GENWAL RESOURCES, INC.

CRANDALL CANYON MINES

C/015/032

2007 ANNUAL REPORT

File in:
❑ Confidential
X Shelf
❑ Expandable
Refer to Record No 0059 Date 06302008
In C 015/032, 2008, Incoming
For additional information Confidential 06302008

CHECKLIST

*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**
Operator Name (If other then permittee)	
Permit Expiration Date	May 13, 2008
Permit Number	C/015/032
Authorized Representative Title	Dave Shaver, Resident Agent
Phone Number	(435) 888-4017
Fax Number	(435) 888-4002
E-mail Address	dshaver@coalsource.com
Mailing Address	P.O. Box 1077, Price, UT 84501
Designated Representative	Dave Shaver
Resident Agent	Dave Shaver
Resident Agent Mailing Address	P.O. Box 1077, Price, UT 84501
Number of Binders Submitted	

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 Canyon Mine	N/A
		South Crandall Mine	
MSHA Impoundment(s)	N/A		
NPDES/UPDES Permit(s)	UT0024368	UPDES Permit	11/30/2010
PSD Permit(s) (Air)	DAQE-N0225003-03	Crandall Canyon	

Other

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Crandall
015/032

CERTIFIED REPORTS

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

Certified Reports:	Required Yes	Required No	Included or DOGM file location Included	Vol, Chapter, Page	Comments
Excess Spoil Piles	☐	☐	☐		
Refuse Piles	☐	☐	☐		
Impoundments	☐	☐	☐		
Other					
	☐	☐	☐		
	☐	☐	☐		

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the MRP and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If the particular section is blank, no commitment has been identified and no response is required for this report. If a written response is required, it should be filed under Appendix B to this report.

Admin R645-301-100	
Soils R645-301-200	
Biology R645-301-300	
Land use, Cultural Resources, Air Quality R645-301- 400	
Engineering R645-301-500	
Has this commitment been acted on this year? Yes ☒ No ☐ Not Required for this year. ☐	**Title: SUBSIDENCE MONITORING** **Objective:** Determine subsidence effects. **Frequency:** Annually. **Status:** On going. **Reports:** Submit surveyed monitoring data to Division by June 30, annually. **Citation:** MRP.
Geology R645-301-600	
Hydrology R645-301-700	
Bonding & Insurance R645-301-800	

Other Commitments	

*Reminder: If equipment has been abandoned during 2007, 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.

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.

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 Yes	Required No	Included or Included	DOGM File location Vol, Chapter, Page	Comments
Department of Commerce, Annual Report Officers	☐	☐	☐	☐	
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2007, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.240. 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	Confidential No
Annual subsidence map		☐	☐
		☐	☐
		☐	☐

		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

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

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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

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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

APPENDIX D

Mine Maps

As required under R645-302-525-270

CONTENTS

APPENDIX E

Other Information

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

CONTENTS

SUBSIDENCE SURVEY

Olympus Aerial Surveys, Inc.
Job No 207064 - 03 Old
Report for Photography dated September 26, 2007
For
UTAH AMERICAN ENERGY
CRANDALL CANYON SUBSIDENCE STUDY

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
101	2075558.238	407296.622	0.00	8876.39	8876.390	101
102	2075571.465	408179.127	8892.40	0.18	8892.580	102
103	2075578.997	408784.976	8888.45	1.34	8889.790	103
104	2075579.333	407874.899	8891.78	0.39	8892.170	104
105	2075580.158	408490.497	8886.68	0.00	0.000	105
106	2075584.099	407579.859	8887.79	2.70	8890.490	106
107	2075586.078	418626.301	9200.92	-1.23	9199.690	107
108	2075589.924	409081.631	8889.69	1.50	8891.190	108
109	2075591.674	409392.750	8892.04	1.49	8893.530	109
110	2075596.374	409675.980	8896.29	1.87	8898.160	110
111	2075602.098	414772.964	9087.43	1.05	9088.480	111
112	2075602.211	411777.074	8947.64	0.01	8947.650	112
113	2075602.655	415732.602	0.00	9182.08	9182.080	113
114	2075603.148	410302.698	8906.97	0.25	8907.220	114
115	2075604.359	410889.582	8921.77	0.09	8921.860	115
116	2075605.536	409968.624	8900.24	1.12	8901.360	116
117	2075608.931	413586.436	9040.25	0.25	9040.500	117
118	2075610.583	414195.043	9064.20	0.83	9065.030	118
119	2075611.545	413292.485	9018.93	1.82	9020.750	119
120	2075611.700	415061.373	9134.73	0.13	9134.860	120
121	2075613.550	411501.717	8936.79	0.55	8937.340	121
122	2075614.250	412976.268	8999.48	0.30	8999.780	122
123	2075615.021	413902.429	9054.14	0.28	9054.420	123
124	2075615.076	411181.655	8928.24	0.46	8928.700	124
125	2075617.063	414458.204	9074.59	0.63	9075.220	125
126	2075620.148	410574.465	8914.50	1.04	8915.540	126
127	2075620.503	415393.849	0.00	9159.64	9159.640	127
128	2075623.045	416861.260	9211.69	-0.59	9211.100	128
129	2075623.955	412393.829	8973.96	-0.68	8973.280	129
130	2075627.162	412688.260	8987.69	0.18	8987.870	130
131	2075627.238	412092.665	8962.62	-0.46	8962.160	131
132	2075634.137	416269.565	9226.64	-22.38	9204.260	132
133	2075636.346	417167.610	9211.23	-0.30	9210.930	133
134	2075637.108	415992.834	0.00	9187.36	9187.360	134
135	2075663.742	417472.573	9215.66	0.80	9216.460	135
136	2075677.553	417785.304	9258.87	-1.10	9257.770	136
137	2075734.834	418090.100	0.00	0.00	0.000	137
138	2075857.818	407000.991	8877.38	-0.01	8877.370	138
139	2075861.849	407297.283	8898.60	-0.73	8897.870	139
140	2075869.383	407593.316	8912.78	-1.05	8911.730	140
141	2075879.730	408201.675	8907.95	2.38	8910.330	141
142	2075880.579	408499.528	8908.48	0.00	0.000	142

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
143	2075883.995	407920.020	8911.31	0.17	8911.480	143
144	2075884.063	408798.754	8907.68	0.93	8908.610	144
145	2075885.406	409081.868	8905.47	1.22	8906.690	145
146	2075893.830	409396.582	8907.28	1.25	8908.530	146
147	2075896.091	410302.768	8922.96	1.19	8924.150	147
148	2075897.230	409710.735	8909.23	1.60	8910.830	148
149	2075898.176	412098.850	8977.59	-0.03	8977.560	149
150	2075898.281	410002.259	8916.45	1.14	8917.590	150
151	2075902.609	410607.540	8930.50	0.74	8931.240	151
152	2075904.932	412441.995	8992.88	-0.52	8992.360	152
153	2075906.072	410887.885	8933.91	-0.22	8933.690	153
154	2075906.537	411800.967	8963.81	0.24	8964.050	154
155	2075910.837	418399.827	9247.97	-0.22	9247.750	155
156	2075911.693	411495.359	8949.50	-0.25	8949.250	156
157	2075912.006	413905.206	9072.85	0.15	9073.000	157
158	2075912.428	411193.224	8938.56	-0.72	8937.840	158
159	2075915.948	413323.991	9032.79	0.83	9033.620	159
160	2075933.340	413606.072	9053.21	0.71	9053.920	160
161	2075938.729	414507.997	9100.73	0.54	9101.270	161
162	2075939.680	414222.310	9089.24	0.91	9090.150	162
163	2075942.065	415713.505	9152.47	-0.04	9152.430	163
164	2075942.534	413029.330	9019.81	0.44	9020.250	164
165	2075945.266	414807.484	9108.55	0.47	9109.020	165
166	2075947.425	415134.430	9121.01	0.68	9121.690	166
167	2075954.765	412717.969	9008.47	0.66	9009.130	167
168	2075955.869	417208.168	9195.05	-1.02	9194.030	168
169	2075956.113	417810.485	9206.92	-1.15	9205.770	169
170	2075956.728	416910.527	9185.21	-0.91	9184.300	170
171	2075957.722	415984.402	9161.26	-0.44	9160.820	171
172	2075958.399	418668.301	9254.23	-1.36	9252.870	172
173	2075968.471	417509.313	9201.39	-0.44	9200.950	173
174	2075973.226	416323.895	9171.02	-0.39	9170.630	174
175	2075981.539	415451.954	9137.06	0.19	9137.250	175
176	2075983.887	416621.690	9176.89	-0.39	9176.500	176
177	2076067.139	418133.417	9219.17	-1.70	9217.470	177
178	2076123.601	407301.758	8917.16	-0.80	8916.360	178
179	2076143.864	406996.867	8898.33	-0.99	8897.340	179
180	2076166.639	409403.072	8922.70	1.12	8923.820	180
181	2076171.627	408780.167	8933.11	1.00	8934.110	181
182	2076172.344	407544.094	8940.15	-0.67	8939.480	182
183	2076174.313	409683.486	8926.20	0.70	8926.900	183
184	2076176.336	408177.474	8934.57	1.51	8936.080	184
185	2076176.580	408478.025	8935.02	0.00	0.000	185
186	2076177.726	407868.195	8939.45	-0.34	8939.110	186
187	2076181.962	410281.182	8942.41	1.87	8944.280	187
188	2076185.412	412091.495	8994.20	0.76	8994.960	188
189	2076190.457	411783.904	8980.12	-0.17	8979.950	189
190	2076194.002	409075.426	8929.39	2.26	8931.650	190
191	2076198.263	410570.224	8951.54	1.96	8953.500	191

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
192	2076201.427	409990.000	8937.67	0.75	8938.420	192
193	2076201.878	410885.555	8953.53	1.33	8954.860	193
194	2076204.946	413244.617	9040.41	0.59	9041.000	194
195	2076205.167	411490.288	8968.24	-0.20	8968.040	195
196	2076205.965	412448.066	9012.06	-0.54	9011.520	196
197	2076206.827	411186.757	8957.52	-1.18	8956.340	197
198	2076226.082	413551.360	9061.49	-0.48	9061.010	198
199	2076228.595	412705.758	9022.65	0.95	9023.600	199
200	2076229.897	414462.602	9117.75	0.00	9117.750	200
201	2076235.431	414188.758	9110.15	-1.38	9108.770	201
202	2076236.310	412970.285	9031.86	0.21	9032.070	202
203	2076237.532	414780.117	9124.09	0.95	9125.040	203
204	2076238.604	413882.576	9085.82	1.27	9087.090	204
205	2076247.454	416232.280	9187.40	-0.37	9187.030	205
206	2076249.132	416577.279	9199.99	-0.59	9199.400	206
207	2076252.094	415078.387	9136.00	-0.01	9135.990	207
208	2076252.842	417146.065	9213.97	-0.78	9213.190	208
209	2076252.914	417442.718	9221.15	-0.66	9220.490	209
210	2076253.992	416855.517	9207.89	-0.69	9207.200	210
211	2076257.427	415677.187	9167.00	-0.69	9166.310	211
212	2076259.402	418651.115	9281.93	-1.30	9280.630	212
213	2076260.496	417768.501	9223.26	-0.63	9222.630	213
214	2076260.998	415927.983	9175.92	-0.85	9175.070	214
215	2076263.282	415352.524	9150.23	-0.57	9149.660	215
216	2076272.090	418064.967	9222.04	-0.84	9221.200	216
217	2076282.160	418386.545	9232.09	-0.82	9231.270	217
218	2076463.615	407329.270	8950.17	0.38	8950.550	218
219	2076470.880	407602.300	8969.39	0.23	8969.620	219
220	2076474.709	407901.090	8966.96	0.24	8967.200	220
221	2076480.924	408194.773	8962.57	0.00	0.000	221
222	2076482.280	408825.347	8960.76	1.27	8962.030	222
223	2076482.719	408480.438	8963.90	0.00	0.000	223
224	2076483.271	409103.248	8951.63	1.79	8953.420	224
225	2076489.002	410030.646	8968.69	1.79	8970.480	225
226	2076494.160	410319.213	8978.34	0.91	8979.250	226
227	2076495.764	409760.219	8954.69	0.45	8955.140	227
228	2076498.271	410594.890	8984.15	1.66	8985.810	228
229	2076500.874	409412.088	8945.83	1.81	8947.640	229
230	2076506.936	411202.998	0.00	8984.68	8984.680	230
231	2076509.185	411805.286	9007.54	0.71	9008.250	231
232	2076509.593	412088.479	9023.98	0.67	9024.650	232
233	2076513.539	410908.687	8984.68	1.83	8986.510	233
234	2076517.462	411500.781	8991.59	1.77	8993.360	234
235	2076520.030	412410.506	9042.98	2.80	9045.780	235
236	2076529.695	412721.677	9050.56	-0.04	9050.520	236
237	2076535.592	413306.264	9063.76	1.53	9065.290	237
238	2076536.725	413611.807	9082.48	-0.17	9082.310	238
239	2076538.137	413015.348	9055.08	0.35	9055.430	239
240	2076542.870	414219.807	9139.30	1.47	9140.770	240

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
241	2076544.257	413921.331	9107.87	0.32	9108.190	241
242	2076545.436	414498.907	9151.12	0.39	9151.510	242
243	2076546.203	416316.603	9222.55	-0.26	9222.290	243
244	2076548.572	416010.171	9211.27	0.12	9211.390	244
245	2076549.921	406994.200	8930.45	0.26	8930.710	245
246	2076551.183	416619.617	9229.39	-0.34	9229.050	246
247	2076552.515	416931.417	9238.56	-1.17	9237.390	247
248	2076558.852	415721.939	9199.27	-1.30	9197.970	248
249	2076561.909	414800.217	9161.34	-0.69	9160.650	249
250	2076562.963	415424.214	9177.35	0.62	9177.970	250
251	2076565.805	417207.541	9247.81	-1.28	9246.530	251
252	2076566.314	418682.255	9250.13	-1.50	9248.630	252
253	2076573.688	417513.288	9256.76	-0.46	9256.300	253
254	2076573.869	417827.190	9252.83	-1.18	9251.650	254
255	2076576.768	415103.258	9163.50	0.21	9163.710	255
256	2076593.689	418139.566	9255.20	-2.29	9252.910	256
257	2076765.871	412407.014	9070.63	2.04	9072.670	257
258	2076771.863	410863.171	0.00	0.00	0.000	258
259	2076773.378	407893.498	9009.75	-1.23	9008.520	259
260	2076775.162	407285.345	8985.03	-0.65	8984.380	260
261	2076775.449	408179.572	8992.26	0.60	8992.860	261
262	2076776.200	407575.592	9006.34	-1.47	9004.870	262
263	2076777.777	408473.482	8999.88	1.30	9001.180	263
264	2076781.101	408777.571	9001.91	1.53	9003.440	264
265	2076781.233	409079.505	8986.27	1.14	8987.410	265
266	2076781.441	406992.169	8964.30	0.40	8964.700	266
267	2076785.696	409364.225	8973.20	0.56	8973.760	267
268	2076791.695	409666.324	8981.89	1.67	8983.560	268
269	2076792.809	412095.926	9061.94	-0.01	9061.930	269
270	2076795.633	409976.226	8997.35	1.62	8998.970	270
271	2076798.479	410273.776	9015.96	0.97	9016.930	271
272	2076799.839	410577.745	9031.46	0.92	9032.380	272
273	2076800.273	412651.421	9082.28	0.87	9083.150	273
274	2076803.418	411174.105	0.00	0.00	0.000	274
275	2076806.850	411481.645	9017.77	2.85	9020.620	275
276	2076809.108	411774.505	9038.02	0.51	9038.530	276
277	2076821.416	412967.083	9078.82	1.10	9079.920	277
278	2076834.173	413256.739	9090.52	1.94	9092.460	278
279	2076837.820	414473.521	9185.42	-2.29	9183.130	279
280	2076839.313	413569.478	9109.60	-0.79	9108.810	280
281	2076840.829	414182.792	0.00	9154.23	9154.230	281
282	2076841.418	413881.868	9128.14	-1.50	9126.640	282
283	2076842.537	414758.913	9192.64	-0.62	9192.020	283
284	2076844.513	415085.053	9192.52	0.25	9192.770	284
285	2076852.418	415394.268	9201.34	-0.64	9200.700	285
286	2076853.449	415679.774	9224.32	-0.22	9224.100	286
287	2076854.166	416880.661	9272.51	-0.52	9271.990	287
288	2076854.226	417147.026	9282.78	-0.77	9282.010	288
289	2076858.943	416576.961	9271.33	-0.89	9270.440	289

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
290	2076864.493	418678.780	9287.13	-0.88	9286.250	290
291	2076865.160	418360.328	9284.68	-3.21	9281.470	291
292	2076865.909	416254.004	9266.26	0.53	9266.790	292
293	2076866.518	415980.209	9247.85	-0.73	9247.120	293
294	2076868.848	417769.759	9294.94	-1.77	9293.170	294
295	2076869.605	417463.849	9294.18	-0.51	9293.670	295
296	2076875.548	418066.460	9290.68	-2.04	9288.640	296
297	2077070.936	407582.190	9049.93	1.48	9051.410	297
298	2077072.484	407898.206	9049.77	-0.41	9049.360	298
299	2077075.424	408205.126	9038.11	-4.09	9034.020	299
300	2077082.042	406998.004	9053.28	0.00	0.000	300
301	2077082.369	408795.259	9049.73	-1.56	9048.170	301
302	2077084.788	408502.932	9048.89	0.10	9048.990	302
303	2077086.185	409110.490	9025.30	-0.66	9024.640	303
304	2077087.389	407302.913	9045.86	0.00	0.000	304
305	2077094.475	409697.869	9039.97	-1.52	9038.450	305
306	2077096.245	409395.856	9039.08	-0.75	9038.330	306
307	2077099.747	410568.705	9090.47	-0.57	9089.900	307
308	2077103.405	409991.461	9051.71	0.80	9052.510	308
309	2077104.545	410893.804	9068.86	0.34	9069.200	309
310	2077105.104	410296.037	9064.34	0.55	9064.890	310
311	2077110.506	413616.441	9149.54	0.67	9150.210	311
312	2077111.236	411488.520	9064.07	0.80	9064.870	312
313	2077111.711	411791.953	9077.10	0.89	9077.990	313
314	2077112.676	412069.697	9103.01	0.69	9103.700	314
315	2077113.972	411187.475	9073.77	0.66	9074.430	315
316	2077115.636	412718.694	9120.38	1.35	9121.730	316
317	2077116.398	413312.806	9133.89	0.55	9134.440	317
318	2077118.535	412445.617	9131.19	-0.19	9131.000	318
319	2077125.387	413009.395	9115.64	1.73	9117.370	319
320	2077135.638	414778.248	9241.11	-0.36	9240.750	320
321	2077141.396	418675.217	9326.15	-1.20	9324.950	321
322	2077144.869	413921.949	9166.32	0.11	9166.430	322
323	2077145.358	414490.603	9220.28	-0.13	9220.150	323
324	2077148.953	416050.491	9284.30	0.00	0.000	324
325	2077149.057	418104.603	9337.27	-1.25	9336.020	325
326	2077149.713	416310.230	9312.20	-0.04	9312.160	326
327	2077151.862	416617.820	9322.82	-0.09	9322.730	327
328	2077153.409	415115.610	9236.64	0.12	9236.760	328
329	2077154.311	417495.828	9339.49	-1.03	9338.460	329
330	2077158.281	417851.766	9336.43	-1.41	9335.020	330
331	2077161.746	415737.397	9262.09	0.17	9262.260	331
332	2077162.608	418398.411	9328.98	-1.97	9327.010	332
333	2077164.701	415408.855	9232.59	-0.65	9231.940	333
334	2077165.219	416914.972	9321.75	-1.66	9320.090	334
335	2077174.046	417227.008	9331.50	-0.63	9330.870	335
336	2077181.606	414208.077	9198.46	-0.28	9198.180	336
337	2077327.144	408584.183	9118.50	0.00	0.000	337
338	2077341.919	409427.893	9123.69	0.00	0.000	338

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
339	2077369.243	412440.405	9181.64	1.70	9183.340	339
340	2077372.040	407304.093	9212.03	0.00	0.000	340
341	2077375.260	408191.709	9231.11	0.00	0.000	341
342	2077377.800	407936.184	9202.25	-0.38	9201.870	342
343	2077378.502	407034.029	9236.93	0.00	0.000	343
344	2077380.015	413587.030	9208.46	3.85	9212.310	344
345	2077394.763	409983.859	9134.71	-0.78	9133.930	345
346	2077395.978	412645.274	9172.70	0.49	9173.190	346
347	2077397.366	409679.669	9140.26	0.00	0.000	347
348	2077399.707	411496.044	9152.86	-0.73	9152.130	348
349	2077402.652	411205.346	9155.77	-1.05	9154.720	349
350	2077402.965	412950.462	9185.55	1.14	9186.690	350
351	2077405.646	410882.927	9153.38	-0.63	9152.750	351
352	2077405.827	410221.835	9146.48	-1.35	9145.130	352
353	2077406.135	415651.618	9332.15	-2.00	9330.150	353
354	2077407.691	413278.777	9199.36	0.00	0.000	354
355	2077409.167	407548.934	9190.99	0.00	0.000	355
356	2077410.252	410542.455	9154.74	-0.55	9154.190	356
357	2077413.404	415030.801	9277.00	-5.18	9271.820	357
358	2077421.588	415362.935	9314.11	0.00	0.000	358
359	2077424.785	414470.169	9256.17	0.60	9256.770	359
360	2077426.097	416858.967	9368.46	-0.69	9367.770	360
361	2077426.868	414154.724	9238.09	0.00	0.000	361
362	2077428.813	414723.692	9287.51	0.00	0.000	362
363	2077428.858	418082.652	9390.74	-0.20	9390.540	363
364	2077431.268	417772.752	9389.25	-0.43	9388.820	364
365	2077433.431	413924.580	0.00	0.00	0.000	365
366	2077433.603	417178.339	9378.32	-5.94	9372.380	366
367	2077433.749	408830.537	9223.80	-6.35	9217.450	367
368	2077433.974	411773.423	9178.68	0.00	0.000	368
369	2077439.776	416550.490	9377.44	0.81	9378.250	369
370	2077441.113	412095.887	9179.68	0.00	0.000	370
371	2077448.081	415970.215	9352.21	0.00	0.000	371
372	2077450.407	417472.218	9388.52	0.00	0.000	372
373	2077459.348	418342.719	9389.59	0.00	0.000	373
374	2077467.012	418649.456	9388.60	-0.95	9387.650	374
375	2077473.441	416249.283	0.00	0.00	0.000	375
376	2077486.811	409078.793	9251.42	0.00	0.000	376
377	2077617.220	416811.723	9420.82	-0.09	9420.730	377
378	2077653.954	407389.895	9348.26	0.00	0.000	378
379	2077655.214	417753.204	9443.98	0.00	0.000	379
380	2077662.949	408527.324	0.00	0.00	0.000	380
381	2077667.836	417044.337	9453.80	0.00	0.000	381
382	2077677.808	412398.030	9240.19	0.00	0.000	382
384	2077705.279	409419.764	9352.05	0.00	0.000	384
385	2077706.029	408239.791	9388.73	-0.08	9388.650	385
386	2077707.058	413860.681	9389.09	0.00	0.000	386
387	2077713.671	417429.568	9486.07	0.00	0.000	387
388	2077714.351	409715.921	9340.91	0.00	0.000	388

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
389	2077722.152	410325.622	9359.75	-0.21	9359.540	389
390	2077722.785	410015.663	9340.43	-3.02	9337.410	390
391	2077722.335	412131.521	9356.95	0.00	0.000	391
392	2077723.462	413633.072	9390.62	0.00	0.000	392
393	2077723.663	407928.653	9315.77	-2.06	9313.710	393
394	2077726.902	418152.914	0.00	0.00	0.000	394
395	2077732.966	416598.184	9478.95	0.58	9479.530	395
396	2077733.047	413372.927	9416.26	0.00	0.000	396
397	2077736.450	412772.912	9392.31	-21.53	0.000	397
398	2077736.578	410900.265	9373.43	0.00	9370.780	398
399	2077736.685	411737.335	9374.03	0.00	0.000	399
400	2077746.821	413109.696	9410.24	-4.31	9405.930	400
401	2077751.745	415324.085	9538.11	-0.67	9537.440	401
402	2077752.566	415932.907	9540.71	-0.63	9540.080	402
403	2077752.693	415632.986	9533.45	-3.14	9530.310	403
404	2077755.497	409050.595	9388.89	1.40	9390.290	404
405	2077758.768	408804.221	9287.39	0.00	9287.390	405
406	2077758.773	416238.547	9546.56	0.00	0.000	406
407	2077761.250	411521.427	0.00	0.00	0.000	407
408	2077762.691	418677.222	9467.25	-0.34	9466.910	408
409	2077763.913	418088.944	9476.19	0.00	0.000	409
410	2077766.600	418385.690	9471.69	0.00	0.000	410
411	2077767.387	411199.842	9391.99	-3.42	9388.570	411
412	2077769.532	410619.303	9288.57	1.52	9290.090	412
413	2077774.996	407709.917	0.00	0.00	0.000	413
414	2077784.328	414966.591	9438.28	-2.70	9435.580	414
416	2077977.570	417956.009	0.00	0.00	0.000	416
417	2077991.702	415647.014	0.00	0.00	0.000	417
418	2077993.098	415373.835	9653.41	0.03	9653.440	418
419	2078009.322	416581.861	9558.67	0.71	9559.380	419
420	2078009.957	411739.624	9527.35	0.00	0.000	420
421	2078014.165	412604.064	9412.59	0.97	9413.560	421
422	2078015.585	410894.682	9502.72	-0.50	9502.220	422
423	2078021.702	411169.941	9524.67	1.12	9525.790	423
424	2078022.117	411423.848	0.00	0.00	0.000	424
425	2078027.614	415977.361	0.00	0.00	0.000	425
426	2078030.955	407686.494	0.00	0.00	0.000	426
427	2078032.505	410611.536	9388.00	0.78	9388.780	427
428	2078034.658	408649.050	0.00	0.00	0.000	428
429	2078038.452	409739.749	9485.93	0.17	9486.100	429
430	2078042.377	410247.077	9492.03	0.00	0.000	430
431	2078043.741	410015.211	0.00	0.00	0.000	431
432	2078045.520	408922.564	9409.45	1.30	9410.750	432
433	2078054.818	413840.001	9605.95	0.31	9606.260	433
434	2078055.142	414117.045	9624.98	-2.28	9622.700	434
435	2078057.519	408181.298	9502.93	-0.02	9502.910	435
436	2078059.763	409456.376	9551.43	0.00	0.000	436
437	2078063.062	413527.239	9566.96	0.00	0.000	437
438	2078065.623	413261.367	9594.05	0.51	9594.560	438

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439	2078083.292	412039.022	9560.52	0.00	0.000	439
440	2078093.765	409201.227	9571.71	-10.17	9561.540	440
441	2078110.326	417007.273	0.00	0.00	0.000	441
442	2078111.788	415056.226	9509.25	0.47	9509.720	442
443	2078121.857	412942.249	9596.56	0.31	9596.870	443
444	2078133.011	414433.546	0.00	0.00	0.000	444
445	2078247.352	417736.019	9672.14	-1.09	9671.050	445
447	2078257.796	413864.903	9701.26	-0.31	9700.950	447
448	2078267.822	414937.082	0.00	9464.01	9464.010	448
449	2078292.610	408799.342	9420.07	2.12	9422.190	449
450	2078301.331	416532.685	0.00	9615.91	9615.910	450
451	2078311.547	409059.426	9554.78	0.73	9555.510	451
452	2078353.533	410857.308	9609.30	-0.49	9608.810	452
453	2078354.224	411137.838	9698.83	0.58	9699.410	453
454	2078364.331	413654.280	0.00	0.00	0.000	454
455	2078366.027	410275.851	9584.64	-0.55	9584.090	455
456	2078375.574	409395.539	9664.23	1.03	9665.260	456
457	2078383.019	410621.898	0.00	9500.49	9500.490	457
458	2078394.824	417907.170	9770.90	0.00	0.000	458
459	2078404.264	415701.062	0.00	0.00	0.000	459
460	2078413.346	412631.116	9543.59	-0.57	9543.020	460
461	2078423.908	408199.568	9577.25	1.14	9578.390	461
462	2078424.906	414154.702	9818.06	1.44	9819.500	462
463	2078426.111	415432.012	0.00	9744.31	9744.310	463
464	2078441.123	409650.144	9663.63	0.00	0.000	464
465	2078443.435	411709.163	9745.61	0.00	0.000	465
466	2078456.871	417037.658	0.00	9882.24	9882.240	466
467	2078456.885	407653.147	9384.26	-5.20	9379.060	467
468	2078457.420	413347.459	9770.04	0.00	0.000	468
469	2078466.935	411362.218	9709.92	0.00	0.000	469
470	2078468.237	413127.991	9775.58	0.00	0.000	470
471	2078470.900	410029.721	0.00	9675.59	9675.590	471
472	2078473.904	416770.068	9770.86	0.38	9771.240	472
473	2078474.252	416091.219	0.00	0.00	0.000	473
474	2078520.643	417321.463	0.00	0.00	0.000	474
476	2078574.858	411906.212	9757.66	0.00	0.000	476
477	2078583.147	412356.375	0.00	9579.76	9579.760	477
478	2078599.885	413888.700	9853.79	-1.41	9852.380	478
479	2078617.669	415075.189	0.00	9607.31	9607.310	479
480	2078624.884	410291.579	0.00	0.00	0.000	480
481	2078632.011	417777.743	9840.61	-5.60	9835.010	481
482	2078654.261	408803.055	9570.71	0.59	9571.300	482
483	2078662.668	412976.862	9760.98	-0.44	9760.540	483
484	2078669.874	407939.206	9575.58	0.19	9575.770	484
485	2078670.293	409073.205	9649.18	1.45	9650.630	485
486	2078672.957	410885.248	9712.56	1.00	9713.560	486
487	2078679.036	413604.746	9845.62	0.60	9846.220	487
488	2078683.998	410559.020	9632.29	0.00	0.000	488
489	2078685.652	416548.919	9749.30	1.22	9750.520	489

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490	2078686.464	416183.369	0.00	9830.79	9830.790	490
491	2078693.533	415733.365	9945.82	0.50	9946.320	491
492	2078702.149	413353.352	9849.17	-4.21	9844.960	492
493	2078703.928	411118.440	9817.22	-0.02	9817.200	493
494	2078718.302	416863.261	9876.30	-1.20	9875.100	494
495	2078738.455	409903.137	9805.45	0.39	9805.840	495
496	2078791.597	417158.140	10045.50	0.38	10045.880	496
497	2078796.984	409506.035	9870.68	0.56	9871.240	497
498	2078808.760	408483.181	0.00	9639.72	9639.720	498
499	2078809.579	408214.750	9723.87	-1.00	9722.870	499
500	2078860.561	411458.313	9911.78	0.00	0.000	500
501	2078862.614	412389.103	0.00	0.00	0.000	501
502	2078864.060	414684.834	0.00	0.00	0.000	502
503	2078875.866	410193.285	0.00	9802.20	9802.200	503
504	2078876.903	407628.913	9567.12	4.59	9571.710	504
505	2078894.259	412729.500	9718.03	0.79	9718.820	505
506	2078901.193	413948.220	10035.98	0.25	10036.230	506
507	2078902.630	410875.949	9785.92	-0.53	9785.390	507
508	2078905.403	413666.146	9983.32	1.54	9984.860	508
509	2078906.840	411721.610	9970.37	0.00	0.000	509
510	2078908.558	416612.253	9863.73	1.23	9864.960	510
511	2078912.617	413087.455	9834.42	0.01	9834.430	511
512	2078928.744	417892.060	10015.04	0.66	10015.700	512
513	2078943.842	415858.289	10065.30	0.40	10065.700	513
515	2078960.541	407880.213	9666.99	1.18	9668.170	515
516	2078962.331	415478.680	9859.72	-0.94	9858.780	516
517	2078999.972	410571.191	9788.40	0.00	0.000	517
518	2079007.439	416828.813	9968.72	-0.03	9968.690	518
519	2079007.633	417212.526	10139.86	-0.04	10139.820	519
520	2079008.594	409085.598	9772.56	0.90	9773.460	520
521	2079019.184	415010.411	9678.98	3.10	9682.080	521
522	2079024.978	408739.251	0.00	0.00	0.000	522
523	2079036.729	417604.373	0.00	0.00	0.000	523
524	2079047.226	408204.857	9833.19	-2.36	9830.830	524
525	2079050.768	413383.901	10038.70	-4.76	10033.940	525
526	2079165.119	411683.115	10089.68	-0.44	10089.240	526
527	2079170.521	407570.344	9683.23	-0.53	9682.700	527
528	2079183.351	412745.496	9808.64	0.00	0.000	528
529	2079197.243	410291.942	9952.22	0.00	0.000	529
530	2079203.057	410910.553	9976.32	-3.39	9972.930	530
532	2079211.499	415388.869	9883.57	1.48	9885.050	532
533	2079214.744	409641.740	10035.85	0.84	10036.690	533
534	2079230.262	415688.640	10022.37	5.08	10027.450	534
535	2079231.145	416895.453	10084.98	0.65	10085.630	535
536	2079231.992	411202.534	10100.02	0.14	10100.160	536
537	2079233.930	410018.925	10038.84	-0.99	10037.850	537
538	2079235.425	415115.330	9777.78	1.27	9779.050	538
539	2079237.432	413635.948	10142.19	0.43	10142.620	539
540	2079242.727	417757.912	10162.03	0.49	10162.520	540

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541	2079243.157	415903.618	10131.07	0.22	10131.290	541
542	2079245.082	413832.474	10175.17	0.86	10176.030	542
543	2079247.960	412359.203	9874.94	0.00	0.000	543
544	2079249.768	414265.925	0.00	0.00	0.000	544
545	2079258.108	417275.659	10264.87	-0.05	10264.820	545
546	2079264.704	413083.054	9992.21	4.21	9996.420	546
547	2079286.252	407859.478	9792.44	0.00	0.000	547
549	2079296.109	410572.769	0.00	0.00	0.000	549
550	2079305.439	412087.051	0.00	0.00	0.000	550
551	2079309.524	413404.059	10158.47	-14.73	10143.740	551
552	2079315.179	417516.922	10215.53	-1.09	10214.440	552
553	2079319.514	408782.708	0.00	0.00	0.000	553
554	2079327.312	414853.045	0.00	0.00	0.000	554
555	2079328.045	408262.240	9936.82	-0.18	9936.640	555
556	2079328.690	416588.351	10031.59	-1.61	10029.980	556
557	2079348.162	409093.074	9918.97	-0.79	9918.180	557
558	2079353.155	416285.939	0.00	0.00	0.000	558
559	2079417.198	408517.305	9930.79	0.35	9931.140	559
561	2079513.802	415354.372	9974.87	1.27	9976.140	561
562	2079514.358	415671.206	0.00	10134.21	10134.210	562
563	2079515.313	415000.281	0.00	0.00	0.000	563
564	2079539.154	414604.806	0.00	0.00	0.000	564
565	2079544.886	413267.894	10176.82	-11.54	10165.280	565
566	2079547.534	416894.454	10231.16	-0.13	10231.030	566
567	2079552.675	417277.174	10364.85	-0.60	10364.250	567
568	2079555.568	413537.332	0.00	10277.81	10277.810	568
569	2079559.334	413812.992	0.00	0.00	0.000	569
570	2079565.599	415950.746	10260.44	0.81	10261.250	570
571	2079574.596	407854.713	9940.85	-0.24	9940.610	571
572	2079584.483	407612.050	9886.68	0.00	0.000	572
573	2079593.755	417669.223	10331.33	-1.03	10330.300	573
574	2079617.468	412775.821	10074.55	-0.56	10073.990	574
575	2079627.019	409536.688	10139.71	0.37	10140.080	575
576	2079627.728	410672.430	10151.83	0.00	0.000	576
577	2079635.053	416232.892	10214.35	0.59	10214.940	577
578	2079637.739	410090.080	10194.03	-1.42	10192.610	578
579	2079640.580	411663.374	10203.92	-1.54	10202.380	579
580	2079641.980	412229.726	10102.69	-2.66	10100.030	580
581	2079646.996	411333.375	10263.44	0.73	10264.170	581
582	2079648.732	408911.030	10032.37	-0.47	10031.900	582
583	2079655.237	409261.767	10080.63	0.96	10081.590	583
584	2079655.497	416601.362	10199.10	-0.48	10198.620	584
585	2079665.946	409842.086	10221.30	-0.27	10221.030	585
586	2079669.657	408622.731	10041.99	-0.13	10041.860	586
587	2079689.014	411996.840	10158.02	0.00	0.000	587
588	2079692.386	408028.867	10008.46	-0.30	10008.160	588
589	2079695.443	411068.280	10228.43	0.31	10228.740	589
590	2079695.531	412473.143	10096.03	-8.09	10087.940	590
591	2079706.441	410446.607	10163.25	3.52	10166.770	591

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
592	2079754.447	408298.391	10102.23	0.03	10102.260	592
595	2079835.076	414339.802	0.00	0.00	0.000	595
596	2079838.583	417448.923	10442.25	-0.50	10441.750	596
597	2079839.206	415984.906	10343.45	0.18	10343.630	597
598	2079843.279	413273.770	10288.08	0.29	10288.370	598
599	2079845.115	417136.729	10429.02	0.79	10429.810	599
600	2079850.556	415628.098	10203.15	0.38	10203.530	600
601	2079851.817	416833.319	10347.42	-0.87	10346.550	601
602	2079852.530	413534.749	10384.98	-0.41	10384.570	602
603	2079854.253	415374.458	10132.87	-1.50	10131.370	603
604	2079855.925	417727.546	10432.58	-0.35	10432.230	604
605	2079865.446	414735.680	0.00	0.00	0.000	605
606	2079865.599	411663.608	10274.57	0.00	0.000	606
607	2079870.858	416264.634	10316.93	0.43	10317.360	607
608	2079875.569	415049.469	10111.55	-5.30	10106.250	608
609	2079904.992	413883.352	0.00	0.00	0.000	609
610	2079921.059	408638.789	10139.19	-1.25	10137.940	610
611	2079934.149	416600.727	10331.37	0.16	10331.530	611
612	2079939.244	409220.153	10181.22	-0.29	10180.930	612
614	2079953.127	410434.492	10287.82	0.68	10288.500	614
615	2079963.134	408938.296	10152.88	-0.07	10152.810	615
616	2079963.254	410132.981	10318.01	-2.17	10315.840	616
617	2079963.619	410725.586	10319.80	0.00	0.000	617
618	2079966.973	409534.925	10241.05	0.99	10242.040	618
620	2079967.209	408064.802	10127.01	-0.49	10126.520	620
623	2079975.682	412788.577	10236.45	0.34	10236.790	623
624	2079978.879	414160.443	0.00	10257.14	10257.140	624
625	2079979.879	412165.562	10241.44	-1.19	10240.250	625
626	2079980.933	411305.126	10376.80	0.11	10376.910	626
627	2079982.695	411956.538	10268.58	0.00	0.000	627
628	2079985.960	412537.992	10239.45	-0.97	10238.480	628
629	2079986.217	411030.844	10344.34	0.07	10344.410	629
630	2080015.532	409863.611	10354.85	0.27	10355.120	630
631	2080019.402	417136.529	10506.45	-0.79	10505.660	631
632	2080019.441	413112.649	10304.51	11.39	10315.900	632
633	2080039.931	417499.171	10506.41	-0.98	10505.430	633
634	2080092.467	415364.712	10238.81	3.20	10242.010	634
635	2080104.500	416032.369	10433.50	1.22	10434.720	635
636	2080124.478	416853.177	10464.64	1.73	10466.370	636
637	2080136.305	415707.277	10335.10	3.96	10339.060	637
638	2080141.550	416562.245	10432.46	1.38	10433.840	638
639	2080146.772	416256.511	10436.98	0.89	10437.870	639
640	2080161.223	415051.851	10223.18	2.51	10225.690	640
641	2080173.603	414738.443	0.00	0.00	0.000	641
642	2080200.853	411028.016	10395.72	0.36	10396.080	642
643	2080210.609	411334.784	10367.52	0.81	10368.330	643
644	2080213.252	414272.881	0.00	10317.44	10317.440	644
645	2080215.586	410462.454	10409.27	0.00	0.000	645
646	2080219.509	408606.565	10255.18	0.37	10255.550	646

