	7.89	192	
SW-8	1988/07/05	291.5				
SW-8	1988/07/13	282.6	27.2	8.29	246	
SW-8	1988/08/09	139.0	24.5	8.42	264	
SW-11	1987/10/16	3.0	6.5	7.46	265	
SW-11	1987/11/18	3.0	2.4	7.26	275	
SW-11	1987/12/21	0.0				
SW-11	1988/01/14	1.0	0.1	7.75	306	
SW-11	1988/03/28	35.0	0.7	6.90	140	
SW-11	1988/04/20	16.0	4.3	7.69	154	
SW-11	1988/06/07	13.0	22.5	7.76	147	
SW-11	1988/07/01	4.0	7.7	7.73	219	
SW-11	1988/07/12	5.5	10.2	7.68	221	
SW-11	1988/08/05	6.0	13.6	8.06	252	
SW-11	1988/11/29	1.7	2.7	8.17	257	
SW-28	1987/10/16					
SW-28	1987/11/18	0.0	0.2	7.40	407	
SW-28	1987/12/23	0.0		6.33	290	
SW-28	1988/01/19	0.0	-0.8	7.04	396	
SW-28	1988/03/29	N/A	0.1	5.87	210	
SW-28	1988/04/21	N/A	3.3	5.77	237	Beaver Pond
SW-28	1988/06/07	N/A	23.7	8.01	308	
SW-28	1988/11/30	N/A	-0.1	6.00	537	Thin ice over pond
SW-35	1987/10/16					
SW-35	1987/11/19					
SW-35	1987/12/28	0.0				
SW-35	1988/01/18	0.0				
SW-35	1988/03/30	75.0	3.6	6.80	107	
SW-35	1988/04/21	18.0	2.8	7.43	111	
SW-35	1988/06/09	0.5	14.7	6.94	193	
SW-35	1988/07/01	0.5	13.3	6.96	467	
SW-35	1988/07/14	0.0				
SW-35	1988/08/10	0.0				Ponded Water
SW-35	1988/11/26	10.0				
SW-35	1988/11/30	7.0	1.1	8.03	305	

PARAMETER	SW-1	SW-1	MAX	MIN	MEAN	STDV
Date	06-22-87	04-21-88				
MINERALS						
Alkalinity (CaCO3),mg/l	29	10	29	10	19.5	9.5
Bicarbonate (HCO3),mg/l	35	12	35	12	23.5	11.5
Carbonate (CO3),mg/l	0	0	0	0	0	0
Chloride (Cl),mg/l	3	<1	3	0	1.5	1.5
Fluoride (F), mg/l						
Sulfate (SO4),mg/l	14	13	14	13	13.5	0.5
Calcium (Ca),mg/l	10	6	10	6	8	2
Magnesium (Mg), mg/l	3	1	3	1	2	1
Potassium (K), mg/l	1	<1	1	0	0.5	0.5
Sodium (Na), mg/l	3	3	3	3	3	0
Major Anion, MEQ/L	0.96	0.47	0.96	0.47	0.715	0.245
Major Cations, MEQ/L	0.91	0.51	0.91	0.51	0.71	0.2
Cation - Anion Balance, %	2.67	4.08	4.08	2.67	3.375	0.705
MISCELLANEOUS						
pH, Units	6.31	6.02	6.31	6.02	6.165	0.145
Conductivity, umhos/cm	88	70	88	70	79	9
Cyanide, Total, mg/l	<0.01		0	0	0	0
Cyanide, WAD, mg/l	<0.01		0	0	0	0
Cyanide, Free, mg/l	<0.01		0	0	0	0
Hardness (CaCO3), GPG:mg/l	37	19	37	19	28	9
Solids, Dissolved, mg/l	76	64	76	64	70	6
Solids, Suspended, mg/l	8	1	8	1	4.5	3.5
Turbidity, NTU	56	30	56	30	43	13
METALS (TOTAL)						
Antimony (Sb), mg/l	<0.005	<0.005	0	0	0	0
Aluminum (Al), mg/l	1.24	1.09	1.24	1.09	1.165	0.075
Arsenic (As), mg/l	<0.005	0.009	0.009	0	0.0045	0.0045
Barium (Ba), mg/l						
Beryllium (Be), mg/l	<0.0005	<0.0005	0	0	0	0
Boron (B), mg/l	<0.25	<0.20	0	0	0	0
Cadmium (Cd), mg/l	<0.0005	0.0036	0.0036	0	0.0018	0.0018
Chromium (Cr), mg/l	0.02	0.006	0.02	0.006	0.013	0.007
Cobalt (Co), mg/l	<0.005	<0.005	0	0	0	0
Copper (Cu), mg/l	0.007	0.023	0.023	0.007	0.015	0.008
Iron (Fe), mg/l	1.25	0.85	1.25	0.85	1.05	0.2
Lead (Pb), mg/l	<0.005	<0.005	0	0	0	0
Lithium (Li), mg/l	0.005	<0.005	0.005	0	0.0025	0.0025
Manganese (Mn), mg/l	0.13	0.15	0.15	0.13	0.14	0.01
Mercury (Hg), mg/l	<0.0002	0.0004	0.0004	0	0.0002	0.0002
Molybdenum (Mo), mg/l	<0.05	<0.05	0	0	0	0
Nickel (Ni), mg/l	0.016	0.043	0.043	0.016	0.0295	0.0135
Selenium (Se), mg/l	<0.005	<0.002	0	0	0	0
Silicon (Si), mg/l						
Silver (Ag), mg/l	0.0026	0.0007	0.0026	0.0007	0.00165	0.00095
Strontium (Sr), mg/l						
Vanadium (V), mg/l	<0.005	0.008	0.008	0	0.004	0.004
Zinc (Zn), mg/l	0.04	0.06	0.06	0.04	0.05	0.01
NUTRIENTS						
Nitrogen, Ammonia, mg/l	<0.03	<0.03	0	0	0	0
Nitrogen, Nitrate, mg/l	<0.10	<0.10	0	0	0	0
Nitrogen, Nitrite, mg/l	<0.01	<0.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.187	0.15	0.187	0.15	0.1685	0.0185
Phosphorus, Total, mg/l	0.045	0.022	0.045	0.022	0.0335	0.0115

PARAMETER	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	MAX	MIN	MEAN	STDV
Date	06-02-84	05-03-85	06-22-87	08-28-87	10-14-87	11-18-87	12-22-87	04-01-88	04-21-88	06-09-88	07-01-88	08-10-88				
MINERALS																
Alkalinity (CaCO3),mg/l		0	0	<1	<1	<1	<1	2	4	<1	<1	<1	4	0	0.545454	1.233150
Bicarbonate (HCO3),mg/l		0	0	<1	0	<1	<1	2	5	<1	<1	<1	5	0	0.636363	1.493788
Carbonate (CO3),mg/l		0	0	<1	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l		1	2	25	3	1	7	2	2	<1	3	7	25	0	4.818181	6.739546
Fluoride (F), mg/l												0.74	0.74	0.74	0.74	
Sulfate (SO4),mg/l	241	283	580	1354	685	462	529	359	154	336	377	410	1354	154	480.8333	298.8463
Calcium (Ca),mg/l		28	59	117	84	95	89	72	34	59	74	91	117	28	72.90909	25.33576
Magnesium (Mg), mg/l		10	14	31	20	24	24	17	8	13	16	20	31	8	17.90909	6.459025
Potassium (K), mg/l		1.1	2	4	2	2	2	3	2	3	3	2	4	1.1	2.372727	0.755694
Sodium (Na), mg/l		5.9	7	9	10	11	12	9	5	9	9	8	12	5	8.627272	1.979022
Major Anion, MEQ/L		5.91	12.14	28.85	14.35	9.68	11.24	7.58	3.35	7	7.93	8.78	28.85	3.35	10.61909	6.451419
Major Cations, MEQ/L		4.52	9.38	26.37	12.84	8.77	10.79	7.98	3.51	6.39	7.57	9.01	26.37	3.51	9.739090	5.830664
Cation - Anion Balance, %		13.24	12.83	4.49	5.55	4.93	2.04	2.57	2.33	4.55	2.32	1.29	13.24	1.29	5.103636	3.961178
MISCELLANEOUS													0	0	0	0
pH, Units	3	3.25	2.91	2.73	3.04	2.95	3.01	2.91	4.28	2.82	3.04	2.9	4.28	2.73	3.07	0.385075
Conductivity, umhos/cm	780	740	1305	2700	1500	1450	1475	890	300	775	900	1025	2700	300	1153.333	581.5472
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010						0	0	0	0
Cyanide, WAD, mg/l		<0.01	<0.01	<0.010	<0.010	<.010	<.010						0	0	0	0
Cyanide, Free, mg/l	<0.005	<0.01	<0.01	<0.010	<0.010	<.010	<.010						0	0	0	0
Hardness (CaCO3), GPG:mg/l	207	111	206	420	292	337	322	250	118	202	251	310	420	111	252.1666	86.50417
Solids, Dissolved, mg/l	394		816	2172	1054	1054	1026	662	218	510	650	704	2172	218	841.8181	493.7731
Solids, Suspended, mg/l	132	8	41	12	8	4	20	33	15	8	14	3	132	3	24.83333	34.12680
Turbidity, NTU		36	51	47	8	16	22	77	44	20	12	26	77	8	32.63636	19.72203
METALS (TOTAL)													0	0	0	0
Antimony (Sb), mg/l	0.002	<0.005	<0.005	<0.005	0.005	<.005	0.494	<.005	<0.005	0.016	<.005	<.005	0.494	0	0.043083	0.136029
Aluminum (Al), mg/l		12	27.5	58.6	43.3	39	34.3	14.2	5.63	12.4	15.15	18	58.6	5.63	25.46181	15.71294
Arsenic (As), mg/l	0.06	0.005	0.014	0.106	0.041	0.04	0.068	0.065	0.012	0.007	0.112	0.318	0.318	0.005	0.070666	0.082220
Barium (Ba), mg/l												<.10	0	0	0	0
Beryllium (Be), mg/l			0.0055	0.0102	0.0046	0.0054	0.0088	0.022	0.0234	0.0028	0.0028	0.0167	0.0234	0.0028	0.01022	0.007373
Boron (B), mg/l			<0.25	<0.20	<0.20	<.20	<.20	<.20	<0.20	<.02	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		0.0057	0.0071	0.0298	0.0148	0.02	0.001	0.0097	0.0082	0.0043	0.03	0.019	0.03	0.001	0.0136	0.009521
Chromium (Cr), mg/l		0.033	0.018	0.039	<0.005	0.053	0.15	0.024	0.011	0.03	0.4	0.005	0.4	0	0.069363	0.111575
Cobalt (Co), mg/l			0.041	0.331	0.157	0.86	0.213	<.005	0.026	0.126	0.16	0.098	0.86	0	0.2012	0.238285
Copper (Cu), mg/l	1.5	1.2	3.39	9.8	2.41	2.9	0.16	4.9	0.26	0.84	1	0.9	9.8	0.16	2.438333	2.593475
Gold (Au),mg/l		<.005											0	0	0	0
Iron (Fe), mg/l	0.7	9.4	54	187	24.1	20.3	14.3	12.1	2.6	5.8	7.4	7.5	187	0.7	28.76666	49.61410
Lead (Pb), mg/l	0.002	0.005	0.008	0.005	0.012	<.005	0.013	0.011	0.016	<.005	0.008	0.081	0.081	0	0.013416	0.020962
Lithium (Li), mg/l			0.026	0.054	0.016	0.027	0.148	0.025	0.009	0.01	0.02	0.025	0.148	0.009	0.036	0.039181
Manganese (Mn), mg/l		1.65	2.02	3.9	3.59	3.84	3.75	3.3	1.21	1.89	2.56	4.8	4.8	1.21	2.955454	1.093246
Mercury (Hg), mg/l	0.0017	0.0011	0.0006	<0.0002	0.0011	<.0002	<.0002	0.0004	0.0005	<.0002	<.0002	0.0003	0.0017	0	0.000475	0.000537
Molybdenum (Mo), mg/l			<0.05	<0.05	<0.05	0.019	<.05	<.05	<0.05	<.005	<.05	<.05	0.019	0	0.0019	0.0057
Nickel (Ni), mg/l		0.066	0.667	0.267	0.069	0.08	0.016	0.193	0.104	0.029	0.054	0.15	0.667	0.016	0.154090	0.177120
Selenium (Se), mg/l		<0.002	<0.005	<0.002	<0.002	<.002	0.004	0.003	<0.002	<.002	0.002	0.007	0.007	0	0.001454	0.002230
Silicon (Si), mg/l												29.9	29.9	29.9	29.9	
Silver (Ag), mg/l			0.0026	0.002	0.0385	0.0024	0.002	0.0008	0.0007	<.0005	0.0024	0.0057	0.0385	0	0.005190	0.010641
Strontium (Sr), mg/l																
Vanadium (V), mg/l			0.107	0.36	0.165	0.069	0.176	0.158	0.044	0.022	0.005	0.029	0.36	0.005	0.1135	0.101704
Zinc (Zn), mg/l	0.42	0.7	0.99	2.39	2.12	2.22	2.56	1.1	0.53	0.95	0.98	1.4	2.56	0.42	1.363333	0.727132
NUTRIENTS																
Nitrogen, Ammonia, mg/l	0.18	0.1	0.19	0.47	0.37	0.35	0.44	0.21	0.09	0.21	0.19	0.26	0.47	0.09	0.255	0.119755
Nitrogen, Nitrate, mg/l	<0.015	0.521	0.5	3	0.85	0.8	0.82	0.89	0.28	0.37	0.39	0.5	3	0	0.743416	0.726511
Nitrogen, Nitrite, mg/l		0.02	<0.01	0.03	0.024	<.01	<.01	<.01	<0.01	0.01	<.01	0.02	0.03	0	0.009454	0.011252
Nitrogen, Total Kjeldahl, mg/l	1.83	0.59	0.485	0.58	0.47	0.6	0.97	0.59	0.41	0.36	0.19	0.53	1.83	0.19	0.63375	0.401403
Phosphorus, Total, mg/l	0.2	0.075	0.062	0.034	0.082	0.035	0.035	<.010	0.011	<.010	<.010	0.1	0.2	0	0.052833	0.055093

