GENWAL Resources, Inc.

CRANDALL CANYON MINE

2003 ANNUAL REPORT

Permit ACT/015/032

File in:
❑ Confidential
❑ Shelf
☒ Expandable
Refer to Record No 0009 Date 03292004
In C/0150032 Incoming
For additional information

*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Permitte Name	GENWAL RESOURCES, Inc.
Mine Name	Crandall Canyon Mine
Operator Name (If other then permittee)	same
Permit Expiration Date	May 13, 2008
Permit Number	ACT/015/032
Authorized Representative Title	Gary E. Gray, Agent/Engineer
Phone Number	435-888-4015
Fax Number	435-888-4002
E-mail Address	ggray@andalex.com
Mailing Address	P.O. Box 1077
Designated Representative	N/A
Resident Agent	Gary Gray
Resident Agent Mailing Address	Same
Number of Binders Submitted	2

IDENTIFICATION OF OTHER PERMITS

Identify other permits that are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expiration Date
MSHA Mine ID(s)	42-01715	Crandall Cyn Underground Mine	N/A
	42-02356	South Crandall Underground Mine	N/A
MSHA Impoundment(s)	N/A		
NPDES/UPDES Permit(s)	UT0024368		08/31/2005
PSD Permit(s) (Air)	DAQE-AN0225003-03		

Other

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and udder the approved plan that must be periodically submitted t the Division. Specify whether the information is included as Appendix A to this report or currently on file with the Division.

Certified Reports:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☐	☒	☐	☐	
Impoundments	☐	☒	☐	☐	
Other					
Sediment Pond	☒	☐	☐	☐	Annual
	☐	☐	☐	☐	

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan, which must be periodically submitted to the Division. Specify whether the information is included as Appendix B to this report or currently on file with the Division.

chnical Data:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On file	
Climatological	☒	☐	☒	☐	
Subsidence Monitoring	☒	☐	☒	☐	
Vegetation Monitoring	☐	☒	☐	☐	
Raptor Survey	☐	☒	☐	☐	
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☐	☐	☐	☐	
First quarter	☒	☐	☐	☒	
Second quarter	☒	☐	☐	☒	
Third quarter	☒	☐	☐	☒	
Fourth quarter	☒	☐	☐	☒	
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☐	☒	☐	☐	None Abandoned
Other Data					
Water Data Analysis	☒	☐	☒	☐	Report by Eric Petersen
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

Reminder: If equipment has been abandoned during 2003, an amendment must be submitted that includes a map showing its location, a description of what was abandoned, whether there were any hazardous or toxic materials and any revision to the PHC as necessary.

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Change in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is Requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the annual report. Please provide the Department of Commerce, Annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other change as necessary regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include certified financial statements, audits or worksheets, which may be required to meet bonding requirements. Specify whether the information is currently on file with the Division or included as Appendix C to the report.

Legal / Financial Update	**Required**		**Included or on File with DOGM**		**Comments**
	Yes	No	Included	On file	
Department of Commerce, Annual Report Officers	☒	☐	☒	☐	
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2003, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.270. These map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Upon request, the Division shall keep mine maps confidential. Please provide a CD.

Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
	Mine Production Areas 2003	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

OTHER INFORMATION

Please provide any comments of further information to be included as part of the Annual Report. Any other attachments are to be provided as Appendix E to this report. If information is submitted as a group rather then by individual mine, please identify each of the mine's data in the list below.

Additional attachment to this report? **Yes** ☐ **No** ☒

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

CONTENTS

Annual Pond Inspection

SEDIMENT POND INSPECTION AND CERTIFIED REPORT			Page 1 of 3
Permit Number	ACT/015/032	**Report Date**	3/28/04
Mine Name	Crandall Canyon Mine		
Company Name	Genwal Resources Inc.		
Sediment Pond Identification	**Sediment Pond Name**	Genwal Sediment Pond No. 1	
	UPDES Permit Number	UT0024368	

SEDIMENT POND INSPECTION

Inspection Date	12/29/03
Inspected By	John C. Lewis & Gary E. Gray
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

None Observed

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Total sediment storage capacity = 0.4834 acre feet.

60% sediment storage volume elevation = 7894.00 feet.

100% storage volume elevation = 7895.00 feet.

Estimated existing average elevation of sediment = 7891.50 feet.

3. Principal and emergency spillway elevations.

Principal spillway elevation = 7905.81 feet.

Emergency spillway elevation = 7906.81 feet.

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water elevation = 7902 feet.

Pond discharge = no discharge.

Samples = no discharge/none taken.

Inlet condition = no observable problems.

Outlet condition = no observable problems.

Embankment show no signs of erosion, instability or hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

Pond is frozen and covered with snow impounding approximately 1.03 acre feet of water and 0.05 acre feet of sediment at tje 7902 elevation. Remaining sediment storage capacity is approximately 0.275 acre feet at the 60% sediment storage level. The sediment was removed from the pond in November 2003. The pond froze over before a survey was able to be made. The pond will be surveyed in the spring of 2004 after the pond has thawed.

No observable conditions were apparent that could affect the stability or function of the structure.

Qualification Statement

UTAH REGISTERED #191488 JOHN CHRISTOPHER LEWIS PROFESSIONAL ENGINEER

I hereby certify that; this sediment pond was constructed under the direction of a Registered Professional Engineer that was experienced in the construction/design of impoundments. I am qualified and authorized to inspect the condition and appearance of impoundments/sediment ponds in accordance with the certified and approved designs for this structure; that the impoundment/sediment pond has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

Signature: _____ **Date:** 5-29-04

CERTIFIED REPORT

SEDIMENT POND EVALUATION (If NO, explain under Comments)	YES	NO
1. Is sediment pond designed and constructed in accordance with the approved plan?	X	
2. Is sediment pond free of instability, structural weakness, or any other hazardous condition?	X	
3. Has the sediment pond met all applicable performance standards and effluent limitations from the previous date of inspection?	X	

COMMENTS AND OTHER INFORMATION

Certification Statement:

UTAH REGISTERED PROFESSIONAL ENGINEER #191488 JOHN CHRISTOPHER LEWIS

I hereby certify that; this sediment pond was constructed under the direction of a Registered Professional Engineer that was experienced in the construction/design of impoundments. I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments/sediment ponds in accordance with the certified and approved designs for this structure; that the impoundment/sediment pond has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: John C. Lewis Mining Engineer
(Full Name and Title)

Signature: John C. Lewis **Date:** 2-29-04

P.E. Number & State: 191488 Utah

APPENDIX B

Reporting of Technical Data

Including monitoring data, reports, maps, and other information
As required under the approved plan or as required by the Division

In accordance with the requirement of R645-310-130 and R645-301-140

CONTENTS

Precipitation Log

Subsidence Data

Water Data Analysis

PRECIPITATION LOG

DATE	MEASUREMENT	SOURCE	INITIALS
4-10-02	.15	Rain	CB
4-[illegible]-02	.3	Rain	CB
5-1-02	TRACE	Rain	CB
5-22-02	1½"	SNOW	CB
6-1-02	.6	RAIN	LB
7-17-02	¼"	RAIN	LB
7-27-02	TRACE	Rain	CB
7-23-02	TRACE	Rain	CB
7-24-02	.5	Rain	CB
7-25-02	.15	Rain	CB
7-26-02	.10	Rain	CB
8-20-02	.30	RAIN	CB
8-7-02	.60	Rain	CB
9-8-02	.75	Rain	CB
9-16-02	.43	Rain	CB
9-11-02	.90	Rain	CB
9-12-02	.20	Rain	CB
9-16-02	.80	Rain	CB
9-17-02	.15	Rain	CB
9-24-02	.25	Rain	CB
10-2-02	.24	Rain	CB
10-3-02	.75	Rain - Snow	CB
11-6-02	¾	Snow	CB
11-9-02	5"	Snow	CB
11-11-02	4"	Snow	CB
12-16-02	10"	SNOW	CB
12-17-02	3"	Snow	CB
12-31-02	12"	SNOW	CB
1-10-03	4"	Snow	CB
2-01-03	TRACE	Snow	CB
2-2-03	¼"	Snow	CB
2-13-03	1"	Snow	CB
2-15-[illegible]	1"	Snow	CB
2-22-03	3"	SNOW	CB
2-25-03	4"	SNOW	CB
2-26-03	2"	SNOW	CB
2-27-03	Trace	Snow	CB
3-16-03	½"	Rain	CB
3-17-03	8"	Snow.	CB
3-18-03	1"	Snow	CB
3-23-03	TRACE	Rain - Snow	CB
3-24-03	½	Snow	CB
3-26-03	¾"	RAIN	CB
3-27-03	2"	SNOW	CB
4-15-03	TRACE	Snow	CB
4-21-03	TRACE	RAIN	CB
4-22-03	TRACE	Snow	CB

PRECIPITATION LOG

DATE	MEASUREMENT	SOURCE	INITIALS
5-2-03	TRACE	Rain	CB
5-3-03	.30	Rain	CB
5-4-03	.2	Rain	CB
5-5-03	.45	Rain & SNOW	CB
5-7-03	.2	Rain	CB
5-8-03	.75	Rain	CB
6-19-03	.23	Rain	CB
6-20-03	.48	Rain	CB
7-24-03	.35	Rain	CB
7-28-03	.27	Rain	CB
7-29-03	.56	Rain	CB
8-8-03	.40	Rain	CB
8-13-03	.81	Rain	CB
8-14-03	.16	Rain	CB
8-24-03	1.0"	RAIN	CB
11-4-03	5"	SNOW	CB
11-10-04	TRACE	SNOW	CB
11-11-04	1"	SNOW	CB
11-12-04	4"	SNOW	CB
11-14-03	TRACE	SLEET	CB
12-11-03	SNOW	4"	CB
12-15-03	SNOW	6"	CB
12-20-03	SNOW	4"	CB
12-25-03	SNOW	18"	CB
12-29-03	SNOW	4"	CB
12-30-03	SNOW	1"	CB
1-2-04	SNOW	4"	CB

GENWAL Subsidence Report

The year 2003 saw the Crandall Canyon mine finish the longwall mining in the State Section 2. A small panel was mined with the longwall in the Federal lease UTU 68082 to the South and East.

The subsidence crack observed last year has nearly healed over.

The subsidence profile in the State Section 2 shows the finish of the longwall panel and the subsequent subsidence. Next year should show a change that will have the south end matching the north end.

Olympus Aerial Surveys, Inc.
Job No 203073
Report for Photography dated October 7, 2003
For
GENWAL RESOURCES, INC.
CRANDALL CANYON (ALL) SUBSIDENCE STUDY

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
101	2075558.238	407296.622	8866.901			101	obscure
102	2075571.465	408179.127	8882.611	9.789	8892.400	102	
103	2075578.997	408784.976	8879.631	8.819	8888.450	103	
104	2075579.333	407874.899	8881.618	10.162	8891.780	104	
105	2075580.158	408490.497	8877.209	9.471	8886.680	105	
106	2075584.099	407579.859	8881.369	6.421	8887.790	106	
107	2075586.078	418626.301	9195.187	5.733	9200.920	107	
108	2075589.924	409081.631	8880.997	8.693	8889.690	108	
109	2075591.674	409392.750	8884.133	7.907	8892.040	109	
110	2075596.374	409675.980	8888.448	7.842	8896.290	110	
111	2075602.098	414772.964	9082.304	5.126	9087.430	111	
112	2075602.211	411777.074	8941.293	6.347	8947.640	112	
113	2075602.655	415732.602	9178.116			113	obscure
114	2075603.148	410302.698	8898.943	8.027	8906.970	114	
115	2075604.359	410889.582	8914.467	7.303	8921.770	115	
116	2075605.536	409968.624	8891.864	8.376	8900.240	116	
117	2075608.931	413586.436	9033.891	6.359	9040.250	117	
118	2075610.583	414195.043	9058.738	5.462	9064.200	118	
119	2075611.545	413292.485	9013.960	4.970	9018.930	119	
120	2075611.700	415061.373	9129.822	4.908	9134.730	120	
121	2075613.550	411501.717	8929.526	7.264	8936.790	121	
122	2075614.250	412976.268	8993.284	6.196	8999.480	122	
123	2075615.021	413902.429	9047.834	6.306	9054.140	123	
124	2075615.076	411181.655	8921.236	7.004	8928.240	124	
125	2075617.063	414458.204	9069.701	4.889	9074.590	125	
126	2075620.148	410574.465	8906.984	7.516	8914.500	126	
127	2075620.503	415393.849	9155.563			127	obscure
128	2075623.045	416861.260	9205.823	5.867	9211.690	128	
129	2075623.955	412393.829	8967.405	6.555	8973.960	129	
130	2075627.162	412688.260	8980.622	7.068	8987.690	130	
131	2075627.238	412092.665	8955.575	7.045	8962.620	131	
132	2075634.137	416269.565	9199.775	26.865	9226.640	132	
133	2075636.346	417167.610	9205.137	6.093	9211.230	133	
134	2075637.108	415992.834	9182.227			134	obscure
135	2075663.742	417472.573	9210.768	4.892	9215.660	135	
136	2075677.553	417785.304	9253.222	5.648	9258.870	136	
137	2075734.834	418090.100	9274.077	2.743	9276.820	137	
138	2075857.818	407000.991	8867.149	10.231	8877.380	138	
139	2075861.849	407297.283	8888.573	10.027	8898.600	139	
140	2075869.383	407593.316	8903.041	9.739	8912.780	140	
141	2075879.730	408201.675	8899.253	8.697	8907.950	141	
142	2075880.579	408499.528	8899.346	9.134	8908.480	142	
143	2075883.995	407920.020	8902.358	8.952	8911.310	143	
144	2075884.063	408798.754	8898.632	9.048	8907.680	144	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
145	2075885.406	409081.868	8896.738	8.732	8905.470	145	
146	2075893.830	409396.582	8898.881	8.399	8907.280	146	
147	2075896.091	410302.768	8915.150	7.810	8922.960	147	
148	2075897.230	409710.735	8900.682	8.548	8909.230	148	
149	2075898.176	412098.850	8970.727	6.863	8977.590	149	
150	2075898.281	410002.259	8908.475	7.975	8916.450	150	
151	2075902.609	410607.540	8922.881	7.619	8930.500	151	
152	2075904.932	412441.995	8985.195	7.685	8992.880	152	
153	2075906.072	410887.885	8925.986	7.924	8933.910	153	
154	2075906.537	411800.967	8956.879	6.931	8963.810	154	
155	2075910.837	418399.827	9242.527	5.443	9247.970	155	
156	2075911.693	411495.359	8942.255	7.245	8949.500	156	
157	2075912.006	413905.206	9066.514	6.336	9072.850	157	
158	2075912.428	411193.224	8930.954	7.606	8938.560	158	
159	2075915.948	413323.991	9026.890	5.900	9032.790	159	
160	2075933.340	413606.072	9047.745	5.465	9053.210	160	
161	2075938.729	414507.997	9095.293	5.437	9100.730	161	
162	2075939.680	414222.310	9083.734	5.506	9089.240	162	
163	2075942.065	415713.505	9146.804	5.666	9152.470	163	
164	2075942.534	413029.330	9013.394	6.416	9019.810	164	
165	2075945.266	414807.484	9103.546	5.004	9108.550	165	
166	2075947.425	415134.430	9115.552	5.458	9121.010	166	
167	2075954.765	412717.969	9002.490	5.980	9008.470	167	
168	2075955.869	417208.168	9189.407	5.643	9195.050	168	
169	2075956.113	417810.485	9200.460	6.460	9206.920	169	
170	2075956.728	416910.527	9179.397	5.813	9185.210	170	
171	2075957.722	415984.402	9156.040	5.220	9161.260	171	
172	2075958.399	418668.301	9247.889	6.341	9254.230	172	
173	2075968.471	417509.313	9194.978	6.412	9201.390	173	
174	2075973.226	416323.895	9165.454	5.566	9171.020	174	
175	2075981.539	415451.954	9131.729	5.331	9137.060	175	
176	2075983.887	416621.690	9171.621	5.269	9176.890	176	
177	2076067.139	418133.417	9212.556	6.614	9219.170	177	
178	2076123.601	407301.758	8906.332	10.828	8917.160	178	
179	2076143.864	406996.867	8886.896	11.434	8898.330	179	
180	2076166.639	409403.072	8914.312	8.388	8922.700	180	
181	2076171.627	408780.167	8923.999	9.111	8933.110	181	
182	2076172.344	407544.094	8930.302	9.848	8940.150	182	
183	2076174.313	409683.486	8917.261	8.939	8926.200	183	
184	2076176.336	408177.474	8925.769	8.801	8934.570	184	
185	2076176.580	408478.025	8925.458	9.562	8935.020	185	
186	2076177.726	407868.195	8929.494	9.956	8939.450	186	
187	2076181.962	410281.182	8934.804	7.606	8942.410	187	
188	2076185.412	412091.495	8987.679	6.521	8994.200	188	
189	2076190.457	411783.904	8972.683	7.437	8980.120	189	
190	2076194.002	409075.426	8922.198	7.192	8929.390	190	
191	2076198.263	410570.224	8943.746	7.794	8951.540	191	
192	2076201.427	409990.000	8929.494	8.176	8937.670	192	
193	2076201.878	410885.555	8945.050	8.480	8953.530	193	
194	2076204.946	413244.617	9035.142	5.268	9040.410	194	
195	2076205.167	411490.288	8960.760	7.480	8968.240	195	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
196	2076205.965	412448.066	9005.191	6.869	9012.060	196	
197	2076206.827	411186.757	8948.279	9.241	8957.520	197	
198	2076226.082	413551.360	9055.044	6.446	9061.490	198	
199	2076228.595	412705.758	9016.909	5.741	9022.650	199	
200	2076229.897	414462.602	9111.917	5.833	9117.750	200	
201	2076235.431	414188.758	9103.546	6.604	9110.150	201	
202	2076236.310	412970.285	9025.519	6.341	9031.860	202	
203	2076237.532	414780.117	9119.395	4.695	9124.090	203	
204	2076238.604	413882.576	9081.172	4.648	9085.820	204	
205	2076247.454	416232.280	9182.704	4.696	9187.400	205	
206	2076249.132	416577.279	9194.978	5.012	9199.990	206	
207	2076252.094	415078.387	9130.776	5.224	9136.000	207	
208	2076252.842	417146.065	9208.534	5.436	9213.970	208	
209	2076252.914	417442.718	9214.969	6.181	9221.150	209	
210	2076253.992	416855.517	9202.814	5.076	9207.890	210	
211	2076257.427	415677.187	9160.747	6.253	9167.000	211	
212	2076259.402	418651.115	9276.192	5.738	9281.930	212	
213	2076260.496	417768.501	9217.888	5.372	9223.260	213	
214	2076260.998	415927.983	9170.310	5.610	9175.920	214	
215	2076263.282	415352.524	9144.987	5.243	9150.230	215	
216	2076272.090	418064.967	9216.131	5.909	9222.040	216	
217	2076282.160	418386.545	9226.856	5.234	9232.090	217	
218	2076463.615	407329.270	8941.355	8.815	8950.170	218	
219	2076470.880	407602.300	8958.928	10.462	8969.390	219	
220	2076474.709	407901.090	8956.786	10.174	8966.960	220	
221	2076480.924	408194.773	8951.446	11.124	8962.570	221	
222	2076482.280	408825.347	8952.408	8.352	8960.760	222	
223	2076482.719	408480.438	8955.234	8.666	8963.900	223	
224	2076483.271	409103.248	8943.963	7.667	8951.630	224	
225	2076489.002	410030.646	8961.754	6.936	8968.690	225	
226	2076494.160	410319.213	8971.161	7.179	8978.340	226	
227	2076495.764	409760.219	8946.385	8.305	8954.690	227	
228	2076498.271	410594.890	8977.154	6.996	8984.150	228	
229	2076500.874	409412.088	8937.691	8.139	8945.830	229	
230	2076506.936	411202.998	8975.912			230	obscure
231	2076509.185	411805.286	9001.123	6.417	9007.540	231	
232	2076509.593	412088.479	9017.424	6.556	9023.980	232	
233	2076513.539	410908.687	8978.272	6.408	8984.680	233	
234	2076517.462	411500.781	8987.182	4.408	8991.590	234	
235	2076520.030	412410.506	9036.084	6.896	9042.980	235	
236	2076529.695	412721.677	9047.089	3.471	9050.560	236	
237	2076535.592	413306.264	9059.513	4.247	9063.760	237	
238	2076536.725	413611.807	9076.345	6.135	9082.480	238	
239	2076538.137	413015.348	9049.204	5.876	9055.080	239	
240	2076542.870	414219.807	9135.096	4.204	9139.300	240	
241	2076544.257	413921.331	9102.831	5.039	9107.870	241	
242	2076545.436	414498.907	9146.238	4.882	9151.120	242	
243	2076546.203	416316.603	9216.965	5.585	9222.550	243	
244	2076548.572	416010.171	9206.627	4.643	9211.270	244	
245	2076549.921	406994.200	8920.025	10.425	8930.450	245	
246	2076551.183	416619.617	9225.039	4.351	9229.390	246	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
247	2076552.515	416931.417	9233.351	5.209	9238.560	247	
248	2076558.852	415721.939	9193.906	5.364	9199.270	248	
249	2076561.909	414800.217	9155.533	5.807	9161.340	249	
250	2076562.963	415424.214	9173.736	3.614	9177.350	250	
251	2076565.805	417207.541	9243.212	4.598	9247.810	251	
252	2076566.314	418682.255	9244.225	5.905	9250.130	252	
253	2076573.688	417513.288	9251.733	5.027	9256.760	253	
254	2076573.869	417827.190	9247.353	5.477	9252.830	254	
255	2076576.768	415103.258	9158.393	5.107	9163.500	255	
256	2076593.689	418139.566	9249.319	5.881	9255.200	256	
257	2076765.871	412407.014	9064.493	6.137	9070.630	257	
258	2076771.863	410863.171	9012.953			258	obscure
259	2076773.378	407893.498	8998.546	11.204	9009.750	259	
260	2076775.162	407285.345	8974.763	10.267	8985.030	260	
261	2076775.449	408179.572	8981.873	10.387	8992.260	261	
262	2076776.200	407575.592	8994.386	11.954	9006.340	262	
263	2076777.777	408473.482	8991.250	8.630	8999.880	263	
264	2076781.101	408777.571	8993.268	8.642	9001.910	264	
265	2076781.233	409079.505	8977.775	8.495	8986.270	265	
266	2076781.441	406992.169	8954.023	10.277	8964.300	266	
267	2076785.696	409364.225	8964.579	8.621	8973.200	267	
268	2076791.695	409666.324	8974.390	7.500	8981.890	268	
269	2076792.809	412095.926	9055.210	6.730	9061.940	269	
270	2076795.633	409976.226	8990.225	7.125	8997.350	270	
271	2076798.479	410273.776	9007.923	8.037	9015.960	271	
272	2076799.839	410577.745	9023.168	8.292	9031.460	272	
273	2076800.273	412651.421	9078.252	4.028	9082.280	273	
274	2076803.418	411174.105	9012.766			274	obscure
275	2076806.850	411481.645	9013.325	4.445	9017.770	275	
276	2076809.108	411774.505	9030.712	7.308	9038.020	276	
277	2076821.416	412967.083	9073.336	5.484	9078.820	277	
278	2076834.173	413256.739	9086.534	3.986	9090.520	278	
279	2076837.820	414473.521	9179.695	5.725	9185.420	279	
280	2076839.313	413569.478	9104.290	5.310	9109.600	280	
281	2076840.829	414182.792	9149.187			281	obscure
282	2076841.418	413881.868	9121.927	6.213	9128.140	282	
283	2076842.537	414758.913	9186.785	5.855	9192.640	283	
284	2076844.513	415085.053	9187.768	4.752	9192.520	284	
285	2076852.418	415394.268	9196.021	5.319	9201.340	285	
286	2076853.449	415679.774	9220.480	3.840	9224.320	286	
287	2076854.166	416880.661	9267.522	4.988	9272.510	287	
288	2076854.226	417147.026	9278.039	4.741	9282.780	288	
289	2076858.943	416576.961	9267.046	4.284	9271.330	289	
290	2076864.493	418678.780	9282.568	4.562	9287.130	290	
291	2076865.160	418360.328	9279.618	5.062	9284.680	291	
292	2076865.909	416254.004	9261.981	4.279	9266.260	292	
293	2076866.518	415980.209	9244.165	3.685	9247.850	293	
294	2076868.848	417769.759	9288.943	5.997	9294.940	294	
295	2076869.605	417463.849	9289.390	4.790	9294.180	295	
296	2076875.548	418066.460	9284.593	6.087	9290.680	296	
297	2077070.936	407582.190	9040.648	9.282	9049.930	297	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
298	2077072.484	407898.206	9038.971	10.799	9049.770	298	
299	2077075.424	408205.126	9027.732	10.378	9038.110	299	
300	2077082.042	406998.004	9041.859	11.421	9053.280	300	
301	2077082.369	408795.259	9038.692	11.038	9049.730	301	
302	2077084.788	408502.932	9039.375	9.515	9048.890	302	
303	2077086.185	409110.490	9015.499	9.801	9025.300	303	
304	2077087.389	407302.913	9039.282	6.578	9045.860	304	
305	2077094.475	409697.869	9032.203	7.767	9039.970	305	
306	2077096.245	409395.856	9030.371	8.709	9039.080	306	
307	2077099.747	410568.705	9082.284	8.186	9090.470	307	
308	2077103.405	409991.461	9043.877	7.833	9051.710	308	
309	2077104.545	410893.804	9063.034	5.826	9068.860	309	
310	2077105.104	410296.037	9056.545	7.795	9064.340	310	
311	2077110.506	413616.441	9145.165	4.375	9149.540	311	
312	2077111.236	411488.520	9057.259	6.811	9064.070	312	
313	2077111.711	411791.953	9071.417	5.683	9077.100	313	
314	2077112.676	412069.697	9097.311	5.699	9103.010	314	
315	2077113.972	411187.475	9067.225	6.545	9073.770	315	
316	2077115.636	412718.694	9115.105	5.275	9120.380	316	
317	2077116.398	413312.806	9129.524	4.366	9133.890	317	
318	2077118.535	412445.617	9124.292	6.898	9131.190	318	
319	2077125.387	413009.395	9112.007	3.633	9115.640	319	
320	2077135.638	414778.248	9237.700	3.410	9241.110	320	
321	2077141.396	418675.217	9322.191	3.959	9326.150	321	
322	2077144.869	413921.949	9162.326	3.994	9166.320	322	
323	2077145.358	414490.603	9216.846	3.434	9220.280	323	
324	2077148.953	416050.491	9284.206	0.094	9284.300	324	
325	2077149.057	418104.603	9332.589	4.681	9337.270	325	
326	2077149.713	416310.230	9308.785	3.415	9312.200	326	
327	2077151.862	416617.820	9318.467	4.353	9322.820	327	
328	2077153.409	415115.610	9231.891	4.749	9236.640	328	
329	2077154.311	417495.828	9334.585	4.905	9339.490	329	
330	2077158.281	417851.766	9331.189	5.241	9336.430	330	
331	2077161.746	415737.397	9259.270	2.820	9262.090	331	
332	2077162.608	418398.411	9324.009	4.971	9328.980	332	
333	2077164.701	415408.855	9229.001	3.589	9232.590	333	
334	2077165.219	416914.972	9317.127	4.623	9321.750	334	
335	2077174.046	417227.008	9327.643	3.857	9331.500	335	
336	2077181.606	414208.077	9195.008	3.452	9198.460	336	
337	2077327.144	408584.183	9103.769	14.731	9118.500	337	
338	2077341.919	409427.893	9113.270	10.420	9123.690	338	
339	2077369.243	412440.405	9175.243	6.397	9181.640	339	
340	2077372.040	407304.093	9202.814	9.216	9212.030	340	
341	2077375.260	408191.709	9220.946	10.164	9231.110	341	
342	2077377.800	407936.184	9194.089	8.161	9202.250	342	
343	2077378.502	407034.029	9233.365	3.565	9236.930	343	
344	2077380.015	413587.030	9211.006	-2.551	9208.455	344	
345	2077394.763	409983.859	9128.887	5.823	9134.710	345	
346	2077395.978	412645.274	9167.718	4.982	9172.700	346	
347	2077397.366	409679.669	9132.085	8.175	9140.260	347	
348	2077399.707	411496.044	9145.747	7.113	9152.860	348	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
349	2077402.652	411205.346	9147.579	8.191	9155.770	349	
350	2077402.965	412950.462	9180.350	5.200	9185.550	350	
351	2077405.646	410882.927	9147.858	5.522	9153.380	351	
352	2077405.827	410221.835	9137.115	9.365	9146.480	352	
353	2077406.135	415651.618	9328.329	3.821	9332.150	353	
354	2077407.691	413278.777	9195.842	3.518	9199.360	354	
355	2077409.167	407548.934	9182.477	8.513	9190.990	355	
356	2077410.252	410542.455	9147.796	6.944	9154.740	356	
357	2077413.404	415030.801	9272.498	4.502	9277.000	357	
358	2077421.588	415362.935	9312.568	1.542	9314.110	358	
359	2077424.785	414470.169	9253.520	2.650	9256.170	359	
360	2077426.097	416858.967	9365.778	2.682	9368.460	360	
361	2077426.868	414154.724	9242.497	-4.407	9238.090	361	
362	2077428.813	414723.692	9283.789	3.721	9287.510	362	
363	2077428.858	418082.652	9386.156	4.584	9390.740	363	
364	2077431.268	417772.752	9385.709	3.541	9389.250	364	
365	2077433.431	413924.580	9244.136			365	obscure
366	2077433.603	417178.339	9374.805	3.515	9378.320	366	
367	2077433.749	408830.537	9212.625	11.175	9223.800	367	
368	2077433.974	411773.423	9173.163	5.517	9178.680	368	
369	2077439.776	416550.490	9376.443	0.997	9377.440	369	
370	2077441.113	412095.887	9175.740	3.940	9179.680	370	
371	2077448.081	415970.215	9352.311	-0.101	9352.210	371	
372	2077450.407	417472.218	9390.297	-1.777	9388.520	372	
373	2077459.348	418342.719	9389.433	0.157	9389.590	373	
374	2077467.012	418649.456	9385.023	3.577	9388.600	374	
375	2077473.441	416249.283	9364.794			375	obscure
376	2077486.811	409078.793	9244.853	6.567	9251.420	376	
377	2077617.220	416811.723	9418.689	2.131	9420.820	377	
378	2077653.954	407389.895	9335.297	12.963	9348.260	378	
379	2077655.214	417753.204	9442.374	1.606	9443.980	379	
380	2077662.949	408527.324	9269.568			380	obscure
381	2077667.836	417044.337	9449.554	4.246	9453.800	381	
382	2077677.808	412398.030	9243.953	-3.763	9240.190	382	
384	2077705.279	409419.764	9343.743	8.307	9352.050	384	
385	2077706.029	408239.791	9378.455	10.275	9388.730	385	
386	2077707.058	413860.681	9395.391	-6.301	9389.090	386	
387	2077713.671	417429.568	9466.774	19.292	9486.066	387	
388	2077714.351	409715.921	9334.180	6.730	9340.910	388	
389	2077722.152	410325.622	9352.995	6.755	9359.750	389	
390	2077722.785	410015.663	9330.454	6.501	9340.430	390	
391	2077722.335	412131.521	9350.449	9.976	9356.950	391	
392	2077723.462	413633.072	9394.050	-3.430	9390.620	392	
393	2077723.663	407928.653	9307.540	8.230	9315.770	393	
394	2077726.902	418152.914	9462.066			394	obscure
395	2077732.966	416598.184	9476.724	2.226	9478.950	395	
396	2077733.047	413372.927	9415.531	0.729	9416.260	396	
397	2077736.450	412772.912	9390.058	2.252	9392.310	397	
398	2077736.578	410900.265	9364.607	8.823	9373.430	398	
399	2077736.685	411737.335	9371.438	2.592	9374.030	399	
400	2077746.821	413109.696	9405.908	4.332	9410.240	400	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
401	2077751.745	415324.085	9534.402	3.708	9538.110	401	
402	2077752.566	415932.907	9537.947	2.763	9540.710	402	
403	2077752.693	415632.986	9530.797	2.653	9533.450	403	
404	2077755.497	409050.595	9381.715	7.175	9388.890	404	
405	2077758.768	408804.221	9278.168	9.222	9287.390	405	
406	2077758.773	416238.547	9548.702	-2.142	9546.560	406	
407	2077761.250	411521.427	9384.478			407	obscure
408	2077762.691	418677.222	9467.161	0.089	9467.250	408	
409	2077763.913	418088.944	9475.384	0.806	9476.190	409	
410	2077766.600	418385.690	9473.298	-1.608	9471.690	410	
411	2077767.387	411199.842	9384.913	7.077	9391.990	411	
412	2077769.532	410619.303	9280.373	8.197	9288.570	412	
413	2077774.996	407709.917	9198.964			413	obscure
414	2077784.328	414966.591	9434.955	3.325	9438.280	414	
416	2077977.570	417956.009	9554.929			416	obscure
417	2077991.702	415647.014	9652.082			417	obscure
418	2077993.098	415373.835	9651.367	2.043	9653.410	418	
419	2078009.322	416581.861	9558.921	-0.251	9558.670	419	
420	2078009.957	411739.624	9523.389	3.961	9527.350	420	
421	2078014.165	412604.064	9410.000	2.590	9412.590	421	
422	2078015.585	410894.682	9495.942	6.778	9502.720	422	
423	2078021.702	411169.941	9518.794	5.876	9524.670	423	
424	2078022.117	411423.848	9484.112			424	obscure
425	2078027.614	415977.361	9676.631			425	obscure
426	2078030.955	407686.494	9245.082			426	obscure
427	2078032.505	410611.536	9385.627	2.373	9388.000	427	
428	2078034.658	408649.050	9300.767			428	obscure
429	2078038.452	409739.749	9477.592	8.338	9485.930	429	
430	2078042.377	410247.077	9492.558	-0.528	9492.030	430	
431	2078043.741	410015.211	9489.360			431	obscure
432	2078045.520	408922.564	9404.199	5.251	9409.450	432	
433	2078054.818	413840.001	9602.537	3.413	9605.950	433	
434	2078055.142	414117.045	9619.757	5.223	9624.980	434	
435	2078057.519	408181.298	9496.344	6.586	9502.930	435	
436	2078059.763	409456.376	9544.366	7.064	9551.430	436	
437	2078063.062	413527.239	9562.705	4.255	9566.960	437	
438	2078065.623	413261.367	9589.846	4.204	9594.050	438	
439	2078083.292	412039.022	9553.102	7.418	9560.520	439	
440	2078093.765	409201.227	9560.604	11.106	9571.710	440	
441	2078110.326	417007.273	9696.681			441	obscure
442	2078111.788	415056.226	9509.317	-0.067	9509.250	442	
443	2078121.857	412942.249	9591.234	5.326	9596.560	443	
444	2078133.011	414433.546	9626.758			444	obscure
445	2078247.352	417736.019	9672.856	-0.716	9672.140	445	
447	2078257.796	413864.903	9697.156	4.104	9701.260	447	
448	2078267.822	414937.082	9462.908			448	obscure
449	2078292.610	408799.342	9418.639	1.431	9420.070	449	
450	2078301.331	416532.685	9616.624			450	obscure
451	2078311.547	409059.426	9553.523	1.257	9554.780	451	
452	2078353.533	410857.308	9607.327	1.973	9609.300	452	
453	2078354.224	411137.838	9694.880	3.950	9698.830	453	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
454	2078364.331	413654.280	9724.493			454	obscure
455	2078366.027	410275.851	9577.783	6.857	9584.640	455	
456	2078375.574	409395.539	9663.261	0.969	9664.230	456	
457	2078383.019	410621.898	9496.454			457	obscure
458	2078394.824	417907.170	9773.404	-2.504	9770.900	458	
459	2078404.264	415701.062	9852.845			459	obscure
460	2078413.346	412631.116	9543.675	-0.085	9543.590	460	
461	2078423.908	408199.568	9574.989	2.261	9577.250	461	
462	2078424.906	414154.702	9813.254	4.806	9818.060	462	
463	2078426.111	415432.012	9745.963			463	obscure
464	2078441.123	409650.144	9661.740	1.890	9663.630	464	
465	2078443.435	411709.163	9740.911	4.699	9745.610	465	
466	2078456.871	417037.658	9880.883			466	obscure
467	2078456.885	407653.147	9373.576	10.684	9384.260	467	
468	2078457.420	413347.459	9764.940	5.100	9770.040	468	
469	2078466.935	411362.218	9705.032	4.888	9709.920	469	
470	2078468.237	413127.991	9769.743	5.837	9775.580	470	
471	2078470.900	410029.721	9674.022			471	obscure
472	2078473.904	416770.068	9771.950	-1.090	9770.860	472	
473	2078474.252	416091.219	9804.142			473	obscure
474	2078520.643	417321.463	9890.229			474	obscure
476	2078574.858	411906.212	9754.106	3.554	9757.660	476	
477	2078583.147	412356.375	9572.499			477	obscure
478	2078599.885	413888.700	9848.795	4.995	9853.790	478	
479	2078617.669	415075.189	9606.395			479	obscure
480	2078624.884	410291.579	9667.909			480	obscure
481	2078632.011	417777.743	9839.553	1.057	9840.610	481	
482	2078654.261	408803.055	9569.014	1.696	9570.710	482	
483	2078662.668	412976.862	9756.088	4.892	9760.980	483	
484	2078669.874	407939.206	9569.871	5.709	9575.580	484	
485	2078670.293	409073.205	9648.379	0.801	9649.180	485	
486	2078672.957	410885.248	9710.426	2.134	9712.560	486	
487	2078679.036	413604.746	9842.149	3.471	9845.620	487	
488	2078683.998	410559.020	9629.430	2.860	9632.290	488	
489	2078685.652	416548.919	9751.700	-2.400	9749.300	489	
490	2078686.464	416183.369	9824.703			490	obscure
491	2078693.533	415733.365	9949.654	-3.834	9945.820	491	
492	2078702.149	413353.352	9843.784	5.386	9849.170	492	
493	2078703.928	411118.440	9813.387	3.833	9817.220	493	
494	2078718.302	416863.261	9875.353	0.947	9876.300	494	
495	2078738.455	409903.137	9802.654	2.796	9805.450	495	
496	2078791.597	417158.140	10044.309	1.191	10045.500	496	
497	2078796.984	409506.035	9868.907	1.773	9870.680	497	
498	2078808.760	408483.181	9634.492			498	obscure
499	2078809.579	408214.750	9719.112	4.758	9723.870	499	
500	2078860.561	411458.313	9910.290	1.490	9911.780	500	
501	2078862.614	412389.103	9653.137			501	obscure
502	2078864.060	414684.834	9680.021			502	obscure
503	2078875.866	410193.285	9803.871			503	obscure
504	2078876.903	407628.913	9562.983	4.137	9567.120	504	
505	2078894.259	412729.500	9714.686	3.344	9718.030	505	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
506	2078901.193	413948.220	10032.912	3.068	10035.980	506	
507	2078902.630	410875.949	9783.041	2.879	9785.920	507	
508	2078905.403	413666.146	9981.067	2.253	9983.320	508	
509	2078906.840	411721.610	9966.501	3.869	9970.370	509	
510	2078908.558	416612.253	9865.021	-1.291	9863.730	510	
511	2078912.617	413087.455	9830.908	3.512	9834.420	511	
512	2078928.744	417892.060	10016.582	-1.542	10015.040	512	
513	2078943.842	415858.289	10067.933	-2.633	10065.300	513	
515	2078960.541	407880.213	9660.301	6.689	9666.990	515	
516	2078962.331	415478.680	9860.659	-0.939	9859.720	516	
517	2078999.972	410571.191	9783.041	5.359	9788.400	517	
518	2079007.439	416828.813	9968.736	-0.016	9968.720	518	
519	2079007.633	417212.526	10138.055	1.805	10139.860	519	
520	2079008.594	409085.598	9771.229	1.331	9772.560	520	
521	2079019.184	415010.411	9682.410	-3.430	9678.980	521	
522	2079024.978	408739.251	9707.992			522	obscure
523	2079036.729	417604.373	10022.579			523	obscure
524	2079047.226	408204.857	9828.104	5.086	9833.190	524	
525	2079050.768	413383.901	10034.911	3.789	10038.700	525	
526	2079165.119	411683.115	10087.692	1.988	10089.680	526	
527	2079170.521	407570.344	9674.409	8.821	9683.230	527	
528	2079183.351	412745.496	9805.033	3.607	9808.640	528	
529	2079197.243	410291.942	9949.987	2.233	9952.220	529	
530	2079203.057	410910.553	9972.366	3.954	9976.320	530	
532	2079211.499	415388.869	9884.959	-1.389	9883.570	532	
533	2079214.744	409641.740	10034.497	1.353	10035.850	533	
534	2079230.262	415688.640	10027.252	-4.880	10022.372	534	
535	2079231.145	416895.453	10087.248	-2.268	10084.980	535	
536	2079231.992	411202.534	10098.425	1.595	10100.020	536	
537	2079233.930	410018.925	10036.267	2.573	10038.840	537	
538	2079235.425	415115.330	9778.331	-0.551	9777.780	538	
539	2079237.432	413635.948	10139.249	2.941	10142.190	539	
540	2079242.727	417757.912	10163.159	-1.129	10162.030	540	
541	2079243.157	415903.618	10132.577	-1.507	10131.070	541	
542	2079245.082	413832.474	10171.129	4.041	10175.170	542	
543	2079247.960	412359.203	9867.745	7.195	9874.940	543	
544	2079249.768	414265.925	9973.724			544	obscure
545	2079258.108	417275.659	10264.901	-0.031	10264.870	545	
546	2079264.704	413083.054	9990.387	1.823	9992.210	546	
547	2079286.252	407859.478	9783.650	8.790	9792.440	547	
549	2079296.109	410572.769	9963.265			549	obscure
550	2079305.439	412087.051	9941.605			550	obscure
551	2079309.524	413404.059	10155.215	3.255	10158.470	551	
552	2079315.179	417516.922	10215.367	0.163	10215.530	552	
553	2079319.514	408782.708	9873.665			553	obscure
554	2079327.312	414853.045	9734.280			554	obscure
555	2079328.045	408262.240	9933.168	3.652	9936.820	555	
556	2079328.690	416588.351	10031.666	-0.076	10031.590	556	
557	2079348.162	409093.074	9916.404	2.566	9918.970	557	
558	2079353.155	416285.939	10052.149			558	obscure
559	2079417.198	408517.305	9927.995	2.795	9930.790	559	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
561	2079513.802	415354.372	9975.583	-0.713	9974.870	561	
562	2079514.358	415671.206	10136.678			562	obscure
563	2079515.313	415000.281	9881.305			563	obscure
564	2079539.154	414604.806	9897.063			564	obscure
565	2079544.886	413267.894	10174.582	2.238	10176.820	565	
566	2079547.534	416894.454	10233.072	-1.912	10231.160	566	
567	2079552.675	417277.174	10366.098	-1.248	10364.850	567	
568	2079555.568	413537.332	10275.389			568	obscure
569	2079559.334	413812.992	10256.231			569	obscure
570	2079565.599	415950.746	10261.662	-1.222	10260.440	570	
571	2079574.596	407854.713	9934.440	6.410	9940.850	571	
572	2079584.483	407612.050	9879.920	6.760	9886.680	572	
573	2079593.755	417669.223	10331.985	-0.655	10331.330	573	
574	2079617.468	412775.821	10070.901	3.649	10074.550	574	
575	2079627.019	409536.688	10139.698	0.012	10139.710	575	
576	2079627.728	410672.430	10149.519	2.311	10151.830	576	
577	2079635.053	416232.892	10215.099	-0.749	10214.350	577	
578	2079637.739	410090.080	10192.119	1.911	10194.030	578	
579	2079640.580	411663.374	10202.880	1.040	10203.920	579	
580	2079641.980	412229.726	10099.670	3.020	10102.690	580	
581	2079646.996	411333.375	10261.415	2.025	10263.440	581	
582	2079648.732	408911.030	10030.347	2.023	10032.370	582	
583	2079655.237	409261.767	10081.413	-0.783	10080.630	583	
584	2079655.497	416601.362	10201.486	-2.386	10199.100	584	
585	2079665.946	409842.086	10220.336	0.964	10221.300	585	
586	2079669.657	408622.731	10040.084	1.906	10041.990	586	
587	2079689.014	411996.840	10154.277	3.743	10158.020	587	
588	2079692.386	408028.867	10003.680	4.780	10008.460	588	
589	2079695.443	411068.280	10226.449	1.981	10228.430	589	
590	2079695.531	412473.143	10092.201	3.829	10096.030	590	
591	2079706.441	410446.607	10165.729	-2.479	10163.250	591	
592	2079754.447	408298.391	10100.721	1.509	10102.230	592	
595	2079835.076	414339.802	10134.659			595	obscure
596	2079838.583	417448.923	10444.779	-2.529	10442.250	596	
597	2079839.206	415984.906	10344.264	-0.814	10343.450	597	
598	2079843.279	413273.770	10286.033	2.047	10288.080	598	
599	2079845.115	417136.729	10431.927	-2.907	10429.020	599	
600	2079850.556	415628.098	10204.955	-1.805	10203.150	600	
601	2079851.817	416833.319	10349.348	-1.928	10347.420	601	
602	2079852.530	413534.749	10381.064	3.916	10384.980	602	
603	2079854.253	415374.458	10133.518	-0.648	10132.870	603	
604	2079855.925	417727.546	10434.231	-1.651	10432.580	604	
605	2079865.446	414735.680	10000.884			605	obscure
606	2079865.599	411663.608	10272.535	2.035	10274.570	606	
607	2079870.858	416264.634	10318.108	-1.178	10316.930	607	
608	2079875.569	415049.469	10104.084	7.466	10111.550	608	
609	2079904.992	413883.352	10330.329			609	obscure
610	2079921.059	408638.789	10136.738	2.452	10139.190	610	
611	2079934.149	416600.727	10334.144	-2.774	10331.370	611	
612	2079939.244	409220.153	10180.141	1.079	10181.220	612	
614	2079953.127	410434.492	10286.588	1.232	10287.820	614	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
615	2079963.134	408938.296	10152.008	0.872	10152.880	615	
616	2079963.254	410132.981	10313.725	4.285	10318.010	616	
617	2079963.619	410725.586	10318.566	1.234	10319.800	617	
618	2079966.973	409534.925	10241.442	-0.392	10241.050	618	
620	2079967.209	408064.802	10124.677	2.333	10127.010	620	
623	2079975.682	412788.577	10233.337	3.113	10236.450	623	
624	2079978.879	414160.443	10252.848			624	obscure
625	2079979.879	412165.562	10237.542	3.898	10241.440	625	
626	2079980.933	411305.126	10376.216	0.584	10376.800	626	
627	2079982.695	411956.538	10267.169	1.411	10268.580	627	
628	2079985.960	412537.992	10236.214	3.236	10239.450	628	
629	2079986.217	411030.844	10343.269	1.071	10344.340	629	
630	2080015.532	409863.611	10355.773	-0.923	10354.850	630	
631	2080019.402	417136.529	10509.089	-2.639	10506.450	631	
632	2080019.441	413112.649	10302.466	2.044	10304.510	632	
633	2080039.931	417499.171	10508.400	-1.990	10506.410	633	
634	2080092.467	415364.712	10242.657	-3.847	10238.810	634	
635	2080104.500	416032.369	10436.821	-3.321	10433.500	635	
636	2080124.478	416853.177	10468.132	-3.492	10464.640	636	
637	2080136.305	415707.277	10339.988	-4.888	10335.100	637	
638	2080141.550	416562.245	10436.987	-4.527	10432.460	638	
639	2080146.772	416256.511	10440.052	-3.072	10436.980	639	
640	2080161.223	415051.851	10226.170	-2.990	10223.180	640	
641	2080173.603	414738.443	10187.565			641	obscure
642	2080200.853	411028.016	10395.829	-0.109	10395.720	642	
643	2080210.609	411334.784	10367.612	-0.092	10367.520	643	
644	2080213.252	414272.881	10313.309			644	obscure
645	2080215.586	410462.454	10409.051	0.219	10409.270	645	
646	2080219.509	408606.565	10254.942	0.238	10255.180	646	
647	2080224.983	408261.473	10291.678	1.102	10292.780	647	
648	2080225.739	409220.467	10257.438	-1.328	10256.110	648	
649	2080235.795	414514.522	10236.908			649	obscure
651	2080254.400	408917.813	10236.844	-0.574	10236.270	651	
653	2080255.204	411634.738	10345.150	-0.580	10344.570	653	
654	2080259.962	410723.491	10439.113	0.197	10439.310	654	
656	2080265.171	411936.302	10336.270	0.240	10336.510	656	
657	2080265.352	410143.268	10392.076	-1.866	10390.210	657	
658	2080266.221	409837.923	10298.527	-2.007	10296.520	658	
659	2080271.569	409534.868	10275.783	-1.803	10273.980	659	
660	2080281.706	414057.157	10383.036			660	obscure
663	2080319.782	412220.425	10330.904	-0.494	10330.410	663	
664	2080322.001	412857.898	10373.032	3.098	10376.130	664	
665	2080353.923	412532.165	10355.311	2.359	10357.670	665	
666	2080367.658	413122.559	10445.137	2.783	10447.920	666	
667	2080399.856	417794.036	10610.317	-3.067	10607.250	667	
668	2080437.131	415032.685	10330.794	-1.314	10329.480	668	
669	2080439.271	417111.724	10642.032	-4.032	10638.000	669	
670	2080441.541	416829.196	10588.722	-3.152	10585.570	670	
671	2080466.689	415906.014	10533.844	-3.134	10530.710	671	
672	2080470.012	417432.992	10626.424	-3.584	10622.840	672	
673	2080477.355	416504.448	10585.823	-4.453	10581.370	673	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
674	2080478.757	416249.518	10589.434	-3.684	10585.750	674	
675	2080491.687	415347.701	10423.280	-0.680	10422.600	675	
676	2080499.109	414518.836	10350.513			676	obscure
678	2080506.543	408312.079	10280.957	0.283	10281.240	678	
679	2080521.968	414722.959	10355.977	0.483	10356.460	679	
680	2080523.335	415659.194	10512.510	-3.010	10509.500	680	
681	2080539.207	409837.768	10186.183	-1.033	10185.150	681	
682	2080550.136	408946.215	10109.504	-0.824	10108.680	682	
683	2080552.671	410436.037	10363.234	-1.784	10361.450	683	
684	2080553.641	408633.932	10157.865	0.475	10158.340	684	
685	2080553.849	410134.667	10251.515	-1.545	10249.970	685	
686	2080555.098	413443.178	10494.882	2.938	10497.820	686	
687	2080555.179	411634.695	10304.275	0.705	10304.980	687	
688	2080555.200	411334.756	10322.670	-0.310	10322.360	688	
689	2080555.316	409532.545	10169.487	0.013	10169.500	689	
690	2080555.328	411034.657	10340.915	-0.315	10340.600	690	
691	2080555.358	412234.783	10311.623	0.887	10312.510	691	
692	2080555.420	411934.680	10294.353	0.597	10294.950	692	
693	2080556.224	413138.704	10439.463	4.377	10443.840	693	
695	2080575.530	410694.975	10382.779	-0.089	10382.690	695	
696	2080579.683	409239.127	10119.326	-1.206	10118.120	696	
697	2080585.268	412526.293	10344.139	2.901	10347.040	697	
700	2080640.287	412848.814	10386.228	3.762	10389.990	700	
701	2080750.467	413860.350	10555.272	2.138	10557.410	701	
702	2080761.872	417129.373	10654.480	-1.880	10652.600	702	
703	2080762.638	415343.103	10528.118	-2.678	10525.440	703	
704	2080770.087	417439.095	10620.366	-2.436	10617.930	704	
705	2080770.212	417735.270	10596.609	-2.179	10594.430	705	
706	2080774.145	415634.735	10586.417	-3.587	10582.830	706	
707	2080774.574	413577.296	10497.828	3.302	10501.130	707	
708	2080776.143	413016.266	10397.675	3.245	10400.920	708	
709	2080776.394	416284.630	10693.370	-3.320	10690.050	709	
710	2080781.772	416850.224	10672.749	-3.489	10669.260	710	
711	2080782.507	415047.417	10487.779	-2.849	10484.930	711	
712	2080785.706	416532.375	10688.168	-4.208	10683.960	712	
714	2080801.410	414733.192	10488.492	-1.562	10486.930	714	
715	2080823.581	415872.922	10668.734	-2.104	10666.630	715	
716	2080826.735	414147.403	10540.020	0.230	10540.250	716	
717	2080828.099	414449.386	10497.258	4.652	10501.910	717	
718	2080837.384	413346.675	10443.012	3.908	10446.920	718	
719	2080841.762	409247.766	9988.837	0.313	9989.150	719	
720	2080842.646	408338.218	10094.758	1.152	10095.910	720	
721	2080843.828	408933.106	9990.311	-0.941	9989.370	721	
722	2080843.842	408045.594	10155.354	2.346	10157.700	722	
723	2080844.969	410130.644	10147.368	-0.448	10146.920	723	
725	2080852.016	409830.770	10082.661	0.779	10083.440	725	
726	2080852.352	411038.435	10288.230	0.050	10288.280	726	
727	2080854.862	409520.568	10043.897	-0.257	10043.640	727	
728	2080855.119	411934.888	10231.245	1.235	10232.480	728	
729	2080855.249	411334.551	10261.437	0.403	10261.840	729	
730	2080855.454	411634.600	10237.394	0.936	10238.330	730	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
731	2080856.082	412239.890	10253.614	1.076	10254.690	731	
732	2080856.807	410426.817	10243.842	-0.052	10243.790	732	
733	2080856.922	412553.103	10300.676	2.664	10303.340	733	
734	2080867.497	408545.571	10063.191	-0.231	10062.960	734	
735	2080872.072	410711.139	10322.595	0.025	10322.620	735	
737	2081041.903	414394.005	10576.915	2.705	10579.620	737	
738	2081061.943	415670.606	10672.013	-3.463	10668.550	738	
739	2081061.995	417150.462	10624.879	-1.399	10623.480	739	
740	2081067.022	416847.819	10663.841	-2.451	10661.390	740	
741	2081069.293	413867.525	10467.420	1.640	10469.060	741	
742	2081069.429	417450.194	10584.826	-2.066	10582.760	742	
743	2081072.774	413535.131	10414.893	3.757	10418.650	743	
744	2081072.926	416227.300	10737.867	-2.467	10735.400	744	
745	2081073.108	416536.563	10702.730	-2.180	10700.550	745	
746	2081076.806	413247.379	10378.630	2.790	10381.420	746	
747	2081083.629	415022.303	10588.603	-1.143	10587.460	747	
748	2081083.818	417748.086	10558.978	-2.208	10556.770	748	
749	2081086.028	412940.754	10324.720	2.810	10327.530	749	
750	2081096.222	414136.882	10497.424	2.746	10500.170	750	
753	2081123.805	408631.458	9942.624	-0.694	9941.930	753	
754	2081124.883	415316.386	10624.974	-1.284	10623.690	754	
755	2081125.104	408083.547	10025.473	3.407	10028.880	755	
756	2081138.518	409283.972	9849.050	0.200	9849.250	756	
757	2081138.817	411340.272	10184.683	1.067	10185.750	757	
758	2081141.636	415912.080	10738.128	-2.298	10735.830	758	
759	2081144.995	408905.563	9868.495	-0.525	9867.970	759	
760	2081147.161	408361.687	9957.020	1.390	9958.410	760	
761	2081150.467	410694.870	10297.627	-0.207	10297.420	761	
762	2081155.398	412234.899	10185.483	1.467	10186.950	762	
763	2081155.410	412534.840	10236.769	3.581	10240.350	763	
764	2081156.998	411632.783	10149.343	0.757	10150.100	764	
765	2081161.401	411950.948	10147.568	1.932	10149.500	765	
766	2081162.144	409537.105	9881.541	-1.961	9879.580	766	
767	2081164.690	414688.581	10642.935	0.515	10643.450	767	
768	2081165.396	410134.993	10057.543	-0.203	10057.340	768	
769	2081174.914	409850.680	9973.916	-0.906	9973.010	769	
770	2081189.998	411052.799	10216.724	0.816	10217.540	770	
771	2081192.312	410450.222	10169.737	0.173	10169.910	771	
773	2081328.319	416261.483	10715.226	-3.246	10711.980	773	
774	2081341.670	408216.045	9915.436	1.214	9916.650	774	
775	2081345.535	416823.136	10632.054	-1.984	10630.070	775	
776	2081346.262	412960.194	10243.817	2.263	10246.080	776	
777	2081351.413	416538.985	10675.624	-1.094	10674.530	777	
778	2081351.705	413550.500	10258.408	2.042	10260.450	778	
779	2081358.267	414480.299	10476.946	1.404	10478.350	779	
780	2081370.683	417143.561	10581.903	-1.633	10580.270	780	
781	2081371.815	417735.952	10509.897	-1.007	10508.890	781	
782	2081373.295	417438.175	10539.973	-1.073	10538.900	782	
783	2081374.156	414102.320	10340.582	2.598	10343.180	783	
784	2081396.878	418094.089	10487.256	-2.076	10485.180	784	
786	2081405.862	415654.987	10712.328	-1.848	10710.480	786	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
787	2081408.943	414744.305	10558.194	-0.144	10558.050	787	
788	2081411.124	413265.974	10208.233	0.497	10208.730	788	
789	2081412.484	415057.130	10660.657	0.883	10661.540	789	
790	2081428.814	408587.463	9789.741	-1.831	9787.910	790	
791	2081430.480	415924.433	10721.071	-1.901	10719.170	791	
792	2081434.540	413837.270	10267.126	2.724	10269.850	792	
793	2081436.578	411677.059	10052.769	-0.069	10052.700	793	
794	2081441.803	411018.782	10175.411			794	obscure
795	2081444.503	410489.549	10141.070	1.760	10142.830	795	
796	2081444.630	409828.096	9882.125	2.355	9884.480	796	
797	2081445.958	410759.429	10220.998	-0.198	10220.800	797	
798	2081446.881	411342.259	10093.958	1.692	10095.650	798	
799	2081448.253	415282.706	10707.672	-0.682	10706.990	799	
800	2081453.066	411929.692	10045.821	1.369	10047.190	800	
801	2081453.344	410106.467	9994.015	1.315	9995.330	801	
802	2081463.721	409178.158	9700.267	-0.667	9699.600	802	
803	2081464.827	412496.761	10149.543	3.137	10152.680	803	
804	2081469.440	409549.846	9759.917	-2.117	9757.800	804	
805	2081487.957	412214.209	10087.560	2.740	10090.300	805	
806	2081490.263	408976.881	9698.435	-4.855	9693.580	806	
808	2081605.976	412874.146	10095.507	4.563	10100.070	808	
809	2081616.867	412996.566	10081.536	4.374	10085.910	809	
810	2081621.850	417179.770	10540.163	-0.233	10539.930	810	
811	2081636.492	413599.234	10123.992	1.548	10125.540	811	
812	2081646.479	413930.458	10189.917	2.443	10192.360	812	
813	2081648.975	415034.571	10607.014	-0.974	10606.040	813	
814	2081659.309	417729.572	10449.483	1.097	10450.580	814	
815	2081665.150	416559.845	10638.540	1.030	10639.570	815	
816	2081668.515	414445.928	10356.618	0.982	10357.600	816	
817	2081669.259	418040.308	10438.745	0.515	10439.260	817	
818	2081669.337	417447.254	10486.781	0.179	10486.960	818	
819	2081672.526	414777.174	10481.982	-0.642	10481.340	819	
820	2081680.718	415591.353	10711.901	1.319	10713.220	820	
821	2081695.052	413302.088	10034.096	2.734	10036.830	821	
822	2081698.835	414171.779	10251.209	2.051	10253.260	822	
823	2081702.972	416830.341	10586.393	0.817	10587.210	823	
824	2081711.113	410142.954	9965.915	0.805	9966.720	824	
825	2081712.113	408639.669	9685.180	-0.070	9685.110	825	
827	2081725.866	411028.717	10115.254	1.926	10117.180	827	
828	2081727.813	410455.064	10068.887	1.603	10070.490	828	
829	2081729.480	411656.158	9938.892	3.148	9942.040	829	
830	2081730.850	408134.356	9893.252	2.578	9895.830	830	
831	2081733.724	408350.115	9806.230	1.190	9807.420	831	
833	2081740.616	409560.826	9690.029	-0.949	9689.080	833	
834	2081742.314	415340.075	10686.695	1.285	10687.980	834	
835	2081749.172	412499.276	10046.822	3.518	10050.340	835	
836	2081749.806	409848.031	9821.183	1.397	9822.580	836	
837	2081751.171	409212.244	9607.048	-2.448	9604.600	837	
838	2081755.377	411926.293	9920.976	3.094	9924.070	838	
840	2081767.477	410763.037	10149.390	2.390	10151.780	840	
841	2081772.641	411322.306	10025.430	2.070	10027.500	841	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
842	2081772.826	416221.798	10676.432	0.338	10676.770	842	
843	2081775.296	412211.296	9977.796	3.564	9981.360	843	
845	2081781.870	415904.332	10701.899	1.501	10703.400	845	
846	2081793.841	408909.224	9610.766			846	obscure
847	2081933.795	417434.982	10439.624	2.626	10442.250	847	
848	2081943.003	414449.366	10277.128	0.522	10277.650	848	
849	2081959.010	415928.614	10674.650	1.480	10676.130	849	
850	2081959.192	416577.681	10602.097	1.733	10603.830	850	
851	2081971.391	413857.065	10013.995	3.115	10017.110	851	
852	2081971.581	415601.737	10685.079	1.091	10686.170	852	
853	2081972.705	417767.246	10376.479	1.911	10378.390	853	
854	2081974.321	414727.363	10384.010	0.790	10384.800	854	
855	2081979.883	415052.532	10535.435	-0.275	10535.160	855	
856	2081981.115	417143.739	10494.740	1.620	10496.360	856	
857	2081982.460	413250.561	9874.641	1.749	9876.390	857	
858	2081985.967	415356.996	10644.883	0.737	10645.620	858	
859	2081989.876	413603.291	9922.320	2.840	9925.160	859	
860	2081997.337	414130.780	10115.012	0.348	10115.360	860	
861	2082001.022	416156.043	10658.210	1.400	10659.610	861	
862	2082004.406	418136.119	10375.718	0.362	10376.080	862	
863	2082009.019	410456.252	10019.044	1.036	10020.080	863	
864	2082009.314	408700.843	9636.361			864	obscure
867	2082036.445	409818.553	9729.688	1.602	9731.290	867	
868	2082036.503	411088.377	10037.850	1.970	10039.820	868	
869	2082041.721	409590.867	9623.294	-1.614	9621.680	869	
870	2082042.295	409248.218	9536.110	-0.490	9535.620	870	
872	2082045.725	412487.917	9831.232	6.628	9837.860	872	
873	2082053.260	411954.664	9760.940	2.740	9763.680	873	
876	2082055.575	416883.406	10539.141	2.609	10541.750	876	
878	2082075.278	412913.598	9793.594	6.186	9799.780	878	
879	2082077.259	410745.304	10106.282	1.948	10108.230	879	
880	2082081.122	412163.248	9748.601	2.609	9751.210	880	
881	2082095.387	411683.597	9813.423	3.207	9816.630	881	
883	2082127.601	408010.187	9931.699	2.181	9933.880	883	
884	2082153.225	410116.121	9850.010	0.210	9850.220	884	
885	2082158.071	408385.379	9775.731			885	obscure
886	2082174.483	415865.057	10647.202	0.668	10647.870	886	
887	2082232.217	414137.827	10048.068	0.442	10048.510	887	
888	2082239.976	417797.002	10299.175	-2.055	10297.120	888	
889	2082243.816	417476.075	10376.383	-2.053	10374.330	889	
890	2082253.573	418085.889	10315.328	1.692	10317.020	890	
892	2082256.882	413493.534	9787.873	1.057	9788.930	892	
893	2082264.478	413278.644	9750.856	3.574	9754.430	893	
894	2082265.691	415610.061	10627.413	1.547	10628.960	894	
895	2082270.233	415346.610	10589.986	0.314	10590.300	895	
896	2082282.646	416862.005	10519.741	1.969	10521.710	896	
897	2082288.585	411006.291	10021.766	0.934	10022.700	897	
898	2082289.020	415081.665	10487.972	0.198	10488.170	898	
899	2082297.359	414459.206	10182.594			899	obscure
900	2082298.474	414747.546	10321.370	0.420	10321.790	900	
901	2082298.832	413908.902	9925.369	2.321	9927.690	901	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
902	2082298.919	411927.849	9680.438	1.712	9682.150	902	
904	2082308.021	408603.390	9652.337			904	obscure
905	2082311.682	412908.739	9723.733	3.767	9727.500	905	
906	2082319.955	416486.804	10564.924	1.276	10566.200	906	
907	2082320.058	412435.034	9740.518			907	obscure
908	2082320.320	418391.415	10355.340	1.120	10356.460	908	
909	2082327.375	409603.450	9594.439	-2.159	9592.280	909	
910	2082337.906	416272.090	10548.745	0.875	10549.620	910	
911	2082337.918	411723.428	9714.223	-0.163	9714.060	911	
912	2082345.135	411312.384	9891.232	3.478	9894.710	912	
913	2082357.145	412198.942	9727.344	2.516	9729.860	913	
914	2082363.783	410775.914	10055.416	2.074	10057.490	914	
916	2082365.172	409258.721	9456.523	-3.213	9453.310	916	
917	2082375.501	410160.017	9819.027	1.753	9820.780	917	
918	2082383.317	410496.856	9982.188	1.722	9983.910	918	
920	2082396.724	408925.413	9500.654			920	obscure
921	2082396.992	407968.514	9872.723	0.787	9873.510	921	
923	2082413.209	417162.667	10430.936	2.314	10433.250	923	
926	2082439.619	409841.570	9638.732	-1.252	9637.480	926	
927	2082442.422	408338.567	9771.987			927	obscure
928	2082492.683	417931.262	10234.920	0.540	10235.460	928	
929	2082498.036	418101.110	10265.306	2.374	10267.680	929	
930	2082510.345	413899.904	9930.745	0.925	9931.670	930	
932	2082548.296	417344.620	10361.740	1.310	10363.050	932	
933	2082552.314	415352.745	10546.288	1.792	10548.080	933	
934	2082562.451	414466.200	10201.538	-0.928	10200.610	934	
935	2082571.033	416817.816	10469.156	1.644	10470.800	935	
936	2082572.522	412942.159	9601.252	3.158	9604.410	936	
937	2082572.757	415946.115	10386.956	2.504	10389.460	937	
938	2082574.039	414724.782	10329.152	0.508	10329.660	938	
939	2082577.866	415672.060	10447.755	1.685	10449.440	939	
940	2082579.334	416586.674	10415.883	1.447	10417.330	940	
941	2082579.357	416232.292	10381.913	1.207	10383.120	941	
942	2082595.271	413169.679	9587.428	1.332	9588.760	942	
943	2082604.399	408448.703	9706.895			943	obscure
944	2082605.045	417149.612	10407.743	1.867	10409.610	944	
945	2082616.166	413586.804	9801.646			945	obscure
946	2082616.914	410140.692	9740.437	2.533	9742.970	946	
947	2082617.472	414135.034	10062.865	-0.475	10062.390	947	
948	2082622.576	409839.400	9609.257	-0.877	9608.380	948	
949	2082629.936	415059.245	10476.811	-0.451	10476.360	949	
950	2082631.898	407772.892	9722.332	7.588	9729.920	950	
951	2082640.394	411601.928	9692.481			951	obscure
952	2082643.688	411316.630	9819.135	-1.345	9817.790	952	
953	2082647.467	411029.440	9948.645	2.275	9950.920	953	
954	2082651.718	408006.574	9710.505	-0.275	9710.230	954	
955	2082654.399	412746.181	9552.463			955	obscure
957	2082658.481	410468.588	9890.343	0.427	9890.770	957	
958	2082659.411	408885.966	9467.461	-2.351	9465.110	958	
959	2082672.454	409531.175	9480.474	-2.374	9478.100	959	
960	2082683.487	410761.221	9992.587	2.213	9994.800	960	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
961	2082691.519	418226.750	10250.936	-0.626	10250.310	961	
963	2082695.565	409196.316	9347.704	-2.134	9345.570	963	
966	2082713.420	412504.683	9528.701			966	obscure
968	2082720.018	412050.577	9511.000	4.510	9515.510	968	
971	2082785.241	418027.332	10200.174	0.436	10200.610	971	
972	2082814.539	412937.111	9537.586	2.714	9540.300	972	
973	2082820.349	408605.559	9550.039	-1.169	9548.870	973	
974	2082826.476	414975.310	10442.789	-0.399	10442.390	974	
975	2082833.033	416227.440	10222.478	0.562	10223.040	975	
976	2082847.348	413290.620	9743.765			976	obscure
977	2082861.898	414491.186	10271.988	0.602	10272.590	977	
978	2082869.439	415324.243	10442.891	0.789	10443.680	978	
979	2082876.684	413840.316	10001.733	-1.073	10000.660	979	
980	2082888.592	412735.856	9480.043	2.737	9482.780	980	
981	2082888.772	417139.247	10363.004	1.646	10364.650	981	
982	2082901.560	415921.687	10193.986	0.724	10194.710	982	
983	2082904.086	417546.023	10244.156	1.064	10245.220	983	
984	2082909.213	414167.222	10160.348	1.112	10161.460	984	
985	2082909.566	416840.000	10327.362	-0.052	10327.310	985	
986	2082911.342	409264.063	9313.219	-2.759	9310.460	986	
987	2082923.695	408493.325	9555.454	-2.764	9552.690	987	
988	2082927.029	410740.147	9974.375	0.585	9974.960	988	
989	2082927.255	409497.331	9423.034	-3.174	9419.860	989	
990	2082927.399	410125.566	9646.599	1.251	9647.850	990	
991	2082929.582	416630.626	10243.465	0.655	10244.120	991	
992	2082930.551	412591.403	9435.912	4.068	9439.980	992	
993	2082938.442	408156.655	9529.590	-0.450	9529.140	993	
994	2082938.597	412126.838	9440.142	-3.342	9436.800	994	
995	2082944.666	410437.537	9859.171	1.349	9860.520	995	
996	2082951.618	408898.164	9411.018	-4.548	9406.470	996	
997	2082956.980	411596.725	9652.741			997	obscure
998	2082959.469	415615.709	10251.252	1.338	10252.590	998	
999	2082964.353	411029.795	9896.081	-1.411	9894.670	999	
1000	2082984.086	409809.377	9558.983	-1.943	9557.040	1000	
1002	2083009.774	418249.531	10197.385	0.275	10197.660	1002	
1003	2083009.806	414742.666	10331.123	1.167	10332.290	1003	
1004	2083023.143	413411.749	9846.420	1.100	9847.520	1004	
1005	2083039.326	411292.796	9760.024			1005	obscure
1008	2083118.855	416273.909	10077.616	-0.486	10077.130	1008	
1009	2083126.334	417994.830	10121.266	-0.286	10120.980	1009	
1011	2083134.952	409888.367	9580.806	-4.496	9576.310	1011	
1013	2083136.874	415028.959	10326.113	1.157	10327.270	1013	
1015	2083148.094	414158.605	10168.502	2.948	10171.450	1015	
1016	2083161.013	415965.411	10063.671	1.029	10064.700	1016	
1017	2083165.544	415688.182	10127.611	3.929	10131.540	1017	
1018	2083169.990	412898.372	9644.154	2.386	9646.540	1018	
1019	2083175.803	417559.492	10200.762	1.738	10202.500	1019	
1022	2083191.038	417084.357	10326.006	1.584	10327.590	1022	
1023	2083195.153	414499.319	10231.454	1.476	10232.930	1023	
1024	2083196.633	410713.631	9957.105	-0.725	9956.380	1024	
1025	2083205.691	418452.023	10210.920	-0.940	10209.980	1025	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1026	2083210.065	409545.190	9403.016	-2.146	9400.870	1026	
1027	2083211.077	412317.435	9348.782	2.108	9350.890	1027	
1028	2083220.509	409259.435	9268.953	-3.103	9265.850	1028	
1029	2083223.566	408888.490	9335.419	-4.209	9331.210	1029	
1030	2083238.133	408447.397	9408.378	-1.548	9406.830	1030	
1031	2083240.687	415381.134	10255.491	2.329	10257.820	1031	
1032	2083267.394	411408.047	9664.299	1.481	9665.780	1032	
1033	2083290.655	411795.507	9502.836			1033	obscure
1034	2083298.156	412557.376	9485.674	0.276	9485.950	1034	
1035	2083299.905	410202.947	9709.158	0.742	9709.900	1035	
1036	2083306.370	413856.798	10113.124	1.136	10114.260	1036	
1037	2083322.323	418182.473	10125.871	-1.191	10124.680	1037	
1038	2083325.250	410737.225	9946.032	-1.332	9944.700	1038	
1039	2083346.104	411094.410	9790.900	-0.340	9790.560	1039	
1040	2083374.575	416695.640	10087.671	-0.051	10087.620	1040	
1041	2083377.450	408131.259	9370.120			1041	obscure
1043	2083406.210	413346.636	9833.855	-0.745	9833.110	1043	
1044	2083413.909	415048.975	10248.429	0.991	10249.420	1044	
1045	2083421.929	416001.105	9956.568	0.642	9957.210	1045	
1046	2083427.939	416397.639	9983.689	1.191	9984.880	1046	
1047	2083429.956	417859.630	10072.908	1.392	10074.300	1047	
1048	2083434.433	417088.436	10293.256	0.874	10294.130	1048	
1049	2083462.230	415685.959	10027.672	3.268	10030.940	1049	
1050	2083484.647	411330.464	9630.784	-0.804	9629.980	1050	
1051	2083492.930	414802.379	10178.630	0.590	10179.220	1051	
1052	2083494.395	417511.437	10173.385	1.315	10174.700	1052	
1053	2083496.954	409980.006	9591.260	4.010	9595.270	1053	
1054	2083503.074	409614.121	9440.008	-2.238	9437.770	1054	
1056	2083504.688	408871.787	9267.363			1056	obscure
1057	2083505.053	410515.421	9761.991	0.929	9762.920	1057	
1058	2083506.547	411862.204	9414.359	-0.869	9413.490	1058	
1060	2083512.582	412238.427	9277.359	-1.079	9276.280	1060	
1064	2083528.852	409270.939	9265.478	-4.258	9261.220	1064	
1065	2083529.130	412627.586	9529.024	-0.534	9528.490	1065	
1066	2083531.981	414551.463	10113.206	0.454	10113.660	1066	
1069	2083551.830	413917.513	10039.211	0.999	10040.210	1069	
1070	2083555.674	414386.353	10072.524	0.786	10073.310	1070	
1071	2083558.214	407710.410	9659.477			1071	obscure
1072	2083573.955	410140.768	9603.653	-2.333	9601.320	1072	
1075	2083630.115	418459.299	10019.177	0.623	10019.800	1075	
1076	2083633.692	418187.191	9990.623	-0.153	9990.470	1076	
1077	2083643.536	415429.420	10098.341	0.379	10098.720	1077	
1078	2083699.046	417138.428	10258.356	1.014	10259.370	1078	
1079	2083700.683	415139.157	10160.796	2.254	10163.050	1079	
1080	2083708.936	416844.277	10105.428	-0.648	10104.780	1080	
1081	2083717.821	416277.534	9874.846	0.434	9875.280	1081	
1082	2083745.390	411576.379	9438.283			1082	obscure
1083	2083751.124	417844.029	10024.115	0.955	10025.070	1083	
1084	2083754.764	415971.286	9858.522	2.178	9860.700	1084	
1085	2083785.542	410142.417	9553.379	-4.509	9548.870	1085	
1086	2083787.537	418111.713	9956.107	-0.797	9955.310	1086	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1087	2083788.186	415751.726	9900.253	3.807	9904.060	1087	
1088	2083789.657	412164.511	9151.513	0.797	9152.310	1088	
1089	2083792.086	413902.088	9911.383	0.187	9911.570	1089	
1090	2083796.592	409783.991	9449.006	0.084	9449.090	1090	
1091	2083799.915	413494.538	9880.168	-2.978	9877.190	1091	
1092	2083807.478	417501.199	10138.050	0.860	10138.910	1092	
1093	2083831.829	409491.678	9289.450	-1.760	9287.690	1093	
1094	2083835.456	414167.622	9928.705	0.805	9929.510	1094	
1097	2083848.864	414811.330	10088.823	-0.173	10088.650	1097	
1099	2083861.769	408381.432	9324.534			1099	obscure
1100	2083870.199	414505.957	9980.670	-0.270	9980.400	1100	
1101	2083879.997	408975.239	9080.891			1101	obscure
1102	2083886.992	408070.466	9510.057			1102	obscure
1103	2083891.549	407767.406	9662.036			1103	obscure
1105	2083900.711	416481.667	9918.752	0.728	9919.480	1105	
1106	2083911.176	408654.091	9210.629			1106	obscure
1107	2083912.602	410708.307	9648.916	0.704	9649.620	1107	
1108	2083925.493	409250.353	9165.636	-3.626	9162.010	1108	
1109	2083929.727	417153.032	10231.670	-0.330	10231.340	1109	
1110	2083937.026	412588.622	9416.272	0.588	9416.860	1110	
1113	2083967.806	418458.663	9953.856	-3.106	9950.750	1113	
1114	2083996.763	413243.400	9744.664	3.236	9747.900	1114	
1115	2084009.237	413624.356	9776.083	1.007	9777.090	1115	
1116	2084012.198	415062.472	10119.065	0.225	10119.290	1116	
1117	2084019.824	410968.131	9541.417			1117	obscure
1118	2084020.067	415433.249	9953.472	1.438	9954.910	1118	
1119	2084029.412	413004.470	9644.128	-1.038	9643.090	1119	
1120	2084030.209	418057.638	9854.198	-0.958	9853.240	1120	
1121	2084055.731	411691.288	9203.490			1121	obscure
1122	2084061.140	417617.853	10039.134	0.916	10040.050	1122	
1123	2084106.922	416894.324	10108.524	0.536	10109.060	1123	
1124	2084107.025	415797.893	9761.448	1.982	9763.430	1124	
1125	2084129.660	416102.377	9730.182	0.658	9730.840	1125	
1126	2084137.169	412236.299	9238.472	-0.912	9237.560	1126	
1127	2084146.966	414061.314	9765.721	2.399	9768.120	1127	
1128	2084150.490	410345.623	9547.061	0.269	9547.330	1128	
1129	2084153.409	411995.563	9001.418	1.552	9002.970	1129	
1130	2084155.858	410097.338	9420.669	-1.289	9419.380	1130	
1131	2084161.262	414307.508	9816.714	0.556	9817.270	1131	
1132	2084168.097	414720.708	9989.037	-0.387	9988.650	1132	
1133	2084174.150	409726.709	9219.901	-0.081	9219.820	1133	
1134	2084179.366	411342.879	9367.767			1134	obscure
1135	2084189.389	417193.250	10198.920	0.560	10199.480	1135	
1136	2084207.279	416588.720	9928.270	-0.310	9927.960	1136	
1140	2084267.899	413329.465	9654.447	-6.087	9648.360	1140	
1141	2084277.031	410564.348	9584.886	1.084	9585.970	1141	
1143	2084290.575	408538.022	9310.125			1143	obscure
1144	2084291.986	408230.380	9495.402	-2.632	9492.770	1144	
1145	2084295.297	412632.842	9461.220	-0.360	9460.860	1145	
1146	2084301.586	409479.567	9156.601	-2.581	9154.020	1146	
1147	2084305.008	407783.205	9719.773	-0.293	9719.480	1147	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1148	2084307.367	408833.854	9128.106			1148	obscure
1149	2084310.672	415131.070	10016.567	-0.257	10016.310	1149	
1150	2084326.167	411140.238	9320.818	-0.778	9320.040	1150	
1151	2084343.662	417888.585	9866.812	0.978	9867.790	1151	
1152	2084359.420	415443.433	9836.185	1.205	9837.390	1152	
1153	2084360.343	413899.500	9667.342			1153	obscure
1154	2084370.300	414262.633	9792.279	0.111	9792.390	1154	
1157	2084385.272	418084.074	9776.800			1157	obscure
1158	2084387.420	418463.144	9823.802	2.128	9825.930	1158	
1159	2084390.968	417267.173	10146.750	-0.780	10145.970	1159	
1160	2084393.708	409214.066	8978.759	1.841	8980.600	1160	
1161	2084396.693	408042.007	9558.554			1161	obscure
1162	2084408.087	417656.246	9949.557	-0.627	9948.930	1162	
1163	2084409.220	414528.611	9892.398	0.052	9892.450	1163	
1164	2084409.338	416002.247	9665.909	0.211	9666.120	1164	
1165	2084421.149	413063.412	9585.339	0.101	9585.440	1165	
1166	2084425.543	414947.276	10051.185	0.485	10051.670	1166	
1167	2084425.716	413615.470	9582.780	-5.700	9577.080	1167	
1169	2084474.189	415665.096	9723.222	-1.372	9721.850	1169	
1170	2084480.327	416685.710	9886.897	-0.237	9886.660	1170	
1171	2084481.361	416245.738	9710.762			1171	obscure
1172	2084566.412	416859.644	9925.813	0.327	9926.140	1172	
1173	2084575.995	411895.477	8897.746	1.954	8899.700	1173	
1174	2084583.568	411473.208	9093.568			1174	obscure
1175	2084589.584	412293.019	9196.352	-0.202	9196.150	1175	
1176	2084600.723	415340.678	9812.620	0.310	9812.930	1176	
1177	2084610.238	410134.772	9408.140	-1.060	9407.080	1177	
1178	2084611.929	414785.520	10018.384	-1.754	10016.630	1178	
1179	2084621.454	412617.179	9396.084	0.036	9396.120	1179	
1180	2084630.831	414189.755	9754.668	-1.788	9752.880	1180	
1181	2084633.414	413277.444	9476.854	-1.254	9475.600	1181	
1182	2084642.730	415066.982	9954.777	0.253	9955.030	1182	
1183	2084646.865	410672.962	9490.544	-2.364	9488.180	1183	
1184	2084647.897	410472.402	9555.562	2.518	9558.080	1184	
1185	2084652.777	414497.343	9895.289	-0.899	9894.390	1185	
1186	2084656.939	407715.413	9514.300	-1.600	9512.700	1186	
1187	2084657.242	413900.189	9601.714	-0.434	9601.280	1187	
1188	2084659.525	417300.769	10052.107	-0.197	10051.910	1188	
1189	2084673.262	418033.371	9759.606	0.174	9759.780	1189	
1190	2084675.430	418476.162	9756.433	-3.553	9752.880	1190	
1191	2084676.902	410940.257	9376.653			1191	obscure
1192	2084688.819	409568.516	9062.467	1.193	9063.660	1192	
1194	2084699.531	409247.748	8945.258	-0.578	8944.680	1194	
1195	2084701.183	412953.099	9431.592	2.118	9433.710	1195	
1196	2084701.933	408210.023	9414.508	-3.738	9410.770	1196	
1197	2084704.635	417715.639	9889.583	-0.503	9889.080	1197	
1199	2084724.262	409854.540	9262.702	-9.432	9253.270	1199	
1200	2084733.242	415538.053	9702.165			1200	obscure
1201	2084733.818	408447.372	9279.290	0.440	9279.730	1201	
1202	2084745.768	415862.404	9644.340	-0.460	9643.880	1202	
1203	2084747.621	408976.418	8994.488	-2.438	8992.050	1203	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1205	2084787.612	416960.865	9900.151	-0.731	9899.420	1205	
1207	2084803.486	413586.068	9457.843	-12.283	9445.560	1207	
1208	2084807.808	416292.557	9679.240			1208	obscure
1209	2084809.829	408002.247	9484.887			1209	obscure
1212	2084864.155	417352.952	9965.472	-0.332	9965.140	1212	
1213	2084872.008	416108.752	9654.626	-3.136	9651.490	1213	
1214	2084888.061	414777.810	10047.655	-0.345	10047.310	1214	
1215	2084898.268	414206.405	9758.301	-2.361	9755.940	1215	
1216	2084910.545	418445.815	9699.351	-1.131	9698.220	1216	
1217	2084922.018	412394.653	9269.100	-0.770	9268.330	1217	
1218	2084927.855	413283.427	9302.817	-2.497	9300.320	1218	
1219	2084933.245	414482.987	9905.140	0.070	9905.210	1219	
1220	2084945.040	415387.822	9704.724	0.476	9705.200	1220	
1221	2084946.731	416541.110	9694.259	0.441	9694.700	1221	
1222	2084949.622	415095.256	9851.537	0.713	9852.250	1222	
1223	2084950.974	412164.329	9060.956	1.724	9062.680	1223	
1224	2084967.907	411186.482	9158.171			1224	obscure
1225	2084971.048	413916.100	9623.539	-4.239	9619.300	1225	
1226	2084978.256	417043.783	9862.564	-2.024	9860.540	1226	
1227	2084983.358	412994.074	9264.003	-1.523	9262.480	1227	
1228	2084984.163	418052.077	9707.410	-0.070	9707.340	1228	
1229	2084988.197	409296.253	8883.292	0.898	8884.190	1229	
1230	2084992.310	415606.703	9634.157	-2.327	9631.830	1230	
1231	2085013.226	412681.436	9206.329	-0.839	9205.490	1231	
1232	2085016.434	409009.440	8958.736	-3.666	8955.070	1232	
1233	2085026.961	410478.571	9519.306	1.964	9521.270	1233	
1234	2085042.485	407436.431	9262.466	-2.746	9259.720	1234	
1235	2085044.147	411840.299	8812.084	-3.394	8808.690	1235	
1236	2085049.623	417719.847	9811.034	-1.234	9809.800	1236	
1237	2085054.918	407769.943	9312.169	-1.219	9310.950	1237	
1238	2085067.242	411512.583	8936.431			1238	obscure
1239	2085068.048	410136.312	9333.466	-0.306	9333.160	1239	
1241	2085081.727	408142.841	9386.102	-3.872	9382.230	1241	
1242	2085116.823	413580.896	9464.905	-0.675	9464.230	1242	
1243	2085118.866	409570.418	8982.551	-4.991	8977.560	1243	
1244	2085146.835	416279.746	9569.194	-2.604	9566.590	1244	
1245	2085149.131	417389.805	9900.401	-0.111	9900.290	1245	
1246	2085150.899	408505.282	9204.735			1246	obscure
1247	2085159.278	409802.120	9161.281	1.989	9163.270	1247	
1248	2085165.741	418490.949	9699.459	-0.799	9698.660	1248	
1249	2085167.926	415869.312	9576.128	-0.858	9575.270	1249	
1250	2085196.658	414178.183	9742.075	1.535	9743.610	1250	
1251	2085215.401	414764.044	9942.748	0.272	9943.020	1251	
1252	2085219.122	414487.673	9893.609	-1.759	9891.850	1252	
1253	2085222.594	409157.379	8853.553	-0.533	8853.020	1253	
1254	2085243.970	415105.963	9779.012	-0.122	9778.890	1254	
1255	2085245.575	413316.491	9326.893	-0.723	9326.170	1255	
1256	2085245.783	417107.040	9784.482			1256	obscure
1257	2085247.679	413898.190	9651.342	-4.272	9647.070	1257	
1258	2085247.798	416693.982	9656.852	-2.822	9654.030	1258	
1259	2085252.668	415388.477	9660.485	-2.695	9657.790	1259	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1260	2085255.229	412989.660	9120.976	-1.346	9119.630	1260	
1261	2085285.425	418069.694	9638.839	-1.299	9637.540	1261	
1262	2085288.420	412448.527	8994.191	2.159	8996.350	1262	
1263	2085337.511	415655.462	9521.057	-3.617	9517.440	1263	
1264	2085356.409	413571.013	9483.459	2.491	9485.950	1264	
1265	2085361.361	417746.588	9746.103	-0.833	9745.270	1265	
1266	2085362.422	412684.307	8948.404	-2.064	8946.340	1266	
1267	2085401.500	412179.691	8891.555	1.245	8892.800	1267	
1268	2085421.119	409806.459	9166.494	0.916	9167.410	1268	
1269	2085427.683	408906.306	8918.718	-5.628	8913.090	1269	
1270	2085432.155	417409.335	9876.207	-0.647	9875.560	1270	
1271	2085451.462	408329.003	9230.189	1.731	9231.920	1271	
1272	2085452.450	418484.828	9654.828	-2.148	9652.680	1272	
1273	2085461.917	413829.670	9635.834	2.346	9638.180	1273	
1274	2085477.156	409552.917	8940.400	-0.350	8940.050	1274	
1275	2085486.195	410478.830	9514.300	4.810	9519.110	1275	
1276	2085486.682	416216.955	9451.271	0.889	9452.160	1276	
1277	2085489.699	411844.079	8742.622			1277	obscure
1278	2085501.529	407888.781	9167.864	-1.104	9166.760	1278	
1279	2085503.212	410185.261	9369.514	-1.364	9368.150	1279	
1280	2085509.395	415872.627	9498.366	-0.116	9498.250	1280	
1282	2085517.245	407498.433	8998.584	-1.824	8996.760	1282	
1283	2085523.931	414772.996	9809.096	1.734	9810.830	1283	
1284	2085530.083	415084.342	9661.019	-1.559	9659.460	1284	
1285	2085532.225	418699.932	9733.750	-0.450	9733.300	1285	
1286	2085532.443	416938.862	9660.869	-1.209	9659.660	1286	
1287	2085534.566	408126.472	9144.564	-1.914	9142.650	1287	
1288	2085550.704	415384.289	9547.504	-0.654	9546.850	1288	
1289	2085551.293	416634.136	9539.781			1289	obscure
1290	2085552.646	414210.309	9754.308	-0.708	9753.600	1290	
1291	2085554.432	413294.841	9402.433	1.277	9403.710	1291	
1292	2085558.085	414565.563	9911.130	-0.290	9910.840	1292	
1293	2085567.491	418077.424	9573.261	-1.601	9571.660	1293	
1294	2085576.378	411100.734	9223.840			1294	obscure
1295	2085599.529	409279.139	8800.887	-0.437	8800.450	1295	
1296	2085610.734	417175.191	9756.171			1296	obscure
1297	2085629.519	417740.436	9715.447	-1.367	9714.080	1297	
1298	2085674.724	412920.547	9210.597	-0.517	9210.080	1298	
1299	2085680.295	413590.972	9567.340	1.220	9568.560	1299	
1300	2085680.723	417447.179	9843.418	-1.118	9842.300	1300	
1301	2085691.777	412632.076	8984.709	1.131	8985.840	1301	
1302	2085746.748	418442.036	9582.277	0.083	9582.360	1302	
1303	2085775.259	416409.361	9344.248	-2.838	9341.410	1303	
1304	2085778.168	410053.619	9244.248	-3.728	9240.520	1304	
1305	2085779.904	416036.905	9408.594	-1.464	9407.130	1305	
1307	2085789.289	415666.264	9322.819	-0.749	9322.070	1307	
1308	2085816.041	408347.421	9034.266	-2.596	9031.670	1308	
1309	2085818.378	413893.604	9695.041	1.349	9696.390	1309	
1310	2085820.483	418062.112	9544.559	0.071	9544.630	1310	
1311	2085824.871	410521.382	9452.067	7.013	9459.080	1311	
1312	2085829.305	414307.711	9768.824			1312	obscure