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647	2080224.983	408261.473	10292.78	0.07	10292.850	647
648	2080225.739	409220.467	10256.11	0.30	10256.410	648
649	2080235.795	414514.522	0.00	10241.51	10241.510	649
651	2080254.400	408917.813	10236.27	1.05	10237.320	651
653	2080255.204	411634.738	10344.57	0.10	10344.670	653
654	2080259.962	410723.491	10439.31	0.00	0.000	654
656	2080265.171	411936.302	10336.51	-0.52	10335.990	656
657	2080265.352	410143.268	10390.21	1.26	10391.470	657
658	2080266.221	409837.923	10296.52	1.79	10298.310	658
659	2080271.569	409534.868	10273.98	0.97	10274.950	659
660	2080281.706	414057.157	0.00	10385.84	10385.840	660
663	2080319.782	412220.425	10330.41	0.78	10331.190	663
664	2080322.001	412857.898	10376.13	-1.01	10375.120	664
665	2080353.923	412532.165	10357.67	-0.02	10357.650	665
666	2080367.658	413122.559	10447.92	-0.52	10447.400	666
667	2080399.856	417794.036	10607.25	-0.51	10606.740	667
668	2080437.131	415032.685	10329.48	0.75	10330.230	668
669	2080439.271	417111.724	10638.00	1.30	10639.300	669
670	2080441.541	416829.196	10585.57	1.24	10586.810	670
671	2080466.689	415906.014	10530.71	1.14	10531.850	671
672	2080470.012	417432.992	10622.84	1.03	10623.870	672
673	2080477.355	416504.448	10581.37	0.48	10581.850	673
674	2080478.757	416249.518	10585.75	0.98	10586.730	674
675	2080491.687	415347.701	10422.60	0.18	10422.780	675
676	2080499.109	414518.836	0.00	0.00	0.000	676
678	2080506.543	408312.079	10281.24	4.57	10285.810	678
679	2080521.968	414722.959	10356.46	-0.16	10356.300	679
680	2080523.335	415659.194	10509.50	0.23	10509.730	680
681	2080539.207	409837.768	10185.15	1.36	10186.510	681
682	2080550.136	408946.215	10108.68	0.36	10109.040	682
683	2080552.671	410436.037	10361.45	0.59	10362.040	683
684	2080553.641	408633.932	10158.34	0.57	10158.910	684
685	2080553.849	410134.667	10249.97	1.13	10251.100	685
686	2080555.098	413443.178	10497.82	-0.53	10497.290	686
687	2080555.179	411634.695	10304.98	-0.10	10304.880	687
688	2080555.200	411334.756	10322.36	1.08	10323.440	688
689	2080555.316	409532.545	10169.50	-0.18	10169.320	689
690	2080555.328	411034.657	10340.60	0.89	10341.490	690
691	2080555.358	412234.783	10312.51	0.51	10313.020	691
692	2080555.420	411934.680	10294.95	0.06	10295.010	692
693	2080556.224	413138.704	10443.84	-0.74	10443.100	693
695	2080575.530	410694.975	10382.69	0.00	0.000	695
696	2080579.683	409239.127	10118.12	0.46	10118.580	696
697	2080585.268	412526.293	10347.04	-0.88	10346.160	697
700	2080640.287	412848.814	10389.99	-1.20	10388.790	700
701	2080750.467	413860.350	10557.41	-0.44	10556.970	701
702	2080761.872	417129.373	10652.60	0.26	10652.860	702
703	2080762.638	415343.103	10525.44	1.26	10526.700	703
704	2080770.087	417439.095	10617.93	-0.21	10617.720	704

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705	2080770.212	417735.270	10594.43	-0.56	10593.870	705
706	2080774.145	415634.735	10582.83	1.17	10584.000	706
707	2080774.574	413577.296	10501.13	-0.96	10500.170	707
708	2080776.143	413016.266	10400.92	-0.49	10400.430	708
709	2080776.394	416284.630	10690.05	1.14	10691.190	709
710	2080781.772	416850.224	10669.26	0.69	10669.950	710
711	2080782.507	415047.417	10484.93	1.56	10486.490	711
712	2080785.706	416532.375	10683.96	0.97	10684.930	712
714	2080801.410	414733.192	10486.93	0.87	10487.800	714
715	2080823.581	415872.922	10666.63	0.17	10666.800	715
716	2080826.735	414147.403	10540.25	3.27	10543.520	716
717	2080828.099	414449.386	10501.91	-1.86	10500.050	717
718	2080837.384	413346.675	10446.92	-0.25	10446.670	718
719	2080841.762	409247.766	9989.15	-0.98	9988.170	719
720	2080842.646	408338.218	10095.91	-0.20	10095.710	720
721	2080843.828	408933.106	9989.37	0.93	9990.300	721
722	2080843.842	408045.594	10157.70	0.57	10158.270	722
723	2080844.969	410130.644	10146.92	0.91	10147.830	723
725	2080852.016	409830.770	10083.44	0.21	10083.650	725
726	2080852.352	411038.435	10288.28	0.67	10288.950	726
727	2080854.862	409520.568	10043.64	0.43	10044.070	727
728	2080855.119	411934.888	10232.48	-0.34	10232.140	728
729	2080855.249	411334.551	10261.84	0.83	10262.670	729
730	2080855.454	411634.600	10238.33	0.23	10238.560	730
731	2080856.082	412239.890	10254.69	0.00	10254.690	731
732	2080856.807	410426.817	10243.79	0.60	10244.390	732
733	2080856.922	412553.103	10303.34	-0.11	10303.230	733
734	2080867.497	408545.571	10062.96	1.59	10064.550	734
735	2080872.072	410711.139	10322.62	0.00	0.000	735
737	2081041.903	414394.005	10579.62	0.31	10579.930	737
738	2081061.943	415670.606	10668.55	1.67	10670.220	738
739	2081061.995	417150.462	10623.48	-0.46	10623.020	739
740	2081067.022	416847.819	10661.39	0.23	10661.620	740
741	2081069.293	413867.525	10469.06	0.50	10469.560	741
742	2081069.429	417450.194	10582.76	-0.29	10582.470	742
743	2081072.774	413535.131	10418.65	-0.17	10418.480	743
744	2081072.926	416227.300	10735.40	0.72	10736.120	744
745	2081073.108	416536.563	10700.55	0.20	10700.750	745
746	2081076.806	413247.379	10381.42	-0.12	10381.300	746
747	2081083.629	415022.303	10587.46	1.04	10588.500	747
748	2081083.818	417748.086	10556.77	-0.34	10556.430	748
749	2081086.028	412940.754	10327.53	-0.38	10327.150	749
750	2081096.222	414136.882	10500.17	0.07	10500.240	750
753	2081123.805	408631.458	9941.93	1.38	9943.310	753
754	2081124.883	415316.386	10623.69	1.06	10624.750	754
755	2081125.104	408083.547	10028.88	0.36	10029.240	755
756	2081138.518	409283.972	9849.25	2.62	9851.870	756
757	2081138.817	411340.272	10185.75	0.38	10186.130	757
758	2081141.636	415912.080	10735.83	0.64	10736.470	758

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759	2081144.995	408905.563	9867.97	1.39	9869.360	759
760	2081147.161	408361.687	9958.41	0.36	9958.770	760
761	2081150.467	410694.870	10297.42	0.00	0.000	761
762	2081155.398	412234.899	10186.95	-0.43	10186.520	762
763	2081155.410	412534.840	10240.35	-0.30	10240.050	763
764	2081156.998	411632.783	10150.10	-0.56	10149.540	764
765	2081161.401	411950.948	10149.50	-0.27	10149.230	765
766	2081162.144	409537.105	9879.58	2.13	9881.710	766
767	2081164.690	414688.581	10643.45	0.00	0.000	767
768	2081165.396	410134.993	10057.34	0.92	10058.260	768
769	2081174.914	409850.680	9973.01	2.31	9975.320	769
770	2081189.998	411052.799	10217.54	0.76	10218.300	770
771	2081192.312	410450.222	10169.91	0.87	10170.780	771
773	2081328.319	416261.483	10711.98	0.37	10712.350	773
774	2081341.670	408216.045	9916.65	-0.04	9916.610	774
775	2081345.535	416823.136	10630.07	0.90	10630.970	775
776	2081346.262	412960.194	10246.08	0.20	10246.280	776
777	2081351.413	416538.985	10674.53	-0.43	10674.100	777
778	2081351.705	413550.500	10260.45	-1.31	10259.140	778
779	2081358.267	414480.299	10478.35	0.50	10478.850	779
780	2081370.683	417143.561	10580.27	0.01	10580.280	780
781	2081371.815	417735.952	10508.89	-0.51	10508.380	781
782	2081373.295	417438.175	10538.90	-0.75	10538.150	782
783	2081374.156	414102.320	10343.18	0.41	10343.590	783
784	2081396.878	418094.089	10485.18	1.58	10486.760	784
786	2081405.862	415654.987	10710.48	0.79	10711.270	786
787	2081408.943	414744.305	10558.05	0.00	0.000	787
788	2081411.124	413265.974	10208.73	0.98	10209.710	788
789	2081412.484	415057.130	10661.54	-0.04	10661.500	789
790	2081428.814	408587.463	9787.91	2.63	9790.540	790
791	2081430.480	415924.433	10719.17	1.05	10720.220	791
792	2081434.540	413837.270	10269.85	0.24	10270.090	792
793	2081436.578	411677.059	10052.70	0.83	10053.530	793
794	2081441.803	411018.782	0.00	10176.36	10176.360	794
795	2081444.503	410489.549	10142.83	0.77	10143.600	795
796	2081444.630	409828.096	9884.48	0.19	9884.670	796
797	2081445.958	410759.429	10220.80	-124.94	0.000	797
798	2081446.881	411342.259	10095.65	0.00	10095.860	798
799	2081448.253	415282.706	10706.99	0.29	10707.280	799
800	2081453.066	411929.692	10047.19	0.31	10047.500	800
801	2081453.344	410106.467	9995.33	1.49	9996.820	801
802	2081463.721	409178.158	9699.60	1.86	9701.460	802
803	2081464.827	412496.761	10152.68	-0.15	10152.530	803
804	2081469.440	409549.846	9757.80	0.20	9758.000	804
805	2081487.957	412214.209	10090.30	-0.83	10089.470	805
806	2081490.263	408976.881	9693.58	5.33	9698.910	806
808	2081605.976	412874.146	10100.07	-0.42	10099.650	808
809	2081616.867	412996.566	10085.91	-1.16	10084.750	809
810	2081621.850	417179.770	10539.93	-0.36	10539.570	810

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811	2081636.492	413599.234	10125.54	0.57	10126.110	811
812	2081646.479	413930.458	10192.36	0.27	10192.630	812
813	2081648.975	415034.571	10606.04	-0.22	10605.820	813
814	2081659.309	417729.572	10450.58	-0.72	10449.860	814
815	2081665.150	416559.845	10639.57	-1.19	10638.380	815
816	2081668.515	414445.928	10357.60	1.55	10359.150	816
817	2081669.259	418040.308	10439.26	0.42	10439.680	817
818	2081669.337	417447.254	10486.96	-0.04	10486.920	818
819	2081672.526	414777.174	10481.34	0.00	0.000	819
820	2081680.718	415591.353	10713.22	-0.41	10712.810	820
821	2081695.052	413302.088	10036.83	0.26	10037.090	821
822	2081698.835	414171.779	10253.26	0.54	10253.800	822
823	2081702.972	416830.341	10587.21	0.06	10587.270	823
824	2081711.113	410142.954	9966.72	1.94	9968.660	824
825	2081712.113	408639.669	9685.11	1.45	9686.560	825
827	2081725.866	411028.717	10117.18	0.84	10118.020	827
828	2081727.813	410455.064	10070.49	0.91	10071.400	828
829	2081729.480	411656.158	9942.04	0.34	9942.380	829
830	2081730.850	408134.356	9895.83	3.00	9898.830	830
831	2081733.724	408350.115	9807.42	0.98	9808.400	831
833	2081740.616	409560.826	9689.08	2.72	9691.800	833
834	2081742.314	415340.075	10687.98	-0.02	10687.960	834
835	2081749.172	412499.276	10050.34	-0.77	10049.570	835
836	2081749.806	409848.031	9822.58	2.11	9824.690	836
837	2081751.171	409212.244	9604.60	0.97	9605.570	837
838	2081755.377	411926.293	9924.07	-0.39	9923.680	838
840	2081767.477	410763.037	10151.78	0.00	0.000	840
841	2081772.641	411322.306	10027.50	1.82	10029.320	841
842	2081772.826	416221.798	10676.77	0.05	10676.820	842
843	2081775.296	412211.296	9981.36	-0.80	9980.560	843
845	2081781.870	415904.332	10703.40	-0.38	10703.020	845
846	2081793.841	408909.224	0.00	9611.18	9611.180	846
847	2081933.795	417434.982	10442.25	-0.71	10441.540	847
848	2081943.003	414449.366	10277.65	1.23	10278.880	848
849	2081959.010	415928.614	10676.13	0.35	10676.480	849
850	2081959.192	416577.681	10603.83	0.07	10603.900	850
851	2081971.391	413857.065	10017.11	-1.49	10015.620	851
852	2081971.581	415601.737	10686.17	0.52	10686.690	852
853	2081972.705	417767.246	10378.39	-0.35	10378.040	853
854	2081974.321	414727.363	10384.80	0.00	0.000	854
855	2081979.883	415052.532	10535.16	0.84	10536.000	855
856	2081981.115	417143.739	10496.36	0.93	10497.290	856
857	2081982.460	413250.561	9876.39	1.40	9877.790	857
858	2081985.967	415356.996	10645.62	0.48	10646.100	858
859	2081989.876	413603.291	9925.16	0.79	9925.950	859
860	2081997.337	414130.780	10115.36	0.80	10116.160	860
861	2082001.022	416156.043	10659.61	1.28	10660.890	861
862	2082004.406	418136.119	10376.08	0.17	10376.250	862
863	2082009.019	410456.252	10020.08	1.60	10021.680	863

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
864	2082009.314	408700.843	0.00	9635.26	9635.260	864
867	2082036.445	409818.553	9731.29	-0.47	9730.820	867
868	2082036.503	411088.377	10039.82	0.96	10040.780	868
869	2082041.721	409590.867	9621.68	0.74	9622.420	869
870	2082042.295	409248.218	9535.62	1.09	9536.710	870
872	2082045.725	412487.917	9837.86	-0.13	9837.730	872
873	2082053.260	411954.664	9763.68	-0.64	9763.040	873
876	2082055.575	416883.406	10541.75	0.30	10542.050	876
878	2082075.278	412913.598	9799.78	-1.07	9798.710	878
879	2082077.259	410745.304	10108.23	0.60	10108.830	879
880	2082081.122	412163.248	9751.21	-0.58	9750.630	880
881	2082095.387	411683.597	9816.63	-0.17	9816.460	881
883	2082127.601	408010.187	9933.88	0.27	9934.150	883
884	2082153.225	410116.121	9850.22	0.21	9850.430	884
885	2082158.071	408385.379	0.00	9775.07	9775.070	885
886	2082174.483	415865.057	10647.87	1.38	10649.250	886
887	2082232.217	414137.827	10048.51	2.48	10050.990	887
888	2082239.976	417797.002	10297.12	3.44	10300.560	888
889	2082243.816	417476.075	10374.33	2.43	10376.760	889
890	2082253.573	418085.889	10317.02	-0.22	10316.800	890
892	2082256.882	413493.534	9788.93	3.03	9791.960	892
893	2082264.478	413278.644	9754.43	-0.45	9753.980	893
894	2082265.691	415610.061	10628.96	1.43	10630.390	894
895	2082270.233	415346.610	10590.30	0.72	10591.020	895
896	2082282.646	416862.005	10521.71	0.24	10521.950	896
897	2082288.585	411006.291	10022.70	1.22	10023.920	897
898	2082289.020	415081.665	10488.17	1.60	10489.770	898
899	2082297.359	414459.206	0.00	10185.51	10185.510	899
900	2082298.474	414747.546	10321.79	2.02	10323.810	900
901	2082298.832	413908.902	9927.69	0.16	9927.850	901
902	2082298.919	411927.849	9682.15	0.76	9682.910	902
904	2082308.021	408603.390	0.00	9649.75	9649.750	904
905	2082311.682	412908.739	9727.50	-0.38	9727.120	905
906	2082319.955	416486.804	10566.20	0.90	10567.100	906
907	2082320.058	412435.034	0.00	0.00	0.000	907
908	2082320.320	418391.415	10356.46	0.31	10356.770	908
909	2082327.375	409603.450	9592.28	0.06	9592.340	909
910	2082337.906	416272.090	10549.62	0.38	10550.000	910
911	2082337.918	411723.428	9714.06	-0.61	9713.450	911
912	2082345.135	411312.384	9894.71	-2.79	9891.920	912
913	2082357.145	412198.942	9729.86	-2.86	9727.000	913
914	2082363.783	410775.914	10057.49	0.00	10057.490	914
916	2082365.172	409258.721	9453.31	1.08	9454.390	916
917	2082375.501	410160.017	9820.78	0.53	9821.310	917
918	2082383.317	410496.856	9983.91	-0.08	9983.830	918
920	2082396.724	408925.413	0.00	9498.78	9498.780	920
921	2082396.992	407968.514	9873.51	0.95	9874.460	921
923	2082413.209	417162.667	10433.25	0.38	10433.630	923
926	2082439.619	409841.570	9637.48	1.45	9638.930	926

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927	2082442.422	408338.567	0.00	9772.48	9772.480	927
928	2082492.683	417931.262	10235.46	0.93	10236.390	928
929	2082498.036	418101.110	10267.68	-1.56	10266.120	929
930	2082510.345	413899.904	9931.67	2.57	9934.240	930
932	2082548.296	417344.620	10363.05	1.47	10364.520	932
933	2082552.314	415352.745	10548.08	0.86	10548.940	933
934	2082562.451	414466.200	10200.61	4.77	10205.380	934
935	2082571.033	416817.816	10470.80	0.35	10471.150	935
936	2082572.522	412942.159	9604.41	0.51	9604.920	936
937	2082572.757	415946.115	10389.46	0.62	10390.080	937
938	2082574.039	414724.782	10329.66	2.25	10331.910	938
939	2082577.866	415672.060	10449.44	1.10	10450.540	939
940	2082579.334	416586.674	10417.33	0.68	10418.010	940
941	2082579.357	416232.292	10383.12	0.14	10383.260	941
942	2082595.271	413169.679	9588.76	1.87	9590.630	942
943	2082604.399	408448.703	10409.61	0.00	0.000	943
944	2082605.045	417149.612	0.00	10409.95	10409.950	944
945	2082616.166	413586.804	0.00	9805.17	9805.170	945
946	2082616.914	410140.692	9742.97	-0.86	9742.110	946
947	2082617.472	414135.034	10062.39	2.20	10064.590	947
948	2082622.576	409839.400	9608.38	0.27	9608.650	948
949	2082629.936	415059.245	10476.36	2.81	10479.170	949
950	2082631.898	407772.892	9729.92	-5.58	9724.340	950
951	2082640.394	411601.928	9817.79	0.00	0.000	951
952	2082643.688	411316.630	0.00	9820.61	9820.610	952
953	2082647.467	411029.440	9950.92	-1.05	9949.870	953
954	2082651.718	408006.574	9710.23	0.00	0.000	954
955	2082654.399	412746.181	0.00	9555.72	9555.720	955
957	2082658.481	410468.588	9890.77	-0.74	9890.030	957
958	2082659.411	408885.966	9465.11	-0.33	9464.780	958
959	2082672.454	409531.175	9478.10	0.94	9479.040	959
960	2082683.487	410761.221	9994.80	-0.39	9994.410	960
961	2082691.519	418226.750	10250.31	0.58	10250.890	961
963	2082695.565	409196.316	9345.57	-1.39	9344.180	963
966	2082713.420	412504.683	0.00	9532.78	9532.780	966
968	2082720.018	412050.577	9515.51	0.00	0.000	968
971	2082785.241	418027.332	10200.61	-0.49	10200.120	971
972	2082814.539	412937.111	9540.30	1.28	9541.580	972
973	2082820.349	408605.559	9548.87	1.21	9550.080	973
974	2082826.476	414975.310	10442.39	2.26	10444.650	974
975	2082833.033	416227.440	10223.04	2.25	10225.290	975
976	2082847.348	413290.620	0.00	9745.80	9745.800	976
977	2082861.898	414491.186	10272.59	2.60	10275.190	977
978	2082869.439	415324.243	10443.68	1.25	10444.930	978
979	2082876.684	413840.316	10000.66	3.19	10003.850	979
980	2082888.592	412735.856	9482.78	1.77	9484.550	980
981	2082888.772	417139.247	10364.65	0.93	10365.580	981
982	2082901.560	415921.687	10194.71	0.93	10195.640	982
983	2082904.086	417546.023	10245.22	0.52	10245.740	983

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984	2082909.213	414167.222	10161.46	1.69	10163.150	984
985	2082909.566	416840.000	10327.31	1.33	10328.640	985
986	2082911.342	409264.063	9310.46	0.65	9311.110	986
987	2082923.695	408493.325	9552.69	-2.65	9550.040	987
988	2082927.029	410740.147	9974.96	-0.06	9974.900	988
989	2082927.255	409497.331	9419.86	1.62	9421.480	989
990	2082927.399	410125.566	9647.85	-1.04	9646.810	990
991	2082929.582	416630.626	10244.12	1.27	10245.390	991
992	2082930.551	412591.403	9439.98	-0.77	9439.210	992
993	2082938.442	408156.655	9529.14	-0.23	9528.910	993
994	2082938.597	412126.838	9436.80	3.73	9440.530	994
995	2082944.666	410437.537	9860.52	0.50	9861.020	995
996	2082951.618	408898.164	9406.47	0.10	9406.570	996
997	2082956.980	411596.725	10252.59	0.00	0.000	997
998	2082959.469	415615.709	0.00	10254.86	10254.860	998
999	2082964.353	411029.795	9894.67	1.58	9896.250	999
1000	2082984.086	409809.377	9557.04	2.27	9559.310	1000
1002	2083009.774	418249.531	10197.66	0.20	10197.860	1002
1003	2083009.806	414742.666	10332.29	1.96	10334.250	1003
1004	2083023.143	413411.749	9847.52	-7.21	9840.310	1004
1005	2083039.326	411292.796	0.00	9761.85	9761.850	1005
1008	2083118.855	416273.909	10077.13	2.50	10079.630	1008
1009	2083126.334	417994.830	10120.98	0.37	10121.350	1009
1011	2083134.952	409888.367	9576.31	2.01	9578.320	1011
1013	2083136.874	415028.959	10327.27	2.03	10329.300	1013
1015	2083148.094	414158.605	10171.45	0.70	10172.150	1015
1016	2083161.013	415965.411	10064.70	1.41	10066.110	1016
1017	2083165.544	415688.182	10131.54	-0.49	10131.050	1017
1018	2083169.990	412898.372	9646.54	1.66	9648.200	1018
1019	2083175.803	417559.492	10202.50	-0.19	10202.310	1019
1022	2083191.038	417084.357	10327.59	0.04	10327.630	1022
1023	2083195.153	414499.319	10232.93	1.43	10234.360	1023
1024	2083196.633	410713.631	9956.38	1.99	9958.370	1024
1025	2083205.691	418452.023	10209.98	0.19	10210.170	1025
1026	2083210.065	409545.190	9400.87	-1.41	9399.460	1026
1027	2083211.077	412317.435	9350.89	0.40	9351.290	1027
1028	2083220.509	409259.435	9265.85	0.91	9266.760	1028
1029	2083223.566	408888.490	9331.21	0.72	9331.930	1029
1030	2083238.133	408447.397	9406.83	0.36	9407.190	1030
1031	2083240.687	415381.134	10257.82	1.12	10258.940	1031
1032	2083267.394	411408.047	9665.78	-0.77	9665.010	1032
1033	2083290.655	411795.507	0.00	9504.96	9504.960	1033
1034	2083298.156	412557.376	9485.95	2.07	9488.020	1034
1035	2083299.905	410202.947	9709.90	1.27	9711.170	1035
1036	2083306.370	413856.798	10114.26	1.59	10115.850	1036
1037	2083322.323	418182.473	10124.68	-0.37	10124.310	1037
1038	2083325.250	410737.225	9944.70	0.92	9945.620	1038
1039	2083346.104	411094.410	9790.56	2.31	9792.870	1039
1040	2083374.575	416695.640	10087.62	-0.20	10087.420	1040

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1041	2083377.450	408131.259	0.00	9371.26	9371.260	1041
1043	2083406.210	413346.636	9833.11	-0.98	9832.130	1043
1044	2083413.909	415048.975	10249.42	1.38	10250.800	1044
1045	2083421.929	416001.105	9957.21	-0.18	9957.030	1045
1046	2083427.939	416397.639	9984.88	0.78	9985.660	1046
1047	2083429.956	417859.630	10074.30	0.65	10074.950	1047
1048	2083434.433	417088.436	10294.13	0.47	10294.600	1048
1049	2083462.230	415685.959	10030.94	-0.24	10030.700	1049
1050	2083484.647	411330.464	9629.98	-0.98	9629.000	1050
1051	2083492.930	414802.379	10179.22	1.11	10180.330	1051
1052	2083494.395	417511.437	10174.70	0.45	10175.150	1052
1053	2083496.954	409980.006	9595.27	-4.51	9590.760	1053
1054	2083503.074	409614.121	9437.77	0.82	9438.590	1054
1056	2083504.688	408871.787	0.00	0.00	0.000	1056
1057	2083505.053	410515.421	9762.92	1.52	9764.440	1057
1058	2083506.547	411862.204	9413.49	-4.04	9409.450	1058
1060	2083512.582	412238.427	9276.28	-8.00	9268.280	1060
1064	2083528.852	409270.939	9261.22	2.57	9263.790	1064
1065	2083529.130	412627.586	9528.49	1.33	9529.820	1065
1066	2083531.981	414551.463	10113.66	2.19	10115.850	1066
1069	2083551.830	413917.513	10040.21	1.16	10041.370	1069
1070	2083555.674	414386.353	10073.31	1.37	10074.680	1070
1071	2083558.214	407710.410	0.00	9658.17	9658.170	1071
1072	2083573.955	410140.768	9601.32	0.00	0.000	1072
1075	2083630.115	418459.299	10019.80	-0.59	10019.210	1075
1076	2083633.692	418187.191	9990.47	0.96	9991.430	1076
1077	2083643.536	415429.420	10098.72	1.12	10099.840	1077
1078	2083699.046	417138.428	10259.37	0.67	10260.040	1078
1079	2083700.683	415139.157	10163.05	0.64	10163.690	1079
1080	2083708.936	416844.277	10104.78	0.48	10105.260	1080
1081	2083717.821	416277.534	9875.28	0.52	9875.800	1081
1082	2083745.390	411576.379	0.00	0.00	0.000	1082
1083	2083751.124	417844.029	10025.07	0.33	10025.400	1083
1084	2083754.764	415971.286	9860.70	0.53	9861.230	1084
1085	2083785.542	410142.417	9548.87	4.07	9552.940	1085
1086	2083787.537	418111.713	9955.31	1.06	9956.370	1086
1087	2083788.186	415751.726	9904.06	0.77	9904.830	1087
1088	2083789.657	412164.511	9152.31	-8.30	9144.010	1088
1089	2083792.086	413902.088	9911.57	-1.06	9910.510	1089
1090	2083796.592	409783.991	9449.09	-0.45	9448.640	1090
1091	2083799.915	413494.538	9877.19	6.01	9883.200	1091
1092	2083807.478	417501.199	10138.91	0.75	10139.660	1092
1093	2083831.829	409491.678	9287.69	1.40	9289.090	1093
1094	2083835.456	414167.622	9929.51	0.32	9929.830	1094
1097	2083848.864	414811.330	10088.65	1.57	10090.220	1097
1099	2083861.769	408381.432	0.00	9324.86	9324.860	1099
1100	2083870.199	414505.957	9980.40	1.40	9981.800	1100
1101	2083879.997	408975.239	0.00	0.00	0.000	1101
1102	2083886.992	408070.466	0.00	0.00	0.000	1102

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1103	2083891.549	407767.406	0.00	9659.79	9659.790	1103
1105	2083900.711	416481.667	9919.48	1.09	9920.570	1105
1106	2083911.176	408654.091	0.00	9207.27	9207.270	1106
1107	2083912.602	410708.307	9649.62	0.51	9650.130	1107
1108	2083925.493	409250.353	9162.01	0.53	9162.540	1108
1109	2083929.727	417153.032	10231.34	1.78	10233.120	1109
1110	2083937.026	412588.622	9416.86	3.30	9420.160	1110
1113	2083967.806	418458.663	9950.75	0.24	9950.990	1113
1114	2083996.763	413243.400	9747.90	-0.62	9747.280	1114
1115	2084009.237	413624.356	9777.09	1.00	9778.090	1115
1116	2084012.198	415062.472	10119.29	1.63	10120.920	1116
1117	2084019.824	410968.131	0.00	0.00	0.000	1117
1118	2084020.067	415433.249	9954.91	0.52	9955.430	1118
1119	2084029.412	413004.470	9643.09	0.52	9643.610	1119
1120	2084030.209	418057.638	9853.24	0.05	9853.290	1120
1121	2084055.731	411691.288	0.00	0.00	0.000	1121
1122	2084061.140	417617.853	10040.05	0.70	10040.750	1122
1123	2084106.922	416894.324	10109.06	-0.80	10108.260	1123
1124	2084107.025	415797.893	9763.43	0.88	9764.310	1124
1125	2084129.660	416102.377	9730.84	1.09	9731.930	1125
1126	2084137.169	412236.299	9237.56	2.94	9240.500	1126
1127	2084146.966	414061.314	9768.12	0.47	9768.590	1127
1128	2084150.490	410345.623	9547.33	1.24	9548.570	1128
1129	2084153.409	411995.563	9002.97	5.13	9008.100	1129
1130	2084155.858	410097.338	9419.38	3.49	9422.870	1130
1131	2084161.262	414307.508	9817.27	1.22	9818.490	1131
1132	2084168.097	414720.708	9988.65	1.88	9990.530	1132
1133	2084174.150	409726.709	9219.82	1.78	9221.600	1133
1134	2084179.366	411342.879	0.00	0.00	0.000	1134
1135	2084189.389	417193.250	10199.48	0.33	10199.810	1135
1136	2084207.279	416588.720	9927.96	0.83	9928.790	1136
1140	2084267.899	413329.465	9648.36	7.64	9656.000	1140
1141	2084277.031	410564.348	9585.97	0.93	9586.900	1141
1143	2084290.575	408538.022	0.00	0.00	0.000	1143
1144	2084291.986	408230.380	9492.77	3.54	9496.310	1144
1145	2084295.297	412632.842	9460.86	1.10	9461.960	1145
1146	2084301.586	409479.567	9154.02	1.84	9155.860	1146
1147	2084305.008	407783.205	9719.48	0.69	9720.170	1147
1148	2084307.367	408833.854	0.00	0.00	0.000	1148
1149	2084310.672	415131.070	10016.31	2.00	10018.310	1149
1150	2084326.167	411140.238	9320.04	0.00	0.000	1150
1151	2084343.662	417888.585	9867.79	0.07	9867.860	1151
1152	2084359.420	415443.433	9837.39	0.89	9838.280	1152
1153	2084360.343	413899.500	0.00	9670.38	9670.380	1153
1154	2084370.300	414262.633	9792.39	1.48	9793.870	1154
1157	2084385.272	418084.074	9776.37	0.21	9776.580	1157
1158	2084387.420	418463.144	9825.93	-0.34	9825.590	1158
1159	2084390.968	417267.173	10145.97	0.82	10146.790	1159
1160	2084393.708	409214.066	8980.60	0.57	8981.170	1160

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1161	2084396.693	408042.007	0.00	9558.81	9558.810	1161
1162	2084408.087	417656.246	9948.93	1.09	9950.020	1162
1163	2084409.220	414528.611	9892.45	1.54	9893.990	1163
1164	2084409.338	416002.247	9666.12	1.11	9667.230	1164
1165	2084421.149	413063.412	9585.44	1.80	9587.240	1165
1166	2084425.543	414947.276	10051.67	1.00	10052.670	1166
1167	2084425.716	413615.470	9577.08	7.28	9584.360	1167
1169	2084474.189	415665.096	9721.85	3.70	9725.550	1169
1170	2084480.327	416685.710	9886.66	1.18	9887.840	1170
1171	2084481.361	416245.738	0.00	0.00	0.000	1171
1172	2084566.412	416859.644	9926.14	0.46	9926.600	1172
1173	2084575.995	411895.477	8899.70	0.18	8899.880	1173
1174	2084583.568	411473.208	0.00	0.00	0.000	1174
1175	2084589.584	412293.019	9196.15	-2.24	9193.910	1175
1176	2084600.723	415340.678	9812.93	0.58	9813.510	1176
1177	2084610.238	410134.772	9407.08	2.35	9409.430	1177
1178	2084611.929	414785.520	10016.63	0.66	10017.290	1178
1179	2084621.454	412617.179	9396.12	0.20	9396.320	1179
1180	2084630.831	414189.755	9752.88	2.19	9755.070	1180
1181	2084633.414	413277.444	9475.60	3.46	9479.060	1181
1182	2084642.730	415066.982	9955.03	1.57	9956.600	1182
1183	2084646.865	410672.962	9488.18	4.65	9492.830	1183
1184	2084647.897	410472.402	9558.08	0.73	9558.810	1184
1185	2084652.777	414497.343	9894.39	2.06	9896.450	1185
1186	2084656.939	407715.413	9512.70	1.30	9514.000	1186
1187	2084657.242	413900.189	9601.28	1.97	9603.250	1187
1188	2084659.525	417300.769	10051.91	-0.02	10051.890	1188
1189	2084673.262	418033.371	9759.78	-0.11	9759.670	1189
1190	2084675.430	418476.162	9752.88	1.10	9753.980	1190
1191	2084676.902	410940.257	9378.72	0.00	0.000	1191
1192	2084688.819	409568.516	9063.66	1.53	9065.190	1192
1194	2084699.531	409247.748	8944.68	2.49	8947.170	1194
1195	2084701.183	412953.099	9433.71	-0.11	9433.600	1195
1196	2084701.933	408210.023	9410.77	3.56	9414.330	1196
1197	2084704.635	417715.639	9889.08	0.79	9889.870	1197
1199	2084724.262	409854.540	9253.27	6.50	9259.770	1199
1200	2084733.242	415538.053	9701.61	1.47	9703.070	1200
1201	2084733.818	408447.372	9279.73	0.05	9279.780	1201
1202	2084745.768	415862.404	9643.88	1.45	9645.330	1202
1203	2084747.621	408976.418	8992.05	2.72	8994.770	1203
1205	2084787.612	416960.865	9899.42	0.58	9900.000	1205
1207	2084803.486	413586.068	9445.56	8.60	9454.160	1207
1208	2084807.808	416292.557	9678.30	0.19	9678.490	1208
1209	2084809.829	408002.247	0.00	0.00	0.000	1209
1212	2084864.155	417352.952	9965.14	0.38	9965.520	1212
1213	2084872.008	416108.752	9651.49	1.75	9653.240	1213
1214	2084888.061	414777.810	10047.31	1.19	10048.500	1214
1215	2084898.268	414206.405	9755.94	1.62	9757.560	1215
1216	2084910.545	418445.815	9698.22	0.25	9698.470	1216

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1217	2084922.018	412394.653	9268.33	0.88	9269.210	1217
1218	2084927.855	413283.427	9300.32	3.55	9303.870	1218
1219	2084933.245	414482.987	9905.21	1.72	9906.930	1219
1220	2084945.040	415387.822	9705.20	1.64	9706.840	1220
1221	2084946.731	416541.110	9694.70	-0.13	9694.570	1221
1222	2084949.622	415095.256	9852.25	-0.88	9851.370	1222
1223	2084950.974	412164.329	9062.68	-8.81	9053.870	1223
1224	2084967.907	411186.482	0.00	0.00	0.000	1224
1225	2084971.048	413916.100	9619.30	5.73	9625.030	1225
1226	2084978.256	417043.783	9860.54	0.27	9860.810	1226
1227	2084983.358	412994.074	9262.48	0.48	9262.960	1227
1228	2084984.163	418052.077	9707.34	-1.08	9706.260	1228
1229	2084988.197	409296.253	8884.19	1.52	8885.710	1229
1230	2084992.310	415606.703	9631.83	2.59	9634.420	1230
1231	2085013.226	412681.436	9205.49	1.39	9206.880	1231
1232	2085016.434	409009.440	8955.07	1.68	8956.750	1232
1233	2085026.961	410478.571	9521.27	0.50	9521.770	1233
1234	2085042.485	407436.431	9259.72	2.29	9262.010	1234
1235	2085044.147	411840.299	8808.69	0.00	0.000	1235
1236	2085049.623	417719.847	9809.80	0.56	9810.360	1236
1237	2085054.918	407769.943	9310.95	1.17	9312.120	1237
1238	2085067.242	411512.583	0.00	0.00	0.000	1238
1239	2085068.048	410136.312	9333.16	1.75	9334.910	1239
1241	2085081.727	408142.841	9382.23	0.43	9382.660	1241
1242	2085116.823	413580.896	9464.23	0.69	9464.920	1242
1243	2085118.866	409570.418	8977.56	1.79	8979.350	1243
1244	2085146.835	416279.746	9566.59	2.23	9568.820	1244
1245	2085149.131	417389.805	9900.29	-1.10	9899.190	1245
1246	2085150.899	408505.282	0.00	0.00	0.000	1246
1247	2085159.278	409802.120	9163.27	-0.07	9163.200	1247
1248	2085165.741	418490.949	9698.66	-1.53	9697.130	1248
1249	2085167.926	415869.312	9575.27	0.95	9576.220	1249
1250	2085196.658	414178.183	9743.61	0.05	9743.660	1250
1251	2085215.401	414764.044	9943.02	0.41	9943.430	1251
1252	2085219.122	414487.673	9891.85	-0.70	9891.150	1252
1253	2085222.594	409157.379	8853.02	0.60	8853.620	1253
1254	2085243.970	415105.963	9778.89	0.55	9779.440	1254
1255	2085245.575	413316.491	9326.17	0.92	9327.090	1255
1256	2085245.783	417107.040	0.00	9782.95	9782.950	1256
1257	2085247.679	413898.190	0.00	9643.69	9643.690	1257
1258	2085247.798	416693.982	9654.03	-3.54	9650.490	1258
1259	2085252.668	415388.477	9657.79	2.69	9660.480	1259
1260	2085255.229	412989.660	9119.63	2.00	9121.630	1260
1261	2085285.425	418069.694	9637.54	-1.38	9636.160	1261
1262	2085288.420	412448.527	8996.35	-2.74	8993.610	1262
1263	2085337.511	415655.462	9517.44	1.17	9518.610	1263
1264	2085356.409	413571.013	9485.95	-1.60	9484.350	1264
1265	2085361.361	417746.588	9745.27	-0.33	9744.940	1265
1266	2085362.422	412684.307	8946.34	0.33	8946.670	1266

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1267	2085401.500	412179.691	8892.80	-2.01	8890.790	1267
1268	2085421.119	409806.459	9167.41	1.23	9168.640	1268
1269	2085427.683	408906.306	8913.09	0.00	0.000	1269
1270	2085432.155	417409.335	9875.56	-1.09	9874.470	1270
1271	2085451.462	408329.003	9231.92	-2.80	9229.120	1271
1272	2085452.450	418484.828	9652.68	-0.42	9652.260	1272
1273	2085461.917	413829.670	9638.18	-0.87	9637.310	1273
1274	2085477.156	409552.917	8940.05	1.28	8941.330	1274
1275	2085486.195	410478.830	9519.11	-4.96	9514.150	1275
1276	2085486.682	416216.955	9452.16	0.08	9452.240	1276
1277	2085489.699	411844.079	8742.83	0.00	0.000	1277
1278	2085501.529	407888.781	9166.76	0.99	9167.750	1278
1279	2085503.212	410185.261	9368.15	1.87	9370.020	1279
1280	2085509.395	415872.627	9498.25	0.12	9498.370	1280
1282	2085517.245	407498.433	8996.76	2.17	8998.930	1282
1283	2085523.931	414772.996	9810.83	-0.28	9810.550	1283
1284	2085530.083	415084.342	9659.46	0.03	9659.490	1284
1285	2085532.225	418699.932	9733.30	-2.12	9731.180	1285
1286	2085532.443	416938.862	9659.66	-1.79	9657.870	1286
1287	2085534.566	408126.472	9142.65	0.21	9142.860	1287
1288	2085550.704	415384.289	9546.85	0.92	9547.770	1288
1289	2085551.293	416634.136	0.00	0.00	0.000	1289
1290	2085552.646	414210.309	9753.60	0.00	0.000	1290
1291	2085554.432	413294.841	9403.71	-0.18	9403.530	1291
1292	2085558.085	414565.563	9910.84	0.46	9911.300	1292
1293	2085567.491	418077.424	9571.66	-1.21	9570.450	1293
1294	2085576.378	411100.734	9204.34	0.00	0.000	1294
1295	2085599.529	409279.139	8800.45	2.86	8803.310	1295
1296	2085610.734	417175.191	9754.69	0.00	0.000	1296
1297	2085629.519	417740.436	9714.08	0.05	9714.130	1297
1298	2085674.724	412920.547	9210.08	1.61	9211.690	1298
1299	2085680.295	413590.972	9568.56	-1.67	9566.890	1299
1300	2085680.723	417447.179	9842.30	0.11	9842.410	1300
1301	2085691.777	412632.076	8985.84	-0.29	8985.550	1301
1302	2085746.748	418442.036	9582.36	0.60	9582.960	1302
1303	2085775.259	416409.361	9341.41	0.93	9342.340	1303
1304	2085778.168	410053.619	9240.52	3.45	9243.970	1304
1305	2085779.904	416036.905	9407.13	1.06	9408.190	1305
1307	2085789.289	415666.264	9322.07	0.43	9322.500	1307
1308	2085816.041	408347.421	9031.67	-11.59	9020.080	1308
1309	2085818.378	413893.604	9696.39	-0.96	9695.430	1309
1310	2085820.483	418062.112	9544.63	-1.06	9543.570	1310
1311	2085824.871	410521.382	0.00	9453.28	9453.280	1311
1312	2085829.305	414307.711	9769.27	0.24	9769.510	1312
1313	2085840.888	413295.211	9446.33	-0.52	9445.810	1313
1314	2085843.788	409708.918	9015.02	0.60	9015.620	1314
1315	2085847.377	411236.002	9078.01	0.00	0.000	1315
1316	2085852.218	415087.739	0.00	9633.34	9633.340	1316
1317	2085852.818	416633.935	9436.50	8.13	9444.630	1317