PARAMETER	SW-2	SW-2	SW-2	MAX	MIN	MEAN	STDV
Date	06-09-88	07-01-88	08-10-8.				
METALS (DISS.)							
Antimony (Sb), mg/l	0.014	<.005	<.005	0.014	0	0.004666	0.006599
Aluminum (Al), mg/l	11.7	13.3	17	17	11.7	14	2.219609
Arsenic (As), mg/l	0.005	0.008	0.071	0.071	0.005	0.028	0.030430
Barium (Ba), mg/l			<.10	0	0	0	0
Beryllium (Be), mg/l	0.0012	0.0027	0.0081	0.0081	0.0012	0.004	0.002963
Boron (B), mg/l	<.02	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.0043	0.02	0.015	0.02	0.0043	0.0131	0.006548
Chromium (Cr), mg/l	0.005	0.006	0.005	0.006	0.005	0.005333	0.000471
Cobalt (Co), mg/l	0.125	0.16	0.093	0.16	0.093	0.126	0.027361
Copper (Cu), mg/l	0.84	1	0.9	1	0.84	0.913333	0.065996
Gold (Au),mg/l							
Iron (Fe), mg/l	5.72	6.01	6.5	6.5	5.72	6.076666	0.321904
Lead (Pb), mg/l	<.005	0.008	0.013	0.013	0	0.007	0.005354
Lithium (Li), mg/l	0.01	0.018	0.021	0.021	0.01	0.016333	0.004642
Manganese (Mn), mg/l	1.84	2.17	4.7	4.7	1.84	2.903333	1.277558
Mercury (Hg), mg/l	<.0002	<.0002	0.0003	0.0003	0	0.0001	0.000141
Molybdenum (Mo), mg/l	<.005	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	0.026	0.054	0.13	0.13	0.026	0.07	0.043939
Selenium (Se), mg/l	<.002	<.002	0.002	0.002	0	0.000666	0.000942
Silicon (Si), mg/l			29.9	29.9	29.9	29.9	
Silver (Ag), mg/l	<.0005	<.0005	0.0057	0.0057	0	0.0019	0.002687
Strontium (Sr), mg/l							
Vanadium (V), mg/l	0.028	<.005	0.026	0.028	0	0.018	0.012754
Zinc (Zn), mg/l	0.98	0.98	1.4	1.4	0.98	1.12	0.197989

PARAMETER	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3 DUP	SW-3	SW-3 DUP	SW-3	SW-3	SW-3	SW-3	SW-3 DUP	SW-3	MAX	MIN	MEAN	STDV
Date	06-14-84	05-03-85	10-09-85	06-22-87	08-28-87	10-15-87	11-15-87	12-22-87	01-18-88	01-18-88	03-29-88	03-29-88	04-21-88	06-07-88	07-01-88	07-01-88	08-09-88				
MINERALS																					
Alkalinity (CaCO3),mg/l		76	106	89	104	110	116	129	121	118	60	58	70	88	96	106	98	129	58	96.5625	20.89548
Bicarbonate (HCO3),mg/l		93	129	109	127	134	142	157	148	144	73	71	85	107	117	129	120	157	71	117.8125	25.50298
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l		1.5	7.5	4	4	4	6	5	6	7	6	7	1	2	4	<1	6	7.5	0	4.4375	2.228192
Fluoride (F), mg/l																	0.28	0.28	0.28	0.28	
Sulfate (SO4),mg/l	41.7	42.8	52	17	47	33	2	30	38	38	29	32	30	22	28	23	46	52	2	32.44117	11.98141
Calcium (Ca),mg/l		30	43	29	40	37	32	42	42	46	27	27	23	26	37	37	39	46	23	34.8125	6.884936
Magnesium (Mg), mg/l	4	7	11	7	10	10	10	11	12	13	7	7	6	7	9	9	11	13	4	8.882352	2.348525
Potassium (K), mg/l		2.85	2	3	4	4	3	3	4	4	3	3	2	3	3	3	3	4	2	3.115625	0.602525
Sodium (Na), mg/l	1.9	3.8	4	3	4	4	4	4	5	5	4	4	3	4	4	4	5	5	1.9	3.923529	0.741643
Major Anion, MEQ/L		2.45	3.41	2.24	3.17	3	2.53	3.35	3.38	3.35	2	2.03	2.06	2.28	2.61	2.6	3.1	3.41	2	2.7225	0.507463
Major Cations, MEQ/L		2.3	3.27	2.24	3.09	2.94	2.67	3.25	3.41	3.68	2.18	2.18	1.99	2.13	2.84	2.84	3.15	3.68	1.99	2.76	0.514052
Cation - Anion Balance, %		3.16	2.1	0	1.28	1.01	2.69	1.52	0.44	4.69	4.31	3.56	1.73	3.4	4.22	4.41	0.8	4.69	0	2.4575	1.497090
MISCELLANEOUS																		0	0	0	0
pH, Units	6.5	8.11	7.66	8.02	7.92	7.81	7.71	7.65	7.42	7.41	6.73	6.73	7.35	8.31	8.28	8.39	8.04	8.39	6.5	7.649411	0.552996
Conductivity, umhos/cm	124	245	300	202	300	290	265	300	340	340	240	240	168	210	255	250	310	340	124	257.5882	56.82797
Cyanide, Total, mg/l		<0.01	<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01								0	0	0	0
Cyanide, WAD, mg/l		<0.01	<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01								0	0	0	0
Cyanide, Free, mg/l	0.001	<0.01	<0.01	<0.01	<0.010	<0.010	<.010	<.010	<0.01	<0.01								0.001	0	0.0001	0.0003
Hardness (CaCO3), GPG:mg/l	58.2	96	153	102	141	93	121	150	154	169	97	97	83	94	130	130	143	169	58.2	118.3058	29.92092
																		0	0	0	0
Solids, Dissolved, mg/l	98			118	1.86	142	140	152	148	132	180	180	114	88	152	132	196	196	1.86	131.5906	45.07024
Solids, Suspended, mg/l	56	2	12	<1	4	4	<1	2	<1	<1	12	10	2	9	5	<1	4	56	0	7.176470	12.86689
Turbidity, NTU		16	16	20	12	4	12	4	8	4	22	26	22	16	12	16	30	30	4	15	7.549834
METALS (TOTAL)																		0	0	0	0
Antimony (Sb), mg/l	0.005	<0.005	0.005	<0.005	<0.005	<0.005	<.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	0.005	0	0.000882	0.001906
Aluminum (Al), mg/l		0.3	0.17	0.28	0.28	0.24	0.23	0.31	<0.10	<0.10	0.33	0.27	0.49	0.21	0.2	0.34	0.1	0.49	0	0.234375	0.121190
Arsenic (As), mg/l	0.011	<0.005	0.0055	<0.005	0.005	0.005	<.005	0.01	<0.005	<0.005	0.003	0.008	0.011	<.005	<.005	<.005	<.005	0.011	0	0.003735	0.004291
Barium (Ba), mg/l																	<.10	0	0	0	0
Beryllium (Be), mg/l				<0.0005	<0.0005	<0.0005	<.0005	<.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l				<0.25	<0.20	<0.20	<.2	<.20	<0.2	<0.2	<0.20	<0.2	<0.2	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		<0.0005	0.0005	<0.0005	0.0013	0.0015	0.004	<.0005	0.0028	0.0013	0.0007	0.0006	0.0017	<.0005	0.0005	0.0013	0.0006	0.004	0	0.00105	0.001064
Chromium (Cr), mg/l		<0.005	0.25	0.02	0.017	0.007	0.013	0.054	0.039	0.04	0.04	0.032	0.022	0.02	0.013	0.017	0.019	0.25	0	0.037687	0.056483
Cobalt (Co), mg/l				<0.005	0.008	0.006	<.005	<.005	0.006	0.007	<0.005	<0.005	<0.005	0.005	<.005	<.005	<.005	0.008	0	0.002133	0.003073
Copper (Cu), mg/l	0.091	<0.005	0.03	0.005	0.015	0.02	0.016	0.052	0.03	0.03	0.01	0.009	0.033	0.007	0.006	0.006	0.051	0.091	0	0.024176	0.022552
Gold (Au), mg/l		<0.005																0	0	0	0
Iron (Fe), mg/l	2.1	0.21	0.41	1.58	0.44	0.08	0.53	0.5	0.33	0.32	1.55	1.05	0.6	0.42	0.57	0.5	0.79	2.1	0.08	0.704705	0.534614
Lead (Pb), mg/l	<0.01	<0.005	<0.005	<0.005	<0.005	<0.006	0.015	<.005	<0.005	<0.005	<0.005	<0.005	0.01	<.005	<.005	<.005	0.006	0.015	0	0.001823	0.004232
Lithium (Li), mg/l				0.018	0.01	0.0215	0.017	0.024	0.012	0.016	0.008	0.008	0.006	<.005	0.011	0.008	0.02	0.024	0	0.012821	0.006540
Manganese (Mn), mg/l		<0.03	<0.05	0.08	0.06	<0.03	0.03	0.11	<0.03	<0.03	0.14	0.12	0.05	0.07	<.03	<.03	0.1	0.14	0	0.0475	0.048925
Mercury (Hg), mg/l	<0.0005	0.0009	<0.0002	<0.0002	<0.0002	0.0004	<.0002	<.0002	<0.0002	0.0003	0.0011	0.0008	0.0003	<.0002	0.0005	0.0002	0.0002	0.0011	0	0.000276	0.000345
Molybdenum (Mo), mg/l				<0.05	<0.05	<0.05	<.05	<.05	<0.005	<0.005	<0.05	<0.05	<0.05	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l		<0.005	0.011	0.018	0.136	0.006	<.005	0.007	<0.005	0.014	0.025	0.026	0.028	<.005	<.005	<.005	0.043	0.136	0	0.019625	0.032590
Selenium (Se), mg/l		<0.002	0.0026	<0.005	<0.002	<0.002	<.002	0.002	<0.002	<0.002	0.002	0.002	<0.002	0.002	<.002	<.002	0.002	0.0026	0	0.000787	0.001025
Silicon (Si), mg/l																	7.1	7.1	7.1	7.1	0.000000
Silver (Ag), mg/l			0.0021	0.0012	0.0014	0.0558	0.0006	<.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<.0005	0.0015	<.0005	0.013	0.0558	0	0.005373	0.014177
Strontium (Sr), mg/l																					
Vanadium (V), mg/l				<0.005	<0.005	0.014	<.005	0.015	0.01	0.008	0.043	0.032	<0.005	<.005	<.005	<.005	0.023	0.043	0	0.010357	0.013323
Zinc (Zn), mg/l	0.063	0.04	0.05	0.05	0.11	0.05	0.02	0.07	0.07	0.05	0.08	0.08	0.11	0.01	0.02	0.01	0.054	0.11	0.01	0.055117	0.029345
NUTRIENTS																		0	0	0	0
Nitrogen, Ammonia, mg/l	<0.1	<0.03	<0.03	<0.03	0.05	0.05	<.03	<.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.17	<.03	<.03	0.04	0.17	0	0.018235	0.041901
Nitrogen, Nitrate, mg/l	1	0.1	<0.10	<0.10	<0.10	<0.10	<.10	<.10	<0.10	<0.10	0.4	0.2	<0.10	<.10	<.10	<.10	<.10	1	0	0.1	0.247338
Nitrogen, Nitrite, mg/l		<0.01	<0.01	<0.01	<0.01	<0.01	<.01	<.01	<0.01	<0.01	<0.01	<0.01	<0.01	<.01	<.01	<.01	<.10	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	1	0.22	0.1	0.216	0.15	0.11	0.11	0.23	0.97	0.51	0.39	0.36	0.33	0.2	0.32	0.31	0.28	1	0.1	0.341529	0.257845
																		0	0	0	0
Phosphorus, Total, mg/l	0.01	<0.01	0.024	0.022	0.019	0.012	0.021	0.013	0.016	0.022	0.012	0.011	0.015	0.036	0.03	0.03	0.093	0.093	0	0.022705	0.019532

PARAMETER	SW-3	SW-3	SW-3 DUP	SW-3	MAX	MIN	MEAN	STDV
Date	06-07-88	07-01-88	07-01-88	08-09-88				
METALS (DISS.)								
Antimony (Sb), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.18	0.11	0.15	<.10	0.18	0	0.11	0.068190
Arsenic (As), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Barium (Ba), mg/l				<.10	0	0	0	0
Beryllium (Be), mg/l	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Chromium (Cr), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l	<.005	<.005	0.006	<.005	0.006	0	0.0015	0.002598
Copper (Cu), mg/l	<.005	<.005	0.006	0.006	0.006	0	0.003	0.003
Gold (Au), mg/l								
Iron (Fe), mg/l	<.05	<.05	<.05	<.05	0	0	0	0
Lead (Pb), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Lithium (Li), mg/l	<.005	0.008	0.008	0.02	0.02	0	0.009	0.007141
Manganese (Mn), mg/l	0.03	<.03	<.03	<.03	0.03	0	0.0075	0.012990
Mercury (Hg), mg/l	<.0002	<.0002	<.0002	<.0002	0	0	0	0
Molybdenum (Mo), mg/l	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	<.005	<.005	<.005	0.018	0.018	0	0.0045	0.007794
Selenium (Se), mg/l	<.002	0.002	0.002	0.002	0.002	0	0.0015	0.000866
Silicon (Si), mg/l				6.3	6.3	6.3	6.3	
Silver (Ag), mg/l	<.0005	<.0005	<.0005	0.0044	0.0044	0	0.0011	0.001905
Strontium (Sr), mg/l								
Vanadium (V), mg/l	<.005	<.005	0.005	0.012	0.012	0	0.00425	0.004918
Zinc (Zn), mg/l	<.005	<.005	0.01	0.007	0.01	0	0.00425	0.004380