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1313	2085840.888	413295.211	9445.230	1.100	9446.330	1313	
1314	2085843.788	409708.918	9012.111	2.909	9015.020	1314	
1315	2085847.377	411236.002	9075.144			1315	obscure
1316	2085852.218	415087.739	9633.399	-2.009	9631.390	1316	
1317	2085852.818	416633.935	9446.312	-9.812	9436.500	1317	
1318	2085861.238	409093.047	8765.218	1.292	8766.510	1318	
1319	2085872.908	416969.173	9597.244	-2.074	9595.170	1319	
1320	2085877.074	407675.693	8900.130	-1.280	8898.850	1320	
1321	2085884.224	410839.724	9326.179			1321	obscure
1322	2085893.117	415383.401	9522.860	-1.380	9521.480	1322	
1323	2085897.078	408024.533	8899.384	-0.904	8898.480	1323	
1324	2085898.364	411967.723	8665.638	-0.858	8664.780	1324	
1325	2085915.538	412306.330	8810.966	2.224	8813.190	1325	
1326	2085918.211	414762.976	9814.957	-0.517	9814.440	1326	
1327	2085923.328	409408.426	8819.487	0.003	8819.490	1327	
1328	2085940.494	408713.549	8904.933	0.047	8904.980	1328	
1329	2085966.660	418324.805	9403.094	-0.124	9402.970	1329	
1330	2085975.628	418624.577	9564.034			1330	obscure
1332	2086002.143	409878.211	9164.687	1.303	9165.990	1332	
1333	2086027.832	417747.924	9675.746	0.404	9676.150	1333	
1334	2086032.733	407444.845	8934.410	-0.610	8933.800	1334	
1335	2086041.053	414869.475	9750.881			1335	obscure
1336	2086046.761	412803.570	9091.041	0.869	9091.910	1336	
1337	2086052.894	416184.018	9286.393	-1.583	9284.810	1337	
1338	2086085.837	410241.843	9333.229	-1.129	9332.100	1338	
1339	2086088.885	415843.918	9210.026	-2.076	9207.950	1339	
1340	2086095.593	413498.497	9492.355	-1.655	9490.700	1340	
1341	2086098.857	414208.380	9703.065	-0.995	9702.070	1341	
1342	2086099.018	417220.033	9688.819	-1.849	9686.970	1342	
1343	2086105.800	413676.079	9576.146	-8.156	9567.990	1343	
1344	2086128.610	411164.224	9196.766			1344	obscure
1345	2086136.141	410551.745	9499.371	-1.891	9497.480	1345	
1346	2086156.398	415309.722	9513.814	-1.644	9512.170	1346	
1347	2086160.907	414443.218	9749.469	-0.269	9749.200	1347	
1348	2086161.289	418046.164	9514.745	0.315	9515.060	1348	
1349	2086163.233	414648.656	9751.422	-0.522	9750.900	1349	
1350	2086188.262	413295.760	9387.526	-0.136	9387.390	1350	
1351	2086196.405	408280.713	8787.326	-2.986	8784.340	1351	
1352	2086225.618	418398.784	9345.841	-2.651	9343.190	1352	
1353	2086239.631	413030.627	9261.268	-4.588	9256.680	1353	
1354	2086241.186	416955.572	9568.633	-4.503	9564.130	1354	
1355	2086250.074	409441.022	8842.520	-1.850	8840.670	1355	
1356	2086252.761	408019.583	8805.226			1356	obscure
1357	2086269.848	414999.756	9622.580	-0.700	9621.880	1357	
1358	2086271.777	408540.610	8756.686	-2.286	8754.400	1358	
1359	2086291.801	416653.226	9355.909			1359	obscure
1360	2086299.375	418727.723	9452.834			1360	obscure
1361	2086317.581	417738.590	9659.877	-0.657	9659.220	1361	
1362	2086328.030	417044.618	9603.195	-2.665	9600.530	1362	
1363	2086328.325	409143.252	8710.472	-0.682	8709.790	1363	
1364	2086335.333	410595.985	9419.484			1364	obscure