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1318	2085861.238	409093.047	8766.51	0.00	0.000	1318
1319	2085872.908	416969.173	9595.17	0.70	9595.870	1319
1320	2085877.074	407675.693	8898.85	0.48	8899.330	1320
1321	2085884.224	410839.724	9324.17	0.00	0.000	1321
1322	2085893.117	415383.401	9521.48	1.48	9522.960	1322
1323	2085897.078	408024.533	8898.48	-0.10	8898.380	1323
1324	2085898.364	411967.723	8664.78	0.00	0.000	1324
1325	2085915.538	412306.330	8813.19	1.92	8815.110	1325
1326	2085918.211	414762.976	9814.44	0.03	9814.470	1326
1327	2085923.328	409408.426	8819.49	1.31	8820.800	1327
1328	2085940.494	408713.549	8904.98	-0.70	8904.280	1328
1329	2085966.660	418324.805	9402.97	-0.45	9402.520	1329
1330	2085975.628	418624.577	9556.89	-4.34	9552.550	1330
1332	2086002.143	409878.211	9165.99	0.36	9166.350	1332
1333	2086027.832	417747.924	9676.15	-0.25	9675.900	1333
1334	2086032.733	407444.845	8933.80	-0.36	8933.440	1334
1335	2086041.053	414869.475	0.00	9751.65	9751.650	1335
1336	2086046.761	412803.570	9091.91	-1.04	9090.870	1336
1337	2086052.894	416184.018	9284.81	1.14	9285.950	1337
1338	2086085.837	410241.843	9332.10	-0.18	9331.920	1338
1339	2086088.885	415843.918	9207.95	0.72	9208.670	1339
1340	2086095.593	413498.497	9490.70	0.00	0.000	1340
1341	2086098.857	414208.380	9702.07	0.61	9702.680	1341
1342	2086099.018	417220.033	9686.97	0.89	9687.860	1342
1343	2086105.800	413676.079	9567.99	6.36	9574.350	1343
1344	2086128.610	411164.224	9177.83	0.00	0.000	1344
1345	2086136.141	410551.745	9497.48	0.00	0.000	1345
1346	2086156.398	415309.722	9512.17	1.99	9514.160	1346
1347	2086160.907	414443.218	9749.20	0.72	9749.920	1347
1348	2086161.289	418046.164	9515.06	-0.74	9514.320	1348
1349	2086163.233	414648.656	9750.90	0.97	9751.870	1349
1350	2086188.262	413295.760	9387.39	0.39	9387.780	1350
1351	2086196.405	408280.713	8784.34	1.93	8786.270	1351
1352	2086225.618	418398.784	9343.19	-1.38	9341.810	1352
1353	2086239.631	413030.627	9256.68	-0.29	9256.390	1353
1354	2086241.186	416955.572	9564.13	-1.23	9562.900	1354
1355	2086250.074	409441.022	8840.67	-2.26	8838.410	1355
1356	2086252.761	408019.583	8804.27	0.00	0.000	1356
1357	2086269.848	414999.756	9621.88	0.63	9622.510	1357
1358	2086271.777	408540.610	8754.40	-0.74	8753.660	1358
1359	2086291.801	416653.226	9355.81	-4.45	9351.360	1359
1360	2086299.375	418727.723	9453.10	-0.01	9453.090	1360
1361	2086317.581	417738.590	9659.22	-0.79	9658.430	1361
1362	2086328.030	417044.618	9600.53	2.02	9602.550	1362
1363	2086328.325	409143.252	8709.79	1.90	8711.690	1363
1364	2086335.333	410595.985	9416.68	0.00	0.000	1364
1365	2086343.236	412589.959	8896.76	-1.09	8895.670	1365
1366	2086348.562	411771.337	8730.43	0.00	0.000	1366
1367	2086349.628	414496.877	9715.57	0.91	9716.480	1367

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1368	2086350.339	417457.992	9751.06	0.22	9751.280	1368
1369	2086351.580	408850.323	8715.54	2.80	8718.340	1369
1370	2086360.523	407785.671	8915.28	0.00	0.000	1370
1371	2086367.216	407274.805	9066.75	0.00	0.000	1371
1372	2086370.383	416263.066	9037.06	1.39	9038.450	1372
1373	2086378.844	410266.821	9328.51	2.12	9330.630	1373
1374	2086382.350	416458.368	9205.57	1.16	9206.730	1374
1375	2086399.029	413710.900	9422.14	0.72	9422.860	1375
1376	2086413.631	411090.210	9162.66	0.00	0.000	1376
1377	2086421.258	413008.660	9226.39	3.08	9229.470	1377
1378	2086441.732	415292.056	9464.91	0.00	0.000	1378
1379	2086454.266	407597.640	9033.60	0.00	0.000	1379
1380	2086465.783	416856.105	9475.76	-2.63	9473.130	1380
1381	2086471.540	418122.833	9437.84	2.52	9440.360	1381
1383	2086479.295	409910.633	9206.34	0.94	9207.280	1383
1384	2086496.747	414792.288	9603.06	0.00	0.000	1384
1385	2086503.385	414082.248	9562.91	-0.16	9562.750	1385
1386	2086520.899	412263.280	8674.20	2.28	8676.480	1386
1387	2086530.645	418875.103	9403.74	-1.87	9401.870	1387
1388	2086541.350	413368.569	9274.77	-0.64	9274.130	1388
1389	2086554.851	410711.714	9322.43	4.01	9326.440	1389
1390	2086573.944	409143.048	8679.30	2.39	8681.690	1390
1391	2086576.603	416004.785	9031.85	-0.95	9030.900	1391
1392	2086587.951	418517.599	9216.61	-0.36	9216.250	1392
1393	2086590.151	411494.115	8864.65	0.00	0.000	1393
1394	2086594.484	409521.522	8839.07	2.21	8841.280	1394
1395	2086599.624	413551.857	9262.93	6.32	9269.250	1395
1396	2086607.136	414318.419	9674.31	1.57	9675.880	1396
1397	2086650.547	413907.010	9452.25	1.93	9454.180	1397
1398	2086659.841	412522.355	8793.20	-0.70	8792.500	1398
1399	2086662.619	415657.692	9163.87	0.00	0.000	1399
1400	2086663.788	410178.504	9174.17	-0.71	9173.460	1400
1401	2086668.039	417572.559	9690.95	-0.16	9690.790	1401
1402	2086678.559	417731.027	9652.78	0.00	9652.780	1402
1403	2086685.426	417205.672	9630.92	1.15	9632.070	1403
1404	2086717.787	414988.379	0.00	0.00	0.000	1404
1405	2086719.849	416248.704	0.00	9055.10	9055.100	1405
1407	2086739.593	408527.792	0.00	0.00	0.000	1407
1408	2086749.315	407579.464	0.00	0.00	0.000	1408
1409	2086766.705	414571.508	9679.68	1.08	9680.760	1409
1410	2086782.513	407852.835	0.00	0.00	0.000	1410
1411	2086793.307	408219.955	0.00	0.00	0.000	1411
1412	2086806.539	415291.258	0.00	0.00	0.000	1412
1413	2086813.620	412928.901	8906.95	3.35	8910.300	1413
1414	2086814.120	412121.240	8581.76	2.77	8584.530	1414
1415	2086828.379	410783.818	0.00	9297.23	9297.230	1415
1416	2086846.592	417432.090	9653.40	0.28	9653.680	1416
1417	2086857.764	418853.024	9272.73	-0.26	9272.470	1417
1418	2086869.446	418016.409	9470.85	-4.43	9466.420	1418

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1419	2086879.115	409035.470	8660.40	0.00	0.000	1419
1420	2086882.224	413423.003	9181.86	3.08	9184.940	1420
1421	2086891.514	411236.878	0.00	0.00	0.000	1421
1422	2086896.053	413733.339	9340.74	5.62	9346.360	1422
1423	2086897.215	416506.228	9173.01	0.67	9173.680	1423
1424	2086905.668	409892.692	8838.56	0.73	8839.290	1424
1425	2086935.492	409481.380	8706.11	0.89	8707.000	1425
1426	2086959.164	416942.663	9507.74	1.89	9509.630	1426
1427	2086976.137	414088.959	9542.66	1.06	9543.720	1427
1428	2086977.232	415105.449	9435.26	-0.84	9434.420	1428
1429	2086985.855	410281.528	8916.55	0.56	8917.110	1429
1430	2087008.500	418555.015	0.00	0.00	0.000	1430
1431	2087012.206	410550.628	9156.83	1.09	9157.920	1431
1432	2087018.457	410871.502	9238.87	4.26	9243.130	1432
1433	2087039.975	415835.532	0.00	0.00	0.000	1433
1434	2087060.465	412619.813	8694.50	3.03	8697.530	1434
1435	2087109.563	413418.661	9220.34	1.96	9222.300	1435
1436	2087110.310	414694.096	9556.47	-0.33	9556.140	1436
1437	2087112.368	416152.178	8950.32	1.75	8952.070	1437
1438	2087160.828	417677.457	9618.64	-0.55	9618.090	1438
1439	2087170.940	412104.695	8536.86	2.36	8539.220	1439
1440	2087181.697	418624.738	9025.07	0.00	0.000	1440
1441	2087186.378	419081.910	9235.51	0.89	9236.400	1441
1442	2087188.691	410839.087	9208.50	-0.14	9208.360	1442
1443	2087190.374	409474.372	8593.79	6.55	8600.340	1443
1444	2087196.488	417195.500	9401.62	7.09	9408.710	1444
1445	2087198.920	415432.261	0.00	0.00	0.000	1445
1446	2087218.712	413068.956	8974.53	1.05	8975.580	1446
1447	2087235.551	408153.168	9160.50	0.00	0.000	1447
1448	2087238.405	409832.556	0.00	8648.78	8648.780	1448
1449	2087258.256	411142.682	0.00	0.00	0.000	1449
1450	2087262.133	418006.967	9446.83	-0.04	9446.790	1450
1451	2087279.784	409144.181	0.00	0.00	0.000	1451
1452	2087280.622	414397.735	9656.36	1.18	9657.540	1452
1453	2087302.909	407880.794	9253.92	0.00	0.000	1453
1454	2087323.178	416869.653	9225.19	1.77	9226.960	1454
1455	2087331.474	410581.760	8911.77	3.18	8914.950	1455
1456	2087335.753	412796.965	8863.44	2.20	8865.640	1456
1457	2087339.561	410185.481	8718.65	2.77	8721.420	1457
1458	2087347.036	416478.286	9037.14	0.06	9037.200	1458
1459	2087386.697	414008.244	9515.93	-2.59	9513.340	1459
1460	2087391.601	411947.409	0.00	0.00	0.000	1460
1461	2087410.177	415784.156	0.00	0.00	0.000	1461
1462	2087437.826	411407.449	0.00	0.00	0.000	1462
1463	2087443.087	408472.073	8881.36	0.00	0.000	1463
1465	2087458.956	412401.917	8644.10	3.29	8647.390	1465
1467	2087475.164	416196.980	8846.85	2.69	8849.540	1467
1468	2087482.967	410954.357	0.00	8999.83	8999.830	1468
1469	2087489.645	413639.245	9349.32	3.08	9352.400	1469

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1470	2087504.657	408778.199	8723.66	0.00	0.000	1470
1471	2087530.851	417701.429	9589.46	1.49	9590.950	1471
1472	2087532.234	409359.589	0.00	0.00	0.000	1472
1473	2087534.442	414737.682	0.00	0.00	0.000	1473
1474	2087534.447	409980.753	8566.05	1.38	8567.430	1474
1475	2087543.893	409030.638	0.00	0.00	0.000	1475
1476	2087544.143	409632.031	8567.36	2.41	8569.770	1476
1478	2087553.765	413156.388	9219.50	1.51	9221.010	1478
1479	2087564.268	415085.749	9408.05	0.18	9408.230	1479
1480	2087566.355	418553.679	0.00	0.00	0.000	1480
1481	2087569.360	414206.583	9634.50	0.78	9635.280	1481
1482	2087571.901	415329.246	0.00	0.00	0.000	1482
1483	2087572.908	414346.182	9669.14	1.87	9671.010	1483
1484	2087574.710	410579.301	8773.11	3.44	8776.550	1484
1485	2087581.094	417276.219	9347.04	3.67	9350.710	1485
1486	2087592.729	410306.566	8655.51	4.54	8660.050	1486
1487	2087616.632	416853.317	9049.76	2.41	9052.170	1487
1488	2087617.739	416510.372	8931.42	2.22	8933.640	1488
1489	2087638.873	419010.214	9019.45	0.22	9019.670	1489
1490	2087667.322	412047.102	8475.29	2.66	8477.950	1490
1491	2087671.669	412644.001	8785.34	2.37	8787.710	1491
1492	2087717.836	415636.696	0.00	0.00	0.000	1492
1493	2087747.742	411667.227	8536.56	0.00	0.000	1493
1494	2087750.506	419238.758	9082.48	0.71	9083.190	1494
1496	2087768.004	415014.365	0.00	9381.26	9381.260	1496
1497	2087771.545	417416.395	9394.08	2.20	9396.280	1497
1498	2087795.009	416823.135	9002.92	2.43	9005.350	1498
1499	2087795.632	418554.775	0.00	0.00	0.000	1499
1500	2087800.649	415970.703	0.00	0.00	0.000	1500
1502	2087818.907	411251.973	8669.13	0.00	0.000	1502
1503	2087822.240	417955.044	9463.86	0.00	0.000	1503
1504	2087832.070	408664.412	8903.35	0.00	0.000	1504
1505	2087841.083	414490.402	9622.72	0.82	9623.540	1505
1506	2087852.499	412326.635	8637.84	1.40	8639.240	1506
1507	2087853.806	409923.446	0.00	0.00	0.000	1507
1508	2087855.130	413564.997	9417.28	5.28	9422.560	1508
1509	2087866.637	409644.703	0.00	0.00	0.000	1509
1510	2087873.631	410913.709	8762.78	2.09	8764.870	1510
1511	2087884.694	412938.439	9031.79	2.17	9033.960	1511
1512	2087901.227	413179.165	9209.01	0.91	9209.920	1512
1513	2087912.594	414276.753	9678.87	1.54	9680.410	1513
1515	2087928.479	410510.873	8583.29	1.39	8584.680	1515
1516	2087932.852	414801.461	9464.65	0.00	0.000	1516
1517	2087939.004	413923.144	9610.70	0.76	9611.460	1517
1518	2087946.779	412093.475	8535.93	-2.88	8533.050	1518
1519	2087946.990	418759.482	0.00	0.00	0.000	1519
1520	2087985.922	409074.223	8933.41	0.00	0.000	1520
1522	2088012.132	409266.595	0.00	0.00	0.000	1522
1523	2088045.638	417122.710	9066.24	0.93	9067.170	1523

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1524	2088064.228	410336.471	8462.68	1.64	8464.320	1524
1525	2088079.605	415188.986	0.00	0.00	0.000	1525
1526	2088101.564	414227.916	9719.22	1.23	9720.450	1526
1527	2088110.106	419245.851	8956.30	0.53	8956.830	1527
1528	2088119.238	417668.291	9414.90	0.01	9414.910	1528
1530	2088134.663	413541.723	9420.24	-3.25	9416.990	1530
1531	2088137.077	412603.615	8826.61	1.88	8828.490	1531
1532	2088138.742	411681.195	8390.33	0.76	8391.090	1532
1533	2088148.054	418831.533	0.00	0.00	0.000	1533
1534	2088167.536	412017.666	8531.78	1.14	8532.920	1534
1535	2088173.046	417844.766	9513.77	1.07	9514.840	1535
1536	2088174.427	409981.049	8486.29	0.00	0.000	1536
1537	2088175.658	410694.793	8499.05	1.54	8500.590	1537
1538	2088184.571	413999.882	9649.47	-0.17	9649.300	1538
1539	2088191.587	416200.179	0.00	0.00	0.000	1539
1540	2088198.982	418558.991	0.00	0.00	0.000	1540
1542	2088228.630	414939.905	9495.17	0.00	0.000	1542
1543	2088230.331	416531.424	8728.76	3.82	8732.580	1543
1544	2088235.429	414522.951	9635.79	0.00	0.000	1544
1545	2088239.426	415894.522	0.00	0.00	0.000	1545
1546	2088240.327	416870.028	8883.90	2.54	8886.440	1546
1547	2088259.512	415475.348	9289.39	-2.00	9287.390	1547
1548	2088259.659	412326.419	8678.90	-6.38	8672.520	1548
1549	2088273.657	411236.206	8481.16	3.15	8484.310	1549
1551	2088305.253	418058.509	9442.83	0.00	0.000	1551
1552	2088319.773	412725.537	8884.16	-1.47	8882.690	1552
1556	2088376.439	417412.395	9170.78	-1.98	9168.800	1556
1557	2088376.767	419224.829	8831.20	0.00	0.000	1557
1558	2088376.785	415161.378	9452.20	0.00	0.000	1558
1559	2088388.805	413412.006	9312.02	-1.18	9310.840	1559
1561	2088426.230	414236.262	9748.11	0.89	9749.000	1561
1563	2088429.005	417628.015	9364.32	0.63	9364.950	1563
1564	2088430.497	413046.604	9108.87	-15.91	9092.960	1564
1566	2088439.212	411473.379	8376.04	0.23	8376.270	1566
1567	2088439.499	418859.932	0.00	0.00	0.000	1567
1571	2088520.323	412135.186	8700.38	0.86	8701.240	1571
1572	2088546.862	417099.006	8946.64	1.84	8948.480	1572
1574	2088588.122	415742.701	0.00	0.00	0.000	1574
1575	2088603.701	416138.282	0.00	0.00	0.000	1575
1576	2088612.274	416350.568	0.00	0.00	0.000	1576
1577	2088620.282	416721.525	8739.90	1.12	8741.020	1577
1578	2088659.932	414516.565	9613.89	2.49	9616.380	1578
1579	2088662.752	414266.507	9699.61	1.64	9701.250	1579
1580	2088669.174	417601.335	9211.66	1.87	9213.530	1580
1581	2088680.060	415170.926	0.00	0.00	0.000	1581
1582	2088700.555	417889.665	9402.66	-0.51	9402.150	1582
1583	2088712.963	413999.391	9623.21	0.00	0.000	1583
1584	2088716.869	414899.859	0.00	0.00	0.000	1584
1585	2088722.561	419103.545	0.00	0.00	0.000	1585

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1586	2088727.307	413716.660	9517.37	-1.41	9515.960	1586
1587	2088727.433	412808.787	9191.72	0.44	9192.160	1587
1588	2088739.601	413445.462	9396.89	-0.82	9396.070	1588
1589	2088748.034	417402.152	9037.19	15.09	9052.280	1589
1590	2088749.462	412392.181	8895.79	0.21	8896.000	1590
1591	2088761.770	418088.678	9430.22	-1.19	9429.030	1591
1592	2088764.425	413106.692	9303.18	0.04	9303.220	1592
1593	2088775.638	411154.602	8314.51	0.00	0.000	1593
1594	2088833.931	410771.325	0.00	0.00	0.000	1594
1595	2088836.637	416487.265	8579.27	3.11	8582.380	1595
1597	2088853.274	412110.961	8664.52	-3.18	8661.340	1597
1599	2088855.373	411489.007	8332.95	-4.21	8328.740	1599
1601	2088907.354	412487.953	8895.75	0.38	8896.130	1601
1602	2088918.266	419263.210	0.00	0.00	0.000	1602
1603	2088955.942	415196.139	0.00	0.00	0.000	1603
1604	2088956.850	413137.148	9281.32	1.16	9282.480	1604
1605	2088972.235	416369.287	0.00	0.00	0.000	1605
1606	2088978.406	415497.136	0.00	0.00	0.000	1606
1607	2088980.182	412919.449	9154.84	-1.59	9153.250	1607
1608	2088985.256	417332.499	8941.73	1.84	8943.570	1608
1609	2088990.978	417859.382	9202.33	2.37	9204.700	1609
1610	2088994.210	416695.632	8647.11	4.71	8651.820	1610
1611	2088995.713	414892.649	0.00	0.00	0.000	1611
1612	2088998.677	415796.965	8907.56	0.00	0.000	1612
1613	2088998.707	416091.620	0.00	0.00	0.000	1613
1614	2089000.225	414590.398	9507.33	0.00	0.000	1614
1615	2089004.198	414312.787	9614.19	0.93	9615.120	1615
1617	2089010.515	414052.547	9582.41	1.87	9584.280	1617
1618	2089013.483	419371.904	0.00	0.00	0.000	1618
1619	2089024.504	413456.562	9378.24	-1.34	9376.900	1619
1620	2089034.898	416999.055	8758.47	3.15	8761.620	1620
1621	2089043.304	418237.369	9434.59	0.39	9434.980	1621
1622	2089052.619	410689.557	0.00	0.00	0.000	1622
1623	2089059.619	413756.709	9426.62	0.29	9426.910	1623
1624	2089103.758	411539.667	8312.82	0.32	8313.140	1624
1626	2089219.869	418973.487	0.00	0.00	0.000	1626
1628	2089277.473	413989.493	9459.82	-1.71	9458.110	1628
1629	2089294.561	416369.807	0.00	0.00	0.000	1629
1630	2089296.528	412943.995	9178.99	-0.94	9178.050	1630
1631	2089298.700	415254.106	0.00	0.00	0.000	1631
1632	2089299.515	412246.533	8631.13	0.04	8631.170	1632
1633	2089301.253	413723.408	9343.40	-0.95	9342.450	1633
1634	2089302.401	413449.529	9227.28	0.55	9227.830	1634
1635	2089304.934	413117.119	9179.07	-0.66	9178.410	1635
1636	2089305.560	414264.568	9585.97	1.96	9587.930	1636
1637	2089308.183	418229.730	9277.93	2.29	9280.220	1637
1638	2089308.230	411933.444	8473.11	0.11	8473.220	1638
1639	2089309.113	414544.194	9578.19	0.32	9578.510	1639
1640	2089319.693	417516.444	8900.39	2.37	8902.760	1640

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1641	2089326.455	414932.218	9411.51	0.00	0.000	1641
1642	2089327.813	416526.367	0.00	0.00	0.000	1642
1643	2089339.415	412447.842	8766.24	-1.24	8765.000	1643
1644	2089346.577	414416.514	9607.62	0.42	9608.040	1644
1645	2089367.738	416855.299	8595.70	3.10	8598.800	1645
1646	2089379.271	417232.294	8733.22	1.89	8735.110	1646
1647	2089387.082	418426.036	9385.62	-0.47	9385.150	1647
1648	2089387.834	417804.111	8997.75	3.45	9001.200	1648
1649	2089403.223	419192.477	0.00	0.00	0.000	1649
1650	2089406.719	416021.787	0.00	0.00	0.000	1650
1651	2089431.061	415652.290	9072.08	0.00	0.000	1651
1652	2089436.271	411334.855	8306.69	0.00	0.000	1652
1653	2089484.349	411060.777	0.00	0.00	0.000	1653
1654	2089495.381	410643.491	0.00	0.00	0.000	1654
1655	2089528.940	415012.308	9421.04	0.00	0.000	1655
1656	2089553.297	412806.380	8883.83	-0.64	8883.190	1656
1657	2089571.815	410314.933	0.00	0.00	0.000	1657
1658	2089572.350	417578.741	8825.03	1.39	8826.420	1658
1659	2089574.804	412108.412	8527.24	2.11	8529.350	1659
1660	2089576.654	418467.734	9333.07	0.36	9333.430	1660
1661	2089583.559	417881.264	8962.19	-0.04	8962.150	1661
1662	2089592.312	414011.137	9447.16	-0.14	9447.020	1662
1663	2089595.198	411675.161	8307.18	0.05	8307.230	1663
1664	2089596.395	413412.705	9153.16	0.04	9153.200	1664
1665	2089597.648	416986.888	8559.16	1.26	8560.420	1665
1666	2089598.344	414683.048	0.00	9581.80	9581.800	1666
1667	2089600.573	413093.472	8938.40	1.74	8940.140	1667
1668	2089600.577	416089.091	0.00	0.00	0.000	1668
1669	2089603.375	418245.340	9159.33	-0.18	9159.150	1669
1670	2089603.824	412506.335	8724.39	0.89	8725.280	1670
1671	2089607.254	417190.321	8634.16	1.34	8635.500	1671
1672	2089609.095	413703.210	9296.99	-0.94	9296.050	1672
1673	2089610.122	414491.419	9619.02	1.60	9620.620	1673
1674	2089613.841	415806.467	0.00	0.00	0.000	1674
1675	2089615.888	418570.328	9387.99	1.00	9388.990	1675
1676	2089617.164	416628.178	0.00	9235.18	0.000	1676
1677	2089617.362	415352.940	9235.58	0.00	9235.180	1677
1678	2089624.560	416388.679	0.00	0.00	0.000	1678
1679	2089630.817	414250.750	9567.50	1.81	9569.310	1679
1681	2089720.168	419221.215	0.00	0.00	0.000	1681
1682	2089751.237	410955.796	0.00	0.00	0.000	1682
1683	2089771.494	410617.720	0.00	0.00	0.000	1683
1684	2089786.737	413781.544	9293.61	0.91	9294.520	1684
1685	2089831.304	410426.959	0.00	0.00	0.000	1685
1686	2089835.616	412012.319	8407.91	-1.43	8406.480	1686
1687	2089851.473	418450.855	9143.90	0.37	9144.270	1687
1688	2089851.930	417283.698	8620.12	1.09	8621.210	1688
1689	2089873.730	417573.935	8716.98	2.98	8719.960	1689
1690	2089882.314	411605.237	8218.54	0.36	8218.900	1690

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1691	2089887.868	412900.811	8734.80	-1.54	8733.260	1691
1692	2089889.902	414004.447	9403.55	-0.81	9402.740	1692
1693	2089893.457	415499.671	0.00	0.00	0.000	1693
1694	2089897.602	416423.349	0.00	0.00	0.000	1694
1695	2089899.131	417909.697	8866.76	2.45	8869.210	1695
1696	2089903.384	418210.356	8982.90	0.21	8983.110	1696
1697	2089907.523	416985.704	8476.83	1.16	8477.990	1697
1698	2089908.228	415075.939	9363.13	4.53	9367.660	1698
1699	2089914.275	412485.531	8557.52	0.02	8557.540	1699
1700	2089918.034	414699.463	9574.12	0.33	9574.450	1700
1701	2089922.413	414521.686	9608.92	1.42	9610.340	1701
1702	2089927.811	413109.713	8853.41	0.88	8854.290	1702
1703	2089928.832	414304.255	9563.48	1.41	9564.890	1703
1704	2089930.623	415799.972	0.00	0.00	0.000	1704
1705	2089933.532	416088.808	8867.34	0.00	0.000	1705
1706	2089934.442	418784.879	9347.83	0.03	9347.860	1706
1707	2089939.551	416698.987	8543.55	0.00	0.000	1707
1708	2089951.281	412226.814	8449.23	2.57	8451.800	1708
1709	2089981.822	413510.982	9148.18	-1.02	9147.160	1709
1710	2090073.489	410345.998	8745.83	0.00	0.000	1710
1711	2090079.115	419085.006	0.00	0.00	0.000	1711
1712	2090106.106	418775.661	9194.66	-1.64	9193.020	1712
1713	2090112.032	410603.144	8620.77	0.00	0.000	1713
1715	2090139.423	413165.151	8926.35	0.35	8926.700	1715
1716	2090171.408	412895.676	8789.41	0.85	8790.260	1716
1717	2090171.780	410883.750	8470.53	0.00	0.000	1717
1718	2090172.586	415391.971	9335.17	0.43	9335.600	1718
1719	2090184.306	417890.864	8728.16	0.73	8728.890	1719
1720	2090187.703	413471.937	9160.19	0.54	9160.730	1720
1721	2090188.382	416679.042	8543.78	-59.92	0.000	1721
1722	2090188.543	417212.550	8482.24	0.00	8483.860	1722
1724	2090193.064	418259.300	8888.40	0.88	8889.280	1724
1725	2090194.652	415791.333	0.00	9067.62	9067.620	1725
1726	2090198.599	419042.473	9282.67	0.67	9283.340	1726
1727	2090199.026	417592.347	8610.55	0.38	8610.930	1727
1728	2090199.231	416392.112	8701.51	0.00	0.000	1728
1729	2090199.436	416092.276	8864.92	0.00	0.000	1729
1730	2090201.884	414287.936	9556.23	0.59	9556.820	1730
1731	2090202.037	418516.906	8989.21	-0.28	8988.930	1731
1732	2090205.607	413695.624	9224.90	0.99	9225.890	1732
1733	2090212.331	414548.476	9640.13	0.38	9640.510	1733
1734	2090212.753	414713.883	9583.69	0.45	9584.140	1734
1735	2090220.047	416968.086	8417.35	0.00	0.000	1735
1736	2090229.449	411917.976	8321.28	1.78	8323.060	1736
1737	2090268.628	415156.221	9420.95	1.09	9422.040	1737
1738	2090280.133	411583.081	8183.85	3.93	8187.780	1738
1739	2090344.977	412325.219	8540.80	0.50	8541.300	1739
1740	2090428.213	417305.494	8416.77	-2.49	8414.280	1740
1741	2090449.005	417922.623	8644.18	1.74	8645.920	1741

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1742	2090467.746	418522.725	8887.46	0.96	8888.420	1742
1743	2090472.001	412857.642	8840.73	0.71	8841.440	1743
1744	2090472.286	410376.083	0.00	0.00	0.000	1744
1745	2090473.345	413175.637	9154.36	0.64	9155.000	1745
1747	2090490.023	414348.257	9595.90	0.73	9596.630	1747
1748	2090493.195	416387.584	0.00	0.00	0.000	1748
1749	2090498.523	415192.398	0.00	0.00	0.000	1749
1750	2090499.393	413412.502	9234.68	-0.22	9234.460	1750
1751	2090500.741	416081.338	8858.84	0.00	0.000	1751
1752	2090504.741	418789.377	8992.92	1.78	8994.700	1752
1753	2090506.489	415784.643	8997.88	-1.10	8996.780	1753
1754	2090506.884	416978.630	0.00	0.00	0.000	1754
1755	2090508.656	414894.134	9554.71	0.03	9554.740	1755
1756	2090508.705	413675.236	9329.50	-0.26	9329.240	1756
1757	2090509.701	411131.666	0.00	0.00	0.000	1757
1758	2090513.302	419110.893	9184.73	0.76	9185.490	1758
1759	2090514.320	418195.904	8718.37	1.41	8719.780	1759
1760	2090514.439	417556.887	8494.85	-1.07	8493.780	1760
1761	2090523.519	414543.419	9734.63	0.98	9735.610	1761
1762	2090534.088	415514.145	9205.17	0.00	0.000	1762
1763	2090545.494	411867.549	8316.03	1.12	8317.150	1763
1764	2090552.499	412551.201	8658.48	-0.57	8657.910	1764
1765	2090561.219	414044.673	9510.30	0.25	9510.550	1765
1766	2090577.125	416713.146	0.00	0.00	0.000	1766
1767	2090584.528	411538.046	8194.22	1.73	8195.950	1767
1768	2090623.530	410702.921	0.00	0.00	0.000	1768
1769	2090697.645	414253.823	9579.09	0.23	9579.320	1769
1770	2090730.460	412096.669	8391.06	-1.58	8389.480	1770
1772	2090745.939	416942.164	0.00	0.00	0.000	1772
1773	2090771.387	416358.803	8850.30	0.00	0.000	1773
1774	2090771.554	412810.353	8754.90	-1.39	8753.510	1774
1775	2090773.019	413994.264	9465.40	0.11	9465.510	1775
1776	2090784.244	414584.236	9707.53	0.03	9707.560	1776
1777	2090793.002	417621.507	8409.48	4.76	8414.240	1777
1778	2090796.576	410186.758	0.00	0.00	0.000	1778
1779	2090800.297	414789.689	9578.33	-0.09	9578.240	1779
1780	2090800.688	418817.468	8876.37	2.81	8879.180	1780
1781	2090801.031	416692.015	0.00	0.00	0.000	1781
1782	2090802.952	419135.049	9026.82	-0.15	9026.670	1782
1783	2090806.459	413361.232	9152.50	1.51	9154.010	1783
1784	2090806.607	417884.924	8485.95	1.88	8487.830	1784
1785	2090814.385	415200.564	9386.92	0.00	0.000	1785
1786	2090816.734	413667.301	9274.40	2.89	9277.290	1786
1787	2090817.683	418201.656	8596.32	-2.71	8593.610	1787
1788	2090818.794	413111.791	8918.47	-1.10	8917.370	1788
1789	2090820.330	418473.344	8708.84	1.42	8710.260	1789
1790	2090821.699	415728.398	9244.79	0.00	0.000	1790
1791	2090841.554	415475.986	9325.74	0.00	0.000	1791
1792	2090850.678	412469.928	8570.55	-0.88	8569.670	1792

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1793	2090854.067	411086.020	8271.47	0.00	0.000	1793
1794	2090896.430	417256.892	0.00	0.00	0.000	1794
1795	2090904.035	416077.729	9055.80	0.00	0.000	1795
1796	2090919.760	411864.674	8324.88	1.02	8325.900	1796
1797	2090952.017	411503.805	8154.72	1.72	8156.440	1797
1799	2091014.445	410549.547	8502.02	0.00	0.000	1799
1800	2091020.248	418740.553	8730.53	0.68	8731.210	1800
1801	2091031.606	418188.821	8513.28	-1.54	8511.740	1801
1802	2091032.962	415763.586	9291.61	0.43	9292.040	1802
1803	2091054.547	417299.861	8400.40	0.00	0.000	1803
1804	2091064.498	413024.172	8923.45	-0.76	8922.690	1804
1805	2091077.217	415413.230	9414.73	-0.49	9414.240	1805
1806	2091087.171	414373.255	9639.24	1.40	9640.640	1806
1807	2091087.988	416411.208	0.00	0.00	0.000	1807
1808	2091090.607	419116.685	8882.99	-1.98	8881.010	1808
1809	2091099.416	417892.457	8394.90	-0.44	8394.460	1809
1810	2091099.993	416683.070	0.00	0.00	0.000	1810
1811	2091100.416	417602.207	8255.81	2.10	8257.910	1811
1812	2091104.149	414897.265	9600.29	0.00	0.000	1812
1813	2091121.720	417027.999	8493.96	0.00	0.000	1813
1814	2091128.137	409978.767	8772.55	0.00	0.000	1814
1815	2091134.158	418479.469	8588.68	-0.34	8588.340	1815
1816	2091134.573	413748.534	9297.84	-0.39	9297.450	1816
1817	2091137.559	413290.985	9099.17	-0.58	9098.590	1817
1818	2091143.437	416110.953	0.00	0.00	0.000	1818
1819	2091160.022	413981.240	9437.72	0.33	9438.050	1819
1820	2091183.955	412432.574	8682.94	-1.45	8681.490	1820
1821	2091185.019	415143.467	9567.19	-4.60	9562.590	1821
1822	2091201.334	414618.739	9768.66	-0.62	9768.040	1822
1823	2091267.541	411624.788	8211.87	-3.34	8208.530	1823
1824	2091289.507	410293.151	8549.07	0.00	0.000	1824
1825	2091333.641	413040.386	9139.06	0.22	9139.280	1825
1826	2091338.548	418811.829	8645.16	0.29	8645.450	1826
1827	2091341.598	410590.705	8379.23	0.00	0.000	1827
1828	2091349.792	418492.846	8515.82	-0.35	8515.470	1828
1829	2091353.447	411915.288	8362.55	-4.72	8357.830	1829
1830	2091357.140	419097.199	8763.85	-0.31	8763.540	1830
1831	2091362.766	413223.613	9216.49	-0.85	9215.640	1831
1832	2091367.963	413428.212	9272.80	-1.94	9270.860	1832
1833	2091369.463	411233.192	8083.88	1.29	8085.170	1833
1834	2091379.986	415566.413	0.00	0.00	0.000	1834
1835	2091381.711	416082.517	0.00	0.00	0.000	1835
1836	2091389.098	418147.616	8374.37	1.25	8375.620	1836
1837	2091398.552	417897.562	8306.39	0.70	8307.090	1837
1838	2091408.418	416396.489	0.00	0.00	0.000	1838
1839	2091416.878	416657.011	0.00	0.00	0.000	1839
1840	2091422.202	409865.402	8675.51	0.00	0.000	1840
1841	2091427.910	417258.294	8501.74	0.00	0.000	1841
1842	2091446.109	415778.756	0.00	0.00	0.000	1842

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1843	2091483.389	417631.580	0.00	0.00	0.000	1843
1844	2091486.220	417032.072	8607.55	0.00	0.000	1844
1845	2091542.562	412212.780	8506.69	-6.56	8500.130	1845
1846	2091543.871	414924.686	9639.37	-0.18	9639.190	1846
1847	2091545.416	414704.487	9694.87	0.67	9695.540	1847
1848	2091565.419	412534.900	8690.68	-1.67	8689.010	1848
1849	2091566.992	413423.295	9242.73	-2.97	9239.760	1849
1850	2091570.565	415557.123	0.00	0.00	0.000	1850
1851	2091585.018	414492.302	9723.36	-1.01	9722.350	1851
1852	2091592.464	416154.370	0.00	0.00	0.000	1852
1853	2091599.645	414091.091	9545.77	0.63	9546.400	1853
1854	2091614.916	415259.168	0.00	0.00	0.000	1854
1855	2091668.147	413847.484	9416.36	0.11	9416.470	1855
1856	2091670.419	413189.029	9095.44	-2.23	9093.210	1856
1857	2091687.240	412280.404	8555.92	0.00	0.000	1857
1858	2091687.754	418479.997	8383.54	-0.51	8383.030	1858
1859	2091695.055	417874.375	0.00	8513.58	0.000	1859
1860	2091695.714	418766.271	8513.81	0.00	8513.580	1860
1861	2091696.810	415821.537	0.00	0.00	0.000	1861
1862	2091698.947	418194.120	8250.13	2.36	8252.490	1862
1863	2091700.136	417591.707	0.00	0.00	0.000	1863
1864	2091700.287	417293.957	0.00	0.00	0.000	1864
1865	2091716.848	410245.201	8405.51	0.00	0.000	1865
1866	2091740.605	411410.277	8213.12	1.70	8214.820	1866
1867	2091764.929	411755.643	8394.97	-2.97	8392.000	1867
1868	2091780.722	409969.446	8494.64	0.00	0.000	1868
1869	2091796.875	411077.903	8076.49	0.00	0.000	1869
1870	2091799.254	411975.840	8479.69	0.00	0.000	1870
1871	2091821.232	410676.845	8199.24	-2.92	8196.320	1871
1872	2091852.003	415249.143	9501.81	0.98	9502.790	1872
1873	2091857.999	413522.937	9221.07	0.99	9222.060	1873
1874	2091858.858	416763.636	0.00	0.00	0.000	1874
1875	2091862.400	417048.765	0.00	0.00	0.000	1875
1876	2091868.203	418843.725	8480.18	-2.23	8477.950	1876
1877	2091872.375	419092.807	8563.10	-0.62	8562.480	1877
1878	2091874.490	414963.523	9556.73	-0.89	9555.840	1878
1879	2091878.500	415812.579	9355.70	0.97	9356.670	1879
1881	2091885.498	412896.043	8913.85	-0.79	8913.060	1881
1882	2091889.133	415556.622	9400.42	0.00	0.000	1882
1883	2091897.431	417659.706	0.00	0.00	0.000	1883
1884	2091897.486	416136.206	9269.21	0.00	0.000	1884
1885	2091898.086	414681.578	9580.56	0.15	9580.710	1885
1886	2091918.240	418379.225	8253.93	1.29	8255.220	1886
1887	2091919.894	413281.945	9117.36	0.44	9117.800	1887
1888	2091920.842	414100.638	9535.62	-1.44	9534.180	1888
1889	2091924.586	418601.660	8365.78	-1.39	8364.390	1889
1890	2091930.557	416508.274	9031.87	-2.23	9029.640	1890
1891	2091940.919	414406.193	9647.38	0.07	9647.450	1891
1892	2091945.522	413841.779	9400.35	0.87	9401.220	1892

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1893	2091986.513	417900.300	0.00	0.00	0.000	1893
1894	2092023.454	412562.598	8815.12	-4.15	8810.970	1894
1895	2092096.726	411598.650	8366.22	-0.13	8366.090	1895
1896	2092134.566	418287.790	8148.43	1.17	8149.600	1896
1897	2092151.254	414300.354	9623.18	-0.79	9622.390	1897
1898	2092152.827	416732.554	0.00	0.00	0.000	1898
1899	2092153.060	410325.020	8253.34	0.00	0.000	1899
1900	2092154.147	414661.828	9544.92	0.00	0.000	1900
1901	2092161.489	416132.595	0.00	9301.54	9301.540	1901
1902	2092165.792	419144.920	8516.85	-0.77	8516.080	1902
1903	2092167.032	418846.667	8378.13	-1.47	8376.660	1903
1904	2092169.188	411923.535	8600.02	-1.95	8598.070	1904
1905	2092170.483	415853.677	0.00	0.00	0.000	1905
1906	2092171.916	411242.650	8239.28	0.27	8239.550	1906
1907	2092173.902	415533.904	9354.14	4.98	9359.120	1907
1908	2092180.992	417341.561	0.00	0.00	0.000	1908
1909	2092189.128	409962.283	8424.61	-2.50	8422.110	1909
1910	2092193.149	415236.636	0.00	0.00	0.000	1910
1911	2092193.522	412996.335	9126.70	2.00	9128.700	1911
1912	2092194.578	413583.919	9337.37	-1.04	9336.330	1912
1913	2092197.628	416373.804	9194.30	-0.18	9194.120	1913
1914	2092197.647	413794.809	9435.08	-0.54	9434.540	1914
1915	2092211.801	414931.782	0.00	0.00	0.000	1915
1916	2092212.296	416996.293	0.00	0.00	0.000	1916
1917	2092212.899	413378.886	9261.59	-0.21	9261.380	1917
1918	2092219.420	418550.607	0.00	8252.49	8252.490	1918
1919	2092227.215	412237.325	8776.18	-0.89	8775.290	1919
1920	2092229.309	414069.143	9553.19	-0.09	9553.100	1920
1921	2092280.802	417930.745	0.00	0.00	0.000	1921
1923	2092314.468	410848.433	8031.06	0.78	8031.840	1923
1924	2092324.764	417659.667	8431.16	-3.71	8427.450	1924
1925	2092407.267	417029.630	0.00	0.00	0.000	1925
1926	2092416.179	419147.424	8506.57	-1.20	8505.370	1926
1927	2092439.825	418527.105	8195.21	0.31	8195.520	1927
1928	2092448.361	414655.667	9474.84	0.00	0.000	1928
1929	2092449.926	411623.930	8517.13	-0.34	8516.790	1929
1930	2092450.981	415845.645	0.00	0.00	0.000	1930
1931	2092456.619	413786.146	9508.58	-3.71	9504.870	1931
1932	2092458.837	412005.488	8692.92	-2.30	8690.620	1932
1933	2092463.034	418848.468	8317.89	-0.93	8316.960	1933
1934	2092466.239	417651.519	0.00	0.00	0.000	1934
1935	2092466.265	417936.866	0.00	0.00	0.000	1935
1936	2092467.234	418295.537	8079.84	-1.75	8078.090	1936
1937	2092468.819	413442.375	9374.19	-0.44	9373.750	1937
1938	2092470.103	417346.348	0.00	0.00	0.000	1938
1939	2092471.694	414356.063	9553.15	1.04	9554.190	1939
1940	2092473.299	416129.922	0.00	9309.23	9309.230	1940
1941	2092474.010	414975.820	0.00	0.00	0.000	1941
1942	2092474.864	416728.358	0.00	0.00	0.000	1942