PARAMETER	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	MAX	MIN	MEAN	STDV
Date	06-02-84	05-03-85	10-11-85	06-22-87	08-28-87	10-15-87	11-19-87	03-28-88	04-20-88	06-07-88	07-01-88	08-09-88				
MINERALS																
Alkalinity (CaCO3),mg/l		86	119	108	144	140	110	60	56	110	122	146	146	56	109.1818	29.48903
Bicarbonate (HCO3),mg/l		105	145	132	176	171	134	73	68	134	149	178	178	68	133.1818	36.09285
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l		1	7.5	2	4	4	4	2	<1	<1	1	1	7.5	0	2.409090	2.161840
Fluoride (F), mg/l												0.11	0.11	0.11	0.11	
Sulfate (SO4),mg/l	24	31.8	63	40	44	52	40	25	21	25	35	49	63	21	37.48333	12.42724
Calcium (Ca),mg/l		29.5	59	43	50	52	47	21	22	39	44	51	59	21	41.59090	11.94079
Magnesium (Mg), mg/l	N.D.	6.5	11	8	11	10	11	4	4	8	10	11	11	0	7.875	3.440718
Potassium (K), mg/l		2.7	5	3	4	4	4	2	2	3	3	3	5	2	3.245454	0.875280
Sodium (Na), mg/l		2.4	3	3	4	4	3	3	3	3	4	4	4	2.4	3.309090	0.548476
Major Anion, MEQ/L		2.39	3.9	3.05	3.91	3.99	3.14	1.78	1.56	2.72	3.2	3.98	3.99	1.56	3.056363	0.832207
Major Cations, MEQ/L		2.25	4.1	3.02	3.67	3.68	3.47	1.89	1.61	2.82	3.27	3.73	4.1	1.61	3.046363	0.779501
Cation - Anion Balance, %		3.02	2.5	0.49	3.17	4.04	4.99	3	1.58	1.81	2.14	3.24	4.99	0.49	2.725454	1.168591
MISCELLANEOUS																
pH, Units	7.2	7.75	7.12	7.31	7.68	7.56	7.43	6.6	7.14	7.77	7.77	7.75	7.77	6.6	7.423333	0.347762
Conductivity, umhos/cm	160	240	360	260	345	350	345	275	156	260	300	350	360	156	283.4166	68.98726
Cyanide, Total, mg/l		<0.01	<0.01	<0.01	<0.010	<0.010	<.010						0	0	0	0
Cyanide, WAD, mg/l		<0.01	<0.01	<0.01	<0.010	<0.010	<.010						0	0	0	0
Cyanide, Free, mg/l	<0.005	<0.01	<0.01	<0.01	<0.010	<0.010	<.010						0	0	0	0
Hardness (CaCO3), GPG:mg/l		93	193	141	170	171	163	69	71	131	151	173	193	69	138.7272	40.99244
Solids, Dissolved, mg/l	94			158	226	250	178	206	102	173	184	228	250	94	179.9	49.01928
Solids, Suspended, mg/l	25	3	232	3	<1	6	<1	10	1	6	<1	14	232	0	25	62.80658
Turbidity, NTU		4	416	16	4	4	4	65	16	8	16	30	416	4	53	116.0634
METALS (TOTAL)													0	0	0	0
Antimony (Sb), mg/l	0.006	<0.005	0.008	<0.005	<0.005	<0.005	<.005	<.005	<0.005	<.005	<.005	<.005	0.008	0	0.001166	0.002640
Aluminum (Al), mg/l		<0.1	<0.10	0.61	0.19	0.17	<.10	1.95	0.29	0.19	0.26	0.2	1.95	0	0.350909	0.531968
Arsenic (As), mg/l	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	0.005	<0.005	<.005	<.005	<.005	0.005	0	0.00125	0.002165
Barium (Ba), mg/l												<.10	0	0	0	0
Beryllium (Be), mg/l				<0.0005	<0.0005	<0.0005	<.0005	<.0005	<0.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l				0.32	<0.20	<0.20	<.20	<.20	<0.20	<.20	<.20	<.20	0.32	0	0.035555	0.100566
Cadmium (Cd), mg/l		<0.0005	<0.0005	0.0005	0.0005	<0.0005	0.0005	0.0006	0.0011	<.0005	0.001	0.0035	0.0035	0	0.0007	0.000962
Chromium (Cr), mg/l		<0.005	<0.005	0.027	0.016	0.012	0.033	0.029	0.008	0.013	0.016	0.009	0.033	0	0.014818	0.010503
Cobalt (Co), mg/l				<0.005	0.008	0.006	<.005	0.008	<0.005	0.008	<.005	<.005	0.008	0	0.003333	0.003771
Copper (Cu), mg/l	<0.005	<0.005	0.006	0.005	0.009	0.015	0.016	0.009	0.008	0.006	<.005	0.053	0.053	0	0.010583	0.013756
Iron (Fe), mg/l	0.099	0.08	0.29	1.24	0.26	0.12	0.19	2.05	0.15	0.16	0.43	0.68	2.05	0.08	0.479083	0.570062
Lead (Pb), mg/l	<0.01	0.005	0.005	<0.005	<0.005	0.006	<.005	<.005	0.008	<.005	<.005	0.009	0.009	0	0.00275	0.003418
Lithium (Li), mg/l				0.009	0.006	0.0124	<.005	<.005	<0.005	<.005	<.005	0.013	0.013	0	0.004488	0.005358
Manganese (Mn), mg/l		<0.03	<0.05	0.24	0.07	0.04	0.05	0.03	<0.03	0.06	0.06	0.11	0.24	0	0.06	0.065505
Mercury (Hg), mg/l	<0.0005	0.0008	0.0002	<0.0002	<0.0002	0.0002	<.0002	0.0009	0.0002	<.0002	0.0005	<.0002	0.0009	0	0.000233	0.000311
Molybdenum (Mo), mg/l				<0.05	<0.05	<0.05	<.005	<.05	<0.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l		<0.005	0.027	0.009	0.914	<0.005	0.019	0.039	0.011	<.005	0.016	0.059	0.914	0	0.099454	0.258165
Selenium (Se), mg/l		<0.002	0.003	<0.005	<0.002	<0.002	<.002	0.002	<0.002	<.002	<.002	0.003	0.003	0	0.000727	0.001217
Silicon (Si), mg/l												7.5	7.5	7.5	7.5	0
Silver (Ag), mg/l			0.0049	0.001	0.0006	0.0272	<.0005	<.0005	<0.0005	<.0005	0.003	0.035	0.035	0	0.00717	0.012186
Strontium (Sr), mg/l																
Vanadium (V), mg/l				0.007	<0.005	0.019	<.005	0.027	<0.005	<.005	0.005	0.027	0.027	0	0.009444	0.011006
Zinc (Zn), mg/l		<0.005	0.03	0.04	0.02	0.07	0.08	4.6	0.06	0.01	0.04	0.095	4.6	0	0.458636	1.309916
NUTRIENTS													0	0	0	0
Nitrogen, Ammonia, mg/l	<0.014	<0.03	<0.03	0.03	<0.03	0.03	<.03	<.03	<0.03	0.11	<.03	<.03	0.11	0	0.014166	0.030945
Nitrogen, Nitrate, mg/l	<0.015	0.015	<0.10	<0.10	<0.10	<0.10	0.11	<.10	<0.10	<.10	<.10	<.10	0.11	0	0.010416	0.030308
Nitrogen, Nitrite, mg/l		<0.01	<0.01	<0.01	<0.01	<0.01	<.01	<.01	<0.01	<.01	<.01	<.010	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	2.59	0.84	0.08	0.172	0.15	0.1	0.39	0.37	0.32	0.18	0.19	0.56	2.59	0.08	0.495166	0.665419
Phosphorus, Total, mg/l	0.1	<0.01	0.039	0.045	0.027	0.013	0.025	0.152	0.01	0.033	0.038	0.13	0.152	0	0.051	0.046987

PARAMETER	SW-4	SW-4	SW-4	MAX	MIN	MEAN	STDV
Date	06-07-88	07-01-88	08-09-88				
METALS (DISS.)							
Antimony (Sb), mg/l	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.19	0.17	<.10	0.19	0	0.12	0.085244
Arsenic (As), mg/l	<.005	<.005	<.005	0	0	0	0
Barium (Ba), mg/l			<.10	0	0	0	0
Beryllium (Be), mg/l	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<.2	0	0	0	0
Cadmium (Cd), mg/l	<.0005	<.0005	<.0005	0	0	0	0
Chromium (Cr), mg/l	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l	0.005	<.005	<.005	0.005	0	0.001666	0.002357
Copper (Cu), mg/l	<.005	<.005	<.005	0	0	0	0
Iron (Fe), mg/l	<.05	<.05	<.05	0	0	0	0
Lead (Pb), mg/l	<.005	<.005	<.005	0	0	0	0
Lithium (Li), mg/l	<.005	<.005	0.005	0.005	0	0.001666	0.002357
Manganese (Mn), mg/l	0.05	0.06	0.03	0.06	0.03	0.046666	0.012472
Mercury (Hg), mg/l	<.0002	<.0002	0.0002	0.0002	0	0.000066	0.000094
Molybdenum (Mo), mg/l	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	<.005	<.005	<.005	0	0	0	0
Selenium (Se), mg/l	<.002	0.002	0.003	0.003	0	0.001666	0.001247
Silicon (Si), mg/l			7.5	7.5	7.5	7.5	0
Silver (Ag), mg/l	<.0005	<.0005	0.0063	0.0063	0	0.0021	0.002969
Strontium (Sr), mg/l							
Vanadium (V), mg/l	<.005	<.005	0.009	0.009	0	0.003	0.004242
Zinc (Zn), mg/l	0.01	0.011	0.005	0.011	0.005	0.008666	0.002624

PARAMETER	SW-5	SW-5	SW-5	SW-5	SW-5	SW-5	SW-5	SW-5	SW-5	MAX	MIN	MEAN	STDV
Date	06-22-87	08-28-87	10-15-87	11-15-87	12-22-87	01-14-88	03-28-88	04-20-88	06-07-88				
MINERALS													
Alkalinity (CaCO3),mg/l	89	94	114	114	129	134	58	64	94	134	58	98.88888	25.01308
Bicarbonate (HCO3),mg/l	109	115	139	139	157	163	71	78	115	163	71	120.6666	30.31684
Carbonate (CO3),mg/l	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	4	7	6	6	6	4	4	<1	2	7	0	4.333333	2.108185
Fluoride (F), mg/l													
Sulfate (SO4),mg/l	22	36	34	3	30	50	25	22	21	50	3	27	12.17465
Calcium (Ca),mg/l	29	38	38	34	43	48	20	20	31	48	20	33.44444	9.019868
Magnesium (Mg), mg/l	7	10	10	10	12	14	5	5	7	14	5	8.888888	2.922876
Potassium (K), mg/l	3	4	3	3	3	3	3	3	3	4	3	3.111111	0.314269
Sodium (Na), mg/l	3	4	4	4	4	5	4	3	4	5	3	3.888888	0.566557
Major Anion, MEQ/L	2.35	2.83	3.16	2.51	3.38	3.83	1.79	1.74	2.38	3.83	1.74	2.663333	0.663860
Major Cations, MEQ/L	2.24	2.99	2.97	2.77	3.39	3.84	1.73	1.62	2.38	3.84	1.62	2.658888	0.694717
Cation - Anion Balance, %	2.4	2.75	3.1	4.92	0.15	0.13	1.7	3.57	0	4.92	0	2.08	1.628755
MISCELLANEOUS													
pH, Units	7.55	7.85	7.78	7.63	7.64	7.47	6.55	7.47	8.06	8.06	6.55	7.555555	0.398611
Conductivity, umhos/cm	215	290	295	270	310	360	290	153	220	360	153	267	57.98275
Cyanide, Total, mg/l	<0.01	<0.010	<0.010	<.010	<.010	<0.01				0	0	0	0
Cyanide, WAD, mg/l	<0.01	<0.010	<0.010	<.010	<.010	<0.01				0	0	0	0
Cyanide, Free, mg/l	<0.01	<0.010	<0.010	<.010	<.010	<0.01				0	0	0	0
Hardness (CaCO3), GPG:mg/l	102	136	136	126	157	178	71	71	107	178	71	120.4444	34.27701
										0	0	0	0
Solids, Dissolved, mg/l	110	193	126	114	198	206	190	90	172	206	90	155.4444	42.39788
Solids, Suspended, mg/l	1	2	1	<1	2	<1	13	3	16	16	0	4.222222	5.613035
Turbidity, NTU	16	8	4	8	4	4	36	22	16	36	4	13.11111	10.11538
METALS (TOTAL)													
Antimony (Sb), mg/l	<0.005	<0.005	0.006	<.005	0.006	<0.005	<0.005	<0.005	<.005	0.006	0	0.001333	0.002494
Aluminum (Al), mg/l	0.27	0.23	0.17	0.23	<.10	<0.10	0.52	0.66	0.36	0.66	0	0.271111	0.205936
Arsenic (As), mg/l	<0.005	<0.005	0.005	0.012	0.006	<0.005	0.009	0.012	<.005	0.012	0	0.004888	0.004886
Barium (Ba), mg/l													
Beryllium (Be), mg/l	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<0.0005	<0.0005	<0.0005	<.0005	0	0	0	0
Boron (B), mg/l	<0.25	<0.20	<0.20	<.2	<.20	<0.2	<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.0008	0.0006	<0.0005	0.004	<.0005	<0.0005	0.0015	0.0009	<.0005	0.004	0	0.000866	0.001215
Chromium (Cr), mg/l	0.015	0.014	0.019	0.019	0.17	0.059	0.051	0.015	0.013	0.17	0.013	0.041666	0.048182
Cobalt (Co), mg/l	<0.005	<0.005	<0.005	0.006	<.005	0.006	<0.005	<0.005	0.006	0.006	0	0.002	0.002828
Copper (Cu), mg/l	0.007	0.01	0.017	0.025	0.009	0.011	0.011	0.015	0.014	0.025	0.007	0.013222	0.005094
Iron (Fe), mg/l	0.7	0.28	0.12	0.42	0.42	0.22	1.3	0.54	0.62	1.3	0.12	0.513333	0.329713
Lead (Pb), mg/l	<0.005	<0.005	<0.005	0.014	<.005	<0.005	<0.005	0.013	<.005	0.014	0	0.003	0.005617
Lithium (Li), mg/l	0.015	0.009	0.0261	0.012	0.022	0.01	0.005	0.006	<.005	0.0261	0	0.011677	0.007809
Manganese (Mn), mg/l	0.03	0.03	<0.03	0.03	<.03	<0.03	0.1	0.03	0.09	0.1	0	0.034444	0.034995
Mercury (Hg), mg/l	<0.0002	0.002	0.0004	<.0002	0.0003	<0.0002	0.0005	0.0002	<.0002	0.002	0	0.000377	0.000601
Molybdenum (Mo), mg/l	<0.05	<0.05	<0.05	<.05	<.05	<0.05	<0.05	<0.05	<.05	0	0	0	0
Nickel (Ni), mg/l	0.105	0.244	0.009	<.005	0.006	0.02	0.058	0.026	0.048	0.244	0	0.057333	0.072906
Selenium (Se), mg/l	0.008	<0.002	<0.002	<.002	<.002	<0.002	0.002	<0.002	<.002	0.008	0	0.001111	0.002514
Silicon (Si), mg/l													
Silver (Ag), mg/l	0.0005	<0.0005	0.0448	0.0007	<.0005	0.0009	<0.0005	<0.0005	<.0005	0.0448	0	0.005211	0.014000
Strontium (Sr), mg/l													
Vanadium (V), mg/l	<0.005	<0.005	0.019	0.005	0.005	0.014	0.022	0.009	<.005	0.022	0	0.008222	0.007913
Zinc (Zn), mg/l	0.05	0.015	0.08	0.03	0.02	0.01	0.12	0.08	0.02	0.12	0.01	0.047222	0.035986
NUTRIENTS										0	0	0	0
Nitrogen, Ammonia, mg/l	<0.03	<0.03	<0.03	<.03	<.03	<0.03	<0.03	<0.03	0.06	0.06	0	0.006666	0.018856
Nitrogen, Nitrate, mg/l	<0.10	<0.10	<0.10	<.10	<.10	<0.10	<0.10	<0.10	<.10	0	0	0	0
Nitrogen, Nitrite, mg/l	<0.01	<0.01	<0.01	<.01	<.01	<0.01	<0.01	<0.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.038	0.26	0.12	0.11	0.23	0.27	0.51	0.36	0.29	0.51	0.038	0.243111	0.134667
Phosphorus, Total, mg/l	0.02	0.022	0.011	0.022	0.01	<0.01	0.059	0.018	0.035	0.059	0	0.021888	0.016010