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1365	2086343.236	412589.959	8893.284	3.476	8896.760	1365	
1366	2086348.562	411771.337	8730.241			1366	obscure
1367	2086349.628	414496.877	9716.319	-0.749	9715.570	1367	
1368	2086350.339	417457.992	9752.655	-1.595	9751.060	1368	
1369	2086351.580	408850.323	8717.752	-2.212	8715.540	1369	
1370	2086360.523	407785.671	8910.691	4.584	8915.275	1370	
1371	2086367.216	407274.805	9065.413			1371	obscure
1372	2086370.383	416263.066	9041.482	-4.422	9037.060	1372	
1373	2086378.844	410266.821	9330.918	-2.408	9328.510	1373	
1374	2086382.350	416458.368	9210.446	-4.876	9205.570	1374	
1375	2086399.029	413710.900	9423.110	-0.970	9422.140	1375	
1376	2086413.631	411090.210	9164.895			1376	obscure
1377	2086421.258	413008.660	9228.930	-2.540	9226.390	1377	
1378	2086441.732	415292.056	9468.973			1378	obscure
1379	2086454.266	407597.640	9029.790	3.805	9033.595	1379	
1380	2086465.783	416856.105	9474.653	1.107	9475.760	1380	
1381	2086471.540	418122.833	9441.503	-3.663	9437.840	1381	
1383	2086479.295	409910.633	9207.252	-0.912	9206.340	1383	
1384	2086496.747	414792.288	9592.285	10.775	9603.060	1384	
1385	2086503.385	414082.248	9562.171	0.739	9562.910	1385	
1386	2086520.899	412263.280	8673.678	0.522	8674.200	1386	
1387	2086530.645	418875.103	9405.078	-1.338	9403.740	1387	
1388	2086541.350	413368.569	9275.243	-0.473	9274.770	1388	
1389	2086554.851	410711.714	9327.127			1389	obscure
1390	2086573.944	409143.048	8681.473	-2.173	8679.300	1390	
1391	2086576.603	416004.785	9037.575	-5.725	9031.850	1391	
1392	2086587.951	418517.599	9218.621	-2.011	9216.610	1392	
1393	2086590.151	411494.115	8864.689			1393	obscure
1394	2086594.484	409521.522	8839.626	-0.556	8839.070	1394	
1395	2086599.624	413551.857	9268.691	-5.761	9262.930	1395	
1396	2086607.136	414318.419	9676.437	-2.127	9674.310	1396	
1397	2086650.547	413907.010	9452.774	-0.524	9452.250	1397	
1398	2086659.841	412522.355	8793.384	-0.184	8793.200	1398	
1399	2086662.619	415657.692	9164.554			1399	obscure
1400	2086663.788	410178.504	9176.121	-1.951	9174.170	1400	
1401	2086668.039	417572.559	9692.065	-1.115	9690.950	1401	
1402	2086678.559	417731.027	9653.686	-0.906	9652.780	1402	
1403	2086685.426	417205.672	9631.746	-0.826	9630.920	1403	
1404	2086717.787	414988.379	9477.268			1404	obscure
1405	2086719.849	416248.704	9056.449	-2.359	9054.090	1405	
1407	2086739.593	408527.792	8794.098			1407	obscure
1408	2086749.315	407579.464	9143.281			1408	obscure
1409	2086766.705	414571.508	9680.885	-1.205	9679.680	1409	
1410	2086782.513	407852.835	9004.759			1410	obscure
1411	2086793.307	408219.955	8918.389			1411	obscure
1412	2086806.539	415291.258	9327.087			1412	obscure
1413	2086813.620	412928.901	8909.363	-2.413	8906.950	1413	
1414	2086814.120	412121.240	8583.305	-1.545	8581.760	1414	
1415	2086828.379	410783.818	9298.573			1415	obscure
1416	2086846.592	417432.090	9654.738	-1.338	9653.400	1416	
1417	2086857.764	418853.024	9274.552	-1.822	9272.730	1417	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1418	2086869.446	418016.409	9471.798	-0.948	9470.850	1418	
1419	2086879.115	409035.470	8661.216	-0.816	8660.400	1419	
1420	2086882.224	413423.003	9185.952	-4.092	9181.860	1420	
1421	2086891.514	411236.878	9028.936			1421	
1422	2086896.053	413733.339	9346.983	-6.243	9340.740	1422	
1423	2086897.215	416506.228	9176.906	-3.896	9173.010	1423	
1424	2086905.668	409892.692	8839.719	-1.159	8838.560	1424	
1425	2086935.492	409481.380	8707.787	-1.677	8706.110	1425	
1426	2086959.164	416942.663	9509.155	-1.415	9507.740	1426	
1427	2086976.137	414088.959	9544.709	-2.049	9542.660	1427	
1428	2086977.232	415105.449	9439.279	-4.019	9435.260	1428	
1429	2086985.855	410281.528	8915.015	1.535	8916.550	1429	
1430	2087008.500	418555.015	9113.882			1430	obscure
1431	2087012.206	410550.628	9160.303	-3.473	9156.830	1431	
1432	2087018.457	410871.502	9244.989	-6.119	9238.870	1432	
1433	2087039.975	415835.532	8966.556			1433	obscure
1434	2087060.465	412619.813	8700.396	-5.896	8694.500	1434	
1435	2087109.563	413418.661	9222.739	-2.399	9220.340	1435	
1436	2087110.310	414694.096	9555.499	0.971	9556.470	1436	
1437	2087112.368	416152.178	8956.999	-6.679	8950.320	1437	
1438	2087160.828	417677.457	9619.995	-1.355	9618.640	1438	
1439	2087170.940	412104.695	8534.948	1.912	8536.860	1439	
1440	2087181.697	418624.738	9044.697	-19.627	9025.070	1440	
1441	2087186.378	419081.910	9240.320	-4.810	9235.510	1441	
1442	2087188.691	410839.087	9210.066	-1.566	9208.500	1442	
1443	2087190.374	409474.372	8611.780	-17.990	8593.790	1443	
1444	2087196.488	417195.500	9409.826	-8.206	9401.620	1444	
1445	2087198.920	415432.261	9167.319			1445	obscure
1446	2087218.712	413068.956	8975.002	-0.472	8974.530	1446	
1447	2087235.551	408153.168	9167.268	-6.768	9160.500	1447	
1448	2087238.405	409832.556	8647.895			1448	obscure
1449	2087258.256	411142.682	8989.037			1449	obscure
1450	2087262.133	418006.967	9448.235	-1.405	9446.830	1450	
1451	2087279.784	409144.181	8652.832			1451	obscure
1452	2087280.622	414397.735	9657.984	-1.624	9656.360	1452	
1453	2087302.909	407880.794	9256.085	-2.165	9253.920	1453	
1454	2087323.178	416869.653	9228.870	-3.680	9225.190	1454	
1455	2087331.474	410581.760	8916.051	-4.281	8911.770	1455	
1456	2087335.753	412796.965	8866.746	-3.306	8863.440	1456	
1457	2087339.561	410185.481	8721.029	-2.379	8718.650	1457	
1458	2087347.036	416478.286	9042.233	-5.093	9037.140	1458	
1459	2087386.697	414008.244	9518.694	-2.764	9515.930	1459	
1460	2087391.601	411947.409	8519.590			1460	obscure
1461	2087410.177	415784.156	8950.507			1461	obscure
1462	2087437.826	411407.449	8765.489			1462	obscure
1463	2087443.087	408472.073	8886.525	-5.165	8881.360	1463	
1465	2087458.956	412401.917	8646.840	-2.740	8644.100	1465	
1467	2087475.164	416196.980	8849.495	-2.645	8846.850	1467	
1468	2087482.967	410954.357	9022.271			1468	obscure
1469	2087489.645	413639.245	9351.279	-1.959	9349.320	1469	
1470	2087504.657	408778.199	8726.255	-2.595	8723.660	1470	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1471	2087530.851	417701.429	9592.977	-3.517	9589.460	1471	
1472	2087532.234	409359.589	8597.370			1472	obscure
1473	2087534.442	414737.682	9529.287			1473	obscure
1474	2087534.447	409980.753	8568.867	-2.817	8566.050	1474	
1475	2087543.893	409030.638	8708.593			1475	
1476	2087544.143	409632.031	8568.818	-1.458	8567.360	1476	
1478	2087553.765	413156.388	9220.341	-0.841	9219.500	1478	
1479	2087564.268	415085.749	9408.456	-0.406	9408.050	1479	
1480	2087566.355	418553.679	9093.325			1480	obscure
1481	2087569.360	414206.583	9635.411	-0.911	9634.500	1481	
1482	2087571.901	415329.246	9258.563			1482	obscure
1483	2087572.908	414346.182	9670.494	-1.354	9669.140	1483	
1484	2087574.710	410579.301	8776.567	-3.457	8773.110	1484	
1485	2087581.094	417276.219	9351.311	-4.271	9347.040	1485	
1486	2087592.729	410306.566	8658.322	-2.812	8655.510	1486	
1487	2087616.632	416853.317	9054.675	-4.915	9049.760	1487	
1488	2087617.739	416510.372	8936.442	-5.022	8931.420	1488	
1489	2087638.873	419010.214	9022.277	-2.827	9019.450	1489	
1490	2087667.322	412047.102	8474.719	0.571	8475.290	1490	
1491	2087671.669	412644.001	8791.504	-6.164	8785.340	1491	
1492	2087717.836	415636.696	9027.056			1492	obscure
1493	2087747.742	411667.227	8541.735	-5.175	8536.560	1493	
1494	2087750.506	419238.758	9085.613	-3.133	9082.480	1494	
1496	2087768.004	415014.365	9383.285			1496	obscure
1497	2087771.545	417416.395	9397.985	-3.905	9394.080	1497	
1498	2087795.009	416823.135	9005.837	-2.917	9002.920	1498	
1499	2087795.632	418554.775	9085.301			1499	obscure
1500	2087800.649	415970.703	8860.165			1500	obscure
1502	2087818.907	411251.973	8676.627	-7.497	8669.130	1502	
1503	2087822.240	417955.044	9465.727	-1.867	9463.860	1503	
1504	2087832.070	408664.412	8903.113	0.237	8903.350	1504	
1505	2087841.083	414490.402	9624.364	-1.644	9622.720	1505	
1506	2087852.499	412326.635	8635.654	2.186	8637.840	1506	
1507	2087853.806	409923.446	8504.943			1507	obscure
1508	2087855.130	413564.997	9423.422	-6.142	9417.280	1508	
1509	2087866.637	409644.703	8586.987			1509	obscure
1510	2087873.631	410913.709	8764.364	-1.584	8762.780	1510	
1511	2087884.694	412938.439	9032.907	-1.117	9031.790	1511	
1512	2087901.227	413179.165	9208.582	0.428	9209.010	1512	
1513	2087912.594	414276.753	9680.666	-1.796	9678.870	1513	
1515	2087928.479	410510.873	8585.167	-1.877	8583.290	1515	
1516	2087932.852	414801.461	9464.466	0.184	9464.650	1516	
1517	2087939.004	413923.144	9612.735	-2.035	9610.700	1517	
1518	2087946.779	412093.475	8536.819	-0.889	8535.930	1518	
1519	2087946.990	418759.482	8986.993			1519	obscure
1520	2087985.922	409074.223	8932.411	0.999	8933.410	1520	
1522	2088012.132	409266.595	8822.113			1522	obscure
1523	2088045.638	417122.710	9069.189	-2.949	9066.240	1523	
1524	2088064.228	410336.471	8465.322	-2.642	8462.680	1524	
1525	2088079.605	415188.986	9374.474			1525	obscure
1526	2088101.564	414227.916	9720.511	-1.291	9719.220	1526	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1527	2088110.106	419245.851	8961.380	-5.080	8956.300	1527	
1528	2088119.238	417668.291	9419.535	-4.635	9414.900	1528	
1530	2088134.663	413541.723	9419.988	0.252	9420.240	1530	
1531	2088137.077	412603.615	8828.822	-2.212	8826.610	1531	
1532	2088138.742	411681.195	8389.841	0.489	8390.330	1532	
1533	2088148.054	418831.533	8957.817			1533	obscure
1534	2088167.536	412017.666	8531.636	0.144	8531.780	1534	
1535	2088173.046	417844.766	9518.176	-4.406	9513.770	1535	
1536	2088174.427	409981.049	8487.281	-0.991	8486.290	1536	
1537	2088175.658	410694.793	8501.899	-2.849	8499.050	1537	
1538	2088184.571	413999.882	9650.474	-1.004	9649.470	1538	
1539	2088191.587	416200.179	8787.649			1539	obscure
1540	2088198.982	418558.991	9084.447			1540	obscure
1542	2088228.630	414939.905	9497.799	-2.629	9495.170	1542	
1543	2088230.331	416531.424	8735.650	-6.890	8728.760	1543	
1544	2088235.429	414522.951	9641.339	-5.549	9635.790	1544	
1545	2088239.426	415894.522	8948.682			1545	obscure
1546	2088240.327	416870.028	8888.914	-5.014	8883.900	1546	
1547	2088259.512	415475.348	9293.455	-4.065	9289.390	1547	
1548	2088259.659	412326.419	8676.536	2.364	8678.900	1548	
1549	2088273.657	411236.206	8484.625	-3.465	8481.160	1549	
1551	2088305.253	418058.509	9448.430	-5.600	9442.830	1551	
1552	2088319.773	412725.537	8884.184	-0.024	8884.160	1552	
1556	2088376.439	417412.395	9174.762	-3.982	9170.780	1556	
1557	2088376.767	419224.829	8835.042	-3.842	8831.200	1557	
1558	2088376.785	415161.378	9453.095	-0.895	9452.200	1558	
1559	2088388.805	413412.006	9311.175	0.845	9312.020	1559	
1561	2088426.230	414236.262	9749.601	-1.491	9748.110	1561	
1563	2088429.005	417628.015	9368.772	-4.452	9364.320	1563	
1564	2088430.497	413046.604	9110.297	-1.427	9108.870	1564	
1566	2088439.212	411473.379	8377.788	-1.748	8376.040	1566	
1567	2088439.499	418859.932	8945.896			1567	obscure
1571	2088520.323	412135.186	8702.128	-1.748	8700.380	1571	
1572	2088546.862	417099.006	8952.115	-5.475	8946.640	1572	
1574	2088588.122	415742.701	9028.987			1574	obscure
1575	2088603.701	416138.282	8799.700			1575	obscure
1576	2088612.274	416350.568	8701.221			1576	obscure
1577	2088620.282	416721.525	8744.985	-5.085	8739.900	1577	
1578	2088659.932	414516.565	9617.562	-3.672	9613.890	1578	
1579	2088662.752	414266.507	9703.180	-3.570	9699.610	1579	
1580	2088669.174	417601.335	9217.555	-5.895	9211.660	1580	
1581	2088680.060	415170.926	9379.560			1581	obscure
1582	2088700.555	417889.665	9405.508	-2.848	9402.660	1582	
1583	2088712.963	413999.391	9625.336	-2.126	9623.210	1583	
1584	2088716.869	414899.859	9449.629			1584	obscure
1585	2088722.561	419103.545	8856.552			1585	obscure
1586	2088727.307	413716.660	9517.042	0.328	9517.370	1586	
1587	2088727.433	412808.787	9195.657	-3.937	9191.720	1587	
1588	2088739.601	413445.462	9396.113	0.777	9396.890	1588	
1589	2088748.034	417402.152	9053.542	-16.352	9037.190	1589	
1590	2088749.462	412392.181	8896.948	-1.158	8895.790	1590	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1591	2088761.770	418088.678	9430.613	-0.393	9430.220	1591	
1592	2088764.425	413106.692	9304.113	-0.933	9303.180	1592	
1593	2088775.638	411154.602	8314.813	-0.303	8314.510	1593	
1594	2088833.931	410771.325	8424.610			1594	obscure
1595	2088836.637	416487.265	8585.508	-6.238	8579.270	1595	
1597	2088853.274	412110.961	8662.930	1.590	8664.520	1597	
1599	2088855.373	411489.007	8332.431	0.519	8332.950	1599	
1601	2088907.354	412487.953	8900.252	-4.502	8895.750	1601	
1602	2088918.266	419263.210	8813.467			1602	obscure
1603	2088955.942	415196.139	9227.727			1603	obscure
1604	2088956.850	413137.148	9283.446	-2.126	9281.320	1604	
1605	2088972.235	416369.287	8649.422			1605	obscure
1606	2088978.406	415497.136	9081.337			1606	obscure
1607	2088980.182	412919.449	9156.492	-1.652	9154.840	1607	
1608	2088985.256	417332.499	8946.673	-4.943	8941.730	1608	
1609	2088990.978	417859.382	9207.707	-5.377	9202.330	1609	
1610	2088994.210	416695.632	8653.471	-6.361	8647.110	1610	
1611	2088995.713	414892.649	9367.801			1611	obscure
1612	2088998.677	415796.965	8910.651	-3.091	8907.560	1612	
1613	2088998.707	416091.620	8763.483			1613	obscure
1614	2089000.225	414590.398	9513.446	-6.116	9507.330	1614	
1615	2089004.198	414312.787	9616.136	-1.946	9614.190	1615	
1617	2089010.515	414052.547	9585.426	-3.016	9582.410	1617	
1618	2089013.483	419371.904	8787.876			1618	obscure
1619	2089024.504	413456.562	9378.912	-0.672	9378.240	1619	
1620	2089034.898	416999.055	8764.163	-5.693	8758.470	1620	
1621	2089043.304	418237.369	9439.846	-5.256	9434.590	1621	
1622	2089052.619	410689.557	8526.399			1622	obscure
1623	2089059.619	413756.709	9426.532	0.088	9426.620	1623	
1624	2089103.758	411539.667	8312.597	0.223	8312.820	1624	
1626	2089219.869	418973.487	9012.499			1626	obscure
1628	2089277.473	413989.493	9460.416	-0.596	9459.820	1628	
1629	2089294.561	416369.807	8644.077			1629	obscure
1630	2089296.528	412943.995	9181.597	-2.607	9178.990	1630	
1631	2089298.700	415254.106	9274.084			1631	obscure
1632	2089299.515	412246.533	8629.078	2.052	8631.130	1632	
1633	2089301.253	413723.408	9342.112	1.288	9343.400	1633	
1634	2089302.401	413449.529	9226.140	1.140	9227.280	1634	
1635	2089304.934	413117.119	9180.820	-1.750	9179.070	1635	
1636	2089305.560	414264.568	9589.119	-3.149	9585.970	1636	
1637	2089308.183	418229.730	9283.381	-5.451	9277.930	1637	
1638	2089308.230	411933.444	8471.674	1.436	8473.110	1638	
1639	2089309.113	414544.194	9580.405	-2.215	9578.190	1639	
1640	2089319.693	417516.444	8904.593	-4.203	8900.390	1640	
1641	2089326.455	414932.218	9413.606	-2.096	9411.510	1641	
1642	2089327.813	416526.367	8581.070			1642	obscure
1643	2089339.415	412447.842	8765.232	1.008	8766.240	1643	
1644	2089346.577	414416.514	9611.180	-3.560	9607.620	1644	
1645	2089367.738	416855.299	8599.372	-3.672	8595.700	1645	
1646	2089379.271	417232.294	8737.826	-4.606	8733.220	1646	
1647	2089387.082	418426.036	9389.796	-4.176	9385.620	1647	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1648	2089387.834	417804.111	9004.270	-6.520	8997.750	1648	
1649	2089403.223	419192.477	8946.932			1649	obscure
1650	2089406.719	416021.787	8852.664			1650	obscure
1651	2089431.061	415652.290	9081.078	-8.998	9072.080	1651	
1652	2089436.271	411334.855	8307.311	-0.621	8306.690	1652	
1653	2089484.349	411060.777	8432.432			1653	obscure
1654	2089495.381	410643.491	8643.405			1654	obscure
1655	2089528.940	415012.308	9425.787	-4.747	9421.040	1655	
1656	2089553.297	412806.380	8883.958	-0.128	8883.830	1656	
1657	2089571.815	410314.933	8866.337			1657	obscure
1658	2089572.350	417578.741	8830.798	-5.768	8825.030	1658	
1659	2089574.804	412108.412	8526.453	0.787	8527.240	1659	
1660	2089576.654	418467.734	9339.099	-6.029	9333.070	1660	
1661	2089583.559	417881.264	8964.620	-2.430	8962.190	1661	
1662	2089592.312	414011.137	9449.597	-2.437	9447.160	1662	
1663	2089595.198	411675.161	8309.420	-2.240	8307.180	1663	
1664	2089596.395	413412.705	9154.354	-1.194	9153.160	1664	
1665	2089597.648	416986.888	8566.784	-7.624	8559.160	1665	
1666	2089598.344	414683.048	9583.386			1666	obscure
1667	2089600.573	413093.472	8939.482	-1.082	8938.400	1667	
1668	2089600.577	416089.091	8786.645			1668	obscure
1669	2089603.375	418245.340	9163.489	-4.159	9159.330	1669	
1670	2089603.824	412506.335	8726.618	-2.228	8724.390	1670	
1671	2089607.254	417190.321	8638.311	-4.151	8634.160	1671	
1672	2089609.095	413703.210	9296.954	0.036	9296.990	1672	
1673	2089610.122	414491.419	9622.453	-3.433	9619.020	1673	
1674	2089613.841	415806.467	8953.638			1674	obscure
1675	2089615.888	418570.328	9394.072	-6.082	9387.990	1675	
1676	2089617.164	416628.178	8559.463			1676	obscure
1677	2089617.362	415352.940	9237.219	-1.639	9235.580	1677	
1678	2089624.560	416388.679	8641.777			1678	obscure
1679	2089630.817	414250.750	9571.335	-3.835	9567.500	1679	
1681	2089720.168	419221.215	9022.994			1681	obscure
1682	2089751.237	410955.796	8484.648			1682	obscure
1683	2089771.494	410617.720	8676.027			1683	obscure
1684	2089786.737	413781.544	9297.667	-4.057	9293.610	1684	
1685	2089831.304	410426.959	8783.582			1685	obscure
1686	2089835.616	412012.319	8409.962	-2.052	8407.910	1686	
1687	2089851.473	418450.855	9147.810	-3.910	9143.900	1687	
1688	2089851.930	417283.698	8624.802	-4.682	8620.120	1688	
1689	2089873.730	417573.935	8723.961	-6.981	8716.980	1689	
1690	2089882.314	411605.237	8218.763	-0.223	8218.540	1690	
1691	2089887.868	412900.811	8733.647	1.153	8734.800	1691	
1692	2089889.902	414004.447	9404.892	-1.342	9403.550	1692	
1693	2089893.457	415499.671	9160.735			1693	obscure
1694	2089897.602	416423.349	8663.643			1694	obscure
1695	2089899.131	417909.697	8871.907	-5.147	8866.760	1695	
1696	2089903.384	418210.356	8985.903	-3.003	8982.900	1696	
1697	2089907.523	416985.704	8481.910	-5.080	8476.830	1697	
1698	2089908.228	415075.939	9372.012	-8.882	9363.130	1698	
1699	2089914.275	412485.531	8557.357	0.163	8557.520	1699	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1700	2089918.034	414699.463	9578.786	-4.666	9574.120	1700	
1701	2089922.413	414521.686	9614.257	-5.337	9608.920	1701	
1702	2089927.811	413109.713	8853.280	0.130	8853.410	1702	
1703	2089928.832	414304.255	9567.415	-3.935	9563.480	1703	
1704	2089930.623	415799.972	9005.469			1704	obscure
1705	2089933.532	416088.808	8869.834	-2.494	8867.340	1705	
1706	2089934.442	418784.879	9354.584	-6.754	9347.830	1706	
1707	2089939.551	416698.987	8549.485	-5.935	8543.550	1707	
1708	2089951.281	412226.814	8452.107	-2.877	8449.230	1708	
1709	2089981.822	413510.982	9149.916	-1.736	9148.180	1709	
1710	2090073.489	410345.998	8750.613	-4.783	8745.830	1710	
1711	2090079.115	419085.006	9206.314			1711	obscure
1712	2090106.106	418775.661	9200.743	-6.083	9194.660	1712	
1713	2090112.032	410603.144	8617.163	3.607	8620.770	1713	
1715	2090139.423	413165.151	8928.791	-2.441	8926.350	1715	
1716	2090171.408	412895.676	8791.925	-2.515	8789.410	1716	
1717	2090171.780	410883.750	8476.720	-6.190	8470.530	1717	
1718	2090172.586	415391.971	9336.248	-1.078	9335.170	1718	
1719	2090184.306	417890.864	8731.963	-3.803	8728.160	1719	
1720	2090187.703	413471.937	9161.319	-1.129	9160.190	1720	
1721	2090188.382	416679.042	8553.534	-9.754	8543.780	1721	
1722	2090188.543	417212.550	8485.636	-3.396	8482.240	1722	
1724	2090193.064	418259.300	8891.473	-3.073	8888.400	1724	
1725	2090194.652	415791.333	9068.606			1725	obscure
1726	2090198.599	419042.473	9289.762	-7.092	9282.670	1726	
1727	2090199.026	417592.347	8610.743	-0.193	8610.550	1727	
1728	2090199.231	416392.112	8705.464	-3.954	8701.510	1728	
1729	2090199.436	416092.276	8870.643	-5.723	8864.920	1729	
1730	2090201.884	414287.936	9558.336	-2.106	9556.230	1730	
1731	2090202.037	418516.906	8993.645	-4.435	8989.210	1731	
1732	2090205.607	413695.624	9227.014	-2.114	9224.900	1732	
1733	2090212.331	414548.476	9644.682	-4.552	9640.130	1733	
1734	2090212.753	414713.883	9587.785	-4.095	9583.690	1734	
1735	2090220.047	416968.086	8428.686	-11.336	8417.350	1735	
1736	2090229.449	411917.976	8323.355	-2.075	8321.280	1736	
1737	2090268.628	415156.221	9425.981	-5.031	9420.950	1737	
1738	2090280.133	411583.081	8187.076	-3.226	8183.850	1738	
1739	2090344.977	412325.219	8541.937	-1.137	8540.800	1739	
1740	2090428.213	417305.494	8421.948	-5.178	8416.770	1740	
1741	2090449.005	417922.623	8649.746	-5.566	8644.180	1741	
1742	2090467.746	418522.725	8893.028	-5.568	8887.460	1742	
1743	2090472.001	412857.642	8842.201	-1.471	8840.730	1743	
1744	2090472.286	410376.083	8671.248			1744	obscure
1745	2090473.345	413175.637	9156.635	-2.275	9154.360	1745	
1747	2090490.023	414348.257	9599.539	-3.639	9595.900	1747	
1748	2090493.195	416387.584	8723.637			1748	obscure
1749	2090498.523	415192.398	9389.001			1749	obscure
1750	2090499.393	413412.502	9235.231	-0.551	9234.680	1750	
1751	2090500.741	416081.338	8863.970	-5.130	8858.840	1751	
1752	2090504.741	418789.377	9001.063	-8.143	8992.920	1752	
1753	2090506.489	415784.643	9005.631	-7.751	8997.880	1753	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1754	2090506.884	416978.630	8467.819			1754	obscure
1755	2090508.656	414894.134	9557.787	-3.077	9554.710	1755	
1756	2090508.705	413675.236	9330.780	-1.280	9329.500	1756	
1757	2090509.701	411131.666	8295.378			1757	obscure
1758	2090513.302	419110.893	9190.185	-5.455	9184.730	1758	
1759	2090514.320	418195.904	8723.864	-5.494	8718.370	1759	
1760	2090514.439	417556.887	8500.213	-5.363	8494.850	1760	
1761	2090523.519	414543.419	9739.812	-5.182	9734.630	1761	
1762	2090534.088	415514.145	9214.468	-9.298	9205.170	1762	
1763	2090545.494	411867.549	8319.377	-3.347	8316.030	1763	
1764	2090552.499	412551.201	8658.363	0.117	8658.480	1764	
1765	2090561.219	414044.673	9512.418	-2.118	9510.300	1765	
1766	2090577.125	416713.146	8605.106			1766	obscure
1767	2090584.528	411538.046	8196.285	-2.065	8194.220	1767	
1768	2090623.530	410702.921	8509.128			1768	obscure
1769	2090697.645	414253.823	9583.264	-4.174	9579.090	1769	
1770	2090730.460	412096.669	8397.264	-6.204	8391.060	1770	
1772	2090745.939	416942.164	8520.784			1772	obscure
1773	2090771.387	416358.803	8855.224	-4.924	8850.300	1773	
1774	2090771.554	412810.353	8755.386	-0.486	8754.900	1774	
1775	2090773.019	413994.264	9468.276	-2.876	9465.400	1775	
1776	2090784.244	414584.236	9711.977	-4.447	9707.530	1776	
1777	2090793.002	417621.507	8416.571	-7.091	8409.480	1777	
1778	2090796.576	410186.758	8804.057			1778	obscure
1779	2090800.297	414789.689	9585.105	-6.775	9578.330	1779	
1780	2090800.688	418817.468	8884.776	-8.406	8876.370	1780	
1781	2090801.031	416692.015	8650.620			1781	obscure
1782	2090802.952	419135.049	9029.311	-2.491	9026.820	1782	
1783	2090806.459	413361.232	9157.603	-5.103	9152.500	1783	
1784	2090806.607	417884.924	8491.985	-6.035	8485.950	1784	
1785	2090814.385	415200.564	9390.971	-4.051	9386.920	1785	
1786	2090816.734	413667.301	9280.051	-5.651	9274.400	1786	
1787	2090817.683	418201.656	8601.575	-5.255	8596.320	1787	
1788	2090818.794	413111.791	8920.845	-2.375	8918.470	1788	
1789	2090820.330	418473.344	8714.988	-6.148	8708.840	1789	
1790	2090821.699	415728.398	9249.891	-5.101	9244.790	1790	
1791	2090841.554	415475.986	9329.618	-3.878	9325.740	1791	
1792	2090850.678	412469.928	8569.163	1.387	8570.550	1792	
1793	2090854.067	411086.020	8279.788	-8.318	8271.470	1793	
1794	2090896.430	417256.892	8399.596			1794	obscure
1795	2090904.035	416077.729	9065.380	-9.580	9055.800	1795	
1796	2090919.760	411864.674	8325.784	-0.904	8324.880	1796	
1797	2090952.017	411503.805	8160.807	-6.087	8154.720	1797	
1799	2091014.445	410549.547	8521.541	-19.521	8502.020	1799	
1800	2091020.248	418740.553	8736.560	-6.030	8730.530	1800	
1801	2091031.606	418188.821	8520.330	-7.050	8513.280	1801	
1802	2091032.962	415763.586	9296.907	-5.297	9291.610	1802	
1803	2091054.547	417299.861	8409.023	-8.623	8400.400	1803	
1804	2091064.498	413024.172	8924.462	-1.012	8923.450	1804	
1805	2091077.217	415413.230	9420.001	-5.271	9414.730	1805	
1806	2091087.171	414373.255	9643.972	-4.732	9639.240	1806	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1807	2091087.988	416411.208	8829.849			1807	obscure
1808	2091090.607	419116.685	8889.587	-6.597	8882.990	1808	
1809	2091099.416	417892.457	8401.378	-6.478	8394.900	1809	
1810	2091099.993	416683.070	8678.275			1810	obscure
1811	2091100.416	417602.207	8266.423	-10.613	8255.810	1811	
1812	2091104.149	414897.265	9601.800	-1.510	9600.290	1812	
1813	2091121.720	417027.999	8498.982	-5.022	8493.960	1813	
1814	2091128.137	409978.767	8788.868	-16.318	8772.550	1814	
1815	2091134.158	418479.469	8595.545	-6.865	8588.680	1815	
1816	2091134.573	413748.534	9299.749	-1.909	9297.840	1816	
1817	2091137.559	413290.985	9102.192	-3.022	9099.170	1817	
1818	2091143.437	416110.953	9031.474			1818	obscure
1819	2091160.022	413981.240	9441.087	-3.367	9437.720	1819	
1820	2091183.955	412432.574	8685.928	-2.988	8682.940	1820	
1821	2091185.019	415143.467	9571.898	-4.708	9567.190	1821	
1822	2091201.334	414618.739	9773.136	-4.476	9768.660	1822	
1823	2091267.541	411624.788	8229.361	-17.491	8211.870	1823	
1824	2091289.507	410293.151	8560.730	-11.660	8549.070	1824	
1825	2091333.641	413040.386	9143.524	-4.464	9139.060	1825	
1826	2091338.548	418811.829	8653.701	-8.541	8645.160	1826	
1827	2091341.598	410590.705	8393.697	-14.467	8379.230	1827	
1828	2091349.792	418492.846	8522.470	-6.650	8515.820	1828	
1829	2091353.447	411915.288	8366.601	-4.051	8362.550	1829	
1830	2091357.140	419097.199	8772.177	-8.327	8763.850	1830	
1831	2091362.766	413223.613	9219.699	-3.209	9216.490	1831	
1832	2091367.963	413428.212	9275.595	-2.795	9272.800	1832	
1833	2091369.463	411233.192	8091.239	-7.359	8083.880	1833	
1834	2091379.986	415566.413	9333.364			1834	obscure
1835	2091381.711	416082.517	9059.600			1835	obscure
1836	2091389.098	418147.616	8383.852	-9.482	8374.370	1836	
1837	2091398.552	417897.562	8313.427	-7.037	8306.390	1837	
1838	2091408.418	416396.489	8859.718			1838	obscure
1839	2091416.878	416657.011	8742.082			1839	obscure
1840	2091422.202	409865.402	8687.426	-11.916	8675.510	1840	
1841	2091427.910	417258.294	8506.712	-4.972	8501.740	1841	
1842	2091446.109	415778.756	9290.094			1842	obscure
1843	2091483.389	417631.580	8312.869			1843	obscure
1844	2091486.220	417032.072	8613.725	-6.175	8607.550	1844	
1845	2091542.562	412212.780	8509.198	-2.508	8506.690	1845	
1846	2091543.871	414924.686	9644.359	-4.989	9639.370	1846	
1847	2091545.416	414704.487	9699.577	-4.707	9694.870	1847	
1848	2091565.419	412534.900	8697.326	-6.646	8690.680	1848	
1849	2091566.992	413423.295	9245.823	-3.093	9242.730	1849	
1850	2091570.565	415557.123	9371.919			1850	obscure
1851	2091585.018	414492.302	9727.799	-4.439	9723.360	1851	
1852	2091592.464	416154.370	9077.974			1852	obscure
1853	2091599.645	414091.091	9550.618	-4.848	9545.770	1853	
1854	2091614.916	415259.168	9506.509			1854	obscure
1855	2091668.147	413847.484	9422.875	-6.515	9416.360	1855	
1856	2091670.419	413189.029	9099.447	-4.007	9095.440	1856	
1857	2091687.240	412280.404	8557.732	-1.812	8555.920	1857	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1858	2091687.754	418479.997	8389.076	-5.536	8383.540	1858	
1859	2091695.055	417874.375	8201.981			1859	
1860	2091695.714	418766.271	8523.536	-9.726	8513.810	1860	
1861	2091696.810	415821.537	9303.236			1861	
1862	2091698.947	418194.120	8255.294	-5.164	8250.130	1862	
1863	2091700.136	417591.707	8381.487			1863	obscure
1864	2091700.287	417293.957	8534.353			1864	obscure
1865	2091716.848	410245.201	8420.286	-14.776	8405.510	1865	
1866	2091740.605	411410.277	8217.348	-4.228	8213.120	1866	
1867	2091764.929	411755.643	8398.315	-3.345	8394.970	1867	
1868	2091780.722	409969.446	8511.690	-17.050	8494.640	1868	
1869	2091796.875	411077.903	8081.736	-5.246	8076.490	1869	
1870	2091799.254	411975.840	8485.929	-6.239	8479.690	1870	
1871	2091821.232	410676.845	8208.485	-9.245	8199.240	1871	
1872	2091852.003	415249.143	9506.412	-4.602	9501.810	1872	
1873	2091857.999	413522.937	9225.382	-4.312	9221.070	1873	
1874	2091858.858	416763.636	8839.827			1874	obscure
1875	2091862.400	417048.765	8677.177			1875	obscure
1876	2091868.203	418843.725	8484.108	-3.928	8480.180	1876	
1877	2091872.375	419092.807	8571.165	-8.065	8563.100	1877	
1878	2091874.490	414963.523	9561.210	-4.480	9556.730	1878	
1879	2091878.500	415812.579	9362.652	-6.952	9355.700	1879	
1881	2091885.498	412896.043	8915.872	-2.022	8913.850	1881	
1882	2091889.133	415556.622	9404.178	-3.758	9400.420	1882	
1883	2091897.431	417659.706	8377.386			1883	obscure
1884	2091897.486	416136.206	9275.595	-6.385	9269.210	1884	
1885	2091898.086	414681.578	9586.558	-5.998	9580.560	1885	
1886	2091918.240	418379.225	8263.011	-9.081	8253.930	1886	
1887	2091919.894	413281.945	9121.437	-4.077	9117.360	1887	
1888	2091920.842	414100.638	9541.674	-6.054	9535.620	1888	
1889	2091924.586	418601.660	8372.930	-7.150	8365.780	1889	
1890	2091930.557	416508.274	9038.546	-6.676	9031.870	1890	
1891	2091940.919	414406.193	9652.529	-5.149	9647.380	1891	
1892	2091945.522	413841.779	9407.149	-6.799	9400.350	1892	
1893	2091986.513	417900.300	8289.942			1893	obscure
1894	2092023.454	412562.598	8819.516	-4.396	8815.120	1894	
1895	2092096.726	411598.650	8371.113	-4.893	8366.220	1895	
1896	2092134.566	418287.790	8159.841	-11.411	8148.430	1896	
1897	2092151.254	414300.354	9628.892	-5.712	9623.180	1897	
1898	2092152.827	416732.554	8910.803			1898	obscure
1899	2092153.060	410325.020	8266.067	-12.727	8253.340	1899	
1900	2092154.147	414661.828	9554.461	-9.541	9544.920	1900	
1901	2092161.489	416132.595	9309.049			1901	obscure
1902	2092165.792	419144.920	8525.731	-8.881	8516.850	1902	
1903	2092167.032	418846.667	8386.137	-8.007	8378.130	1903	
1904	2092169.188	411923.535	8606.939	-6.919	8600.020	1904	
1905	2092170.483	415853.677	9362.232			1905	obscure
1906	2092171.916	411242.650	8243.296	-4.016	8239.280	1906	
1907	2092173.902	415533.904	9365.655	-11.515	9354.140	1907	
1908	2092180.992	417341.561	8570.067			1908	obscure
1909	2092189.128	409962.283	8435.342	-10.732	8424.610	1909	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1910	2092193.149	415236.636	9398.656			1910	obscure
1911	2092193.522	412996.335	9133.127	-6.427	9126.700	1911	
1912	2092194.578	413583.919	9341.663	-4.293	9337.370	1912	
1913	2092197.628	416373.804	9201.196	-6.896	9194.300	1913	
1914	2092197.647	413794.809	9439.052	-3.972	9435.080	1914	
1915	2092211.801	414931.782	9468.179			1915	obscure
1916	2092212.296	416996.293	8761.618			1916	obscure
1917	2092212.899	413378.886	9266.876	-5.286	9261.590	1917	
1918	2092219.420	418550.607	8263.463			1918	obscure
1919	2092227.215	412237.325	8779.818	-3.638	8776.180	1919	
1920	2092229.309	414069.143	9559.369	-6.179	9553.190	1920	
1921	2092280.802	417930.745	8290.071			1921	obscure
1923	2092314.468	410848.433	8037.475	-6.415	8031.060	1923	
1924	2092324.764	417659.667	8435.542	-4.382	8431.160	1924	
1925	2092407.267	417029.630	8803.919			1925	obscure
1926	2092416.179	419147.424	8515.431	-8.861	8506.570	1926	
1927	2092439.825	418527.105	8204.468	-9.258	8195.210	1927	
1928	2092448.361	414655.667	9481.451	-6.611	9474.840	1928	
1929	2092449.926	411623.930	8520.847	-3.717	8517.130	1929	
1930	2092450.981	415845.645	9296.197			1930	obscure
1931	2092456.619	413786.146	9514.355	-5.775	9508.580	1931	
1932	2092458.837	412005.488	8693.432	-0.512	8692.920	1932	
1933	2092463.034	418848.468	8323.396	-5.506	8317.890	1933	
1934	2092466.239	417651.519	8436.770			1934	obscure
1935	2092466.265	417936.866	8288.457			1935	obscure
1936	2092467.234	418295.537	8088.058	-8.218	8079.840	1936	
1937	2092468.819	413442.375	9380.444	-6.254	9374.190	1937	
1938	2092470.103	417346.348	8607.396			1938	obscure
1939	2092471.694	414356.063	9559.886	-6.736	9553.150	1939	
1940	2092473.299	416129.922	9318.284			1940	obscure
1941	2092474.010	414975.820	9366.559			1941	obscure
1942	2092474.864	416728.358	8992.596			1942	obscure
1943	2092474.942	416457.501	9211.368	-6.918	9204.450	1943	
1944	2092475.505	413191.305	9317.670	-5.630	9312.040	1944	
1945	2092476.563	415529.753	9263.324			1945	obscure
1946	2092482.793	415247.356	9299.394			1946	obscure
1947	2092499.312	414107.259	9606.934	-6.414	9600.520	1947	
1948	2092520.678	409938.962	8245.805	-13.995	8231.810	1948	
1949	2092563.564	412856.224	9264.551	-9.731	9254.820	1949	
1950	2092592.396	411211.919	8289.185	-8.385	8280.800	1950	
1951	2092665.118	410314.767	8085.740	-14.010	8071.730	1951	
1952	2092699.266	410875.245	8137.876	-5.126	8132.750	1952	
1953	2092721.781	417649.030	8464.960			1953	obscure
1954	2092757.514	413146.422	9395.201	-6.111	9389.090	1954	
1955	2092768.683	418554.264	8132.200	-10.230	8121.970	1955	
1956	2092769.100	412328.215	9003.827	-0.297	9003.530	1956	
1957	2092770.199	414330.502	9515.227	-6.457	9508.770	1957	
1958	2092770.780	414053.567	9569.573	-7.573	9562.000	1958	
1959	2092771.964	419159.456	8481.331	-9.871	8471.460	1959	
1960	2092772.067	415260.372	9195.545			1960	obscure
1961	2092772.758	415521.545	9158.540	-8.680	9149.860	1961	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
1962	2092774.736	414942.953	9307.531			1962	obscure
1963	2092776.811	414649.642	9391.423	-7.583	9383.840	1963	
1964	2092777.189	416452.100	9234.424			1964	obscure
1965	2092779.365	416746.038	9023.466			1965	obscure
1966	2092782.520	418868.190	8302.439	-9.429	8293.010	1966	
1967	2092782.799	413522.795	9526.561	-10.531	9516.030	1967	
1968	2092784.285	413869.573	9613.327	-7.367	9605.960	1968	
1969	2092789.244	417359.489	8629.967			1969	obscure
1970	2092791.234	416255.319	9310.566	-8.686	9301.880	1970	
1971	2092792.475	417062.767	8814.026			1971	obscure
1972	2092800.238	412922.755	9314.506	-6.696	9307.810	1972	
1973	2092801.060	418245.708	8144.794			1973	obscure
1974	2092821.927	415875.416	9198.839	-13.179	9185.660	1974	
1975	2092830.909	417964.133	8294.883			1975	obscure
1976	2092873.457	412024.783	8836.660	0.160	8836.820	1976	
1977	2092896.635	411642.244	8610.657	0.453	8611.110	1977	
1978	2092914.291	409944.009	8102.959	-10.969	8091.990	1978	
1979	2092969.815	410837.480	8145.277	0.353	8145.630	1979	
1980	2092985.754	411235.727	8399.550	1.360	8400.910	1980	
1981	2093033.677	419153.893	8391.820	-13.290	8378.530	1981	
1982	2093051.079	417058.981	8848.481			1982	obscure
1983	2093067.449	413422.853	9501.274	-8.144	9493.130	1983	
1984	2093071.359	416174.494	9207.977	-12.287	9195.690	1984	
1985	2093071.823	417947.222	8328.917			1985	obscure
1986	2093072.381	416442.731	9298.199	-9.819	9288.380	1986	
1987	2093074.701	414953.805	9229.483	-7.783	9221.700	1987	
1988	2093078.622	415170.292	9142.427	-12.487	9129.940	1988	
1989	2093079.510	417355.600	8670.105			1989	obscure
1990	2093079.919	414322.268	9426.717	-8.487	9418.230	1990	
1991	2093080.945	413212.808	9400.162	-8.112	9392.050	1991	
1992	2093081.059	414638.754	9343.342	-7.772	9335.570	1992	
1993	2093081.590	417653.217	8501.836			1993	obscure
1994	2093081.702	412951.569	9290.111	-6.801	9283.310	1994	
1995	2093083.266	418165.592	8200.237			1995	obscure
1996	2093083.964	415844.224	9039.450	-10.680	9028.770	1996	
1997	2093085.303	413729.209	9519.823	-9.273	9510.550	1997	
1998	2093092.682	416741.030	9083.205			1998	obscure
1999	2093101.117	418840.160	8218.385	-14.085	8204.300	1999	
2000	2093103.138	418599.051	8080.890	-13.000	8067.890	2000	
2001	2093104.420	414079.475	9430.001	-9.191	9420.810	2001	
2002	2093106.272	415467.819	8962.404			2002	obscure
2003	2093180.365	410337.189	8032.222	1.898	8034.120	2003	
2004	2093280.339	409975.159	8146.425	2.305	8148.730	2004	
2005	2093308.542	412067.340	8765.136	-4.706	8760.430	2005	
2006	2093309.537	413561.482	9483.800	-9.150	9474.650	2006	
2007	2093323.856	415858.602	8904.667	-11.137	8893.530	2007	
2008	2093343.992	412385.467	8881.082	-5.192	8875.890	2008	
2009	2093355.807	418845.288	8116.991	-13.111	8103.880	2009	
2010	2093357.532	416158.626	9002.994	-12.364	8990.630	2010	
2011	2093358.667	419142.031	8228.008	-10.208	8217.800	2011	
2012	2093363.569	416561.821	9241.756	3.794	9245.550	2012	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
2013	2093364.913	414424.197	9334.467			2013	obscure
2014	2093370.246	417353.478	8688.963			2014	obscure
2015	2093370.365	416753.847	9102.386			2015	obscure
2016	2093370.673	418254.163	8197.751			2016	obscure
2017	2093370.980	417053.525	8875.864			2017	obscure
2018	2093371.073	417654.298	8521.340			2018	obscure
2019	2093372.973	411835.657	8645.913	-4.523	8641.390	2019	
2020	2093377.934	412891.744	9231.910	-7.880	9224.030	2020	
2021	2093378.110	414031.656	9324.117			2021	obscure
2022	2093386.094	417913.573	8390.400			2022	obscure
2023	2093389.707	415512.101	8804.274			2023	obscure
2024	2093390.717	413798.945	9353.722	-11.872	9341.850	2024	
2025	2093392.234	418617.603	7987.601	-19.521	7968.080	2025	
2026	2093409.757	410811.845	8132.330	1.970	8134.300	2026	
2027	2093418.940	415235.672	8912.981	-12.791	8900.190	2027	
2028	2093442.274	411235.617	8355.637	-0.137	8355.500	2028	
2029	2093452.755	411560.260	8523.497	-5.987	8517.510	2029	
2030	2093461.917	414545.759	9305.938	-8.798	9297.140	2030	
2031	2093477.252	414881.404	9149.683	-10.503	9139.180	2031	
2032	2093564.743	413520.442	9399.389	-10.629	9388.760	2032	
2033	2093571.862	410660.243	7976.990			2033	obscure
2034	2093591.675	410346.587	7950.027	14.313	7964.340	2034	
2035	2093595.694	410945.632	8163.617	1.853	8165.470	2035	
2036	2093601.227	412095.560	8641.471	-8.171	8633.300	2036	
2037	2093613.618	413146.542	9241.789	-10.709	9231.080	2037	
2038	2093630.592	416421.293	9017.824	-14.964	9002.860	2038	
2039	2093638.196	412846.844	9114.836	-7.966	9106.870	2039	
2040	2093648.007	417926.736	8362.500			2040	obscure
2041	2093649.963	418667.168	7962.672	-14.042	7948.630	2041	
2042	2093652.371	417645.907	8517.562			2042	obscure
2043	2093664.584	413504.188	9363.836	-10.666	9353.170	2043	
2044	2093665.347	418857.112	8079.662	-12.332	8067.330	2044	
2045	2093667.681	412523.744	8873.218	-7.288	8865.930	2045	
2046	2093669.057	418233.245	8228.912	-15.332	8213.580	2046	
2047	2093670.467	417353.186	8690.091			2047	obscure
2048	2093670.800	413717.087	9304.392	-9.962	9294.430	2048	
2049	2093671.211	411765.652	8497.004	-6.014	8490.990	2049	
2050	2093671.577	414054.141	9158.319			2050	obscure
2051	2093671.587	415241.263	8816.809	-13.859	8802.950	2051	
2052	2093672.638	416612.828	9205.095	-11.705	9193.390	2052	
2053	2093677.843	415521.267	8694.863	-12.343	8682.520	2053	
2054	2093681.851	414921.600	8986.203	-14.643	8971.560	2054	
2055	2093683.488	415909.172	8753.568	-12.898	8740.670	2055	
2056	2093688.168	419126.054	8168.366	-12.186	8156.180	2056	
2057	2093695.008	411496.007	8383.703	-6.153	8377.550	2057	
2058	2093704.218	416152.733	8837.878	-13.938	8823.940	2058	
2059	2093754.915	414406.770	9121.355	-9.455	9111.900	2059	
2060	2093772.279	414622.368	9150.053	-9.983	9140.070	2060	
2061	2093773.464	410489.157	7902.830	3.460	7906.290	2061	
2062	2093779.021	417137.431	8818.758			2062	obscure
2064	2093827.953	410840.081	8137.443	0.567	8138.010	2064	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
2065	2093830.170	411226.468	8242.654	0.246	8242.900	2065	
2066	2093917.827	414715.361	8985.531	-10.601	8974.930	2066	
2067	2093947.967	411534.948	8271.170	-5.280	8265.890	2067	
2068	2093948.027	412929.324	9113.223	-8.043	9105.180	2068	
2069	2093961.689	413253.878	9263.262	-4.582	9258.680	2069	
2070	2093962.747	415262.484	8694.863	-13.983	8680.880	2070	
2071	2093965.021	412161.109	8623.161	-7.441	8615.720	2071	
2072	2093971.255	413429.424	9291.119	-10.799	9280.320	2072	
2073	2093972.939	414949.529	8839.323	-16.553	8822.770	2073	
2074	2093973.664	414000.731	9109.090			2074	obscure
2075	2093976.897	413751.430	9168.837	-11.617	9157.220	2075	
2076	2093994.769	411139.435	8133.002	0.408	8133.410	2076	
2077	2094004.049	412550.060	8858.523	-6.983	8851.540	2077	
2078	2094022.478	411923.000	8512.252	-6.502	8505.750	2078	
2079	2094029.398	410730.564	7941.539	-1.399	7940.140	2079	
2080	2094067.556	414286.497	8858.511			2080	obscure
2081	2094156.598	410390.650	7962.397	-0.827	7961.570	2081	
2082	2094230.098	411471.664	8303.882	-13.732	8290.150	2082	
2083	2094231.119	412147.536	8684.113	-6.763	8677.350	2083	
2084	2094245.772	413351.172	9279.492	-9.722	9269.770	2084	
2085	2094247.397	412793.961	9078.203	-7.623	9070.580	2085	
2086	2094272.376	414956.856	8701.173	-12.893	8688.280	2086	
2087	2094275.835	413916.422	8971.082			2087	obscure
2088	2094284.439	415225.312	8588.484	-14.874	8573.610	2088	
2089	2094290.025	413572.909	9221.258	-19.848	9201.410	2089	
2090	2094294.360	411815.424	8502.910	-4.870	8498.040	2090	
2091	2094326.521	412437.556	8883.938	-7.578	8876.360	2091	
2093	2094340.846	414649.826	8700.591	-12.451	8688.140	2093	
2094	2094358.830	411106.713	8122.833	0.517	8123.350	2094	
2095	2094372.052	410828.595	7938.629	1.361	7939.990	2095	
2096	2094373.487	414343.031	8702.398	-12.668	8689.730	2096	
2097	2094476.766	413581.295	9130.899			2097	obscure
2098	2094518.287	413321.514	9263.900	-8.410	9255.490	2098	
2099	2094529.387	413948.973	8892.575			2099	obscure
2100	2094540.412	411481.074	8387.438	-9.468	8377.970	2100	
2101	2094546.623	412151.639	8795.480	-6.660	8788.820	2101	
2102	2094569.415	411876.136	8630.787	-5.197	8625.590	2102	
2103	2094577.203	414960.711	8514.978	-13.108	8501.870	2103	
2104	2094579.145	412499.555	9104.253	-3.593	9100.660	2104	
2105	2094583.443	414370.462	8616.912			2105	obscure
2106	2094590.945	410664.194	7853.572	3.588	7857.160	2106	
2107	2094604.441	414711.967	8502.083	-12.303	8489.780	2107	
2108	2094618.793	415251.548	8417.445	-13.565	8403.880	2108	
2109	2094684.645	412811.619	9079.015	-5.805	9073.210	2109	
2110	2094730.613	411271.643	8199.344	-0.724	8198.620	2110	
2112	2094802.812	413854.108	8912.024			2112	obscure
2113	2094803.733	413549.750	9155.833			2113	obscure
2114	2094811.742	413322.922	9251.794	-10.704	9241.090	2114	
2115	2094818.068	414489.473	8496.325			2115	obscure
2116	2094828.828	414845.361	8346.947	-7.967	8338.980	2116	
2117	2094829.869	414182.916	8684.051			2117	obscure

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
2118	2094833.176	410800.128	7859.238	0.082	7859.320	2118	
2119	2094852.063	411120.504	8058.542	1.998	8060.540	2119	
2120	2094864.480	415242.099	8295.459	-8.729	8286.730	2120	
2121	2094904.138	412558.289	8813.429	-7.869	8805.560	2121	
2122	2094924.796	412855.439	8937.171	-7.401	8929.770	2122	
2123	2094933.029	411417.594	8267.433	-4.313	8263.120	2123	
2124	2094953.568	411805.084	8574.521	-7.411	8567.110	2124	
2125	2094999.032	412161.184	8678.171	-6.081	8672.090	2125	
2126	2095088.008	415285.972	8142.098	-8.748	8133.350	2126	
2127	2095098.603	413402.231	9227.597	-6.107	9221.490	2127	
2128	2095127.231	413619.940	9103.641			2128	
2129	2095138.856	413155.485	9068.203	-8.813	9059.390	2129	
2130	2095147.874	414321.778	8593.083			2130	obscure
2131	2095164.424	414956.820	8226.574			2131	obscure
2132	2095167.851	411121.552	8034.866	-3.616	8031.250	2132	
2133	2095177.921	414619.935	8407.684			2133	obscure
2134	2095179.007	413936.301	8856.065			2134	obscure
2135	2095195.298	410849.418	7844.413	-1.593	7842.820	2135	
2136	2095264.714	412050.379	8472.771	-7.461	8465.310	2136	
2137	2095298.662	411778.391	8377.208	-8.998	8368.210	2137	
2138	2095326.686	412981.314	8905.255	-7.975	8897.280	2138	
2139	2095343.853	412428.869	8559.452	-6.532	8552.920	2139	
2140	2095344.088	411437.334	8141.363	-10.083	8131.280	2140	
2141	2095352.526	412699.966	8717.468	-7.588	8709.880	2141	
2142	2095370.566	413350.878	9232.590	-8.130	9224.460	2142	
2143	2095404.916	411310.346	8048.924	-7.444	8041.480	2143	
2144	2095424.985	413673.849	9073.226			2144	obscure
2145	2095465.874	413999.920	8831.715			2145	obscure
2146	2095481.194	410937.348	7803.156	-1.246	7801.910	2146	
2147	2095492.218	414330.742	8608.367			2147	obscure
2148	2095519.451	414798.776	8369.949	-8.199	8361.750	2148	
2149	2095639.445	411842.717	8228.840	-8.410	8220.430	2149	
2150	2095653.860	412372.736	8468.146	-7.206	8460.940	2150	
2151	2095662.321	412627.305	8630.726	-8.706	8622.020	2151	
2152	2095671.259	411536.877	8082.678	-8.488	8074.190	2152	
2153	2095672.619	413259.554	9128.542	-7.832	9120.710	2153	
2154	2095681.474	412112.601	8302.044	-8.244	8293.800	2154	
2155	2095686.852	410993.540	7786.892	-7.862	7779.030	2155	
2156	2095711.439	415147.588	8166.449	-14.559	8151.890	2156	
2157	2095724.034	413877.129	8980.481	-17.381	8963.100	2157	
2158	2095727.634	412988.861	8852.971	-9.451	8843.520	2158	
2159	2095733.971	413546.003	9210.904	-8.104	9202.800	2159	
2160	2095742.560	411252.530	7896.269	-6.089	7890.180	2160	
2161	2095748.263	414655.791	8484.196	-10.046	8474.150	2161	
2162	2095770.992	414208.573	8731.710	-9.360	8722.350	2162	
2163	2095909.082	412694.781	8621.323	-7.243	8614.080	2163	
2164	2095935.044	412359.259	8417.210	-8.840	8408.370	2164	
2165	2095952.431	411658.740	8033.304	-7.414	8025.890	2165	
2166	2095978.688	411022.869	7758.866	-6.686	7752.180	2166	
2167	2096022.059	412160.251	8294.969	-8.809	8286.160	2167	
2168	2096024.064	411277.121	7833.632	-12.752	7820.880	2168	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
2169	2096026.896	412922.184	8733.916	-7.306	8726.610	2169	
2170	2096045.919	414455.143	8542.391	-14.111	8528.280	2170	
2171	2096061.717	413265.525	8970.955	-7.355	8963.600	2171	
2172	2096064.096	414827.650	8323.301	-9.031	8314.270	2172	
2173	2096070.686	413503.450	9163.705	-7.735	9155.970	2173	
2174	2096078.193	414140.532	8698.998	-9.388	8689.610	2174	
2175	2096085.441	415130.111	8139.066	-9.876	8129.190	2175	
2176	2096098.389	413809.044	8916.711	-10.841	8905.870	2176	
2177	2096308.832	411486.628	7899.148	-9.968	7889.180	2177	
2178	2096322.831	411759.199	8040.501	-8.061	8032.440	2178	
2179	2096346.729	414441.374	8484.839			2179	obscure
2180	2096363.396	413887.091	8809.570	-9.900	8799.670	2180	
2181	2096366.466	411138.813	7733.842	-8.722	7725.120	2181	
2182	2096388.246	412121.606	8234.109	-7.029	8227.080	2182	
2183	2096396.753	413124.541	8993.406	-7.376	8986.030	2183	
2184	2096427.825	414149.404	8651.431	-6.701	8644.730	2184	
2185	2096428.557	415177.775	8091.959	-8.899	8083.060	2185	
2186	2096435.667	412444.283	8452.985	-9.565	8443.420	2186	
2187	2096454.961	413499.927	8817.227	-9.967	8807.260	2187	
2188	2096462.188	414854.369	8279.777	-8.937	8270.840	2188	
2189	2096469.763	412846.823	8754.897	-7.337	8747.560	2189	
2190	2096641.775	412048.681	8152.972	-11.812	8141.160	2190	
2191	2096661.049	411670.999	7958.354	-9.554	7948.800	2191	
2192	2096675.304	413136.429	8813.919	-7.879	8806.040	2192	
2193	2096694.576	414343.550	8540.554	-10.374	8530.180	2193	
2194	2096724.413	414010.005	8569.529	-10.509	8559.020	2194	
2195	2096742.663	412566.370	8482.634	-7.894	8474.740	2195	
2196	2096852.542	414814.317	8288.322	-11.742	8276.580	2196	
2197	2096860.332	413563.479	8525.453	-8.473	8516.980	2197	
2198	2097043.469	415225.866	8120.658	-10.808	8109.850	2198	
2199	2097088.508	414145.518	8343.639	-12.879	8330.760	2199	
2200	2097156.112	411737.582	7897.157	-8.567	7888.590	2200	
2201	2097164.378	413194.448	8581.842	-10.002	8571.840	2201	
2202	2097172.689	412412.597	8238.335	-7.875	8230.460	2202	
2203	2097187.210	412055.173	7960.804	-10.464	7950.340	2203	
2204	2097208.321	412644.618	8301.248	-7.848	8293.400	2204	
2205	2097217.623	413848.672	8247.371	-10.421	8236.950	2205	
2206	2097222.505	412956.697	8438.007	-11.367	8426.640	2206	
2207	2097224.737	413572.232	8384.375	-9.535	8374.840	2207	
2208	2097238.073	414420.058	8223.082	-11.872	8211.210	2208	
2209	2097245.433	411415.830	7673.257	-9.837	7663.420	2209	
2210	2097269.419	414900.753	8033.794	-12.454	8021.340	2210	
2211	2097373.819	411930.186	7906.744	-11.014	7895.730	2211	
2212	2097426.521	412948.889	8389.000	-8.780	8380.220	2212	
2213	2097457.838	413489.295	8356.932	-8.682	8348.250	2213	
2214	2097462.282	412549.946	8105.895	-10.205	8095.690	2214	
2215	2097473.369	412225.102	8010.761	-8.501	8002.260	2215	
2216	2097480.359	413169.331	8501.318	-6.968	8494.350	2216	
2217	2097488.599	414141.455	8076.062	-10.942	8065.120	2217	
2218	2097495.771	413756.152	8194.321	-10.101	8184.220	2218	
2219	2097552.161	414466.820	8023.533	-13.093	8010.440	2219	

POINT	EASTING	NORTHING	1995 ELEVATION	2003 DIFFERENCE	2003 ELEVATION	POINT	COMMENTS
2220	2097714.743	414905.863	7773.415	-11.915	7761.500	2220	

PETERSEN HYDROLOGIC

26 March 2004

Mr. Gary Gray
GENWAL Resources, Inc.
P.O. Box 1077
Price, Utah 84501

Dear Gary,

At your request, we have produced this Annual Hydrologic Monitoring Report for the Crandall Canyon #1 Mine for the year 2003. This report is based on hydrologic monitoring information collected during 2003 and submitted to the Utah Division of Oil, Gas and Mining.

Other than the permitted discharge of mine water to Crandall Creek, there are no indications that mining-related impacts to the hydrologic balance in the mine permit area have occurred.

If you have any questions in this regard, please feel free to contact me.

Sincerely,

Erik C. Petersen, P.G.
Principal Hydrogeologist
Utah PG No. 5373615-2250

Summary of Hydrologic Monitoring at the GENWAL Resources, Inc. Crandall Canyon #1 Mine During 2003

Introduction

Hydrologic monitoring at GENWAL Resources' Crandall Canyon #1 Mine was carried out in 2003 in accordance with the hydrologic monitoring plan as approved by the Utah Division of Oil, Gas and Mining (DOGM). Hydrologic monitoring locations are shown on Figure 1. All 2003 hydrologic monitoring data have been entered into the DOGM on-line electronic database. The purpose of this document is to present and summarize the results of the 2003 hydrologic monitoring.

Including this introduction, this report contains the following sections:

- Introduction
- Methods of Study
- Climate
- Presentation of Data
- Spring Monitoring Summary
- Stream Monitoring Summary
- In-Mine Monitoring Summary
- Mine Discharge Monitoring Summary
- Conclusions

Methods of Study

The specific methods of study used to collect the 2003 hydrologic monitoring data are described below.

Discharge Measurements

Discharge measurements for springs were performed using a calibrated container and a stopwatch. Generally, spring discharge measurements were performed by damming and diverting the spring discharge through a pipe. Using an appropriately sized container, time-to-fill measurements were typically performed at least 3 times at each location. An average time-to-fill value was used to calculate the reported discharge measurement. At some spring locations with large discharge rates, spring discharge measurements were performed using a 90° v-notch weir. Discharge measurements at Indian Creek, upper Crandall Creek, and lower Crandall Creek were performed using the existing, permanently installed 3-foot Parshall flumes, or using a current-velocity meter and wading rod. Discharge measurements during high-flow periods in Blind Canyon Creek were performed using the existing 12-inch Parshall Flume. Discharge measurements at Horse Canyon Creek and at Blind Canyon Creek during low-flow periods were performed using either a portable 3-inch Parshall flume, current-velocity meter and wading rod, portable 90-degree v-notch weir, or a stopwatch and calibrated container as appropriate. Discharge measurements and calculations were performed using standard U.S. Bureau of Reclamation methods.

Discharge Temperature Measurements

Temperature measurements were performed using a Taylor brand electronic digital thermometer. Discharge temperature measurements at springs were performed as close to the spring discharge locations as possible. Stream temperature measurements were performed, where possible, in a shaded, actively flowing portion of the stream.

Specific Conductance Measurements

Specific conductance (electrical conductivity) measurements were performed using an Oakton brand model 20 conductivity meter with automatic temperature compensation. The instrument was regularly calibrated using traceable ASTM conductivity standard solutions.

pH Measurements

pH Measurements were performed using an Oakton brand Acorn 6 model electronic pH meter with automatic temperature compensation. The instrument was regularly calibrated using traceable ASTM pH standard solutions.

Dissolved Oxygen Measurements

Dissolved oxygen measurements were performed using a YSI brand model 55 dissolved oxygen meter. The meter was routinely calibrated using atmospheric oxygen calibration methods.

Water Quality Laboratory Measurements

Water quality laboratory analyses were performed by Commercial Testing and Engineering Co. of Huntington, Utah. Documentation on laboratory standard analytical methods and procedures used and laboratory detection limits has been entered into the DOGM on-line database.

Climate

Although drought conditions existed throughout 2003, the drought conditions were somewhat less severe than in the previous year. A plot of the Palmer Hydrologic Drought Index for Utah Region 4 is presented in Figure 2. The PHDI is a monthly value generated by the National Climatic Data Center using a variety of hydrologic parameters that indicates wet and dry spells. The PHDI is calculated from several hydrologic parameters including precipitation, temperature, evapotranspiration, soil water recharge, soil water loss, and runoff. Consequently, it is a useful tool for evaluating the relationship between climate and groundwater and surface water discharge data. The PHDI is useful for determining whether variations in spring and stream discharge rates or well potentiometric levels are the result of climatic variability or whether they are the result of other factors. As indicated by the PHDI (Figure 2), the region experienced a period of mild to moderate drought in 2003.

Presentation of Data

The results of the 2003 hydrologic monitoring, including discharge measurements, laboratory water quality parameters, and field water quality data are presented in tabular form in Table 1. Hydrologic monitoring locations are shown on Figure 1. A compilation of historic discharge and water quality data for springs, streams, and in-mine locations is presented in Table 2. A summary of the water quality and discharge rate data from the Crandall Canyon #1 Mine workings is presented in Table 3. Specific conductance, pH, and discharge data for each of the regular water-monitoring sites monitored during 2003 are graphed together with the PHDI on plots included at the end of this report.

During each of the 2nd, 3rd, and 4th quarters of 2003, all of the regular above-ground hydrologic monitoring sites were accessed and monitored. With the exception of site UPDES 001 (sedimentation pond discharge) which had no discharge during the year, measurable flow was observed and monitored at each of the surface monitoring locations. During the 1st quarter, despite several monitoring attempts, the springs and steam in upper Joes Valley and on top of East Mountain could not be accessed. This was due to continuous snow cover (several feet) in these areas during the 1st quarter. Springs SP-30, SP-36, and SP-58 were successfully monitored during the 1st quarter of 2003, due to the unusual lack of snow cover in Crandall Canyon. The stream monitoring sites in Crandall Canyon, Blind Canyon, and Horse Canyon were also monitored during the 1st quarter of 2003.

Of the in-mine monitoring sites, only MW-1 and DH-1 were able to be monitored during 2003. All other in-mine sites are either located in portions of the mine that were not accessible during 2003, or have been rendered unable to be monitored as a result of mining operations.

Spring Monitoring Summary

In accordance with the approved monitoring plan, 14 springs were monitored for flow and water quality during 2003. A summary of the 2003 monitoring results for springs in the mine permit area and adjacent is presented below.

East Mountain Springs

As specified in the water monitoring plan, eight springs on East Mountain were monitored during 2003. These include SP2-24, SP2-9, SP47A, SP1-3, SP1-19, SP1-22, SP1-9, and SP1-24.

The water quality at these springs, as indicated by field measurements of specific conductance and pH, is similar to that monitored during previous years (see attached plots). The solute compositions of springs SP1-9, SP2-9, and SP2-24, which are monitored for laboratory water quality parameters as specified in the MRP, likewise are similar to previous years (Tables 1 and 2).

Discharges measured at the eight springs on East Mountain during the high-flow season (2nd quarter) were generally similar or somewhat greater than those measured during previous years (Table 2). Baseflow spring discharge rates measured during the 3rd and 4th quarters of 2003 were generally similar to those measured in previous years (Table 2). The fact that some of the 2nd quarter discharge measurements are somewhat greater than those measured in previous years is likely due to the timing of the 2nd quarter 2003 monitoring events, which occurred shortly after the springtime snowmelt event.

There is no indication that mining-related activities have had any detrimental effects on discharge rates or water quality of groundwater systems that support springs on East Mountain.

Upper Joes Valley Springs

As specified in the monitoring plan, three springs in Upper Joes Valley were monitored during 2003. These include SP1-33, SP1-47, and SP2-1.

Water quality at the Upper Joes Valley springs, as indicated by field measurements of specific conductance and pH, was similar to that monitored during previous years (see attached plots). The solute composition of spring SP1-33, which is monitored quarterly for laboratory water quality parameters as specified in the MRP, is likewise similar to that of previous years (Tables 1 and 2).

Discharge rates measured at springs in Upper Joes Valley during 2003 were similar to those measured in previous years (Tables 1 and 2). There is no indication that mining-related activities have had any detrimental impacts to the water quality or water quantity of groundwater systems that support springs in Upper Joes Valley.

Crandall Canyon Springs

As specified in the water monitoring plan, three springs were monitored in Crandall Canyon during 2003. These include SP-30, SP-36, and SP-58.

Discharge rates measured at springs SP-30, SP-36, and SP-58 during 2003 were similar to those measured in previous years. Discharge rates at some springs in Crandall Canyon have responded somewhat to the gradual drying-out the region has experienced over the past several years (see attached plots).

Water quality at the Crandall Canyon springs, as indicated by field measurements of specific conductance and pH, was similar to that monitored during previous years (see attached plots). The solute compositions of springs SP-36 and SP-58, which are monitored quarterly for laboratory water quality parameters as specified in the MRP, likewise are generally similar to previous years (Tables 1 and 2). However, the concentration of sulfate in discharge from spring SP-58 increased somewhat during 2003 relative to that of previous years (Table 2). The modest increases in sulfate concentration are likely attributable to the recent drought the region has experienced. During drought conditions, the amount of seasonal snow-melt

recharge water (low in sulfate) that enters the groundwater system that supports SP-58, relative to the baseflow component that is likely higher in sulfate, likely decreases. Consequently, the sulfate concentration in the spring during periods of drought increases relative to concentrations in non-drought years. Similar increases in solute concentrations have been observed during the current drought in other locations in the Wasatch Plateau coal field (see DOGM on-line water database).

There are no indications that mining-related activities have had any detrimental impacts to the water quality or water quantity of springs discharging in Crandall Canyon.

Stream Monitoring Summary

In accordance with the approved hydrologic monitoring plan, five stream sites were monitored for flow and water quality during 2003. These include Indian Creek in Upper Joes Valley, Horse Canyon Creek, Blind Canyon Creek, and two sites on Crandall Creek (above and below the mine site).

Indian Creek

Discharge rate and field water quality measurements were performed on Indian Creek during the 2nd, 3rd, and 4th quarters of 2003. Located in Upper Joes Valley, the site was not accessible during the 1st quarter because of the heavy snowpack. Discharge measured at Indian Creek during 2003 ranged from 1,130 gpm in June to 263 gpm in October (Table 1).