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POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
1943	2092474.942	416457.501	9204.45	0.29	9204.740	1943
1944	2092475.505	413191.305	9312.04	-0.96	9311.080	1944
1945	2092476.563	415529.753	0.00	0.00	0.000	1945
1946	2092482.793	415247.356	0.00	0.00	0.000	1946
1947	2092499.312	414107.259	9600.52	-0.69	9599.830	1947
1948	2092520.678	409938.962	8231.81	-0.70	8231.110	1948
1949	2092563.564	412856.224	9254.82	0.23	9255.050	1949
1950	2092592.396	411211.919	8280.80	-0.28	8280.520	1950
1951	2092665.118	410314.767	8071.73	0.00	0.000	1951
1952	2092699.266	410875.245	8132.75	-6.47	8126.280	1952
1953	2092721.781	417649.030	0.00	8456.57	8456.570	1953
1954	2092757.514	413146.422	9389.09	-0.19	9388.900	1954
1955	2092768.683	418554.264	8121.97	0.87	8122.840	1955
1956	2092769.100	412328.215	9003.53	-2.82	9000.710	1956
1957	2092770.199	414330.502	9508.77	-2.06	9506.710	1957
1958	2092770.780	414053.567	9562.00	0.00	0.000	1958
1959	2092771.964	419159.456	8471.46	-0.64	8470.820	1959
1960	2092772.067	415260.372	0.00	0.00	0.000	1960
1961	2092772.758	415521.545	9149.86	0.00	0.000	1961
1962	2092774.736	414942.953	0.00	0.00	0.000	1962
1963	2092776.811	414649.642	9383.84	0.00	0.000	1963
1964	2092777.189	416452.100	0.00	0.00	0.000	1964
1965	2092779.365	416746.038	0.00	0.00	0.000	1965
1966	2092782.520	418868.190	8293.01	-0.69	8292.320	1966
1967	2092782.799	413522.795	9516.03	2.34	9518.370	1967
1968	2092784.285	413869.573	9605.96	-0.28	9605.680	1968
1969	2092789.244	417359.489	0.00	0.00	0.000	1969
1970	2092791.234	416255.319	9301.88	0.89	9302.770	1970
1971	2092792.475	417062.767	0.00	0.00	0.000	1971
1972	2092800.238	412922.755	9307.81	0.29	9308.100	1972
1973	2092801.060	418245.708	0.00	0.00	0.000	1973
1974	2092821.927	415875.416	9185.66	4.92	9190.580	1974
1975	2092830.909	417964.133	0.00	0.00	0.000	1975
1976	2092873.457	412024.783	8836.82	-0.88	8835.940	1976
1977	2092896.635	411642.244	8611.11	-0.49	8610.620	1977
1978	2092914.291	409944.009	8091.99	-2.99	8089.000	1978
1979	2092969.815	410837.480	8145.63	-0.89	8144.740	1979
1980	2092985.754	411235.727	8400.91	-2.25	8398.660	1980
1981	2093033.677	419153.893	8378.53	1.44	8379.970	1981
1982	2093051.079	417058.981	0.00	0.00	0.000	1982
1983	2093067.449	413422.853	9493.13	-0.01	9493.120	1983
1984	2093071.359	416174.494	9195.69	1.50	9197.190	1984
1985	2093071.823	417947.222	0.00	0.00	0.000	1985
1986	2093072.381	416442.731	9288.38	1.36	9289.740	1986
1987	2093074.701	414953.805	9221.70	-9.17	9212.530	1987
1988	2093078.622	415170.292	9129.94	1.41	9131.350	1988
1989	2093079.510	417355.600	0.00	9418.21	9418.210	1989
1990	2093079.919	414322.268	9418.23	0.00	0.000	1990
1991	2093080.945	413212.808	9392.05	1.10	9393.150	1991

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1992	2093081.059	414638.754	9335.57	0.00	0.000	1992
1993	2093081.590	417653.217	0.00	0.00	0.000	1993
1994	2093081.702	412951.569	9283.31	0.58	9283.890	1994
1995	2093083.266	418165.592	0.00	0.00	0.000	1995
1996	2093083.964	415844.224	9028.77	0.00	0.000	1996
1997	2093085.303	413729.209	9510.55	0.92	9511.470	1997
1998	2093092.682	416741.030	0.00	0.00	0.000	1998
1999	2093101.117	418840.160	8204.30	1.93	8206.230	1999
2000	2093103.138	418599.051	8067.89	1.80	8069.690	2000
2001	2093104.420	414079.475	9420.81	0.00	0.000	2001
2002	2093106.272	415467.819	0.00	0.00	0.000	2002
2003	2093180.365	410337.189	8034.12	-2.00	8032.120	2003
2004	2093280.339	409975.159	8148.73	0.00	0.000	2004
2005	2093308.542	412067.340	8760.43	-6.85	8753.580	2005
2006	2093309.537	413561.482	9474.65	1.62	9476.270	2006
2007	2093323.856	415858.602	8893.53	1.45	8894.980	2007
2008	2093343.992	412385.467	8875.89	-0.73	8875.160	2008
2009	2093355.807	418845.288	8103.88	-0.16	8103.720	2009
2010	2093357.532	416158.626	8990.63	1.63	8992.260	2010
2011	2093358.667	419142.031	8217.80	2.26	8220.060	2011
2012	2093363.569	416561.821	9245.55	-16.08	9229.470	2012
2013	2093364.913	414424.197	0.00	9322.50	9322.500	2013
2014	2093370.246	417353.478	0.00	0.00	0.000	2014
2015	2093370.365	416753.847	0.00	0.00	0.000	2015
2016	2093370.673	418254.163	0.00	0.00	0.000	2016
2017	2093370.980	417053.525	0.00	0.00	0.000	2017
2018	2093371.073	417654.298	0.00	0.00	0.000	2018
2019	2093372.973	411835.657	8641.39	1.56	8642.950	2019
2020	2093377.934	412891.744	9224.03	-0.13	9223.900	2020
2021	2093378.110	414031.656	0.00	0.00	0.000	2021
2022	2093386.094	417913.573	0.00	0.00	0.000	2022
2023	2093389.707	415512.101	0.00	8793.46	8793.460	2023
2024	2093390.717	413798.945	9341.85	0.00	0.000	2024
2025	2093392.234	418617.603	7968.08	2.17	7970.250	2025
2026	2093409.757	410811.845	8134.30	-2.92	8131.380	2026
2027	2093418.940	415235.672	8900.19	0.00	0.000	2027
2028	2093442.274	411235.617	8355.50	-0.31	8355.190	2028
2029	2093452.755	411560.260	8517.51	-1.52	8515.990	2029
2030	2093461.917	414545.759	9297.14	0.00	0.000	2030
2031	2093477.252	414881.404	9139.18	-1.74	9137.440	2031
2032	2093564.743	413520.442	9388.76	2.31	9391.070	2032
2033	2093571.862	410660.243	0.00	7977.85	7977.850	2033
2034	2093591.675	410346.587	7964.34	0.00	0.000	2034
2035	2093595.694	410945.632	8165.47	-1.90	8163.570	2035
2036	2093601.227	412095.560	8633.30	0.21	8633.510	2036
2037	2093613.618	413146.542	9231.08	2.26	9233.340	2037
2038	2093630.592	416421.293	9002.86	3.46	9006.320	2038
2039	2093638.196	412846.844	9106.87	1.26	9108.130	2039
2040	2093648.007	417926.736	0.00	0.00	0.000	2040

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2041	2093649.963	418667.168	7948.63	5.00	7953.630	2041
2042	2093652.371	417645.907	0.00	0.00	0.000	2042
2043	2093664.584	413504.188	9353.17	-0.80	9352.370	2043
2044	2093665.347	418857.112	8067.33	-0.09	8067.240	2044
2045	2093667.681	412523.744	8865.93	-0.26	8865.670	2045
2046	2093669.057	418233.245	8213.58	0.00	0.000	2046
2047	2093670.467	417353.186	0.00	0.00	0.000	2047
2048	2093670.800	413717.087	9294.43	0.00	0.000	2048
2049	2093671.211	411765.652	8490.99	-0.16	8490.830	2049
2050	2093671.577	414054.141	0.00	0.00	0.000	2050
2051	2093671.587	415241.263	8802.95	0.05	8803.000	2051
2052	2093672.638	416612.828	9193.39	1.49	9194.880	2052
2053	2093677.843	415521.267	8682.52	-1.25	8681.270	2053
2054	2093681.851	414921.600	8971.56	-0.97	8970.590	2054
2055	2093683.488	415909.172	8740.67	1.25	8741.920	2055
2056	2093688.168	419126.054	8156.18	1.72	8157.900	2056
2057	2093695.008	411496.007	8377.55	-1.45	8376.100	2057
2058	2093704.218	416152.733	8823.94	2.75	8826.690	2058
2059	2093754.915	414406.770	9111.90	0.47	9112.370	2059
2060	2093772.279	414622.368	9140.07	0.20	9140.270	2060
2061	2093773.464	410489.157	7906.29	-3.87	7902.420	2061
2062	2093779.021	417137.431	0.00	0.00	0.000	2062
2064	2093827.953	410840.081	8138.01	-0.87	8137.140	2064
2065	2093830.170	411226.468	8242.90	-1.50	8241.400	2065
2066	2093917.827	414715.361	8974.93	0.86	8975.790	2066
2067	2093947.967	411534.948	8265.89	0.61	8266.500	2067
2068	2093948.027	412929.324	9105.18	-0.22	9104.960	2068
2069	2093961.689	413253.878	9258.68	-0.65	9258.030	2069
2070	2093962.747	415262.484	8680.88	0.44	8681.320	2070
2071	2093965.021	412161.109	8615.72	-1.80	8613.920	2071
2072	2093971.255	413429.424	9280.32	-1.01	9279.310	2072
2073	2093972.939	414949.529	8822.77	0.00	0.000	2073
2074	2093973.664	414000.731	0.00	0.00	0.000	2074
2075	2093976.897	413751.430	9157.22	0.00	0.000	2075
2076	2093994.769	411139.435	8133.41	-5.29	8128.120	2076
2077	2094004.049	412550.060	8851.54	0.02	8851.560	2077
2078	2094022.478	411923.000	8505.75	-2.03	8503.720	2078
2079	2094029.398	410730.564	7940.14	0.51	7940.650	2079
2080	2094067.556	414286.497	0.00	0.00	0.000	2080
2081	2094156.598	410390.650	7961.57	2.07	7963.640	2081
2082	2094230.098	411471.664	8290.15	-3.26	8286.890	2082
2083	2094231.119	412147.536	8677.35	-0.23	8677.120	2083
2084	2094245.772	413351.172	9269.77	1.23	9271.000	2084
2085	2094247.397	412793.961	9070.58	-0.64	9069.940	2085
2086	2094272.376	414956.856	8688.28	-2.52	8685.760	2086
2087	2094275.835	413916.422	0.00	0.00	0.000	2087
2088	2094284.439	415225.312	8573.61	-2.90	8570.710	2088
2089	2094290.025	413572.909	9201.41	-4.78	9196.630	2089
2090	2094294.360	411815.424	8498.04	-1.07	8496.970	2090

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2091	2094326.521	412437.556	8876.36	-0.02	8876.340	2091
2093	2094340.846	414649.826	8688.14	-0.57	8687.570	2093
2094	2094358.830	411106.713	8123.35	-2.54	8120.810	2094
2095	2094372.052	410828.595	7939.99	-2.55	7937.440	2095
2096	2094373.487	414343.031	8689.73	-0.30	8689.430	2096
2097	2094476.766	413581.295	0.00	0.00	0.000	2097
2098	2094518.287	413321.514	9255.49	0.55	9256.040	2098
2099	2094529.387	413948.973	0.00	0.00	0.000	2099
2100	2094540.412	411481.074	8377.97	0.45	8378.420	2100
2101	2094546.623	412151.639	8788.82	0.09	8788.910	2101
2102	2094569.415	411876.136	8625.59	-1.70	8623.890	2102
2103	2094577.203	414960.711	8501.87	-2.17	8499.700	2103
2104	2094579.145	412499.555	9100.66	-0.40	9100.260	2104
2105	2094583.443	414370.462	0.00	8605.86	8605.860	2105
2106	2094590.945	410664.194	7857.16	-3.82	7853.340	2106
2107	2094604.441	414711.967	8489.78	-0.02	8489.760	2107
2108	2094618.793	415251.548	8403.88	-3.06	8400.820	2108
2109	2094684.645	412811.619	9073.21	-0.87	9072.340	2109
2110	2094730.613	411271.643	8198.62	-0.68	8197.940	2110
2112	2094802.812	413854.108	0.00	0.00	0.000	2112
2113	2094803.733	413549.750	0.00	0.00	0.000	2113
2114	2094811.742	413322.922	9241.09	2.70	9243.790	2114
2115	2094818.068	414489.473	0.00	8468.31	8468.310	2115
2116	2094828.828	414845.361	8338.98	-1.03	8337.950	2116
2117	2094829.869	414182.916	0.00	0.00	0.000	2117
2118	2094833.176	410800.128	7859.32	-4.07	7855.250	2118
2119	2094852.063	411120.504	8060.54	-0.55	8059.990	2119
2120	2094864.480	415242.099	8286.73	-0.66	8286.070	2120
2121	2094904.138	412558.289	8805.56	0.12	8805.680	2121
2122	2094924.796	412855.439	8929.77	-1.20	8928.570	2122
2123	2094933.029	411417.594	8263.12	-1.20	8261.920	2123
2124	2094953.568	411805.084	8567.11	-0.37	8566.740	2124
2125	2094999.032	412161.184	8672.09	-1.60	8670.490	2125
2126	2095088.008	415285.972	8133.35	0.41	8133.760	2126
2127	2095098.603	413402.231	9221.49	-0.80	9220.690	2127
2128	2095127.231	413619.940	0.00	9093.38	9093.380	2128
2129	2095138.856	413155.485	9059.39	0.70	9060.090	2129
2130	2095147.874	414321.778	0.00	0.00	0.000	2130
2131	2095164.424	414956.820	0.00	8198.89	8198.890	2131
2132	2095167.851	411121.552	8031.25	-2.40	8028.850	2132
2133	2095177.921	414619.935	0.00	0.00	0.000	2133
2134	2095179.007	413936.301	0.00	0.00	0.000	2134
2135	2095195.298	410849.418	7842.82	-0.13	7842.690	2135
2136	2095264.714	412050.379	8465.31	-0.51	8464.800	2136
2137	2095298.662	411778.391	8368.21	1.07	8369.280	2137
2138	2095326.686	412981.314	8897.28	0.35	8897.630	2138
2139	2095343.853	412428.869	8552.92	-0.49	8552.430	2139
2140	2095344.088	411437.334	8131.28	1.57	8132.850	2140
2141	2095352.526	412699.966	8709.88	-0.87	8709.010	2141

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2142	2095370.566	413350.878	9224.46	0.29	9224.750	2142
2143	2095404.916	411310.346	8041.48	-0.02	8041.460	2143
2144	2095424.985	413673.849	0.00	9051.75	9051.750	2144
2145	2095465.874	413999.920	0.00	0.00	0.000	2145
2146	2095481.194	410937.348	7801.91	-0.50	7801.410	2146
2147	2095492.218	414330.742	0.00	0.00	0.000	2147
2148	2095519.451	414798.776	8361.75	-0.10	8361.650	2148
2149	2095639.445	411842.717	8220.43	0.16	8220.590	2149
2150	2095653.860	412372.736	8460.94	0.24	8461.180	2150
2151	2095662.321	412627.305	8622.02	0.66	8622.680	2151
2152	2095671.259	411536.877	8074.19	0.51	8074.700	2152
2153	2095672.619	413259.554	9120.71	0.09	9120.800	2153
2154	2095681.474	412112.601	8293.80	0.15	8293.950	2154
2155	2095686.852	410993.540	7779.03	-0.27	7778.760	2155
2156	2095711.439	415147.588	8151.89	3.71	8155.600	2156
2157	2095724.034	413877.129	8963.10	-0.34	8962.760	2157
2158	2095727.634	412988.861	8843.52	1.68	8845.200	2158
2159	2095733.971	413546.003	9202.80	1.06	9203.860	2159
2160	2095742.560	411252.530	7890.18	0.27	7890.450	2160
2161	2095748.263	414655.791	8474.15	0.49	8474.640	2161
2162	2095770.992	414208.573	8722.35	1.12	8723.470	2162
2163	2095909.082	412694.781	8614.08	0.77	8614.850	2163
2164	2095935.044	412359.259	8408.37	0.38	8408.750	2164
2165	2095952.431	411658.740	8025.89	0.45	8026.340	2165
2166	2095978.688	411022.869	7752.18	1.22	7753.400	2166
2167	2096022.059	412160.251	8286.16	1.12	8287.280	2167
2168	2096024.064	411277.121	7820.88	0.92	7821.800	2168
2169	2096026.896	412922.184	8726.61	-0.22	8726.390	2169
2170	2096045.919	414455.143	8528.28	0.55	8528.830	2170
2171	2096061.717	413265.525	8963.60	0.47	8964.070	2171
2172	2096064.096	414827.650	8314.27	-1.03	8313.240	2172
2173	2096070.686	413503.450	9155.97	-0.02	9155.950	2173
2174	2096078.193	414140.532	8689.61	0.32	8689.930	2174
2175	2096085.441	415130.111	8129.19	1.15	8130.340	2175
2176	2096098.389	413809.044	8905.87	0.70	8906.570	2176
2177	2096308.832	411486.628	7889.18	0.77	7889.950	2177
2178	2096322.831	411759.199	8032.44	0.13	8032.570	2178
2179	2096346.729	414441.374	0.00	8471.33	8471.330	2179
2180	2096363.396	413887.091	8799.67	0.69	8800.360	2180
2181	2096366.466	411138.813	7725.12	0.06	7725.180	2181
2182	2096388.246	412121.606	8227.08	0.34	8227.420	2182
2183	2096396.753	413124.541	8986.03	-0.67	8985.360	2183
2184	2096427.825	414149.404	8644.73	0.20	8644.930	2184
2185	2096428.557	415177.775	8083.06	0.48	8083.540	2185
2186	2096435.667	412444.283	8443.42	0.44	8443.860	2186
2187	2096454.961	413499.927	8807.26	0.83	8808.090	2187
2188	2096462.188	414854.369	8270.84	-0.14	8270.700	2188
2189	2096469.763	412846.823	8747.56	-0.13	8747.430	2189
2190	2096641.775	412048.681	8141.16	0.93	8142.090	2190

NOTE: All (0) zero elevations and study year are in obscure areas.

POINT	EASTING	NORTHING	2003 Old ELEVATION	2007 DIFFERENCE	2007 ELEVATION	POINT
2191	2096661.049	411670.999	7948.80	1.66	7950.460	2191
2192	2096675.304	413136.429	8806.04	-0.56	8805.480	2192
2193	2096694.576	414343.550	8530.18	1.01	8531.190	2193
2194	2096724.413	414010.005	8559.02	0.74	8559.760	2194
2195	2096742.663	412566.370	8474.74	0.91	8475.650	2195
2196	2096852.542	414814.317	8276.58	-0.05	8276.530	2196
2197	2096860.332	413563.479	8516.98	0.35	8517.330	2197
2198	2097043.469	415225.866	8109.85	0.71	8110.560	2198
2199	2097088.508	414145.518	8330.76	1.83	8332.590	2199
2200	2097156.112	411737.582	7888.59	-0.05	7888.540	2200
2201	2097164.378	413194.448	8571.84	0.66	8572.500	2201
2202	2097172.689	412412.597	8230.46	-0.48	8229.980	2202
2203	2097187.210	412055.173	7950.34	1.38	7951.720	2203
2204	2097208.321	412644.618	8293.40	0.10	8293.500	2204
2205	2097217.623	413848.672	8236.95	0.02	8236.970	2205
2206	2097222.505	412956.697	8426.64	3.15	8429.790	2206
2207	2097224.737	413572.232	8374.84	0.51	8375.350	2207
2208	2097238.073	414420.058	8211.21	1.60	8212.810	2208
2209	2097245.433	411415.830	7663.42	0.04	7663.460	2209
2210	2097269.419	414900.753	8021.34	0.43	8021.770	2210
2211	2097373.819	411930.186	7895.73	2.69	7898.420	2211
2212	2097426.521	412948.889	8380.22	0.99	8381.210	2212
2213	2097457.838	413489.295	8348.25	0.75	8349.000	2213
2214	2097462.282	412549.946	8095.69	0.80	8096.490	2214
2215	2097473.369	412225.102	8002.26	-0.01	8002.250	2215
2216	2097480.359	413169.331	8494.35	-0.54	8493.810	2216
2217	2097488.599	414141.455	8065.12	0.43	8065.550	2217
2218	2097495.771	413756.152	8184.22	-1.03	8183.190	2218
2219	2097552.161	414466.820	8010.44	1.90	8012.340	2219
2220	2097714.743	414905.863	7761.50	0.32	7761.820	2220

NOTE: All (0) zero elevations and study year are in obscure areas.

SUBSIDENCE NOTIFICATION

GENWAL™ RESOURCES, INC.

P.O. Box 1077, Price, Utah 84501 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

December 19, 2007

Huntington-Cleveland Irrigation Company
71 North Main
Huntington, UT 84528

Re: Subsidence Survey Notification, Crandall Canyon Mine, C/015/032

Dear Sirs:

Genwal Resources, Inc. has conducted a subsidence survey at its Crandall Canyon and South Crandall Mines inder permit C/015/032 filed with the Division of Oil, Gas and Mining in Salt Lake City, Utah. The survey has shown that you may have surface rights and water rights within the possible subsidence zone of the approved mine plans in the permit

This notice is in accordance with regulation R645-525.700, which is enforced by the Utah Division of Oil, Gas and Mining.

Call me at 435-888-4017 if you have any questions.

Sincerely,

Dave Shaver
Agent/Engineer

GENWAL™
RESOURCES, INC.

P.O. Box 1077, Price, Utah 84501 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

December 19, 2007

School and Institutional Trust Lands Administration
675 East 500 South
Salt Lake City, UT 84102

Re: Subsidence Survey Notification, Crandall Canyon Mine, C/015/032

Dear Sirs:

Genwal Resources, Inc. has conducted a subsidence survey at its Crandall Canyon and South Crandall Mines inder permit C/015/032 filed with the Division of Oil, Gas and Mining in Salt Lake City, Utah. The survey has shown that you may have surface rights and water rights within the possible subsidence zone of the approved mine plans in the permit

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P.O. Box 1077, Price, Utah 84501 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

December 19, 2007

National Forest Service
Manti LaSal National Forest
599 West Price River Road
Price, UT 84501

Re: Subsidence Survey Notification, Crandall Canyon Mine, C/015/032

Dear Sirs:

Genwal Resources, Inc. has conducted a subsidence survey at its Crandall Canyon and South Crandall Mines inder permit C/015/032 filed with the Division of Oil, Gas and Mining in Salt Lake City, Utah. The survey has shown that you may have surface rights and water rights within the possible subsidence zone of the approved mine plans in the permit

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RESOURCES, INC.

P.O. Box 1077, Price, Utah 84501 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

December 19, 2007

Castle Valley Special Service District
86 S 100 E
Castledale, UT 84513

Re: Subsidence Survey Notification, Crandall Canyon Mine, C/015/032

Dear Sirs:

Genwal Resources, Inc. has conducted a subsidence survey at its Crandall Canyon and South Crandall Mines inder permit C/015/032 filed with the Division of Oil, Gas and Mining in Salt Lake City, Utah. The survey has shown that you may have surface rights and water rights within the possible subsidence zone of the approved mine plans in the permit

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Sincerely,

Dave Shaver
Agent/Engineer

SEDIMENT POND CERTIFICATION

UtahAmerican Energy, Inc.
Crandall Canyon Mines
2007 Annual Pond Certification Report

POND: Sediment Pond **LOCATION:** Crandall Canyon Mine

IMPOUNDMENTS	
(1) Stability	All impoundment slopes are stable
(2) Structural Weakness/Erosion	There are no apparent structural problems, and no erosion is noted
(3) Potential Safety Hazards	There are no signs of any safety hazards
(4) Depth of Impounded Water	10' est
(5) Existing Storage Capacity	Approx 1.65 ac-ft (47% of total capacity)
(6) Monitoring Procedures	Quarterly inspections are performed Spillway is a UPDES outfall monitoring point

(7) Sediment Accumulation (Elevation)	7768' (est.)
(8) Sediment Cleanout Level (Elevation)	7769'
(9) Principle Spillway (Elevation)	7780.81'
(10) Emergency Spillway (Elevation)	7781.81'
(11) Existing Sediment Capacity (To Cleanout)	Approx 0.11 acre-ft

GENERAL	
(12) Comments/Recommendations	This pond was cleaned out in April, 2006 No discharge was occurring at time of inspection

STATEMENT

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

David W. Hibbs
(Signature)

08/13/07
(Date)

REGISTERED PROFESSIONAL ENGINEER
NO. 6449561
DAVID W. HIBBS
08/13/07
STATE OF UTAH

PRECIPITATION INFORMATION

Electric Lake

Date	Precipitation in inches
2007-01-03	0.18
2007-01-04	0
2007-01-05	0
2007-01-06	0
2007-01-07	0.13
2007-01-08	0
2007-01-09	0
2007-01-10	0
2007-01-11	0.07
2007-01-12	0
2007-01-13	0
2007-01-14	0
2007-01-15	0
2007-01-16	0
2007-01-17	0
2007-01-18	0
2007-01-19	0
2007-01-20	0
2007-01-21	0.05
2007-01-22	0
2007-01-23	0
2007-01-24	0
2007-01-25	0
2007-01-26	0
2007-01-27	0
2007-01-28	0
2007-01-29	0
2007-01-30	0
2007-01-31	0
2007-02-01	0
2007-02-02	0
2007-02-03	0
2007-02-04	0
2007-02-05	0
2007-02-06	0
2007-02-07	0
2007-02-08	0
2007-02-09	0
2007-02-10	0.25
2007-02-11	0.62
2007-02-12	0
2007-02-13	0.07
2007-02-14	0.01
2007-02-15	0.03
2007-02-16	0.1
2007-02-17	0
2007-02-18	0.1
2007-02-19	0.15
2007-02-20	0
2007-02-21	0
2007-02-22	0
2007-02-23	0.35
2007-02-24	0
2007-02-25	0.35
2007-02-26	0.15
2007-02-27	0.2
2007-02-28	0.1
2007-03-01	0
2007-03-02	0
2007-03-03	0
2007-03-04	0
2007-03-05	0
2007-03-06	0
2007-03-07	0
2007-03-08	0
2007-03-09	0
2007-03-10	0
2007-03-11	0
2007-03-12	0
2007-03-13	0
2007-03-14	0
2007-03-15	0
2007-03-16	0
2007-03-17	0
2007-03-18	0

2007-03-19	0
2007-03-20	0.65
2007-03-21	0
2007-03-22	0.4
2007-03-23	0
2007-03-24	0
2007-03-25	0
2007-03-26	0
2007-03-27	0.05
2007-03-28	0.57
2007-03-29	0.13
2007-03-30	0
2007-03-31	0
2007-04-01	0
2007-04-02	0
2007-04-03	0
2007-04-04	0
2007-04-05	0
2007-04-06	0
2007-04-07	0
2007-04-08	0.35
2007-04-09	0.03
2007-04-10	0.1
2007-04-11	0
2007-04-12	0.21
2007-04-13	0
2007-04-14	0
2007-04-15	0
2007-04-16	0.2
2007-04-17	0
2007-04-18	0.1
2007-04-19	0
2007-04-20	0
2007-04-21	0.02
2007-04-22	0.3
2007-04-23	0.09
2007-04-24	0
2007-04-25	0
2007-04-26	0
2007-04-27	0
2007-04-28	0
2007-04-29	0
2007-04-30	0
2007-05-01	0
2007-05-02	0
2007-05-03	0.23
2007-05-04	0.38
2007-05-05	0
2007-05-06	0.23
2007-05-07	0
2007-05-08	0
2007-05-09	0
2007-05-10	0
2007-05-11	0
2007-05-12	0
2007-05-13	0
2007-05-14	0
2007-05-15	0
2007-05-16	0
2007-05-17	0
2007-05-18	0
2007-05-19	0
2007-05-20	0
2007-05-21	0.37
2007-05-22	0.13
2007-05-23	0
2007-05-24	0
2007-05-25	0
2007-05-26	0
2007-05-27	0
2007-05-28	0.1
2007-05-29	0
2007-05-30	0
2007-05-31	0
2007-06-01	0
2007-06-02	0
2007-06-03	0

2007-06-04	0
2007-06-05	0
2007-06-06	0.45
2007-06-07	0.28
2007-06-08	0
2007-06-09	0
2007-06-10	0
2007-06-11	0
2007-06-12	0
2007-06-13	0
2007-06-14	0
2007-06-15	0
2007-06-16	0
2007-06-17	0
2007-06-18	0
2007-06-19	0
2007-06-20	0
2007-06-21	0
2007-06-22	0
2007-06-23	0
2007-06-24	0
2007-06-25	0
2007-06-26	0
2007-06-27	0
2007-06-28	0
2007-06-29	0
2007-06-30	0
2007-07-01	0
2007-07-02	0
2007-07-03	0
2007-07-04	0
2007-07-05	0
2007-07-06	0.15
2007-07-07	0
2007-07-08	0
2007-07-09	0
2007-07-10	0
2007-07-11	0
2007-07-12	0
2007-07-13	0
2007-07-14	0
2007-07-15	0
2007-07-16	0.52
2007-07-17	0
2007-07-18	0
2007-07-19	0.7
2007-07-20	0
2007-07-21	0
2007-07-22	0
2007-07-23	0
2007-07-24	0
2007-07-25	0
2007-07-26	0.05
2007-07-27	0.25
2007-07-28	0
2007-07-29	0
2007-07-30	0.03
2007-07-31	0
2007-08-01	0
2007-08-02	0
2007-08-03	0
2007-08-04	0
2007-08-05	0
2007-08-06	0
2007-08-07	0
2007-08-08	0
2007-08-09	0
2007-08-10	0
2007-08-11	0
2007-08-12	0
2007-08-13	0.4
2007-08-14	0
2007-08-15	0
2007-08-16	0.27
2007-08-17	0.56
2007-08-18	0
2007-08-19	0

2007-08-20	0
2007-08-21	0
2007-08-22	0
2007-08-23	0
2007-08-24	0
2007-08-25	0
2007-08-26	0
2007-08-27	0.4
2007-08-28	0.5
2007-08-29	0.05
2007-08-30	0
2007-08-31	0
2007-09-01	0
2007-09-02	0
2007-09-03	0
2007-09-04	0
2007-09-05	0.4
2007-09-06	0
2007-09-07	0
2007-09-08	0
2007-09-09	0
2007-09-10	0
2007-09-11	0
2007-09-12	0
2007-09-13	0
2007-09-14	0
2007-09-15	0
2007-09-16	0
2007-09-17	0
2007-09-18	0
2007-09-19	0
2007-09-20	0
2007-09-21	0
2007-09-22	0.64
2007-09-23	0.07
2007-09-24	0.22
2007-09-25	0
2007-09-26	0
2007-09-27	0
2007-09-28	0
2007-09-29	0.15
2007-09-30	0.14
2007-10-01	0.44
2007-10-02	0
2007-10-03	0
2007-10-04	0
2007-10-05	0.6
2007-10-06	0.21
2007-10-07	0
2007-10-08	0
2007-10-09	0
2007-10-10	0
2007-10-11	0
2007-10-12	0
2007-10-13	0
2007-10-14	0
2007-10-15	0
2007-10-16	0.25
2007-10-17	0.6
2007-10-18	0
2007-10-19	0
2007-10-20	0.35
2007-10-21	0
2007-10-22	0
2007-10-23	0
2007-10-24	0
2007-10-25	0
2007-10-26	0
2007-10-27	0
2007-10-28	0
2007-10-29	0
2007-10-30	0
2007-10-31	0

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HYDROLOGY REPORT

PETERSEN HYDROLOGIC, LLC

26 June 2008

Mr. Dave Shaver
Utah American Energy, Inc.
P.O. Box 1077
Price, Utah 84501

Dave,

At your request, we have produced this Annual Hydrologic Monitoring Report for the Crandall Canyon Mine for the year 2007. This report is based on hydrologic monitoring information collected during 2007 and submitted to the Utah Division of Oil, Gas and Mining. Water samples for baseline laboratory water quality parameters were collected and analyzed during 2007.

Other than the permitted discharge of mine water to Crandall Creek, there are no indications that significant 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

2695 N. 600 E. LEHI, UTAH 84043 (801) 766-4006

Summary of Hydrologic Monitoring at the Utah American Energy, Inc. Crandall Canyon Mine During 2007

Introduction

Hydrologic monitoring at the Utah American Energy, Inc. Crandall Canyon Mine was carried out in 2007 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 2007 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 2007 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

On 6 August 2007, a major mine bump/bounce occurred in the Main West pillar section of the Crandall Canyon Mine. Subsequent to the tragic bounce event and the ensuing mine rescue operations, mining operations at the Crandall Canyon Mine ceased and the mine portals were closed.

No mining occurred in the South Crandall mining area during 2007.

Methods of Study

The specific methods of study used to collect the 2007 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, or using cross-sectional area – current velocity techniques. 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 other stream monitoring stations were performed using 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 measurements were performed using an Extech brand model EC400 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 Horizon Laboratories of Price, Utah, a Utah State certified water analysis laboratory. Information regarding laboratory standard analytical methods and procedures used and laboratory detection limits has been entered into the DOGM on-line database.

Climate

A plot of the Palmer Hydrologic Drought Index for Utah Region 4 (which includes the Crandall Canyon Mine permit area) is presented in Figure 2. The PHDI is a monthly value generated by the National Climatic Data Center 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 are the result of climatic variability or whether they are the result of other factors.

It is apparent in Figure 2 that, beginning in late 2004, the region transitioned from the previous 3-year period of drought into a period of wetness. During 2005 the region experienced a period of continuous severe to extreme wetness. Climatic conditions during 2006 were not as wet as in 2005, with generally mild to moderately wet conditions occurring throughout the year. Beginning in early 2007, the region entered a period of drought that persisted throughout the year.

Presentation of Data

The results of the 2007 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 plot of the Palmer Hydrologic Drought Index (PHDI) for Utah Region 4 is presented in Figure 2. A compilation of historic discharge and water quality data for springs, streams, and in-mine locations is presented in Table 2. A summary of water-quality and discharge data from the Crandall Canyon Mine workings (UPDES 002) and from the sediment pond at the mine surface facilities (UPDES 001) is presented in Table 3. Time series plots of specific conductance, pH, and discharge for each of the regular water-monitoring sites, together with plots of the PHDI for Utah Region 4 are included at the end of this report.

A report summarizing the findings of a hydrogeologic investigation performed by Petersen Hydrologic, LLC regarding potential impacts to the hydrologic balance in the vicinity of the Genwal emergency mine-rescue drill holes has previously been submitted to the Division of

Oil, Gas and Mining. The hydrogeologic investigation included the performance of a supplemental spring and seep survey of the area, the performance of additional hydrologic monitoring of springs in the vicinity of the drill holes, and analysis of down-hole video camera information from the drill holes.

Operational monitoring of eight spring sites (LB-5A, LB-7, LB-7A, LB-7B, LB-7C, LB-12, SP-79, and Little Bear Spring) and six stream sites (Little Bear Creek, Section 4 Creek, Section 5 Creek, Section 5 Creek U. R. Fork, Section 5 Creek U. L. Fork, and IBC-1) associated with the new South Crandall Lease area began in 2005 and continued in 2007. Also commencing in 2005 and continuing in 2007 was operational monitoring of two spring sites (SP-18 and SP-22) and one stream monitoring site (Shingle Creek) in the Shingle Canyon drainage (Figure 1).

During the 1st quarter of 2007, heavy snow-cover prohibited access to the high-elevation spring and stream monitoring sites on East Mountain and in upper Joes Valley. Most stream monitoring sites in the Huntington Canyon drainage were accessed during the 1st quarter. Springs SP-30 and SP-36 were able to be monitored in March 2007 when snow cover on the south facing hillsides in Crandall Canyon had melted. Little Bear Spring (which is monitored at an access/diversion point in the spring discharge pipeline in Huntington Canyon) was also monitored in the 1st quarter, as was SP-79, which is located in the Section 4 Creek drainage adjacent to Huntington Creek (Figure 1). UPDES discharge was also monitored during the 1st quarter of 2007.

All of the regular above-ground monitoring stations were accessed and monitored during the 2nd, 3rd and 4th quarters of 2007.

Spring Monitoring Summary

In accordance with the approved monitoring plan, 23 springs were monitored for discharge and field water-quality parameters during 2007. Of these, eight springs are also monitored for laboratory water quality parameters. Additionally, Little Bear Spring is monitored for field water quality parameters and also for laboratory water quality parameters, but is not monitored for discharge. A summary of the 2007 monitoring results for springs in the Crandall Canyon Mine permit and adjacent area is presented below.

East Mountain Springs

As specified in the water monitoring plan, eight springs on East Mountain were monitored during 2007. 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).

Discharge rates measured at the springs on East Mountain during the 2nd quarter of 2007 were lower than those measured during 2005 and 2006. This condition is attributed to

drought conditions the region experienced during 2007. Baseflow spring discharge rates measured at most East Mountain springs during the 4th quarter of 2007 were also reflective of the drought conditions that prevailed during 2007.

It was noted during the 3rd and 4th quarter 2007 monitoring events at spring SP2-9 that the discharge rate measured at the spring was lower than typical baseflow discharge rates (Table 2). The spring was used extensively for livestock watering during the drought conditions in 2007. When the site was visited in September 2007, it was noted that the piled rocks at the spring source/head area had been reworked, probably by a sheep herder in an attempt to install conveyance piping from the spring source area to the adjacent trough. During both the 3rd and 4th quarter monitoring events, a faint trickling sound could be heard that appeared to originate from beneath the spring collection/rock piled area, suggesting the possibility that some of the flow from the spring could be bypassing the normal discharge point and migrating through the soils or shallow bedrock beneath the site. The effects of the prevailing drought conditions the region experienced during 2007 (Figure 2) are likely also at least in part responsible for the low flows measured at the spring during the 3rd and 4th quarters. Conditions at the spring will be further investigated during 2008.

Upper Joes Valley Springs

As specified in the monitoring plan, three springs in Upper Joes Valley were monitored during 2007. These include SP1-33, SP1-47, and SP2-1. These springs were all monitored during the 2nd, 3rd, and 4th quarters of 2007. Heavy snowpack in upper Joes Valley prohibited access during the 1st quarter of 2007.

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 SP1-47, SP1-33 and SP2-1 during 2007 were somewhat less than those measured in 2005 and 2006, reflecting the drought conditions the region experienced in 2007 (Figure 2). It should be noted that the uncharacteristically high discharge measured at SP1-47 on 23 October 2007 (26.5 gpm) was clearly a direct result of copious, active snowmelt at and in the adjacent areas at the time of sampling. Consequently, this discharge rate is not representative of actual groundwater discharge rates from the alluvial groundwater system that supports SP1-47.

Crandall Canyon Springs

As specified in the water monitoring plan, three springs were monitored in Crandall Canyon during 2007. These include SP-30, SP-36, and SP-58. Springs SP-30 and SP-36 were monitored in the 1st, 2nd, 3rd, and 4th quarters of 2007. Spring SP-58 was monitored in the first three quarters of 2007, but was inaccessible in the 1st quarter due to the snowpack and winter-like conditions in Crandall Canyon above the mine.

Discharge rates measured at spring SP-30 during 2007 were similar to those measured during 2006 (Table 1). The increased discharge from SP-30 measured during 2005, 2006, and 2007

is likely in response to the increased wetness the region experienced during 2005 and 2006. Discharge rates measured at SP-36 and SP-58 were similar to those measured in previous years. However, although seasonal variability in discharge rates are apparent, discharge rates at these springs have not responded appreciably to the wet conditions the region experienced during 2005 (Table 2).