PARAMETER	SW-5
Date	06-07-88
METALS (DISS.)	
Antimony (Sb), mg/l	<.005
Aluminum (Al), mg/l	0.19
Arsenic (As), mg/l	<.005
Barium (Ba), mg/l	
Beryllium (Be), mg/l	<.0005
Boron (B), mg/l	<.20
Cadmium (Cd), mg/l	<.0005
Chromium (Cr), mg/l	<.005
Cobalt (Co), mg/l	<.005
Copper (Cu), mg/l	<.005
Iron (Fe), mg/l	<.05
Lead (Pb), mg/l	<.005
Lithium (Li), mg/l	<.005
Manganese (Mn), mg/l	<.03
Mercury (Hg), mg/l	<.0002
Molybdenum (Mo), mg/l	<.05
Nickel (Ni), mg/l	<.005
Selenium (Se), mg/l	<.002
Silicon (Si), mg/l	
Silver (Ag), mg/l	<.0005
Strontium (Sr), mg/l	
Vanadium (V), mg/l	<.005
Zinc (Zn), mg/l	<.005

PARAMETER	SW-6	SW-6	SW-6	SW-6 DUP	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6	SW-6 DUP	SW-6	SW-6	SW-6	SW-6 DUP	MAX	MIN	MEAN	STDV
Date	06-22-87	08-28-87	10-14-87	10-14-87	11-18-87	12-07-87	12-22-87	01-18-88	03-29-88	04-21-88	04-21-88	06-07-88	07-01-88	08-10-88	08-10-88				
MINERALS																			
Alkalinity (CaCO3),mg/l	76	78	101	70	78	80	126	97	86	50	50	58	88	100	94	126	50	82.13333	19.80190
Bicarbonate (HCO3),mg/l	93	95	123	85	95	98	154	118	105	61	61	71	107	122	115	154	61	100.2	24.16940
Carbonate (CO3),mg/l	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	4	3	2	2	<1	<1	3	3	1	<1	<1	1	<1	1	1	4	0	1.4	1.306394
Fluoride (F), mg/l														0.29	0.28	0.29	0.28	0.285	0.005
Sulfate (SO4),mg/l	70	90	63	68	68	62	37	60	94	66	68	76	96	81	85	96	37	72.26666	14.80300
Calcium (Ca),mg/l	43	52	47	44	42	42	44	45	44	33	33	43	52	54	54	54	33	44.8	6.220396
Magnesium (Mg), mg/l	7	10	9	8	9	8	9	9	9	6	6	8	10	10	10	10	6	8.533333	1.309792
Potassium (K), mg/l	3	4	3	2	3	5	3	3	3	2	2	3	3	3	3	5	2	3	0.730296
Sodium (Na), mg/l	3	4	4	4	4	5	4	4	5	4	4	4	5	5	5	5	3	4.266666	0.573488
Major Anion, MEQ/L	3.09	3.53	3.39	2.88	3.01	2.89	3.38	3.28	3.71	2.38	2.42	2.77	3.76	3.74	3.69	3.76	2.38	3.194666	0.447301
Major Cations, MEQ/L	2.94	3.68	3.34	3.08	3.09	3.11	3.19	3.24	3.4	2.36	2.36	3.06	3.71	3.81	3.81	3.81	2.36	3.212	0.434115
Cation - Anion Balance, %	2.49	2.08	0.74	3.36	1.31	3.67	2.89	0.61	4.36	0.42	1.26	4.97	0.67	0.93	1.6	4.97	0.42	2.090666	1.415577
MISCELLANEOUS																0	0	0	0
pH, Units	7.76	7.58	7.65	7.66	7.38	7.59	7.7	7.32	6.74	7.28	7.31	7.96	8.04	7.7	7.83	8.04	6.74	7.566666	0.312466
Conductivity, umhos/cm	293	355	325	325	325	340	300	310	325	245	240	300	350	375	375	375	240	318.8666	38.56573
Cyanide, Total, mg/l	<0.01	<0.010	<0.010	<0.010	<.010	<.010	<.010	<0.01								0	0	0	0
Cyanide, WAD, mg/l	<0.01	<0.010	<0.010	<0.010	<.010	<.010	<.010	<0.01								0	0	0	0
Cyanide, Free, mg/l	<0.01	<0.010	<0.010	<0.010	<.010	<.010	<.010	<0.01								0	0	0	0
Hardness (CaCO3), GPG:mg/l	137	171	155	143	142	138	147	150	147	108	108	141	171	176	176	176	108	147.3333	20.33934
																0	0	0	0
Solids, Dissolved, mg/l	160	205	162	184	194	208	176	132	274	140	144	188	202	249	232	274	132	190	39.08111
Solids, Suspended, mg/l	<1	<1	5	3	2	24	2	<1	7	4	5	5	4	1	6	24	0	4.533333	5.643481
Turbidity, NTU	4	8	4	4	0	64	4	8	20	12	12	8	8	30	26	64	0	14.13333	15.67106
METALS (TOTAL)																			
Antimony (Sb), mg/l	<0.005	<0.005	<0.005	<0.005	<.005	0.043	<.005	<0.005	<0.005	<0.005	<0.005	<.005	<.005	<.005	<.005	0.043	0	0.002866	0.010726
Aluminum (Al), mg/l	0.26	0.33	0.14	0.17	0.1	1.49	<.10	0.29	0.78	0.44	0.58	0.26	0.29	<.10	<.10	1.49	0	0.342	0.371917
Arsenic (As), mg/l	<0.005	0.007	<0.005	<0.005	0.006	<.005	0.04	0.009	0.005	0.009	0.01	<.005	<.005	<.005	<.005	0.04	0	0.005733	0.009929
Barium (Ba), mg/l														<.10	<.10	0	0	0	0
Beryllium (Be), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<0.0005	<0.0005	<0.0005	<0.005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<0.25	<0.20	<0.20	<0.20	<.20	<.20	<.20	<0.20	<0.20	<0.20	<0.20	<.2	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.0003	0.0016	0.0006	0.0007	0.0008	<.0005	<.0005	0.0012	0.0014	0.0016	0.0016	<.0005	0.0006	<.0005	<.0005	0.0016	0	0.000693	0.000622
Chromium (Cr), mg/l	0.015	0.014	0.008	0.008	0.041	0.037	0.077	0.154	<0.005	0.007	0.008	0.011	0.016	0.009	0.011	0.154	0	0.027733	0.038642
Cobalt (Co), mg/l	<0.005	0.014	<0.005	<0.005	<.005	<.005	<.005	0.005	0.01	<0.005	0.006	0.008	0.005	<.005	<.005	0.014	0	0.0032	0.004415
Copper (Cu), mg/l	0.013	0.044	0.027	0.037	0.018	0.022	0.015	0.026	0.039	0.039	0.035	0.016	0.005	0.01	0.015	0.044	0.005	0.024066	0.011823
Iron (Fe), mg/l	0.21	0.39	0.08	0.1	0.17	1.98	0.08	1.13	0.75	0.39	0.39	0.22	0.79	0.15	0.2	1.98	0.08	0.468666	0.500144
Lead (Pb), mg/l	<0.005	<0.005	<0.005	0.005	<.005	0.005	<.005	<0.005	<0.005	0.005	0.008	<.005	<.005	<.005	<.005	0.008	0	0.001533	0.002629
Lithium (Li), mg/l	0.01	0.007	0.0121	<0.0141	<0.005	0.009	0.012	0.008	0.006	<0.005	<0.005	<.005	<.005	<.005	0.005	0.0121	0	0.004606	0.004669
Manganese (Mn), mg/l	0.03	0.13	0.03	<0.03	0.03	0.22	<.03	0.03	0.41	0.12	0.13	0.05	<.03	<.03	<.03	0.41	0	0.078666	0.108926
Mercury (Hg), mg/l	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002		<0.0002	0.001	0.0002	0.0002	<.0002	<.0002	0.0003	0.0003	0.001	0	0.00016	0.000252
Molybdenum (Mo), mg/l	<0.05	<0.05	<0.05	<0.05	<.005	<.05	<.05	<0.005	<0.05	<0.05	<0.05	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	0.018	0.228	0.01	0.01	0.022	0.03	<.005	0.006	0.038	0.017	0.017	<.005	<.005	<.005	<.005	0.228	0	0.0264	0.055073
Selenium (Se), mg/l	<0.005	<0.002	<0.002	<0.002	<.002	0.004	0.002	<0.002	0.002	0.003	<0.002	<.002	<.002	<.002	<.002	0.004	0	0.000733	0.001289
Silicon (Si), mg/l														7.7	9.8	9.8	7.7	8.75	1.05
Silver (Ag), mg/l	0.0006	0.0005	0.0152	0.0134	<.0005	<.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<.0005	<.0005	0.0013	0.0029	0.0152	0	0.0023	0.004777
Strontium (Sr), mg/l																			
Vanadium (V), mg/l	0.005	<0.005	<0.005	0.006	0.01	0.071	0.011	0.011	0.082	0.025	0.03	<.005	<.005	<.005	<.005	0.082	0	0.016733	0.025156
Zinc (Zn), mg/l	0.06	0.08	0.15	0.15	0.13	0.05	0.02	0.02	0.19	0.19	0.2	0.03	0.02	<.005	0.01	0.2	0	0.086666	0.071242
NUTRIENTS																0	0	0	0
Nitrogen, Ammonia, mg/l	0.04	0.05	<0.03	<0.03	0.03	<.03	<.03	<0.03	<0.03	<0.03	<0.03	<.03	<.03	0.05	0.03	0.05	0	0.013333	0.019550
Nitrogen, Nitrate, mg/l	<0.10	<0.10	<0.10	<0.10	<.10	0.1	<.10	<0.10	0.14	<0.10	0.16	<.10	<.10	<.10	<.10	0.16	0	0.026666	0.054487
Nitrogen, Nitrite, mg/l	<0.01	<0.01	<0.01	<0.01	<.01	<.01	<.01	<0.01	<0.01	<0.01	<0.01	<.01	<.01	<.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.737	0.25	0.03	0.1	0.26	0.33	0.24	0.9	0.22	0.27	0.33	0.24	0.19	0.22	0.2	0.9	0.03	0.301133	0.217983
Phosphorus, Total, mg/l	<0.010	0.018	<0.01	<0.01	0.037	0.045	0.015	0.012	0.01	<0.010	<0.010	0.015	0.017	0.017	0.061	0.061	0	0.016466	0.017594

PARAMETER	SW-6	SW-6	SW-6	SW-6	MAX	MIN	MEAN	STDV
Date	06-0?-88	07-01-88	08-10-88	08-10-88				
METALS (DISS.)								
Antimony (Sb), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.26	0.21	<.10	<.10	0.26	0	0.1175	0.118822
Arsenic (As), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Barium (Ba), mg/l			<.10	<.10	0	0	0	0
Beryllium (Be), mg/l	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Chromium (Cr), mg/l	<.005	<.005	0.005	0.005	0.005	0	0.0025	0.0025
Cobalt (Co), mg/l	0.009	<.005	<.005	<.005	0.009	0	0.00225	0.003897
Copper (Cu), mg/l	0.016	0.005	0.01	0.006	0.016	0.005	0.00925	0.004322
Iron (Fe), mg/l	<.05	<.05	<.05	<.05	0	0	0	0
Lead (Pb), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Lithium (Li), mg/l	<.005	0.005	<.005	<.005	0.005	0	0.00125	0.002165
Manganese (Mn), mg/l	0.05	<.03	<.03	<.03	0.05	0	0.0125	0.021650
Mercury (Hg), mg/l	<.0002	<.0002	0.0002	<.0002	0.0002	0	0.00005	0.000086
Molybdenum (Mo), mg/l	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Selenium (Se), mg/l	<.002	0.002	<.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l			7.7	7.6	7.7	7.6	7.65	0.05
Silver (Ag), mg/l	<.0005	<.0005	0.0013	0.0006	0.0013	0	0.000475	0.000535
Strontium (Sr), mg/l								
Vanadium (V), mg/l	<.005	<.005	<.005	<.005	0	0	0	0
Zinc (Zn), mg/l	<.005	<.005	<.005	<.005	0	0	0	0