The effects of the long-term drying-out the region has experienced since 1999 are evident in the gradually declining discharge in the creek over this period (See attached plots).

Water quality in Indian Creek during 2003, as indicated by field measurements of specific conductance and pH, was generally similar to that monitored during previous years (see attached plots). The solute composition of Indian Creek monitored during 2003 was similar to that measured in previous years (Table 2). There are no changes in discharge rates or to water quality that would suggest that any mining-related impacts have occurred in Indian Creek.

Horse Canyon Creek

Horse Canyon Creek, which is monitored near the confluence with Huntington Creek (Figure 1), was monitored during the 1st, 2nd, 3rd, and 4th quarters of 2003. Discharge in Horse Canyon Creek monitored during 2003 ranged from 198 gpm during June to 33 gpm in December (Table 1). Like many other streams in the region, the discharge was somewhat lower in 2003 than in previous, non-drought years.

Water quality in Horse Canyon Creek during 2003, as indicated by field measurements of specific conductance and pH, was similar to that monitored during previous years (see attached plots). The solute composition of Horse Canyon Creek monitored during 2003 was also generally similar to that measured in previous years (Table 2). As discussed previously for spring SP-58, the sulfate concentration at SP-58 has increased somewhat during the recent

period of drought. The sulfate increases in Horse Canyon Creek are likely attributable to the smaller influx of seasonal, low-sulfate snow-melt and precipitation waters into the water course relative to the baseflow component in the stream, which is likely higher in sulfate concentration.

There are no changes in discharge rate or to water quality that would suggest that any mining related impacts have occurred in Horse Canyon Creek.

Blind Canyon Creek

Blind Canyon Creek, which is monitored near the confluence with Huntington Creek (Figure 1), was monitored during the 1st, 2nd, 3rd, and 4th quarters of 2003. Discharge in Blind Canyon Creek monitored during 2003 ranged from 231 gpm during June to 18.8 gpm in late September (Table 1). These discharge rates are similar to those measured at Blind Canyon Creek in previous years.

Water quality in Blind Canyon Creek, as indicated by field measurements of specific conductance and pH, was similar to that monitored during previous years (see attached plots). The solute composition of Blind Canyon Creek monitored during 2003 was likewise similar to that measured in previous years (Table 2).

There are no changes in discharge rate or water quality that would suggest that any mining related impacts have occurred in Blind Canyon Creek.

Crandall Canyon Creek Upper Flume

The upper flume in Crandall Canyon Creek is located above the mine surface facilities in Crandall Canyon. This station was monitored during all four quarters of 2003. The discharge measured at the upper flume ranged from 1,230 gpm in June to 86 gpm in December. The effects of the gradual drying-out the region has experienced over the past several years are apparent in the gradual decline in discharge rate monitored at this site over the past few years as compared with the PHDI (see attached plots).

Water quality at the upper flume in Crandall Creek, as indicated by field measurements of specific conductance and pH, was generally similar to that monitored during previous years (see Table 2 and attached plots). However, as discussed previously for other monitoring locations, there has been a gradual increase in the sulfate concentration in Crandall Creek above the mine during the recent period of drought. The somewhat elevated sulfate concentrations measured in 2003 are likely attributable to the smaller influx of seasonal low-sulfate snow-melt and precipitation waters into the creek relative to the baseflow component in the stream, which is likely higher in sulfate concentration.

There are no changes in discharge rate or water quality in upper Crandall Canyon Creek that would suggest that any mining-related impacts have occurred.

Crandall Canyon Creek Lower Flume

The lower flume in Crandall Canyon Creek is located immediately below the Crandall Canyon #1 Mine discharge. The lower flume site was monitored during all four quarters of 2003. Stream flow measured at the lower flume is a composite of Crandall Canyon Creek water and mine discharge water. The discharge measured at the lower flume during 2003 was similar to that measured during previous years.

The solute composition of stream waters at the lower flume during 2003 was similar to that measured in previous years. The permitted discharge of mine water into Crandall Canyon Creek results in significantly increased discharge rates in Crandall Creek relative to the non-mining condition. This is particularly evident during drought periods when the relative contribution of water in Crandall Creek above the mine discharge point is small. Because of the relatively good quality of the water discharged from the mine, impacts to water quality in Crandall Creek below the mine are typically small. During 2003, the average TDS concentrations in Crandall Creek above and below the mine were 469 and 483 mg/l, respectively. This represents an increase in TDS of only about 3%.

In-Mine monitoring Summary

In-mine monitoring sites MW-1, and DH-1 were monitored during 2003. All other in-mine monitoring sites are either in portions of the mine that are not accessible or were rendered inoperable as a result of mining activities. In-mine monitoring well MW-2 was previously

flooded with mine water and could not be monitored during 2003. During previous years, sites DH-2, MW-3, MW-4, and MW-5 became permanently inaccessible or destroyed and are not available for monitoring.

DH-1

DH-1, which is an in-mine drill hole located near the mine portals continued to be dry during all of 2003 (Table 1). This site has been dry since early 1990 and conditions at the site were unchanged during 2003.

MW-1

MW-1 did not produce sufficient water to monitor during 2003. This condition is unchanged from 2002. The water production from MW-1 had been meager and declining for several years (see Table 2 and attached plots). This condition is not related to mining activities (other than pumping the well). Rather it is a consequence of the poor groundwater production potential of the Star Point Sandstone groundwater system in which the well is completed.

Mine Discharge Monitoring Summary

UPDES 002

Discharge from UPDES 002 (Crandall Canyon #1 discharge) during 2003 was similar to that measured in recent years. The mine discharge ranged from 250 to 1050 gpm (see Table 3 and attached plots).

TDS concentrations measured during 2003 were similar to those measured during previous years. Total iron and dissolved iron concentrations were low during 2003 (Table 3). Total iron concentrations were at or below 0.3 mg/l, while dissolved iron concentrations were all lower than 0.02 mg/l. Suspended solids were consistently less than 6 mg/l (Table 3).

UPDES 001

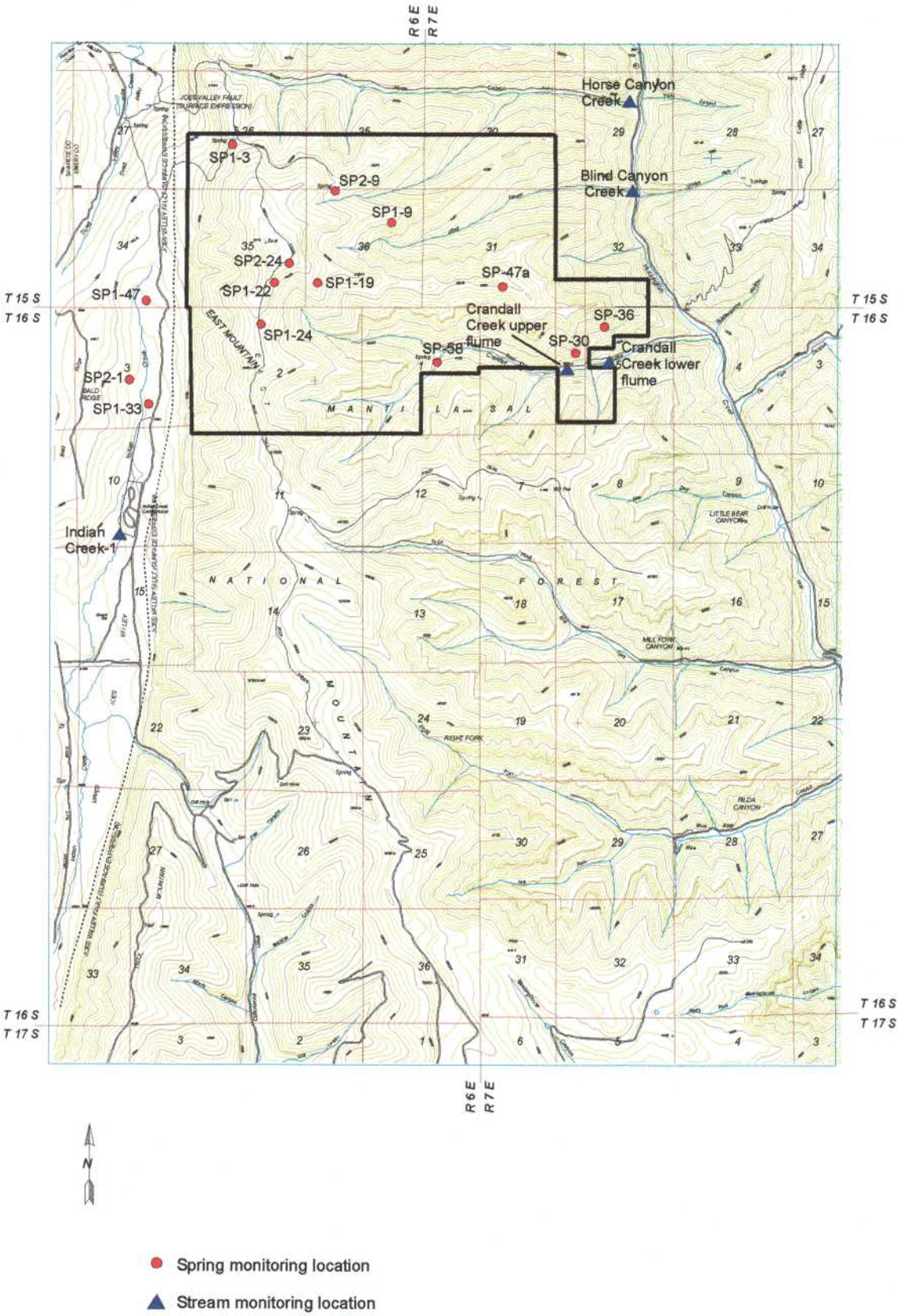
There was no discharge from UPDES 001 (sediment pond discharge) during 2003.

Conclusions

- Discharge rates measured at streams and springs in the mine permit area were similar to those measured in previous years. The influence of the ongoing drought is reflected in the discharge rates measured at many springs and streams in the permit area during 2003.

- No major changes to important water quality parameters were observed in springs, streams, or in-mine locations during 2003. Several locations experienced modest increases in sulfate concentrations that are likely attributable to the ongoing drought conditions.

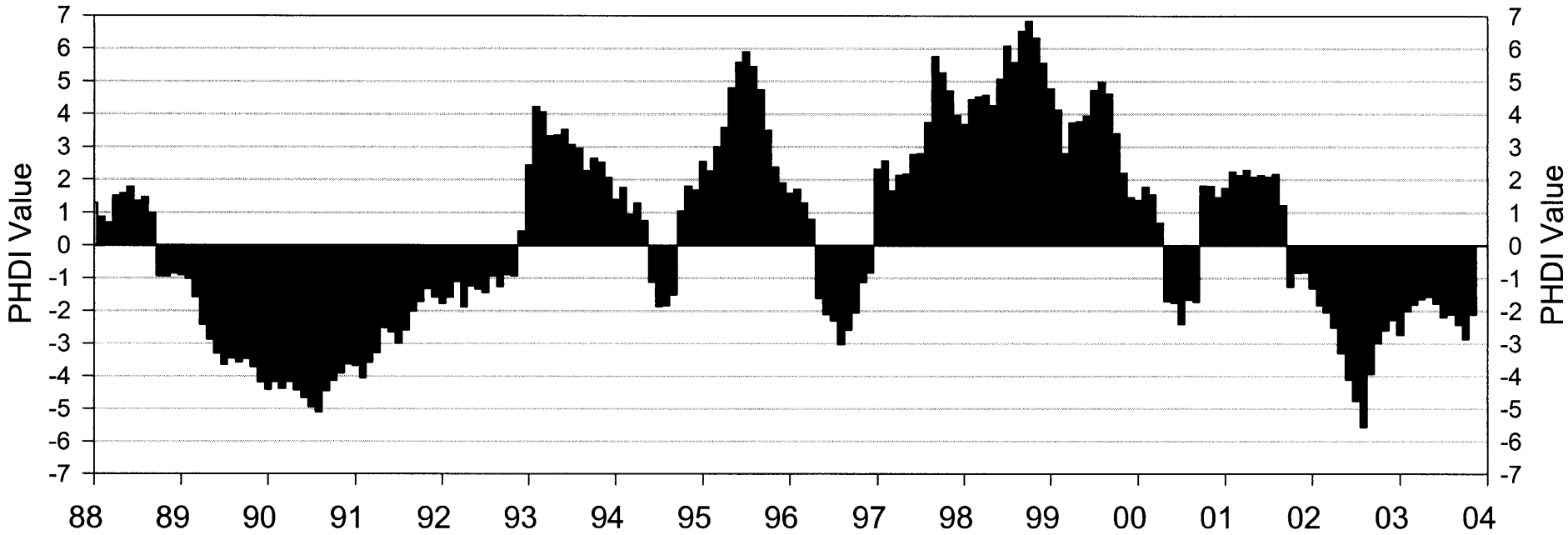
- Other than the permitted increase in the discharge rate to Crandall Canyon Creek resulting from the addition of mine discharge water, there is no indication that any mining-related impacts to the hydrologic balance occurred during 2003.



● Spring monitoring location

▲ Stream monitoring location

Figure 1 Hydrologic monitoring locations



-1 to -2	Mild Drought	1 to 2	Mild Wet Spell
-2 to -3	Moderate Drought	2 to 3	Moderate Wet Spell
-3 to -4	Severe Drought	3 to 4	Severe Wet Spell
-4 to -5	Extreme Drought	4 to 5	Extreme Wet Spell

Figure 2 Plot of Palmer Hydrologic Drought Index for Utah Region 4.

Table 1 Results of hydrologic monitoring at GENWAL's Crandall Canyon Mine permit area during 2003.

	Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Set Sol (mg/l)	DO (mg/l)	O&G (mg/l)	Tot Alk (mg/l)	Hard. (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	SO4 (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Anions (meq/l)	Cations (meq/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	Mn(d) (mg/l)	Mn(T) (mg/l)
Springs																											
SP-30	23-Mar-03	yes	0.0407	5.4	7.81	789																					
	13-Jun-03	yes	0.0353	11.2	7.97	804																					
	26-Sep-03	yes	0.0325	12.5	7.78	804																					
	5-Dec-03	yes	0.0295	4.3	7.98	772																					
SP-36	23-Mar-03	yes	1.28	6.9	7.94	615	364					295	330	360	<5.	50	8	58.5	44.6	7.46	0.98	7.2	6.9	<0.005	0.04	<0.005	<0.005
	13-Jun-03	yes	0.982	9.0	7.92	612	365	9	<0.1			299	341	365	<5.	50	7	62.4	45	6.77	1.11	7.2	7.1	<0.005	0.13	<0.005	0.007
	26-Sep-03	yes	0.641	11.5	7.69	642	358					316	365	385	<5.	52	6	65.6	48.8	6.94	1.37	7.6	7.6	<0.005	0.02	<0.005	<0.005
	5-Dec-03	yes	0.810	9.3	7.98	636	387					309	351	377	<5	52	7	63.3	46.9	7.58	1.38	7.5	7.4	<0.005	<0.02	<0.005	<0.005
SP-58	30-Jan-03	yes	17.9	4.9	7.31	626	400					284	380	346	<5.	92	2	87.7	39.2	4.08	1.72	7.6	7.8	<0.005	<0.02	<0.005	<0.005
	13-Jun-03	yes	38.9	4.8	7.68	642	436	<5.	<0.1			273	392	332	<5.	119	2	89.9	40.8	3.86	1.63	8	8.1	<0.005	<0.02	<0.005	<0.005
	26-Sep-03	yes	16.1	5.2	7.20	535	406					285	383	348	<5.	102	2	88.1	39.6	3.96	1.56	7.9	7.9	<0.005	<0.02	<0.005	<0.005
	4-Dec-03	yes	18.1	5.2	7.67	647	418					282	376	344	<5	102	3	88.1	38	4.95	1.68	7.8	7.8	0.007	<0.02	<0.005	<0.005
SP2-24	23-Mar-03	inaccessible																									
	14-Jun-03	yes	9.68	3.1	7.82	322	211	<5.	<0.1			143	175	174	<5.	5	3	49.5	12.4	1.34	7.54	3	3.7	<0.005	0.021	<0.005	<0.005
	20-Sep-03	yes	1.78	5.4	7.56	365	254					170	199	207	<5.	6	4	53.5	15.8	1.34	4.57	3.6	4.1	0.05	<0.02	<0.005	<0.005
	22-Oct-03	yes	1.27	5.0	7.96	383	226					178	199	217	<5	6	4	53.7	15.7	1.69	4.51	3.8	4.2	0.012	<0.02	<0.005	<0.005
SP2-9	23-Mar-03	inaccessible																									
	14-Jun-03	yes	5.86	4.0	7.81	261	176	8	<0.1			135	148	165	<5.	3	<1.	46.4	7.91	1.12	0.601	2.8	3	0.01	0.131	<0.005	<0.005
	20-Sep-02	yes	0.629	6.0	7.62	292	212					154	162	188	<5.	6	<1.	48.7	9.77	1.19	0.654	3.2	3.3	<0.005	0.783	<0.005	0.012
	22-Oct-03	yes	0.448	6.1	7.48	305	185					153	159	187	<5	7	<1	48.3	9.42	1.35	0.82	3.2	3.3	0.01	0.142	<0.005	<0.005
SP47A	23-Mar-03	inaccessible																									
	14-Jun-03	yes	1.51	5.4	7.38	333																					
	20-Sep-03	yes	0.112	8.8	7.59	336																					
	22-Oct-03	yes	0.169	8.5	7.28	346																					
SP1-3	23-Mar-03	inaccessible																									
	14-Jun-03	yes	0.573	5.3	7.88	190																					
	20-Sep-03	yes	0.167	4.6	7.94	267																					
	22-Oct-03	yes	0.124	4.4	7.74	287																					
SP1-19	23-Mar-03	inaccessible																									
	14-Jun-03	yes	97	4.2	7.78	388																					
	20-Sep-03	yes	3.35	7.0	7.71	451																					
	22-Oct-03	yes	2.21	6.8	7.81	483																					
SP1-22	2-Mar-03	inaccessible																									
	14-Jun-03	yes	7.39	4.2	7.90	261																					
	20-Sep-03	yes	0.749	7.5	7.70	332																					
	22-Oct-03	yes	0.487	8.4	7.89	348																					
SP1-33	23-Mar-03	inaccessible																									
	9-Jun-03	yes	1.90	4.3	7.71	336	288					259	272	316	<5.	17	2	71.9	22.4	4.03	0.979	5.6	5.6	<0.005	0.052	<0.005	<0.005
	21-Sep-03	yes	2.38	5.4	7.38	491	325					266	283	325	<5.	29	2	73.6	24	4.51	0.909	6	5.9	0.02	0.167	0.006	0.006
	22-Oct-03	yes	2.22	5.7	7.87	518	308					262	286	320	<5	28	2	74.9	24	4.19	1.09	5.9	5.9	<0.005	0.359	<0.005	0.011
SP1-47	23-Mar-03	inaccessible																									

	Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Set Sol (mg/l)	DO (mg/l)	O&G (mg/l)	Tot Alk (mg/l)	Hard. (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	SO4 (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Anions (meq/l)	Cations (meq/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	Mn(d) (mg/l)	Mn(T) (mg/l)
	9-Jun-03	yes	2.61	17.9	8.23	394																					
	21-Sep-03	yes	3.87	15.6	7.85	425																					
	21-Oct-03	yes	4.54	13.1	7.90	471																					
SP2-1	23-Mar-03	inaccessible																									
	9-Jun-03	yes	30.3	4.5	7.48	537																					
	21-Sep-03	yes	0.708	7.2	7.49	518																					
	22-Oct-03	yes	0.366	7.1	8.01	543																					
SP1-9	23-Mar-03	inaccessible																									
	14-Jun-03	yes	5.99	3.9	7.62	274	171	<5.	<0.1			141	155	172	<5.	10	<1.	42.8	11.8	1.7	0.839	3	3.2	0.007	0.046	<0.005	<0.005
	20-Sep-03	yes	0.696	6.4	7.77	333	232					176	183	215	<5.	13	<1.	48.6	15	1.66	0.929	3.8	3.8	<0.005	0.051	<0.005	<0.005
	22-Oct-03	yes	0.594	6.6	7.35	350	206					175	185	213	<5	13	<1	49.5	14.9	1.97	1.97	3.8	3.8	<0.005	<0.02	<0.005	<0.005
SP1-24	23-Mar-03	inaccessible																									
	14-Jun-03	yes	1.24	5.6	7.66	382																					
	20-Sep-03	yes	0.200	11.0	7.75	415																					
	22-Oct-03	yes	0.146	10.8	7.71	434																					
Streams																											
Up. Flume Crandall Ck.	23-Mar-03	yes	121	2.8	8.15	619	390	<5	<0.1	10.12	<2	245	351	289	5	109	3	73.9	40.5	4.9	1.48	7.3	7.3	<0.005	0.013	<0.005	<0.005
	13-Jun-03	yes	1,230	9.1	8.39	717	530	<5.	<0.1	8.63	<2.	205	415	238	6	213	2	98.2	41.2	4.9	1.33	8.6	8.5	<0.005	0.023	<0.005	<0.005
	23-Sep-03	yes	138	9.0	8.15	680	478	<5.	<0.1	8.16	<2.	243	419	293	<5.	178	2	89.2	47.7	4.6	1.71	8.6	8.6	<0.005	0.153	<0.005	<0.005
	9-Dec-03	yes	86	0.4	8.38	697	478	<5	<0.1	9.41	<2	263	427	321	<5	164	3	91.8	48	4.61	1.64	8.8	8.8	<0.005	<0.02	<0.005	<0.005
Low. Flume Crandall Ck.	23-Mar-03	yes	884	10.4	8.06	722	425	<5.	<0.1	8.1	<2.	247	319	296	<5.	112	21	63.9	38.8	33	6.45	7.8	8	<0.005	0.056	0.006	0.007
	13-Jun-03	yes	2,810	10.8	8.07	715	509	<5.	<0.1	8.56	<2.	213	363	249	<5.	162	8	79.2	40.2	24.4	4.8	7.8	8.4	<0.005	0.042	<0.005	<0.005
	23-Sep-03	yes	499	11.4	7.92	766	506	5	<0.1	7.86	<2.	332	391	405	<5.	132	12	79.2	47	37.6	6.8	9.7	9.6	<0.005	0.095	0.007	0.011
	9-Dec-03	yes	1177	10.0	8.29	847	493	<5	<0.1	7.74	<2	343	371	415	<5	121	17	75.5	44.3	42.4	7.09	9.8	9.4	0.006	0.049	0.005	0.01
Horse Canyon Creek	23-Mar-03	yes	145	2.2	8.45	539	343	6	<0.1	10.8	<2.	220	297	257	6	78	4	58.9	36.4	8.06	1.61	6.1	6.3	0.005	0.219	<0.004	0.013
	13-Jun-03	yes	198	12.6	8.45	457	311	8	<0.1	7.71	<2.	214	257	246	8	51	3	56.1	28.3	5.56	1.33	5.4	5.4	<0.005	0.311	<0.005	0.022
	22-Sep-03	yes	37.7	7.5	8.19	698	504	8	<0.1	8.47	<2.	289	445	348	<5.	153	6	82.3	58.2	15	3.47	9.1	9.6	<0.005	0.141	<0.005	0.006
	9-Dec-03	yes	33	0.5	8.55	688	442	<5	<0.1	9.79	<2	294	384	356	<5	121	5	74.6	48	11.1	2.56	8.5	8.2	<0.005	0.039	<0.005	<0.005
Blind Canyon Creek	23-Mar-03	yes	60	0.5	8.41	494	307	19	<0.1	10.9	<2.	273	298	321	6	42	3	55.9	38.4	4.29	1.25	6.4	6.2	<0.005	0.155	<0.005	0.008
	13-Jun-03	yes	231	11.9	8.45	427	273	6	<0.1	8.18	<2.	219	259	244	11	30	2	56.8	28.4	5.42	1.07	5	5.4	<0.005	0.182	0.012	0.012
	22-Sep-03	yes	18.8	7.0	8.14	492	339	7	<0.1	8.87	<2.	278	320	327	6	35	3	58.7	42	3.89	1.99	6.4	6.6	<0.005	0.15	<0.005	<0.005
	9-Dec-03	yes	21.5	0.4	8.61	535	306	<5	<0.1	9.89	<2	286	318	343	<5	42	3	62.1	39.6	4.09	1.59	6.6	6.6	<0.005	0.116	<0.005	<0.005
Indian Creek	23-Mar-03	inaccessible																									
	9-Jun-03	yes	1,130	7.7	8.08	388	286	5	<0.1	8.32	<2.	267	275	313	6	14	1	78	19.6	4.66	0.515	5.6	5.7	<0.005	0.095	0.008	0.012
	21-Sep-03	yes	274	8.9	8.05	441	296	9	<0.1	8.41	<2.	267	260	326	<5.	8	2	67.8	22	3.06	0.538	5.6	5.3	<0.005	0.073	0.006	0.009
	21-Oct-03	yes	263	9.4	7.98	478	288	10	<0.1	7.77	<2	261	265	318	<5	9	2	69.5	22.1	2.79	0.741	5.5	5.4	<0.005	0.353	<0.005	0.02
UPDES																											
001 -- Sed Pond Disch.	31-Jan-03	yes	0																								
	11-Feb-03	yes	0																								
	4-Mar-03	yes	0																								
	16-Apr-03	yes	0																								
	22-May-03	yes	0																								
	25-Jun-03	yes	0																								

	Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Set Sol (mg/l)	DO (mg/l)	O&G (mg/l)	Tot Alk (mg/l)	Hard. (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	SO4 (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Anions (meq/l)	Cations (meq/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	Mn(d) (mg/l)	Mn(T) (mg/l)
	28-Jul-03	yes	0																								
	18-Aug-03	yes	0																								
	25-Sep-03	yes	0																								
	30-Oct-03	yes	0																								
	30-Nov-03	yes	0																								
	29-Dec-03	yes	0																								
002 -- Mine Water Disch.	31-Jan-03	yes	700	11.1	7.4	672	398	<5.		6.4								55.2	34.6	32.8	8.51			<0.005	0.069	0.006	0.006
	11-Feb-03	yes	250	8.2	7.3	695	395	<5.		6.8		260		317	<5.	104	11							<0.005	0.091		0.006
	4-Mar-03	yes	975	11.2	7.7	687	417	<5.		2.2	3													<0.005	0.03		0.006
	16-Apr-03	yes	1050	7.6	7.2	703	448	<5		6.8	2													<0.005	0.135		
	22-May-03	yes	900	13.6	7.8	711	427	<5		8.1	<2													<0.005	0.021	<0.005	
	25-Jun-03	yes	1050	13.2	7.8	739	430	<5		8.4								65.4	39.9	42.5	8.41			<0.005	0.028	<0.005	
	28-Jul-03	yes	900	13.5	7.9	772	499	6		8.1														<0.005	0.301		0.016
	18-Aug-03	yes	1050	12.9	7.7	796	504	<5		9.7	<2													<0.005	<0.02		<0.005
	25-Sep-03	yes	1050	14.1	7.6	776	501	<5		8.9								71.6	43.8	45.9	8.38			0.012	0.059	<0.005	<0.005
	29-Oct-03	yes	1050	10.0	7.9	799	494	<5		8.6	<2													<0.005	0.031		<0.005
	30-Oct-03	yes	1050	10.0	7.9	806	549	<5		8.6		350	359	427	<5	110	9	72.6	43.1	46.4	8.4	9.5	9.4	0.018	<0.02	<0.005	<0.005
	30-Nov-03	yes	1050	9.5	7.4	833	508	<5		4.7														0.007	0.079		
	29-Dec-03	yes	1050	8.0	7.8	796	471	<5		2.5	<2													<0.005	0.041		
In-Mine Monitoring Wells																											
DH-1	11-Feb-03	yes	dry																								
	22-May-03	yes	dry																								
	18-Aug-03	yes	dry																								
	30-Nov-03	yes	dry																								
DH-2	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-1	11-Feb-03	yes	0																								
	22-May-03	yes	0																								
	18-Aug-03	yes	0																								
	30-Nov-03	yes	0																								
MW-2	11-Feb-03	flooded																									
	22-May-03	flooded																									
	18-Aug-03	flooded																									
	30-Nov-03	flooded																									
MW-3	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-4	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-5	11-Feb-03	destroyed																									
	22-May-03	destroyed																									
	18-Aug-03	destroyed																									
	30-Nov-03	destroyed																									

	Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Set Sol (mg/l)	DO (mg/l)	O&G (mg/l)	Tot Alk (mg/l)	Hard. (mg/l)	HCO3 (mg/l)	CO3 (mg/l)	SO4 (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Anions (meq/l)	Cations (meq/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	Mn(d) (mg/l)	Mn(T) (mg/l)
MW-6	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-6a	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-7	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									
MW-8	11-Feb-03	Inaccessible																									
	22-May-03	Inaccessible																									
	18-Aug-03	Inaccessible																									
	30-Nov-03	Inaccessible																									

Table 2 Solute compositions and discharge rates of streams, springs and wells in the GENWAL permit area.

summer's table revised for annual report 2003.xls 25 Mar 04

Streams

L. Flume (Crandall Creek)

Date	flow gpm	T °C	pH	Cond. µS/cm	TDS mg/l	Ca^{2+} mg/l	Mg^{2+} mg/l	Na+ mg/l	K+ mg/l	HCO3- mg/l	CO3- mg/l	SO42- mg/l	Cl- mg/l	Fe(T) mg/l	Fe(d) mg/l	Mn(T) mg/l	Mn(d) mg/l
11-Mar-88	76.3	3.00	8.24	743	384	64.0	36.5	10.6	3.3	289	0	91.0	5.8		<0.05	<0.01	
31-May-88	350.1	3.60	8.14	528	252	64.0	21.9	4.7	2.8	269	0	18.0	4.1		<0.05	0.02	
30-Sep-88	58.3	9.90	7.68	483	256	60.0	25.5	6.9	1.6	267	16	38.1	5.6		<0.05	<0.01	
2-Nov-88	62.8	6.80	8.40	670	330	60.0	42.6	8.6	2.5	298	0	73.3	4.2	<0.05		<0.01	
31-Mar-89					298	56.5	29.4	5.8	1.4	259	7	0.0	20.0		0.03	<0.01	
22-Jun-89					198	56.3	23.1	3.9	0.7	248	<1	28.0	25.0	<0.02	<0.02	<0.01	
28-Sep-89					32	57.6	32.2	5.3	0.4	314	<1	25.0	10.0	<0.02	<0.02	<0.01	
18-Dec-89					326	68.7	29.2	5.4	0.1	294	<1	40.0	10.0	0.06		<0.01	
30-Jan-90					291	60.7	28.4	1.0	0.4	292	<1	33.0	10.0	<0.02	<0.02	<0.01	
18-Jan-90	4.5	3.10	7.20	450													
30-Jan-90					291	60.7	28.4	1.0	0.4	292	<1	33.0	10.0	<0.02	<0.02	<0.01	
13-Apr-90					225	66.0	28.0	3.3	4.6	274	<1	35.0	20.0		<0.02	0.02	
14-Apr-90	430.9	3.20	7.20	448													
23-Jul-90	502.7	3.30	7.20	448													
24-Jul-90					254	61.8	21.6	3.4	0.0	270	<1	28.0	10.0		<0.02	0.02	
11-Oct-90	103.2	4.80	7.60	300													
12-Oct-90					189	70.5	30.5	5.6	0.0	363	<1	22.0	5.0	<0.02	<0.02	<0.01	
12-Jan-91	148.1	2.80	8.46	300													
14-Jan-91					323	86.7	39.7	9.3	0.6	346	<1	43.0	70.0	0.03	0.03	0.39	
4-Apr-91	148.1	1.40	8.00	330	318	69.0	28.1	5.0	0.5	252	<1	47.0	15.0	<0.02	<0.02	<0.01	
21-Jul-91	538.6	4.90	7.20	500													
11-Oct-91	237.8	7.00	8.26	600	298	74.6	24.9	4.1	0.0	270	<1	52.0	15.0		0.09		
8-Mar-92	44.9	3.33	7.60	400	564	99.7	28.9	75.1	1.0	326	0	58.0	125.0	0.00	0.00	0.00	
18-Jun-92	116.7	17.33	8.24	513	265	71.5	19.0	3.1	0.0	228	5	30.0	20.0	0.00		0.00	
30-Sep-92	134.6	16.1	8.2	550	357	91.2	24.1	3.1	0.0	406	0	50.0	10.0	0.44		0.06	
16-Dec-92	224.4	0.6	7.9	620	254	93.4	35.5	10.3	1.3	301	0	100.0	15.0	0.10	0.05	0.00	
4-Mar-93	234.0	1.0	7.8	490	615	68.8	27.9	94.1	0.0	311	0	60.0	164.0	0.12	0.00	0.00	
3-Jun-93	6500.0	12.0	8.1	300	244	57.8	20.2	4.8	0.6	248	0	19.0	4.9	0.28	<0.5	<0.03	
1-Jul-93	290.0	10.0	8.1	540	249	57.7	21.3	5.7	0.1	253	0	24.0	5.3	<0.05	0.05	<0.03	
25-Oct-93	380.0	7.0	7.2	440	368	59.0	32.0	9.0	<2	281	<1	50.0	28.0	<0.2	<0.2	0.10	
9-Feb-94	220.0	29.4	7.3	506	265	46.0	35.0	4.5	1.7	296	0	29.0	4.1	0.00		0.00	
15-Jul-94	30.0	57.2	7.6	610	301	46.0	30.0	21.0	1.9	246	0	46.0	31.0	0.09	0.21	<.02	
6-Sep-94	40.0	46.4	7.6	848	308	42.0	31.0	25.0	2.4	241	0	44.0	40.0	0.13	<.05	<.02	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	22-Nov-94	125.0	28.4	6.7		450	65.0	40.0	38.0	<5	290	0	50.0	68.0	<.2	<.2	<.2	
	10-Mar-95	184.0	0.0	7.9	480	700	70.0	55.0	113.0	3.0	260	20	75.0	230.0	0.10	<0.1	<0.1	
	16-May-95	535.0	7.0	8.2	380	310	60.0	31.0	10.0	2.0	240	240	42.0	15.0	0.40	<0.1	<0.1	
	10-Aug-95	636.0	12.0	8.4	534	290	55.0	25.0	10.0	1.0	249	14	34.0	14.0	0.1<	<0.1	<0.1	
	28-Nov-95	71.6	10.0	8.8	546	390	61.0	37.0	19.0	4.0	240	15	82.0	21.0	0.1<	<0.1	<0.1	
	26-Mar-96	150.0	1.0	8.1	640	328	57.0	35.0	6.0	1.1	350	<2	28.0	10.0	0.18	<.03		<.04
	26-Jun-96					266	56.0	24.0	8.0	2.0	254	18	29.0	11.0	<.1	<.1		<0.1
	16-Aug-96	15.0	15.0	7.3	605	327	53.0	37.0	17.0	4.0	246	16	45.0	17.0	<.1	<.2		<0.1
	24-Oct-96	2.5	0.0	8.3	686	377	61.0	41.0	17.0	3.0	318	<5	62.0	20.0	<.1	<.1		<0.1
	25-Mar-97	11.3	10.0	8.7	670	422	61.0	37.5	14.8	2.0	300	<1	62.1	23.0	<0.02	0.03		<0.05
	5-May-97	224.4	6.0	8.6	724	330	52.2	31.8	8.7	1.7	267	<1	44.9	9.5	0.07	<0.02		<0.05
	20-Aug-97	673.2	8.0	8.0	620	370	68.0	36.0	15.0	4.0	353	<5	59.0	9.0	0.10	<0.1	<0.1	
	7-Oct-97	507.1	7.0	8.0	569	370	71.0	38.0	18.0	4.0	368	<5	100.0	7.6	0.30	<0.1	<0.1	
	8-Sep-98			8.2	655	405	71.0	37.0	16.0	4.0	366	<5	66.0	10.0	0.50	<0.1	<0.1	
	4-Mar-99	399.0	3.0	8.2	454	435	79.0	43.0	19.0	2.0	334	<5	101.0	31.0	<0.1	<0.1	<0.1	
	10-Jun-99	4406.0				292	83.0	29.0	7.0	2.0	294	<5	33.0	4.0	0.1	<0.1	<0.1	
	15-Sep-99	502.0	7.3	8.6	500	410	71.1	38.7	10.5	2.0	318	<1	70.0	12.0	0.12	<0.02	0.01	
	4-Nov-99	336.0	10.0	8.5	592	450	50.7	46.5	31.2	5.9	325	<1	88.0	29.0	0.08	<0.02	<0.01	
	20-Jun-00	1135	10.6	8.33	539	333	60	30	7	2	275	<5	56	8	<0.1	<0.1	<0.1	<0.1
	14-Sep-00	1210	11.2	7.99	708	413	63	37	30	6	344	<5	93	12	<0.1	<0.1	<0.1	<0.1
	9-Dec-00	1135	9	8.15	717	401	63	37	30	6	345	<5	95	12	<0.1	<0.1	<0.1	<0.1
	13-Mar-01	1819	10	7.5	747	488	49	32	67	6	353	<5	98	30	0.2	<0.1	<0.1	<0.1
	1-May-01	1436	10.9	7.8	678	398	57	35	40	8	331	<5	88	20	<0.1	<0.1	<0.1	<0.1
	9-Sep-01	276	8.5	8.18	637	479	73	40	16	2	314	<5	128	21.2	<0.1	<0.1	<0.05	<0.05
	29-Oct-01	221	4.7	8.27	696	485	79	43	15	2	328	<5	124.8	17.7	<0.1	<0.1	<0.05	<0.05
	21-Mar-02	1283	9.5	8.15	710	385	58	35	44	7	336	<5.	106	19	<0.1	<0.1	<0.05	<0.05
	8-Jun-02	1308	12.7	8.49	797	522	75	44	35	6	304	<5.	184	13	<0.1	<0.1	<0.05	<0.05
	27-Sep-02	972	11.5	8.05	708	442	62	40	36	7	318	<5.	126	14	0.1	<0.1	<0.05	<0.05
	19-Nov-02	614	9.9	7.94	708	441	62	37	29	7	319	<5	121	13	<0.1	<0.1	<0.05	<0.05
	23-Mar-03	884	10.4	8.06	722	425	63.9	38.8	33	6.45	296	<5.	112	21	0.056	<0.005	0.007	0.006
	13-Jun-03	2,810	10.8	8.07	715	509	79.2	40.2	24.4	4.8	249	<5.	162	8	0.042	<0.005	<0.005	<0.005
	23-Sep-03	499	11.4	7.92	766	506	79.2	47	37.6	6.8	405	<5.	132	12	0.095	<0.005	0.011	0.007
	9-Dec-03	1177	10.0	8.29	847	493	75.5	44.3	42.4	7.09	415	<5	121	17	0.049	0.006	0.01	0.005
U. Flume (Crandall Creek)	11-Mar-88	112.2	1.6	8.6	755	296	58.0	17.0	4.3	1.6	284	0	35.1	4.4		<0.05	0.01	
	31-May-88	561.0	3.5	8.2	463	276	62.0	21.9	4.8	5.0	264	0	16.2	5.7		<0.05	0.01	
	30-Sep-88	67.3	9.8	7.7	430	232	56.0	28.0	5.3	1.2	235	24	27.1	8.0		<0.05		<0.01

Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
	gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
2-Nov-88	80.8	6.7	8.4	478	252	50.0	30.4	4.1	1.1	246	0	32.2	3.4	<0.05		<0.01	
31-Mar-89					198	53.3	30.7	3.8	0.9	272	25	30.0	15.0		<0.02	<0.01	
22-Jun-89					198	50.5	22.1	2.8	1.1	228	<1	25.0	5.0	<0.02	<0.02	<0.01	
28-Sep-89					265	52.9	27.6	3.7	0.1	273	<1	20.0	10.0	<0.02	<0.02	<0.01	
18-Dec-89					289	60.2	24.2	1.2	0.0	224	<1	45.0	15.0	<0.02		<0.01	
29-Jan-90					282	67.7	26.3	0.9	0.2	266	<1	50.0	10.0		<0.02	<0.01	
18-Jan-90	3.5	2.9	7.0	400													
30-Jan-90					282	67.7	26.3	0.9	0.2	266	<1	50.0	10.0		<0.02	<0.01	
13-Apr-90					185	89.9	24.6	4.9	4.5	325	<1	40.0	20.0		<0.02		<0.01
14-Apr-90	430.9	3.0	7.0	400													
23-Jul-90	430.9	3.2	7.1	410													
24-Jul-90					247	62.2	21.3	2.8	0.0	251	<1	32.0	15.0		<0.02	0.03	
11-Oct-90	170.5	5.2	7.5	300													
12-Oct-90					261	63.4	22.4	2.0	0.0	279	<1	25.0	10.0	<0.02	<0.02	0.02	
12-Jan-91		3.2	8.5	300													
14-Jan-91					300	76.6	33.1	4.9	0.1	323	<1	27.0	45.0	0.09	0.11	0.24	
4-Apr-91	368.0	1.4	8.0	400	290	67.9	24.8	2.9	0.0	252	<1	33.0	25.0	<0.02	<0.02	<0.01	
21-Jul-91	852.7	5.1	7.0	500	234	56.5	22.9	2.8	1.8	261	<1	23.0	5.0	<0.02	<0.02	0.05	
11-Oct-91	273.8	8.0	8.5	600	262	67.7	25.9	3.0	0.0	263	<1	36.0	10.0		0.05		
8-Mar-92	67.3	1.1	7.5	300	320	72.2	22.2	3.2	0.0	274	0	32.0	20.0	0.00		0.00	
18-Jun-92	161.6	16.8	8.2	517	250	53.5	26.8	1.4	0.0	217	5	27.0	10.0	0.00		0.00	
30-Sep-92	94.3	13.3	8.2	600	288	63.9	23.7	1.3	0.0	224	0	28.0	20.0	0.13		0.00	
4-Mar-93	68.7	0.8	7.9	440	611	56.7	25.7	3.2	1.4	306	0	60.0	3.3	1.20	0.14	0.00	
3-Jun-93	5386.0	3.0	8.2	300	245	60.3	18.0	3.0	0.2	244	0	18.0	3.9	0.34	<0.05	<0.03	
1-Jul-93	129.0	9.4	8.1	427	231	54.8	20.0	23.1	<0.10	247	0	26.0	2.3	<0.05	<0.05	<0.03	
25-Oct-93	147.0	6.0	7.9	440	297	56.0	28.0	4.0	<2.0	194	<1	28.0	6.0	<0.20	<0.20	<0.10	
9-Feb-94	168.0	32.0	7.2		409	55.0	44.0	39.0	1.7	312	3						
15-Jul-94	70.0	55.4	7.6	430	228	44.0	26.0	4.1	1.1	227	0						
6-Sep-94	50.0	41.0	7.6	613	225	41.0	25.0	5.0	<10	241	0						
22-Nov-94	125.0	28.4	6.8		280	58.0	30.0	<5	<5	260	<1						
10-Mar-95	180.0	0.6	7.9	450	280	55.0	30.0	6.0	2.0	245	10	25.0	6.0	<0.1	<0.1	<0.1	
16-May-95	522.0	8.0	8.0	490	260	60.0	31.0	5.0	1.0	250	20	38.0	10.0	0.30	<0.1	<0.1	
10-Aug-95	254.0	11.0	8.9	467	230	56.0	23.0	5.0	<1	248	13	27.0	55.0	<0.1	<0.1	<0.1	
28-Nov-95	47.7	6.0	9.2	432	290	62.0	27.0	5.0	<1	250	15	31.0	20.0	<0.1	<0.1	<0.1	
26-Mar-96	150.0	1.0	8.0	580	322	61.0	30.0	4.0	<.3	314	<2	38.0	5.0	0.19	<.03		<.04
26-Jun-96					266	52.0	21.0	4.0	<1	240	13	24.0	4.0	<0.1	<0.1		<0.1
16-Aug-96	15.0	14.0	8.3	499	261	55.0	29.0	5.0	<1	232	25	29.0	7.0	<0.1	<0.1		<0.1

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	24-Oct-96	2.0	3.0	8.2	564	312	60.0	34.0	6.0	1.0	326	<5	38.0	7.0	<0.1	<0.1		<0.1
	25-Mar-97	11.2	3.0	8.4	730	370	59.9	35.0	4.7	1.6	293	<1	50.6	3.9	<0.005		<0.05	
	5-May-97	47.0	6.0	9.0	656	314	59.9	35.0	4.7	1.6	293	<1	50.6	3.9	<0.02	<0.02	<0.05	
	20-Aug-97	673.2	8.0	7.7	502	310		31.0	5.0	1.0	301	<5	48.0	4.0	270.00	<0.1		<0.1
	1-Oct-97	507.1	6.0	7.9	641	320	68.0	32.0	5.0	<1	352	<5	48.0	4.0	<0.1	<0.1	<0.1	
	8-Sep-98			8.4	548	337	70.0	33.0	4.0	1.0	321	<5	50.0	3.0	0.60	<0.1	<0.1	
	4-Mar-99	367.0	3.0	8.1	380	344	71.0	37.0	5.0	2.0	356	<5	79.0	4.0	<0.1	<0.1	<0.1	
	10-Jun-99	4173.0				256	64.0	21.0	3.0	<1	272	<5	21.0	1.0	0.1	<0.1	<0.1	
	15-Sep-99	467.0	7.2	8.0	480	370	62.1	35.2	4.4	1.4	283	<1	57.0	7.0	0.09	<0.02	0.01	
	4-Nov-99	305.0	12.0	7.9	479	340	61.0	40.6	4.2	1.7	313	<1	63.0	7.0	0.05	<0.02	<0.01	
	20-Jun-00	950	8.7	8.31	479	304	59	27	3	<1	270	<5	45	2	<0.1	<0.1	<0.1	<0.1
	14-Sep-00	321	9.2	8.06	557	325	60	34	5	2	281	<5	76	3	<0.1	<0.1	<0.1	<0.1
	9-Dec-00	350	-0.3	8.26	590	333	66	36	4	1	324	<5	73	2	<0.1	<0.1	<0.1	<0.1
	13-Mar-01	234	3.6	7.8	583	383	62	37	4	1	311	<5	84	2	<0.1	<0.1	<0.1	<0.1
	1-May-01	383	10.8	7.9	567	336	63	38	4	1	303	<5	81	3	<0.1	<0.1	<0.1	<0.1
	9-Sep-01	367	9.3	8.36	549	419	69	37	5	1	284	<5	124	3.1	<0.1	<0.1	<0.05	<0.05
	29-Oct-01	262	3.7	8.39	592	406	71	39	5	2	306	<5	98.9	3	<0.1	<0.1	<0.05	<0.05
	21-Mar-02	182	1.2	8.23	533	302	68	38	5	<1.	306	<5.	102	3	<0.1	<0.1	<0.05	<0.05
	8-Jun-02	539	14.3	8.15	901	678	111	60	6	2	245	<5.	341	2	<0.1	<0.1	<0.05	<0.05
	27-Sep-02	124	7.3	8.21	575	377	67	39	6	1	270	<5.	114	2	<0.1	<0.1	<0.05	<0.05
	19-Nov-02	117	0.5	8.01	604	419	68	36	4	1	309	<5	118	3	<0.1	<0.1	<0.05	<0.05
	23-Mar-03	121	2.8	8.15	619	390	73.9	40.5	4.9	1.48	289	5	109	3	0.013	<0.005	<0.005	<0.005
	13-Jun-03	1,230	9.1	8.39	717	530	98.2	41.2	4.9	1.33	238	6	213	2	0.023	<0.005	<0.005	<0.005
	23-Sep-03	138	9.0	8.15	680	478	89.2	47.7	4.6	1.71	293	<5.	178	2	0.153	<0.005	<0.005	<0.005
	9-Dec-03	86	0.4	8.38	697	478	91.8	48	4.61	1.64	321	<5	164	3	<0.02	<0.005	<0.005	<0.005
Blind cyn flume	12-Jan-91		4.2	8.6	300													
	14-Jan-91					293	58.2	40.7	4.6	0.2	325	<1	23.0	55.0	0.38	0.34	0.26	
	4-Apr-91		0.9	8.5	200	257	52.3	21.0	1.3	1.6	207	<1	23.0	20.0	0.05	<0.02	<0.01	
	21-Jul-91	368.0	10.5		600	253	56.6	26.9	11.9	2.2	279	<1	9.0	10.0	<0.02	0.06	0.17	
	11-Oct-91	67.3	7.0	8.5	600	279	71.4	22.8	3.9	0.0	318	<1	10.0	15.0		0.11		
	8-Mar-92	Frozen	0.0	7.4	400	315	85.4	25.9	3.1	0.0	312	0	22.0	20.0		0.00	0.05	
	18-Jun-92	80.8	10.1	8.4	624	241	69.4	21.9	0.3	0.0	259	6	7.0	30.0		0.00	0.00	
	30-Sep-92	0.0																
	16-Dec-92	0.0																
	3-Jun-93	1.0	4.5	8.4	300	234	52.5	19.3	1.8	<0.10	246	0	11.0	3.1	0.53	0.06	<0.03	
	1-Jul-93	1.0	10.1	7.8	517	245	49.2	21.6	21.2	<0.10	257	0	18.0	3.6	1.35	0.06	<0.03	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	25-Oct-93	0.0																
	15-Jul-94	dry																
	6-Sep-94	dry																
	16-May-95	147.0	9.0	8.4	610	300	61.0	33.0	4.0	2.0	265	25	24.0	5.0	1.00	<0.01	<0.1	
	9-Aug-95	0.0																
	28-Nov-95	0.0																
	5-May-97	0.0																
	15-Aug-97	0.0																
	9-Oct-97	0.0																
	8-Sep-98			8.4	497	296	50.0	37.0	4.0	1.0	281	13	24.0	4.0	0.10	<0.01	<0.1	
	15-Sep-99	26.0	10.0	8.1	580	450	54.1	61.2	10.2	2.0	378	9	56.0	11.0	0.04	<0.02	<0.01	
	4-Nov-99	1.0	11.0	8.2	517	380	51.2	64.1	9.6	2.0	389	<1	55.0	11.0	0.06	<0.02	<0.01	
	20-Jun-00	173	13.9	8.61	482	290	51	32	2	1	289	<5	29	2	0.1	<0.1	<0.1	<0.1
	14-Sep-00	54	10.1	8.27	514	303	49	37	4	2	312	<5	25	3	0.1	<0.1	<0.1	<0.1
	8-Dec-00	10	-0.4	8.4	511	337	56	38	4	1	356	<5	30	3	0.3	<0.1	<0.1	<0.1
	14-Mar-01	50	0	8.3	500	337	54	40	5	1	354	<5	34	3	<0.1	<0.1	<0.1	<0.1
	2-May-01	488	3.3	8.6	422	261	54	28	2	<1	267	11	21	2	0.4	<0.1	<0.1	<0.1
	9-Sep-01	24.8	7.6	8.43	458	324	50	35	4	1	312	<5	28	3.2	<0.1	<0.1	<0.05	<0.05
	29-Oct-01	39.9	3.4	8.54	511	347	55	38	4	1	332	<5	31.7	3.2	<0.1	<0.1	<0.05	<0.05
	21-Mar-02	30	0.1	8.42	452	245	53	37	5	1	324	<5.	34	3	0.3	<0.1	<0.05	<0.05
	8-Jun-02	95	17.6	8.24	445	262	46	32	5	1	278	<5.	30	2	0.2	<0.1	<0.05	<0.05
	27-Sep-02	9.3	6.3	8.46	514	296	50	41	6	2	309	7	36	3	0.1	<0.1	<0.05	<0.05
	19-Nov-02	17.4	0.0	8.19	510	315	59	40	4	1	348	<5	40	3	<0.1	<0.1	<0.05	<0.05
	23-Mar-03	60	0.5	8.41	494	307	55.9	38.4	4.29	1.25	321	6	42	3	0.155	<0.005	0.008	<0.005
	13-Jun-03	231	11.9	8.45	427	273	56.8	28.4	5.42	1.07	244	11	30	2	0.182	<0.005	0.012	0.012
	22-Sep-03	18.8	7.0	8.14	492	339	58.7	42	3.89	1.99	327	6	35	3	0.15	<0.005	<0.005	<0.005
	9-Dec-03	21.5	0.4	8.61	535	306	62.1	39.6	4.09	1.59	343	<5	42	3	0.116	<0.005	<0.005	<0.005
Horse Canyon	22-Nov-94	6.0	-2.0	6.8		340	65.0	40.0	7.0	<5	290	0	50.0	8.0	2.00	<.2	<.2	
	16-May-95	387.0	9.0	8.3	440	290	58.0	30.0	5.0	1.0	240	30	21.0	1.0	0.70	<0.1	<0.1	
	9-Aug-95	72.0	10.0	8.1	765	280	50.0	33.0	7.0	1.0	274	17	25.0	6.0	0.20	<0.1	<0.1	
	28-Nov-95	15.9	9.0	8.9	436	280	62.0	35.0	6.0	1.0	280	25	30.0	7.0	0.10	<0.1	<0.1	
	26-Mar-96	280.0	1.0	7.9	340	128	57.0	35.0	6.0	1.1	350	<2	28.0	10.0	0.18	<.03		<.04
	13-Jun-96					203	45.0	16.0	3.0	<1	212	12	<1	5.0	<.1	<0.1		<0.1
	12-Aug-96	7.0	14.0	8.0	509	270	41.0	36.0	6.0	1.0	245	17	30.0	7.0	<.1	<0.1		<0.1
	24-Oct-96	3.0	0.0	8.9	584	301	55.0	37.0	6.0	1.0	331	<5	16.0	7.0	<.1	<0.1		<0.1
	25-Mar-97	12.6	3.0	8.6	789	410	59.1	41.2	6.1	1.5	344	<1	34.8	6.1	0.23	<0.2		0.02