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). During 2003 it was noted that the concentration of sulfate in discharge from spring SP-58 had increased somewhat relative to that of previous years (Table 2). Sulfate concentrations measured at SP-58 during 2007 were again somewhat greater than those measured in recent years (Table 2). It is suspected that the recent elevated sulfate concentrations may be related to the drought conditions the region recently experienced. As discussed above, SP-58, has not responded appreciably to the recent wet conditions the region experienced during 2005 and 2006. It seems likely that were an appreciable influx of low-TDS seasonal recharge water to reach SP-58, sulfate concentrations would decline. It is important to note that sulfate concentrations have increased recently at other stream and spring monitoring stations in the surrounding areas (Table 2), suggesting that the occurrence at SP-58 is likely not an isolated occurrence and is likely not attributable to mining activities at the Crandall Canyon Mine. Water quality at

spring SP-58 will continue to be closely monitored during 2008 to further evaluate conditions at the spring.

South Crandall Area Springs

As part of the recent permit revision that included the new South Crandall Lease area, eight springs were added to the water monitoring program in 2005. These include, Little Bear Spring, LB-5A, LB-7, LB-7A, LB-7B, LB-7C, LB-12, and SP-79 (Figure 1). Little Bear Spring is located near the mouth of Little Bear Canyon and is developed and piped to adjacent municipalities for use as municipal water. Spring LB-12 seeps from the Blackhawk Formation near the bottom of Little Bear Canyon. Spring LB-5A discharges from the Blackhawk Formation on the south-facing slope of Little Bear Canyon. Springs LB-7, LB-7A, LB-7B, LB-7C discharge near the contact of the Blackhawk Formation with the overlying Castlegate Sandstone in the upper portions of Little Bear Canyon. Spring SP-79 discharges in the canyon bottom near the mouth of an unnamed stream drainage (Section 4 Creek) immediately north of Little Bear Canyon. Spring discharge rates are measured quarterly at all of these springs with the exception of Little Bear Spring. Discharge measurements at Little Bear Spring are not practical due to the developed nature of the spring for municipal use. Average monthly discharge at Little Bear Spring is determined monthly by the Castle Valley Special Service District using a totalizing flow meter. While Discharge rates at Little Bear Spring typically range from about 200 go 400 gpm, discharges from the other springs in the South Crandall Lease area are generally meager. Discharges measured at LB-5A and LB-7 during 2005, 2006, and 2007 were generally between about 1 and 3 gpm. Discharges at LB-12, LB-7A, LB-7B, and LB-7C are typically much less than 1

gpm (Table 1). Discharge at SP-79 is usually less than about 1.5 gpm. Discharges measured at the South Crandall Area springs in 2007 were generally somewhat lower than those measured in 2006 in response to the drought conditions the region experienced during 2007 (Table 2).

Laboratory water quality measurements and field parameters are performed at Little Bear Spring, SP-79 and at spring LB-5A. Discharge measurements and field water quality measurements only are performed at the other five springs. Recent discharge measurements and field water quality parameters for these springs are plotted on the attached sheets. It is apparent in these plots and in Table 1 that field water quality parameters measured at these springs are similar to those measured at other springs in the Crandall Canyon Mine area.

Shingle Canyon Area Springs

Springs SP-18 and SP-22 were added to the water monitoring plan in conjunction with recent permit amendments. SP-18 discharges from the hillside above the upper Left Fork of Shingle Canyon (Figure 1). SP-22 discharges from the bottom of the stream channel in the upper Right Fork of Shingle Canyon (Figure 1). Monitoring at both springs is for field water quality parameters and discharge rate. Discharge from both springs is meager (Table 2) and the discharge measured during 2007 at both springs is less than that measured during the wetter climatic conditions in 2005. It should be noted that during the winter of 2004, mass movement of the hillside at SP-18 occurred and the saturated clayey sediments slumped down the hill toward the creek, obscuring the spring discharge area. There was no measurable discharge from SP-18 during 2007. Based on field observations, it seems

probable that the lack of discharge from SP-18 during 2007 is primarily a result of the spring discharge area being obscured with the clayey slump deposits and also to the drought conditions the region experienced during 2007. The slump sediments in the spring area are wet, suggesting that groundwater discharge may be present beneath the surface sediments. Discharge from SP-22 was less than 0.05 gpm in June 2007. There was no discharge at the surface during September 2007. A discharge of 0.06 gpm was measured in October 2007. The flows measured at SP-22 during 2007 are likely a reflection of the drought the region experienced during the year. Based on field water quality measurements, it is apparent that water quality at these springs is similar to other springs monitored in the Crandall Canyon Mine area. Appreciable changes in field water quality parameters were not noted during 2007.

Stream Monitoring Summary

In accordance with the approved hydrologic monitoring plan, 12 stream sites were monitored for flow and water quality during 2007. These include Indian Creek in Upper Joes Valley, Horse Canyon Creek, Blind Canyon Creek, Shingle Creek, a creek in an unnamed drainage in Section 4 in Huntington Creek, Little Bear Canyon Creek, and six sites in the Crandall Creek drainage.

Indian Creek

Discharge rate and field water quality measurements were performed on Indian Creek during the 2nd, 3rd, and 4th quarters of 2007. 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 2007 ranged from 584 gpm in June to 360 gpm in late September (Table 1). Discharge rates measured during 2007 were somewhat lower than those measured during 2005 and 2006, which is attributable to the prolonged drought conditions the region experienced during 2007 (Table 2).

Water quality in Indian Creek during 2007, 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 2007 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 2007. Discharge in Horse Canyon Creek monitored during 2007 was generally less than that measured in 2006 (reflecting the drought conditions the region experienced during 2007), ranging from 148 gpm during March to 37 gpm in September (Table 1).

Water quality in Horse Canyon Creek during 2007, 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 2007 was

also generally similar to that measured in previous years (Table 2). It was noted in 2003 that the sulfate concentrations measured in Horse Canyon Creek had increased somewhat, likely in response to the prolonged period of drought (i.e., resulting from a smaller input of low-TDS snowmelt water relative to the drought-resistant baseflow groundwater component). As anticipated, sulfate concentrations in Horse Canyon Creek during 2005 were substantially lower than those measured during 2003 and 2004, (particularly during the high-runoff season, when the sulfate concentration was only 11 mg/l) suggesting that the elevated sulfate concentrations observed previously were likely drought-related. This trend continued in 2006, with generally lower sulfate concentrations in the stream water (Table 2). During high-flow conditions in 2007, sulfate concentrations remained low. However, during the late summer and fall months during the drought conditions of 2007, sulfate concentrations were again somewhat elevated, suggesting the correlation between flow conditions and sulfate concentrations in the 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 2007. Discharge in Blind Canyon Creek monitored during 2007 ranged from 104 gpm during December to about 10 gpm in September (Table 1). The springtime discharge rate measured in June 2007 (95 gpm) is considerably less than that measured in May 2005 and June 2006, reflecting the drought conditions the region experienced during 2007. The discharge measured during September 2007 is also likely a reflection of the drought conditions. The 4th quarter measurement (104 gpm; 5 December 2007) is considerably greater and is likely related to the melting of early-

season snows in the drainage along with decreases in evapotranspiration rates in the cooler late fall months.

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 2007 was likewise similar to that measured in previous years (Table 2).

Shingle Canyon Creek

Monitoring in Shingle Creek, a small drainage just above Crandall Canyon (Figure 1), has been added to the monitoring plan in conjunction with recent permit amendments. Shingle Creek is monitored a short distance above the mouth of the canyon for discharge and field water quality parameters. Discharge in the drainage is typically small. During June 2005, a period of extreme wetness in the region, discharge in Shingle Creek was only 20.2 gpm. During the summer and fall months, discharge ranged from about 6 to 13 gpm. During 2004, the June discharge was also meager, at about 18 gpm. By July 2004, the stream was dry. During 2007, as a reflection of the drought conditions the region experienced (Figure 2) there was no discharge at the creek monitoring point in either June or September. During October, a discharge of 0.73 gpm was measured.

Water quality monitored in Shingle Creek during 2007, as indicated by field water quality measurements, was similar to that measured during previous years and similar to that of other streams in the Crandall Canyon Mine area (Table 2).

Little Bear Canyon Creek

Monitoring in Little Bear Canyon Creek, a small drainage about 1¼ miles below Crandall Canyon (Figure 1), has been added to the monitoring plan in conjunction with recent permit amendments. Little Bear Canyon Creek is monitored a short distance above the confluence with Huntington Creek. Discharge in Little Bear Canyon Creek during 2007 was 11.2 gpm in March, 2.56 gpm in June, 3.73 gpm in September, and the creek was dry in December (Table 1).

Water quality in Little Bear Canyon Creek during 2007 was similar to that measured in previous years and is similar to that of other streams in the Crandall Canyon Mine area (Table 2).

Section 4 Creek

Monitoring in Section 4 Creek, a small drainage about ¾ mile below Crandall Canyon (Figure 1), has been added to the monitoring plan in conjunction with recent permit amendments. Section 4 Creek is monitored near the confluence with Huntington Creek. Discharge at Section 4 Creek is small. Discharge measured during 2005 ranged from no flow during June, to 7.1 gpm in March (Table 1). During 2006 discharge ranged from 3.57 gpm in June to 6.73 gpm in late September. During 2007, discharge during June was 0.88 gpm, while discharge in December was 4.69 gpm. It is somewhat unusual that discharge at the creek apparently is lower during the springtime, increasing as the year progresses. This condition is likely due to interactions between surface waters and groundwaters in the thick

alluvial sediments in the mouth of the canyon and likely also to the effects of evapotranspiration.

Water quality in Section 4 Creek during 2007 was similar to that measured during previous years and is generally similar to that at other streams in the Crandall Canyon Mine area, although TDS concentrations are somewhat greater in the creek than are most other nearby creeks (Table 2).

Crandall Canyon Drainage

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 2007. The discharge measured at the upper flume ranged from 513 gpm in June to 134 gpm in December. The high-flow discharge rates at the upper flume in Crandall Canyon Creek were appreciably less than those measured during 2005 and 2006, which is reflective of the drought conditions the region experienced during 2007. Baseflow discharge rates in Crandall Canyon Creek during 2007 were similar to those measured in recent years.

Water quality at the upper flume in Crandall Creek during 2007, 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). It was observed in 2003 that sulfate concentrations measured at the upper flume were somewhat elevated relative to previous years. Sulfate concentrations measured during 2005 during and after the high spring runoff

event were lower than in recent years. This supports the conclusion that the elevated sulfate concentrations in upper Crandall Creek (and other streams and springs in the area) are likely related to discharge rate variability. Sulfate concentrations measured in 2006 were generally similar to those measured in 2005 (Table 2). Sulfate concentrations measured in the upper flume during the drought conditions of 2007 were elevated relative to the two previous wetter years (Table 2).

On 15 March 2007 Crandall Canyon Creek was monitored at UPF-1. The laboratory analytical result for the oil and grease determination was reported at 9 mg/L (Table 1). No oil sheens were observed in the creek at the time of sampling. There were no unusual conditions or activities observed in the creek area at the time of sampling. The UPF-1 monitoring location is up-stream of all mine facilities and surface disturbance. Laboratory personnel indicate that the analytical result was likely in error (personal communication, Brandon Pierce, Technical Director, Horizon Laboratories, Price, Utah, 2007). However, because the laboratory oil and grease analysis consumes the entire sample volume, it is not possible to re-run the oil and grease analysis. The conclusion that the reported laboratory result is a consequence of analytical error is supported by the fact that there was no oil and grease detected in the lower monitoring site (LOF-1) sampled on the same day only 30 minutes later.

LOF-1 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

2007. 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 2005 was significantly greater than that measured in previous years, which is a reflection of the period of extreme wetness the region experienced during 2005. During 2006, discharge at the lower flume was appreciably less than in 2005 and was near the long-term average discharge at the site. Discharge from the Crandall Canyon Mine (which is included in the discharge at LOF-1) during 2007 was lower than that measured in recent years. There was no discharge from the mine from UPDES 002 during October, November, or December 2007 as a result of the mine being closed and the mine water pumps being turned off. Consequently, the discharge measured in Crandall Canyon Creek at LOF-1 was also lower than in recent years. The effects of the drought conditions in 2007 also resulted in lower discharge rates in Crandall Canyon Creek above the mine area.

The solute compositions of stream waters at the lower flume during 2007 were similar to those measured in previous years. (Although sulfate concentrations in recent years have been elevated). 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 during baseflow conditions. 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 2007, the average TDS concentrations in Crandall Creek above and below the mine were 535 and 590 mg/L, respectively. This represents an increase in TDS of only 10%.

IBC-1

IBC-1 was added to the Crandall Canyon Mine monitoring plan in conjunction with recent permit amendments. IBC-1 is monitored quarterly for discharge and field and laboratory water quality parameters. The drainage that is monitored at IBC-1 is a tributary to the Crandall Creek drainage and is located adjacent to the mine surface facilities, immediately south of the existing UPF-1 monitoring site (Figure 1). Discharge measured at IBC-1 during 2005 ranged from about 75 gpm during May, to no-flow during March and December. During 2006, discharge measured at IBC-1 ranged from 33 gpm in June to no-flow in March. During 2007, in response to the drought conditions the region experienced, discharge at IBC-1 was lower than that measured in 2005 and 2006. Discharge measured during 2007 ranged from 4.48 gpm in June to no flow in both March and September. A flow of 1.25 gpm was measured during December.

Water quality monitored in the drainage during 2007 is similar to that measured in previous years (Table 2) and is generally similar to that in other streams in the Crandall Canyon Mine area.

Section 5 Creek

Section 5 Creek is a tributary of Crandall Creek located on the north-facing slope of Crandall Canyon adjacent to the lower mine facilities (Figure 1). Monitoring at Section 5 Creek occurs about 400 feet above the mouth of the canyon, and at the upper left and right forks. Monitoring at the main stream site (Section 5 Creek) is for discharge and field and laboratory

water quality parameters. At the upper forks, monitoring is for discharge and field water quality parameters only.

Discharge measured at the lower monitoring site during 2005 ranged from about 20 gpm during June, to 0.7 gpm during November. During 2006 discharge at Section 5 Creek ranged from 10.6 gpm in June to 7.14 gpm in November. During 2007, discharge was less than that measured during wetter conditions in 2005 and 2006 and ranged from 0.67 gpm in June to 0.35 gpm in September with a flow of 1.15 measured in December when the effects of evapotranspiration in the drainage were minimal. It is noteworthy that discharge in the creek infiltrates rapidly below the lower monitoring site and generally does not persist in the stream bed to the confluence with Crandall Creek. Discharge measured at the upper forks during 2007 ranged from 0.04 to 0.72 gpm at the upper right fork, and from 1.06 to 1.2 gpm at the upper left fork. The variability in discharge rates in the Section 5 Creek drainage reflects the influence of seasonal recharge and climatic variability in the drainage.

Water quality monitored during 2007 in Section 5 Canyon was generally similar to that measured in previous years and is similar to that monitored at other streams in the Crandall Canyon Mine area (Table 2).

In-Mine monitoring Summary

In-mine monitoring sites MW-1, and DH-1 were monitored during the first two quarters of 2007. 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 2007. During previous years, sites DH-2, MW-3, MW-4, MW-5, MW-6, MW-6A, MW-7, and MW-8 became permanently inaccessible or destroyed and are not available for monitoring. Subsequent to the mine closure in 2007, all in-mine sites became inaccessible.

DH-1

DH-1, which is an in-mine drill hole located near the mine portals continued to be dry (slow drip, not enough flow to monitor) during 2007 (Table 1). This site has been dry since early 1990 and conditions at the site were unchanged during 2007. The site became inaccessible following the closure of the mine portals in 2007.

MW-1

MW-1 did not produce sufficient water to monitor during 2007. This condition is unchanged from the previous several years. 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 likely a consequence of the poor groundwater production potential of the Star Point Sandstone groundwater system in which the well is completed. The site became inaccessible following the closure of the mine portals in 2007.

Mine Discharge Monitoring Summary

UPDES 002

Discharge from UPDES 002 (Crandall Canyon #1 discharge) during 2007 was somewhat lower than that measured in recent years. The mine discharge averaged 825 gpm during 2005, and about 750 gpm in 2006 (see Table 3 and attached plots). During the first 9 months of 2007, discharge from the mine averaged 528 gpm. Subsequent to the closure of the mine and the removal of the mine pumps, there was no discharge from the mine in October, November, or December of 2007.

TDS concentrations of Crandall Canyon Mine discharge water as measured at UPDES 002 have risen moderately in recent years (Table 2). It is noteworthy that while the TDS concentrations have increased, the discharge rate from the mine workings has decreased. Total iron and dissolved iron concentrations in the mine water were generally low during 2007 (Table 3). Total iron concentrations were generally considerably less than 0.1 mg/l (with the exception of a value of 0.64 mg/L in August), while dissolved iron concentrations were all lower than 0.015 mg/l. Suspended solids were less than the laboratory detection limit (4 mg/L).

UPDES 001

There was no discharge from UPDES 001 (sediment pond discharge) during 2007.

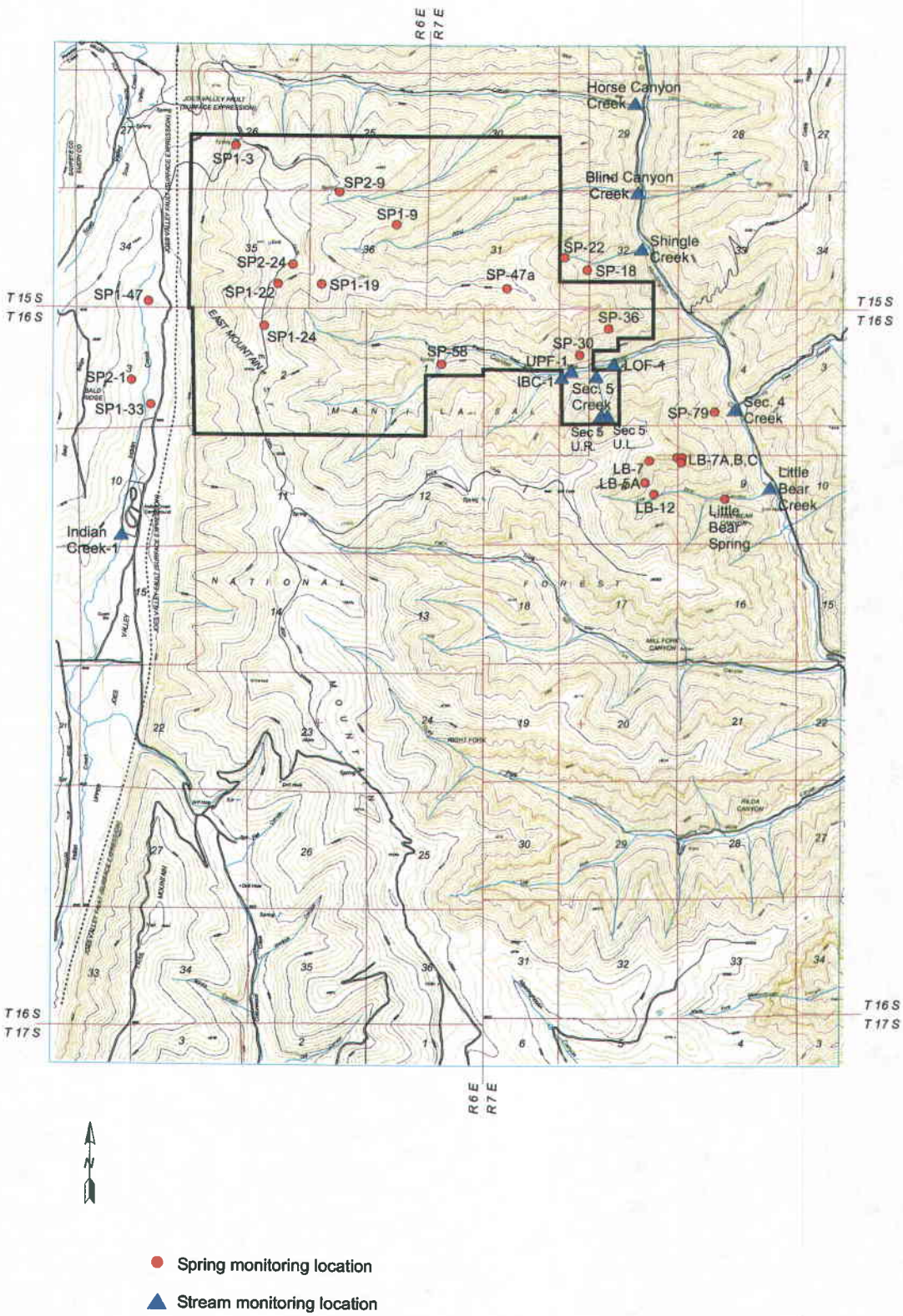
Conclusions

- Discharge rates measured at streams and springs in the mine permit area during 2007 were generally lower than those measured in the previous two wetter years. The lower discharge rates are likely a response to the prolonged drought conditions the region experienced during 2007.

- No major changes to important water quality parameters were observed in springs, streams, or in-mine locations during 2007. Some spring and stream locations continued to experience moderately increased sulfate concentrations. The elevated sulfate concentrations are likely attributable to drought conditions. Moderate increases in TDS concentrations in discharge water from the Crandall Canyon Mine have been noted in the past few years, which correspond with overall declining mine water discharge rates.

- 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 significant mining-related impacts to the hydrologic balance occurred during 2007. Impacts to spring and stream discharge rates that could reasonably be attributed to mining-related activities at the Crandall Canyon Mine were not observed during 2007.

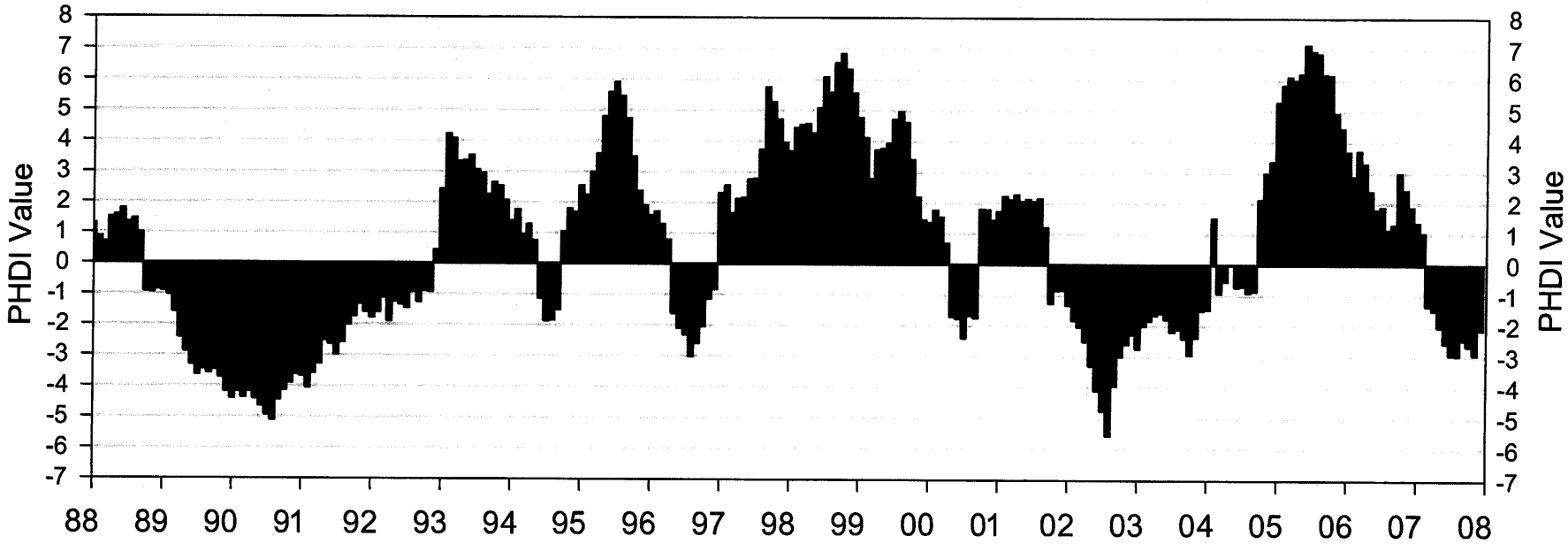
- During surveys of spring and stream resources in the Crandall Canyon Mine permit and adjacent area in the aftermath of the August 2007 major mine bump/bounce, no indications of detrimental impacts to the hydrologic balance were noted.



● 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 2007.

	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	3/15/2007	Yes	0.086	6	7.96	849																					
SP-30	6/18/2007	Yes	0.050	11.5	7.8	852																					
SP-30	9/12/2007	Yes	0.065	12.8	7.87	842																					
SP-30	12/5/2007	Yes	0.090	6.9	7.65	781																					
SP-36	3/15/2007	Yes	0.96	7.1	7.92	652	370					305	349.8	305	< 10.	51.2	9.47	62.12	47.28	7.5	1.62	7.43	7.36	< .005	0.044	< .005	< .005
SP-36	6/18/2007	Yes	0.94	9.1	7.83	637	379					312	380.7	312	< 10.	48.8	6.33	68.18	51.11	8.24	1.35	7.43	8	< .01	0.012	< .001	< .001
SP-36	9/12/2007	Yes	0.77	11.8	7.89	624	386					310	385.9	310	< 10.	51.7	6.95	68.74	52.02	8.52	1.39	7.47	8.12	< .01	0.028	< .001	< .001
SP-36	12/5/2007	Yes	0.84	9.8	7.77	595	365					301	350.1	301	< 10.	53.5	6.75	59.95	48.67	7.62	1.26	7.32	7.36	< .01	< .01	< .001	< .001
SP-58	3/15/2007	Inaccessible																									
SP-58	6/18/2007	Yes	40.4	5.1	7.4	763	512					285	459.5	285	< 10.	138	2.82	103.6	48.77	5.33	2.04	8.65	9.47	< .01	< .01	< .001	< .001
SP-58	9/12/2007	Yes	30.4	5.4	7.73	751	515					287	480.3	287	< 10.	154	2.93	113.6	47.76	< .4	1.84	9.03	9.66	< .01	< .01	< .001	< .001
SP-58	10/26/2007	Yes	27.1	5.4	7.38	651	516					285	421.7	285	< 10.	168	2.63	98.92	42.42	4.92	1.68	9.27	8.68	< .01	< .01	< .001	< .001
SP2-24	3/15/2007	Inaccessible																									
SP2-24	6/17/2007	Yes	4.55	8.11	349	349	228					158	188.6	158	< 10.	4.25	3.51	52.65	13.87	1.75	5.75	3.35	3.99	0.032	0.602	0.001	0.018
SP2-24	9/13/2007	Yes	1.78	7.69	389	389	229					167	213.3	167	< 10.	5.15	4.08	56.48	17.54	2.17	4.35	3.56	4.47	< .01	< .01	< .001	< .001
SP2-24	10/15/2007	Yes	0.96	8.07	343	343	242					165	208.3	165	< 10.	5.51	4.25	55.8	16.74	2.13	4.46	3.53	4.37	< .01	0.011	< .001	< .001
SP2-9	3/15/2007	Inaccessible																									
SP2-9	6/17/2007	Yes	4.53	4.5	7.63	293	173					146	156.7	146	< 10.	3.39	0.79	48.88	8.42	1.71	0.72	3.01	3.22	0.031	1.156	< .001	0.031
SP2-9	9/13/2007	Yes	0.16	7.7	7.89	290	180					152	173.1	152	< 10.	6.38	0.88	52.53	10.17	1.92	< .5	3.2	3.54	< .01	0.313	< .001	0.005
SP2-9	10/15/2007	Yes	0.06	6.5	7.44	257	192					154	174.8	154	< 10.	6.67	0.88	53.49	10.01	1.98	0.92	3.24	3.6	< .01	0.649	0.001	0.012
SP-47A	3/15/2007	Inaccessible																									
SP-47A	6/17/2007	Yes	0.71	6.2	7.48	368																					
SP-47A	9/13/2007	Yes	0.13	9.5	7.48	354																					
SP-47A	10/15/2007	Yes	0.19	7.5	7.4	325																					
SP1-3	3/15/2007	Inaccessible																									
SP1-3	6/17/2007	Yes	0.17	5.2	7.94	291																					
SP1-3	9/13/2007	Yes	0.32	5.9	7.97	292																					
SP1-3	10/15/2007	Yes	0.3	3	7.68	233																					
SP1-19	3/15/2007	Inaccessible																									
SP1-19	6/17/2007	Yes	32	4.3	7.85	432																					
SP1-19	9/13/2007	Yes	1.64	7.6	7.89	462																					
SP1-19	10/15/2007	Yes	1.53	6.5	7.85	437																					
SP1-22	3/15/2007	Inaccessible																									
SP1-22	6/17/2007	Yes	4.38	4.7	8.06	311																					
SP1-22	9/13/2007	Yes	0.68	8.2	7.63	348																					
SP1-22	10/15/2007	Yes	0.345	7.5	8.12	316																					
SP1-33	3/15/2007	Inaccessible																									
SP1-33	6/17/2007	Yes	1.66	4	7.81	499	285					255	281.9	255	< 10.	30.5	1.83	73.53	23.87	4.67	1.05	5.79	5.86	< .01	0.078	< .001	0.002
SP1-33	8/9/2007	Yes	1.88	5.1	7.59	514	320					255	275.1	255	< 10.	32.1	2	73.38	22.3	4.59	1.05	5.82	5.72	< .01	0.017	0.002	0.002
SP1-33	10/23/2007	Yes	2.6	5.2	7	454	341					260	309	260	< 10.	47.3	2.21	82.96	24.72	7.03	1.99	6.25	6.53	< .01	0.131	0.002	0.008
SP1-47	3/15/2007	Inaccessible																									
SP1-47	6/17/2007	Yes	2.88	13.3	8.44	444																					

	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)
SP1-47	8/9/2007	Yes	5.86	19.4	8.13	442																					
SP1-47	10/23/2007	Yes	26.5	11.3	7.97	403																					
SP2-1	3/15/2007	Inaccessible																									
SP2-1	6/17/2007	Yes	17.6	4.7	7.76	502																					
SP2-1	8/9/2007	Yes	3.02	6.6	7.45	523																					
SP2-1	10/23/2007	Yes	2.48	6.9	7.4	462																					
SP1-9	3/15/2007	Inaccessible																									
SP1-9	6/17/2007	Yes	2.74	4.5	7.87	293	184					158	163.1	158	< 10.	9.02	0.93	43.8	13.04	2.23	1	3.37	3.38	0.01	0.026	< .001	< .001
SP1-9	9/13/2007	Yes	0.55	7.1	7.81	328	195					171	192.6	171	< 10.	11.1	1.2	51.39	15.61	2.56	1.12	3.68	3.99	< .01	0.607	< .001	0.007
SP1-9	10/15/2007	Yes	0.571	6.4	7.61	281	214					172	201.7	172	< 10.	12	1.17	54.75	15.78	2.38	1.21	3.72	4.16	< .01	0.318	< .001	0.006
SP1-24	3/15/2007	Inaccessible																									
SP1-24	6/17/2007	Yes	0.46	8.7	8.06	417																					
SP1-24	9/13/2007	Yes	0.21	11.9	7.67	432																					
SP1-24	12/15/2007	Yes	0.24	9.2	7.94	399																					
LB-5A	3/15/2007	Inaccessible																									
LB-5A	6/19/2007	Yes	1.31	8.6	7.68	753	475					315	464.5	315	< 10.	118	4.83	95.28	55.01	8.07	1.69	8.89	9.68	< .01	< .01	< .001	< .001
LB-5A	9/15/2007	Yes	1.15	9.3	7.84	753	477					288	416.6	288	< 10.	122	5.31	75.8	55.19	8.4	1.6	8.45	8.73	< .01	< .01	< .001	< .001
LB-5A	10/24/2007	Yes	1.15	8.7	7.43	690	485					296	418.6	296	< 10.	131	5.18	83.68	50.91	7.42	1.58	8.79	8.73	< .01	< .01	< .001	< .001
LB-7	3/15/2007	Inaccessible																									
LB-7	6/19/2007	Yes	1.31	8.3	7.81	558																					
LB-7	9/15/2007	Yes	1.26	9.2	7.86	544																					
LB-7	10/24/2007	Yes	1.4	8.9	7.87	501																					
LB-7A	3/15/2007	Inaccessible																									
LB-7A	6/19/2007	Yes	0.3	12.9	8.72	469																					
LB-7A	9/15/2007	Yes	0.31	10.3	8.83	459																					
LB-7A	10/24/2007	Yes	0.286	9.8	8.47	483																					
LB-7B	3/15/2007	Inaccessible																									
LB-7B	6/19/2007	Yes	< .05	9.8	8.27	422																					
LB-7B	9/15/2007	Yes	0.004	12.2	8.49	617																					
LB-7B	10/24/2007	Yes	< .1	13.9	7.85	317																					
LB-7C	3/15/2007	Inaccessible																									
LB-7C	6/19/2007	Yes	0.38	14.9	8.73	426																					
LB-7C	9/15/2007	Yes	0.37	14.6	8.83	425																					
LB-7C	10/24/2007	Yes	0.355	13	8.42	422																					
LB-12	3/15/2007	Inaccessible																									
LB-12	6/19/2007	Yes	0.083	9.4	7.99	1019																					
LB-12	9/15/2007	Yes	0.053	11.6	7.91	922																					
LB-12	10/24/2007	Yes	0.037	8	7.83	844																					
Litle Bear Spring	3/15/2007	Yes	—	8.1	7.89	593	330					283	308.8	283	< 10.	32.6	4.41	63.7	36.35	7.53	1.83	6.46	6.54	< .005	0.014	< .005	< .005
Litle Bear Spring	6/18/2007	Yes	—	8.8	7.48	566	330					283	302.5	283	< 10.	35.6	3.88	63.68	34.84	7.25	1.52	6.51	6.4	< .01	0.014	< .001	< .001
Litle Bear Spring	9/17/2007	Yes	—	8.8	7.69	568	335					280	331.8	280	< 10.	36	3.68	69.41	38.48	7.28	1.46	6.45	6.98	< .01	< .01	< .001	< .001
Litle Bear Spring	12/26/2007	Yes	—	8.4	7.56	499	324					280	317.2	280	< 10.	41.5	3.04	67.15	36.32	6.74	1.52	6.54	6.67	< .01	0.079	< .001	0.003
SP-18	3/15/2007	Inaccessible																									
SP-18	6/23/2007	Yes	0																								
SP-18	9/17/2007	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)
SP-18	10/26/2007	Yes	0																								
SP-22	3/15/2007	Inaccessible																									
SP-22	6/23/2007	Yes	< .05	14.9	7.84	571																					
SP-22	9/17/2007	Yes	0																								
SP-22	10/26/2007	Yes	0.0598	4.3	7.73	524																					
SP-79	3/15/2007	Yes	1.55	1.7	8.18	919	647					336	489.7	306	30	160	18.2	74.45	73.76	15	4.52	10.56	10.55	0.009	1.823	0.006	0.152
SP-79	6/19/2007	Yes	0.55	9.4	8.3	867	636					337	510.2	337	< 10.	149	12.1	81.46	74.49	14.69	5.22	10.18	10.97	0.012	0.766	0.002	0.074
SP-79	9/18/2007	Yes	0.66	8.5	8.33	893	637					333	575.8	333	< 10.	207	12.6	91	84.65	17.28	4.89	11.32	12.38	< .01	0.862	0.005	0.063
SP-79	12/5/2007	Yes	0.962	2.6	8.3	751	621					328	512.3	328	< 10.	190	12.6	73.49	79.84	16.6	4.54	10.87	11.08	< .01	1.317	0.003	0.091
Streams																											
UPF-1	3/15/2007	Yes	109	1.6	8.34	712	494	4	< .2	9.46	9	245	421.1	240	< 10.	136	3.12	92.43	46.21	5.4	2.06	7.82	8.7	< .005	0.014	< .005	< .005
UPF-1	6/18/2007	Yes	513	11.8	8.29	809	577	< 4.	< .2	7.5	< 5.	208	489.2	206	< 10.	249	1.87	115.2	48.93	6.86	1.78	9.4	10.12	< .01	0.018	0.001	0.002
UPF-1	9/18/2007	Yes	170	7.1	8.49	758	550	4	< .2	9.1	< 5.	228	489.3	228	< 10.	215	3.21	106.2	54.42	6.57	1.84	9.13	10.11	< .01	0.059	0.001	0.003
UPF-1	12/4/2007	Yes	134	0.8	8.25	572	518	5	< .2	10.3	< 5.	251	415.1	251	< 10.	176	2.57	86.2	48.52	5.73	1.61	8.76	8.585	< .01	0.047	0.002	0.003
LOF-1	3/15/2007	Yes	738	8.6	8.32	872	588	< 4.	< .2	7.96	< 5.	276	430.5	276	< 10.	150	20.3	85.3	52.81	33.67	7.21	9.21	10.25	< .005	0.055	< .005	0.007
LOF-1	6/18/2007	Yes	570	10.2	8.25	818	585	6	< .2	7.3	< 5.	221	484.3	221	< 10.	228	10.3	111.3	50.12	13.61	2.6	9.46	10.34	< .01	0.058	0.003	0.009
LOF-1	9/18/2007	Yes	210	7.9	8.32	845	607	< 4.	< .2	9.61	< 5.	242	509.6	242	< 10.	220	19.5	108.8	57.77	18.6	2.27	9.97	11.05	< .01	0.063	0.011	0.012
LOF-1	12/5/2007	Yes	152	3	8.29	704	578	< 4.	< .2	10.8	< 5.	259	464.6	259	< 10.	196	17.4	98.33	53.19	14.8	2.18	9.75	9.98	< .01	0.057	0.015	0.015
Horse Canyon Creek	3/15/2007	Yes	148	1	8.61	543	337	7	< .2	7.92	18	264	301.4	246	18	48.5	5.29	61.35	35.98	6.92	1.62	6.44	6.36	< .005	0.176	< .005	0.01
Horse Canyon Creek	6/18/2007	Yes	75.9	12.8	8.32	518	269	23	< .2	8.1	< 5.	242	281.3	234	< 10.	29.3	2.02	55.58	34.61	3.41	1.56	5.51	5.81	< .01	0.571	< .001	0.021
Horse Canyon Creek	9/17/2007	Yes	37.1	7.5	8.58	702	476	< 4.	< .2	8.87	< 5.	280	423.9	280	< 10.	122	5.54	76.02	56.83	0.98	2.89	8.3	8.59	< .01	0.062	< .001	0.004
Horse Canyon Creek	12/5/2007	Yes	46	0.8	8.44	497	406	7	< .2	10.7	< 5.	285	358.4	285	< 10.	102	4.7	65.94	47.05	10.41	2.09	7.96	7.67	< .01	0.081	0.005	0.009
Blind Canyon Flume	3/15/2007	Yes	85.2	0.7	8.6	524	314	10	< .2	10.08	< 5.	273	290.2	249	24	31.3	3.87	55.34	36.92	4.4	1.41	6.22	6.03	0.012	0.201	< .005	0.009
Blind Canyon Flume	6/18/2007	Yes	95	12.4	8.51	466	300	12	< .2	7.6	< 5.	246	298.5	238	< 10.	52.1	3.43	57.72	37.48	7.48	1.79	6.1	6.34	< .01	0.242	< .001	0.017
Blind Canyon Flume	9/17/2007	Yes	9.68	9.3	8.51	492	300	< 4.	< .2	8.13	< 5.	264	295.2	255	< 10.	22.3	3.25	48.15	42.49	5.16	1.94	5.84	6.17	< .01	0.094	< .001	0.004
Blind Canyon Flume	12/5/2007	Yes	104	0.8	8.4	437	341	5	< .2	10.3	< 5.	299	328	299	< 10.	34.8	3.41	60.64	42.88	4.73	1.51	6.79	6.8	< .01	0.106	0.003	0.007
Indian Creek	3/15/2007	Inaccessible																									
Indian Creek	6/17/2007	Yes	584	10.1	8.43	449	241	6	< .2	8.7	< 5.	263	267.2	263	< 10.	4.93	1.5	72.51	20.92	2.99	0.56	5.4	5.48	< .01	0.143	< .001	0.016
Indian Creek	8/9/2007	Yes	360	12.8	8.17	428	259	< 4.	< .2	7.25	< 5.	237	232.7	237	< 10.	6.91	1.7	61.13	19.44	3.11	0.69	4.93	4.8	< .01	0.112	< .001	0.01
Indian Creek	10/23/2007	Yes	419	8.6	8.18	409	279	5	< .2	7.45	< 5.	249	258.4	248	< 10.	13.6	1.94	68.67	21.1	3.58	0.94	5.32	5.34	< .01	0.076	0.004	0.009
Little Bear Creek	3/15/2007	Yes	11.2	2.5	8.58	598	373	26	< .2	9.88	< 5.	289	341.1	267	22	59.3	9.35	66.45	42.55	8	1.81	7.28	7.21	< .005	0.456	< .005	0.025
Little Bear Creek	6/19/2007	Yes	2.56	14.3	8.65	554	320	14	< .2	7.2	< 5.	263	301.6	257	< 10.	46.6	6.24	52.19	41.6	8	2	6.41	6.43	< .01	0.198	< .001	0.011
Little Bear Creek	9/18/2007	Yes	3.73	9.6	8.68	541	338	8	< .2	8.24	< 5.	263	325.4	255	< 10.	46.3	7.01	56.28	44.89	9.29	1.92	6.42	6.96	< .01	0.042	0.001	0.002
Little Bear Creek	12/5/2007	Yes	0																								
IBC-1	3/15/2007	Yes	0																								
IBC-1	6/18/2007	Yes	4.48	12.2	8.38	505	300	7	< .2	7.4	< 5.	256	290.7	248	< 10.	44	1.87	53.79	37.97	7.16	1.74	6.09	6.16	< .01	0.029	< .001	0.001
IBC-1	9/18/2007	Yes	0																								
IBC-1	12/4/2007	Yes	1.25	0.7	8.03	471	371	25	< .2	10.5	< 5.	265	343.5	265	< 10.	91.4	5.71	58.93	47.69	9.01	1.53	7.36	7.3	< .01	0.107	< .001	0.008
Section 4 Creek	3/15/2007	Yes	7.48	1.6	8.43	780	521	111	< .2	10.14	< 5.	328	427.1	296	32	147	15.4	66.82	63.21	13.46	3.43	10.05	9.21	< .005	1.381	< .005	0.15
Section 4 Creek	6/19/2007	Yes	0.88	10.7	8.52	829	539	14	< .2	6.8	< 5.	359	489.2	355	< 10.	92.9	11.5	77.4	71.85	14.62	4.26	9.44	10.52	< .01	0.316	< .001	0.033
Section 4 Creek	9/18/2007	Yes	1.73	9.3	8.57	792	529	19	< .2	8.86	< 5.	351	480.7	331	20	110	11.9	70.96	73.71	15	3.66	9.64	10.35	< .01	0.257	< .001	0.029
Section 4 Creek	12/5/2007	Yes	4.69	1.5	8.49	636	529	27	< .2	10.2	< 5.	334	450.8	333	< 10.	142	10.9	64.77	70.2	13.98	3.38	9.94	9.7	0.019	0.449	0.001	0.056
Section 5 Creek	3/15/2007	Inaccessible																									
Section 5 Creek	6/18/2007	Yes	0.67	11.1	8.38	516	314	9	< .2	7.7	< 5.	245	306.1	239	< 10.	53.7	5.31	49.42	44.37	8.13	1.82	6.17	6.52	0.011	0.027	0.001	0.004