PARAMETER	SW-8	SW-8	SW-8	SW-8	SW-8	SW-8	SW-8	SW-8	SW-8	SW-8	MAX	MIN	MEAN	STDV
Date	06-14-84	05-03-85	10-09-85	10-15-87	11-15-87	12-31-87	01-18-88	03-29-88	04-21-88	06-07-88				
MINERALS														
Alkalinity (CaCO3),mg/l		81	112	119	115	125	136	64	62	92	136	62	100.6666	25.41215
Bicarbonate (HCO3),mg/l		99	137	145	140	153	166	78	76	112	166	76	122.8888	30.99980
Carbonate (CO3),mg/l		0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l		4	5	6	6	6	8	8	1	3	8	1	5.222222	2.148786
Fluoride (F), mg/l														
Sulfate (SO4),mg/l	13.7	19	28	22	2	25	37	19	12	14	37	2	19.17	9.169520
Calcium (Ca),mg/l		23	40	35	31	38	41	23	18	28	41	18	30.77777	7.828406
Magnesium (Mg), mg/l	4.5	7	12	10	10	11	13	7	5	7	13	4.5	8.65	2.793295
Potassium (K), mg/l		3	2	4	4	3	4	3	3	3	4	2	3.222222	0.628539
Sodium (Na), mg/l	2.1	3.5	4	4	4	4	5	5	3	4	5	2.1	3.86	0.816333
Major Anion, MEQ/L		2.13	2.96	3.01	2.51	3.19	3.72	1.91	1.52	2.21	3.72	1.52	2.573333	0.659747
Major Cations, MEQ/L		1.96	3.21	2.84	2.64	3.05	3.44	2.03	1.52	2.23	3.44	1.52	2.546666	0.610245
Cation - Anion Balance, %		3.34	3.49	2.91	2.52	2.24	3.91	3.05	0	0.45	3.91	0	2.434444	1.274808
MISCELLANEOUS														
pH, Units	6.6	8.28	7.71	7.94	7.74	7.59	7.37	6.95	7.59	8.17	8.28	6.6	7.594	0.490901
Conductivity, umhos/cm	122	220	300	275	255	250	340	200	140	192	340	122	229.4	65.00338
Cyanide, Total, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01				0	0	0	0
Cyanide, WAD, mg/l		<0.01	<0.01	<0.010	<.010	<.010	<0.01				0	0	0	0
Cyanide, Free, mg/l	0.001	<0.01	<0.01	<0.010	<.010	<.010	<0.01				0.001	0	0.000142	0.000349
Hardness (CaCO3), GPG:mg/l	55.5	81	149	128	119	140	157	87	66	99	157	55.5	108.15	33.76096
Solids, Dissolved, mg/l	122			108	114	158	228	142	82	126	228	82	135	41.01219
Solids, Suspended, mg/l	24	4	8	5	<1	1	3	7	3	12	24	0	6.7	6.664082
Turbidity, NTU		12	11	4	12	4	4	21	26	20	26	4	12.66666	7.673909
METALS (TOTAL)											0	0	0	0
Antimony (Sb), mg/l	<0.005	<0.005	0.006	<0.005	<.005	0.037	<0.005	<0.005	<0.005	0.008	0.037	0	0.0051	0.010994
Aluminum (Al), mg/l		0.1	<0.10	0.15	0.19	<.10	0.52	0.22	0.48	0.32	0.52	0	0.22	0.177826
Arsenic (As), mg/l	<0.005	<0.005	<0.005	<0.005	<.005	0.052	0.005	0.005	0.01	<.005	0.052	0	0.0072	0.015282
Barium (Ba), mg/l														
Beryllium (Be), mg/l				<0.0005	<.0005	<.0005	<0.0005	<0.0005	<0.0005	<.0005	0	0	0	0
Boron (B), mg/l				<0.20	<.2	<.2	<0.20	<0.20	<0.20	<.20	0	0	0	0
Cadmium (Cd), mg/l		<0.0005	0.15	0.0006	0.0038	<.0005	0.0008	0.0014	0.0014	0.0005	0.15	0	0.017611	0.046819
Chromium (Cr), mg/l		<0.005	<0.005	0.006	0.01	0.1	0.066	0.055	0.013	0.016	0.1	0	0.029555	0.033466
Cobalt (Co), mg/l				<0.005	<.005	<.005	<0.005	<0.005	<0.005	<.005	0	0	0	0
Copper (Cu), mg/l	0.002	<0.005	0.02	0.02	0.03	<.005	0.009	0.007	0.024	<.005	0.03	0	0.0112	0.010749
Gold (Au), mg/l			<0.005								0	0	0	0
Iron (Fe), mg/l	3.2	0.23	0.14	0.08	0.48	0.07	1.09	1	0.75	0.62	3.2	0.07	0.766	0.884400
Lead (Pb), mg/l	<0.01	<0.005	<0.005	<0.005	0.013	<.005	<0.005	<0.005	0.006	0.005	0.013	0	0.0024	0.004152
Lithium (Li), mg/l				0.005	0.016	0.107	0.023	0.007	0.008	<.005	0.107	0	0.023714	0.034713
Manganese (Mn), mg/l		<0.03	<0.05	<0.03	0.02	<.03	0.03	0.09	0.03	0.1	0.1	0	0.03	0.036817
Mercury (Hg), mg/l	<0.0005	0.0008	0.0004	<0.0002	<.0002	<.0002	0.0005	0.0007	0.0002	<.0002	0.0008	0	0.00026	0.000300
Molybdenum (Mo), mg/l				<0.05	<.05	<.05	<0.005	<0.05	<0.05	<.05	0	0	0	0
Nickel (Ni), mg/l		0.005	0.009	0.019	<.005	<.005	0.011	0.03	0.024	<.005	0.03	0	0.010888	0.010524
Selenium (Se), mg/l		<0.002	<0.002	<0.002	<.002	<.002	<0.002	0.002	<0.002	<.002	0.002	0	0.000222	0.000628
Silicon (Si), mg/l														
Silver (Ag), mg/l			0.028	0.0087	0.0026	<.0005	<0.0005	<0.0005	<0.0005	<.0005	0.028	0	0.004912	0.009174
Strontium (Sr), mg/l											0	0	0	0
Vanadium (V), mg/l				<0.005	<.005	0.007	0.009	0.026	0.007	<.005	0.026	0	0.007	0.008552
Zinc (Zn), mg/l	0.005	0.007	0.04	0.06	0.03	0.03	0.03	0.023	0.11	0.02	0.11	0.005	0.0355	0.028983
NUTRIENTS											0	0	0	0
Nitrogen, Ammonia, mg/l	<0.1	<0.03	<0.03	<0.03	<.03	<.03	<0.03	<0.03	<0.03	<.03	0	0	0	0
Nitrogen, Nitrate, mg/l	0.1	<0.01	<0.10	<0.10	<.10	0.11	0.1	0.14	<0.10	<.10	0.14	0	0.045	0.056080
Nitrogen, Nitrite, mg/l		<0.01	<0.01	<0.01	<.01	<.01	<0.01	<0.01	<0.01	<.01	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	1.1	0.26	0.22	0.08	0.15	0.23	0.24	0.68	0.3	0.3	1.1	0.08	0.356	0.289903
											0	0	0	0
Phosphorus, Total, mg/l	0.11	<0.01	0.01	0.023	0.021	0.013	0.02	0.026	0.02	0.052	0.11	0	0.0295	0.029692

PARAMETER	SW-8
Date	06-07-88
METALS (DISS.)	
Antimony (Sb), mg/l	<.005
Aluminum (Al), mg/l	0.2
Arsenic (As), mg/l	<.005
Barium (Ba), mg/l	
Beryllium (Be), mg/l	<.0005
Boron (B), mg/l	<.20
Cadmium (Cd), mg/l	0.0006
Chromium (Cr), mg/l	<.005
Cobalt (Co), mg/l	<.005
Copper (Cu), mg/l	<.005
Gold (Au), mg/l	
Iron (Fe), mg/l	<.05
Lead (Pb), mg/l	<.005
Lithium (Li), mg/l	<.005
Manganese (Mn), mg/l	<.03
Mercury (Hg), mg/l	<.0002
Molybdenum (Mo), mg/l	<.05
Nickel (Ni), mg/l	<.005
Selenium (Se), mg/l	<.002
Silicon (Si), mg/l	
Silver (Ag), mg/l	<.0005
Strontium (Sr), mg/l	
Vanadium (V), mg/l	<.005
Zinc (Zn), mg/l	<.005

PARAMETER	SW-11	SW-11	SW-11	SW-11	SW-11	SW-11	SW-11	SW-11	SW-11	SW-11 DUP	SW-11	SW-11	SW-11	MAX	MIN	MEAN	STDV
Date	02-28-85	05-03-85	10-09-85	10-16-87	11-18-87	01-14-88	03-28-88	04-20-88	06-07-88	06-07-88	07-01-88	08-10-88	11-29-88				
MINERALS																	
Alkalinity (CaCO3),mg/l	128	100	151	135	114	133	66	80	94	97	106	124	133	151	66	112.3846	23.53896
Bicarbonate (HCO3),mg/l	156	122	184	165	139	162	81	98	115	118	129	151	162	184	81	137.0769	28.54810
Carbonate (CO3),mg/l	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	1	<1	<1	3	1	1	<1	<1	1	<1	<1	<1	<1	3	0	0.538461	0.842650
Fluoride (F), mg/l	0.16											<.1	<.10	0.16	0	0.053333	0.075424
Sulfate (SO4),mg/l	17	9	14	15	18	17	11	10	12	12	12	15	12	18	9	13.38461	2.732664
Calcium (Ca),mg/l	40	35	49	44	45	45	24	26	30	30	37	42	44	49	24	37.76923	7.787108
Magnesium (Mg), mg/l	5.8	5	6	6	5	7	3	4	4	4	5	5	6	7	3	5.061538	1.059418
Potassium (K), mg/l	1.3	2.1	1	2	2	2	2	1	2	2	2	2	1	2.1	1	1.723076	0.438798
Sodium (Na), mg/l	3.4	2.7	3	4	3	3	3	3	3	3	3	3	4	4	2.7	3.161538	0.383382
Major Anion, MEQ/L	2.91	2.19	3.31	3.1	2.69	3.04	1.55	1.81	2.16	2.19	2.37	2.79	2.91	3.31	1.55	2.54	0.514901
Major Cations, MEQ/L	2.66	2.31	3.1	2.91	2.84	3.01	1.63	1.79	2.01	2.01	2.44	2.69	2.89	3.1	1.63	2.483846	0.471911
Cation - Anion Balance, %	4.49	2.66	3.28	3.16	2.71	0.5	2.52	0.56	3.6	4.29	1.46	1.82	0.34	4.49	0.34	2.414615	1.340686
MISCELLANEOUS																	
pH, Units	8.02	7.95	7.54	7.72	7.62	7.73	7.03	7.55	7.85	7.85	7.98	7.77	7.77	8.02	7.03	7.721538	0.247568
Conductivity, umhos/cm	250	230	300	275	270	285	247	146	181	182	220	250	255	300	146	237.7692	43.27044
Cyanide, Total, mg/l	<0.010	<0.010	<0.01	<.010	<.010	<.01							<.010	0	0	0	0
Cyanide, WAD, mg/l	<0.010	<0.010	<0.01	<.010	<.010	<.01								0	0	0	0
Cyanide, Free, mg/l		<0.010	<0.01	<.010	<.010	<.01								0	0	0	0
Hardness (CaCO3), GPG:mg/l	124	108	148	135	134	142	72	81	91	91	113	126	135	148	72	115.3846	23.84094
														0	0	0	0
Solids, Dissolved, mg/l	122			116	140	170	146	94	116	112	118	162	192	192	94	135.2727	28.18475
Solids, Suspended, mg/l	<1	1	1	4	1	<1	9	<1	4	4	<1	5	4	9	0	2.538461	2.619905
Turbidity, NTU	4	4	2	4	0	4	51	16	4	4	4	26	153	153	0	21.23076	40.38117
METALS (TOTAL)																	
Antimony (Sb), mg/l	<0.005	<0.005	<0.005	0.01	<.005	<.005	<0.005	<0.005	<.005	<.005	<.005	0.005	<.005	0.01	0	0.001153	0.002878
Aluminum (Al), mg/l	<0.10	0.2	<0.1	0.15	<.10	<.10	2.31	0.37	<.10	<.10	0.39	<.10	0.19	2.31	0	0.277692	0.602637
Arsenic (As), mg/l	<0.005	<0.005	0.006	<.005	<.005	<.005	0.01	<0.005	<.005	<.005	<.005	<.005	<.005	0.01	0	0.001230	0.002991
Barium (Ba), mg/l	<.10											<.10	<.10	0	0	0	0
Beryllium (Be), mg/l				<.0005	<.0005	<.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l				<.20	<.20	<.2	<0.20	<0.20	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	<0.0005	<0.0005	<0.0005	0.0008	0.0009	<.0005	0.0021	<0.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0.0021	0	0.000292	0.000604
Chromium (Cr), mg/l	<0.005	<0.005	0.008	<.005	0.037	0.052	0.5	0.008	0.014	0.013	0.014	0.01	0.007	0.5	0	0.051	0.130412
Cobalt (Co), mg/l				<.005	<.005	<.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	<0.005	<0.005	0.02	0.013	0.015	0.011	0.2	<0.005	0.01	0.006	<.005	0.007	<.005	0.2	0	0.021692	0.051874
Gold (Au), mg/l		<.005	<.005											0	0	0	0
Iron (Fe), mg/l	<0.05	<0.05	0.29	<.05	0.09	0.1	2.8	0.3	0.25	0.25	0.05	0.25	0.35	2.8	0	0.363846	0.713803
Lead (Pb), mg/l	<0.005	<0.005	<0.005	<.005	<.005	<.005	<0.005	<0.005	<.005	0.006	<.005	<.005	0.007	0.007	0	0.001	0.002353
Lithium (Li), mg/l				0.033	<.005	<.005	<0.005	<0.005	<.005	<.005	<.005	<.005	<.005	0.033	0	0.0033	0.0099
Manganese (Mn), mg/l		<0.03	<0.05	<.03	<.03	<.03	0.07	<0.03	<.03	0.03	<.03	<.03	<.03	0.07	0	0.008333	0.020344
Mercury (Hg), mg/l	<0.0002	0.0015	<0.0002	<.0002	<.0002	0.0002	0.0004	0.0004	0.0008	0.0005	0.001	<.0002	0.0002	0.0015	0	0.000384	0.000448
Molybdenum (Mo), mg/l				<.05	<.005	<.05	<0.05	<0.05	<.05	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l		<0.005	0.009	0.015	0.024	0.007	0.062	<0.005	0.01	0.005	<.005	<.005	<.005	0.062	0	0.011	0.016950
Selenium (Se), mg/l	<0.002	<0.002	<0.002	0.003	<.002	<.002	0.002	<0.002	<.002	<.002	<.002	<.002	<.002	0.003	0	0.000384	0.000923
Silicon (Si), mg/l				0.007								7.2		7.2	0.007	3.6035	3.5965
Silver (Ag), mg/l	<0.0005		0.0072	0.0066	<.0005	0.0009	<0.0005	<0.0005	<.0005	0.0008	<.0005	0.0012	<.0005	0.0072	0	0.001391	0.002500
Strontium (Sr), mg/l																	
Vanadium (V), mg/l				0.007	<.005	0.012	<0.005	0.017	0.012	0.015	<.005	0.006	<.005	0.017	0	0.0069	0.006410
Zinc (Zn), mg/l	0.005	0.009	0.04	0.05	0.1	0.01	0.19	<0.005	0.01	0.01	0.014	<.005	0.02	0.19	0	0.035230	0.051936
NUTRIENTS																	
Nitrogen, Ammonia, mg/l	<0.03	<0.03	0.04	0.05	<.03	<.03	<0.03	<0.03	<.03	<.03	<.03	<.03	<.03	0.05	0	0.006923	0.016354
Nitrogen, Nitrate, mg/l	0.13	0.32	<0.10	<.10	<.10	0.1	<0.10	<0.10	<.10	<.10	<.10	<.10	<.10	0.32	0	0.042307	0.090311
Nitrogen, Nitrite, mg/l		<0.01	<0.01	<.01	<.01	<.01	<0.01	<0.01	<.01	<.01	<.01	<.01	<.010	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.17	0.21	0.07	0.06	0.26	0.26	0.33	0.29	0.3	0.27	0.25	0.17	0.12	0.33	0.06	0.212307	0.084321
														0	0	0	0
Phosphorus, Total, mg/l	0.025	<0.010	0.027	0.018	0.019	<.01	0.063	0.019	0.034	0.03	0.03	0.017	0.022	0.063	0	0.023384	0.015163