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	5-May-97	64.0	5.0	8.7	608	284	57.1	30.4	4.3	1.0	279	4	21.6	3.9	0.21	<0.02		0.01
	20-Aug-97	60.0	9.0	7.8	438	270	45.0	27.0	4.0	<1	<10	<5	17.0	<0.1	<0.1		<0.1	
	7-Oct-97	179.5	7.0	8.0	473	260	63.0	30.0	4.0	<1	321	<5	16.0	5.0	0.20	<0.1	<0.1	
	8-Sep-98			8.5	557	346	62.0	38.0	7.0	2.0	276	31	43.0	5.0	0.50	<0.1	<0.1	
	10-Jun-99	337.0				229	57.0	22.0	3.0	<1	250	<5	13.0	2.0	0.2	<0.1	<0.1	
	15-Sep-99	860.0	7.0	8.1	400	410	61.5	42.3	8.6	1.9	320	<1	58.0	8.0	0.11	<0.02	0.02	
	4-Nov-99	352.0	10.0	8.3	502	400	55.4	46.4	8.4	2.2	353	<1	60.0	8.0	0.17	<0.02	0.01	
	20-Jun-00	235	15.9	8.33	522	321	56	32	5	1	303	<5	43	3	0.1	<0.1	<0.1	<0.1
	14-Sep-00	80	11.6	8.21	675	422	64	44	13	3	308	12	108	5	<0.1	<0.1	<0.1	<0.1
	8-Dec-00	75	0	8.4	622	399	67	42	10	2	339	<5	96	4	0.2	<0.1	<0.1	<0.1
	14-Mar-01	102	0.7	8.2	594	415	65	43	9	2	340	<5	88	5	<0.1	<0.1	<0.1	<0.1
	2-May-01	970	3.2	8.5	372	238	49	22	2	<1	217	8	22	2	0.6	<0.1	<0.1	<0.1
	9-Sep-01	68	10	8.42	674	527	75	49	15	3	330	<5	170	6.9	<0.1	<0.1	<0.05	<0.05
	29-Oct-01	69.3	4.3	8.49	719	516	80	50	14	2	361	<5	150.8	5.7	0.1	<0.1	<0.05	<0.05
	21-Mar-02	85.7	1.3	8.41	537	363	69	43	11	2	318	<5.	112	5	0.3	<0.1	<0.05	<0.05
	8-Jun-02	104	18.9	8.34	586	376	61	39	11	2	279	8	96	4	0.5	<0.1	<0.05	<0.05
	27-Sep-02	47.2	7.7	8.44	727	481	75	52	17	3	318	10	155	6	0.1	<0.1	<0.05	<0.05
	19-Nov-02	52.9	0.6	8.23	696	474	71	46	13	3	338	<5	145	5	<0.1	<0.1	<0.05	<0.05
	23-Mar-03	145	2.2	8.45	539	343	58.9	36.4	8.06	1.61	257	6	78	4	0.219	0.005	0.013	<0.004
	13-Jun-03	198	12.6	8.45	457	311	56.1	28.3	5.56	1.33	246	8	51	3	0.311	<0.005	0.022	<0.005
	22-Sep-03	37.7	7.5	8.19	698	504	82.3	58.2	15	3.47	348	<5.	153	6	0.141	<0.005	0.006	<0.005
	9-Dec-03	33	0.5	8.55	688	442	74.6	48	11.1	2.56	356	<5	121	5	0.039	<0.005	<0.005	<0.005
Indian Creek	26-Jun-96					290	67.0	19.0	3.0	<1	302	9	5.0	2.0		<0.1	<0.1	
	16-Aug-96	673.2	12.0	7.4	465	260	68.0	22.0	3.0	<1	293	9	4.0	4.0		<0.1	<0.1	
	24-Oct-96	1570.8	3.0	8.4	724	262	67.0	22.0	3.0	1.0	334	<5	6.0	5.0		<0.1	<0.1	
	1-Jul-97	4936.8	13.9	7.4	425	260	71.0	19.0	3.0	1.0	310		7.0	2.0		<0.1	<0.1	
	20-Aug-97	4488.0	12.0	7.8	423	250	72.0	21.0	3.0	<1	<10	<5	5.0	2.0		<0.1	<0.1	
	10-Oct-97	3927.0	7.0	8.3	483	240	74.0	21.0	3.0	<1	318	<5	6.0	4.0	<0.1	<0.1	<0.1	
	25-Jun-98	1257.0				235	72.0	19.0	3.0	<1	307	<5	6.0	5.0	0.30	<0.1	<0.1	
	26-Sep-98	1122.0				321	62.0	22.0	7.0	3.0	211	<5	78.0	<1	11.00	<0.1	<0.1	
	21-May-99	1571.0	11.0	7.5	395													
	15-Sep-99	1282.0	4.0	8.2	380	290	73.5	21.9	2.9	1.1	320	7	11.0	<1	0.2	<0.02	0.03	
	4-Nov-99	708.0	10.0	8.4	380	270	57.2	23.0	2.6	0.9	299	<1	12.0	6.0	0.12	<0.02	<0.01	
	21-Jun-00	1250	8	8.49	466	281	70	19	2	<1	318	<5	5	1	0.1	<0.1	<0.1	<0.1
	13-Sep-00	634	13.8	8.01	390	238	60	20	3	<1	291	<5	7	2	0.1	<0.1	<0.1	<0.1
	17-Jun-01	1184	14.4	8.35	459	256	66	19	3	<1	311	<5	6	1	0.1	<0.1	<0.1	<0.1

Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
	gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
9-Sep-01	634	8.4	8.29	417	287	65	20	4	<1	326	<5	7	2.1	<0.1	<0.1	<0.05	<0.05
28-Oct-01	580	7.6	7.81	454	268	66	21	4	<1	315	<5	7.4	2	<0.1	<0.1	<0.05	<0.05
6-Jun-02	734	15	8.26	461	272	65	21	4	<1.	303	<5.	5	2	0.1	<0.1	<0.05	<0.05
26-Sep-02	321	12.9	8.23	431	249	60	21	4	<1.	287	<5.	7	1	<0.1	<0.1	<0.05	<0.05
10-Oct-02	247	8.2	8.43	457	256	70	21	4	<1	305	<5	9	2	<0.1	<0.1	<0.05	<0.05
9-Jun-03	1,130	7.7	8.08	388	286	78	19.6	4.66	0.515	313	6	14	1	0.095	<0.005	0.012	0.008
21-Sep-03	274	8.9	8.05	441	296	67.8	22	3.06	0.538	326	<5.	8	2	0.073	<0.005	0.009	0.006
21-Oct-03	263	9.4	7.98	478	288	69.5	22.1	2.79	0.741	318	<5	9	2	0.353	<0.005	0.02	<0.005

Springs

SP1-33

7-Nov-95	1.8	9.0	7.5	479	330	71.0	23.0	5.0	1.0	335	<5	17.0	6.0	0.30	<0.1	<0.1	
21-Jun-96					298	70.0	23.0	5.0	<1	321	<5	14.0	4.0		<0.1		<0.1
16-Aug-96	0.5	7.0	7.8	480	295	72.0	23.0	4.0	1.0	316	<5	17.0	7.0		<0.1		<0.1
24-Oct-96	1.0	5.0	8.1	733													
20-Aug-97	3.0	7.0	8.2	502	290		22.0	5.0	<1	321	<5	17.0	3.0		<0.1		<0.1
10-Oct-97	3.0	6.0	8.3	501	290	82.0	24.0	5.0	1.0	315	<5	18.0	5.0	3.60	<0.1	0.10	
25-Jun-98			8.7	463	255	70.0	23.0	5.0	<1								
21-May-99			8.1		215	68.0	17.0	5.0	2.0	245	<5	2.0	<1	0.5	<0.1	<0.1	
15-Sep-99	1.2	4.0	7.6	550	350	85.8	25.1		2.3	366	<1	11.0	7.0	0.61	<0.02	0.09	
4-Nov-99	1.5	13.0	7.5	395	290	65.7	24.4	3.9	1.1	329	<1	21.0	7.0	0.39	<0.02	<0.01	
23-Jun-00	2.9	4.3	7.76	504	280	70	22	4	<1	318	<5	16	2	1.8	<0.1	<0.1	0.1
13-Sep-00	2.47	5.5	7.92	492	267	66	22	5	1	311	<5	19	3	<0.1	<0.1	<0.1	<0.1
17-Jun-01	3.19	5.4	7.42	474	269	67	22	5	<1	318	<5	20	2	0.1	<0.1	<0.1	<0.1
9-Sep-01	3.08	6.4	7.58	445	324	68	22	5	<1	321	<5	20	2.9	<0.1	<0.1	<0.05	<0.05
28-Oct-01	2.31	6.4	6.88	483	284	68	23	5	1	319	<5	20	2.3	0.2	<0.1	<0.05	<0.05
6-Jun-02	1.63	5.4	7.43	488	302	68	23	6	<1.	314	<5.	19	3	0.2	<0.1	<0.05	<0.05
26-Sep-02	1.29	5.9	7.79	468	272	66	22	6	<1.	309	<5.	17	2	<0.1	<0.1	<0.05	<0.05
10-Oct-02	1.40	5.7	7.83	473	258	70	23	5	1	309	<5	17	2	<0.1	<0.1	<0.05	<0.05
9-Jun-03	1.90	4.3	7.71	336	288	71.9	22.4	4.03	0.979	316	<5.	17	2	0.052	<0.005	<0.005	<0.005
21-Sep-03	2.38	5.4	7.38	491	325	73.6	24	4.51	0.909	325	<5.	29	2	0.167	0.02	0.006	0.006
22-Oct-03	2.22	5.7	7.87	518	308	74.9	24	4.19	1.09	320	<5	28	2	0.359	<0.005	0.011	<0.005

SP1-47

23-Jul-90	no flow
19-Aug-90	no flow
26-Sep-90	no flow
18-Jun-91	no flow

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	12-Jun-92					262	91.9	21.2	2.3	1.0	332	0	9.5	3.5		0.50	0.03	
	21-Jun-96					272	69.0	19.0	3.0	<1	307	<5	4.0	3.0	0.80	<0.1	<0.1	
	24-Oct-96	1.0	3.0	8.1	571	283	70.0	21.0	3.0	1.0	330	<5	4.0	5.0	1.40	<0.1	<0.1	
	30-Jun-97	3.0	18.0	7.1	427	290	76.0	17.0	2.0	1.0	310	<5	7.0	1.0	0.10	<0.1	<0.1	
	20-Aug-97	4.0	8.0	7.2	488	270	77.0	20.0	3.0	2.0	334	<5	17.0	5.0	0.30	<0.1	<0.1	
	10-Oct-97	3.0	9.0	8.3	509													
	25-Jun-98			7.7	473	256	75.0	18.0	3.0	<1	340	<5	6.0	4.0	0.60	<0.1	<0.1	
	8-Sep-98			8.2	532	330	79.0	24.0	3.0	4.0	330	<5	3.0	6.0	0.30	<0.1	<0.1	
	15-Sep-99	2.1	5.0	7.8	490	350	89.0	19.3	2.9	0.9	343	<1	9.0	6.0	0.89	<0.02	<0.1	
	4-Nov-99	1.8	12.0	8.2	372	270	76.4	21.1	2.0	0.8	306	<1	13.0	6.0	1.12	<0.02	0.04	
	21-Jun-00	3.68	25.3	8.08	384													
	13-Sep-00	7.32	15.4	8.16	445													
	17-Jun-01	4.05	20.4	8.38	385													
	9-Sep-01	6.38	15.9	8.21	378													
	28-Oct-01	9.02	12.3	8.29	443													
	6-Jun-02	3.93	24.9	8.13	378													
	25-Sep-02	4.71	11.8	8.29	420													
	10-Oct-02	6.82	10.6	8.59	369													
	9-Jun-03	2.61	17.9	8.23	394													
	21-Sep-03	3.87	15.6	7.85	425													
	21-Oct-03	4.54	13.1	7.90	471													
SP2-24	10-Oct-91	0.4	6.0	8.3	500	227	65.1	13.6	2.1	0.0	248	<1	5.0	10.0		0.06		
	18-Jun-92	2.0	5.4	7.7	265	186	63.0	6.0	1.0	0.0	190	0	5.0	20.0		0.02	0.06	
	29-Sep-92	0.5	7.8	7.9	300	208	94.5	20.4	0.5	0.0	204	0	80.0	20.0		0.00	0.10	
	3-Jun-93	8.0	2.0	8.0	200	184	37.9	86.0	0.3	3.7	272	0	4.0	3.1	0.29	<0.05	<0.03	
	1-Jul-93	7.8	12.0	7.8	200	186	41.1	9.9	1.4	6.7	158	0	4.0	3.6	<0.05	0.17	<0.03	
	25-Oct-93	1.5	6.0	7.8	290	219	48.0	15.0	1.0	3.0	179	<1	5.0	7.0	<0.2	<0.2	<0.1	
	2-Jun-94	5.0	42.8	8.2	280	214	40.3	9.9	1.2	8.5	168	5	<10	7.0	0.10	0.05	<0.1	
	12-Sep-94	3.0	41.0	7.5	402	184	52.0	15.0	1.3	5.5	195	0	7.3	7.8	<.05	<0.05	<0.02	
	9-Sep-95	dry																
	25-Jun-96					177	39.0	11.0	1.0	5.0	171	3	2.0	2.0		<0.1		<0.1
	12-Aug-96	1.0	10.0	7.9	380	217	50.0	16.0	2.0	1.0	207	13	10.0	4.0		<0.1		<0.1
	13-Oct-96	1.0	4.0	8.5	840	216	62.0	14.0	3.0	1.0	254	<5	11.0	3.0		<0.1		<0.1
	7-Aug-97	dry																
	9-Oct-97	dry																
	15-Sep-99	2.0	13.0	8.4	300	220	43.8	15.0	2.0	0.7	197	<1	10.0	6.0	1.7	<0.02	0.04	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	4-Nov-99	dry																
	22-Jun-00	2.05	4.5	8.07	331	304	49	13	<1	<1	212	<5	3	2	<0.1	<0.1	<0.1	<0.1
	12-Sep-00	0.233	8.4	8.13	320	190	44	14	2	<1	211	<5	3	1	0.5	<0.1	<0.1	<0.1
	23-Jun-01	2.52	4.4	7.55	379	207	50	17	3	2	225	<5	6	4.5	0.1	<0.1	<0.1	<0.1
	8-Sep-01	2.09	4.5	7.99	347	252	50	14	2	5	217	<5	6	5.1	<0.1	<0.1	<0.05	<0.05
	27-Oct-01	1.13	5.4	7.04	349	192	50	15	2	5	204	<5	5.1	4.6	<0.1	<0.1	<0.05	<0.05
	7-Jun-02	6.59	3.6	8.05	355	241	48	14	3	1	189	<5.	6	5	0.5	<0.1	<0.05	<0.05
	25-Sep-02	1.23	5.4	8.16	353	203	49	15	3	5	200	<5.	6	5	<0.1	<0.1	<0.05	<0.05
	10-Oct-02	1.08	5.5	8.53	384	207	52	16	3	4	201	<5	6	4	<0.1	<0.1	<0.05	<0.05
	14-Jun-03	9.68	3.1	7.82	322	211	49.5	12.4	1.34	7.54	174	<5.	5	3	0.021	<0.005	<0.005	<0.005
	20-Sep-03	1.78	5.4	7.56	365	254	53.5	15.8	1.34	4.57	207	<5.	6	4	<0.02	0.05	<0.005	<0.005
	22-Oct-03	1.27	5.0	7.96	383	226	53.7	15.7	1.69	4.51	217	<5	6	4	<0.02	0.012	<0.005	<0.005
SP-47a	14-Jun-91	2.0	5.0	7.5	400													
	28-Jun-91						47.7	16.4	5.2	0.7	212	0	21.4	3.1		0.08	<0.01	
	21-Jul-91	0.0	6.4		400	214	54.5	14.6	4.3	3.0	208	<1	17.0	10.0		<0.02		
	24-Aug-91	0.2	8.0	7.2	400													
	27-Aug-91					231	60.1	18.1	4.4	2.3	235	<1	24.0	15.0	0.11		0.02	
	21-Sep-91	0.1	8.0	7.5	400													
	24-Sep-91					281	54.1	9.0	5.7	0.0	190	<1	18.0	10.0		0.13	0.01	
	18-Jun-92	<0.1	9.7	7.1	402	202	63.7	7.8	2.7	0.0	185	0	8.0	30.0		0.00	0.00	
	29-Sep-92	0.1	8.9	8.0	310	224	50.3	27.1	5.3	0.0	209	0	26.0	15.0		0.26	0.09	
	4-Jun-93	<1	8.1	8.0	475	302	49.0	16.8	4.3	1.1	219	0	3.0	25.9	0.28	0.08	<0.03	
	1-Jul-93	1.2	10.0	7.9	140	216	47.0	14.7	5.2	<1.1	241	0	27.0	5.7	0.14	0.06	<0.03	
	25-Oct-93	1.2	4.0	7.9	310	236	46.0	17.0	3.0	<2	154	<1	22.0	9.0	1.20	0.20	<0.1	
	2-Jun-94	<1	4.0	7.8	380	329	68.7	19.5	5.0	1.8	313	<1	53.5	8.0	0.03	<0.1	<0.1	
	12-Sep-94	dry																
	9-Aug-95	0.5	10.0	8.1	280	250	50.0	17.0	6.0	2.0	226	<5	24.0	8.0	<0.1	<0.1	<0.1	
	25-Jun-96					284	65.0	19.0	6.0	1.0	303	<5	18.0	8.0		<0.1		<0.1
	12-Aug-96	1.5	10.0	7.7	473	150	46.0	9.0	2.0	1.0	177	0	6.0	2.0		<0.1		<0.1
	13-Oct-96	0.3	8.0	7.5	250	193	48.0	15.0	6.0	2.0	209	<5	24.0	9.0		<0.1		<0.1
	7-Aug-97	3.0	8.3	7.5	349			16.0	5.0	2.0	212	<5	7.0	7.0		<0.1		
	9-Oct-97	<0.10	1.0	7.7	752													
	21-May-99	0.7	10.0	7.1	450	273	62.0	20.0	6.0	2.0	274	<5	23.0	6.0	0.3	<0.1	<0.1	
	15-Sep-99	2.5	10.0	7.5	410	240	52.5	18.0	7.3	2.1	215	<1	28.0	10.0	0.53	<0.02	0.01	
	4-Nov-99	dry																
	22-Jun-00	dry																

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	11-Sep-00	dry																
	23-Jun-01	1.47	7	7.05	351													
	8-Sep-01	0.276	9	7.54	437													
	27-Oct-01	0.211	7.4	8.3	372													
	7-Jun-02	1.01	6.3	7.06	337													
	25-Sep-02	0.101	9.2	7.72	321													
	10-Oct-02	0.102	7.5	7.63	346													
	14-Jun-03	1.51	5.4	7.38	333													
	20-Sep-03	0.112	8.8	7.59	336													
	22-Oct-03	0.169	8.5	7.28	346													
SP1-19	5-Jul-87	<1.	6	8.05	400													
	5-Oct-87	0																
	5-Oct-89	0																
	2-Jun-94	20	4	8.2	320	193					218	7	<10.	<2.	0.025	<0.01	<0.01	
	12-Aug-96	0																
	13-Oct-96	0.3	6	7.53	180	190					235	<5.	11	3	<0.1	<0.1	<0.1	
	7-Aug-97	0																
	9-Oct-97	0																
	11-Mar-98	0																
	25-Sep-98	1.5	7			167					175	<5.	2	<1.	0.8	<0.1	<0.1	
	15-Sep-99			8.2	500	330					264	<1.	52	6	0.69	<0.02	<0.01	
	15-Sep-99	0																
	4-Nov-99	1	9.4	7.78	403	360					301	<1.	68	9	0.19	<0.02	<0.01	
	22-Jun-00	18.8	6.4	8.28	417													
	12-Sep-00	1.35	7.2	8.27	456													
	23-Jun-01	29.4	6	7.96	390													
	8-Sep-01	1.62	6.46	8.25	453													
	27-Oct-01	1.3	5	7.31	434													
	7-Jun-02	50.2	5.1	8.37	394													
	25-Sep-02	1.4	6.5	8.25	425													
	10-Oct-02	1.75	5.4	8.54	419													
	14-Jun-03	97	4.2	7.78	388													
	20-Sep-03	3.35	7.0	7.71	451													
	22-Oct-03	2.21	6.8	7.81	483													
SP1-22	9-Aug-95	1.0	7.0	8.5	211	220	46.0	11.0	3.0	7.5	177	5	5.0	6.0	<0.1	<0.1	<0.1	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	28-Nov-95	dry																
	7-Aug-97	1.1	8.0	7.5	293	200		14.0	2.0	6.0	186	<5	5.0	6.0		<0.1	<0.1	
	9-Oct-97	1.0	8.0	7.8	585													
	15-Sep-99	3.6	13.0	8.1	380		48.8	16.9	2.3	0.8	217	<1	11.0	7.0	1.27	<0.02	0.03	
	4-Nov-99	3.0	9.6	7.3	245	220	53.0	18.4	1.4	2.8	220	<1	11.0	8.0	2.66	<0.02	0.07	
	22-Jun-00	3.53	5.1	8.24	304													
	12-Sep-00	0.545	7.5	8.24	347													
	23-Jun-01	3.26	4.8	7.75	265													
	8-Sep-01	0.638	7.7	8.21	312													
	27-Oct-01	0.268	7.4	7.24	326													
	7-Jun-02	5.04	4.8	8.4	279													
	25-Sep-02	0.283	8.8	8.19	311													
	10-Oct-02	0.282	7.5	8.54	323													
	14-Jun-03	7.39	4.2	7.90	261													
	20-Sep-03	0.749	7.5	7.70	332													
	22-Oct-03	0.487	8.4	7.89	348													
SP1-24	7-Aug-97	dry																
	9-Oct-97	dry																
	25-Sep-98					313	60.0	21.0	3.0	<1	289	<5	19.0	2.0	<0.1	<0.1	<0.1	
	15-Sep-99	dry																
	4-Nov-99	0.7	8.6	7.4	328	310	62.6	28.1	2.6	3.7	287	<1	23.0	8.0	0.04	<0.02	<0.01	
	12-Sep-00	0.612	6.9	8.08	399													
	23-Jun-01	0.798	8	7.64	401													
	8-Sep-01	0.122	12.7	8.08	395													
	27-Oct-01	0.119	7.6	7.17	399													
	7-Jun-02	0.773	7.5	8.09	389													
	25-Sep-02	0.098	12.6	8.01	387													
	10-Oct-02	0.156	8.9	8.26	402													
	14-Jun-03	1.24	5.6	7.66	382													
	20-Sep-03	0.200	11.0	7.75	415													
	22-Oct-03	0.146	10.8	7.71	434													
SP1-9	9-Aug-95	7.0	8.2	8.2		170	43.0	6.0	3.0	<1	171	<5	6.0	4.0	<0.1	<0.1	<0.1	
	7-Aug-97	3.0	5.6	7.9	171	180	46.0	13.0	2.0	1.0	193	<5	12.0	3.0		<0.1	<0.1	
	4-Oct-97	3.0	1.0	7.9	328	160	53.0	13.0	3.0	2.0	179	<5	27.0	2.0	1.30	<0.1	<0.1	
	25-Sep-98					167	44.0	6.0	1.0	<1	175	<5	2.0	<1	0.80	<0.1	<0.1	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	15-Sep-99	dry																
	4-Nov-99	dry																
	21-Jun-00	3.39	4.2	7.76	271	181	42	12	2	<1	183	<5	11	<1	<0.1	<0.1	<0.1	<0.1
	11-Sep-00	0.698	5.8	7.48	324	193	45	13	2	1	201	<5	11	<1	<0.1	<0.1	<0.1	<0.1
	23-Jun-01	3.06	4.6	7.46	290	163	41	12	3	<1.	186	<5	10	1	0.1	<0.1	<0.1	<0.1
	8-Sep-01	0.822	6.8	8.11	322	222	46	14	2	<1	210	<5	13	1.3	0.9	<0.1	<0.05	<0.05
	27-Oct-01	0.566	6.9	8.29	288	168	46	14	3	<1	207	<5	12.6	1.2	0.4	<0.1	<0.05	<0.05
	7-Jun-02	3.85	5.1	7.73	289	189	41	13	3	<1.	183	<5.	11	<1.	<0.1	<0.1	<0.05	<0.05
	25-Sep-02	0.455	7.2	7.8	321	179	47	16	4	<1.	211	<5.	13	1	0.3	<0.1	<0.05	<0.05
	10-Oct-02	0.344	6.5	8.05	327	181	48	15	3	<1	215	<5	13	1	0.2	<0.1	<0.05	<0.05
	14-Jun-03	5.99	3.9	7.62	274	171	42.8	11.8	1.7	0.839	172	<5.	10	<1.	0.046	0.007	<0.005	<0.005
	20-Sep-03	0.696	6.4	7.77	333	232	48.6	15	1.66	0.929	215	<5.	13	<1.	0.051	<0.005	<0.005	<0.005
	22-Oct-03	0.594	6.6	7.35	350	206	49.5	14.9	1.97	1.97	213	<5	13	<1	<0.02	<0.005	<0.005	<0.005
SP2-1	21-Jun-96					270	74.0	15.0	2.0	<1	307	<5	1.0	2.0		<0.1	<0.1	
	24-Oct-96	0.5	3.0	8.3	865	286	79.0	17.0	3.0	<1	359	<5	5.0	4.0		<0.1	<0.1	
	20-Aug-97	4.0	7.0	7.6	391	230		14.0	2.0	<1	264	<5	<5	3.0		<0.1		<0.1
	10-Oct-97	65.0	8.0	8.2	507													
	25-Jun-98			8.2	454	242	75.0	17.0	2.0	<1	326	<5	5.0	3.0	0.20	<0.1	<0.1	
	8-Sep-98			8.3	492	301	83.0	17.0	2.0	<1	345	<5	1.0	3.0	0.30	<0.1	<0.1	
	21-May-99	1.0	9.0	7.8	450	275	87.0	12.0	1.0	1.0	318	<5	2.0	<1	<0.1	<0.1	<0.1	
	15-Sep-99	0.4	8.0	7.4	460	310	81.8	18.2	1.5	0.4	325	<1	8.0	7.0	0.2	<0.02	0.03	
	4-Nov-99	1.0	11.0	8.0	392	290	71.4	18.7	1.9	0.5	290	<1	8.0	6.0	0.28	<0.02	0.01	
	22-Jun-00	13.6	5.1	7.84	488	311	79	19	1	<1	363	<5	2	<1	<0.1	<0.1	<0.1	<0.1
	13-Sep-00	1.37	6.7	7.61	529													
	17-Jun-01	19.4	5	7.49	479													
	9-Sep-01	1.22	6.9	7.67	481													
	28-Oct-01	1.266	6.9	7.52	516													
	6-Jun-02	26.8	4.9	7.47	489													
	25-Sep-02	0.802	7.8	7.61	488													
	10-Oct-02	0.865	7.4	7.93	516													
	9-Jun-03	30.3	4.5	7.48	537													
	21-Sep-03	0.708	7.2	7.49	518													
	22-Oct-03	0.366	7.1	8.01	543													
SP2-9	10-Oct-91	0.6	7.0	8.0	300	170	56.4	4.4	1.8	0.0	173	<1	4.0	10.0		0.16		
	9-Aug-95	dry																

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	7-Aug-97	4.0	5.4	7.5	294	160		9.0	2.0	<1	172	<5	8.0	1.0		<0.1		
	9-Oct-97	<0.25	2.0	7.5	295	64	44.0	9.0	2.0	2.0	197	<5	10.0	2.0	0.70	<0.1	<0.1	
	25-Sep-98					198	50.0	9.0	2.0	<1	192	<5	6.0	<1	0.30	<0.1	<0.1	
	15-Sep-99	dry																
	4-Nov-99	0.5	10.0	7.1	272	180	58.8	10.3	0.8	5.8	190	<1	12.0	8.0	1.8	<0.02	0.03	
	21-Jun-00	5.9	3.9	7.96	277	170	45	8	<1	<1	177	<5	4	<1	0.3	<0.1	<0.1	<0.1
	11-Sep-00	0.903	5.8	7.55	299	181	46	9	2	<1	187	<5	6	<1	<0.1	<0.1	<0.1	<0.1
	23-Jun-01	5.83	4.5	7.42	248	147	44	7	2	<1	186	<5	3	<0.5	0.1	<0.1	<0.1	<0.1
	8-Sep-01	1.11	6.3	7.77	285	205	46	9	2	<1	190	<5	7	0.5	<0.1	<0.1	<0.05	<0.05
	27-Oct-01	0.257	6.6	7.62	288	172	48	9	2	<1	196	<5	6.8	0.8	<0.1	<0.1	<0.05	<0.05
	7-Jun-02	3.64	4.6	7.31	269	186	44	8	3	<1.	174	<5.	5	<1.	0.3	<0.1	<0.05	<0.05
	25-Sep-02	0.395	7.4	7.54	279	166	45	10	3	<1.	184	<5.	7	<1.	<0.1	<0.1	<0.05	<0.05
	10-Oct-02	0.361	6.2	7.97	291	163	48	10	3	<1	185	<5	7	1	<0.1	<0.1	<0.05	<0.05
	14-Jun-03	5.86	4.0	7.81	261	176	46.4	7.91	1.12	0.601	165	<5.	3	<1.	0.131	0.01	<0.005	<0.005
	20-Sep-02	0.629	6.0	7.62	292	212	48.7	9.77	1.19	0.654	188	<5.	6	<1.	0.783	<0.005	0.012	<0.005
	22-Oct-03	0.448	6.1	7.48	305	185	48.3	9.42	1.35	0.82	187	<5	7	<1	0.142	0.01	<0.005	<0.005
SP1-3	9-Aug-95	0.3	7.0	8.3	283		37.0	6.0	4.0	<1	152	<5	6.0	3.0	0.20	<0.1	<0.1	
	12-Aug-96	2.0	5.0	7.3	313	150	46.0	8.0	2.0	<1	180	0	7.0	3.0	<.1	<0.1	<0.1	
	24-Oct-96	1.2	6.0	7.5	150	290	48.0	8.0	2.0	<1	389	<5	<2	4.0	0.30		<0.1	
	7-Aug-97	11.5	4.8	7.9	271	140	41.0	7.0	3.0	<1	156	<5	8.0	3.0	1.30	<0.1	<0.1	
	9-Oct-97	1.0	3.0	8.1	367													
	21-May-99	3.0	10.0	6.8	400	261	73.0	14.0	1.0	<1	293	<5	10.0	<1	2.9	<0.1	0.1	
	15-Sep-99	0.5	13.0	7.6	290	220	43.6	9.1	4.0	0.7	174	<1	13.0	6.0	<0.05	<0.02	<0.01	
	4-Nov-99	0.3	8.0	7.3	245	180	50.7	9.3	2.5	0.8	179	<1	13.0	7.0	0.06	<0.02	<0.01	
	21-Jun-00	0.46	6.5	8.11	206													
	11-Sep-00	0.16	4	7.48	288													
	23-Jun-01	0.513	2.2	7.75	197													
	8-Sep-01	0.248	4.5	7.82	273													
	27-Oct-01	0.114	5.6	7.31	282													
	21-Mar-02																	
	7-Jun-02	0.11	2.2	7.69	271													
	25-Sep-02	0.002	10.5	7.84	299													
	10-Oct-02	0.0291	3.8	8.19	277													
	14-Jun-03	0.573	5.3	7.88	190													
	20-Sep-03	0.167	4.6	7.94	267													
	22-Oct-03	0.124	4.4	7.74	287													

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
SP-30	18-Jan-90	no flow																
	14-Apr-90	no flow																
	23-Jul-90	no flow																
	9-Oct-90	no flow																
	12-Jan-91	no flow																
	4-Apr-91	no flow																
	21-Jul-91	no flow																
	10-Oct-91	no flow																
	23-Jun-93	dry																
	1-Jul-93	dry																
	25-Oct-93	dry																
	2-Jun-94	dry																
	12-Sep-94	dry																
	10-Mar-95	dry																
	16-May-95	dry																
	10-Aug-95	dry																
	28-Nov-95	dry																
	16-Aug-96	dry																
	24-Oct-96	dry																
	7-Aug-97	dry																
	9-Oct-97	dry																
	15-Sep-99	dry																
	4-Nov-99	dry																
	13-Sep-00	0.053	13.4	8.16	820													
	9-Dec-00	0.04	4.9	8	660													
	14-Mar-01	0.055	2.5	7.7	744													
	23-Jun-01	0.121	14.1	7.78	796													
	10-Sep-01	0.049	13.9	7.75	769													
	29-Oct-01	0.031	9.7	8.09	822													
	21-Mar-02	0.0347	4.4	7.99	705													
	8-Jun-02	0.035	11.4	7.48	755													
	27-Sep-02	0.0414	10.8	7.94	788													
	19-Nov-02	0.0373	4.6	7.90	741													
	23-Mar-03	0.0407	5.4	7.81	789													
	13-Jun-03	0.0353	11.2	7.97	804													
	26-Sep-03	0.0325	12.5	7.78	804													

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	5-Dec-03	0.0295	4.3	7.98	772													
SP-36	25-Sep-88	<1	11.7	7.1	890	504	52.0	98.5	20.1	4.8	537	40	83.4	25.9	<0.05		0.02	
	30-Sep-88	<1	12.5	7.0	914	512	52.0	98.5	20.0	4.8	532	18	85.3	24.9	<0.05		0.02	
	31-Oct-88	<1	7.1	8.5	995	520	48.0	87.6	17.1	2.5	523	0	73.0	11.8	<0.05		<0.01	
	23-Jun-89					463	50.9	85.6	16.7	1.9	444	33	120.0	15.0		0.34	<0.01	
	27-Jun-90	0.1	6.3		600													
	28-Jun-90					476	54.0	83.6	16.9	0.5	587	<1	25.0	20.0		<0.02	<0.01	
	19-Aug-90	no flow																
	26-Sep-90	no flow																
	18-Jun-91	0.7	13.6	8.0	600													
	19-Jun-91					482	53.8	79.4	15.0	2.9	459	<1	60.0	85.0		0.45	0.07	
	21-Jul-91	0.1	6.4		1100	505	41.2	82.4	15.2	2.6	485	<1	64.0	10.0		<0.02	<0.01	
	24-Aug-91	no flow																
	21-Sep-91	no flow																
	18-Jun-92	0.0	22.9	8.3	910	484	54.1	84.9	18.3	0.0	468	12	69.0	15.0		0.00	0.03	
	30-Sep-92	dry																
	23-Jun-93	dry																
	1-Jul-93	dry																
	25-Oct-93	dry																
	2-Jun-94	<1	6.0	8.1	840	432	68.2	42.1	8.7	2.1	638	<1	52.4	12.5		0.10	<.01	
	12-Sep-94	dry																
	10-Mar-95	dry																
	16-May-95	dry																
	9-Aug-95	dry																
	28-Nov-95	dry																
	10-Mar-96	dry																
	16-May-96	dry																
	9-Aug-96	dry																
	28-Nov-96	dry																
	7-Aug-97	dry																
	10-Jun-99	dry																
	15-Sep-99	dry																
	4-Nov-99	dry																
	13-Sep-00	0.023	16.4	7.72	664	364	60	46	8	<1	382	<5	43	7	<0.1	<0.1	<0.1	<0.1
	9-Dec-00	0.875	8.2	8.1	613	345	59	44	7	1	374	<5	46	6	<0.1	<0.1	<0.1	<0.1
	14-Mar-01	0.950	5.4	7.8	605	377	59	45	8	1	372	<5	52	7	<0.1	<0.1	<0.1	<0.1

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	23-Jun-01	0.800	9.3	7.88	505	355	61	46	8	1	381	<5	48	7.3	<0.1	<0.1	<0.1	<0.1
	10-Sep-01	0.783	11.6	8.07	612	392	63	44	8	1	393	<5	54	8.3	<0.1	<0.1	<0.05	<0.05
	29-Oct-01	0.744	11.7	8.03	601	408	63	47	8	1	375	<5	50.4	7.3	<0.1	<0.1	<0.05	<0.05
	21-Mar-02	1.26	6.4	7.89	511	285	60	45	8	<1.	371	<5.	50	8	0.1	<0.1	<0.05	<0.05
	8-Jun-02	1.03	8.9	7.86	631	373	60	46	9	1	368	<5.	49	8	0.1	<0.1	<0.05	<0.05
	27-Sep-02	0.756	11.5	7.8	629	332	61	46	8	1	373	<5.	47	6	<0.1	<0.1	<0.05	<0.05
	19-Nov-02	1.02	9.5	7.96	612	364	58	41	7	1	366	<5	48	6	<0.1	<0.1	<0.05	<0.05
	23-Mar-03	1.28	6.9	7.94	615	364	58.5	44.6	7.46	0.98	360	<5.	50	8	0.04	<0.005	<0.005	<0.005
	13-Jun-03	0.982	9.0	7.92	612	365	62.4	45	6.77	1.11	365	<5.	50	7	0.13	<0.005	0.007	<0.005
	26-Sep-03	0.641	11.5	7.69	642	358	65.6	48.8	6.94	1.37	385	<5.	52	6	0.02	<0.005	<0.005	<0.005
	5-Dec-03	0.810	9.3	7.98	636	387	63.3	46.9	7.58	1.38	377	<5	52	7	<0.02	<0.005	<0.005	<0.005
SP-58	31-Jul-88	3.0	5.2	7.9	490	272	68.0	26.8	4.5	1.0	293	0	22.4	4.8		<0.05	<0.01	
	25-Aug-88	7.0	8.9	6.8	545	264	70.0	28.0	5.0	1.1	293	0	23.5	3.8	<0.05		<0.01	
	28-Sep-88	6.0	8.8	7.1	590	248	68.0	29.2	4.9	1.1	296	0	20.8	3.9	<0.05		<0.01	
	31-Oct-88	6.0	5.2	8.0	597	292	68.0	26.8	3.8	1.2	294	0	28.6	3.1	<0.05		<0.01	
	22-Jun-89					390	53.7	24.9	3.6	0.5	265	<1	28.0	15.0		0.08	<0.01	
	31-Aug-89					300	69.9	26.0	31.0	0.8	344	<1	68.0	5.0		0.03	<0.01	
	28-Sep-89					313	59.8	26.2	3.4	0.2	290	<1	20.0	10.0	<0.02		<0.01	
	31-Oct-89					266	58.1	24.8	3.4	0.9	284	<1	200.0	10.0		<0.02	<0.01	
	26-Jun-90	2.0	16.7		500													
	26-Jun-90					254	89.5	25.9	2.1	0.1	330	<1	50.0	15.0		<0.02	<0.01	
	23-Jul-90	2.5	18.9		500													
	24-Jul-90					258	64.0	17.0	2.6	0.1	256	<1	15.0	20.0		<0.02	0.02	
	19-Aug-90	6.0	8.3		400	275	75.2	20.0	9.6	0.1	303	<1	15.0	30.0	<0.02		<0.01	
	27-Sep-90					356	79.1	22.4	7.4	0.5	321	<1	27.0	20.0		<0.02	<0.02	
	26-Sep-90	5.5	8.7		400													
	18-Jun-91	60.0	4.5	7.5	500													
	19-Jun-91					270	58.2	25.7	3.0	1.0	290	<1	25.0	25.0		0.57	0.01	
	19-Jul-91					289	67.9	24.8	3.7	3.2	312	<1	24.0	10.0		<0.02	0.31	
	21-Jul-91	15.0	6.0	7.6	570													
	24-Aug-91	12.0	6.0	7.2	600													
	27-Aug-91					292	80.4	24.2	0.5	0.0	295	<1	26.0	15.0	<0.02		0.03	
	21-Sep-91	10.0	7.0	7.2	600													
	24-Sep-91					281	81.3	23.4	3.4	0.0	277	<1	28.0	20.0		0.02	<0.01	
	18-Jun-92	10.0	10.0	7.2	694	259	81.0	19.7	1.1	0.0	317	0	5.0	5.0		0.00	0.07	
	31-Aug-92	9.7	13.3	8.0	740	275	66.8	19.1	3.7	0.0	275	0	27.0	15.0		0.00	0.00	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	4-Dec-92	N/A																
	3-Jun-93	1100.0	3.0	8.5	300	240	65.4	18.6	3.6	0.1	272	0	16.0	2.7	0.31	<0.05	<0.03	
	1-Jul-93	62.0	9.0	8.0	340	237	56.5	15.2	3.3	1.0	242	0	21.0	3.0	0.05	0.05	0.03	
	25-Oct-93	87.0	6.0	7.9	410	260	55.0	32.0	3.0	<2	265	<1	26.0	5.0	<0.2	<0.2	0.20	
	9-Jun-94	15.0	41.0	7.9	450	232	60.5	22.8	3.2	1.0	306	1	28.0	<2	0.02	<0.01	<0.01	
	12-Sep-94	5.0	41.0		571	266	64.0	24.0	3.9	1.2	263	6	34.0	3.8	<.05	<0.05	<0.02	
	16-May-95	3.8	7.0	7.8	340	280	61.0	29.0	5.0	1.0	240	20	40.0	5.0	0.30	<0.1	<0.1	
	10-Aug-95	125.9	9.0	8.4	368	250	58.0	22.0	5.0	<1	244	14	29.0	4.0	<0.1	<0.1	<0.1	
	28-Nov-95	35.8	10.0		572	300	70.0	26.0	5.0	1.0	255	15	35.0	6.0	1.00	<0.1	<0.1	
	25-May-97	0.5	7.0	9.0	815	434	73.0	51.9	7.1	1.8	387	<1	71.6	5.1		<0.02		<0.005
	27-Jun-97	52.0	7.4	6.7	560	380	81.0	35.0	4.0	1.0	348	<5	90.0	4.0	<0.1	<0.1	<0.1	
	15-Aug-97	30.0	5.0	8.0	567	350		35.0	4.0	1.0	353	<5	60.0	3.0		<0.1		<0.01
	7-Oct-97	30.0	6.0	8.0	569	350	77.0	34.0	4.0	1.0	350	<5	57.0	6.8	<0.1	<0.1	<0.1	
	25-Sep-98					328	71.0	28.0	4.0	1.0	307	<5	42.0	3.0	<0.1	<0.1	<0.1	
	10-Jun-99	3.0				253	68.0	19.0	4.0	<1	270	7	17.0	<1	<0.1	<0.1	<0.1	
	15-Sep-99	56.0	6.6	8.0	500	360	68.4	27.8	6.6	1.3	285	<1	46.0	7.0	0.04	<0.02	<0.01	
	4-Nov-99	4.0	11.0	8.0	499	380	81.4	39.3	3.4	1.6	380	<1	61.0	7.0	0.18	<0.02	<0.01	
	20-Jun-00	47.8	4.5	7.76	592	388	74		2	2	340	<5	62	2	<0.1	<0.1	<0.1	<0.1
	14-Sep-00	15.4	4.8	7.94	605	349	74	33	4	2	334	<5	69	3	<0.1	<0.1	<0.1	<0.1
	8-Dec-00	19.4	4.7	7.6	599	391	76	34	4	1	348	<5	69	3	<0.1	<0.1	<0.1	<0.1
	3-May-01	23.75	4.4	7.7	610	377	79	38	3	1	350	<5	73	2	<0.1	<0.1	<0.1	<0.1
	7-Sep-01	20.1	5.5	7.56	592	409	77	34	4	1	353	<5	77	3.2	<0.1	<0.1	<0.05	<0.05
	28-Oct-01	16.5	5.6	7.77	608	376	82	36	4	2	389	<5	75.2	2.9	<0.1	<0.1	<0.05	<0.05
	8-Jun-02	31.6	5.2	7.42	631	414	80	39	5	1	348	<5.	92	3	<0.1	<0.1	<0.05	<0.05
	27-Sep-02	18.5	5.6	7.35	590	362	79	35	5	1	332	<5.	80	2	<0.1	<0.1	<0.05	<0.05
	6-Nov-02	19.7	5.2	7.86	590	378	79	38	4	1	332	<5	85	2	<0.1	<0.1	<0.05	<0.05
	30-Jan-03	17.9	4.9	7.31	626	400	87.7	39.2	4.08	1.72	346	<5.	92	2	<0.02	<0.005	<0.005	<0.005
	13-Jun-03	38.9	4.8	7.68	642	436	89.9	40.8	3.86	1.63	332	<5.	119	2	<0.02	<0.005	<0.005	<0.005
	26-Sep-03	16.1	5.2	7.20	535	406	88.1	39.6	3.96	1.56	348	<5.	102	2	<0.02	<0.005	<0.005	<0.005
	4-Dec-03	18.1	5.2	7.67	647	418	88.1	38	4.95	1.68	344	<5	102	3	<0.02	0.007	<0.005	<0.005
DH-1	11-Mar-88	1.0	5.4	8.3	1125		60.0	85.1	14.1	8.0	521	0	88.5	10.0		0.05	<0.01	
	31-May-88	0.2	7.0	7.9	1100		92.0	86.3	14.2	11.0	605	0	63.0	11.8	<0.05		0.03	
	28-Sep-88	1.0	8.2	8.2	460		84.0	82.7	14.8	7.5	312	0	82.5	10.4			<0.01	
	3-Nov-88	0.3	7.6	8.1	1039		58.0	81.5	14.1	7.8	560	0	91.2	8.1	<0.05		0.06	
	31-Mar-89					673	91.1	86.8	15.3	8.1	556	28	150.0	5.0		<0.02	<0.01	
	12-Jun-89					680	104.0	87.2	11.4	6.3	614	<1	150.0	10.0		<0.02	<0.01	

Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
	gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
18-Jan-90	1.0	7.5	7.8	840													
29-Jan-90					620	92.8	85.1	11.9	6.2	617	<1	100.0	7.5		<0.02	<0.01	
13-Apr-90					633	120.0	79.5	12.0	8.1	559	<1	170.0	35.0		<0.02	<0.01	
14-Apr-90	0.0	7.8	7.9	835													
23-Jul-90	0.0	7.0	7.9	840													
24-Jul-90					573	83.1	84.5	3.6	6.3	531	<1	100.0	30.0		<0.02	<0.01	
9-Oct-90	0.0	4.9	8.9	600													
10-Oct-90					499	87.5	89.9	14.0	5.6	574	<1	130.0	20.0	<0.02	<0.02	<0.01	
12-Jan-91	0.0	9.5		300													
14-Jan-91					556	97.2	89.4	15.6	7,41	564	<1	130.0	100.0		0.08	0.30	
4-Apr-91	0.0	4.4	8.6	500													
30-Apr-91					560	96.2	84.5	11.4	6.5	602	<1	90.0	30.0	<0.02		<0.01	
1-Jul-91	0.0	7.2	9.1	710	557	84.6	58.0	23.1	8.0	543	<1	76.0	10.0		<0.02	0.22	
11-Oct-91	0.0	8.0	8.0	900	595	79.0	82.3	13.9	2.3	584	<1	100.0	10.0		0.07		
8-Mar-92	dry																
2-Jun-92	dry																
22-Sep-92	dry																
16-Dec-92	dry																
2-Mar-94	dry																
6-Jun-94	dry																
28-Sep-94	dry																
20-Dec-94	dry																
29-Mar-95	dry																
27-Jun-95	dry																
27-Sep-95	dry																
18-Mar-99	dry																
24-Jun-99	dry																
15-Sep-99	dry																
7-Dec-99	dry																
30-Mar-00	dry																
27-Jun-00	dry																
27-Sep-00	dry																
14-Dec-00	dry																
13-Mar-01	dry																
1-May-01	dry																
27-Sep-01	dry																
3-Dec-01	dry																

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	27-Mar-02	dry																
	20-Jun-02	dry																
	25-Sep-02	dry																
	26-Dec-02	dry																
MW-1	11-Mar-88	185.0	9.5	7.7	530	308	34.0	25.5	32.5	6.4	284	0	6.6	5.3		0.05	<0.01	
	31-May-88	185.5	8.2	8.6	350	240	34.2	24.2	33.4	0.0	284	0	5.7	4.5	0.14		0.01	
	28-Sep-88	186.7	19.0	7.1	460	240	34.0	24.3	44.0	4.7	295	0	5.1	5.3	<0.05		0.02	
	3-Nov-88		10.9	10.9	460	196	32.0	17.0	39.1	4.3	282	0	5.7	3.5	<0.05		<0.01	
	31-Mar-89					312	23.8	16.5	69.7	4.5	301	<1	24.0	10.0		<0.02	<0.01	
	12-Jun-89					392	25.1	18.0	77.2	3.8	285	<1	50.0	20.0		0.06	<0.01	
	3-Oct-89					341	15.7	13.2	78.6	3.2	311	<1	10.0	15.0		<0.02	<0.01	
	18-Dec-89					292	20.6	14.5	74.0	2.1	311	<1	23.0	15.0		0.31	0.05	
	18-Jan-90		10.2	8.1	450													
	29-Jan-90					300	31.0	17.0	65.2	0.2	314	<1	24.0	10.0		<0.02	<0.01	
	13-Apr-90					279	31.2	13.7	64.1	6.4	303	<1	18.0	10.0		<0.02	<0.01	
	14-Apr-90	2.0	10.3	7.8														
	1-Jul-90	0.0	10.3	8.1														
	24-Jul-90					307	22.4	12.2	74.4	3.5	315	<1	5.0	25.0		<0.02	0.02	
	9-Oct-90		6.2	8.4	400													
	10-Oct-90					261	21.0	13.1	86.1	2.8	339	<1	15.0	10.0	<0.02		<0.01	
	20-Dec-90					247	29.3	11.1	73.6	2.9	297	<1	27.0	15.0	0.13		<0.01	
	11-Jan-91					247	29.3	11.1	73.6	2.9	297	<1	27.0	15.0	0.13		<0.01	
	12-Jan-91		7.7	8.2	300													
	14-Jan-91					288	30.5	20.0	76.9	12.2	346	<1	21.0	14.5		0.03	0.28	
	4-Apr-91	4.8	7.2	8.0	400	306	25.1	7.2	69.4	2.3	280	<1	18.0	25.0	<0.02	<0.02	<0.01	
	21-Jul-91					298	22.4	14.6	71.4	4.2	298	<1	14.0	15.0		0.02	<0.01	
	11-Oct-91		12.0	7.8	700	289	24.2	4.6	8.6	0.0	289	<1	23.0	15.0		0.07		
	10-Dec-91					265	21.8	15.1	68.8	6.8	316	0	21.0	10.0		0.00	0.00	
	8-Mar-92		12.2	7.9		326	27.2	12.4	96.5	3.8	334	0	27.0	10.0	0.00		0.00	
	24-Jun-92		12.2	8.0		288	26.9	9.2	84.8	5.0	287	0	28.0	15.0	0.00		0.00	
	22-Sep-92		12.2	7.6		372	27.9	17.1	51.7	61.8	281	0	60.0	45.0	0.00		0.02	
	8-Dec-92		13.1	7.3		252	10.9	1.4	88.0	2.1	291	0	27.0	15.0	0.08		0.00	
	4-Mar-93	1.1	12.8	7.5	532		18.9	14.5	71.4	3.4	285	0	21.0	0.1		6.80	0.47	
	15-Jun-93	6.0	14.6	7.3	561	333	20.2	14.9	68.3	2.4	284	0	20.0	26.3		0.05	<0.03	
	16-Sep-93	1.8	11.3	7.9	568	333	19.6	18.0	90.0	4.0	283	0	17.0	28.9	0.16	<0.05	<0.03	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	7-Dec-93	3.0	12.4	6.7	528	353	19.0	16.0	70.0	9.0	233	<1	20.0	31.0	0.02	<0.02	<0.1	
	2-Mar-94	0.4	56.0	6.7	554	292	27.0	10.0	78.0	4.0	284	0	19.0	15.0		0.08	<.02	
	6-Jun-94	2.3	56.3	6.7	785	290	25.0	17.0	69.0	0.4	299	0	21.0	10.0		<0.05	<.02	
	28-Sep-94	0.6	58.7	6.3	920	315	18.0	14.0	80.0	16.0	291	0	19.0	26.0		0.09	<.02	
	20-Dec-94	0.5	56.2	7.0	860	300	18.0	13.0	75.0	4.0	262	0	18.0	14.0		<0.1	<0.1	
	29-Mar-95					230	24.0	20.0	69.0	4.0	275	<5	17.0	12.0		<0.1		<0.1
	7-Jun-95	0.5	12.0			290	20.0	16.0	73.0	4.0	260	15	18.0	14.0		<0.1		<0.1
	27-Sep-95	0.5	15.0	7.9	540	410	110.0	43.0	14.0	5.0	475	<5	26.0	7.0		<0.1		<0.1
	18-Dec-95	0.5	15.0	7.7	705	300	21.0	16.0	69.0	4.0	295	<5	17.0	13.0		<0.1		<0.1
	26-Mar-96					268	19.0	15.0	72.0	3.8	302	<2	37.0	13.0		<0.03		<.04
	19-Jun-96	0.5	15.4	7.7	508	296	20.0	15.0	73.0	4.0	296	<5	18.0			<0.1		<0.1
	30-Sep-96					442	85.0	47.0	15.0	6.0	460	<5	39.0	13.0		0.10		<0.1
	30-Oct-96	0.4	14.5	8.1	498	298	20.0	14.0	72.0	4.0	308	<5	18.0	13.0		<0.1		<0.1
	3-Feb-97		12.7	8.0	500	244	19.0	16.0	73.0	4.0	293	<5	18.0	12.0	0.80	<0.1	<0.1	
	22-May-97	0.4	10.4	7.8	504	280	19.0	13.0	66.0	3.0	299	<5	18.0	12.0	0.40	<0.4	<0.1	
	30-Dec-97	0.4	13.2	7.5	496	290	21.0	16.0	67.0	3.0	307	<5	18.0	7.0	<0.1	<0.1	<0.1	
	31-Mar-98	0.1	12.6	7.7	530	279	20.0	16.0	67.0	4.0	305	<5	15.0	12.0	<0.1	<0.1	<0.1	
	28-May-98	0.2	12.6	7.6	518	279	21.0	15.0	76.0	4.0	300	<5	15.0	11.0	2.10	<0.1	<0.1	
	24-Jun-99	0.0	12.5	7.9	490	258	22.0	15.0	73.0	5.0	303	<5	17.0	12.0	<0.1	<0.1	<0.1	
	15-Sep-99	0.0																
	7-Dec-99	0.0																
	30-Mar-00	0.30	13.4	8.3	491	298	22	17	74	4	297	<5	18	12	<0.1	<0.1		<0.1
	27-Jun-00	0.67	14.2	7.3	494	260	19	15	71	4	300	<5	18	11	<0.1	<0.1	<0.1	<0.1
	27-Sep-00	0.7	14.7	7.3	494	266	19	15	73	4	295	<5	19	13	0.4	<0.1	<0.1	<0.1
	14-Dec-00	0.5	13.4	8	545	285	18	14	68	4	303	<5	16	10	<0.1	<0.1	<0.1	<0.1
	13-Mar-01	0																
	1-May-01	0																
	27-Sep-01	0																
	3-Dec-01	0.3	10.9	8	476	274	22	16	64	4	296	<5	15	9.4	0.7	<0.1	<0.05	<0.05
	27-Mar-02	0																
	20-Jun-02	0																
	25-Sep-02	0																
	26-Dec-02	0																
MW-2	21-Jun-89					614	121.2	67.6	22.4	0.7	368	<1	290.0	10.0		1.9	0.1	
	2-Oct-89					464	75.8	47.6	16.9	7.2	410	<1	80.0	10.0		1.1	0.1	
	30-Jan-90						852.0	146.3	22.6	27.7			16.50.0		44	30.7	0.6	

Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
	gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
30-Apr-90					990	463.2	77.9	13.9	41.6	510	<1	800.0	15.0		0.0	0.8	
23-Jul-90	57.8 feet	10.0	7.8														
24-Jul-90					254	118.3	47.4	18.8	7.4	448	<1	150.0	20.0		<0.02	0.1	
9-Oct-90	54.0 feet	9.6	7.9	700													
10-Oct-90					492	135.5	48.9	19.9	5.4	422	<1	200.0	20.0	2	1.4	0.1	
12-Jan-91	72.2 feet	11.4	7.5	500													
14-Jan-91					592	149.9	57.8	61.0	10.5	507	<1	180.0	125.0		2.1	0.2	
4-Apr-91	52.6 feet	11.3	7.8	600	540	108.4	52.9	18.3	13.1	398	<1	170.0	45.0	1	0.0	0.1	
21-Jul-91					388	73.5	31.7	11.9	7.2	402	<1	18.0	10.0		0.0	0.0	
11-Oct-91	55.2 feet	11.0	7.2	800	389	89.3	40.0	13.7	0.0	425	<1	25.0	10.0		0.2		
10-Dec-91					369	74.8	37.5	1.1	6.7	398	<1	23.0	15.0		1.9	0.0	
8-Mar-92	56.0 feet	10.0	7.2	500	361	95.9	39.3	12.5	5.3	447	<1	17.0	15.0		0.0	0.0	
2-Jun-92	56.6 feet	8.3	7.7		420	94.4	41.4	15.1	6.6	457	<1	60.0	20.0		0.3	0.0	
15-Sep-92	53.5 feet	13.3	7.6		364	90.2	49.1	10.9	7.7	461	<1	27.0	15.0	5	4.9	0.0	
16-Dec-92	53.3 feet	9.7	7.3	813	313	158.0	63.2	14.6	5.1	424	<1	310.0	10.0	4	4.2	0.1	
4-Mar-93	53.5 feet	11.7	7.4	768	200	84.6	44.6	12.9	4.2	434	<1	70.0	0.1	41	37	0	
15-Jun-93	53.9 feet	12.2	7.4	748		67.2	37.6	12.3	4.6	423	<1	32.0	4.8		0	<0.03	
16-Sep-93	52.8 feet	11.0	7.4	754		76.3	16.0	85.0	4.0	446	<1	11.0	4.8	3	<0.05	<0.03	
7-Dec-93	52.4 feet	11.4	7.2	672		77.0	45.0	14.0	6.0	355	<1	30.0	5.0	3	<0.02	<0.10	
2-Mar-94	52.3 feet	53.0	7.4	694	416	81.0	45.0	15.0	5.0	476	<5	31.0	5.2		1	<0.02	
6-Jun-94	52.0 feet	53.7	6.4	910	390	33.0	74.0	15.0	5.6	468	<5	30.0	3.1		3	0	
28-Sep-94	51.6 feet	54.0	7.0	724	413	79.0	45.0	14.0	5.9	442	<5	47.0	3.7		2	0	
20-Dec-94	51.7 feet	55.0	7.0	810	420	80.0	44.0	15.0	6.0	418	<5	30.0	5.0		<.1	<0.1	
29-Mar-95					370	89.0	46.0	14.0	5.0	425	<5	26.0	6.0		0	<0.1	
27-Jun-95		12.0			430	73.0	45.0	15.0	5.0	460	<5	21.0	7.0		<0.1	<0.1	
27-Sep-95		12.9	7.6	782	410	110.0	43.0	14.0	5.0	475	<5	26.0	7.0		<0.1	<0.1	
18-Dec-95	51.2 feet	12.5	7.3	1178	470	78.0	43.0	19.0	5.0	450	<5	41.0	6.0		<0.1	<0.1	
3-Feb-97		10.9	7.3	731	413	74.0	41.0	14.0	5.0	450	<5	39.0	5.0	5	<0.1	<0.1	
22-May-97	49.4 feet	11.6	7.1	706	430	77.0	42.0	12.0	4.0	455	<5	51.0	7.0	2	<0.1	<0.1	
21-Aug-97	51.6 feet	11.9	6.5	713	390	88.0	47.0	19.0	6.0	427	<5	59.0	6.0	2	<0.1	<0.1	
30-Dec-97	flooded																
31-Mar-98	flooded																
28-May-98	flooded																
18-Mar-99	flooded																
24-Jun-99	flooded																
15-Sep-99	flooded																
7-Dec-99	flooded																