	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)
Section 5 Creek	9/18/2007	Yes	0.35	11.4	8.55	521	329	9	< .2	8.51	< 5.	244	306.7	234	10	57.8	6.77	44.76	47.33	10.52	1.72	6.27	6.63	< .01	0.094	0.002	0.005
Section 5 Creek	12/4/2007	Yes	1.15	0.5	8.44	617	547	5	< .2	10.4	< 5.	368	488.3	344	24	105	11.1	71.62	75.15	12.7	2.7	9.86	10.38	< .01	0.012	0.005	0.005
Section 5 Creek U R Fork	3/15/2007	Inaccessible																									
Section 5 Creek U R Fork	6/18/2007	Yes	0.72	9.5	8.25	567				7.2																	
Section 5 Creek U R Fork	9/18/2007	Yes	0.29	8.5	8.1	573				8.82																	
Section 5 Creek U R Fork	12/4/2007	Yes	0.041	0.5	8.36	534				10.5																	
Section 5 Creek U L Fork	3/15/2007	Inaccessible																									
Section 5 Creek U L Fork	6/18/2007	Yes	1.2	8.8	8.2	429				7.6																	
Section 5 Creek U L Fork	9/18/2007	Yes	1.06	6.5	8.27	427				8.97																	
Section 5 Creek U L Fork	12/4/2007	Yes	1.15	0.6	8.27	410				10.2																	
Shingle Creek	3/15/2007	Inaccessible																									
Shingle Creek	6/23/2007	Yes	0																								
Shingle Creek	9/17/2007	Yes	0																								
Shingle Creek	10/26/2007	Yes	0.73	2.3	8.21	672				6.75																	
UPDES																											
UT0024368-001	1/8/2007	Yes	0																								
UT0024368-001	2/6/2007	Yes	0																								
UT0024368-001	3/7/2007	Yes	0																								
UT0024368-001	4/18/2007	Yes	0																								
UT0024368-001	5/1/2007	Yes	0																								
UT0024368-001	6/13/2007	Yes	0																								
UT0024368-001	7/16/2007	Yes	0																								
UT0024368-001	8/30/2007	Yes	0																								
UT0024368-001	9/11/2007	Yes	0																								
UT0024368-001	10/15/2007	Yes	0																								
UT0024368-001	11/15/2007	Yes	0																								
UT0024368-001	12/15/2007	Yes	0																								
UT0024368-002	1/8/2007	Yes	471	15	8.3	850	606	< 4.		8	< 5.																
UT0024368-002	2/6/2007	Yes	608	12.5	6.88	940	578	< 4.		7.2	< 5.																
UT0024368-002	3/7/2007	Yes	574	12.5	7.92	960	592	< 4.		8.5	< 5.																
UT0024368-002	4/18/2007	Yes	425	13	8.1	960	617	< 4.		8	< 5.																
UT0024368-002	5/1/2007	Yes	642	13	7.9	850	592	< 4.		7.2	< 5.																
UT0024368-002	6/13/2007	Yes	509	15.5	8.02	965	564	< 4.		6.8	< 5.																
UT0024368-002	7/16/2007	Yes	508	18.9	8.03	950	575	< 4.		6	< 5.																
UT0024368-002	8/30/2007	Yes	508	17.1	8.09	843	571	< 4.		7.88	< 5.																
UT0024368-002	9/11/2007	Yes	508	12.3	7.47	720	594	< 4.		8	< 5.																
UT0024368-002	10/15/2007	Yes	0																								
UT0024368-002	11/15/2007	Yes	0																								
UT0024368-002	12/15/2007	Yes	0																								
In-Mine Monitoring Wells																											
DH-1	3/15/2007	Yes	0																								
DH-1	6/18/2007	Yes	0																								
DH-1	9/12/2007	Inaccessible																									
DH-1	12/5/2007	Inaccessible																									
DH-2	3/15/2007	Inaccessible																									
DH-2	6/18/2007	Inaccessible																									
DH-2	9/12/2007	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)
DH-2	12/5/2007	Inaccessible																									
MW-1	3/15/2007	Yes	0																								
MW-1	6/18/2007	Yes	0																								
MW-1	9/12/2007	Inaccessible																									
MW-1	12/5/2007	Inaccessible																									
MW-2	3/15/2007	Inaccessible																									
MW-2	6/18/2007	Inaccessible																									
MW-2	9/12/2007	Inaccessible																									
MW-2	12/5/2007	Inaccessible																									
MW-3	3/15/2007	Inaccessible																									
MW-3	6/18/2007	Inaccessible																									
MW-3	9/12/2007	Inaccessible																									
MW-3	12/5/2007	Inaccessible																									
MW-4	3/15/2007	Inaccessible																									
MW-4	6/18/2007	Inaccessible																									
MW-4	9/12/2007	Inaccessible																									
MW-4	12/5/2007	Inaccessible																									
MW-5	3/15/2007	Inaccessible																									
MW-5	6/18/2007	Inaccessible																									
MW-5	9/12/2007	Inaccessible																									
MW-5	12/5/2007	Inaccessible																									
MW-6	3/15/2007	Inaccessible																									
MW-6	6/18/2007	Inaccessible																									
MW-6	9/12/2007	Inaccessible																									
MW-6	12/5/2007	Inaccessible																									
MW-6A	3/15/2007	Inaccessible																									
MW-6A	6/18/2007	Inaccessible																									
MW-6A	9/12/2007	Inaccessible																									
MW-6A	12/5/2007	Inaccessible																									
MW-7	3/15/2007	Inaccessible																									
MW-7	6/18/2007	Inaccessible																									
MW-7	9/12/2007	Inaccessible																									
MW-7	12/5/2007	Inaccessible																									
MW-8	3/15/2007	Inaccessible																									
MW-8	6/18/2007	Inaccessible																									
MW-8	9/12/2007	Inaccessible																									
MW-8	12/5/2007	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 2007.xls 24 Jun 08

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
Streams																		
L. Flume (Crandall Creek)	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	
	02-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	
	04-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		
	08-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	
	04-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	
	03-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	
	01-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	
	09-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	
	06-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	Ca2+	Mg2+	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
05-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	
07-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	
08-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	
04-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	
04-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
09-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
01-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
09-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
08-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
09-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
31-Mar-04	296	4.6	8.21	976	667	97.2	53.1	39.3	2.65	342	< 5.	189	69	0.088	< .03	0.051	0.049
17-Jun-04	2910	9.8	8.19	796	515	90.1	41.5	22.4	3.86	260	< 5.	180	8	0.08	< .03	0.009	0.005
20-Sep-04	801	10.7	8.25	740	513	87.5	49.6	36.9	6.54	339	< 5.	139	10	0.06	< .03	0.008	0.007
06-Nov-04	190	3.3	7.93	744	596	94.9	48.3	24.6	2.5			193	24	0.11	< .03	0.024	0.02

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Mar-05	1150	10.8	8.13	749	575	80.3	44.8	43.9	6.97	405	< 5.	137	19	0.11	< .03	0.009	0.006
	31-May-05	6730	8.5	8.26	536	408	86.7	27.8	9.84	1.56	280	< 5.	103	4	1	< .03	0.04	0.002
	25-Aug-05	884	11.9	8.27	763	542	89.3	48.5	30.3	5.82	349	< 5.	182	10	0.08	< .03	0.009	0.009
	28-Dec-05	555	8.4	8.29	832	545	84.2	51.7	33.2	6.46	335	15	180	15	0.09	< .03	0.009	0.005
	06-Mar-06	737	9.3	8.27	878	587	87.1	53.6	42.5	7.12	352	< 5.	173	26	< .05	< .03	0.008	0.007
	25-Jun-06	1460	10.8	8.24	738	536	93.6	46.5	17.3	3.42	293	8.3	180	8	0.08	< .03	0.006	0.004
	22-Sep-06	495	4.7	8.05	797	583	100.24	48.72	17.95	2.44	299	< 5.	204	20	0.07	< .03	0.014	0.014
	13-Nov-06	1030	7.9	8.19	820	567	90.95	53.18	29.4	5.55	356	< 5.	185	12	0.07	< .03	0.005	0.005
	15-Mar-07	738	8.6	8.32	872	588	85.3	52.81	33.67	7.21	337	< 10.	150	20.3	0.055	< .005	0.007	< .005
	18-Jun-07	570	10.2	8.25	818	585	111.3	50.12	13.61	2.6	269	< 10.	228	10.3	0.058	< .01	0.009	0.003
	18-Sep-07	210	7.9	8.32	845	607	108.8	57.77	18.6	2.27	295	< 10.	220	19.5	0.063	< .01	0.012	0.011
	05-Dec-07	152	3	8.29	704	578	98.33	53.19	14.8	2.18	316	< 10.	196	17.4	0.057	< .01	0.015	0.015
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
	02-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	
	04-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		
	08-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	

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-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	
04-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	
03-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	
01-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	
09-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						
06-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
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	
05-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
01-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	
08-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	
04-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	
04-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
09-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
01-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
09-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
08-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

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-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
	09-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
	31-Mar-04	117	3.9	8.39	758	546	95.3	49.2	4.77	1.66	304	<5	197	3	<0.05	<0.03	<0.002	<0.002
	17-Jun-04	1010	8.4	8.48	733	482	97.7	39.2	6.19	1.41	201	< 5.	212	3	< .05	< .03	< .002	< .002
	20-Sep-04	393	5.5	8.58	667	523	95.7	49.4	4.76	1.67	222	< 5.	204	2	< .05	< .03	< .002	< .002
	06-Nov-04	134	1	8.06	669	530	93.5	45.8	4.68	1.55			195	2	< .05	< .03	< .002	< .002
	28-Mar-05	72	0.9	8.1	636	587	99	49.2	4.28	1.2	284	< 5.	253	2	< .05	< .03	< .002	< .002
	31-May-05	6450	8	8.15	509	391	88.3	28.4	8.21	1.12	266	6	98	2	1.72	< .03	0.044	< .002
	25-Aug-05	220	11.3	8.26	696	528	97.7	47.8	5.68	1.68	246	< 5.	217	2	< .05	< .03	0.002	< .002
	27-Dec-05	117	0.6	8.19	744	484	96.5	45.5	5.71	1.79	296	< 5.	182	3	< .05	< .03	0.002	< .002
	06-Mar-06	152	0.8	8.33	766	538	101	49.1	5.61	1.74	290	< 5.	192	4	< .05	< .03	< .002	< .002
	25-Jun-06	868	10.8	8.33	689	508	98.1	42.2	6.45	1.56	254	< 5.	190	3	< .05	< .03	0.002	< .002
	22-Sep-06	200	3.1	8.24	735	548	101.45	47.06	5.26	1.83	282	< 5.	217	3	< .05	< .03	0.002	0.002
	13-Nov-06	210	0.4	8.33	726	532	100.42	48.83	5.46	1.46	289	< 5.	204	3	< .05	< .03	< .002	< .002
	15-Mar-07	109	1.6	8.34	712	494	92.43	46.21	5.4	2.06	293	< 10.	136	3.12	0.014	< .005	< .005	< .005
	18-Jun-07	513	11.8	8.29	809	577	115.2	48.93	6.86	1.78	251	< 10.	249	1.87	0.018	< .01	0.002	0.001
	18-Sep-07	170	7.1	8.49	758	550	106.2	54.42	6.57	1.84	278	< 10.	215	3.21	0.059	< .01	0.003	0.001
	04-Dec-07	134	0.8	8.25	572	518	86.2	48.52	5.73	1.61	306	< 10.	176	2.57	0.047	< .01	0.003	0.002
Blind Canyon 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	
	04-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		
	08-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																
	03-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	
	01-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	
	25-Oct-93	0.0																
	15-Jul-94	dry																
	06-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	
	09-Aug-95	0.0																

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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	0.0																
05-May-97	0.0																
15-Aug-97	0.0																
09-Oct-97	0.0																
08-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	
04-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
08-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
02-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
09-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
08-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
09-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
31-Mar-04	105	2.1	8.65	504	331	61.5	35.1	3.65	1.33	318	< 5.	41	3	0.129	< .03	0.012	< .002
17-Jun-04	280	9.2	8.62	425	231	53.6	26.1	2.43	1	207	< 5.	30	2	0.39	< .03	0.02	< .005
20-Sep-04	26.1	6	8.31	419	278	55.8	39.7	3.48	1.79	244	14	38	3	0.05	< .03	< .002	< .002
06-Nov-04	38.4	0.1	8.28	486	324	63.1	38.4	3.59	1.44			42	3	0.07	< .03	0.003	< .002
28-Mar-05	132	1.4	8.53	438	368	62.3	38.5	3.81	0.91	327	6	37	3	0.1	< .03	0.002	< .002
31-May-05	1930	10.7	8.29	366	245	63.5	22.1	2.26	0.7	237	16	18	2	0.59	< .03	0.018	0.003
25-Aug-05	80.4	13.6	8.39	465	273	50.3	35.1	3.53	1.45	274	13	34	2	0.16	< .03	0.008	< .002
28-Dec-05	32.7	0.5	8.42	567	287	62.8	38.5	4.13	1.43	343	8	34	4	< .05	< .03	0.003	0.002
06-Mar-06	62	0.5	8.49	551	323	63.9	40.7	4.91	1.48	337	< 5.	33	4	0.17	< .03	0.007	0.003
25-Jun-06	287	14.5	8.66	491	265	54.6	34.8	3.3	1.23	277	13.3	31	3	0.42	< .03	0.016	0.002
22-Sep-06	90	3.9	8.38	495	301	57.89	37.29	4.12	1.58	326	< 5.	32	4	0.1	< .03	0.004	0.003
13-Nov-06	80.4	0.1	8.59	516	316	60.89	39.46	4.5	1.18	333	< 5.	36	4	0.18	< .03	0.007	0.003
15-Mar-07	85.2	0.7	8.6	524	314	55.34	36.92	4.4	1.41	304	40	31.3	3.87	0.201	0.012	0.009	< .005
18-Jun-07	95	12.4	8.51	466	300	57.72	37.48	7.48	1.79	290	< 10.	52.1	3.43	0.242	< .01	0.017	< .001
17-Sep-07	9.68	9.3	8.51	492	300	48.15	42.49	5.16	1.94	311	< 10.	22.3	3.25	0.094	< .01	0.004	< .001

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	05-Dec-07	104	0.8	8.4	437	341	60.64	42.88	4.73	1.51	365	< 10.	34.8	3.41	0.106	< .01	0.007	0.003
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	
	09-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
	05-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	
	07-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	
	08-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	
	04-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
	08-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
	02-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
	09-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
	08-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
	09-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
	31-Mar-04	218	4.1	8.65	515	334	63.1	33.8	5.77	1.41	266	< 5.	56	4	0.21	< .03	0.014	< .005
	17-Jun-04	183	9.3	8.53	457	260	54.4	28.1	5.12	1.36	212	< 5.	45	3	0.76	< .03	0.041	< .002
	20-Sep-04	38.7	6.4	8.39	559	442	74.9	52.9	12.1	2.89	262	16	133	5	0.09	< .03	< .002	< .002
	06-Nov-04	48	0.2	8.27	554	430	74.7	47.2	10.3	2.22			107	4	0.08	< .03	0.004	< .002

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Mar-05	138	1.9	8.59	492	384	66.1	38.1	6.71	1.09	308	21	61	5	0.21	< .03	0.008	0.002
	31-May-05	1860	10.4	8.31	314	184	51.7	17.9	2.58	0.57	207	5	11	2	1.39	< .03	0.042	0.008
	25-Aug-05	61	13.9	8.47	576	351	60.1	43.2	10.3	2.21	293	13	91	5	0.37	< .03	0.016	< .002
	28-Dec-05	31	1.3	8.45	633	358	71.4	42.5	9.34	2.09	330	14	80	5	0.17	< .03	0.01	0.002
	06-Mar-06	99	1.4	8.58	602	365	70.2	42.6	8.71	1.8	322	15	67	5	0.11	< .03	0.007	0.004
	25-Jun-06	337	13.8	8.69	501	302	57.3	34.9	4.9	1.16	287	< 5.	28	4	0.2	< .03	0.017	0.004
	22-Sep-06	107	3.1	8.34	553	364	65.05	39.89	8.13	1.92	323	< 5.	63	5	0.08	< .03	0.006	0.004
	13-Nov-06	109	0.2	8.56	551	357	69.07	41.8	7.54	1.38	324	< 5.	59	5	0.12	< .03	0.006	0.004
	15-Mar-07	148	1	8.61	543	337	61.35	35.98	6.92	1.62	300	30	48.5	5.29	0.176	< .005	0.01	< .005
	18-Jun-07	75.9	12.8	8.32	518	269	55.58	34.61	3.41	1.56	285	< 10.	29.3	2.02	0.571	< .01	0.021	< .001
	17-Sep-07	37.1	7.5	8.58	702	476	76.02	56.83	0.98	2.89	341	< 10.	122	5.54	0.062	< .01	0.004	< .001
	05-Dec-07	46	0.8	8.44	497	406	65.94	47.05	10.41	2.09	347	< 10.	102	4.7	0.081	< .01	0.009	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	
	01-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	
	04-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
	09-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
	06-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
	09-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
	14-Jun-04	753	12	8.3	487	288	71.6	20.3	5.31	0.57	263	< 5.	14	2	0.11	< .03	0.012	0.006
	09-Sep-04	327	11.5	8.26	435	253	68.6	21	3.59	0.73	250	< 5.	10	3	0.16	< .03	0.015	0.008

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	17-Oct-04	320	5.3	8.38	464	256	69.2	19.9	3.61	0.79			11	2	0.17	< .03	0.017	0.01
	19-Jun-05	1800	12	8.26	435	332	77.5	20.1	6.14	0.71	316	< 5.	14	1	0.31	< .03	0.022	< .002
	25-Aug-05	705	11.7	8.3	461	275	74.8	21.1	3.98	0.57	319	< 5.	9	2	0.14	< .03	0.016	0.008
	12-Oct-05	570	6.4	8.25	420	293	70.8	20.9	3.92	0.76	317	< 5.	9	2	0.12	< .03	0.016	0.003
	20-Jun-06	1460	12.7	8.39	462	297	74.8	20.1	4.75	0.56	302	< 5.	12	2	0.2	< .03	0.018	0.004
	21-Sep-06	644	7.1	8.2	462	272	74.88	21.27	4.02	0.9	318	< 5.	9	3	0.12	0.04	0.012	0.008
	21-Oct-06	705	5.4	8.47	457	276	75.78	21.12	3.79	0.89	304	16.7	9	3	0.13	< .03	0.014	0.009
	17-Jun-07	584	10.1	8.43	449	241	72.51	20.92	2.99	0.56	321	< 10.	4.93	1.5	0.143	< .01	0.016	< .001
	09-Aug-07	360	12.8	8.17	428	259	61.13	19.44	3.11	0.69	289	< 10.	6.91	1.7	0.112	< .01	0.01	< .001
	23-Oct-07	419	8.6	8.18	409	279	68.67	21.1	3.58	0.94	302	< 10.	13.6	1.94	0.076	< .01	0.009	0.004
IBC-1	31-May-05	74.8	8.2	8.25	439	331	61	36.1	6.48	1.3	278	17	37	5	< .05	< .03	< .002	<0.002
	25-Aug-05	0.8	9.8	8.37	534	342	59.9	43.5	8.28	1.69	337	< 5.	59	7	< .05	< .03	< .002	<0.002
	27-Dec-05	0																
	06-Mar-06	0																
	25-Jun-06	33	9.9	8.37	544	349	59.6	44.5	7.27	1.62	302	36.7	45	6	< .05	< .03	< .002	< .002
	22-Sep-06	3.81	3.1	8.34	542	361	56.35	43.78	8.68	2.18	317	< 5.	58	7	0.07	< .03	0.003	< .002
	13-Nov-06	3.53	0.5	8.32	564	354	59.16	45.99	8.37	1.53	319	< 5.	67	6	0.14	< .03	0.003	< .002
	15-Mar-07	0																
	18-Jun-07	4.48	12.2	8.38	505	300	53.79	37.97	7.16	1.74	302	< 10.	44	1.87	0.029	< .01	0.001	< .001
	18-Sep-07	0																
	04-Dec-07	1.25	0.7	8.03	471	371	58.93	47.69	9.01	1.53	323	< 10.	91.4	5.71	0.107	< .01	0.008	< .001
Little Bear Creek	21-Jun-05	20																
	27-Jul-05	6.98	13.3	8.52	507	326	61.8	44.5	8.98	2.25	322	<5	53	7	0.17	<0.03	0.018	<0.002
	05-Sep-05	6.98	10.5	8.44	551	370	58.6	40.9	7.83	3.96	317	25	54	11	0.22	< .03	0.009	<0.002
	28-Dec-05	0																
	06-Mar-06	0																
	24-Jun-06	27.1	12.5	8.48	604	358	61.5	46.6	7.79	1.92	321	28.3	59	7	0.24	< .03	0.012	< .002
	21-Sep-06	12	6.8	8.54	565	363	62.86	42.18	8.4	2.07	349	< 5.	46	7	< .05	< .03	< .002	< .002
	13-Nov-06	4.92	1.3	8.45	605	387	66.98	45.24	8.27	1.73	356	20	53	8	0.22	< .03	0.008	< .002
	15-Mar-07	11.2	2.5	8.58	598	373	66.45	42.55	8	1.81	326	37	59.3	9.35	0.456	< .005	0.025	< .005
	19-Jun-07	2.56	14.3	8.65	554	320	52.19	41.6	8	2	313	< 10.	46.6	6.24	0.198	< .01	0.011	< .001
	18-Sep-07	3.73	9.6	8.68	541	338	56.28	44.89	9.29	1.92	311	< 10.	46.3	7.01	0.042	< .01	0.002	0.001
	05-Dec-07	0																
Section 4 Creek	21-Jun-05	0																

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Jul-05	1.03	11.4	8.31	876	576	77.9	75.3	15.6	4.31	447	4	151	15	0.28	<0.03	0.03	<0.002
	05-Sep-05	2.46	9.5	8.3	773	580	75.3	76	3.95	3.95	447	< 5.	132	11	0.24	< .03	0.033	<0.002
	28-Dec-05	5.67	1.3	8.44	815	497	70.1	69.5	13.5	3.67	389	24	133	12	0.79	< .03	0.084	<0.002
	06-Mar-06	6.15	1.5	8.44	798	531	71.8	69.7	14.1	3.59	393	< 5.	134	12	0.64	< .03	0.074	< .002
	27-Jun-06	3.57	10.5	8.42	825	509	72.8	73.2	13.6	3.69	391	< 5.	144	14	0.66	< .03	0.059	0.002
	22-Sep-06	6.73	5.5	8.26	801	533	74	70.9	14.3	4.2	417	< 5.	132	12	0.6	< .03	0.079	0.002
	13-Nov-06	6.48	2.2	8.27	826	564	78.02	73.78	14.96	3.53	417	15	146	14	0.15	< .03	0.014	< .002
	15-Mar-07	7.48	1.6	8.43	780	521	66.82	63.21	13.46	3.43	361	53	147	15.4	1.381	< .005	0.15	< .005
	19-Jun-07	0.88	10.7	8.52	829	539	77.4	71.85	14.62	4.26	433	< 10.	92.9	11.5	0.316	< .01	0.033	< .001
	18-Sep-07	1.73	9.3	8.57	792	529	70.96	73.71	15	3.66	404	33	110	11.9	0.257	< .01	0.029	< .001
	05-Dec-07	4.69	1.5	8.49	636	529	64.77	70.2	13.98	3.38	406	< 10.	142	10.9	0.449	0.019	0.056	0.001
Section 5 Creek	21-Jun-05	19.8	17.4	8.48	501	320	50.8	41.3	7.61	1.63	254	23	51	5	< .05	< .03	< .002	<0.002
	25-Aug-05	1.53	11.7	8.79	455	252	43.5	39.8	7.12	1.48	276	< 5.	53	5	< .05	< .03	0.003	0.002
	02-Nov-05	8.93	0.7	8.07	378	261	40.1	36	6.58	1.39	254	< 5.	47	5	< .05	< .03	< .002	<0.002
	27-Jun-06	10.6	16.8	8.63	517	318	47.9	45.9	7.72	1.53	285	13.3	50	7	< .05	< .03	< .002	< .002
	22-Sep-06	9	4.3	8.25	452	282	43.65	36.72	6.38	1.44	261	< 5.	45	5	< .05	< .03	< .002	< .002
	05-Nov-06	7.14	0	8.37	504	308	49.29	43.11	7.147	1.28	283	< 5.	55	6	0.08	< .03	0.003	< .002
	18-Jun-07	0.67	11.1	8.38	516	314	49.42	44.37	8.13	1.82	291	< 10.	53.7	5.31	0.027	0.011	0.004	0.001
	18-Sep-07	0.35	11.4	8.55	521	329	44.76	47.33	10.52	1.72	285	17	57.8	6.77	0.094	< .01	0.005	0.002
	04-Dec-07	1.15	0.5	8.44	617	547	71.62	75.15	12.7	2.7	419	40	105	11.1	0.012	< .01	0.005	0.005
Section 5 Creek U. L. Fork	21-Jun-05	13.4	11	8.25	437													
	25-Aug-05	2.12	10	8.68	396													
	02-Nov-05	3.73	1.4	8.55	379													
	27-Jun-06	6.17	10.3	8.54	447													
	23-Sep-06	3.06	3.1	8.39	518													
	09-Nov-06	2.7	0	8.13	450													
	18-Jun-07	1.2	8.8	8.2	429													
	18-Sep-07	1.06	6.5	8.27	427													
	04-Dec-07	1.15	0.6	8.27	410													
Section 5 Creek U. R. Fork	21-Jun-05	5.04	16.6	8.27	567													
	25-Aug-05	0.55	11.2	8.66	494													
	02-Nov-05	2.4	0.2	8.54	428													
	27-Jun-06	2.4	15.5	8.52	555													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Sep-06	4.08	2.6	8.52	416													
	05-Nov-06	1.7	0.2	8.04	538													
	18-Jun-07	0.72	9.5	8.25	567													
	18-Sep-07	0.29	8.5	8.1	573													
	04-Dec-07	0.041	0.5	8.36	534													
Shingle Creek	20-Jun-05	20.2	12.1	8.06	609													
	23-Sep-05	6.33	8.2	8.23	703													
	25-Oct-05	12.7	3.4	8.18	663													
	25-Jun-06	11	17.1	8.54	705													
	23-Sep-06	4.51	4.7	8.39	701													
	05-Nov-06	5.77	0.8	8.32	703													
	23-Jun-07	0																
	17-Sep-07	0																
	26-Oct-07	0.73	2.3	8.21	672													
Springs																		
SP1-33	07-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	
	04-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
	09-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
	06-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
	09-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

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	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
	14-Jun-04	2.51	4.6	7.57	505	281	73.7	23.2	4.18	1	267	< 5.	20	2	0.42	< .03	0.018	< .005
	17-Sep-04	2.78	5.5	7.94	461	290	76.9	24.2	4.3	1.08	265	< 5.	20	2	< .05	< .03	< .005	< .002
	17-Oct-04	2.9	2.7	8.34	437	287	72.7	22.6	4.49	1.08			23	2	0.19	< .03	0.01	0.004
	19-Jun-05	5.04	4.6	7.63	469	354	75.4	24.6	9.84	1.07	312	< 5.	34	2	< .05	< .03	0.004	0.002
	25-Aug-05	3.29	5.4	7.65	448	312	73.2	22.4	4.76	0.93	315	< 5.	24	2	0.2	< .03	0.009	0.005
	12-Oct-05	2.99	5.3	7.85	444	307	74	23.3	4.82	1.08	306	< 5.	25	2	< .05	< .03	0.003	0.002
	20-Jun-06	3.33	4.4	7.59	483	311	74.5	23.5	4.23	0.98	297	< 5.	26	3	0.09	< .03	0.005	< .002
	21-Sep-06	3	5.2	7.51	494	299	76.07	23.4	5.183	1.14	316	< 5.	28	3	0.05	< .03	0.003	0.003
	21-Oct-06	3.02	5.1	7.35	491	291	77	24.47	5.79	1.24	315	< 5.	28	3	0.08	< .03	0.004	0.002
	17-Jun-07	1.66	4	7.81	499	285	73.53	23.87	4.67	1.05	311	< 10.	30.5	1.83	0.078	< .01	0.002	< .001
	09-Aug-07	1.88	5.1	7.59	514	320	73.38	22.3	4.59	1.05	311	< 10.	32.1	2	0.017	< .01	0.002	0.002
	23-Oct-07	2.6	5.2	7	454	341	82.96	24.72	7.03	1.99	317	< 10.	47.3	2.21	0.131	< .01	0.008	0.002
SP1-47	23-Jul-90	no flow																
	19-Aug-90	no flow																
	26-Sep-90	no flow																
	18-Jun-91	no flow																
	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	
	08-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	
	04-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													
	09-Sep-01	6.38	15.9	8.21	378													
	28-Oct-01	9.02	12.3	8.29	443													
	06-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													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	09-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													
	14-Jun-04	3.7	3.2	7.94	357													
	17-Sep-04	3.9	19.3	8.12	449													
	17-Oct-04	10.3	2.7	8.34	437													
	19-Jun-05	7	16.8	8.25	459													
	25-Aug-05	12	16.1	8.33	447													
	12-Oct-05	11.9	8.3	8.25	443													
	20-Jun-06	7.7	19.1	8.28	463													
	21-Sep-06	16	7.1	8.19	481													
	21-Nov-06	80.7	6.8	7.99	428													
	17-Jun-07	2.88	13.3	8.44	444													
	09-Aug-07	5.86	19.4	8.13	442													
	23-Oct-07	26.5	11.3	7.97	403													
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	
	03-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	
	01-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	
	02-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	
	09-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
	07-Aug-97	dry																
	09-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	
	04-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
	08-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

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	07-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
	14-Jun-04	11.6	3.2	7.94	357	214	47.1	12.1	1.38	7.69	143	< 5.	6	3	0.05	< .03	< .002	< .002
	10-Sep-04	2.22	4.2	8.03	313	203	55.6	15.7	1.6	4.93	163	< 5.	7	4	< .05	< .03	< .002	< .002
	19-Jun-05	27	3	7.92	288	206	47.2	12	1.75	8.24	162	< 5.	5	4	0.18	< .03	0.003	< .002
	26-Aug-05	3.26	3.8	7.89	342	222	50.5	13.9	1.49	5.38	196	< 5.	6	5	< .05	< .03	< .002	< .002
	12-Oct-05	1.73	4.3	7.98	329	225	52.6	15.5	1.83	4.87	194	< 5.	6	4	0.05	< .03	< .002	< .002
	20-Jun-06	9.4	3	8.03	328	231	46.6	12.1	1.33	8.24	166	< 5.	6	5	< .05	< .03	< .002	< .002
	29-Aug-06	2.64	4.1	7.88	374	198	52.8	14.96	1.62	5.36	188	< 5.	7	5	0.12	< .03	0.002	< .002
	12-Oct-06	1.52	4.4	7.86	363	236	53.29	15.18	1.71	5.23	190	< 5.	7	5	< .05	< .03	< .002	< .002
	17-Jun-07	4.55	8.11	349	349	228	52.65	13.87	1.75	5.75	193	< 10.	4.25	3.51	0.602	0.032	0.018	0.001
	13-Sep-07	1.78	7.69	389	389	229	56.48	17.54	2.17	4.35	204	< 10.	5.15	4.08	< .01	< .01	< .001	< .001
	15-Oct-07	0.96	8.07	343	343	242	55.8	16.74	2.13	4.46	201	< 10.	5.51	4.25	0.011	< .01	< .001	< .001
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	
	04-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	
	01-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	
	02-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																
	09-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
	07-Aug-97	3.0	8.3	7.5	349			16.0	5.0	2.0	212	<5	7.0	7.0		<0.1		

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	09-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	
	04-Nov-99	dry																
	22-Jun-00	dry																
	11-Sep-00	dry																
	23-Jun-01	1.47	7	7.05	351													
	08-Sep-01	0.276	9	7.54	437													
	27-Oct-01	0.211	7.4	8.3	372													
	07-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													
	14-Jun-04	1.03	5.5	7.26	361													
	10-Sep-04	0.17	8.5	7.54	324													
	19-Jun-05	1.81	5.4	7.41	392													
	26-Aug-05	0.36	8.1	7.39	366													
	12-Oct-05	0.19	7.1	7.43	347													
	20-Jun-06	1.22	5.8	7.82	413													
	29-Aug-06	0.33	8.4	7.69	378													
	12-Oct-06	0.24	7	7.62	383													
	17-Jun-07	0.71	6.2	7.48	368													
	13-Sep-07	0.13	9.5	7.48	354													
	15-Oct-07	0.19	7.5	7.4	325													
SP1-19	05-Jul-87	<1.	6	8.05	400													
	05-Oct-87	0																
	05-Oct-89	0																
	02-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	
	07-Aug-97	0																
	09-Oct-97	0																
	11-Mar-98	0																
	25-Sep-98	1.5	7			167					175	<5.	2	<1.	0.8	<0.1	<0.1	

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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			8.2	500	330					264	<1.	52	6	0.69	<0.02	<0.01	
	15-Sep-99	0																
	04-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													
	08-Sep-01	1.62	6.46	8.25	453													
	27-Oct-01	1.3	5	7.31	434													
	07-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													
	14-Jun-04	102	4.2	7.68	408													
	10-Sep-04	2.8	7.5	7.81	395													
	19-Jun-05	153	3.9	7.91	346													
	26-Aug-05	6.8	6.4	7.83	423													
	12-Oct-05	3.03	6.2	8.12	412													
	20-Jun-06	105	4.3	7.95	402													
	29-Aug-06	2.45	6.6	7.98	445													
	12-Oct-06	2.97	6.1	7.89	451													
	17-Jun-07	32	4.3	7.85	432													
	13-Sep-07	1.64	7.6	7.89	462													
	15-Oct-07	1.53	6.5	7.85	437													
SP1-22	09-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	
	28-Nov-95	dry																
	07-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	
	09-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	
	04-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													
	08-Sep-01	0.638	7.7	8.21	312													
	27-Oct-01	0.268	7.4	7.24	326													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	07-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													
	14-Jun-04	10.7	4.3	7.94	295													
	10-Sep-04	0.86	7.1	8.02	298													
	19-Jun-05	37	3.8	7.92	221													
	26-Aug-05	1.75	5.9	7.97	316													
	12-Oct-05	0.82	6.2	8.02	301													
	20-Jun-06	9.8	9.8	8.01	298													
	29-Aug-06	1.18	6.7	7.93	334													
	12-Oct-06	0.72	6.1	7.72	335													
	17-Jun-07	4.38	4.7	8.06	311													
	13-Sep-07	0.68	8.2	7.63	348													
	15-Oct-07	0.345	7.5	8.12	316													
SP1-24	07-Aug-97	dry																
	09-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																
	04-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													
	08-Sep-01	0.122	12.7	8.08	395													
	27-Oct-01	0.119	7.6	7.17	399													
	07-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													
	14-Jun-04	1.45	5.3	7.74	415													
	10-Sep-04	0.15	13.4	7.98	395													
	19-Jun-05	3.75	4	7.87	341													
	26-Aug-05	0.255	11.5	7.89	415													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Oct-05	0.17	7.6	7.98	386													
	20-Jun-06	1.08	6.2	7.97	399													
	29-Aug-06	0.13	12.8	7.98	419													
	12-Oct-06	0.19	7.1	7.96	413													
	17-Jun-07	0.46	8.7	8.06	417													
	13-Sep-07	0.21	11.9	7.67	432													
	15-Dec-07	0.24	9.2	7.94	399													
SP1-9	09-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	
	07-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	
	04-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	
	15-Sep-99	dry																
	04-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
	08-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
	07-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
	14-Jun-04	7.41	4	7.64	277	162	39.9	10.8	1.75	0.81	137	< 5.	9	< 1.	0.1	< .03	< .002	< .002
	10-Sep-04	0.73	6.1	7.94	301	167	49.6	14.5	1.97	1.08	167	< 5.	11	1	0.73	< .03	0.003	< .002
	17-Oct-04	0.71	5.9	7.81	330	188	49.4	14.1	2.15	1.12			13	1	1.65	< .03	0.01	0.002
	19-Jun-05	10.6	3.9	7.56	203	168	33.8	9.26	1.77	0.87	137	< 5.	7	< 1.	0.21	< .03	< .002	< .002
	26-Aug-05	1.07	5.6	7.77	296	195	49.8	14.5	2	1.1	195	< 5.	12	< 1.	0.09	< .03	< .002	< .002
	12-Oct-05	0.82	5.7	7.76	299	204	50.1	14.9	2.07	1.13	204	< 5.	12	1	2.81	< .03	0.017	< .002
	20-Jun-06	6.07	4.1	7.84	282	191	40.5	11.2	1.89	0.9	162	< 5.	10	2	0.14	0.08	< .002	< .002
	29-Aug-06	0.77	6.1	7.51	327	187	49.15	14.46	2.02	1.05	195	< 5.	12	2	0.08	< .03	< .002	< .002
	12-Oct-06	0.77	5.7	7.67	325	206	50.09	14.65	2.09	1.06	200	< 5.	12	2	3.07	< .03	0.025	0.008
	17-Jun-07	2.74	4.5	7.87	293	184	43.8	13.04	2.23	1	193	< 10.	9.02	0.93	0.026	0.01	< .001	< .001
	13-Sep-07	0.55	7.1	7.81	328	195	51.39	15.61	2.56	1.12	208	< 10.	11.1	1.2	0.607	< .01	0.007	< .001
	15-Oct-07	0.571	6.4	7.61	281	214	54.75	15.78	2.38	1.21	210	< 10.	12	1.17	0.318	< .01	0.006	< .001

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
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	
	08-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	
	04-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													
	09-Sep-01	1.22	6.9	7.67	481													
	28-Oct-01	1.266	6.9	7.52	516													
	06-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													
	09-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													
	14-Jun-04	23.1	4.9	7.55	514													
	17-Sep-04	0.86	7	7.89	478													
	17-Oct-04	1.7	6.6	7.62	533													
	19-Jun-05	27	4.5	7.67	418													
	25-Aug-05	5.02	5.9	7.48	486													
	12-Oct-05	3.16	6.2	7.73	473													
	20-Jun-06	24	4.7	7.57	485													
	21-Sep-06	3.62	6.4	7.48	497													
	21-Oct-06	3.55	6.1	7.42	502													
	17-Jun-07	17.6	4.7	7.76	502													
	09-Aug-07	3.02	6.6	7.45	523													
	23-Oct-07	2.48	6.9	7.4	462													
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		
	09-Aug-95	dry																
	07-Aug-97	4.0	5.4	7.5	294	160		9.0	2.0	<1	172	<5	8.0	1.0		<0.1		