PARAMETER	SW-11	SW-11 DUP	SW-11	SW-11	SW-11	MAX	MIN	MEAN	STDV
Date	06-07-88	06-07-88	07-01-88	08-10-88	11- 9-88				
METALS (DISS.)									
Antimony (Sb), mg/l	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	<.10	<.10	0.39	<.10	<.10	0.39	0	0.078	0.156
Arsenic (As), mg/l	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Barium (Ba), mg/l				<.10	<.10	0	0	0	0
Beryllium (Be), mg/l	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0	0
Chromium (Cr), mg/l	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	0.01	<.005	<.005	<.005	<.005	0.01	0	0.002	0.004
Gold (Au), mg/l									
Iron (Fe), mg/l	<.05	<.05	<.05	0.05	<.05	0.05	0	0.01	0.02
Lead (Pb), mg/l	<.005	0.006	<.005	<.005	0.005	0.006	0	0.0022	0.002712
Lithium (Li), mg/l	<.005	<.005	<.005	<.005	<.005	0	0	0	0
Manganese (Mn), mg/l	<.03	<.03	<.03	<.03	<.03	0	0	0	0
Mercury (Hg), mg/l	<.0002	0.0005	<.0002	<.0002	<.0002	0.0005	0	0.0001	0.0002
Molybdenum (Mo), mg/l	<.05	<.05	<.05	<.05	<.05	0	0	0	0
Nickel (Ni), mg/l	0.01	<.005	<.005	<.005	<.005	0.01	0	0.002	0.004
Selenium (Se), mg/l	<.002	<.002	0.002	<.002	<.002	0.002	0	0.0004	0.0008
Silicon (Si), mg/l				7.1		7.1	7.1	7.1	0.000000
Silver (Ag), mg/l	<.0005	<.0005	<.0005	0.0012	<.0005	0.0012	0	0.00024	0.00048
Strontium (Sr), mg/l									
Vanadium (V), mg/l	0.009	0.008	<.005	<.005	<.005	0.009	0	0.0034	0.004176
Zinc (Zn), mg/l	0.007	0.01	<.005	<.005	<.005	0.01	0	0.0034	0.004270

PARAMETER	SW-28	SW-28	SW-28	SW-28	SW-28	SW-28	SW-28	SW-28	MAX	MIN	MEAN	STDV
Date	11-18-87	12-23-87	01-19-88	03-29-88	04-21-88	06-07-88	08-30-88	11-30-88				
MINERALS												
Alkalinity (CaCO3),mg/l	6	32	12	6	14	13	20	6	32	6	13.625	8.335728
Bicarbonate (HCO3),mg/l	7	39	15	7	17	16	24	7	39	7	16.5	10.22252
Carbonate (CO3),mg/l	0	0	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	4	3	2	2	<1	2	1	2	4	0	2	1.118033
Fluoride (F), mg/l							0.62		0.62	0.62	0.62	0.000000
Sulfate (SO4),mg/l	150	145	160	89	95	131	180	221	221	89	146.375	40.41638
Calcium (Ca),mg/l	44	41	45	21	23	36	46	58	58	21	39.25	11.52985
Magnesium (Mg), mg/l	14	14	15	7	8	12	16	19	19	7	13.125	3.756244
Potassium (K), mg/l	6	8	6	3	3	4	4	5	8	3	4.875	1.615355
Sodium (Na), mg/l	7	6	8	4	4	5	7	8	8	4	6.125	1.536025
Major Anion, MEQ/L	3.36	3.75	3.63	2.03	2.26	3.05	4.21	4.78	4.78	2.03	3.38375	0.868503
Major Cations, MEQ/L	3.6	3.66	3.98	1.98	2.06	3.11	4.02	4.93	4.93	1.98	3.4175	0.939610
Cation - Anion Balance, %	3.45	1.21	4.59	1.25	4.63	0.97	2.31	1.54	4.63	0.97	2.49375	1.428827
MISCELLANEOUS												
pH, Units	5.72	5.77	5.58	5.56	5.52	5.69	6.35	7.33	7.33	5.52	5.94	0.579913
Conductivity, umhos/cm	395	400	410	285	240	320	430	545	545	240	378.125	89.05537
Cyanide, Total, mg/l	<.010	<.010	<0.01					<.010	0	0	0	0
Cyanide, WAD, mg/l	<.010	<.010	<0.01						0	0	0	0
Cyanide, Free, mg/l	<.010	<.010	<0.01						0	0	0	0
Hardness (CaCO3), GPG:mg/l	168	160	175	82	91	139	181	223	223	82	152.375	44.04525
Solids, Dissolved, mg/l	42	266	312	216	142	220	292	362	362	42	231.5	95.29821
Solids, Suspended, mg/l	<1	2	2	4	<1	6	5	10	10	0	3.625	3.159806
Turbidity, NTU	8	30	8	12	16	12	47	4	47	4	17.125	13.46697
METALS (TOTAL)												
Antimony (Sb), mg/l	<.005	0.021	<0.005	<0.005	0.006	<.005	<.005	<.005	0.021	0	0.003375	0.006945
Aluminum (Al), mg/l	0.22	<.10	0.52	0.64	0.3	0.11	0.25	0.64	0.64	0	0.335	0.224944
Arsenic (As), mg/l	0.005	0.077	<0.005	<0.005	0.011	<.005	0.007	<.005	0.077	0	0.0125	0.024682
Barium (Ba), mg/l							<.10		0	0	0	0
Beryllium (Be), mg/l	<.0005	<.0005	<0.0005	<0.0005	<0.0005	<.0008	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<0.20	<0.20	<0.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.0013	<.0005	0.0007	0.0037	<0.0005	0.001	0.0014	0.0029	0.0037	0	0.001375	0.001230
Chromium (Cr), mg/l	0.039	0.064	0.236	0.04	0.015	0.011	0.04	<.005	0.236	0	0.055625	0.070804
Cobalt (Co), mg/l	<.005	<.005	0.005	0.008	<0.005	<.005	<.005	<.005	0.008	0	0.001625	0.002912
Copper (Cu), mg/l	0.023	0.028	0.034	0.023	0.012	0.015	0.03	0.012	0.034	0.012	0.022125	0.007865
Iron (Fe), mg/l	0.28	0.19	2.39	0.5	0.15	0.75	0.65	0.58	2.39	0.15	0.68625	0.675739
Lead (Pb), mg/l	<.005	<.005	<0.005	<0.005	<0.005	<.005	<.005		0	0	0	0
Lithium (Li), mg/l	0.005	0.023	0.009	<0.005	0.005	0.018	0.023	0.023	0.023	0	0.01325	0.008926
Manganese (Mn), mg/l	0.14	0.16	0.22	<0.03	0.04	0.08	0.46	0.12	0.46	0	0.1525	0.133017
Mercury (Hg), mg/l	<.0002	<.0002	0.0002	0.0006	0.0005	0.0005	0.0003	0.0005	0.0006	0	0.000325	0.000222
Molybdenum (Mo), mg/l	<.005	<.05	<0.005	<0.05	<0.05	<.05	<.05		0	0	0	0
Nickel (Ni), mg/l	0.037	0.134	0.015	<0.005	0.028	0.021	0.053	0.015	0.134	0	0.037875	0.039263
Selenium (Se), mg/l	<.002	<.002	<0.002	0.002	<0.002	<.002	0.002	<.002	0.002	0	0.0005	0.000866
Silicon (Si), mg/l							15.8		15.8	15.8	15.8	
Silver (Ag), mg/l	<.0005	0.0006	<0.0005	0.0013	0.0009	<.0005	0.0009	0.0018	0.0018	0	0.000687	0.000625
Strontium (Sr), mg/l												
Vanadium (V), mg/l	<.005	0.022	0.005	0.005	0.005	0.03	0.009	<.005	0.03	0	0.0095	0.010111
Zinc (Zn), mg/l	0.04	0.06	0.06	0.03	0.23	0.08	0.1	0.14	0.23	0.03	0.0925	0.061390
NUTRIENTS												
Nitrogen, Ammonia, mg/l	<.03	<.03	<0.03	<0.03	<0.03	<.03	0.03	<.03	0.03	0	0.00375	0.009921
Nitrogen, Nitrate, mg/l	<.10	<.10	<0.10	<0.10	<0.10	<.10	<.10	0.12	0.12	0	0.015	0.039686
Nitrogen, Nitrite, mg/l	<.01	<.01	<0.01	<0.01	<0.01	<.01	<.01	<.010	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.29	0.31	0.29	0.28	0.26	0.29	0.34	0.19	0.34	0.19	0.28125	0.040754
Phosphorus, Total, mg/l	0.011	0.015	0.02	0.018	<0.010	0.025	0.022	<.010	0.025	0	0.013875	0.008936

PARAMETER	SW-28	SW-28	SW-28	MAX	MIN	MEAN	STDV
Date	06-07-88	08-30-88	11-30-88				
METALS (DISS.)							
Antimony (Sb), mg/l	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.11	<.10	0.38	0.38	0	0.163333	0.159652
Arsenic (As), mg/l	0.005	<.005	<.005	0.005	0	0.001666	0.002357
Barium (Ba), mg/l		<.10		0	0	0	0
Beryllium (Be), mg/l	0.0007	<.0005	<.0005	0.0007	0	0.000233	0.000329
Boron (B), mg/l	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.001	0.0014	0.0027	0.0027	0.001	0.0017	0.000725
Chromium (Cr), mg/l	<.005	<.005	<.005	0	0	0	0
Cobalt (Co), mg/l	<.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	0.008	0.006	0.005	0.008	0.005	0.006333	0.001247
Iron (Fe), mg/l	0.1	0.16	0.05	0.16	0.05	0.103333	0.044969
Lead (Pb), mg/l	<.005	<.005		0	0	0	0
Lithium (Li), mg/l	0.018	0.016	0.021	0.021	0.016	0.018333	0.002054
Manganese (Mn), mg/l	0.08	0.41	0.1	0.41	0.08	0.196666	0.151070
Mercury (Hg), mg/l	0.0002	0.0002	0.0005	0.0005	0.0002	0.0003	0.000141
Molybdenum (Mo), mg/l	<.05	<.05		0	0	0	0
Nickel (Ni), mg/l	0.021	0.015	0.013	0.021	0.013	0.016333	0.003399
Selenium (Se), mg/l	<.002	0.002	<.002	0.002	0	0.000666	0.000942
Silicon (Si), mg/l		15.8		15.8	15.8	15.8	
Silver (Ag), mg/l	<.0005	0.0009	0.0018	0.0018	0	0.0009	0.000734
Strontium (Sr), mg/l							
Vanadium (V), mg/l	0.029	<.005	<.005	0.029	0	0.009666	0.013670
Zinc (Zn), mg/l	0.08	<.005	0.13	0.13	0	0.07	0.053541