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	30-Mar-00	flooded																
	27-Jun-00	flooded																
	27-Sep-00	flooded																
	14-Dec-00	flooded																
	13-Mar-01	flooded																
	1-May-01	flooded																
	27-Sep-01	flooded																
	3-Dec-01	flooded																
	27-Mar-02	flooded																
	20-Jun-02	flooded																
	25-Sep-02	flooded																
	26-Dec-02	flooded																
MW-3	21-Jun-89					572	74.0	48.4	24.3	6.8	349	<1	110.0	15.0		3.13	0.23	
	2-Oct-89					797	150.0	73.6	30.7	13.5	394	<1	410.0	20.0		<0.02	0.13	
	18-Mar-99	Inaccessible																
MW-4	4-Mar-93	dry																
	15-Jun-93	dry																
	16-Sep-93	dry																
	17-Feb-93	dry																
	2-Mar-94	dry																
	6-Jun-94	dry																
	28-Sep-94	dry																
	20-Dec-94	dry																
	29-Mar-95	dry																
	27-Jun-95	dry																
	27-Sep-95	dry																
	18-Mar-99	Inaccessible																
MW-5	22-Sep-92	dry																
	8-Dec-92	dry																
	4-Mar-93	dry																
	15-Jun-93					1352	850.0	356.0	18.2	9.7				3.3	26.6		0.91	
	16-Sep-93	109 ft	12.5	7.5	104	759	157.0	90.0	8.7	8.0	411	<5	250.0	12.1	1.0		0.14	
	7-Dec-93	108.8 ft	12.1	7.2	953	650	51.0	120.0	8.0	11.0	320	<1	250.0	8.0	8.0		0.30	
	2-Mar-94	111.0 ft	12.3	7.1	920	653	120.0	69.0	9.2	8.0	400	<5	245.0	5.2				

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	6-Jun-94	111.0 ft	11.9	6.2	1063	655	34.0	114.0	9.9	20.0	394	<5	267.0	16.0		5.5	0.24	
	28-Sep-94	dry																
	20-Dec-94	51.5 ft	13.3	7.5	890	740	505.0	224.0	9.0	9.0	577	<5	130.0	12.0		<0.1	0.60	
	18-Dec-95	108.2 ft	13.2	7.4	1132	650	108.0	58.0	7.0	5.0	520	<5	214.0	7.0		<0.1	0.10	
	18-Mar-99	destroyed																
MW-6a	6-May-97		14.2	8.2	544	320	46.0	32.0	22.0	12.0	243	<5	61.0	17.0	0.8	<0.1	0.40	
	28-May-98		12.5	7.1	524	330	63.0	36.0	13.0	5.0	310	<5	33.0	9.0	1.8	<0.1	0.20	
	18-Mar-99	1.8 feet	13.1	7.7	519	317	41.0	35.0	11.0	5.0	311	<5	5.0	6.0	0.5	<0.1	<0.1	
	24-Jun-99	inaccessible																
	15-Sep-99	2.3 feet																
	7-Dec-99	4.5 feet	12.5	8.1	526	294	62.0	39.0	15.0	4.0	343	<5	32.0	3.0	0.4	<0.1	<0.1	
	30-Mar-00	2 feet	12.5	7.9	526	303	53	38	13	4	340	<5	34	3	0.2	<0.1		<0.1
	27-Jun-00	0.8 feet	13.3	8.00	480	263	48	31	8	3	305	<5	28	4	3.6	<0.1	<0.1	0.1
	27-Sep-00	0.8 feet	13.3	8.00	480	265	46	32	9	4	294	<5	34	5	0.6	<0.1	<0.1	<0.1
	14-Dec-00	1.5 feet	12.9	8.2	489	270	45	30	9	3	300	<5	14	2	0.6	<0.1	<0.1	<0.1
	13-Mar-01	Impacted by mining, inaccessible																
MW-8	5-Jun-97	dry	14.1	7.8	547	340	64.0	37.0	17.0	6.0	317	<5	40.0	8.0	3.7	<0.1	<0.1	
	21-Aug-97	51.6 feet	14.3	7.2	507	280	60.0	35.0	13.0	4.0	308	<5	36.0	4.0	3.2	<0.1	0.10	
	30-Dec-97	2.1 feet	12.7	6.5	504	260	53.0	35.0	13.0	4.0	306	<5	39.0	2.0	5.2	<0.1	<0.1	
	31-Mar-98	2.2 feet	13.4	7.7	52	284	57.0	34.0	12.0	5.0	327	<5	33.0	5.0	2.1	<0.1	<0.1	
	28-May-98		12.9	7.8	506	274	53.0	35.0	13.0	4.0	311	<5	29.0	4.0	2.8	<0.1	<0.1	
	18-Mar-99	2.3 feet	13.3	7.7	512	348	52.0	35.0	13.0	4.0	309	<5	35.0	33.0	2.2	<0.1	<0.1	
	24-Jun-99	2.2 feet	11.7	7.4	511	267	64.0	38.0	13.0		328	<5	40.0	3.0	3.8	<0.1	<0.1	
	15-Sep-99	2.5 feet																
	7-Dec-99	4.5 feet	13.0	7.6	524	305	53.0	37.0	13.0	4.0	332	<5	38.0	4.0	0.7	<0.1	<0.1	
	30-Mar-00	2.2 feet	13	7.5	519	310	67	42	13	4	304	<5	41	3	1.3	<0.1		<0.1
	27-Jun-00	2.2 feet	13.6	7.1	515	275	48	33	12	4	320	<5	38	3	0.7	<0.1	<0.1	<0.1
	27-Sep-00	2.2 feet	13.6	7.1	515	257	47	33	13	4	309	<5	40	3	0.6	<0.1	<0.1	<0.1
	14-Dec-00	2.1 feet	13.3	8	518	275	46	32	12	4	312	<5	34	2	0.8	<0.1	<0.1	<0.1
	13-Mar-01	Impacted by mining, inaccessible																
MW-6	5-Jun-97		13.3	12.6	6170	1390	742.0	5.0	62.0	24.0	<5	128	48.0	40.7	1.60	<0.1	0.20	
	22-Aug-97	3.3 feet	13.8	10.8	960	280	60.0	4.0	49.0	6.0	<5	35	27.0	8.0	0.70	<0.1	<0.1	
	30-Dec-97	0.8 feet	11.9	10.1	635	1030	69.0	6.0	48.0	7.0	<5	24	15.0	4.0	2.80	<0.1	<0.1	
	31-Mar-98	0.1 feet	13.5	11.8	488	1009	450.0	2.0	31.0	9.0	<5	56	20.0	13.0	0.60	<0.1	1.00	

	Date	flow	T	pH	Cond.	TDS	Ca^{2+}	Mg^{2+}	Na+	K+	HCO3-	CO3-	SO42-	Cl-	Fe(T)	Fe(d)	Mn(T)	Mn(d)
		gpm	°C		µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
	28-May-98		12.4	11.5	461	985	304.0	1.0	29.0	9.0	<5	233	23.0	16.7	0.60	<0.1	<0.1	
	16-Sep-98		12.9	11.8	6075	1344	397.0	<1	29.0	9.0	<5	35	12.0	2.0	0.20	<0.1	<0.1	
	18-Mar-99	0.0 feet	13.3	12.3	6780	1404	626.0	2.0	31.0	9.0	<5	39	10.0	5.0	0.2	<0.1	<0.1	
	15-Sep-99	---	13.5	12.2	6290	1241	600.0	10.0	26.0	9.0	<5	57	11.0	8.0	0.3	<0.1	<0.1	
	7-Dec-99	0.0 feet	12.5	12.1	6640	1345	604.0	4.0	28.0	8.0	<5	86	14.0	7.0	0.3	<0.1	<0.1	
	27-Jun-00	0.0 feet	13.8	12.2	6190	1223	546	<1	25	7	<5	40	18	8	0.1	<0.1	<0.1	<0.1
	27-Sep-00	0.0 feet	13.8	12.27	6190	866	343	<1	22	6	31	<5	36	6	0.1	<0.1	<0.1	<0.1
	14-Dec-00	0.0 feet	13	12.5	4090	808	270	<1	21	6	<5	38	16	7	<0.1	<0.1	<0.1	<0.1
	13-Mar-01	Impacted by mining, inaccessible																
MW-7	5-Jun-97		12.1	7.7	511	310	62.0	<0.1	4.0	2.0	319	<5	33.0	6.2	0	<0.1	32.00	<0.1
	21-Aug-97	0.2	11.0	6.7	496	270	63.0	33.0	5.0	2.0	314	<5	30.0	5.0	0	<0.1	<0.1	
	11-Feb-98		20.1	7.4	520	3	58.0	31.0	3.0	2.0	323	<5	31.0	5.0	0	<0.1	<0.1	<0.1
	28-May-98	0.1	10.7	6.9	514	301	60.0	34.0	5.0	2.0	312	<5	83.0	10.0	0	<0.1	<0.1	
	16-Sep-98	0.1	11.2	7.3	577	35	61.0	32.0	4.0	2.0	324	<5	33.0	4.0	0	<0.1	<0.1	
	25-May-99		10.9	8.0	578	323							61.0	6.0				
	7-Dec-99	0.1	10.5	7.0	517	281	61.0	32.0	4.0	3.0	327	<5	29.0	4.0		<0.1	<0.1	
	30-Mar-00	0.11	10.5	7.5	503	200	63	35	4	2	313	<5	34	4	1.3	<0.1		<0.1
	27-Jun-00	0.12	11	7.6	500	263	58	32	4	2	321	<5	32	3	0.2	<0.1	<0.1	<0.1
	27-Sep-00	0.1	11	7.6	500	283	57	32	5	2	313	<5	34	4	3.1	<0.1	<0.1	<0.1
	14-Dec-00	0.1	11.1	7.8	512	288	56	30	4	2	316	<5	29	3	0.2	<0.1	<0.1	<0.1
	13-Mar-01					323	56	32	4	2	314	<5	32	3	0.2	<0.1	<0.1	<0.1
	1-May-01	0.1	11.6	7.6	499	275	58	32	3	2	313	<5	32	3	0.3	<0.1	<0.1	<0.1
	27-Sep-01		12.2	7.8	487	314	56	32	5	2	316	<5	26.1	5	0.1	<0.1	<0.05	<0.05
	3-Dec-01	0.1	10.5	7.5	494	282	57	32	5	2	306	<5	28	3	0.2	<0.1	<0.05	<0.05
	27-Mar-02	0.1	11.9	7.5	487	323	55	31	4	2	313	<5.	31	3	0.2	<0.1	<0.05	<0.05
	20-Jun-02	0.2	12.8	7.3	480	283	36	24	32	6	226	<5.	69	9	<0.1	<0.1	<0.05	<0.05
	25-Sep-02	0.05	11.5	6.8	488	310	51	31	6	2	300	<5.	30	3	0.2	<0.1	<0.05	<0.05
	26-Dec-02	0.9		7.83	502	286	42	25	25	6	215	<5	68	7	<0.1	<0.1	<0.05	<0.05

Table 3 GENWAL UPDES Chemistry and discharge

Genwal Mine Discharge 002 chemistry for report.xls 25 Mar 2004

Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	DO (mg/l)	O&G (mg/l)
Mine discharge (UPDES 002)											
01-Jan-96	yes	101		8.14	624	367	<5				<2
01-Feb-96	yes	92		8.23	650	361	10	0.3	<0.1		<2
01-Mar-96	yes	66	12.3	7.46	657	432	<5		0.02		5
01-Apr-96	yes	69		7.81		370	14	0.5	0.05		7
01-May-96	yes	66		8.33	633	380	<5		0.03		4
01-Jun-96	yes	176	14.8	7.62	622	433	<5		0.02		4
01-Jul-96	yes	397	12.2	7.3		216	<5		<0.1		
01-Aug-96	yes	342		8.45							
01-Sep-96	yes	322		7.43	712	439	<5	<0.1	<0.1		<2
01-Oct-96	yes	269		7.4		422	<5		<0.1		
01-Nov-96	yes	206		7.6		422	10		2		
01-Dec-96	yes	333		7.7		457	8		0.2		
01-Jan-97	yes	396	11.6	7.5	816	460	<5	<0.1	0.2		<2
01-Feb-97	yes	316	12.1	7.7	808	490	<5	<0.1	0.2		<2
01-Mar-97	yes	325	12.5	7.8	779	460	<5	<0.1	0.2		<2
01-Apr-97	yes	254	11.7	7.6	773	470	<5	<0.1	0.3		
01-May-97	yes	240	12.3	7.4	855	480	<5	<0.1	0.2		<2
01-Jun-97	yes	238	12.2	6.7	726	490	<5	<0.1	0.2		<2
01-Jul-97	yes	278	13	6.7	731	470	<5	<0.1	<0.1		
01-Aug-97	yes	198	12.4	6.75	728	470	<5	<0.1	0.2		
01-Sep-97	yes	269	13.3	6.8	728	490	<5	<0.1	0.2		<2
01-Oct-97	yes	378	11.6	7	721	440	<5	<0.1	0.3		
01-Nov-97	yes	404									
01-Dec-97	yes	397	11.8	6.6	741	450	<5	<0.1	0.2		
01-Jan-98	yes	384	13.3	7	740	450	<5	<0.1	0.2		
01-Feb-98	yes	349	11.7	7.65	762	460	4	<0.1	0.1		
01-Mar-98	yes	326	10.4	7.05	783	472	<5	<0.1	0.2		
01-Apr-98	yes	316	12.1	7.7	795	433	4	<0.1	0.2		
01-May-98	yes	527	12.3	7.4	855	480	<5	<0.1	0.2		<2

Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	DO (mg/l)	O&G (mg/l)
01-Jun-98	yes	615	13.5	7.6	726	477	8	<0.1	0.2		
01-Jul-98	yes	688	13.4	7.85	666	427	<5	<0.1	<0.1		
01-Aug-98	yes	637									
01-Sep-98	yes	665	13.2	7.55	690	467	<5	<0.1	<0.1		<2
01-Oct-98	yes	689	12.2	7.1	653	449	23	<0.1	0.3		
01-Nov-98	yes	598	11.6	7.8	646	420	<5	<0.1	<0.1		<2
01-Dec-98	yes	578	10.9	7.7	660	411	<5	<0.1	<0.1		
01-Jan-99	yes	569	10.1	7.6	640	400	<5	<0.1	<0.1		<2
01-Feb-99	yes	607	10.4	7.4	722	445	<5	<0.1	<0.1		
01-Mar-99	yes	580	11.2	7.6	639	418	<5	<0.1	<0.1		<2
01-Apr-99	yes	565	11.2	7.7	664	335	<5	<0.1	<0.1	4.1	
01-May-99	yes	556	9	7.8	667	384	<5	<0.1	<0.1		
01-Jun-99	yes	622	12.8	7.8	685	397	<5	<0.1	<0.1	7.3	<2
01-Jul-99	yes	214	14.4	7.42	699	427	<5	<0.1	0.3	4.3	
01-Aug-99	yes	220	14.3	7.3	721	430	<5	<0.1	<0.1	2.3	
01-Sep-99	yes	208	11.9	7.4	730	428	<5	<0.1	<0.1		<2
01-Oct-99	yes	357	12.3	7.8	734	448	<5	<0.1	<0.1		
01-Nov-99	yes	875	11.4	7.8	692	413	<5	<0.1	<0.1		<2
01-Dec-99	yes	839	12.3	6.8	684	412	<5	<0.1	<0.1	10.4	<2
24-Jan-00	yes	760	11.5	8.0	666	405	<5	<0.1	<0.1	5.7	
14-Feb-00	yes	654	11.5	7.8	675	402	<5	<0.1	0.1	4.1	
30-Mar-00	yes	665	11.5	7.4	681	395	<5	<0.1	<0.1		<2
25-Apr-00	yes	703	11.7	8.2	704	431	<5	<0.1	<0.1		
30-May-00	yes	655	13.3	8.1	714	456	6			5.1	<2
27-Jun-00	yes	772	11.9	7.1	715	420	<5	<0.1	<0.1	8.8	
31-Jul-00	yes	766	16.6	7.7	731	457	<5	<0.1	<0.1	7.8	<2
29-Aug-00	yes	687	16.9	6.9	724	443	<5	<0.1	0.2	6.8	<2
27-Sep-00	yes	623	11.9	7.1	715	407	<5	<0.1	<0.1	8.8	<2
25-Oct-00	yes	705	12.8	7.7	676	413	6	<0.1	<0.1	10.2	
27-Nov-00	yes	675	12.1	7.5	675	401	<5	<0.1	<0.1	9.1	
07-Dec-00	yes	754	12.1	7.3	691	442	<5	<0.1	<0.1	7.8	4
25-Jan-01	yes	1040	7.4	7.4	698	402	<5	<0.1	<0.1	8.5	4
15-Feb-01	yes	1050	7.8	7.8	709	412	<5	<0.1	<0.1	9.5	<2
13-Mar-01	yes	1020	11.7	7.1	708	454	<5	<0.1	<0.1	5.1	<2

Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	DO (mg/l)	O&G (mg/l)
27-Apr-01	yes	1050	9.6	7.8	707	419	<5	<0.1		6.8	<2
30-May-01	yes	1040	13.2	7.6	686	412	<5	<0.1		6.1	<2
19-Jun-01	yes	1040	14.4	7.1	720	449	<5	<0.1	<0.1	10.6	
19-Jul-01	yes	1040	14.1	6.9	730	499	<5	<0.1	<0.1	8.8	<2
23-Aug-01	yes	1040	14.9	7.1	708	478	<5	<0.1	<0.1	8	<2
27-Sep-01	yes	1040	12.3	7.4	685	456	<5	<0.1	<0.1	8.2	<2
25-Oct-01	yes	1030	11.5	7.1	681	438	<5	<0.1	<0.1	9.3	
27-Nov-01	yes	1020	7.1	7.3	693	451	<5	<0.1	0.1	6.2	
05-Dec-01	yes	780	11.2	7.6	697	438	<5	<0.1	<0.1	4.8	<2
14-Jan-02	yes	604	9	7.1	700	390	<5	<0.1	<0.1	8.2	
10-Feb-02	yes	1020	8.3	7.9	698	420	<5.	<0.1	<0.1	9.6	
27-Mar-02	yes	1020	10.8	7.2	667	443		<0.1	<0.1	9.6	<2.
24-Apr-02	yes	900	12.8	7.8	686	448	<5.	<0.1	<0.1	11.2	
9-May-02	yes	900	8.88	7.7	687	442	6	<0.1	<0.1	8.2	
20-Jun-02	yes	900	14.2	7.7	688	425	<5.	<0.1	<0.1	9	<2.
22-Jul-02	yes	900	14.8	7.7	712	424	<5.	<0.1	<0.1	7.1	
29-Aug-02	yes	900	12.7	7.5	694	458	<5.	<0.1	<0.1	6.8	<2.
25-Sep-02	yes	900	12.7	7.4	720	456	<5.	<0.1	<0.1	6.8	<2.
10-Oct-02	yes	900	9.0	7.4	712	440	<5	<0.1	<0.1	6.8	
10-Nov-02	yes	900	9.0	7.4	714	395	5	<0.1	<0.1	7.8	
26-Dec-02	yes	900	9.1	7.5	710	422	<5	<0.1	<0.1	7.6	<2
31-Jan-03	yes	700	11.1	7.4	672	398	<5.	<0.005	0.069	6.4	
11-Feb-03	yes	250	8.2	7.3	695	395	<5.	<0.005	0.091	6.8	
4-Mar-03	yes	975	11.2	7.7	687	417	<5.	<0.005	0.03	2.2	3
16-Apr-03	yes	1050	7.6	7.2	703	448	<5	<0.005	0.135	6.8	2
22-May-03	yes	900	13.6	7.8	711	427	<5	<0.005	0.021	8.1	<2
25-Jun-03	yes	1050	13.2	7.8	739	430	<5	<0.005	0.028	8.4	
28-Jul-03	yes	900	13.5	7.9	772	499	6	<0.005	0.301	8.1	
18-Aug-03	yes	1050	12.9	7.7	796	504	<5	<0.005	<0.02	9.7	<2
25-Sep-03	yes	1050	14.1	7.6	776	501	<5	0.012	0.059	8.9	
29-Oct-03	yes	1050	10.0	7.9	799	494	<5	<0.005	0.031	8.6	<2
30-Oct-03	yes	1050	10.0	7.9	806	549	<5	0.018	<0.02	8.6	
30-Nov-03	yes	1050	9.5	7.4	833	508	<5	0.007	0.079	4.7	
29-Dec-03	yes	1050	8.0	7.8	796	471	<5	<0.005	0.041	2.5	<2

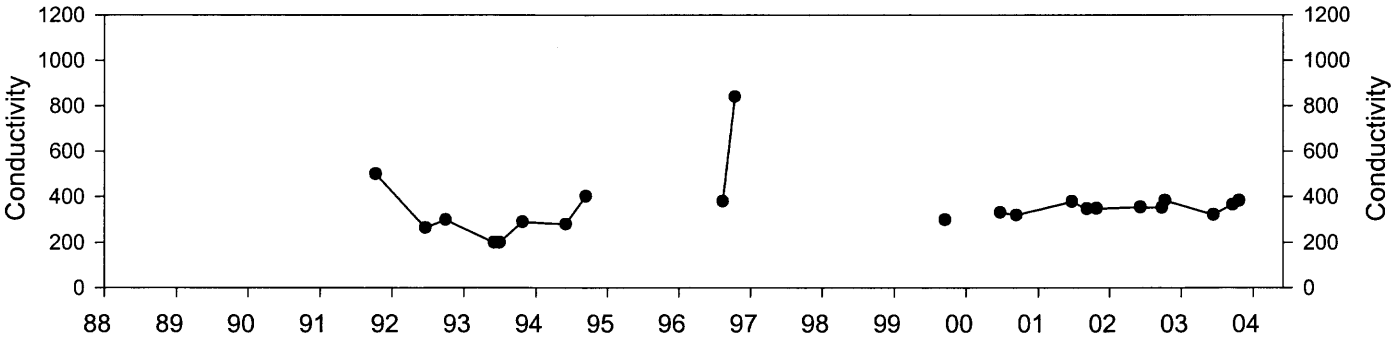
Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	DO (mg/l)	O&G (mg/l)
Sed Pond Discharge (UPDES 001)											
Jan-99	yes	no discharge									
Feb-99	yes	no discharge									
Mar-99	yes	no discharge									
Apr-99	yes	no discharge									
May-99	yes	no discharge									
Jun-99	yes	no discharge									
Jul-99	yes	no discharge									
Aug-99	yes	no discharge									
Sep-99	yes	no discharge									
Oct-99	yes	no discharge									
Nov-99	yes	no discharge									
Dec-99	yes	no discharge									
Jan-00	yes	no discharge									
Feb-00	yes	no discharge									
Mar-00	yes	no discharge									
Apr-00	yes	no discharge									
May-00	yes	no discharge									
Jun-00	yes	no discharge									
Jul-00	yes	no discharge									
Aug-00	yes	no discharge									
Sep-00	yes	no discharge									
Oct-00	yes	no discharge									
Nov-00	yes	no discharge									
Dec-00	yes	no discharge									
25-Jan-01	yes	no discharge									
15-Feb-01	yes	no discharge									
13-Mar-01	yes	no discharge									
27-Apr-01	yes	no discharge									
30-May-01	yes	no discharge									
19-Jun-01	yes	no discharge									

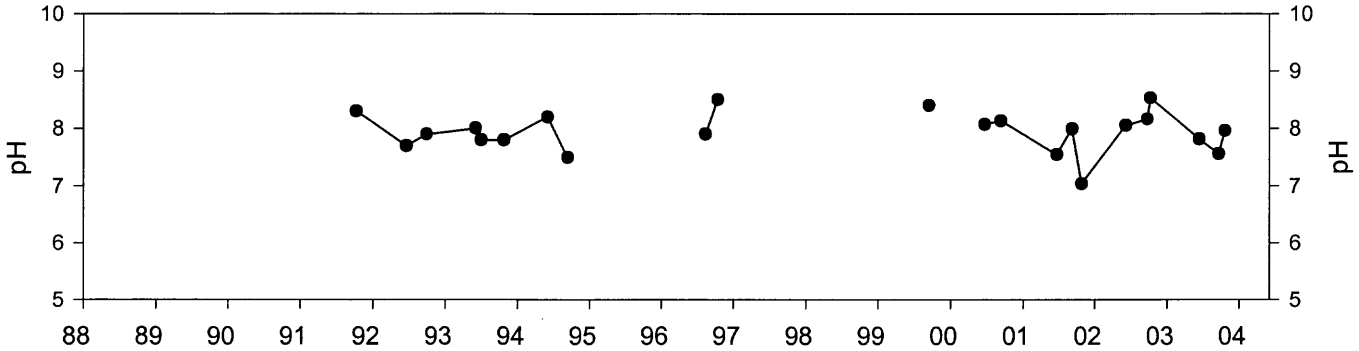
Date	Monitored	Flow (gpm)	T (°C)	pH (S.U.)	Cond (µs/cm)	TDS (mg/l)	TSS (mg/l)	Fe(d) (mg/l)	Fe(T) (mg/l)	DO (mg/l)	O&G (mg/l)
19-Jul-01	yes	no discharge									
23-Aug-01	yes	no discharge									
27-Sep-01	yes	no discharge									
25-Oct-01	yes	no discharge									
27-Nov-01	yes	no discharge									
05-Dec-01	yes	no discharge									
10-Jan-00	yes	no discharge									
15-Feb-02	yes	no discharge									
27-Mar-02	yes	no discharge									
24-Apr-02	yes	no discharge									
9-May-02	yes	no discharge									
20-Jun-02	yes	no discharge									
22-Jul-02	yes	no discharge									
29-Aug-02	yes	no discharge									
25-Sep-02	yes	no discharge									
10-Oct-02	yes	no discharge									
10-Nov-02	yes	no discharge									
26-Dec-02	yes	no discharge									
31-Jan-03	yes	no discharge									
11-Feb-03	yes	no discharge									
4-Mar-03	yes	no discharge									
16-Apr-03	yes	no discharge									
22-May-03	yes	no discharge									
25-Jun-03	yes	no discharge									
28-Jul-03	yes	no discharge									
18-Aug-03	yes	no discharge									
25-Sep-03	yes	no discharge									
30-Oct-03	yes	no discharge									
30-Nov-03	yes	no discharge									
29-Dec-03	yes	no discharge									

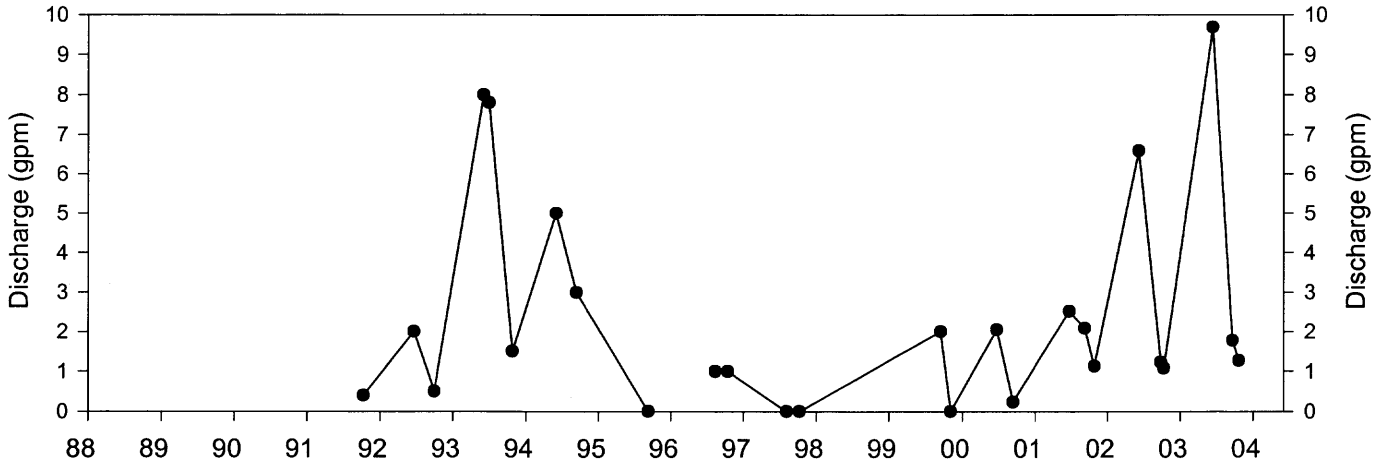
Time series plots of specific conductance, pH, and discharge for monitoring sites.