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	09-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																
	04-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
	08-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
	07-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
	14-Jun-04	6.55	4.1	7.55	291	177	49.6	8.01	1.21	0.64	146	< 5.	3	< 1.	0.15	< .03	< .005	< .002
	10-Sep-04	1.09	5.8	7.77	259	144	50.8	9.5	1.43	0.82	149	< 5.	6	< 1.	0.34	< .03	0.004	< .002
	17-Oct-04	0.64	5	7.74	294	166	49.8	9.01	1.52	0.93			10	< 1.	0.35	< .03	0.005	< .002
	19-Jun-05	8.57	4.2	7.48	262	202	53.8	9.32	1.49	0.64	174	< 5.	3	< 1.	0.52	< .03	0.01	< .002
	26-Aug-05	2.94	5.2	7.71	270	181	50.6	9.06	1.27	0.79	182	< 5.	7	< 1.	1.17	< .03	0.059	< .002
	12-Oct-05	0.86	5.5	7.78	252	187	43.5	9.26	2.38	0.88	168	< 5.	7	< 1.	0.36	0.04	0.012	0.002
	20-Jun-06	8.22	4.3	7.78	297	193	46.5	8.01	1.18	0.69	158	< 5.	5	2	0.15	< .03	< .002	< .002
	29-Aug-06	2.15	5.6	7.36	294	157	50.24	9.39	1.39	0.75	172	< 5.	8	2	0.05	< .03	< .002	< .002
	12-Oct-06	0.88	5.9	7.51	288	165	50.33	9.32	1.55	0.83	180	< 5.	8	2	0.17	< .03	0.004	< .002
	17-Jun-07	4.53	4.5	7.63	293	173	48.88	8.42	1.71	0.72	178	< 10.	3.39	0.79	1.156	0.031	0.031	< .001
	13-Sep-07	0.16	7.7	7.89	290	180	52.53	10.17	1.92	< .5	185	< 10.	6.38	0.88	0.313	< .01	0.005	< .001
	15-Oct-07	0.06	6.5	7.44	257	192	53.49	10.01	1.98	0.92	188	< 10.	6.67	0.88	0.649	< .01	0.012	0.001
SP1-3	09-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	
	07-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	
	09-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	
	04-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													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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	0.16	4	7.48	288													
	23-Jun-01	0.513	2.2	7.75	197													
	08-Sep-01	0.248	4.5	7.82	273													
	27-Oct-01	0.114	5.6	7.31	282													
	07-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													
	14-Jun-04	0.547	5.6	7.83	230													
	10-Sep-04	0.41	5.2	8.07	245													
	17-Oct-04	0.37	3.4	7.93	271													
	19-Jun-05	0.58	6.2	7.8	215													
	26-Aug-05	0.45	7.8	7.99	267													
	12-Oct-05	0.39	3	8.05	236													
	20-Jun-06	0.53	6.7	7.98	293													
	29-Aug-06	0.34	6.4	7.71	270													
	12-Oct-06	0.38	3.5	7.88	293													
	17-Jun-07	0.17	5.2	7.94	291													
	13-Sep-07	0.32	5.9	7.97	292													
	15-Oct-07	0.3	3	7.68	233													
SP-30	18-Jan-90	no flow																
	14-Apr-90	no flow																
	23-Jul-90	no flow																
	09-Oct-90	no flow																
	12-Jan-91	no flow																
	04-Apr-91	no flow																
	21-Jul-91	no flow																
	10-Oct-91	no flow																
	23-Jun-93	dry																
	01-Jul-93	dry																
	25-Oct-93	dry																
	02-Jun-94	dry																
	12-Sep-94	dry																
	10-Mar-95	dry																

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
16-May-95	dry																
10-Aug-95	dry																
28-Nov-95	dry																
16-Aug-96	dry																
24-Oct-96	dry																
07-Aug-97	dry																
09-Oct-97	dry																
15-Sep-99	dry																
04-Nov-99	dry																
13-Sep-00	0.053	13.4	8.16	820													
09-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													
08-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													
05-Dec-03	0.0295	4.3	7.98	772													
31-Mar-04	0.0248	7.8	8.1	808													
18-Jun-04	0.0252	11.1	8.08	857													
20-Sep-04	0.021	11	8.39	694													
06-Nov-04	0.204	7.1	7.93	791													
28-Mar-05	0.029	4.3	8.18	677													
21-Jun-05	0.032	11.4	7.7	829													
23-Aug-05	0.04	11.5	7.92	884													
27-Dec-05	0.069	3.7	7.93	796													
06-Mar-06	0.035	3.7	8.04	804													
27-Jun-06	0.086	12.1	7.78	870													
22-Sep-06	0.056	9.5	7.35	812													
13-Nov-06	0.07	7.2	7.44	804													
15-Mar-07	0.086	6	7.96	849													
18-Jun-07	0.050	11.5	7.8	852													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Sep-07	0.065	12.8	7.87	842													
	05-Dec-07	0.090	6.9	7.65	781													
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																
	01-Jul-93	dry																
	25-Oct-93	dry																
	02-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																
	09-Aug-95	dry																
	28-Nov-95	dry																
	10-Mar-96	dry																
	16-May-96	dry																
	09-Aug-96	dry																
	28-Nov-96	dry																
	07-Aug-97	dry																
	10-Jun-99	dry																
	15-Sep-99	dry																
	04-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
	09-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

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	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
	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
	08-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
	05-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
	31-Mar-04	0.949	7.2	8.07	632	385	63.6	46.6	7.6	1.15	368	< 5.	54	8	< .05	< .03	< .002	< .002
	18-Jun-04	0.84	9.8	7.82	643	370	59.7	44	6.99	1.14	313	< 5.	52	7	< .05	< .03	< .002	< .002
	20-Sep-04	0.599	11.3	8.33	583	364	67.9	49.2	6.89	1.42	305	< 5.	50	6	< .05	< .03	< .002	< .002
	06-Nov-04	0.74	10.7	7.62	618	372	63.5	45.6	7.12	1.32			49	6	< .05	< .03	< .002	< .002
	28-Mar-05	1.00	7.9	7.83	551	406	61.9	45.7	7.59	0.81	361	< 5.	53	8	< .05	< .03	< .002	< .002
	21-Jun-05	0.97	9.4	7.54	626	392	68.8	52.4	8.18	1.31	369	< 5.	57	7	< .05	< .03	< .002	< .002
	23-Sep-05	0.41	11	7.88	673	378	66.7	50.5	7.32	1.28	372	< 5.	53	8	< .05	< .03	< .002	< .002
	27-Dec-05	0.77	6.9	7.97	618	341	64.1	47.6	7.76	1.43	363	< 5.	51	7	< .05	< .03	< .002	< .002
	06-Mar-06	0.96	6.2	7.98	616	371	64.2	49.1	7.79	1.15	355	< 5.	52	8	< .05	< .03	< .002	< .002
	27-Jun-06	0.94	9.6	7.96	690	386	68.6	53.1	7.62	1.26	376	< 5.	56	9	< .05	< .03	< .002	< .002
	22-Sep-06	0.9	10.7	7.79	629	358	65.04	48.46	7.23	1.25	368	< 5.	51	8	< .05	< .03	< .002	< .002
	13-Nov-06	1.00	9.2	7.49	619	371	66.82	49.26	7.84	1.25	378	< 5.	55	8	< .05	< .03	< .002	< .002
	15-Mar-07	0.96	7.1	7.92	652	370	62.12	47.28	7.5	1.62	372	< 10.	51.2	9.47	0.044	< .005	< .005	< .005
	18-Jun-07	0.94	9.1	7.83	637	379	68.18	51.11	8.24	1.35	380	< 10.	48.8	6.33	0.012	< .01	< .001	< .001
	12-Sep-07	0.77	11.8	7.89	624	386	68.74	52.02	8.52	1.39	378	< 10.	51.7	6.95	0.028	< .01	< .001	< .001
	05-Dec-07	0.84	9.8	7.77	595	365	59.95	48.67	7.62	1.26	367	< 10.	53.5	6.75	< .01	< .01	< .001	< .001
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	

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
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	
03-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	
01-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	
09-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
07-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	
04-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
08-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
03-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

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	07-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
	08-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
	06-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
	04-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
	18-Jun-04	41	5.1	7.48	672	443	85.9	39.3	4.37	1.6	282	< 5.	123	3	< .05	< .03	< .002	< .002
	20-Sep-04	21.9	5.2	8.09	539	425	94.3	41.1	4.35	1.64	284	< 5.	107	2	< .05	< .03	< .002	< .002
	06-Nov-04	20.2	5.4	7.62	589	434	87.7	37.3	4.32	1.54			107	2	< .05	< .03	< .002	< .002
	31-May-05	44.9	4.8	7.43	639	499	103	49.3	4.87	1.64	337	< 5.	147	4	< .05	< .03	< .002	< .002
	25-Aug-05	23.6	5.1	7.57	617	446	92.6	41.5	4.71	1.66	354	< 5.	129	3	< .05	< .03	< .002	< .002
	02-Nov-05	18.9	5.2	7.57	651	436	84.9	38.8	5.07	1.58	339	< 5.	122	3	< .05	< .03	< .002	< .002
	25-Jun-06	40.8	5	7.46	726	514	104	48.7	4.71	1.84	347	< 5.	144	4	< .05	< .03	< .002	< .002
	23-Sep-06	30	5.3	7.68	708	478	96.41	44.6	4.25	1.77	344	< 5.	134	3	< .05	< .03	< .002	< .002
	05-Nov-06	27.1	5.3	7.46	714	476	98.35	45.81	4.76	1.68	350	< 5.	135	3	< .05	< .03	< .002	< .002
	18-Jun-07	40.4	5.1	7.4	763	512	103.6	48.77	5.33	2.04	347	< 10.	138	2.82	< .01	< .01	< .001	< .001
	12-Sep-07	30.4	5.4	7.73	751	515	113.6	47.76	< .4	1.84	350	< 10.	154	2.93	< .01	< .01	< .001	< .001
	26-Oct-07	27.1	5.4	7.38	651	516	98.92	42.42	4.92	1.68	347	< 10.	168	2.63	< .01	< .01	< .001	< .001
LB-12	07-Nov-04	0																
	27-Jul-05	0.14	10.5	7.97	1037													
	02-Sep-05	0.10	11	7.92	908													
	17-Oct-05	0.12	8.9	7.88	931													
	24-Jun-06	0.18	9.1	7.84	1118													
	21-Sep-06	0.144	9.5	7.98	975													
	22-Oct-06	0.183	7.8	8.05	1052													
	19-Jun-07	0.083	9.4	7.99	1019													
	15-Sep-07	0.053	11.6	7.91	922													
	24-Oct-07	0.037	8	7.83	844													
LB-5A	27-Jul-05	1.55	8.6	7.57	746	449	64.0	45.0	6.28	1.23	277	<5	106	5	<0.05	<0.03	<0.002	<0.002
	02-Sep-05	1.55	8.7	7.44	740	464	73.8	50.3	7.08	1.47	337	< 5.	119	5	< .05	< .03	< .002	< .002
	17-Oct-05	1.3	8.5	7.68	752	436	89.6	57.3	7.07	1.62	368	< 5.	128	6	0.38	< .03	0.021	< .002
	24-Jun-06	1.51	8.3	7.56	752	489	90.3	55.3	7.55	1.64	386	< 5.	110	7	< .05	< .03	< .002	< .002

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	21-Sep-06	2.22	8.4	7.68	738	497	90.25	52.1	7.56	1.58	378	< 5.	119	6	0.05	< .03	< .002	< .002
	22-Oct-06	1.9	8.3	7.79	732	463	89.48	53.22	7.47	1.6	377	< 5.	120	6	< .05	< .03	< .002	< .002
	19-Jun-07	1.31	8.6	7.68	753	475	95.28	55.01	8.07	1.69	384	< 10.	118	4.83	< .01	< .01	< .001	< .001
	15-Sep-07	1.15	9.3	7.84	753	477	75.8	55.19	8.4	1.6	351	< 10.	122	5.31	< .01	< .01	< .001	< .001
	24-Oct-07	1.15	8.7	7.43	690	485	83.68	50.91	7.42	1.58	361	< 10.	131	5.18	< .01	< .01	< .001	< .001
LB-7	27-Jul-05	1.03	11.4	8.31	876													
	02-Sep-05	1.3	8.8	7.92	512													
	21-Oct-05	1.6	8.7	7.92	611													
	24-Jun-06	1.7	7.2	7.69	549													
	21-Sep-06	2.4	8.6	7.77	535													
	22-Oct-06	2.3	8.5	7.98	539													
	19-Jun-07	1.31	8.3	7.81	558													
	15-Sep-07	1.26	9.2	7.86	544													
	24-Oct-07	1.4	8.9	7.87	501													
LB-7A	27-Jul-05	0.12	9.8	8.39	423													
	02-Sep-05	0.11	9.6	8.43	459													
	21-Oct-05	0.11	11.3	8.25	529													
	24-Jun-06	0.24	9.7	8.54	495													
	21-Sep-06	0.53	9.7	8.43	456													
	22-Oct-06	0.37	10.7	8.31	470													
	19-Jun-07	0.3	12.9	8.72	469													
	15-Sep-07	0.31	10.3	8.83	459													
	24-Oct-07	0.286	9.8	8.47	483													
LB-7B	27-Jul-05	0																
	02-Sep-05	0																
	21-Oct-05	0																
	24-Jun-06	0.05	9.6	8.5	536													
	21-Sep-06	0.05	10.7	7.96	336													
	22-Oct-06	0																
	19-Jun-07	< .05	9.8	8.27	422													
	15-Sep-07	0.004	12.2	8.49	617													
	24-Oct-07	< .1	13.9	7.85	317													
LB-7C	27-Jul-05	0.17	19.8	8.4	391													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
	02-Sep-05	0.21	19.8	8.44	421													
	21-Oct-05	0.32	16.8	8.44	462													
	24-Jun-06	0.35	13.6	8.48	455													
	21-Sep-06	0.49	11.3	8.42	422													
	22-Oct-06	0.492	15.5	8.45	427													
	19-Jun-07	0.38	14.9	8.73	426													
	15-Sep-07	0.37	14.6	8.83	425													
	24-Oct-07	0.355	13	8.42	422													
Little Bear Spring	21-Jun-05	---	8.6	7.61	496	333	68.8	37.6	7.37	1.53	333	< 5.	38	4	< .05	< .03	< .002	< .002
	23-Sep-05	---	8.5	7.68	516	333	65.8	36.1	6.5	1.34	334	< 5.	35	4	< .05	< .03	< .002	< .002
	27-Dec-05	---	8.2	7.58	576	312	65.4	34.9	7.34	1.74	340	< 5.	34	4	< .05	< .03	< .002	< .002
	06-Mar-06	---	8.1	7.53	569	319	68.5	36.6	7.09	1.53	333	< 5.	33	4	< .05	< .03	< .002	< .002
	27-Jun-06	---	8.6	7.56	565	302	68.5	37.5	6.41	1.41	327	< 5.	35	4	< .05	< .03	< .002	< .002
	22-Sep-06	---	8.5	7.37	533	311	65.44	34.26	6.86	1.42	328	< 5.	33	4	< .05	< .03	< .002	< .002
	13-Nov-06	---	8.4	7.67	529	309	67.41	35.77	6.87	1.35	335	< 5.	35	4	0.06	< .03	< .002	< .002
	15-Mar-07	---	8.1	7.89	593	330	63.7	36.35	7.53	1.83	345	< 10.	32.6	4.41	0.014	< .005	< .005	< .005
	18-Jun-07	---	8.8	7.48	566	330	63.68	34.84	7.25	1.52	345	< 10.	35.6	3.88	0.014	< .01	< .001	< .001
	17-Sep-07	---	8.8	7.69	568	335	69.41	38.48	7.28	1.46	341	< 10.	36	3.68	< .01	< .01	< .001	< .001
	26-Dec-07	---	8.4	7.56	499	324	67.15	36.32	6.74	1.52	341	< 10.	41.5	3.04	0.079	< .01	0.003	< .001
SP-18	20-Jun-05	0.17	6.4	8.08	610													
	23-Sep-05	0.16	6.4	8.04	840													
	25-Oct-05	0.16	3.8	8.18	766													
	25-Jun-06	0.051	10.4	8.18	784													
	23-Sep-06	0																
	05-Nov-06	0																
	23-Jun-07	0																
	17-Sep-07	0																
	26-Oct-07	0																
SP-22	20-Jun-05	1.09	7.6	7.84	506													
	23-Sep-05	0.05	9.8	8.35	473													
	25-Oct-05	0.1	4.9	7.87	503													
	25-Jun-06	0.15	11.2	8.04	601													
	23-Sep-06	0.24	5.7	8.05	531													
	05-Nov-06	0.127	2.8	7.89	534													

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-07	< .05	14.9	7.84	571													
	17-Sep-07	0																
	26-Oct-07	0.0598	4.3	7.73	524													
SP-79	27-Jul-05	0.54	9.8	8.05	901	632	75.3	76.0	16.2	5.63	458	<5	20	11	0.24	<0.03	0.033	<0.002
	02-Sep-05	0.38	8.6	8.26	873	661	80.5	76.1	15	5.12	426	< 5.	221	15	0.78	< .03	0.07	< .002
	28-Dec-05	1.05	2	8.19	928	594	78.6	77.1	15.2	4.99	411	5	201	14	2.14	< .03	0.152	< .002
	27-Jun-06	0.78	9.7	8.19	946	641	84.5	85.8	15.6	5.51	422	< 5.	209	15	0.63	< .03	0.055	0.013
	22-Sep-06	1.19	6	8.16	920	642	84.64	81.04	16.17	5.29	423	< 5.	208	14	0.9	< .03	0.077	0.013
	13-Nov-06	1	2.8	7.99	914	653	85.07	82.47	16.31	4.8	408	< 5.	218	15	1.16	< .03	0.074	0.008
	15-Mar-07	1.55	1.7	8.18	919	647	74.45	73.76	15	4.52	373	50	160	18.2	1.823	0.009	0.152	0.006
	19-Jun-07	0.55	9.4	8.3	867	636	81.46	74.49	14.69	5.22	411	< 10.	149	12.1	0.766	0.012	0.074	0.002
	18-Sep-07	0.66	8.5	8.33	893	637	91	84.65	17.28	4.89	406	< 10.	207	12.6	0.862	< .01	0.063	0.005
	05-Dec-07	0.962	2.6	8.3	751	621	73.49	79.84	16.6	4.54	400	< 10.	190	12.6	1.317	< .01	0.091	0.003
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	
	03-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	
	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	
	09-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	
	04-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	
	01-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		
	08-Mar-92	dry																
	02-Jun-92	dry																

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Sep-92	dry																
16-Dec-92	dry																
02-Mar-94	dry																
06-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																
07-Dec-99	dry																
30-Mar-00	dry																
27-Jun-00	dry																
27-Sep-00	dry																
14-Dec-00	dry																
13-Mar-01	dry																
01-May-01	dry																
27-Sep-01	dry																
03-Dec-01	dry																
27-Mar-02	dry																
20-Jun-02	dry																
25-Sep-02	dry																
26-Dec-02	dry																
28-Mar-05	dry																
28-Jun-05	dry																
22-Aug-05	dry																
22-Nov-05	dry																
27-Mar-06	dry																
17-May-06	dry																
15-Aug-06	dry																
21-Nov-06	dry																
15-Mar-07	0																
18-Jun-07	0																
12-Sep-07	Inaccessible; mine closed																

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
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	
	03-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	
	03-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														
	01-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	
	09-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	
	04-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	
	08-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	
	08-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	
	04-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	
	07-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	
	02-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	
	06-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	

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
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
07-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
03-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																
07-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																
01-May-01	0																
27-Sep-01	0																
03-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																
27-Feb-04	0																
17-Jun-04	0																
30-Sep-04	0																
25-Oct-04	0																
28-Mar-05	0																
28-Jun-05	0																
22-Aug-05	0																
22-Nov-05	0																

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-06	0																
	17-May-06	0																
	15-Aug-06	0																
	21-Nov-06	0																
	15-Mar-07	0																
	18-Jun-07	0																
	12-Sep-07	Inaccessible; mine closed																
MW-2	21-Jun-89					614	121.2	67.6	22.4	0.7	368	<1	290.0	10.0		1.9	0.1	
	02-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	
	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	
	09-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	
	04-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	
	08-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	
	02-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	
	04-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	
	07-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	
	02-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	
	06-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	

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-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	
	03-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																
	07-Dec-99	flooded																
	30-Mar-00	flooded																
	27-Jun-00	flooded																
	27-Sep-00	flooded																
	14-Dec-00	flooded																
	13-Mar-01	flooded																
	01-May-01	flooded																
	27-Sep-01	flooded																
	03-Dec-01	flooded																
	27-Mar-02	flooded																
	20-Jun-02	flooded																
	25-Sep-02	flooded																
	26-Dec-02	flooded																
	27-Feb-04	flooded																
	17-Jun-04	flooded																
	30-Sep-04	flooded																
	25-Oct-04	flooded																
	28-Mar-05	flooded																
	28-Jun-05	flooded																
	22-Aug-05	flooded																
	22-Nov-05	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	
	02-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	04-Mar-93	dry																

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-Jun-93	dry																
	16-Sep-93	dry																
	17-Feb-93	dry																
	02-Mar-94	dry																
	06-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																
	08-Dec-92	dry																
	04-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	
	07-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	
	02-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				
	06-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	06-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																
	07-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																

	Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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
MW-8	05-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																
	07-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	05-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	
	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	
	07-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	05-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				
	07-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

Date	flow	T	pH	Cond.	TDS	Ca2+	Mg2+	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-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
01-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
03-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
31-Jan-03	Well area inaccessible																

Table 3 GENWAL UPDES Chemistry and discharge

Genwal Mine Discharge 002 chemistry for report.xls 26 Jun 2008

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)											
Jan-96	yes	101		8.14	624	367	<5				<2
Feb-96	yes	92		8.23	650	361	10	0.3	<0.1		<2
Mar-96	yes	66	12.3	7.46	657	432	<5		0.02		5
Apr-96	yes	69		7.81		370	14	0.5	0.05		7
May-96	yes	66		8.33	633	380	<5		0.03		4
Jun-96	yes	176	14.8	7.62	622	433	<5		0.02		4
Jul-96	yes	397	12.2	7.3		216	<5		<0.1		
Aug-96	yes	342		8.45							
Sep-96	yes	322		7.43	712	439	<5	<0.1	<0.1		<2
Oct-96	yes	269		7.4		422	<5		<0.1		
Nov-96	yes	206		7.6		422	10		2		
Dec-96	yes	333		7.7		457	8		0.2		
Jan-97	yes	396	11.6	7.5	816	460	<5	<0.1	0.2		<2
Feb-97	yes	316	12.1	7.7	808	490	<5	<0.1	0.2		<2
Mar-97	yes	325	12.5	7.8	779	460	<5	<0.1	0.2		<2
Apr-97	yes	254	11.7	7.6	773	470	<5	<0.1	0.3		
May-97	yes	240	12.3	7.4	855	480	<5	<0.1	0.2		<2
Jun-97	yes	238	12.2	6.7	726	490	<5	<0.1	0.2		<2
Jul-97	yes	278	13	6.7	731	470	<5	<0.1	<0.1		
Aug-97	yes	198	12.4	6.75	728	470	<5	<0.1	0.2		
Sep-97	yes	269	13.3	6.8	728	490	<5	<0.1	0.2		<2
Oct-97	yes	378	11.6	7	721	440	<5	<0.1	0.3		
Nov-97	yes	404									
Dec-97	yes	397	11.8	6.6	741	450	<5	<0.1	0.2		
Jan-98	yes	384	13.3	7	740	450	<5	<0.1	0.2		
Feb-98	yes	349	11.7	7.65	762	460	4	<0.1	0.1		
Mar-98	yes	326	10.4	7.05	783	472	<5	<0.1	0.2		
Apr-98	yes	316	12.1	7.7	795	433	4	<0.1	0.2		
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)
Jun-98	yes	615	13.5	7.6	726	477	8	<0.1	0.2		
Jul-98	yes	688	13.4	7.85	666	427	<5	<0.1	<0.1		
Aug-98	yes	637									
Sep-98	yes	665	13.2	7.55	690	467	<5	<0.1	<0.1		<2
Oct-98	yes	689	12.2	7.1	653	449	23	<0.1	0.3		
Nov-98	yes	598	11.6	7.8	646	420	<5	<0.1	<0.1		<2
Dec-98	yes	578	10.9	7.7	660	411	<5	<0.1	<0.1		
Jan-99	yes	569	10.1	7.6	640	400	<5	<0.1	<0.1		<2
Feb-99	yes	607	10.4	7.4	722	445	<5	<0.1	<0.1		
Mar-99	yes	580	11.2	7.6	639	418	<5	<0.1	<0.1		<2
Apr-99	yes	565	11.2	7.7	664	335	<5	<0.1	<0.1	4.1	
May-99	yes	556	9	7.8	667	384	<5	<0.1	<0.1		
Jun-99	yes	622	12.8	7.8	685	397	<5	<0.1	<0.1	7.3	<2
Jul-99	yes	214	14.4	7.42	699	427	<5	<0.1	0.3	4.3	
Aug-99	yes	220	14.3	7.3	721	430	<5	<0.1	<0.1	2.3	
Sep-99	yes	208	11.9	7.4	730	428	<5	<0.1	<0.1		<2
Oct-99	yes	357	12.3	7.8	734	448	<5	<0.1	<0.1		
Nov-99	yes	875	11.4	7.8	692	413	<5	<0.1	<0.1		<2
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)
29-Jan-04	yes	900	9.2	7.9	810	511	< 5.	< .03	< .05	6.8	< 2.
27-Feb-04	yes	900	9	7.5	810	467	< 5.	< .03	0.302	6.5	< 2.
15-Mar-04	yes	900	9.2	7.6	805	518	< 5.	< .03	0.07	7.3	< 2.
29-Apr-04	yes	900	11.2	7.8	755	526	< 5.	< .03	0.08	9.0	< 2.
27-May-04	yes	900	11.1	7.2	757	491	< 5.	< .03	0.2	8.5	< 2.
17-Jun-04	yes	900	13.5	7.3	740	498	< 5.	< .03	0.16	8.7	< 2.
26-Jul-04	yes	900	15.1	7.2	756	517	5	< .03	1.08	9.3	< 2.
31-Aug-04	yes	900	13.9	7.3	751	521	< 5.	< .03	0.1	8.1	3
30-Sep-04	yes	900	12.6	7.3	766	513	< 5.	< .03	0.08	8.2	< 2.
25-Oct-04	yes	900	12.9	7.5	755	1206	12	< .03	0.21	8.1	< 2.
24-Nov-04	yes	900	12.3	7.5	756	508	< 5.	< .03	0.05	8.3	< 2.
21-Dec-04	yes	900	12.9	7.5	751	503	< 5.	< .03	< .05	8.1	< 2.
26-Jan-05	yes	900	12.9	7.5	743	486	< 5.	< .03	0.19	8.3	< 2.
25-Feb-05	yes	900	12.5	7.5	910	538	< 5.	< .03	0.13	7.7	< 2.
28-Mar-05	yes	900	12	7.6	754	555	< 5.	< .03	0.08	7.8	< 2.
25-Apr-05	yes	750	12.4	7.6	775	538	< 5.	< .03	0.06	7.1	< 2.
27-May-05	yes	600	7.7	7.7	741	489	< 5.	< .03	0.1	8.9	< 2.
30-Jun-05	yes	750	13.4	7.8	787	556	< 5.	< .03	< .05	7.6	< 2.
28-Jul-05	yes	900	15.2	7.4	760	525	< 5.	< .03	0.07	8.7	< 2.
22-Aug-05	yes	900	15.5	7.5	940	574	< 5.	< .03	0.14	8.6	< 2.
21-Sep-05	yes	600	13.3	7.7	830	478	10	< .03	0.12	7.8	< 2.
19-Oct-05	yes	900	11.6	7.7	805	478	< 5.	< .03	< .05	8.3	3
22-Nov-05	yes	900	10.8	8.1	720	476	< 5.	< .03	< .05	8.4	< 2.
15-Dec-05	yes	900	10.2	8	530	410	< 5.	< .02	0.08	8.8	< 2.
26-Jan-06	yes	750	10.5	8.2	740	462	7	< .03	0.16	8.3	< 2.
22-Feb-06	yes	900	9.1	8.3	784	559	< 5.	< .03	< .05	7.2	< 2.
27-Mar-06	yes	900	12.2	8.4	760	551	< 5.	< .03	< .05	8.2	< 2.
25-Apr-06	yes	900	12.2	8.3	800	571	< 5.	< .03	< .05	10.8	< 2.
17-May-06	yes	900	13	8.9	800	561	< 5.	< .03	< .05	6.9	< 2.
7-Jun-06	yes	900	15.1	8.25	880	561	< 5.	< .03	< .05	8.04	< 2.
6-Jul-06	yes	700	15	7.74	890	610	< 5.	< .03	0.89	9.3	< 2.
15-Aug-06	yes	700	19.6	8.26	835	561	7	< .005	0.036	7.1	< 5.
6-Sep-06	yes	700	13.5	7.7	938	544	< 4.	< .005	0.023	9.5	< 5.
26-Oct-06	yes	600	11	6.85	926	565	< 4.	< .005	0.01	7.7	< 5.

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)
21-Nov-06	yes	510	11	8.19	957	567	< 4.	0.022	0.022	7	< 5.
5-Dec-06	yes	510	10	8.39	905	579	< 4.	< .005	0.04	8.9	< 5.
08-Jan-07	yes	471	15	8.3	850	606	< 4.	< .005	0.012	8	< 5.
06-Feb-07	yes	608	12.5	6.88	940	578	< 4.	0.015	0.015	7.2	< 5.
07-Mar-07	yes	574	12.5	7.92	960	592	< 4.	< .005	0.033	8.5	< 5.
18-Apr-07	yes	425	13	8.1	960	617	< 4.	0.01	0.013	8	< 5.
01-May-07	yes	642	13	7.9	850	592	< 4.	< .005	< .005	7.2	< 5.
13-Jun-07	yes	509	15.5	8.02	965	564	< 4.	< .01	0.012	6.8	< 5.
16-Jul-07	yes	508	18.9	8.03	950	575	< 4.		< .01	6	< 5.
30-Aug-07	yes	508	17.1	8.09	843	571	< 4.	< .01	0.64	7.88	< 5.
11-Sep-07	yes	508	12.3	7.47	720	594	< 4.	< .01	0.073	8	< 5.
15-Oct-07	yes	0									
15-Nov-07	yes	0									
15-Dec-07	yes	0									

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

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)
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									
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									
5-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									

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)
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									
29-Jan-04	yes	no discharge									
27-Feb-04	yes	no discharge									
15-Mar-04	yes	no discharge									
29-Apr-04	yes	no discharge									
27-May-04	yes	no discharge									
17-Jun-04	yes	no discharge									
26-Jul-04	yes	no discharge									
31-Aug-04	yes	no discharge									
30-Sep-04	yes	no discharge									
25-Oct-04	yes	no discharge									
24-Nov-04	yes	no discharge									
21-Dec-04	yes	no discharge									
26-Jan-05	yes	no discharge									
25-Feb-05	yes	no discharge									
28-Mar-05	yes	no discharge									
25-Apr-05	yes	no discharge									
27-May-05	yes	no discharge									
30-Jun-05	yes	no discharge									
28-Jul-05	yes	no discharge									
22-Aug-05	yes	no discharge									
21-Sep-05	yes	no discharge									
19-Oct-05	yes	no discharge									
22-Nov-05	yes	no discharge									
15-Dec-05	yes	no discharge									
26-Jan-06	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)
22-Feb-06	yes	no discharge									
27-Mar-06	yes	no discharge									
25-Apr-06	yes	no discharge									
17-May-06	yes	no discharge									
7-Jun-06	yes	no discharge									
6-Jul-06	yes	no discharge									
15-Aug-06	yes	no discharge									
6-Sep-06	yes	no discharge									
26-Oct-06	yes	no discharge									
21-Nov-06	yes	no discharge									
5-Dec-06	yes	no discharge									
08-Jan-07	yes	no discharge									
06-Feb-07	yes	no discharge									
07-Mar-07	yes	no discharge									
18-Apr-07	yes	no discharge									
01-May-07	yes	no discharge									
13-Jun-07	yes	no discharge									
16-Jul-07	yes	no discharge									
30-Aug-07	yes	no discharge									
11-Sep-07	yes	no discharge									
15-Oct-07	yes	no discharge									
15-Nov-07	yes	no discharge									
15-Dec-07	yes	no discharge									

Listing of plot pages

East Mountain springs

SP2-24
SP2-9
SP-47A
SP1-3
SP1-19
SP1-22
SP1-9
SP1-24

Upper Joes Valley and Middle Mountain springs

SP1-33
SP1-47
SP2-1

Crandall Canyon springs

SP-30
SP-36
SP-58

Little Bear Canyon springs

Little Bear Spring
LB-5A
LB-7
LB-7A
LB-7B
LB-7C
LB-12

Section 4 Canyon springs

SP-79

Shingle Canyon springs

SP-18
SP-22

Creeks

Indian Creek
Horse Canyon Creek
Blind Canyon Creek
Shingle Canyon Creek
Little Bear Creek
Section 4 Creek
UPF-1
LOF-1
IBC-1
Section 5 Upper Right Fork
Section 5 Upper Left Fork
Section 5 Creek (lower)