PARAMETER	SW-35	SW-35	SW-35	SW-35	SW-35	SW-35	MAX	MIN	MEAN	STDV
Date	01-19-88	03-30-88	04-21-88	06-09-88	07-01-88	11-30-88				
Flow (cfs)										
MINERALS										
Alkalinity (CaCO3),mg/l	4	36	36	88	104	86	104	4	59	35.77242
Bicarbonate (HCO3),mg/l	5	44	44	107	127	105	127	5	72	43.58134
Carbonate (CO3),mg/l	0	0	0	0	0	0	0	0	0	0
Chloride (Cl),mg/l	1	1	1	<1	2	2	2	0	1.166666	0.687184
Fluoride (F), mg/l										
Sulfate (SO4),mg/l	<1	26	21	42	40	46	46	0	29.16666	15.77357
Calcium (Ca),mg/l	<1	17	15	40	48	47	48	0	27.83333	18.16054
Magnesium (Mg), mg/l	<1	1	2	3	4	4	4	0	2.333333	1.490711
Potassium (K), mg/l	<1	2	1	1	2	1	2	0	1.166666	0.687184
Sodium (Na), mg/l	<1	3	3	4	4	4	4	0	3	1.414213
Major Anion, MEQ/L		1.29	1.19	2.64	2.97	2.74	2.97	1.19	2.166	0.764266
Major Cations, MEQ/L		1.23	1.13	2.51	2.95	2.88	2.95	1.13	2.14	0.798598
Cation - Anion Balance, %		2.38	2.59	2.52	0.34	2.49	2.59	0.34	2.064	0.864652
MISCELLANEOUS										
pH, Units	5.68	6.94	7.09	7.04	7.48	7.57	7.57	5.68	6.966666	0.619722
Conductivity, umhos/cm	4.1	215	100	250	275	300	300	4.1	190.6833	105.0444
Cyanide, Total, mg/l	<0.01					<.010	0	0	0	0
Cyanide, WAD, mg/l	<0.01						0	0	0	0
Cyanide, Free, mg/l	<0.01						0	0	0	0
Hardness (CaCO3), GPG:mg/l	<1	47	46	112	136	134	136	0	79.16666	51.18077
Solids, Dissolved, mg/l	3	188	80	186	180	162	188	3	133.1666	69.03239
Solids, Suspended, mg/l	<1	8	<1	12	32	2	32	0	9	11.18033
Turbidity, NTU	4	84	39	4	12	3	84	3	24.33333	29.46561
METALS (TOTAL)										
Antimony (Sb), mg/l	<0.005	<0.005	<0.005	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.29	1.98	0.77	0.32	1.11	0.31	1.98	0.29	0.796666	0.608267
Arsenic (As), mg/l	0.011	<0.005	0.013	<.005	0.01	<.005	0.013	0	0.005666	0.005734
Barium (Ba), mg/l										
Beryllium (Be), mg/l	<0.0005	<0.0005	<0.0005	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<0.20	<0.20	<0.20	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	<.0005	0.001	0.0005	0.0005	0.0013	0.0007	0.0013	0	0.000666	0.000410
Chromium (Cr), mg/l	0.041	0.025	0.018	0.034	0.013	<.005	0.041	0	0.021833	0.013508
Cobalt (Co), mg/l	<0.005	<0.005	<0.005	0.007	<.005	<.005	0.007	0	0.001166	0.002608
Copper (Cu), mg/l	0.013	0.017	0.008	0.014	0.06	0.006	0.06	0.006	0.019666	0.018408
Iron (Fe), mg/l	0.05	2.2	1	0.42	0.86	0.15	2.2	0.05	0.78	0.722334
Lead (Pb), mg/l	<0.005	<0.005	<0.005	<.005	<.005		0	0	0	0
Lithium (Li), mg/l	<0.005	<0.005	<0.005	<.005	<.005	0.008	0.008	0	0.001333	0.002981
Manganese (Mn), mg/l	<0.03	<0.03	<0.03	0.09	<.03	<.03	0.09	0	0.015	0.033541
Mercury (Hg), mg/l	0.0002	0.0004	0.0002	0.0003	0.001	0.0004	0.001	0.0002	0.000416	0.000273
Molybdenum (Mo), mg/l	<0.005	<0.05	<0.05	<.05	<.05		0	0	0	0
Nickel (Ni), mg/l	<0.005	0.011	0.005	<.005	<.005	<.005	0.011	0	0.002666	0.004149
Selenium (Se), mg/l	<0.002	0.002	<0.002	<.002	<.002	<.002	0.002	0	0.000333	0.000745
Silicon (Si), mg/l										
Silver (Ag), mg/l	<.0005	0.0005	0.0011	<.0005	0.0036	<.0005	0.0036	0	0.000866	0.001285
Strontium (Sr), mg/l										
Vanadium (V), mg/l	<0.005	0.011	<0.005	<.005	<.005	<.005	0.011	0	0.001833	0.004099
Zinc (Zn), mg/l	0.37	0.03	0.01	0.09	0.05	0.04	0.37	0.01	0.098333	0.123883
NUTRIENTS										
Nitrogen, Ammonia, mg/l	<0.03	<0.03	<0.03	0.04	<.03	<.03	0.04	0	0.006666	0.014907
Nitrogen, Nitrate, mg/l	<0.10	<0.10	<0.10	0.11	<.10	<.10	0.11	0	0.018333	0.040994
Nitrogen, Nitrite, mg/l	<0.01	<0.01	<0.01	<.01	<.01	<.010	0	0	0	0
Nitrogen, Total Kjeldahl, mg/l	0.32	0.37	0.28	0.24	0.2	0.14	0.37	0.14	0.258333	0.075810
Phosphorus, Total, mg/l	0.01	0.064	0.024	0.047	0.05	0.013	0.064	0.01	0.034666	0.020163

PARAMETER	SW-35	SW-35	SW-35	MAX	MIN	MEAN	STDV
Date	06-09-88	07-01-88	11-30-88				
METALS (DISS.)							
Antimony (Sb), mg/l	<.005	<.005	<.005	0	0	0	0
Aluminum (Al), mg/l	0.18	0.75	0.14	0.75	0.14	0.356666	0.278607
Arsenic (As), mg/l	<.005	0.006	<.005	0.006	0	0.002	0.002828
Barium (Ba), mg/l							
Beryllium (Be), mg/l	<.0005	<.0005	<.0005	0	0	0	0
Boron (B), mg/l	<.20	<.20	<.20	0	0	0	0
Cadmium (Cd), mg/l	0.0007	0.0008	0.0007	0.0008	0.0007	0.000733	0.000047
Chromium (Cr), mg/l	0.005	<.005	<.005	0.005	0	0.001666	0.002357
Cobalt (Co), mg/l	<.005	<.005	<.005	0	0	0	0
Copper (Cu), mg/l	0.014	0.03	<.005	0.03	0	0.014666	0.012256
Iron (Fe), mg/l	<.05	<.05	<.05	0	0	0	0
Lead (Pb), mg/l	<.005	<.005		0	0	0	0
Lithium (Li), mg/l	<.005	<.005	<.005	0	0	0	0
Manganese (Mn), mg/l	0.04	<.03	<.03	0.04	0	0.013333	0.018856
Mercury (Hg), mg/l	0.0003	<.0002	0.0003	0.0003	0	0.0002	0.000141
Molybdenum (Mo), mg/l	<.05	<.05		0	0	0	0
Nickel (Ni), mg/l	<.005	<.005	<.005	0	0	0	0
Selenium (Se), mg/l	<.002	<.002	<.002	0	0	0	0
Silicon (Si), mg/l							
Silver (Ag), mg/l	<.0005	0.0011	<.0005	0.0011	0	0.000366	0.000518
Strontium (Sr), mg/l							
Vanadium (V), mg/l	<.005	<.005	<.005	0	0	0	0
Zinc (Zn), mg/l	0.09	0.05	0.02	0.09	0.02	0.053333	0.028674

ATTACHMENT NO. 1

WATER MANAGEMENT PLAN

GILT EDGE MINE PROJECT

Prepared by :

GILT EDGE INC.

for the

GILT EDGE PROJECT

Submitted to :

SOUTH DAKOTA

DEPARTMENT of WATER

and

NATURAL RESOURCES

JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC.

JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC.
1301 Vista Avenue, Boise, Idaho 83705

TECHNICAL MEMORANDUM

TO: Ritch Hall **DATE:** April 24, 1986

FROM: Rick Mohr **FILE NO:** 1835.0010

SUBJECT: Water Management for the Gilt Edge Mine Project

The following discussion presents a preliminary analysis of water uses and requirements for processing ore at the Gilt Edge Mine project. The water management requirements are based on the known operating reuqirements determined for the project plus any assumptions necessary to complete the water management requirements. All assumptions made to complete this task of the project are outlined in this technical memorandum.

Climatic Summary

The climate of the Lead, South Dakota area is controlled by the influence of the Black Hills and their impact to weather from the surrounding plains. The average annual precipitation in the project area is 27.8 inches with June being the wettest month of the year (Table 1). Actual evaporation data is not available for the Lead, South Dakota area, however, the National Weather Service indicates that the average annual evaporation is 40 inches for the Black Hills area. Approximately 78 percent of the evaporation in the Black Hills occurs between May and October which would indicate that 31.2 inches of water is the spring/summer seasonal evaporation average. With an average annual precipitation rate of 28 inches, and average annual evaporation rate of 40 inches, the net evaporation loss per year is 12 inches.

Water Rights and Water Supply

The existing water rights for the Gilt Edge Mine Project consist of 0.25 cfs of surface water rights and 0.25 cfs of groundwater rights. The total water rights secured for the project is 0.5 cfs which equates to 323,000 gallons per day. The potential for entrapment of surface water in small drainages by constructing small catchment basins exists if additional water is required.

Water Use Requirements

The project facilities are sized at an operating capacity of 500 gpm. The pregnant pond and barren pond are sized at 2,000,000 gallons each. The pond sizing is such that there is a three-day operating volume storage capacity for the pond system. The leach pad facility is designed to detain the PMP storm event with a runoff volume generating 11.4 million gallons of storm water. The storm water would be processed through the system for gold recovery prior to its removal from the system via the land application facility. The ponds are designed such that the only storm water entering the ponds is the incident precipitation falling directly in the ponds. A berm constructed around the ponds prevents any surface runoff from surrounding areas from entering the ponds (see Sheet No. 10 of the Construction Drawings of the Gilt Edge Mine and Mill Project).

TABLE 1

AVERAGE MONTHLY PRECIPITATION*
AT LEAD, SOUTH DAKOTA (in.)

January	1.38
February	1.43
March	2.41
April	3.77
May	3.82
June	4.08
July	2.37
August	2.35
September	1.41
October	1.76
November	1.38
December	1.44
Average Annual	27.8

*Ten year monthly average precipation data

The assumptions made for the determination of the water balance for the Gilt Edge Mine Project are as follows:

1. Dynamic storage in heaps
   - Water content of newly loaded ore on heaps is 4%.
   - Water content of leached ore before returning solution is 10%. ? (14% = Dynamic Storage 2/10/87 SW)

2. Leaching begins at 20,000 tons of loaded ore on heap
   - Ore production is 2,500 tons per day.
   - Solution required to saturate new ore at 20,000 tons per leaching unit is 2,000 ton solution prior to return flow from the heap.
   - Spray application capacity is 500 gpm.
   - Make up water capacity is 323,000 gallons per day.

3. Evaporation loss per year is based on the following:

Month	Average Annual Precip. (in.)	Estimate Annual Evaporation (in.)	Average Annual* Evaporation Gain/Loss (in.)
January	1.38	0	+1.38
February	1.43	0	+1.43
March	2.41	2.5	-0.09
April	3.77	3.2	+0.57
May	3.82	5.0	-1.18
June	4.08	4.2	-0.12
July	2.37	6.5	-4.13
August	2.35	6.2	-3.85
September	1.41	4.9	-3.49
October	1.76	4.4	-2.64
November	1.38	3.2	-1.82
December	1.44	0	-1.44
	27.8	40.0	-12.5

*Monthly evaporation rates are estimated based on information obtained from the National Weather Service, Souix Falls, South Dakota.

Based on the precipitation vs. evaporation analysis presented above, the water balance due to evaporation will show a net loss of approximately 12 inches of water per year.

Leaching System Water Balance

The leaching system water balance is determined by taking the daily production rate of 2,500 tons per day that will require 10% additional water above the 4% existing water content of new ore. With a 10% additional water content requirement to reach dynamic storage in the heaps, 250 tons of solution is required per day which equates to 60,000 gallons of solution per 2,500 tons of ore per day (250 tons of solution x 240 gallons/ton = 60,000 gallons).

This leaves 263,000 gallons per day of make up water available for recharge to the system plus water needs outside the system such as roadway dust abatement.

ATTACHMENT NO. 5

SURFACE WATER HYDROLOGY ANALYSIS

GILT EDGE MINE PROJECT

Prepared by :

GILT EDGE INC.

for the

GILT EDGE PROJECT

Submitted to :

SOUTH DAKOTA

DEPARTMENT of WATER

and

NATURAL RESOURCES

JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC.

JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC.
1301 Vista Avenue, Boise, Idaho 83705

MEMORANDUM

TO:	Ritch Hall Special Projects Manager Gilt Edge Mine Project	DATE:	October 16, 1985
FROM:	Rick Mohr	FILE NO:	1836.0010
SUBJECT:	Technical Memorandum Gilt Edge Mine Project - Surface Water Hydrology Analysis	CLIENT:	Gilt Edge, Inc.

ABSTRACT

This technical memorandum provides an analysis of the surface water hydrology for the Gilt Edge Mining Project study area, based upon the results of computer simulation modeling. Physical watershed characteristics directly measured or estimated are presented along with applicable technical assumptions. All climatological data was interpolated from surrounding climatological stations near the project site. The data utilized in the simulation model are summarized in tables presented within this technical memorandum.

The results indicate that the maximum runoff is generated from the probable maximum precipitation (PMP) event. The PMP event is used strictly for sizing and designing stormwater runoff detention facilities for the leach pad area (i.e., pad, ponds, plant facilities). The U.S. Environmental Protection Agency (EPA) in regulations described in 40 CFR, Part 4210 V(3) requires that the 10-yr, 24-hr precipitation event be utilized in the design of heap leach facilities to qualify under the storm exemption. All other stormwater design aspects, such as culverts or smaller drainage facilities including roadside ditches and channel relocations are based on the South Dakota Department of Transportations standard design criteria.

The PMP event can be expected to generate an estimated peak flow of approximately 1,400 cfs. This is based on the PMP event of 19.6 inches during 6 hours of rain within the study area.

INTRODUCTION

This surface water hydrology technical memorandum describes the existing hydrologic conditions of the Gilt Edge mine project study area. The memorandum presents results of the surface water hydrology modeling studies conducted for the upper drainage reaches flowing into the project area, and the upper drainage basins where project facilities extend beyond the Strawberry Creek basin into adjacent basins. The memorandum also presents the general physical characteristics of the Strawberry Creek area as they relate to surface water hydrology.