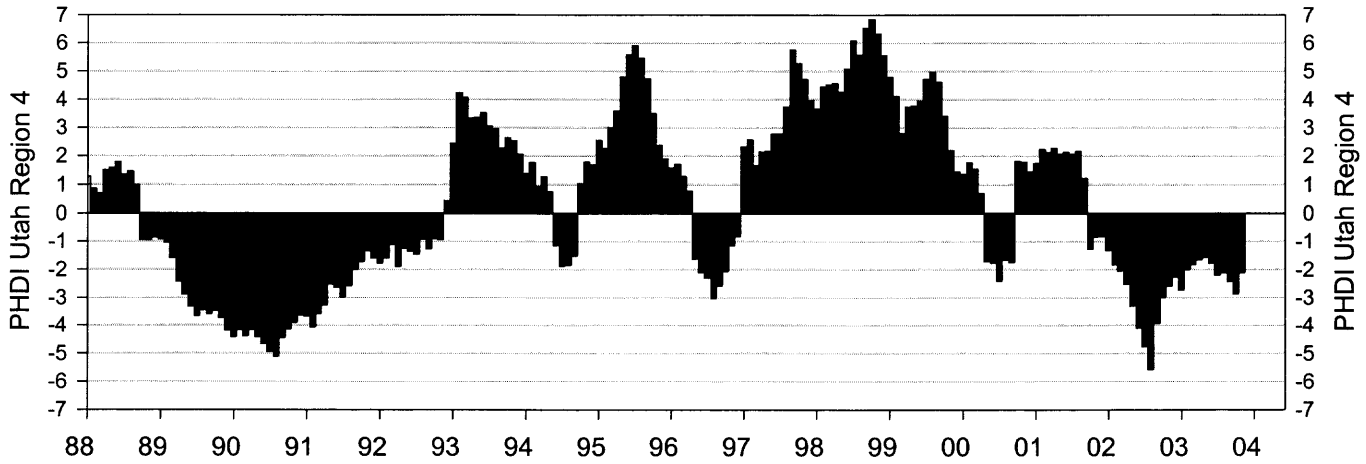
Crandall Canyon #1 Mine, 2003

SP2-24

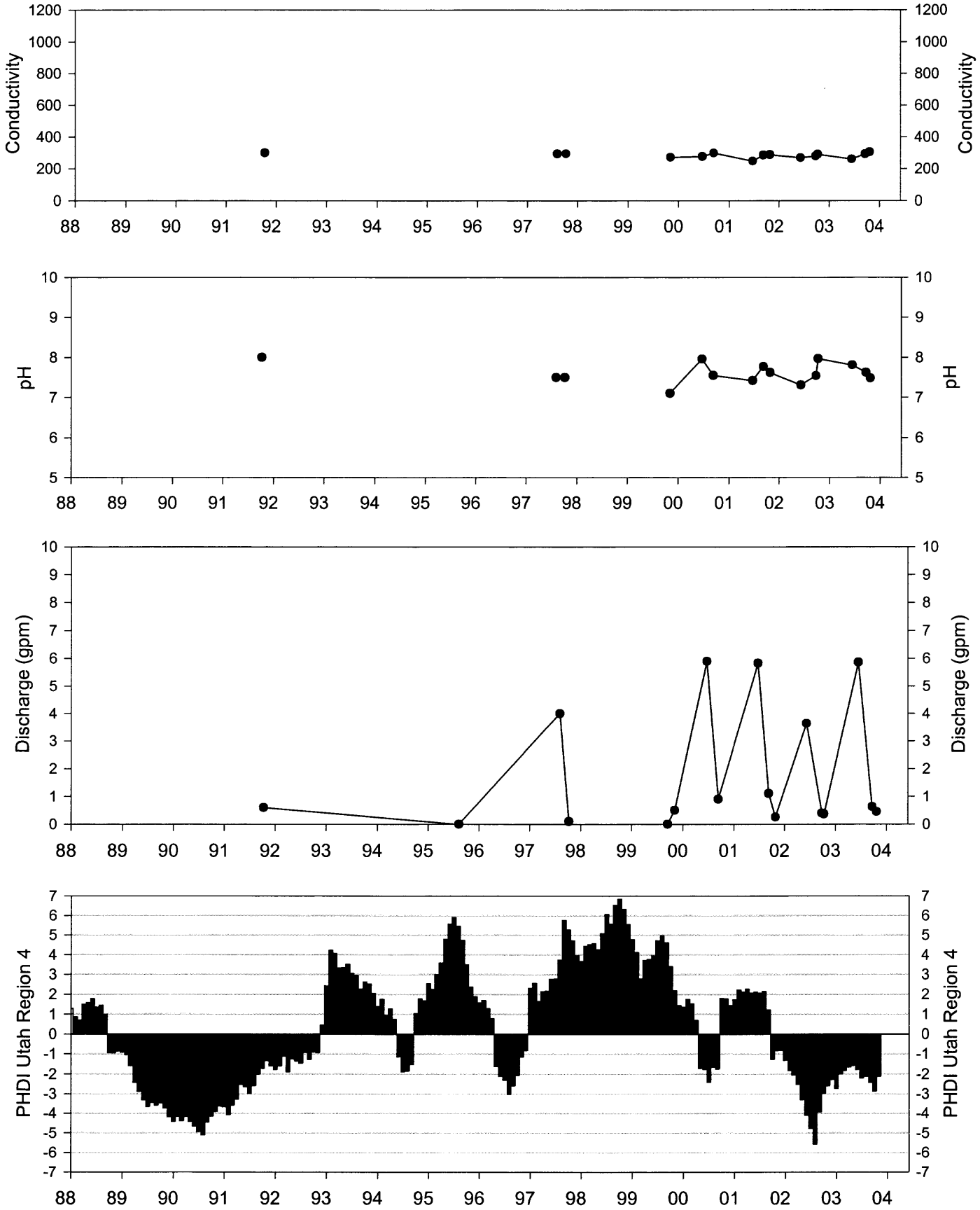

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

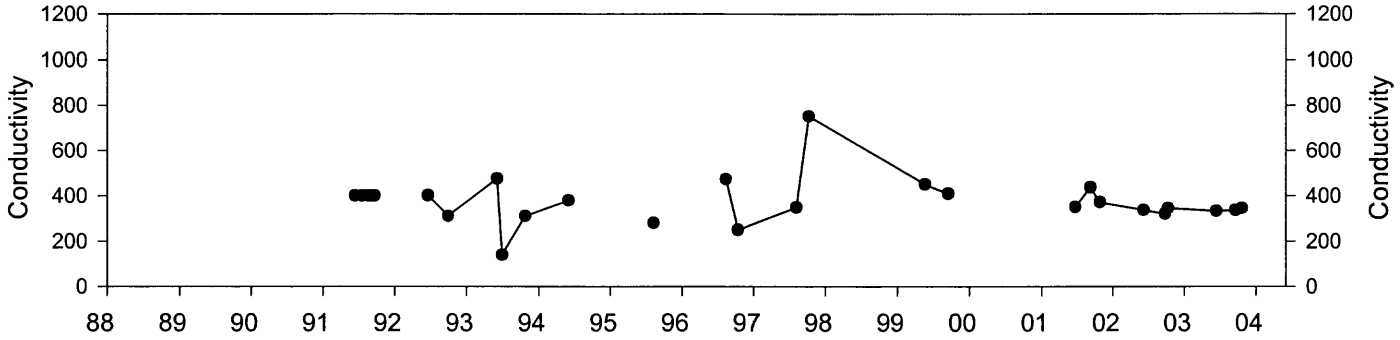

Discharge (gpm)
10
9
8
7
6
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

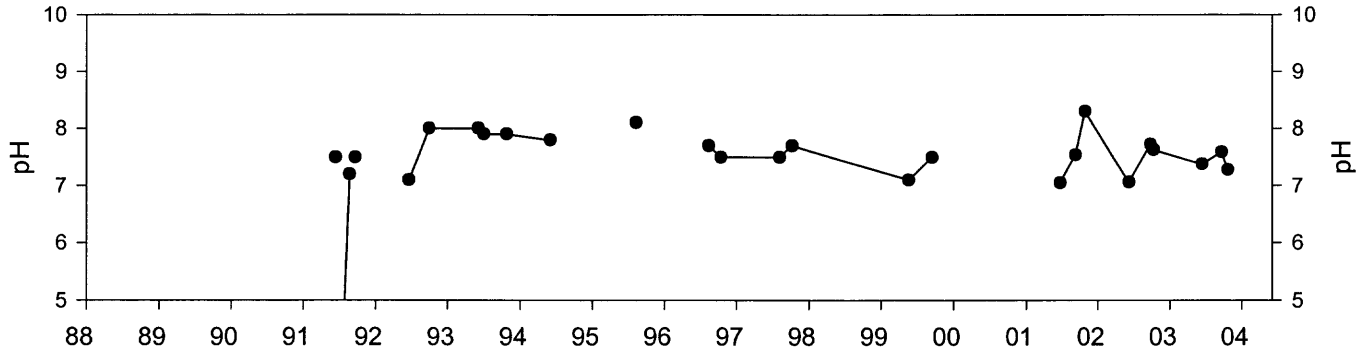

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

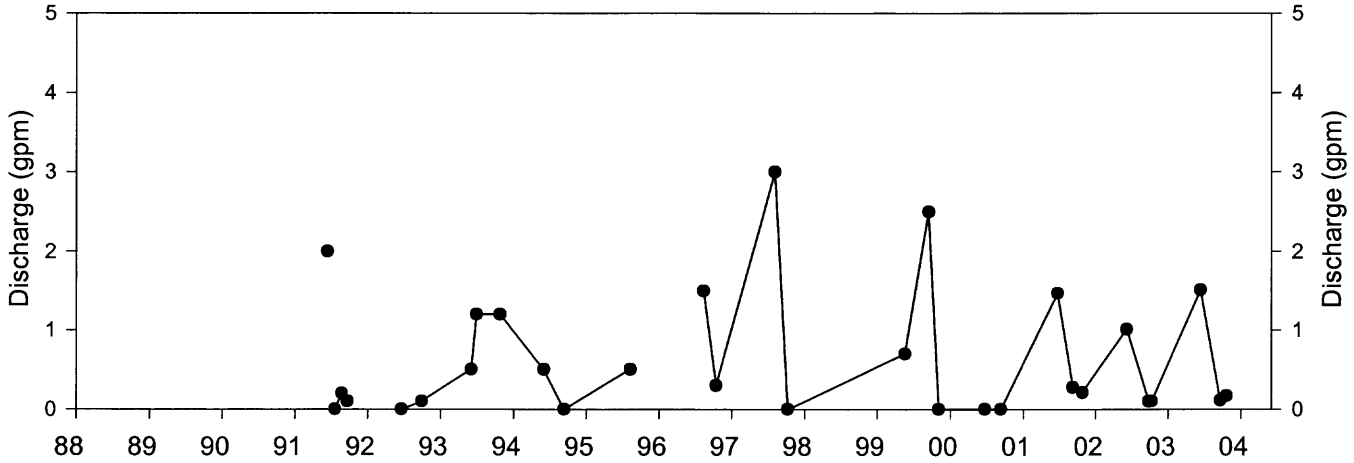
SP2-9

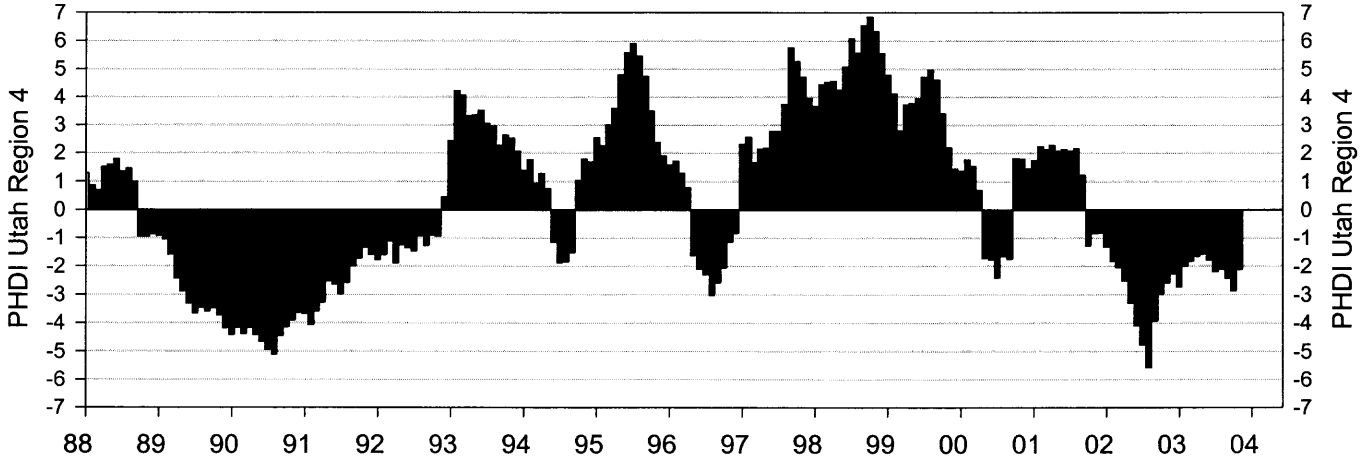

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP47A

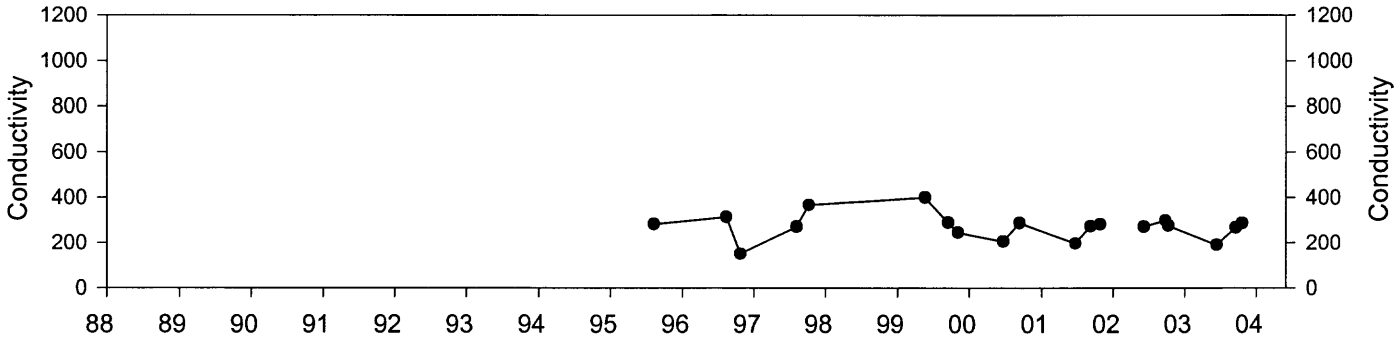

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

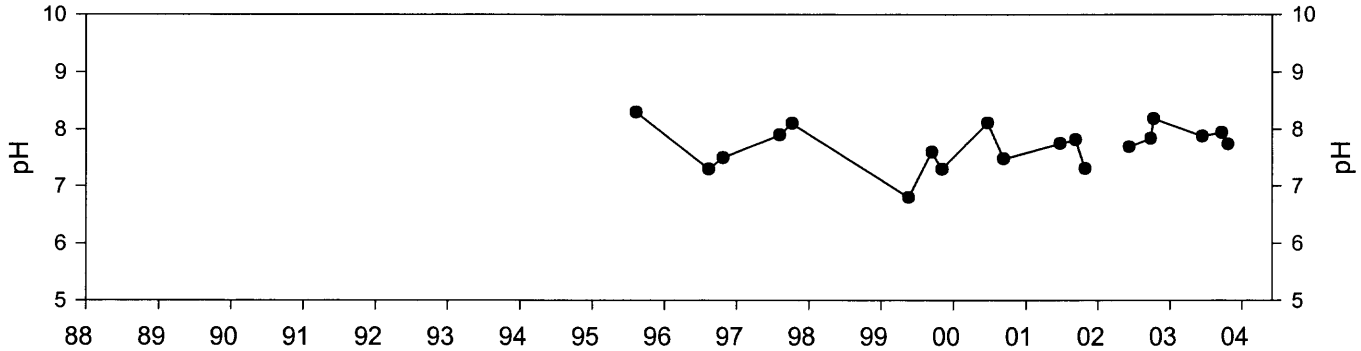

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

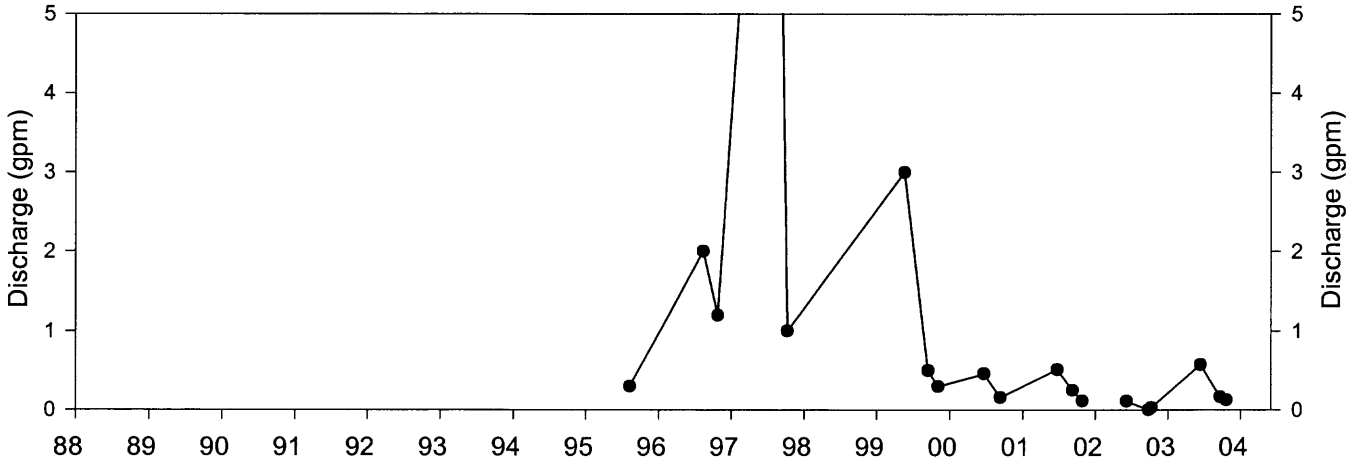

Discharge (gpm)
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

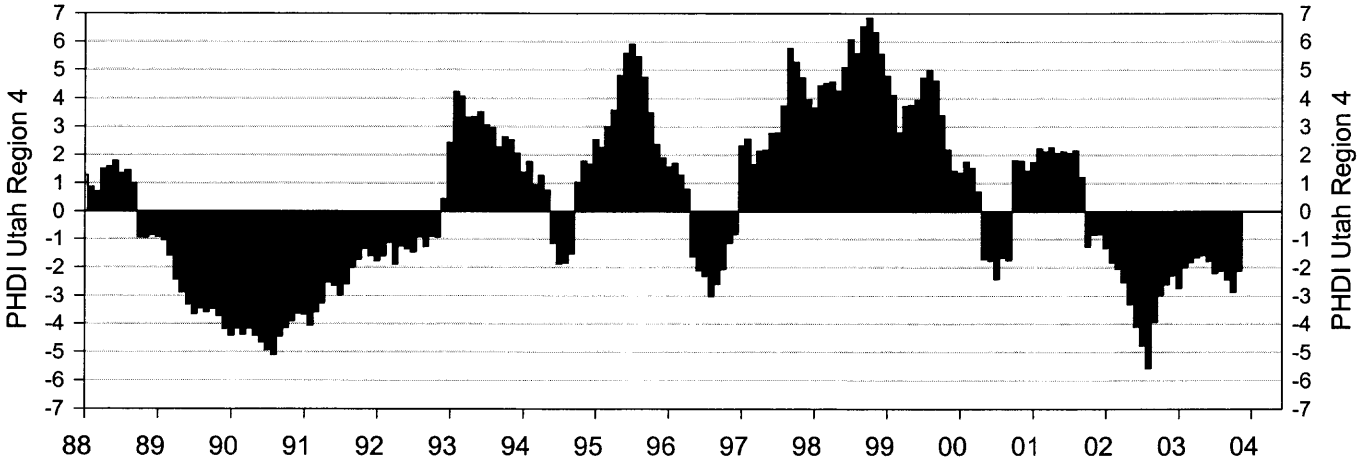

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP1-3

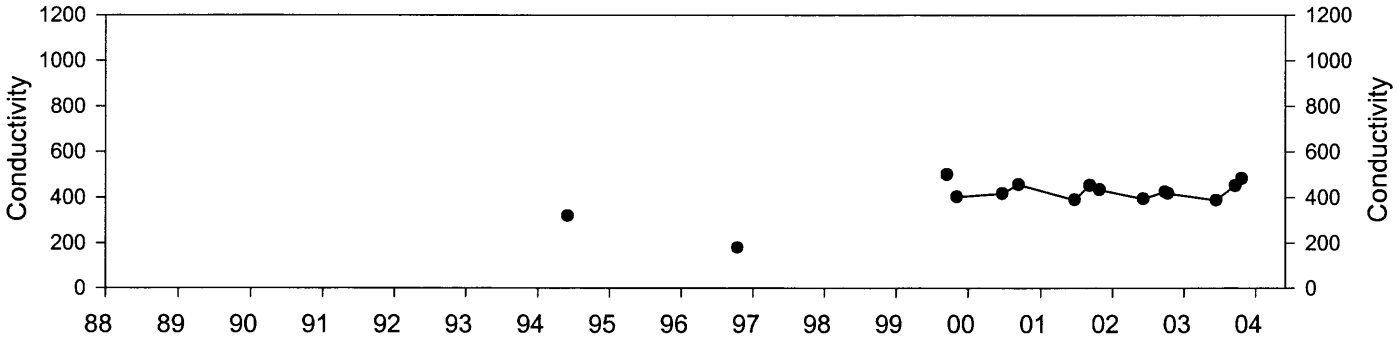

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

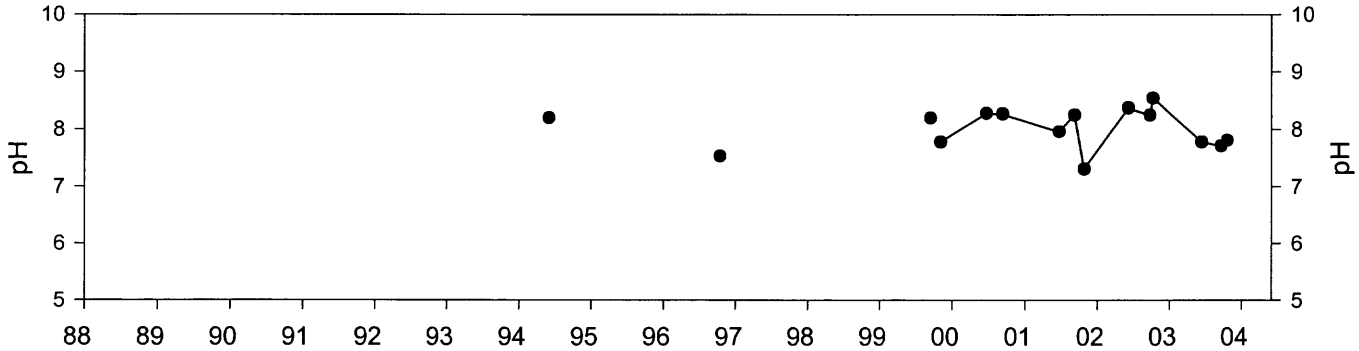

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

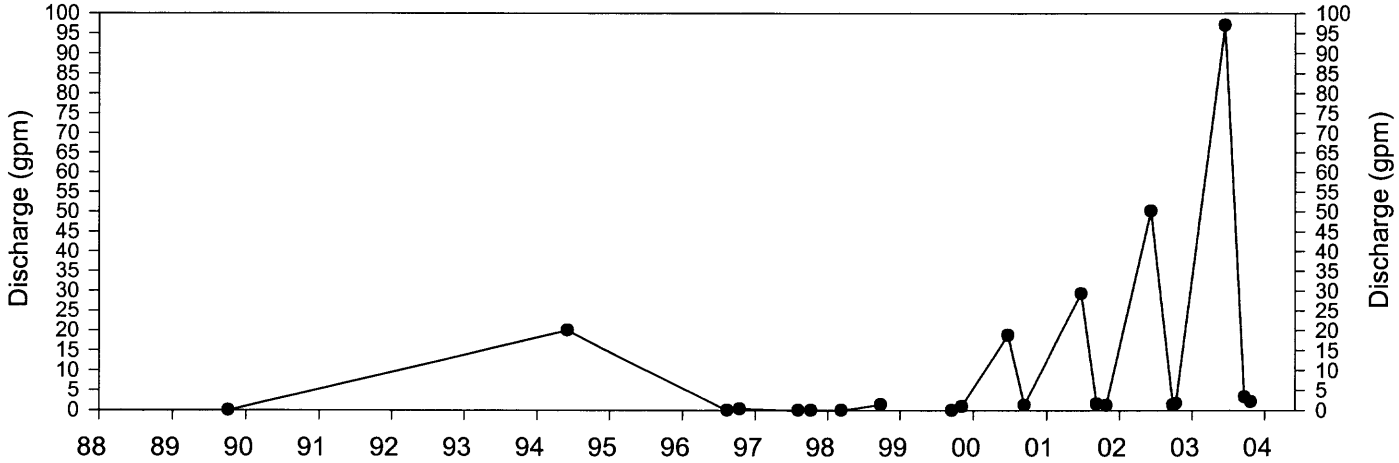

Discharge (gpm)
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

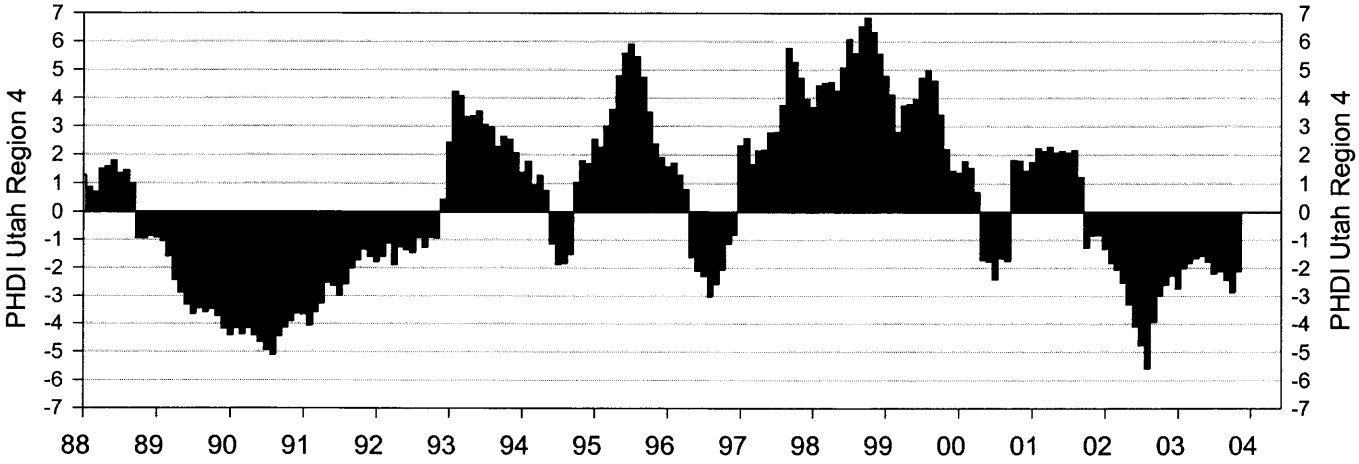

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP1-19

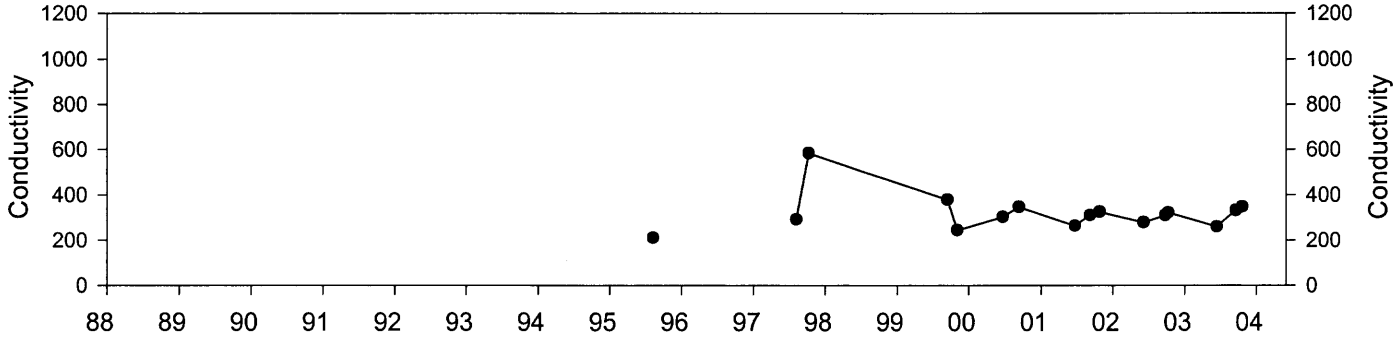

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

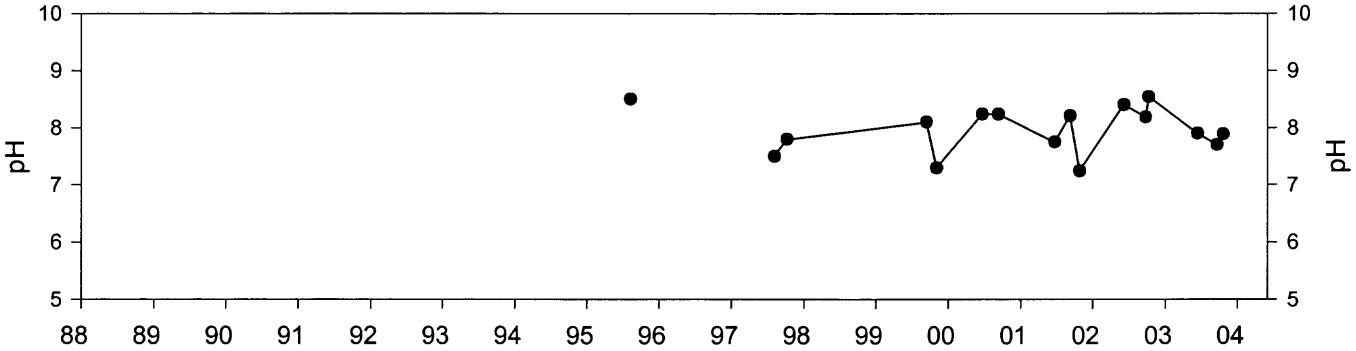

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

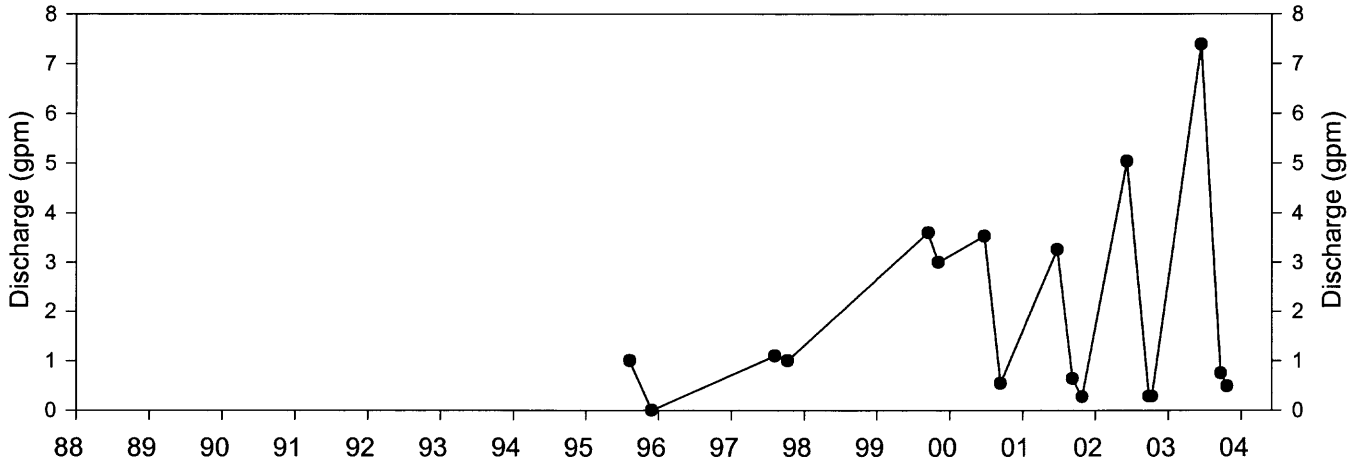

Discharge (gpm)
100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

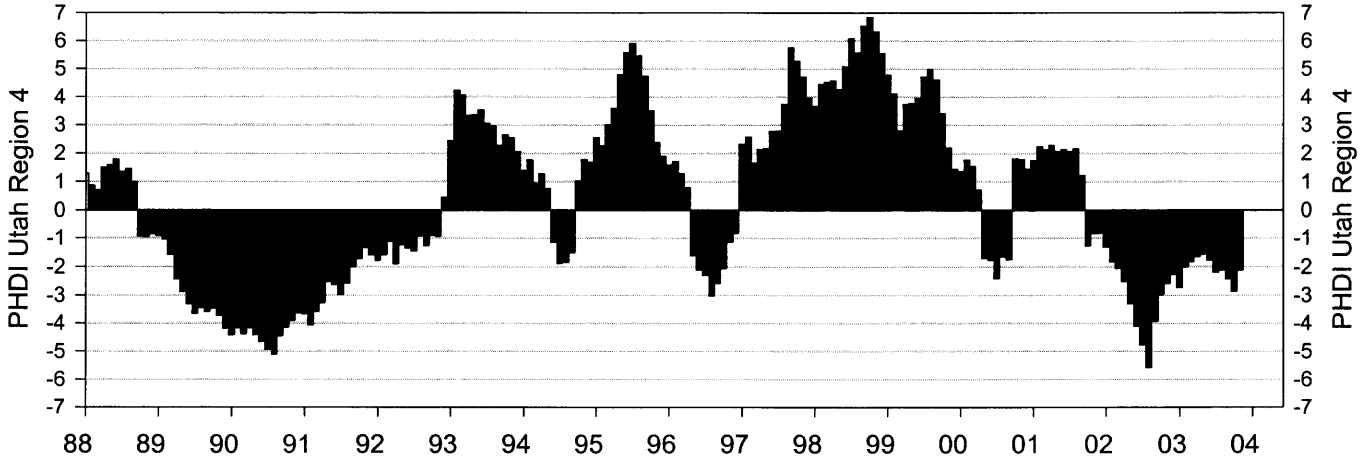

PHDI Utah Region 4
7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5 -6 -7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP1-22

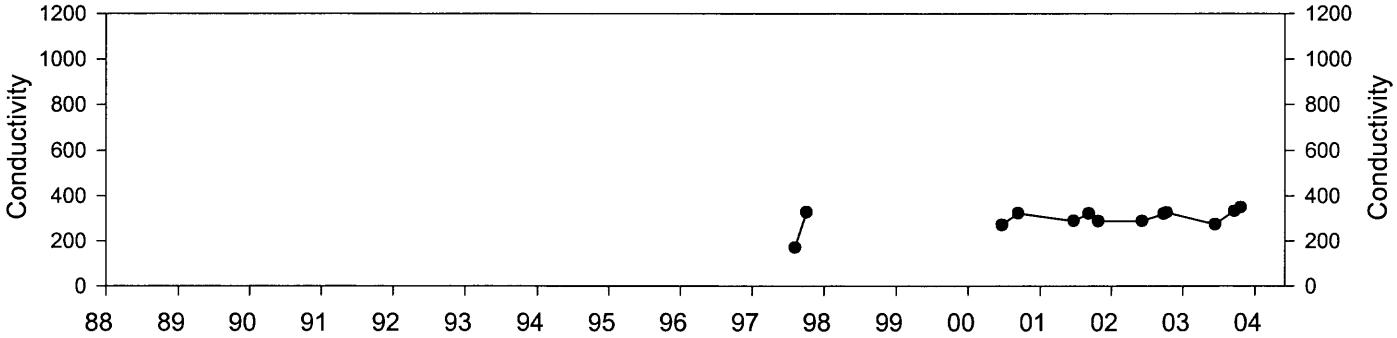

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

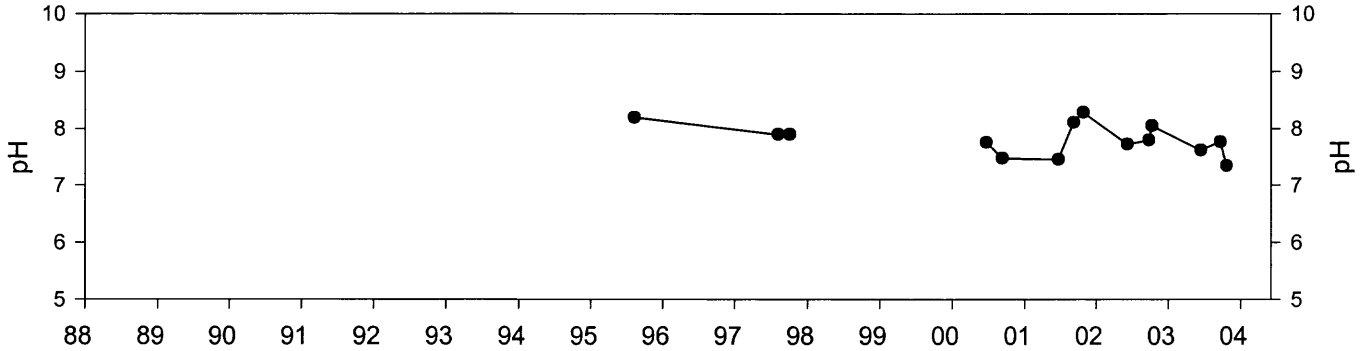

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

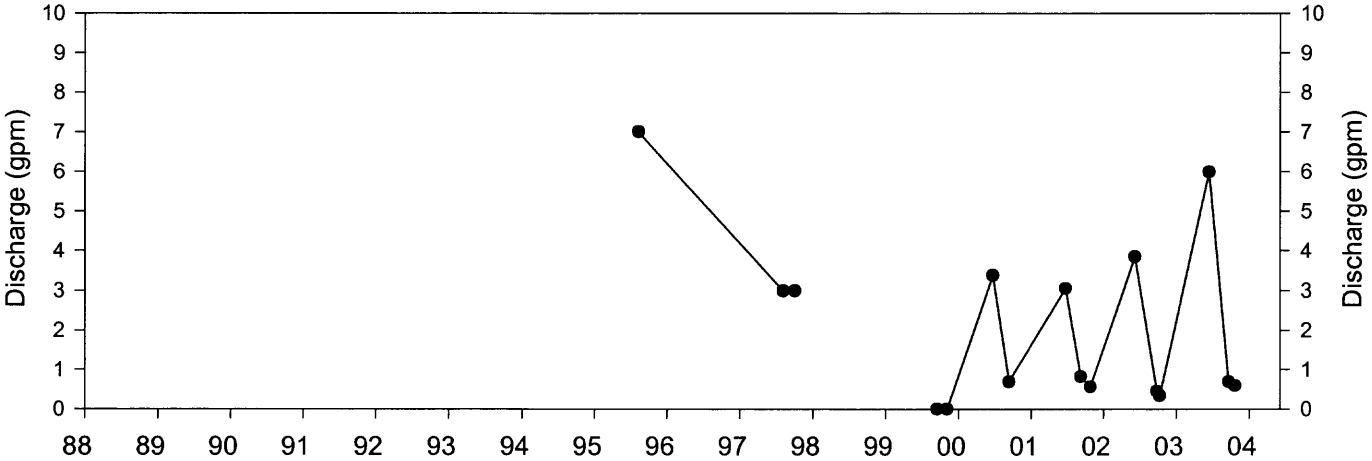

Discharge (gpm)
8
7
6
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

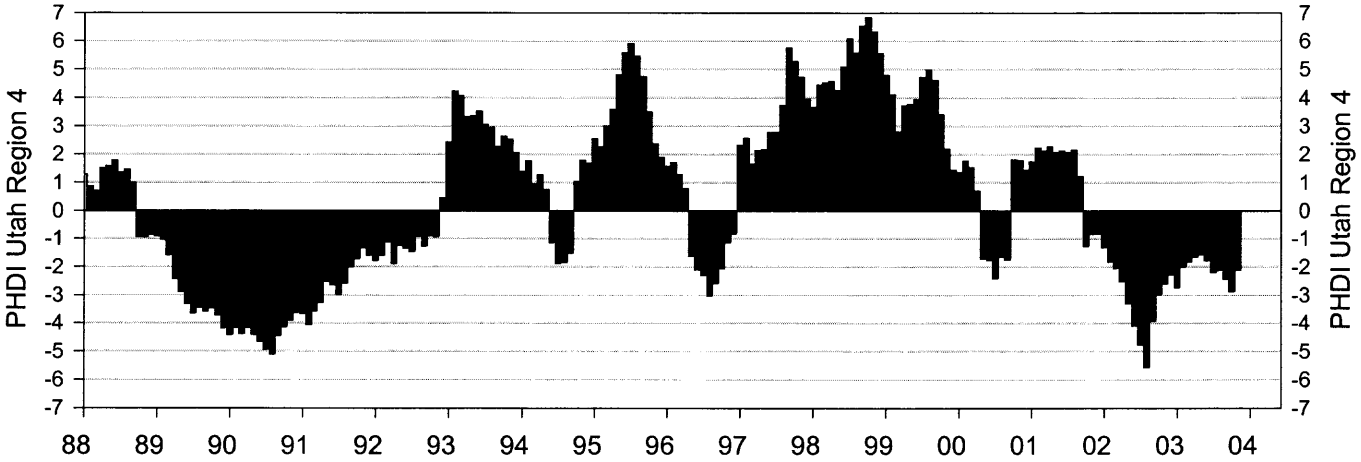

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP1-9

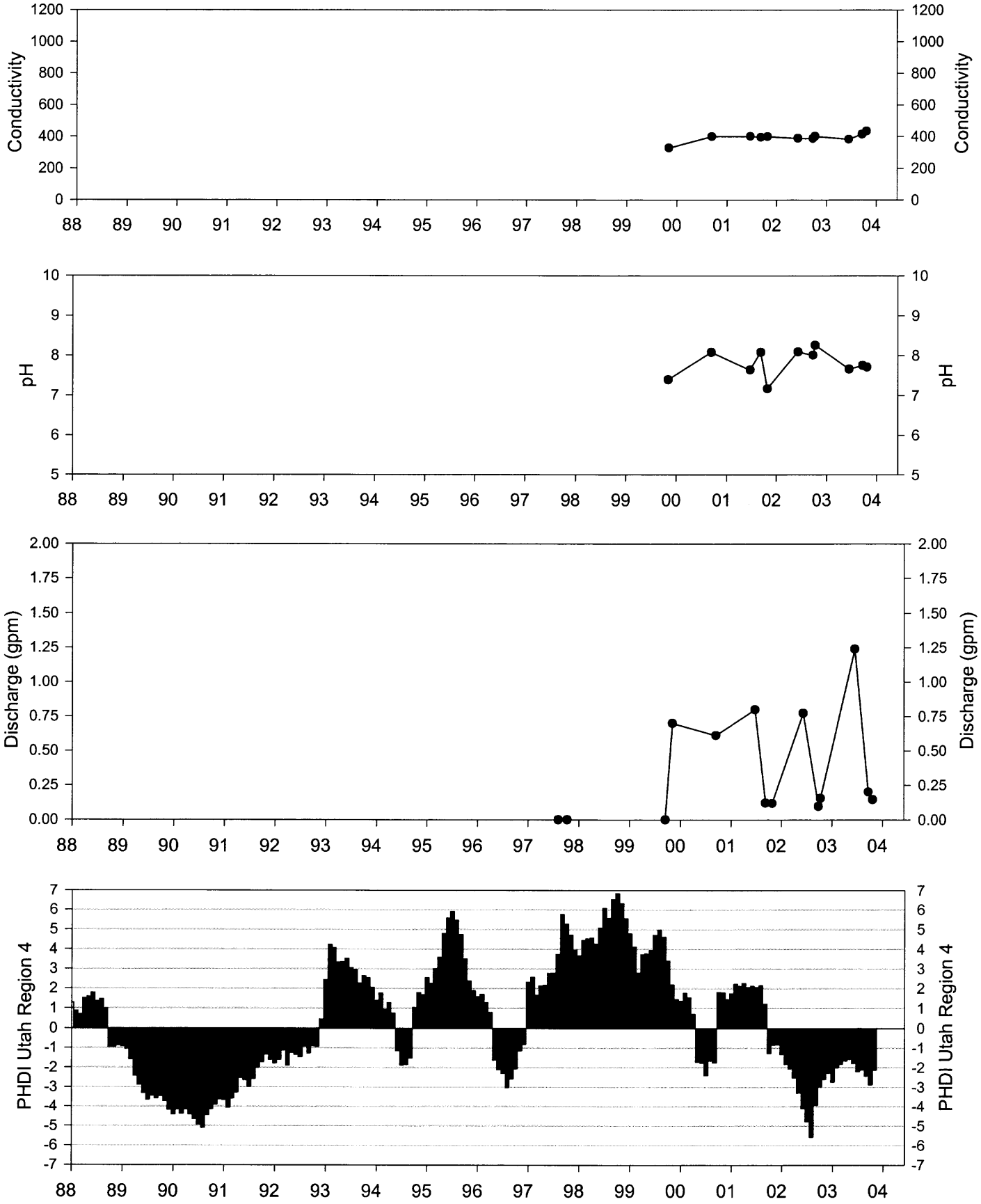

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

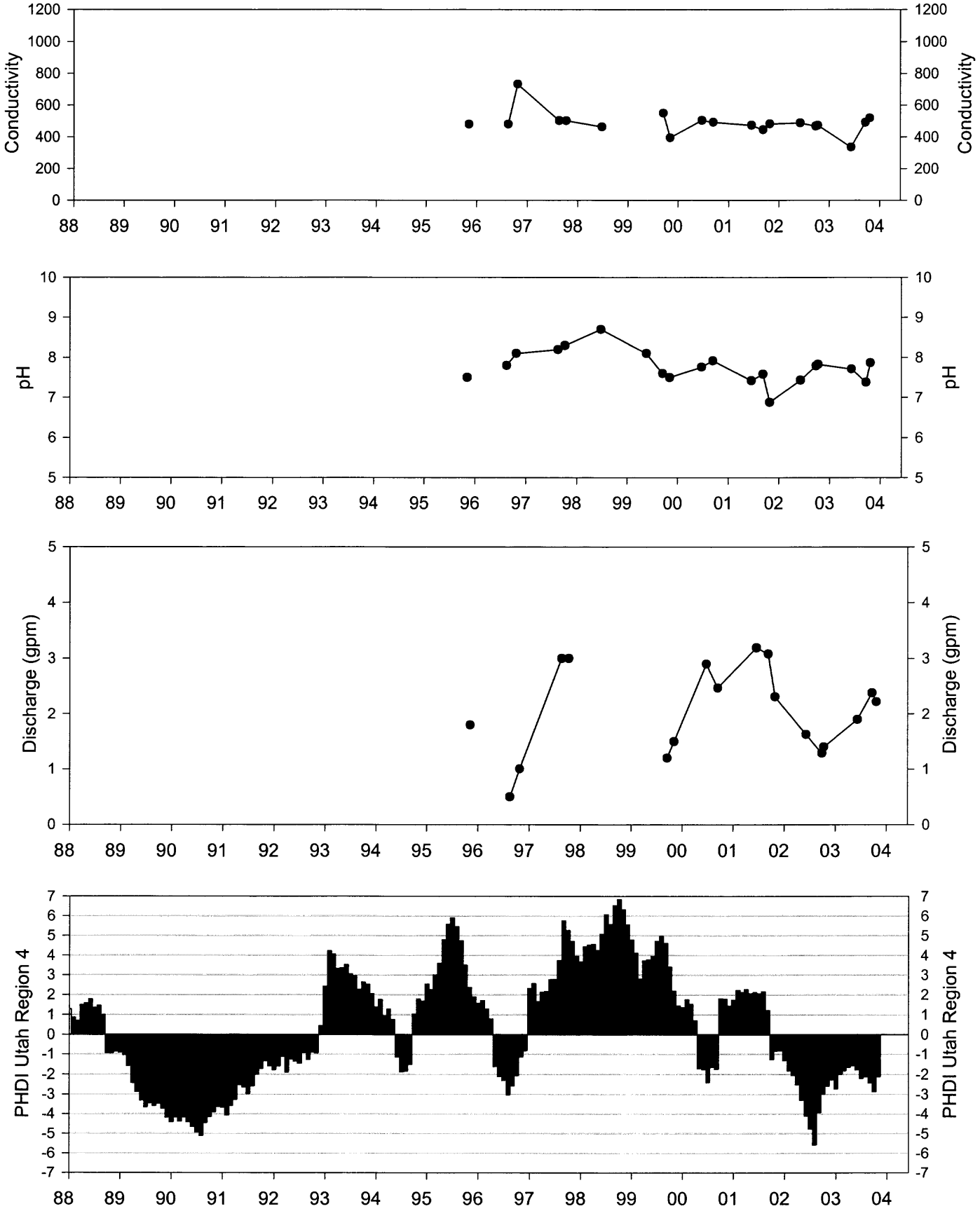

Discharge (gpm)
10
9
8
7
6
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

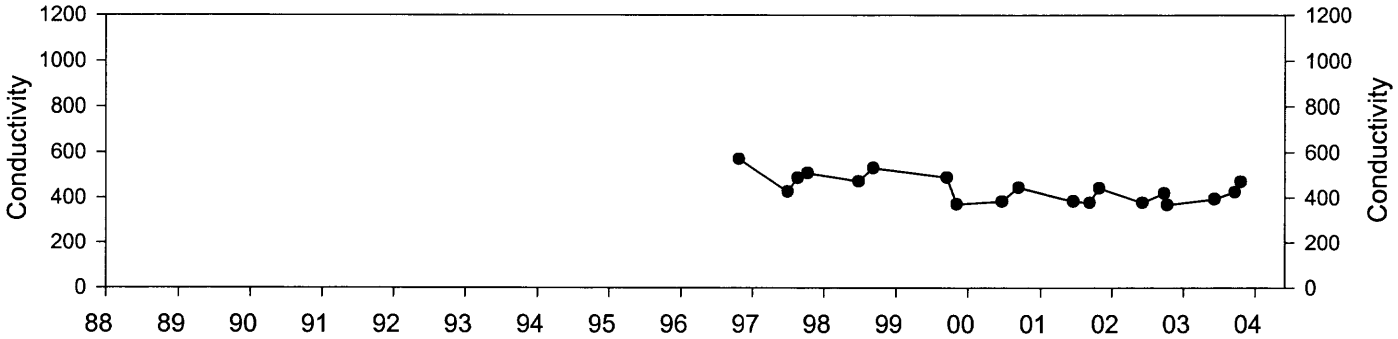
SP1-24

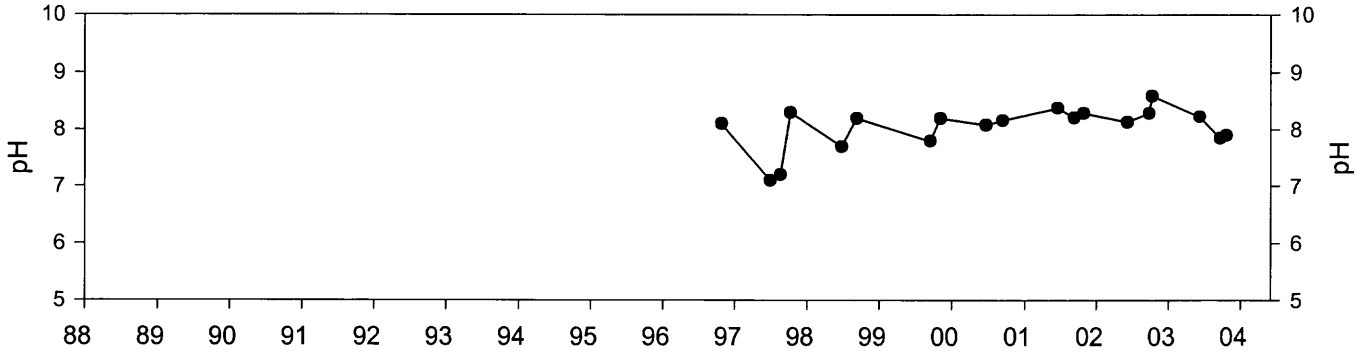

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
pH
10
9
8
7
6
5
Discharge (gpm)
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7

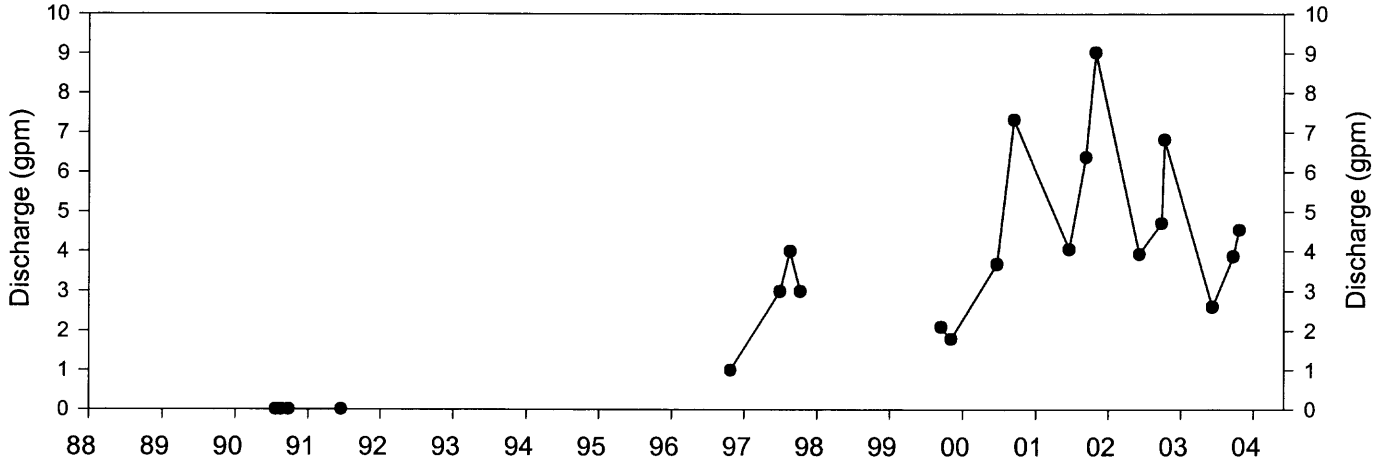
SP1-33

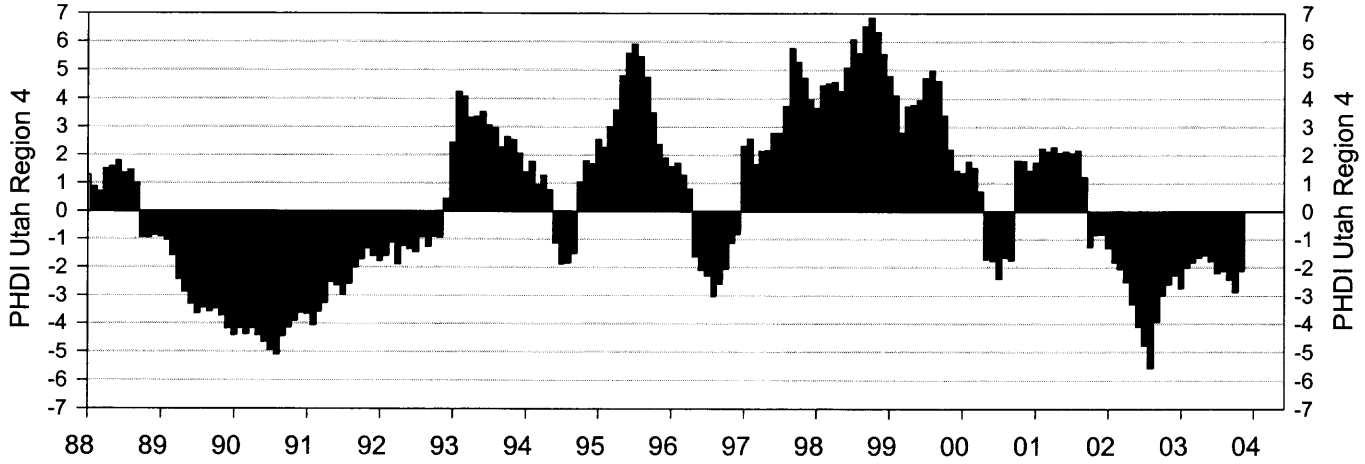

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
pH
10
9
8
7
6
5
Discharge (gpm)
5
4
3
2
1
0
PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7

SP1-47

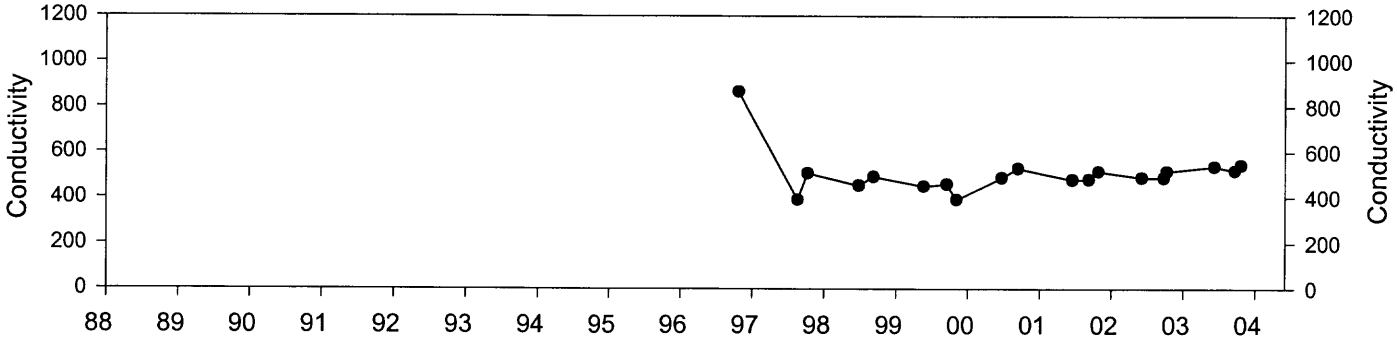

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

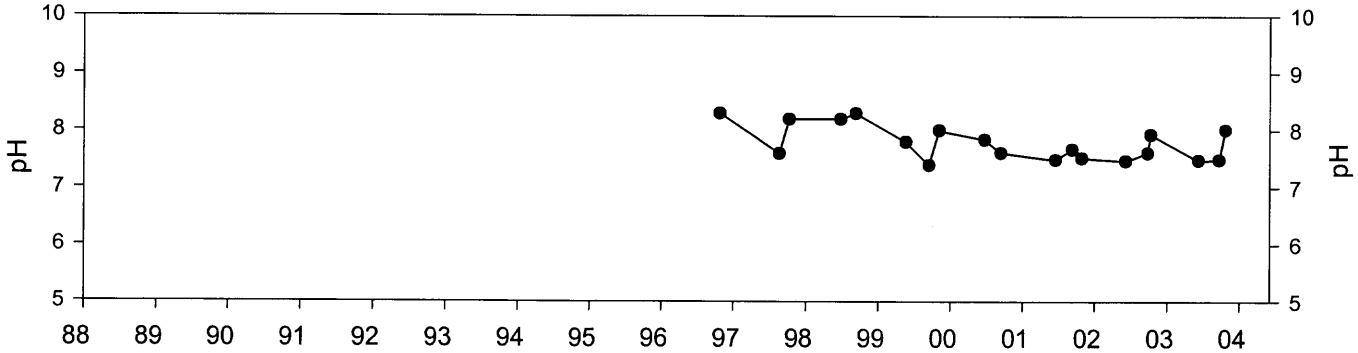

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

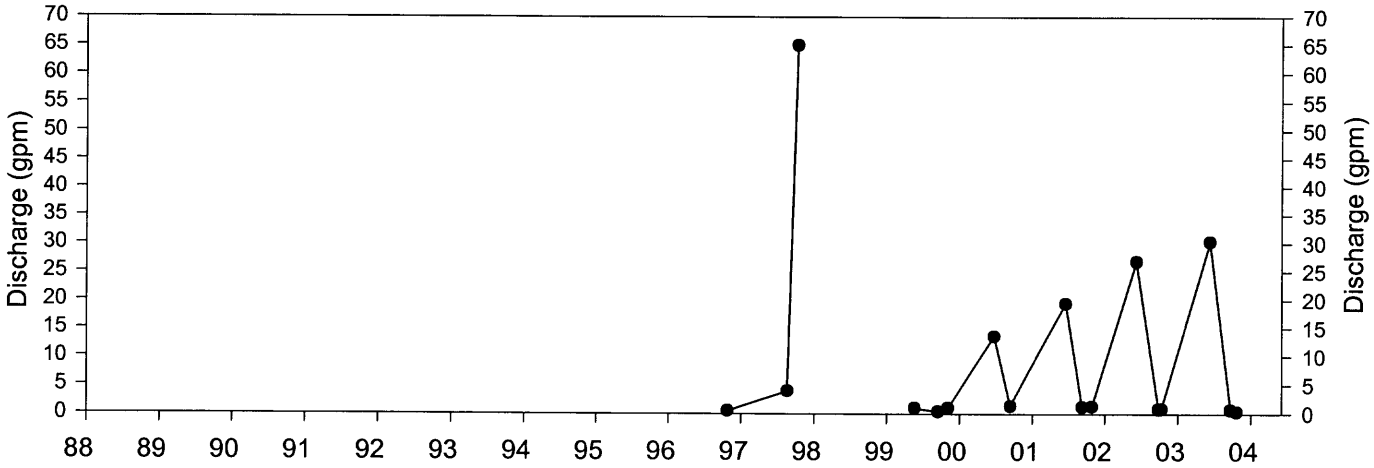

Discharge (gpm)
10
9
8
7
6
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

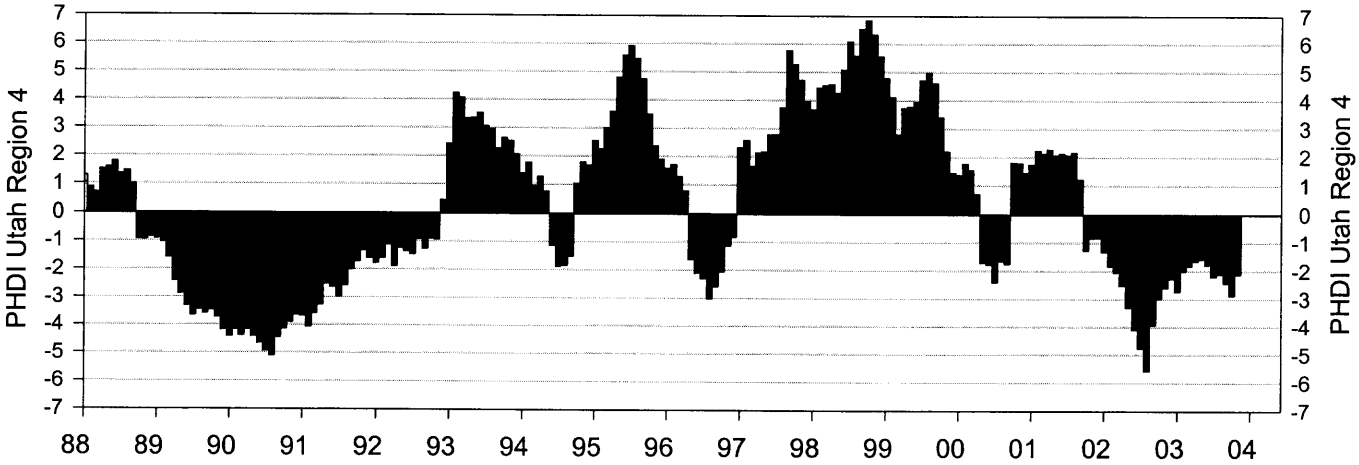

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP2-1

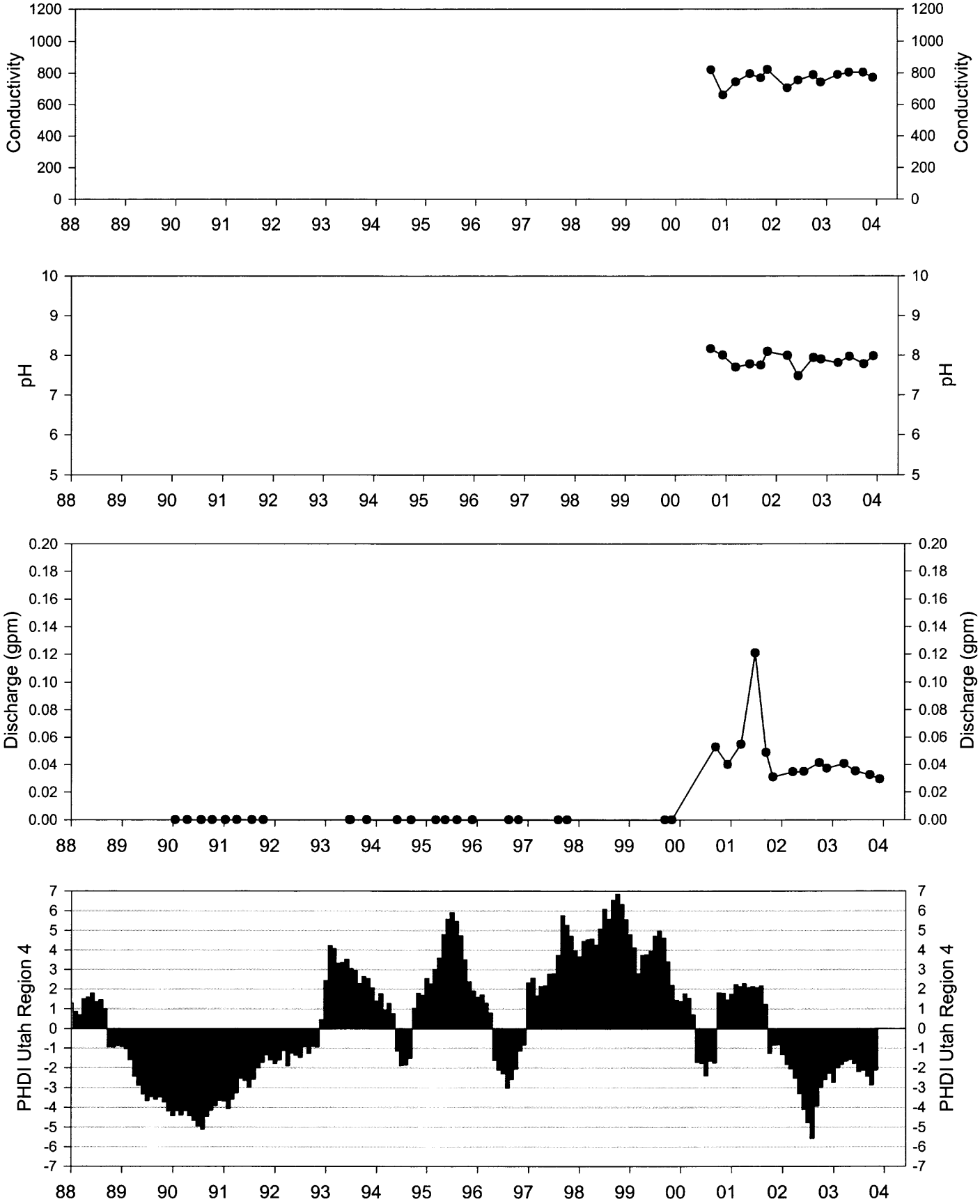

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

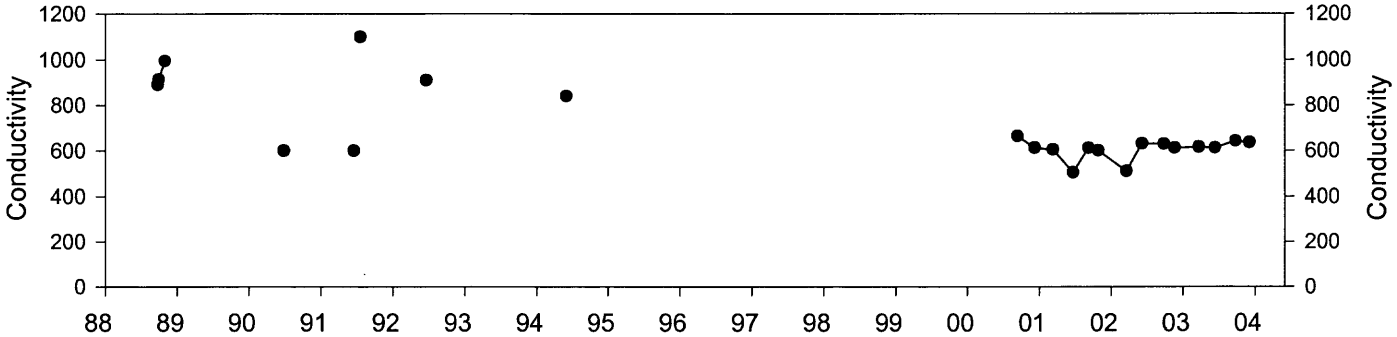

Discharge (gpm)
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

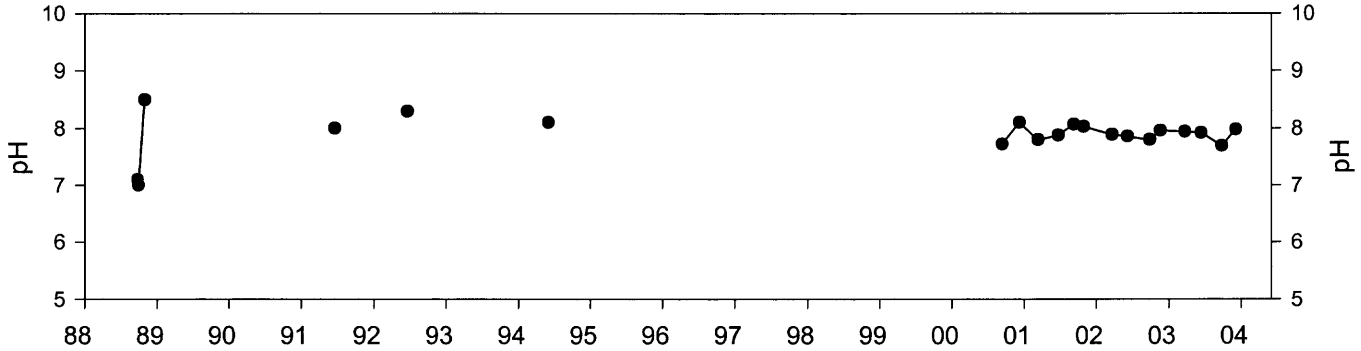

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

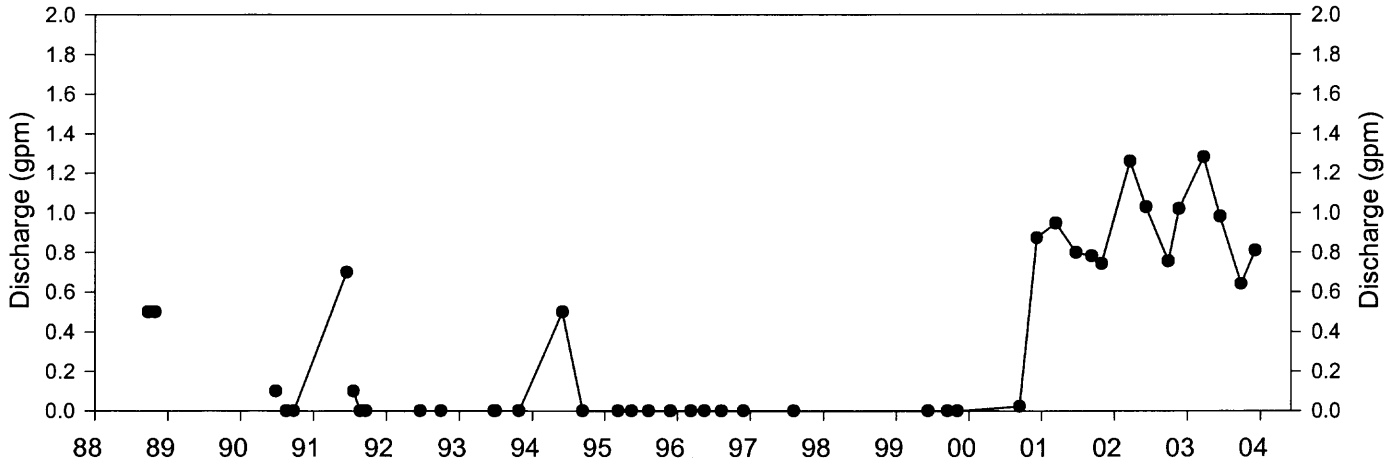
SP-30

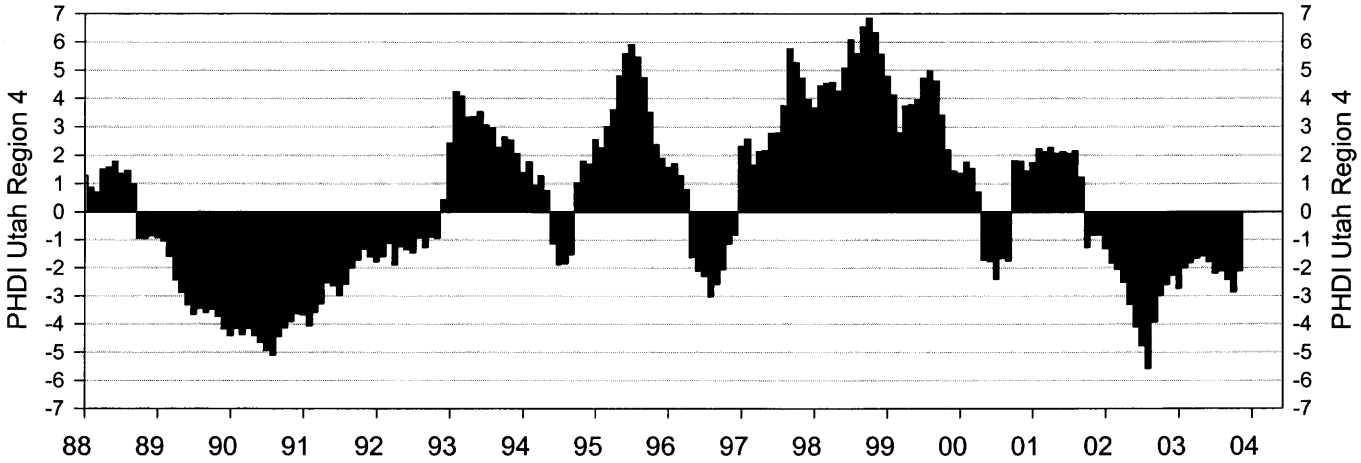

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04
pH
10
9
8
7
6
5
Discharge (gpm)
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7

SP-36

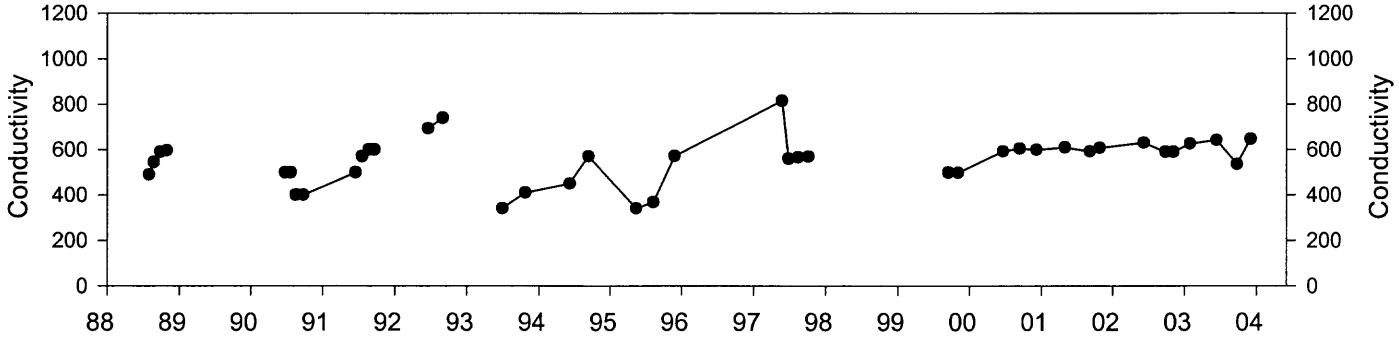

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

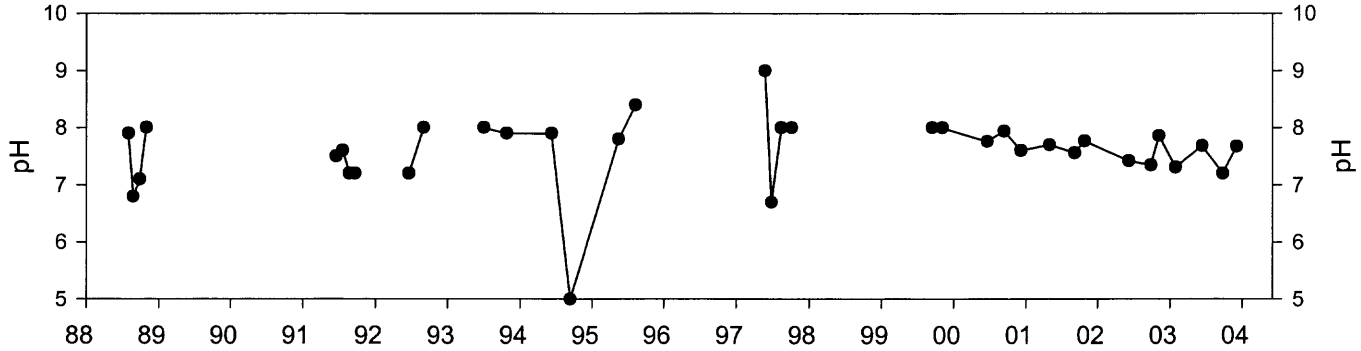

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

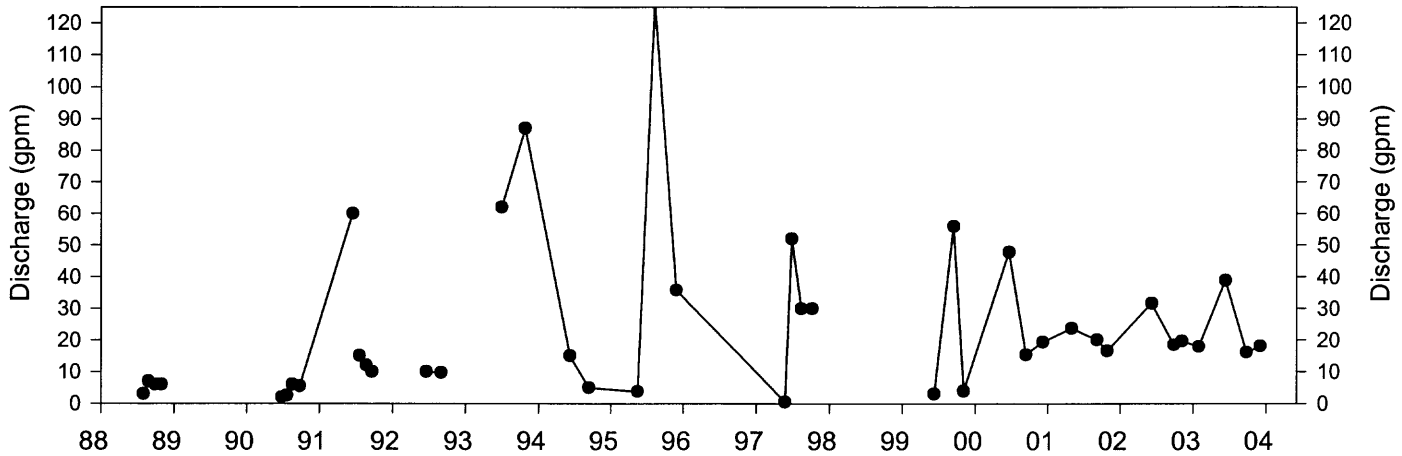

Discharge (gpm)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

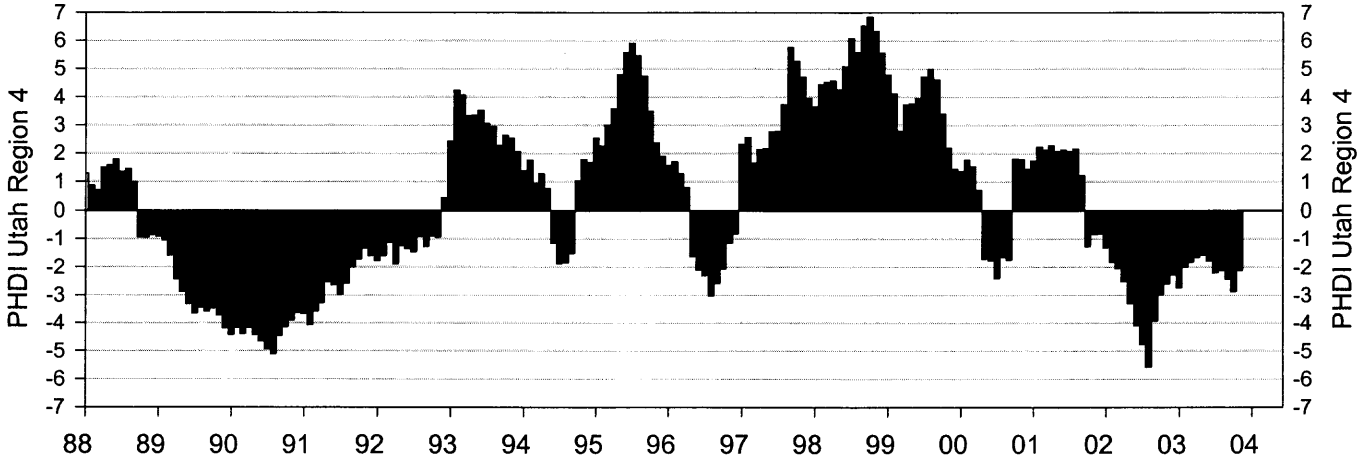

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

SP-58


Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


Discharge (gpm)
120
110
100
90
80
70
60
50
40
30
20
10
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
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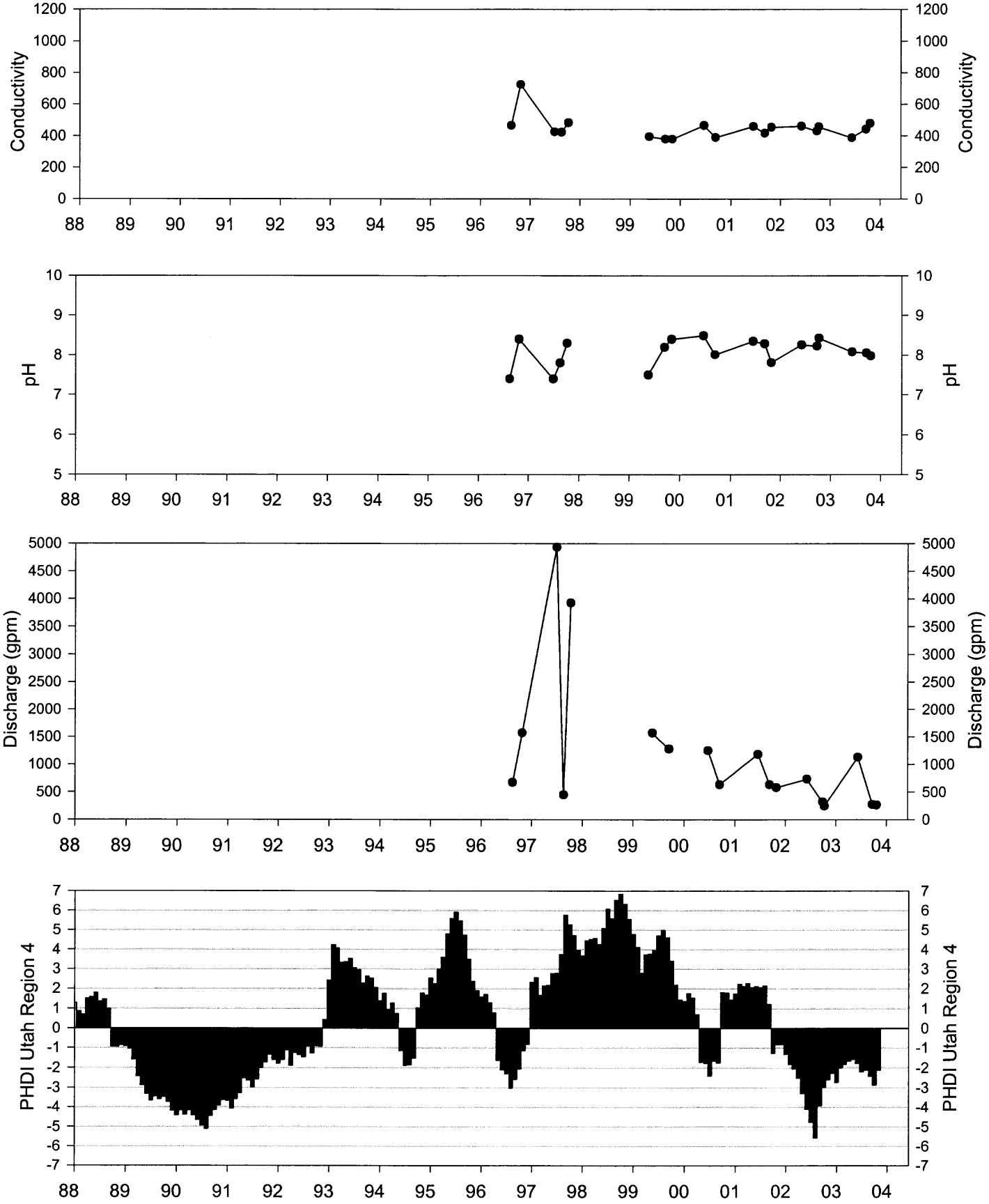
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