Objectives

The objectives of this technical memorandum are: 1) to provide an evaluation through modeling of the surface water hydrology and estimate of stormwater runoff volume generated by the PMP event for the leach pad area (25 acres); 2) to characterize the soils and vegetation of the drainage area in terms of precipitation losses and runoff characteristics due to past and present development activities; and 3) to provide a hydrologic summary of the estimated runoff generated from various rainstorm events and the PMP runoff event. As part of the surface water hydrology modeling efforts, maps are provided that delineate the primary watershed of the Gilt Edge Mine project, all subbasins, soil types, and existing disturbed lands found in the study area. Additionally, a map providing site locations for surface water monitoring points is provided for orientation of the project area and the water quality monitoring program. The memorandum was drafted in response to agency review comments received from the South Dakota Department of Water and Natural Resources (DW&NR) dated February 1, 1985 and March 28, 1985. These comments were developed for the Application for Mining/Milling Permit and Mining/Milling Operating and Reclamation Plan Narrative for the Gilt Edge mine project dated December 13, 1984.

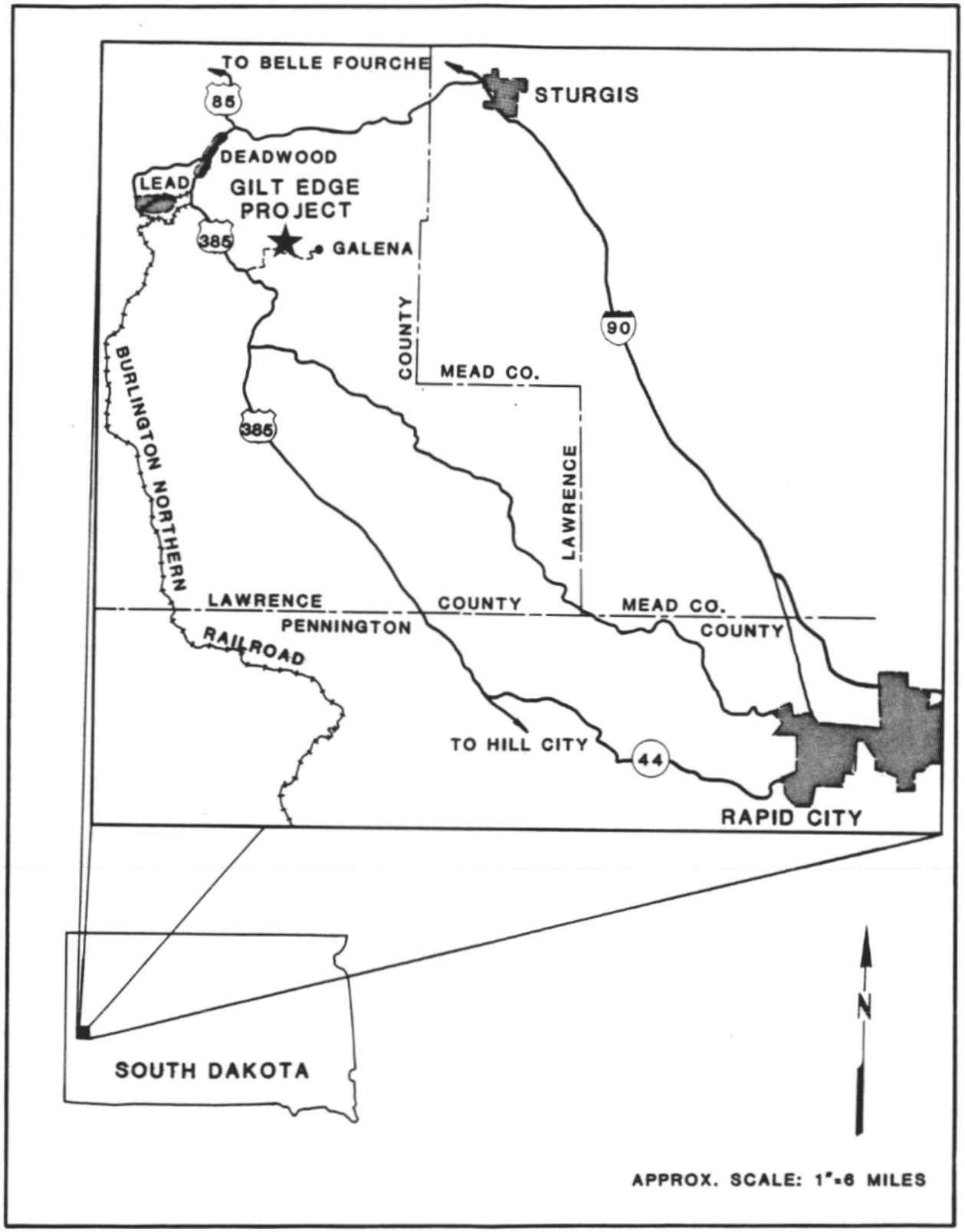
SURFACE WATER RESOURCES

The proposed Gilt Edge mine project is located in the upper headwater region of Strawberry Creek (Figure 1). Strawberry Creek is the only major perennial stream draining from the project area. The Strawberry Creek drainage is a tributary to Bear Butte Creek (Figure 2). Historic streamflow data for Bear Butte Creek is limited. Between August 1965 and September 1969 annual maximum and minimum mean discharge streamflows ranged from 32 cfs (average monthly) to 0 cfs, respectively in Bear Butte Creek near Galena (USGS, 1970). There are no other major surface waters existing in the study area.

Stream Channel Characteristics. Strawberry Creek is characterized by a moderately steep mountain stream channel originating from snowmelt, precipitation, and subsurface flows. The study area includes mountain hillsides averaging approximately 24 percent slopes leading to narrow mountain valleys. The streambed of Strawberry Creek is characterized by a naturally occurring gravel/rock bottom and typical riparian vegetation. The streambed gradient of Strawberry Creek averages about 5 percent through the study area (Figure 2).

HYDROLOGICAL MODELING

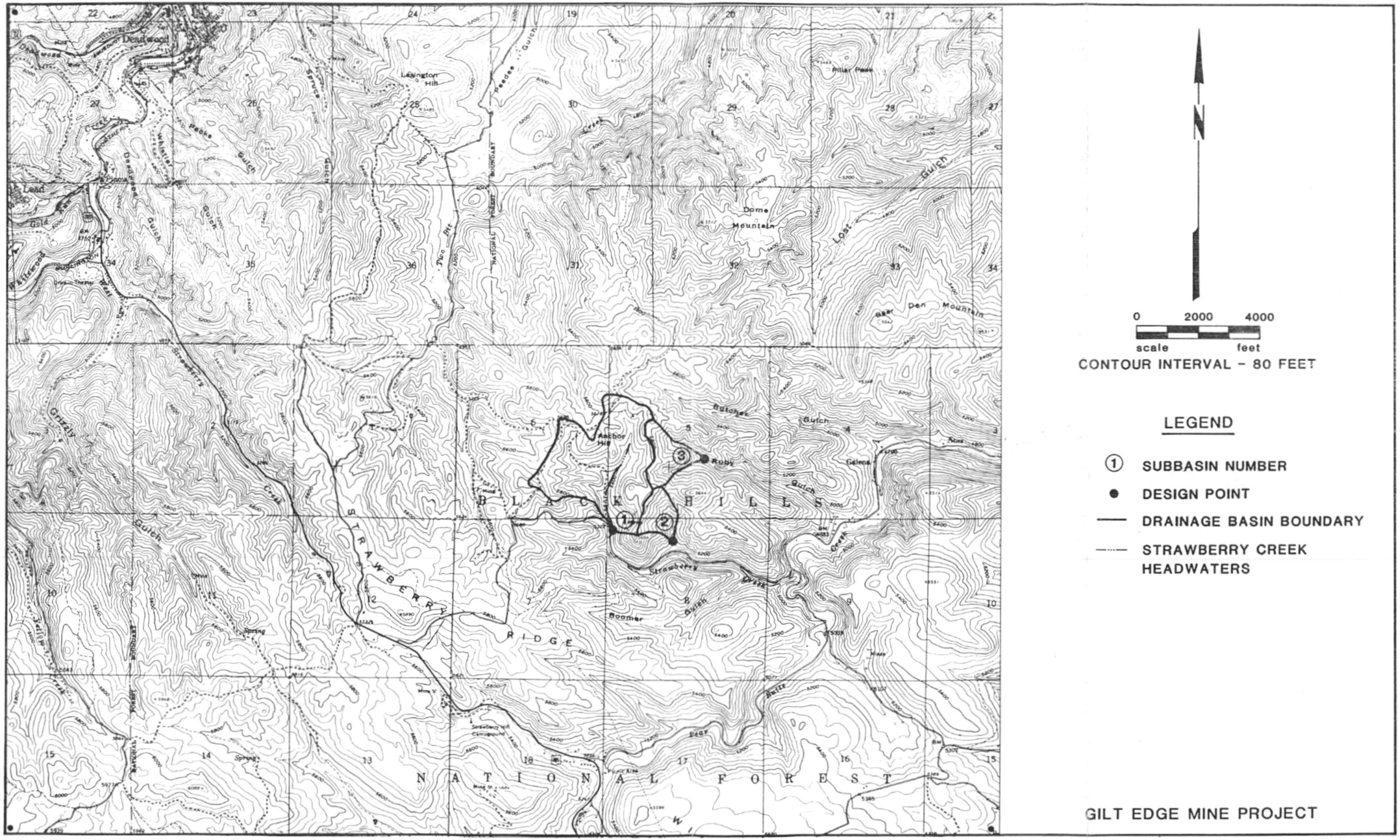
The upper Strawberry Creek drainage basin was modeled for surface water runoff using the PMP precipitation event and the HEC-1 Flood Hydrograph Package. The input data for the HEC-1 model were collected from various sources, and the data are summarized in the following sections of this technical memorandum. The model provides an efficient method of analyzing flood flows under a variety of different types of precipitation events. The output from the model can be used to help plan and design facilities for a selected runoff event. A summary of the HEC-1 model functions, background information sources, physical characteristics of the study area drainage basin, input data and assumptions, and discussion of the results are presented on the following pages.



LOCATION MAP

GILT EDGE MINE PROJECT

FIGURE 1



HYDROLOGY SUBBASINS
FIGURE 2

Summary of HEC-1 Model Functions

The HEC-1 computer model was originally developed in 1967 for the U.S. Army Corps of Engineers by the Hydrologic Engineering Center (HEC) at Davis, California. After several major revisions, the model is now a reliable analysis tool for simulating rainfall or precipitation/runoff events and computing flood hydrographs. The version of HEC-1 used to evaluate the drainage characteristics of the upper Strawberry Creek drainage basin was published in March, 1981.

The HEC-1 model requires a number of input data variables to simulate actual conditions within the basin under analysis. These following variables are discussed later in this technical memorandum.

- Subbasin area
- Precipitation quantity
- Precipitation distribution
- Initial precipitation loss
- Uniform infiltration rate
- Impervious area
- Subbasin runoff lag time
- Stream channel reach length
- Stream channel reach slope

The input data variables are arranged by order of occurrence in each subbasin. The subbasins are characterized in terms of area, initial and uniform precipitation losses into the soil, impervious area, and lag times for runoff to collect at subbasin design points (Figure 2). The design storm is applied to the subbasin area, a portion of the precipitation is lost into the soil, and the remaining rainfall is combined with runoff from impervious areas to produce a hydrograph at the subbasin design point. The PMP design event is only used for sizing stormwater detention facilities for the volume of water running off the leach pad area (25 acres) and the plant site (10.6 acres). The remaining drainage facilities such as culverts, road ditching bridges, and open channels would be sized based on standard South Dakota Department of Transportation design critera.

Background Information Sources

Sources of background information for computer modeling of surface water hydrology within the Gilt Edge project study area were obtained from various state and federal agencies. Topographic maps utilized to delineate the overall drainage basin and individual subbasins were obtained from the U.S. Geological Survey (USGS). Soils information including descriptions and mapping of soil types, textures, and hydrologic characteristics was provided by the USDA-Soil Conservation Service, Soil Survey of Lawrence, South Dakota. The soils data were used in conjunction with various hydrologic equations from the USDA-Soil Conversation Service, Section 4 - Hydrology Handbook, and USDI - Bureau of Reclamation, Design of Small Dams, to estimate infiltration losses of precipitation and surface runoff rates.

Previously disturbed areas and rock outcroppings that display characteristics similar to impervious land surfaces generating high runoff characteristics were delineated using USGS topographic maps as well as maps provided within the Soil Survey of Lawrence County, South Dakota (both map sources are at a scale of 1" = 2000'). Stream channel slopes and lengths were estimated based on measurements made using the USGS topographic maps. Precipitation data for modeling the

thunderstorm and general rainstorm events were obtained from the South Dakota Department of Water and Natural Resources. Climatological data were extrapolated from nearby National Oceanic and Atmospheric Administration (NOAA) stations.

Physical Characteristics of the Study Area Drainage Basin

The modeling of surface water hydrology for Strawberry Creek in the Gilt Edge mine project area initially involved delineation of the total drainage basin which is tributary to the most downstream point in the study area. The Gilt Edge mine project drainage basins were then divided into individual subbasins where more precise topographical and hydrological evaluations could be applied (Figure 2). Within these subbasins, physical characteristics were defined using USGS and Soil Conservation Service data. The subbasins were delineated by analyzing surface water drainage patterns in the study area. The subbasin boundaries were determined by following the higher topographical features surrounding Strawberry Creek.

The area of each subbasin is presented in Table 1, and the overall area of the Strawberry Creek drainage basin that is associated with the Gilt Edge mine project study area is 0.39 square miles.

TABLE 1

GILT EDGE MINING PROJECT
HYDROLOGIC SUBBASIN AREAS

Subbasin Number*	Subbasin Area (mi^2)
1	0.39
2	0.05
3	0.07
TOTAL AREA	0.51

*Refer to Figure 2 for locations of subbasins.

The subbasins within the overall project drainage basin were characterized and evaluated in terms of the following physical features:

- Topography
- Soils characteristics
- Infiltration characteristics
- Influence of vegetative cover on precipitation runoff
- Open impervious areas
- Precipitation features
- Climatological characteristics

The physical features listed above are discussed throughout the following sections in terms of the information necessary to run the HEC-1 preciptiation-runoff model utilized in this analysis of local surface water hydrology. The hydrologic modeling results are discussed later in this technical memorandum.