Indian Creek



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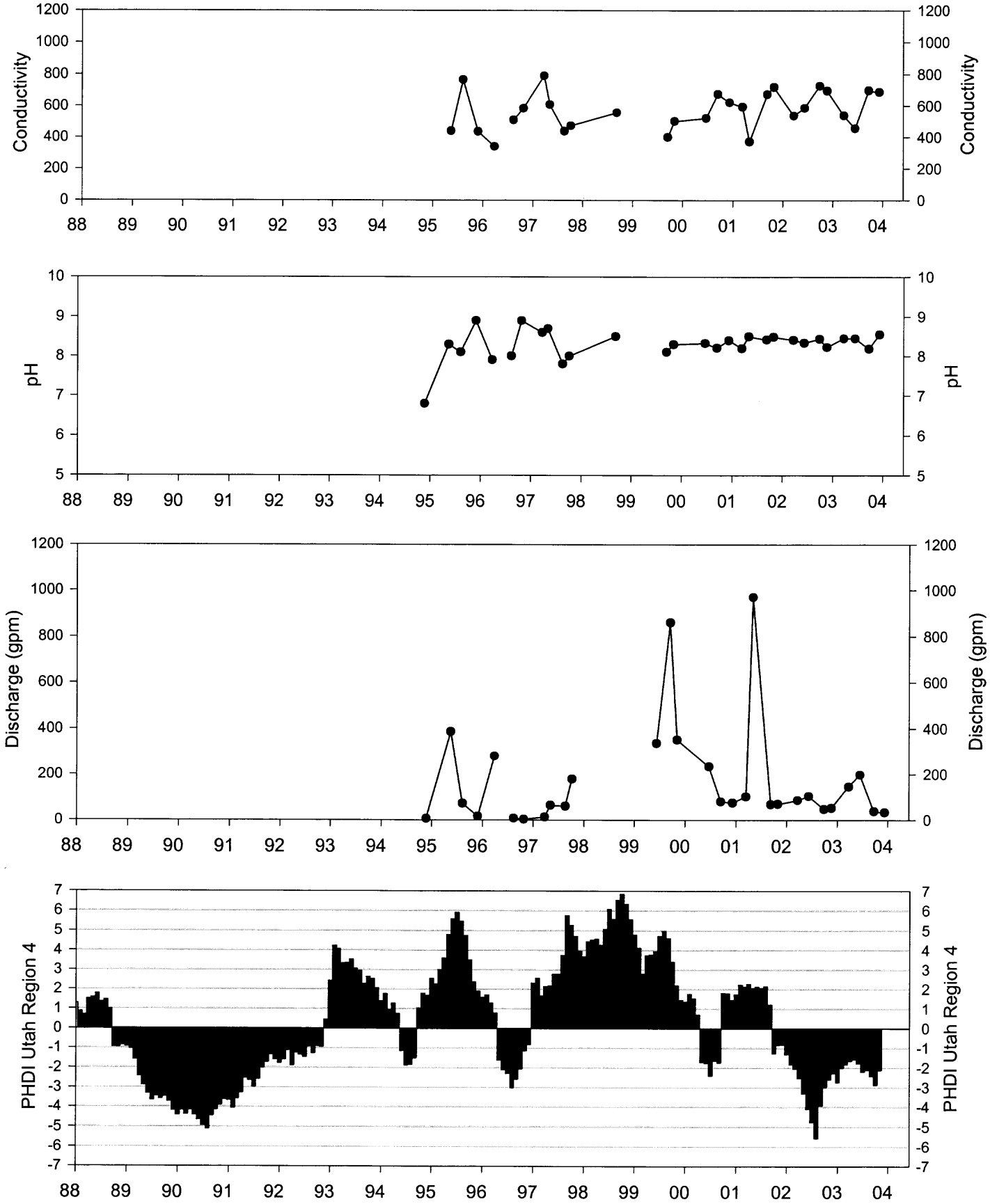

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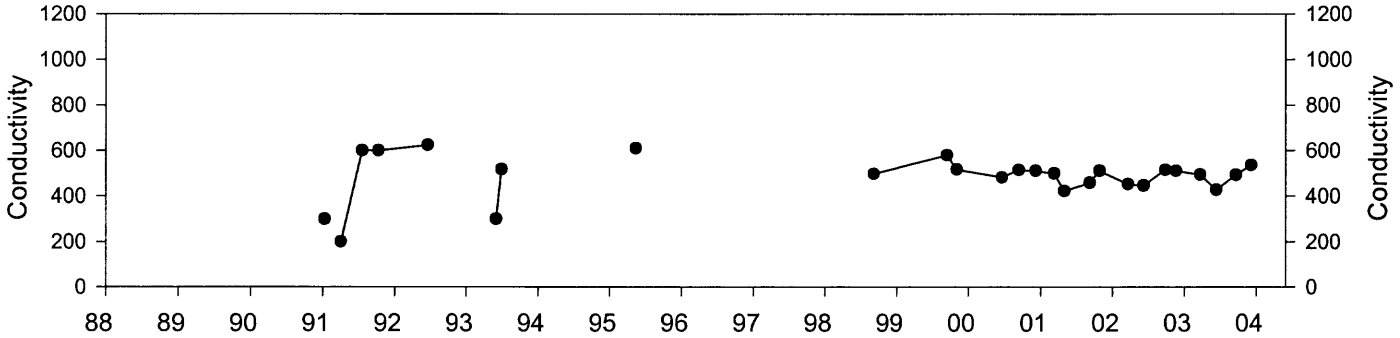
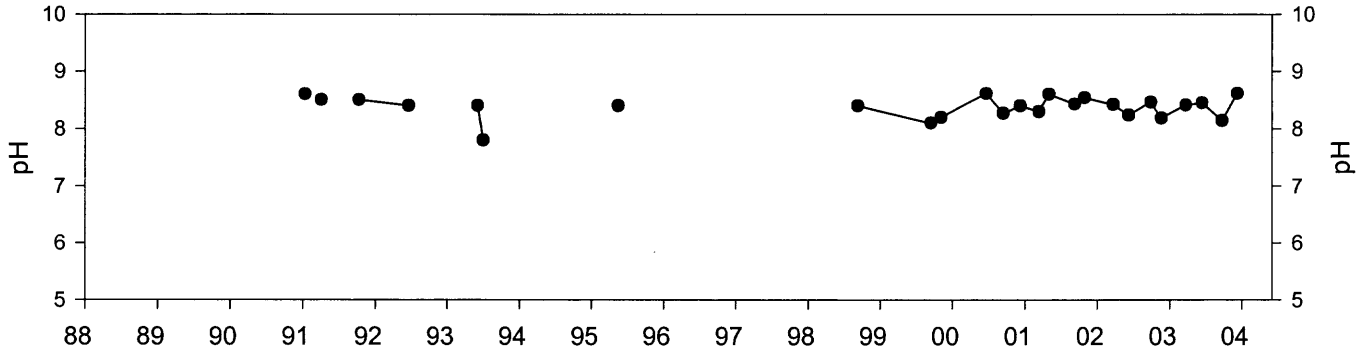
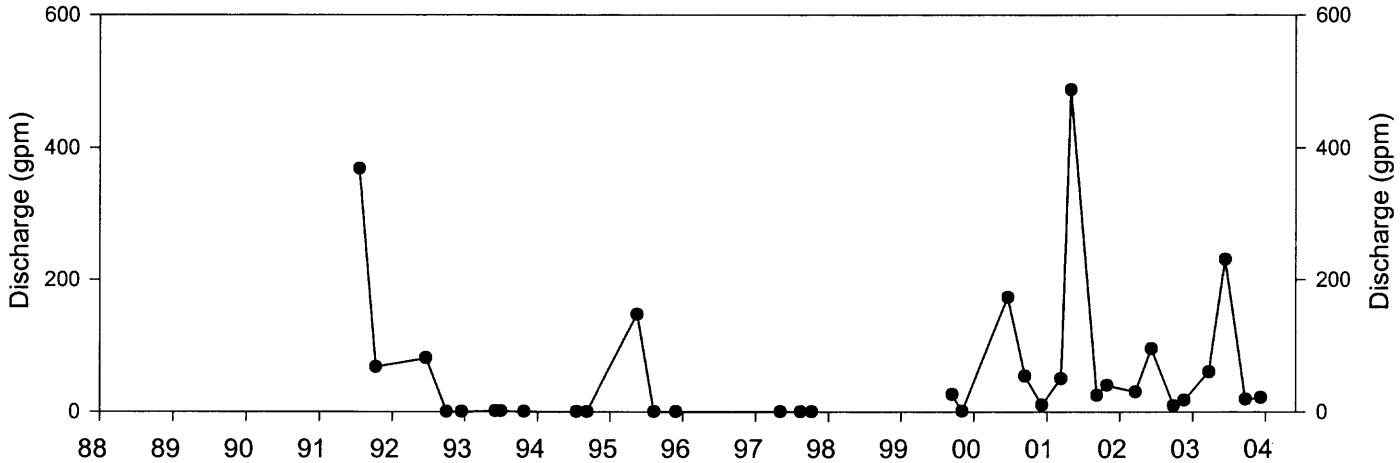
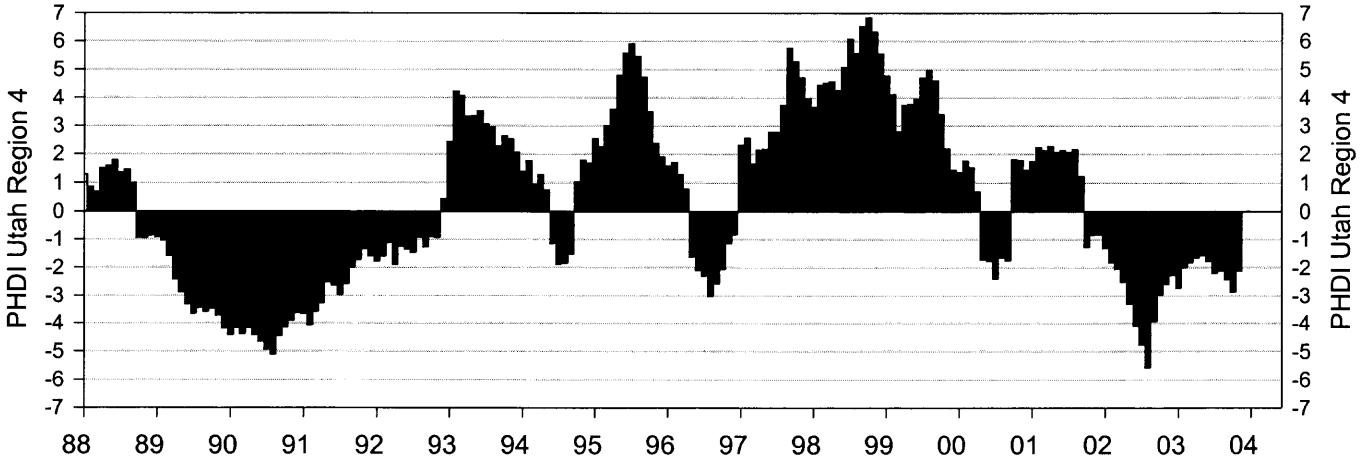
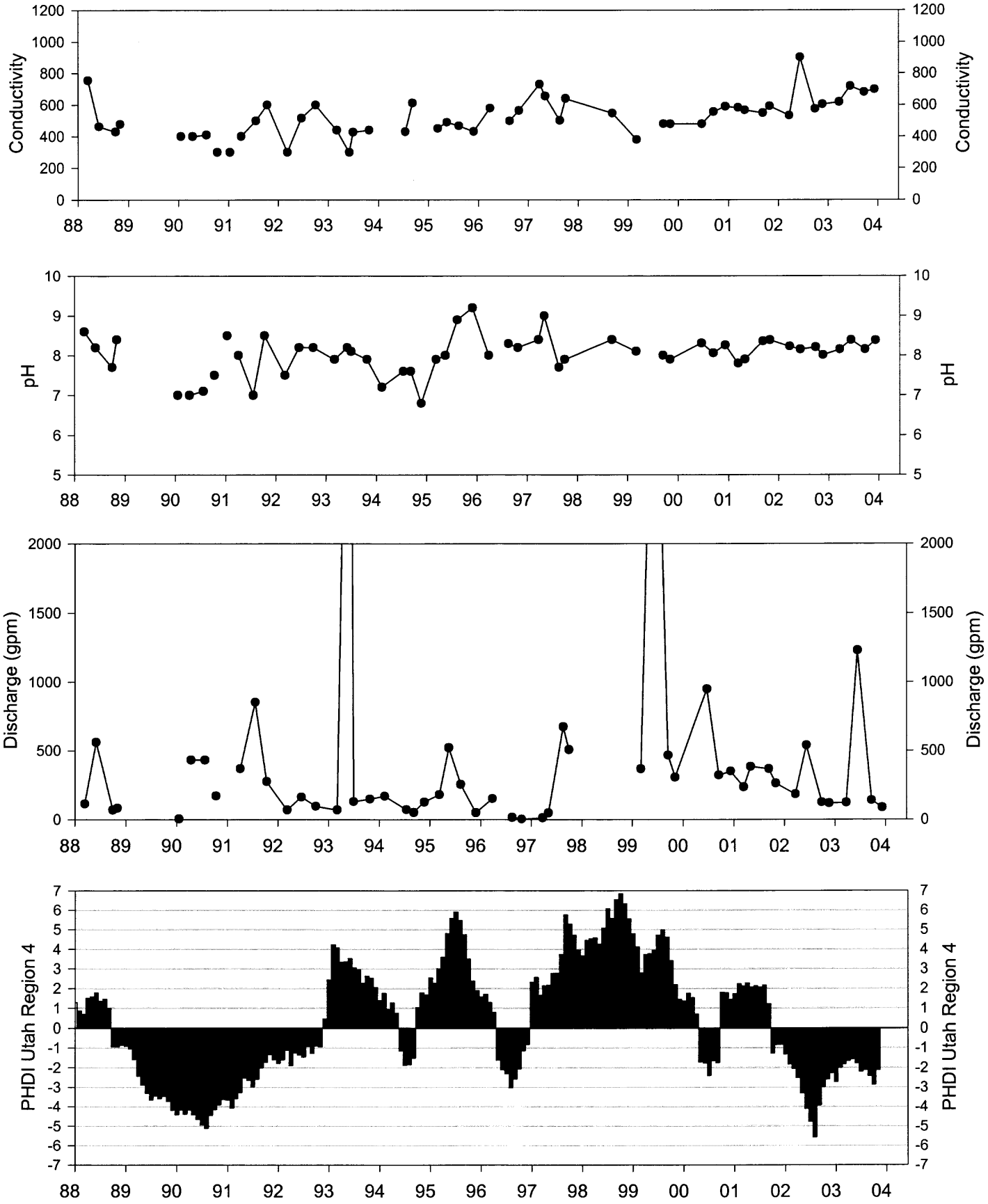








Crandall Canyon Upper Flume



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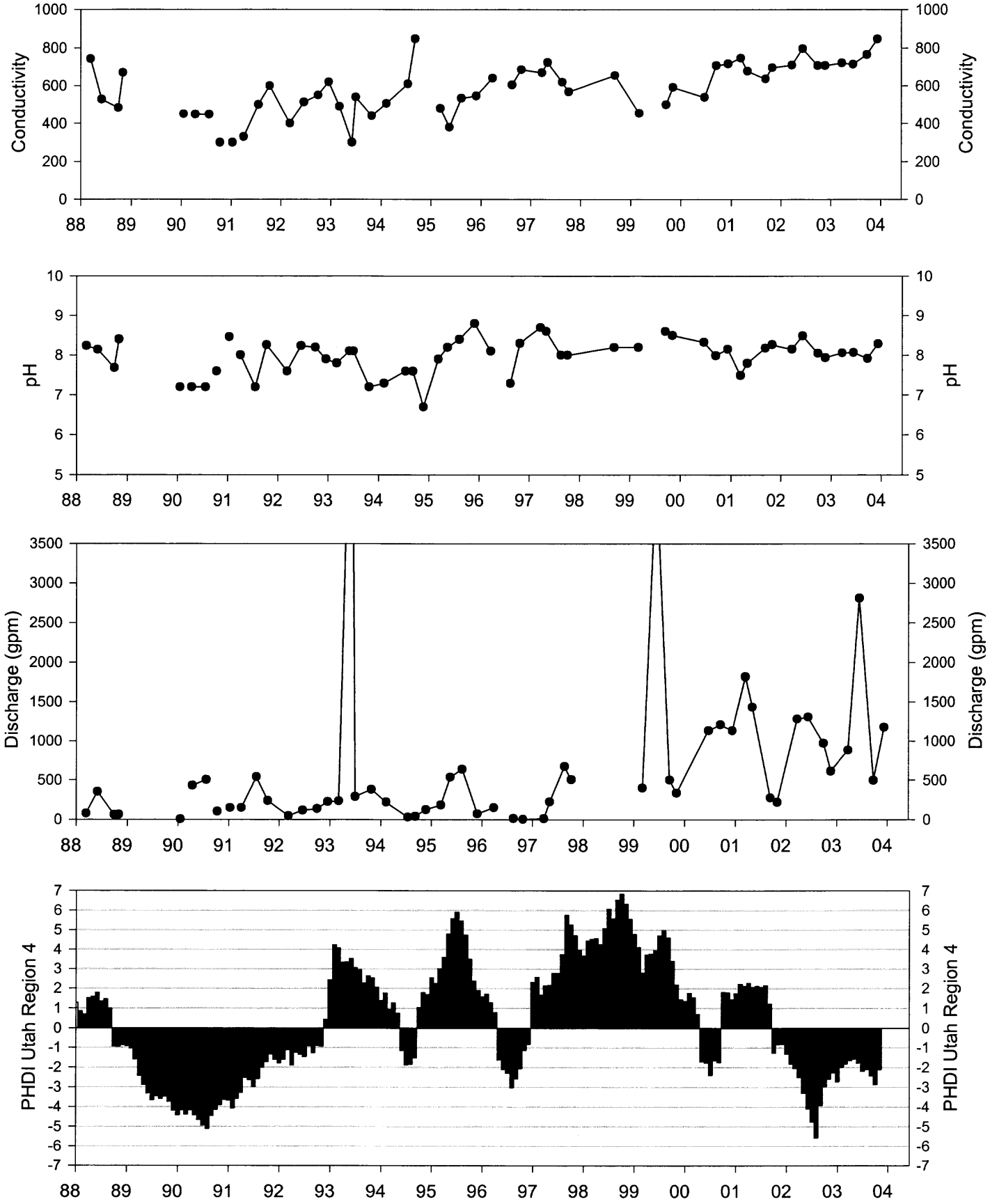
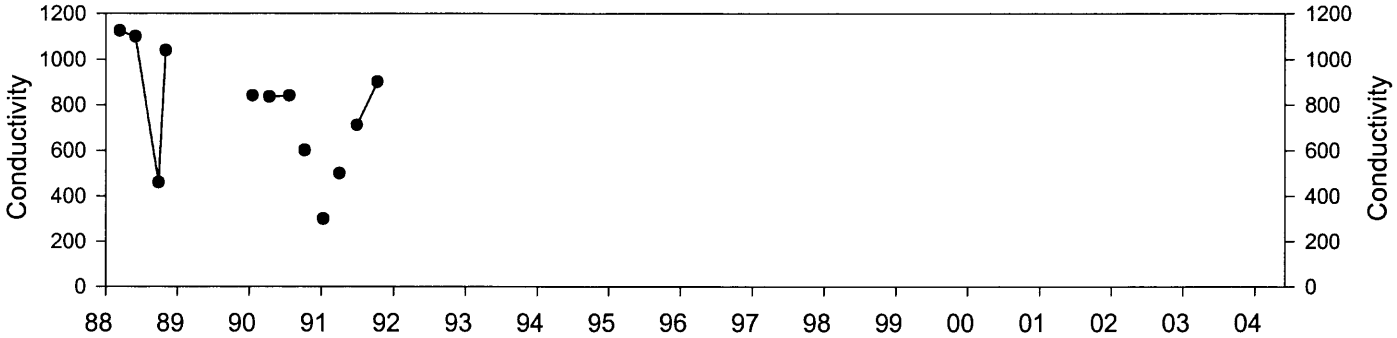


DH-1


Conductivity
1200
1000
800
600
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200
0
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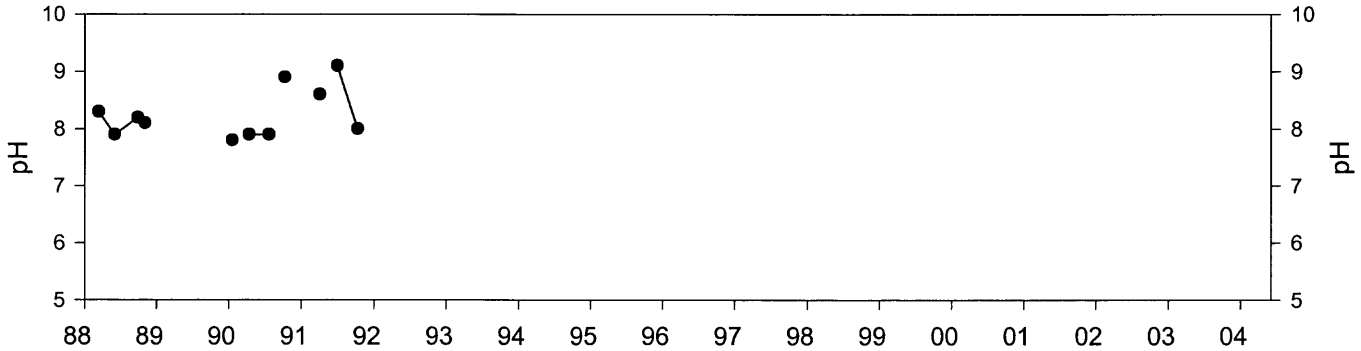
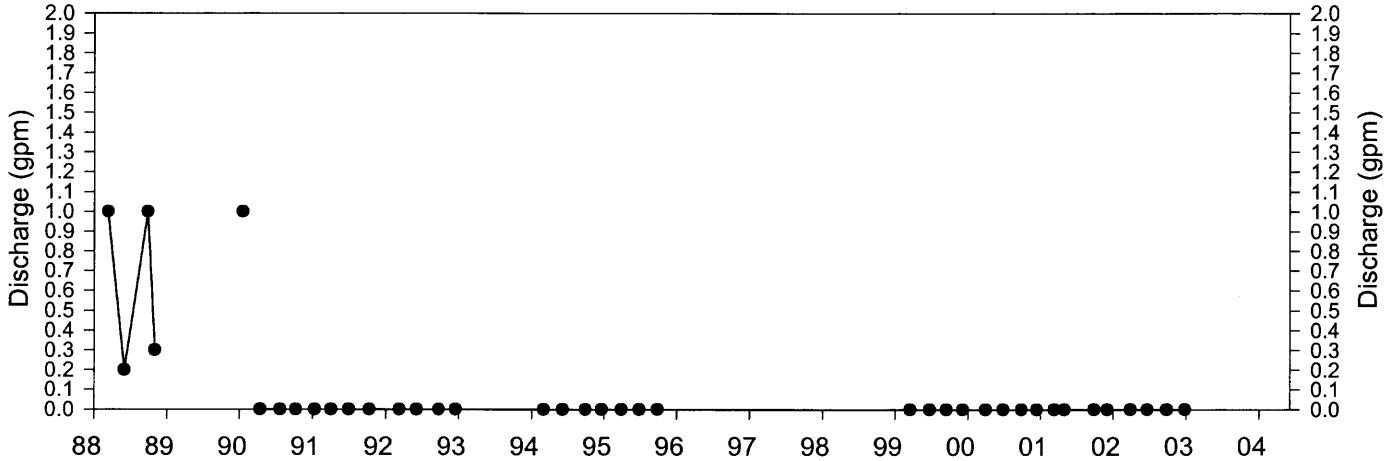

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04


Discharge (gpm)
2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2 1.1 1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0
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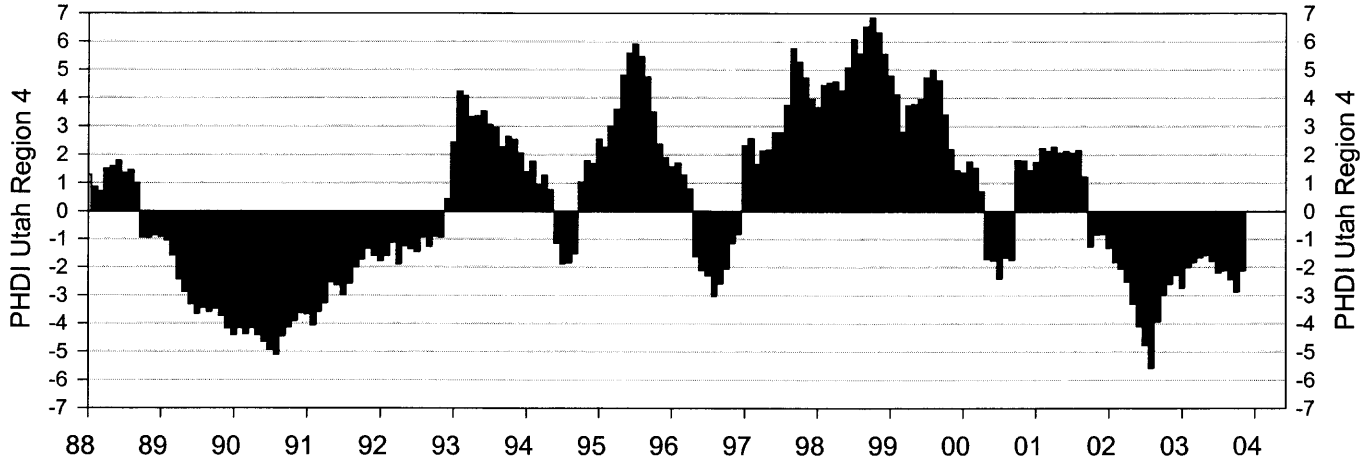
PHDI Utah Region 4
7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5 -6 -7
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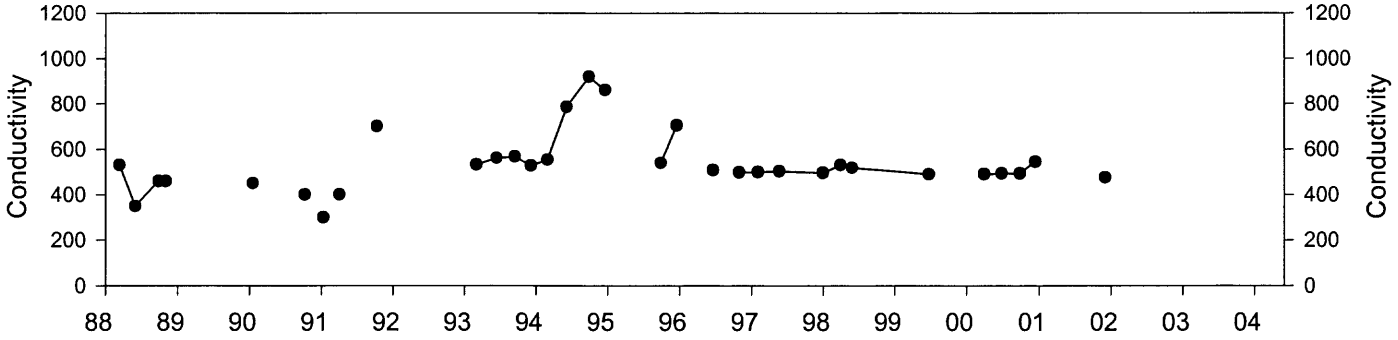
MW-1


Conductivity
1200
1000
800
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400
200
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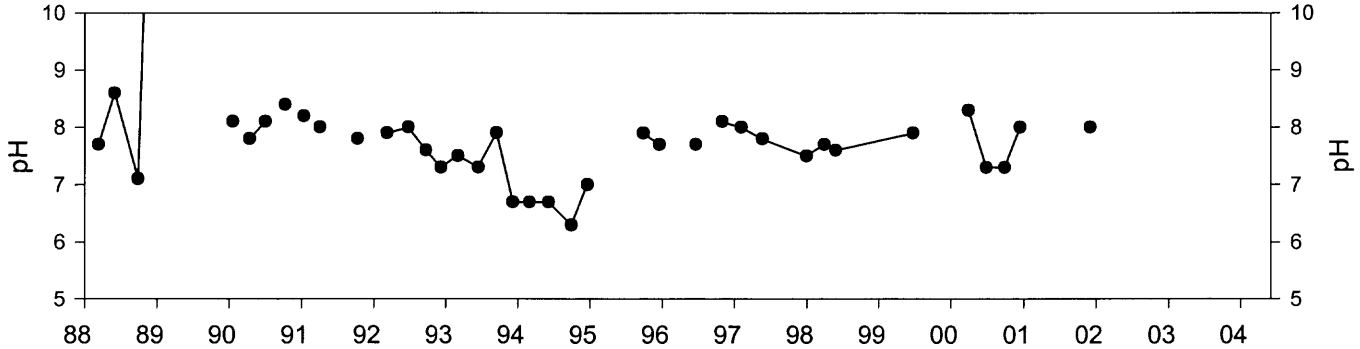
pH
10
9
8
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5
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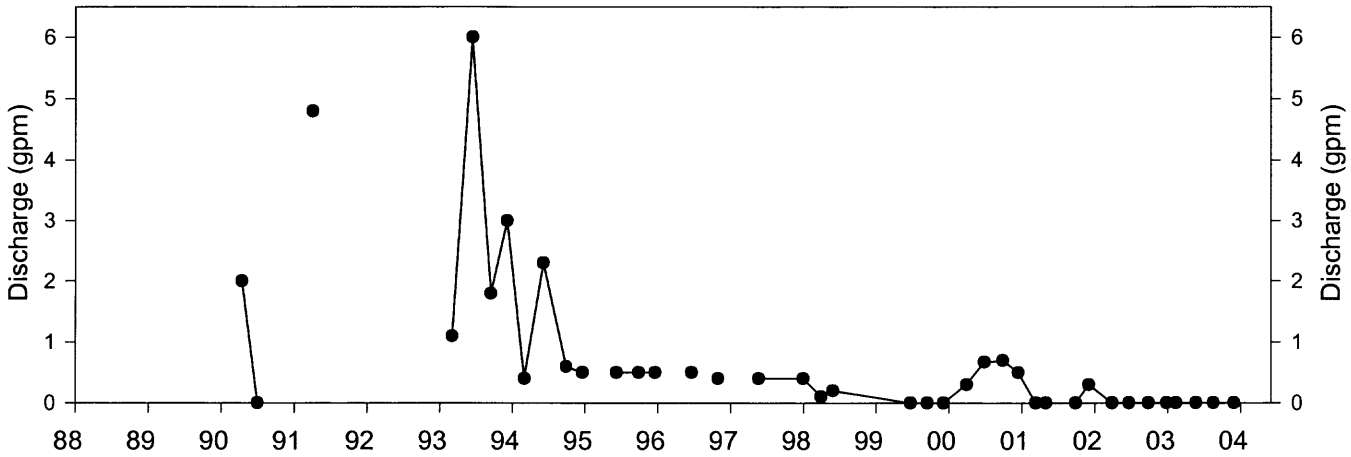
Discharge (gpm)
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5
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3
2
1
0
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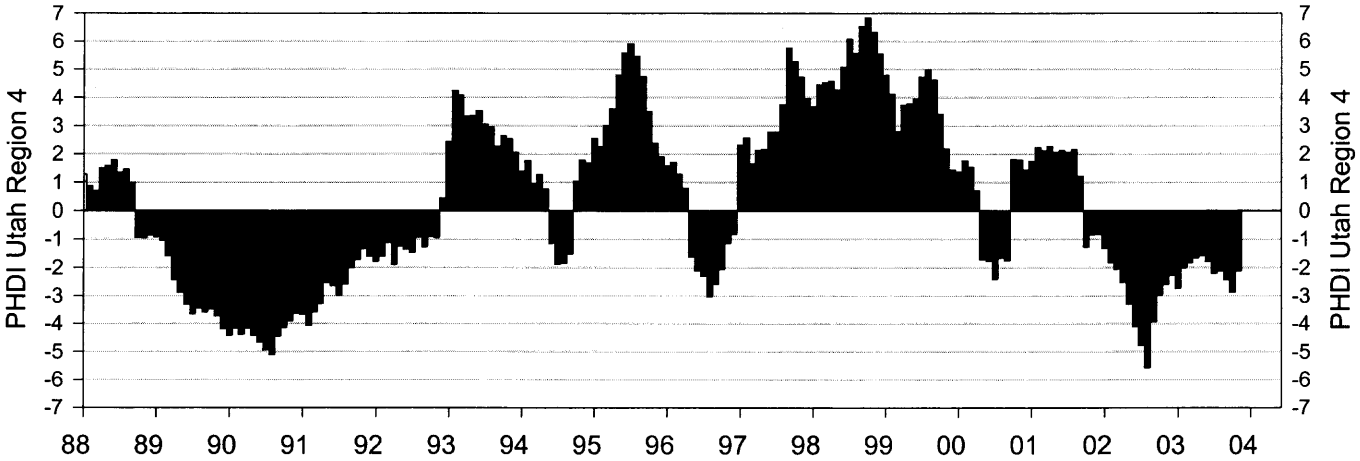
PHDI Utah Region 4
7
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-7
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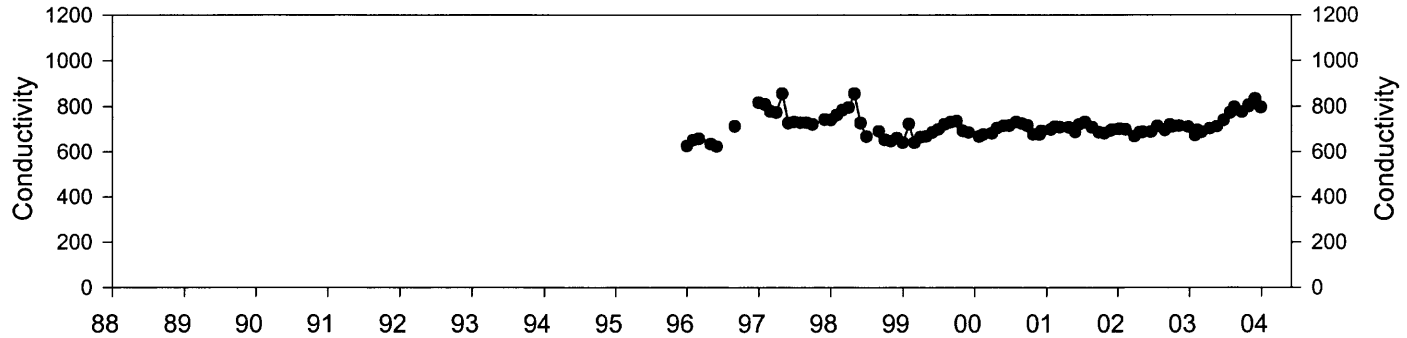
UPDES 002


Conductivity
1200
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800
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400
200
0
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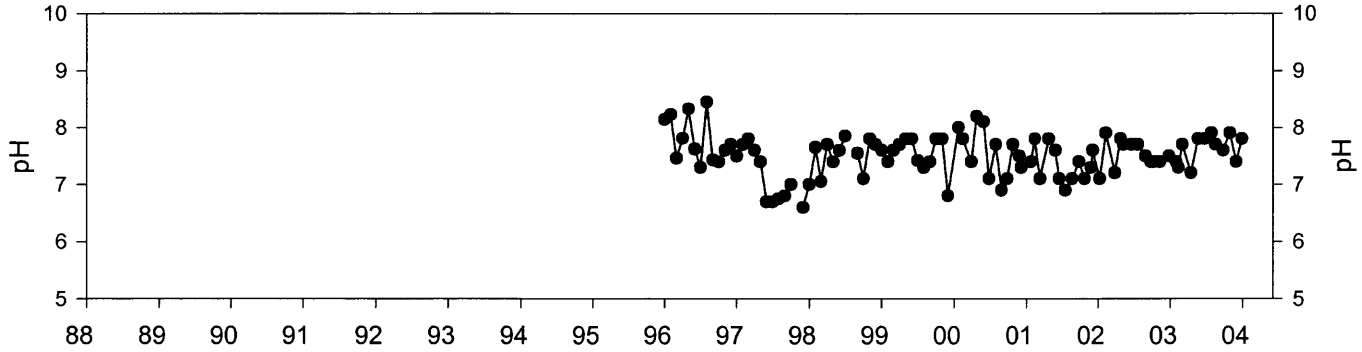
pH
10
9
8
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5
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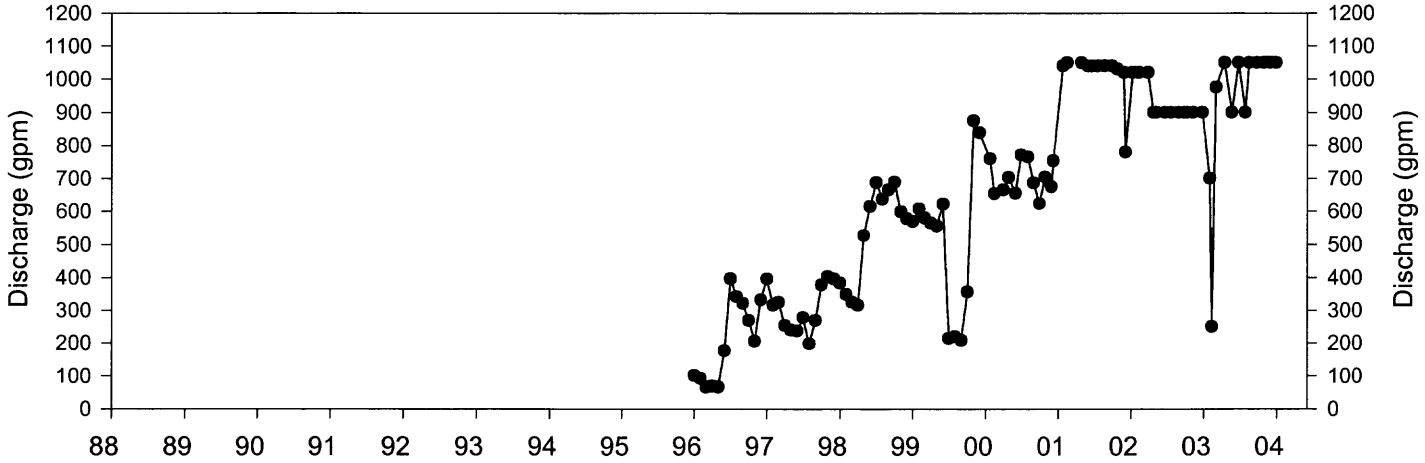
Discharge (gpm)
1200
1100
1000
900
800
700
600
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400
300
200
100
0
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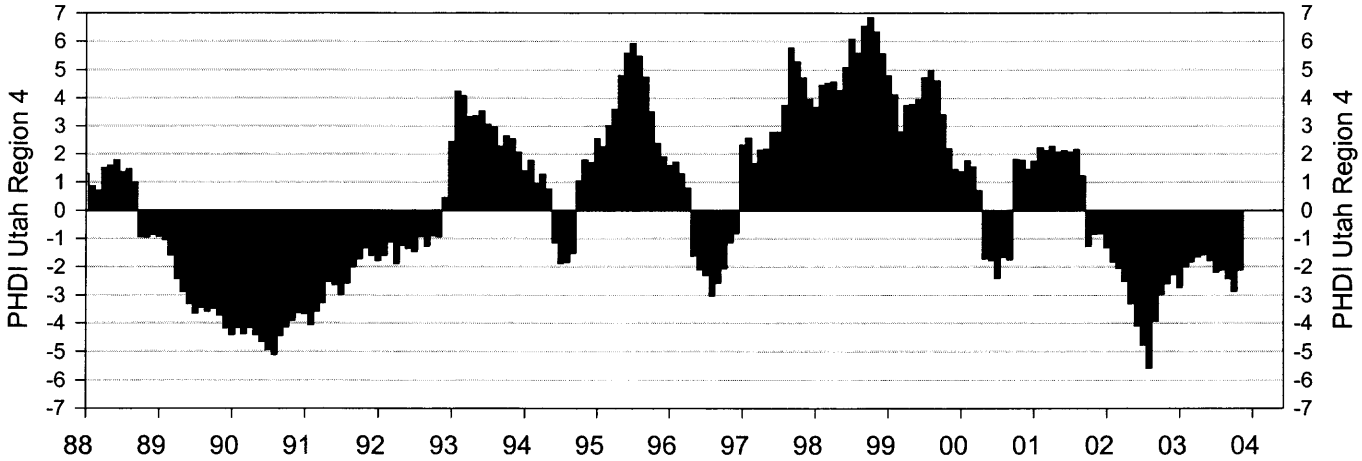
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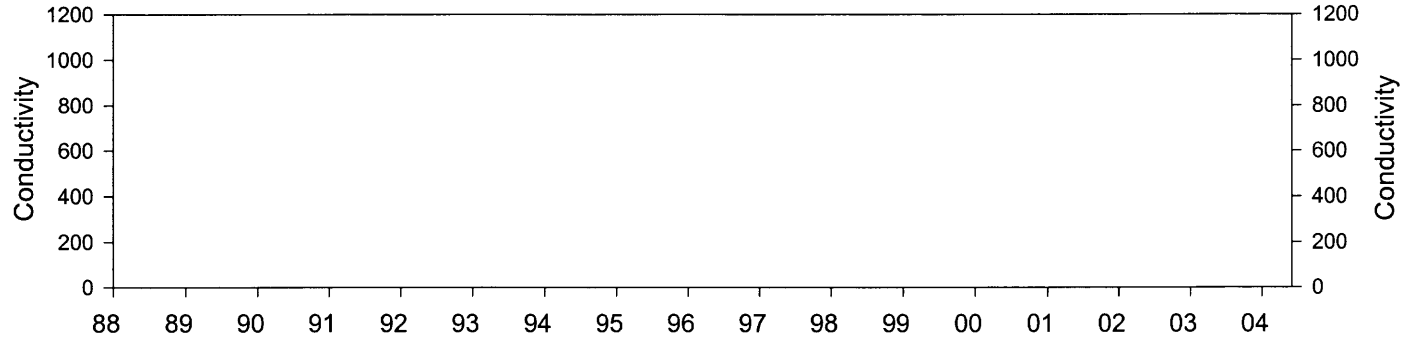
UPDES 001


Conductivity
1200
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800
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400
200
0
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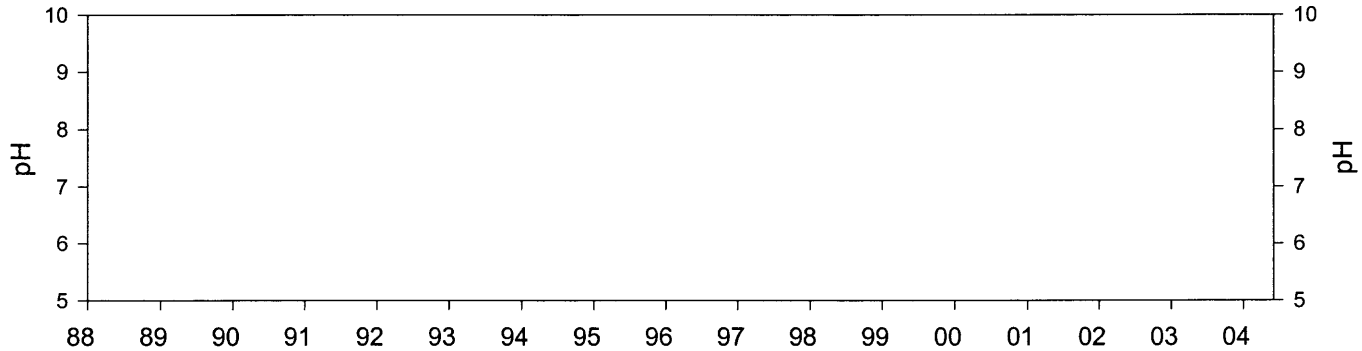
pH
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8
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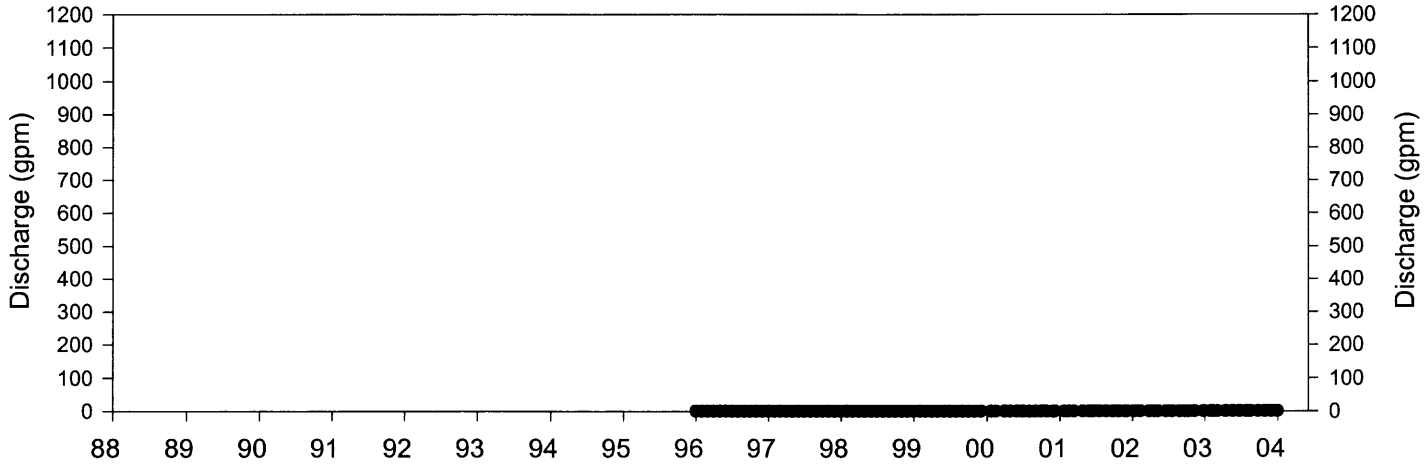
Discharge (gpm)
1200
1100
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900
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600
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100
0
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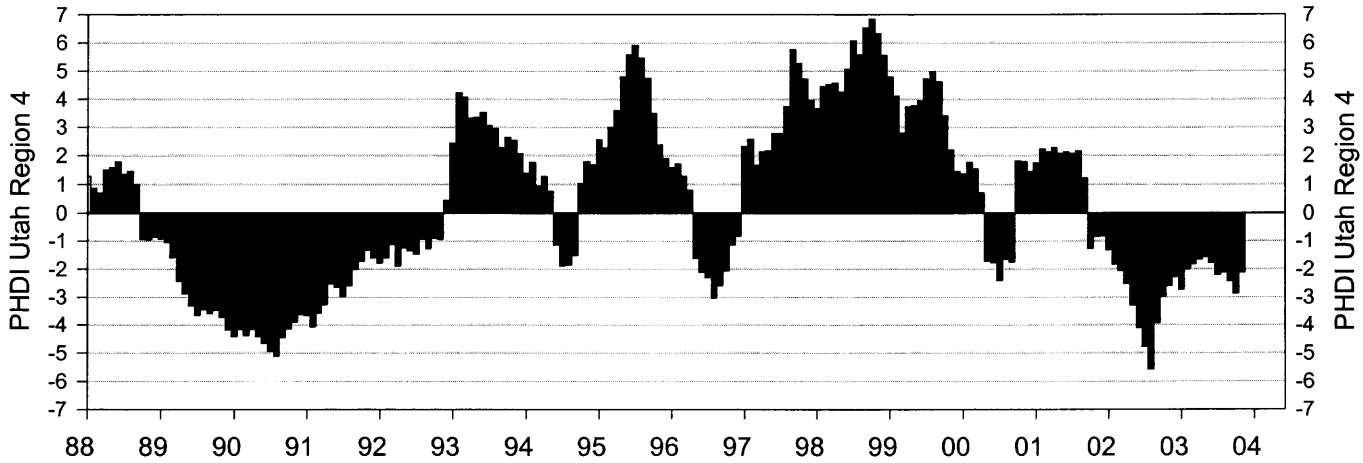
PHDI Utah Region 4
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-1
-2
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-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

APPENDIX C

Legal Financial, Compliance and Related Information

Annual Report of Officers
As submitted to the Utah Department of Commerce

Other change in ownership and control information
As required under R645-301-110

CONTENTS

Utah Department of Commerce

Utah Department of Commerce

Business Entity Search

Help

Business Entity Search - Principals:

Name	Type	City	Status
GENWAL RESOURCES, INC.	Corporation	SALT LAKE CITY	Active

Position	Name	Address	
Director	DOUGLAS H SMITH	45 W 10000 S STE 401	SANDY UT 84070
Director	PETER B GREEN	45 W 10000 S STE 401	SANDY UT 84070
Director	RONALD C BEEDIE	45 W 10000 S STE 401	SANDY UT 84070
President	DOUGLAS H SMITH	45 W 10000 S STE 401	SANDY UT 84070
Registered Agent	JOHN S KIRKHAM	201 S MAIN STE 1100	SALT LAKE CITY UT 841114904
Secretary	C JOHN BRADSHAW	45 W 10000 S STE 401	SANDY UT 84070
Treasurer	C JOHN BRADSHAW	45 W 10000 S STE 401	SANDY UT 84070
Vice President	SAMUEL C QUIGLEY	45 W 10000 S STE 401	SANDY UT 84070

Additional Principals on file at Division of Corporations: No

Back to search results | Back to search results | Do Another Search
Do Another Search

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Utah Department of Commerce
Division of Corporations & Commercial Code
160 East 300 South, 2nd Floor, PO Box 146705
Salt Lake City, UT 84114-6705
Service Center: (801) 530-4849
Toll Free: (877) 526-3994 Utah Residents
Fax: (801) 530-6438
Web Site: http://www.commerce.utah.gov

03/29/2004
1208426-014203292004-348750

CERTIFICATE OF EXISTENCE

Registration Number:	1208426-0142
Business Name:	GENWAL RESOURCES, INC.
Registered Date:	December 12, 1994
Entity Type:	Corporation
Current Status:	Good Standing

The Division of Corporations and Commercial Code of the State of Utah, custodian of the records of business registrations, certifies that the business entity on this certificate is authorized to transact business and was duly registered under the laws of the State of Utah.?? The Division also certifies that this entity has paid all fees and penalties owed to this state; its most recent annual report has been filed by the Division; and, that Articles of Dissolution have not been filed.

Kathy Berg
Director
Division of Corporations and Commercial Code

APPENDIX D

Mine Maps

As required under R645-302-525-270

CONTENTS

2003 Mine Map showing Production Areas

APPENDIX E

Other Information

In accordance with the requirements of R645-301 and R645-302

CONTENTS

None