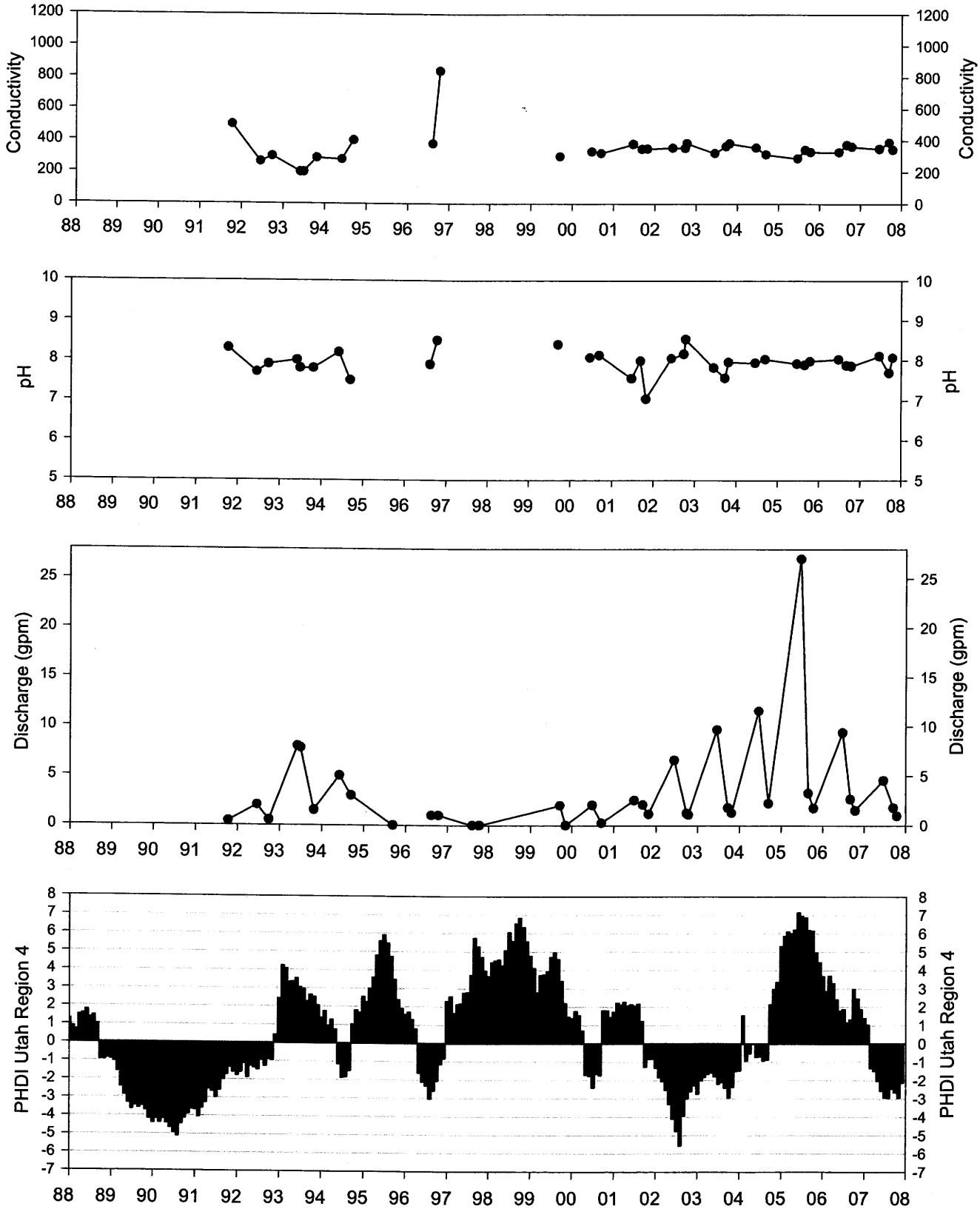
U{PDES sites

UPDES 001
UPDES 002

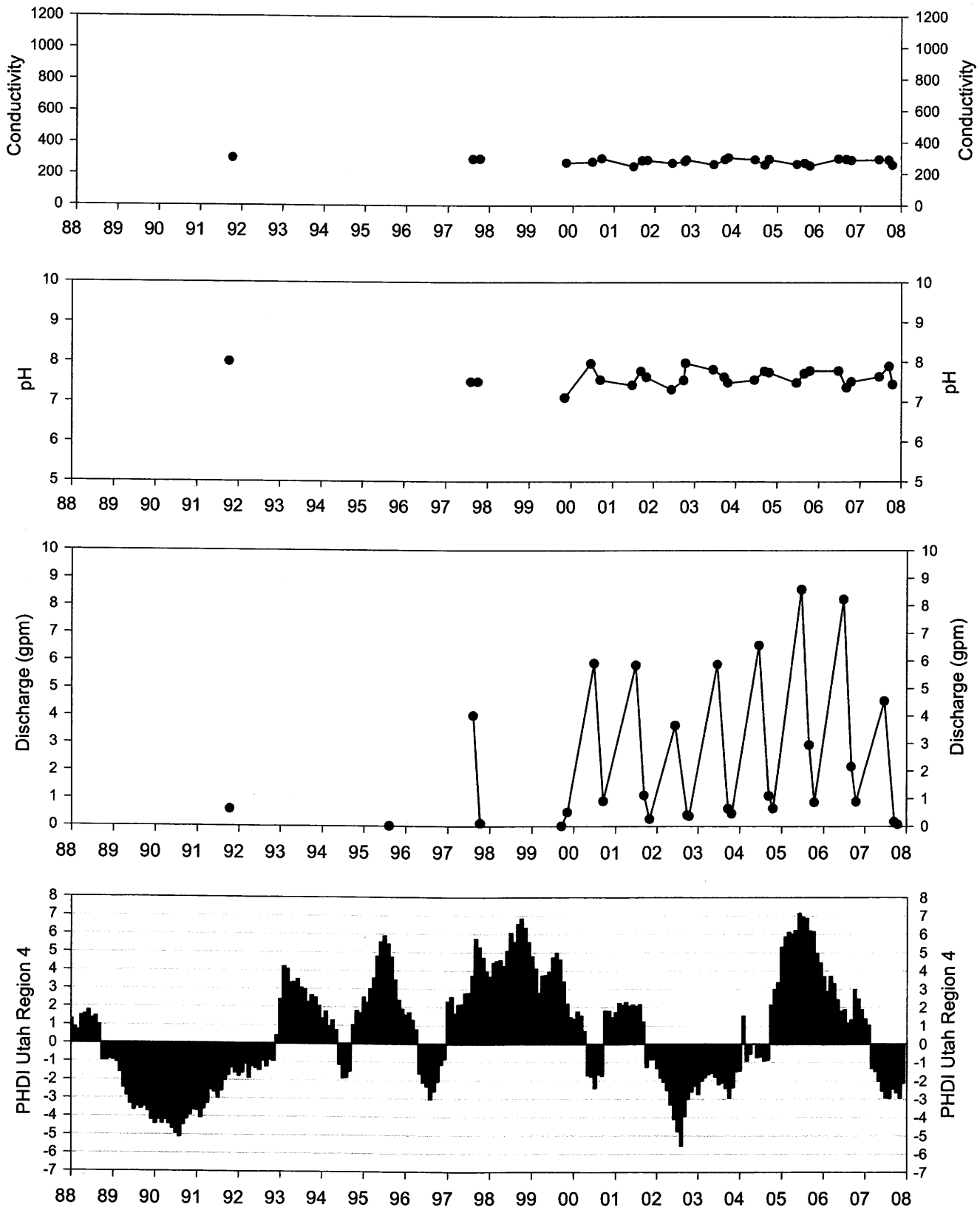
In-Mine monitoring wells

DH-1
MW-1

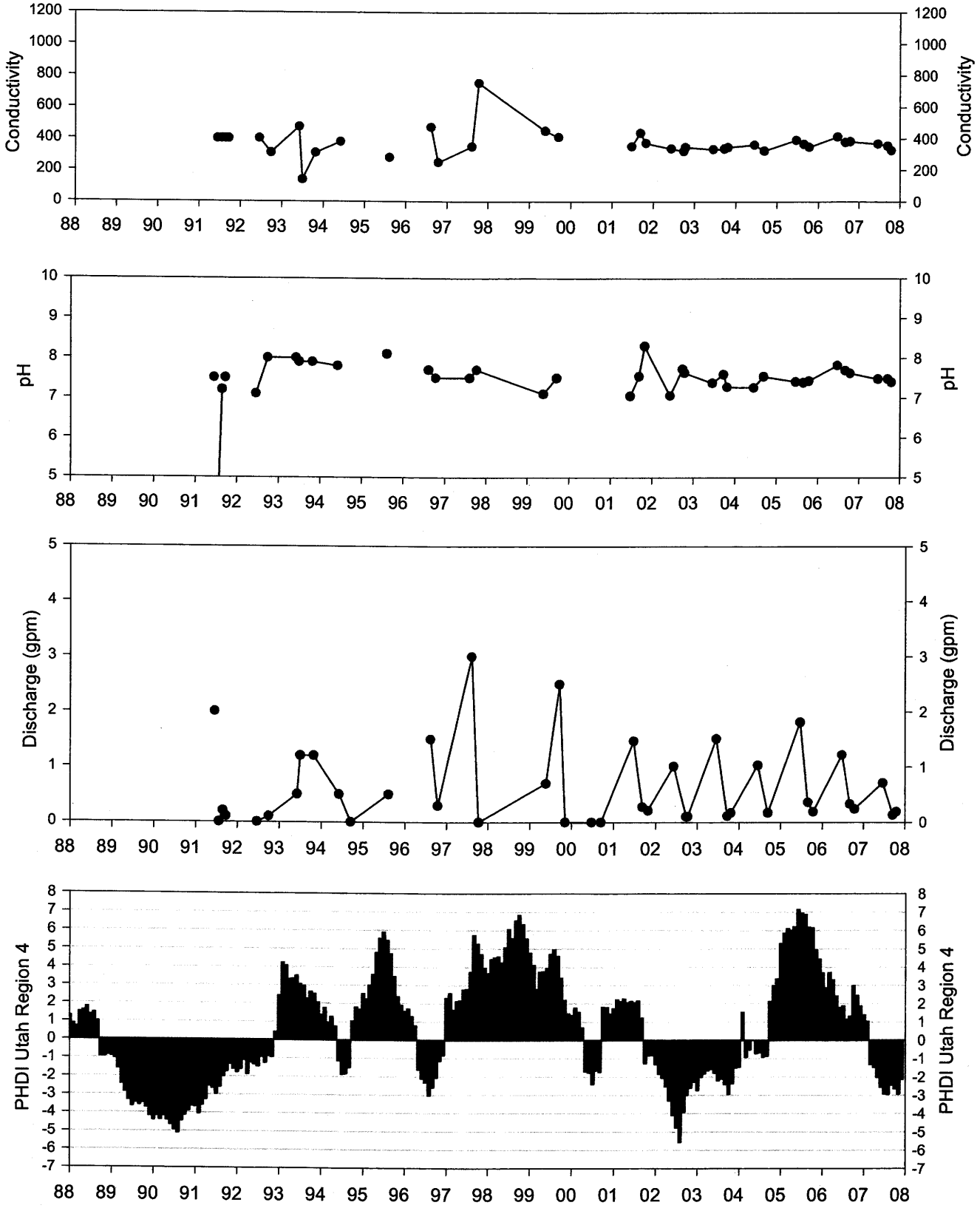
SP2-24


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 05 06 07 08

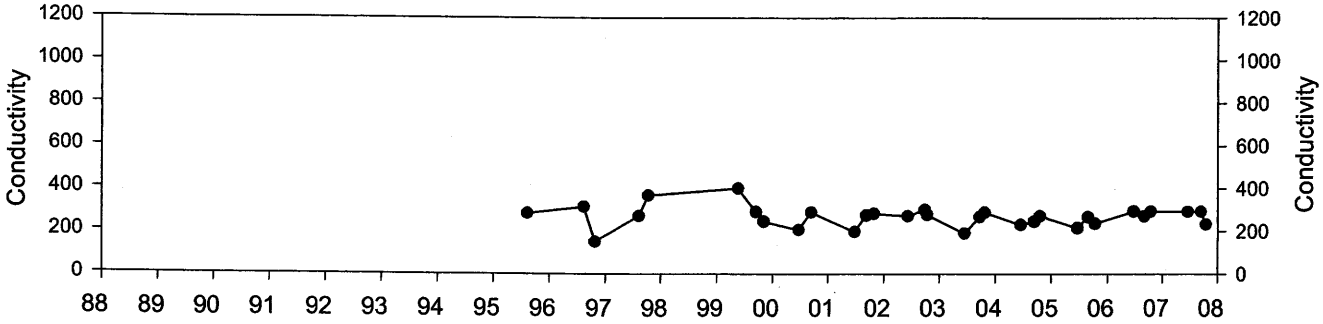
SP2-9

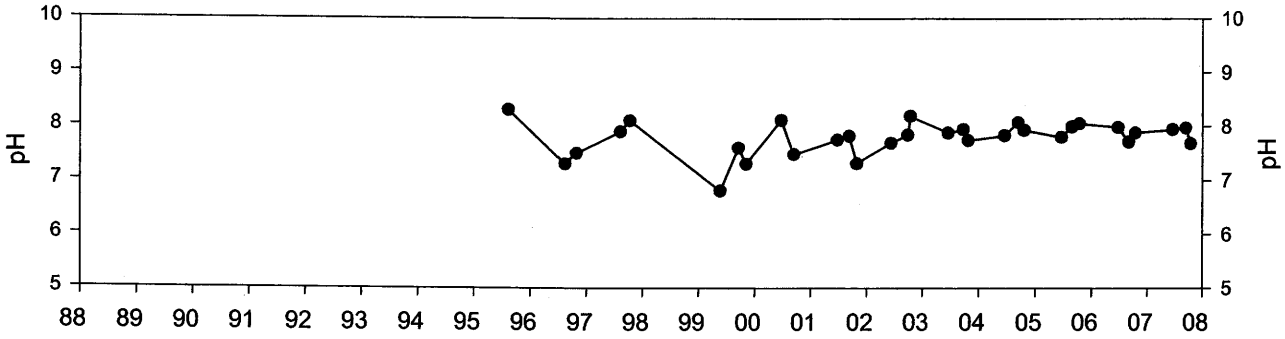

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

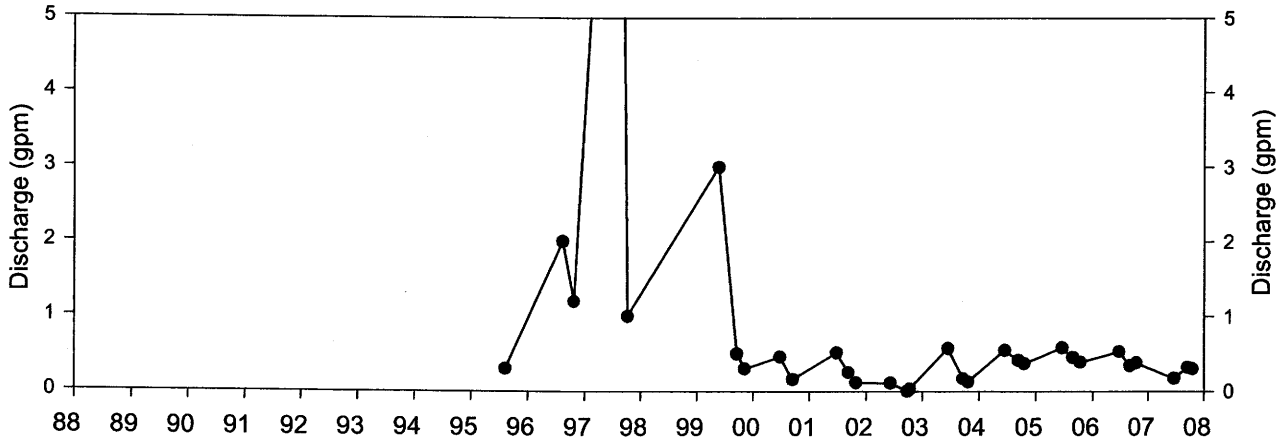
SP-47A

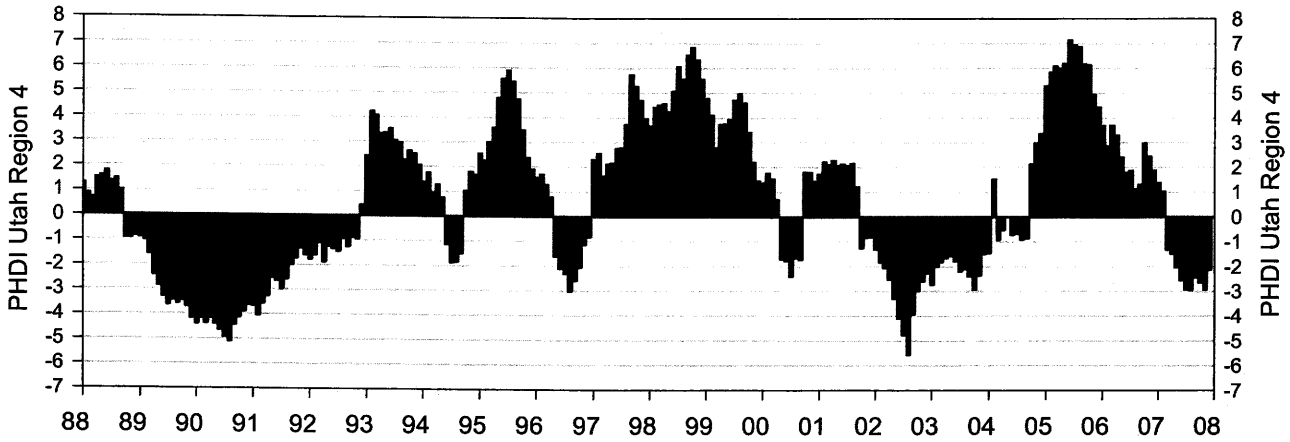

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP1-3

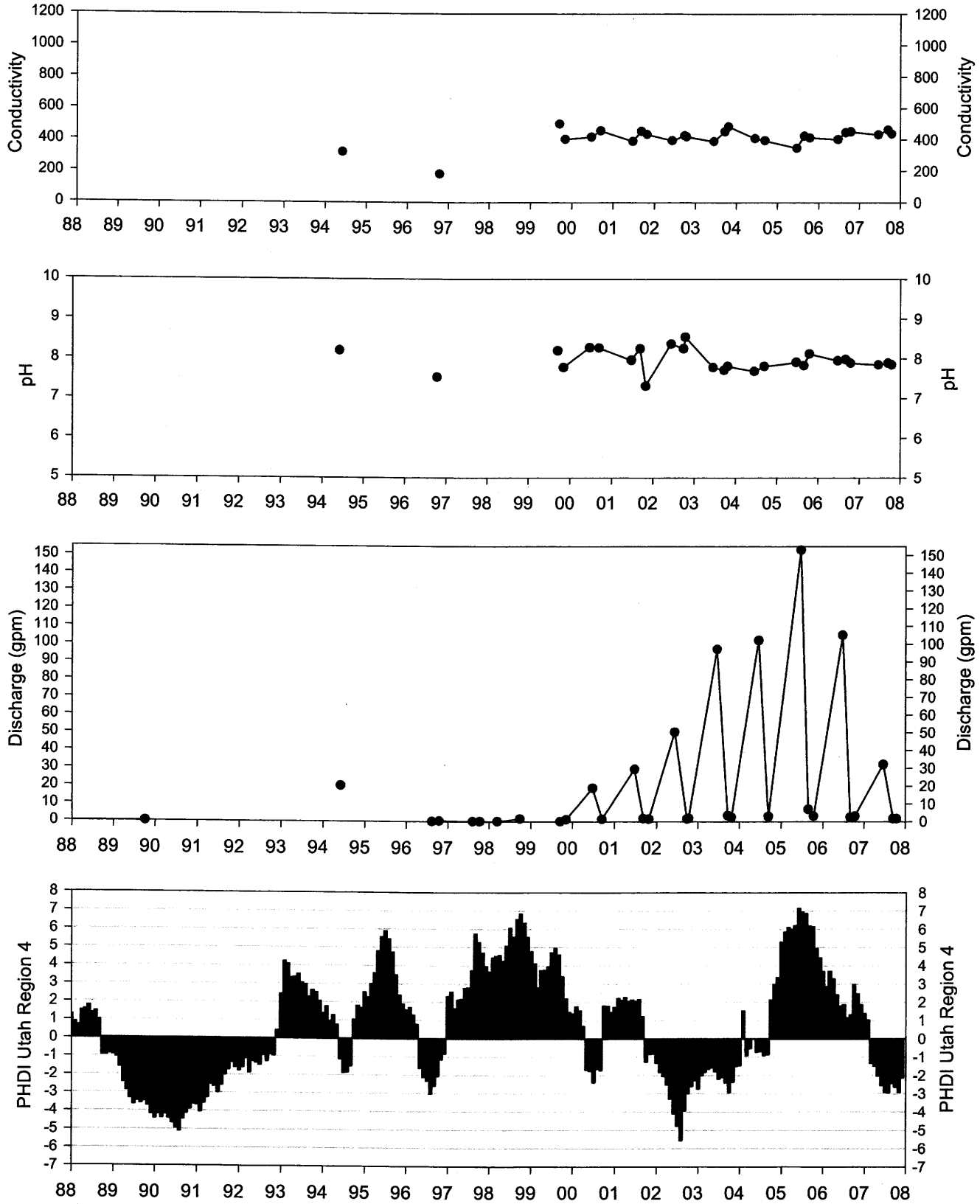

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

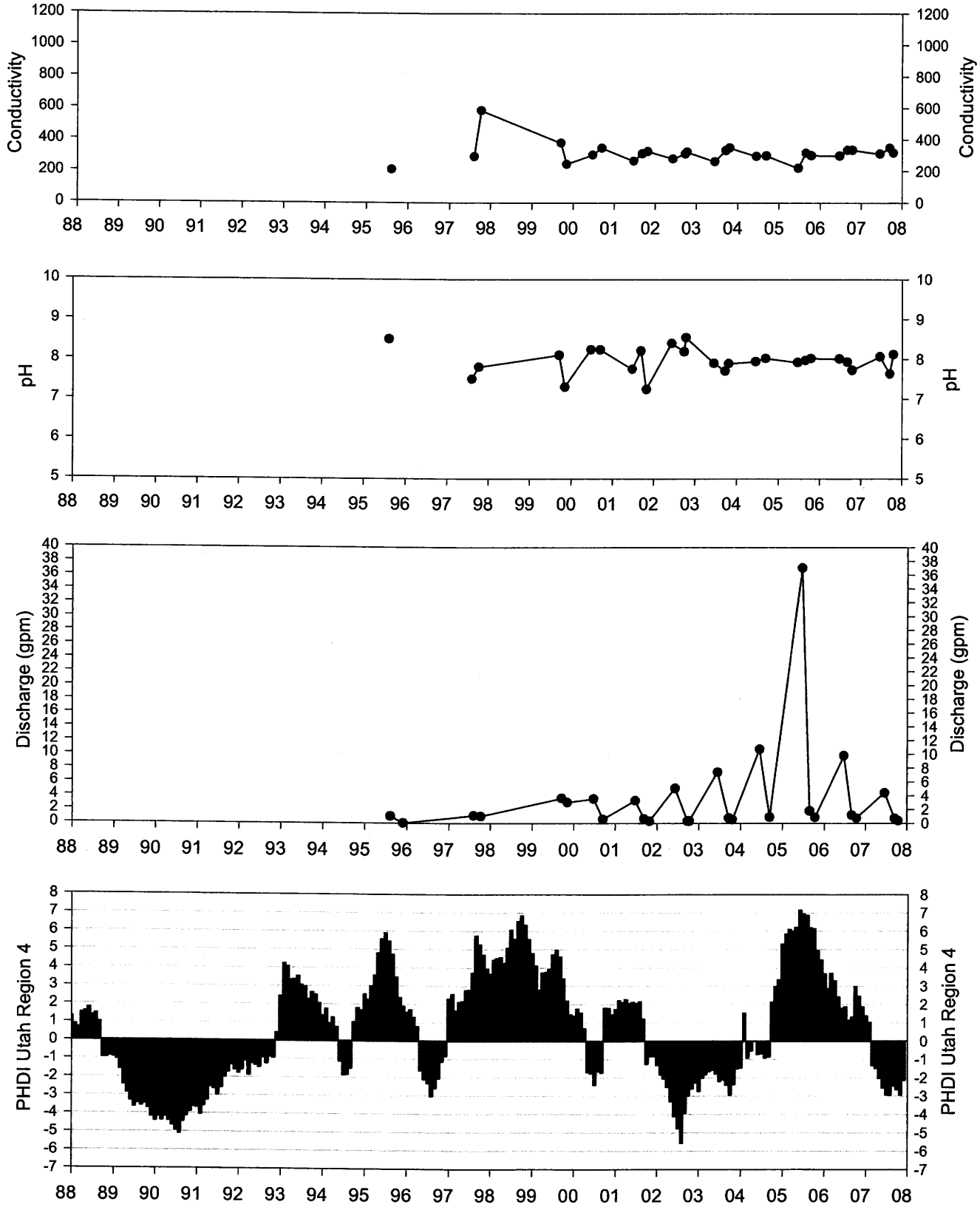

Discharge (gpm)
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


PHDI Utah Region 4
8
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 05 06 07 08

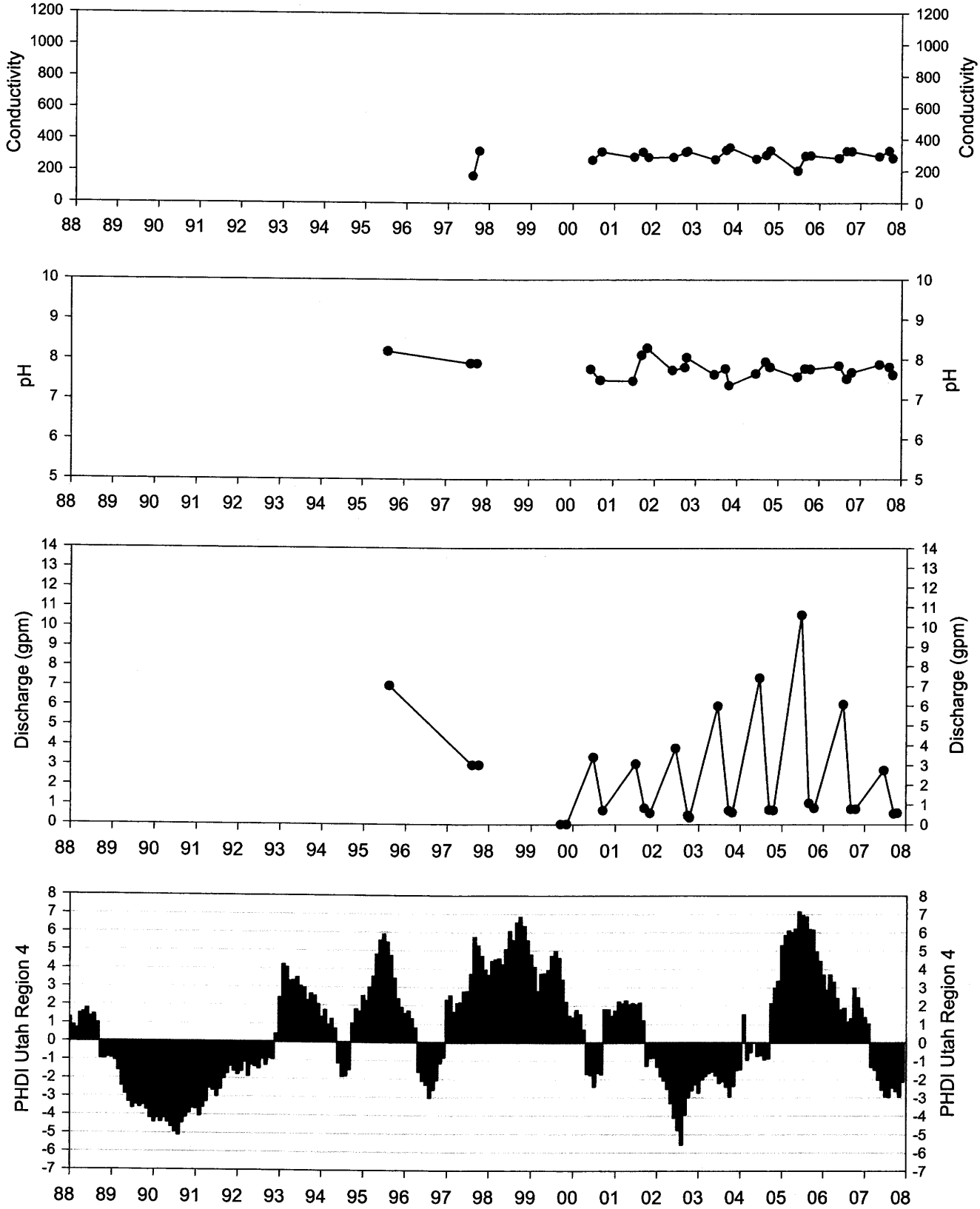
SP1-19


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 05 06 07 08

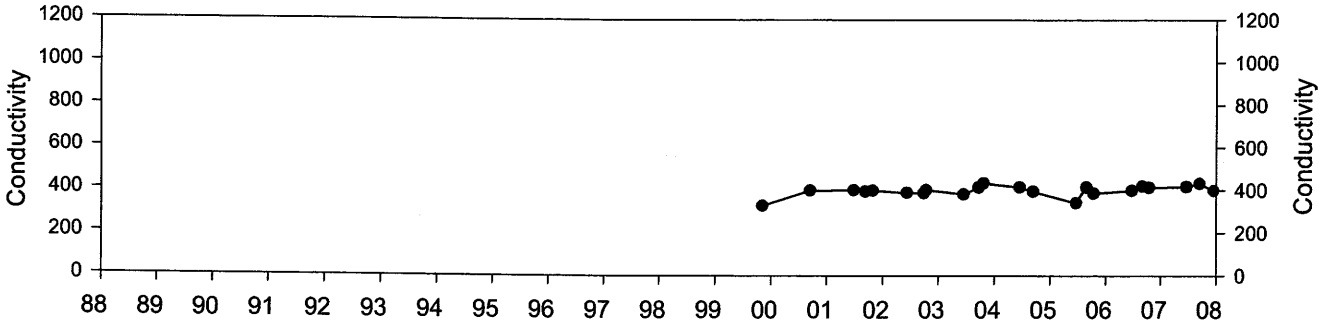
SP1-22

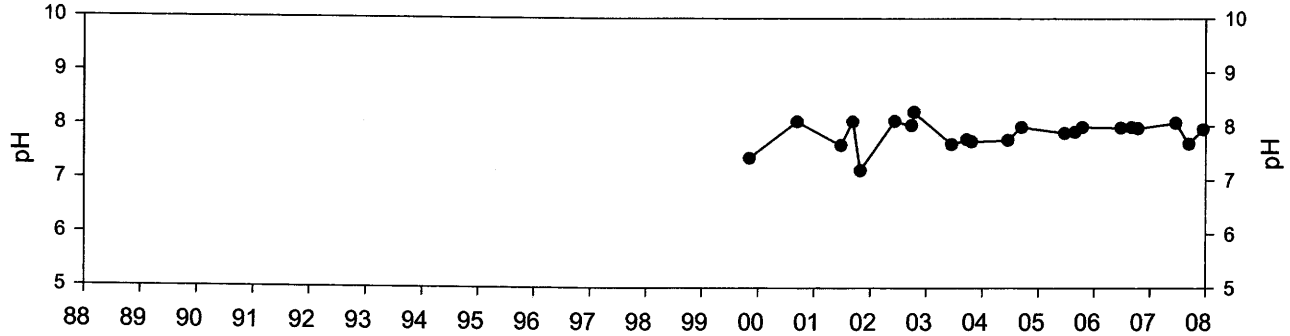

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

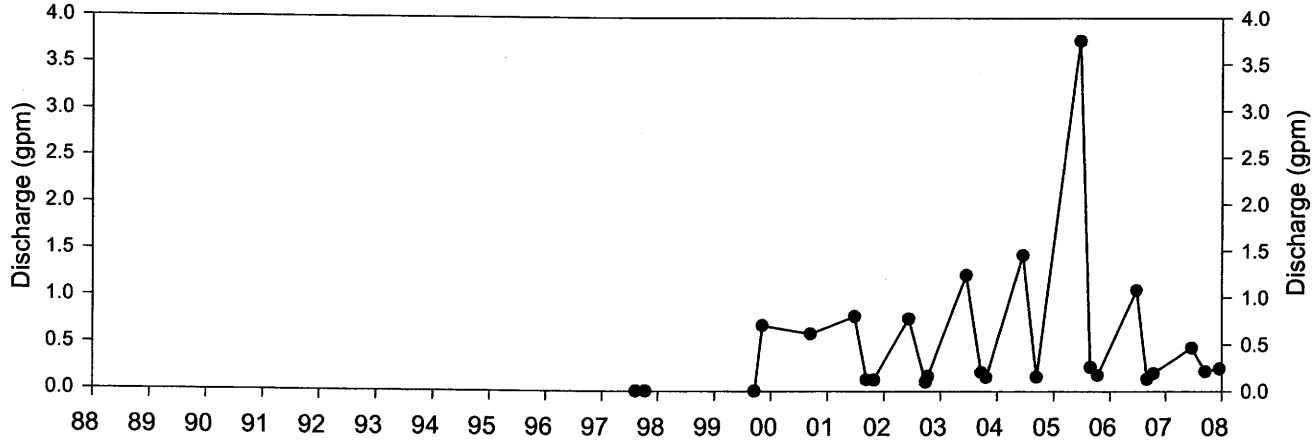
SP1-9

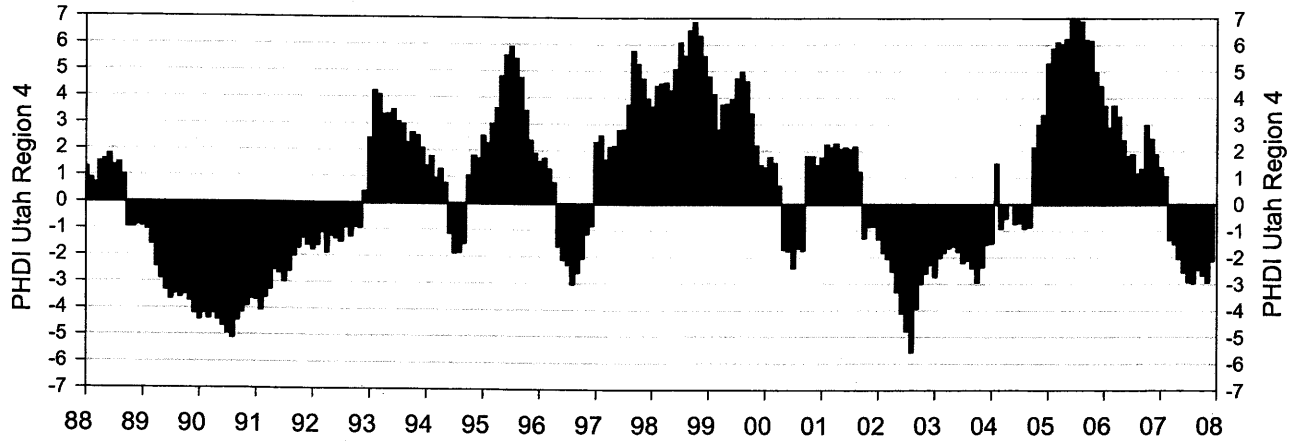

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP1-24

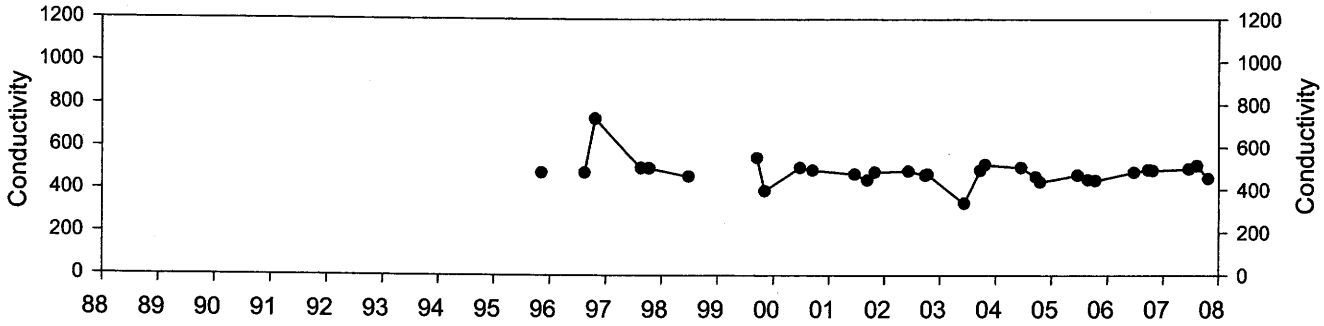

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

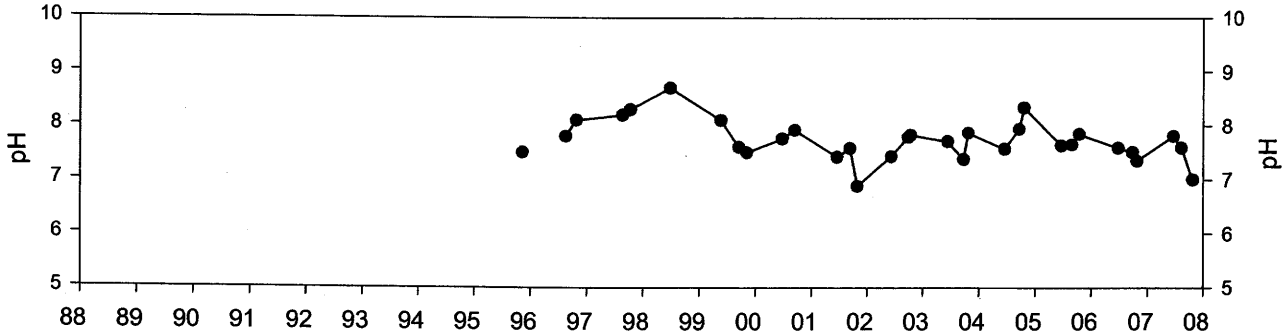

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

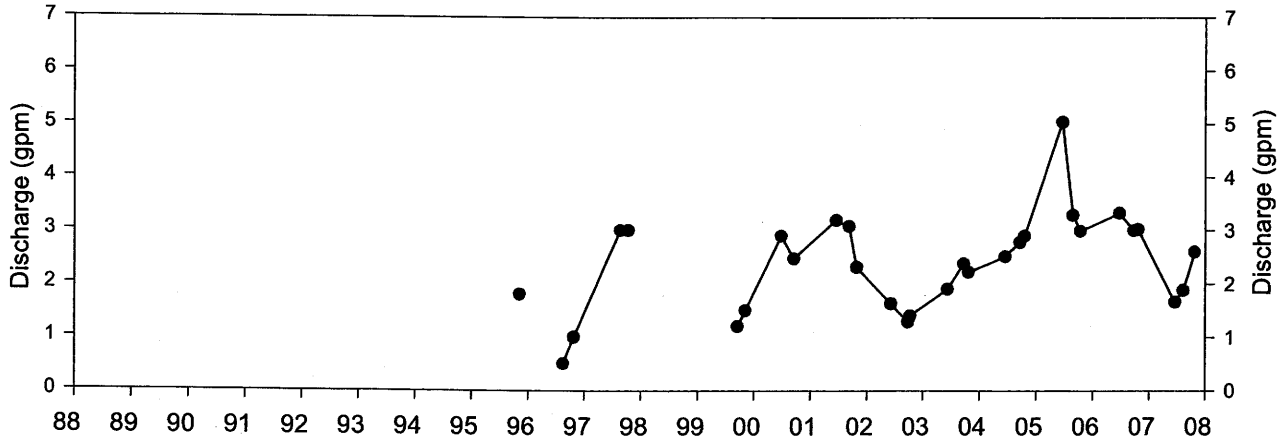

Discharge (gpm)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

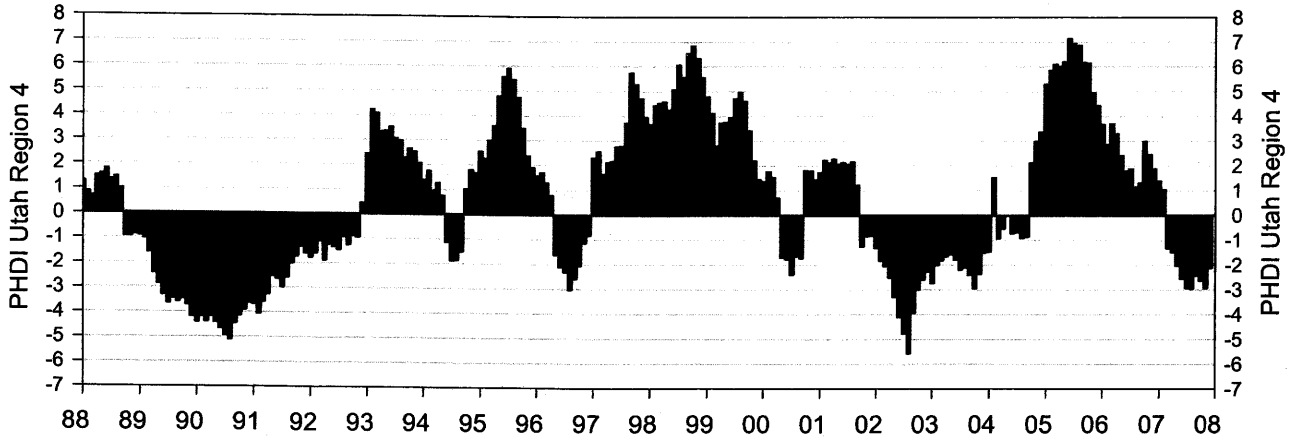

PHDI Utah Region 4
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP1-33

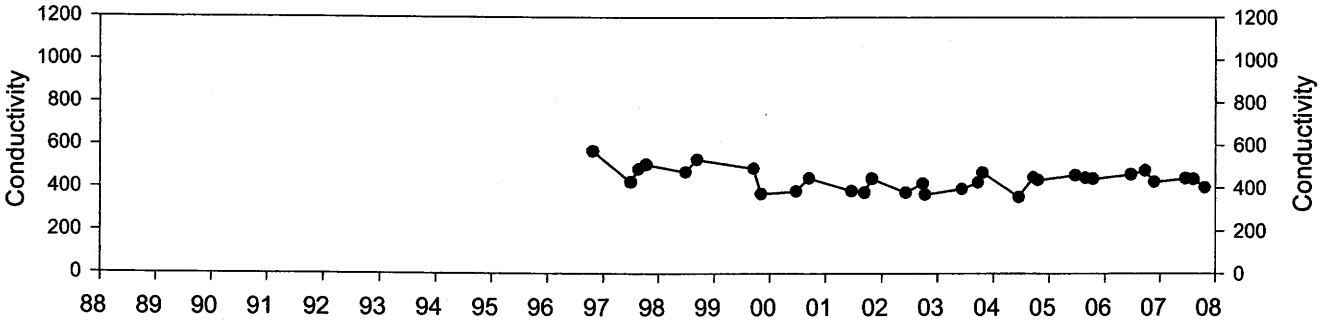

Conductivity
0
200
400
600
800
1000
1200
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

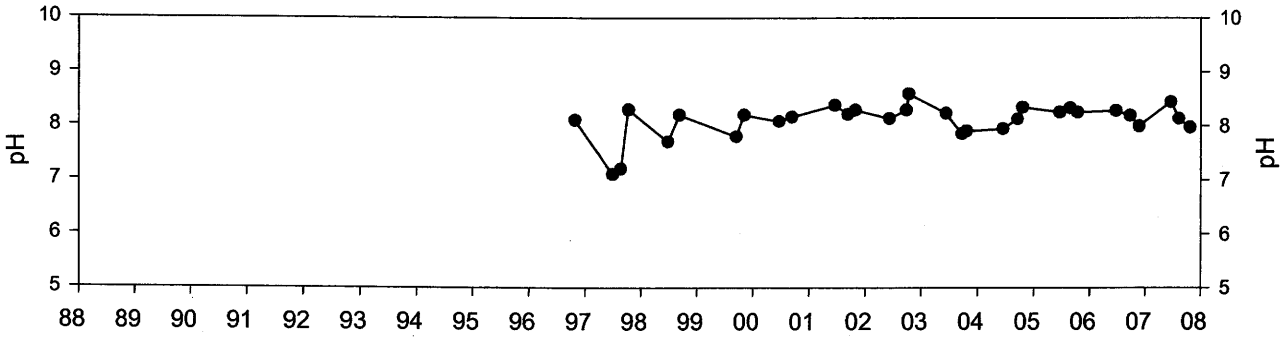

pH
5
6
7
8
9
10
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

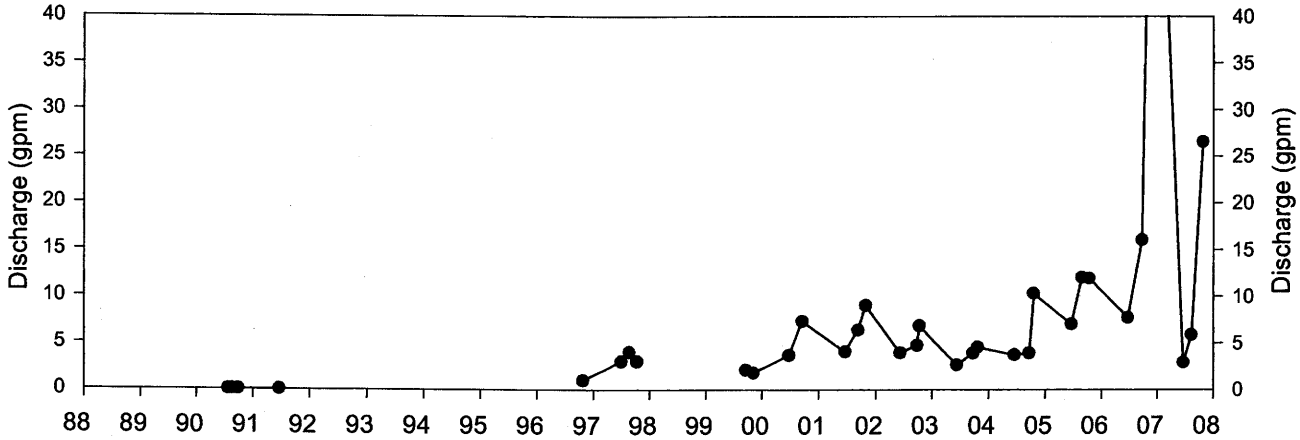

Discharge (gpm)
0
1
2
3
4
5
6
7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

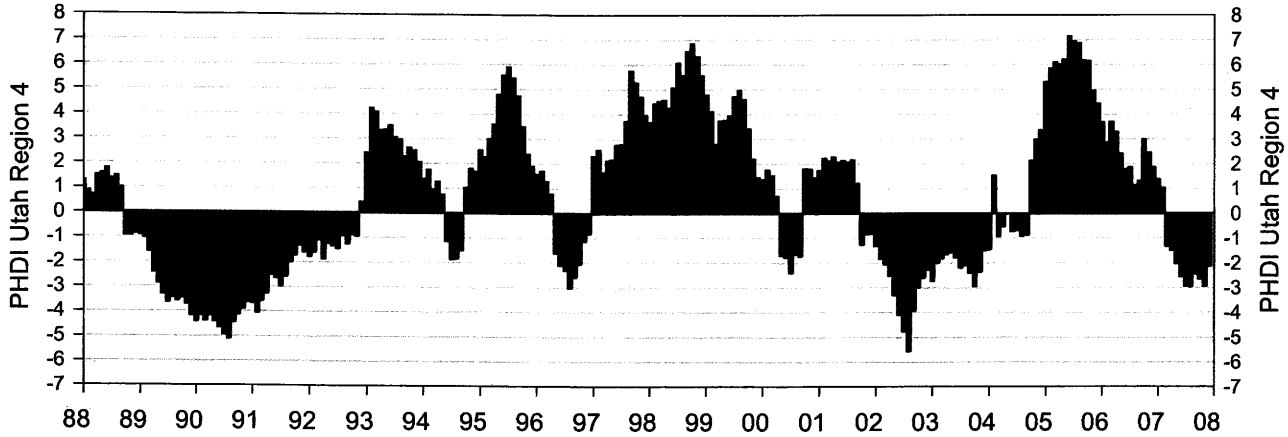

PHDI Utah Region 4
-7
-6
-5
-4
-3
-2
-1
0
1
2
3
4
5
6
7
8
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP1-47

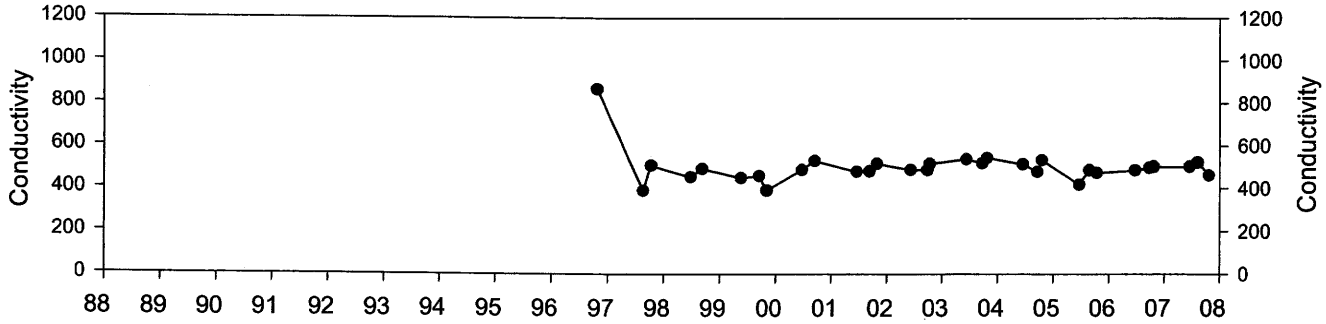

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

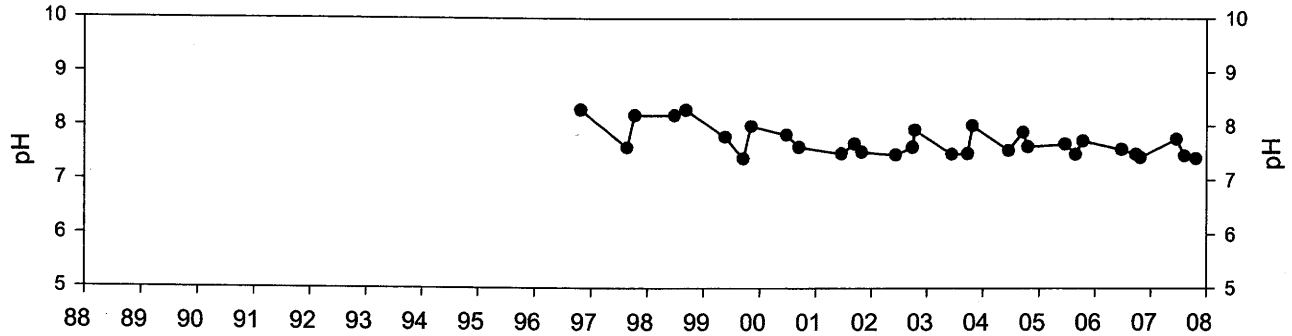

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

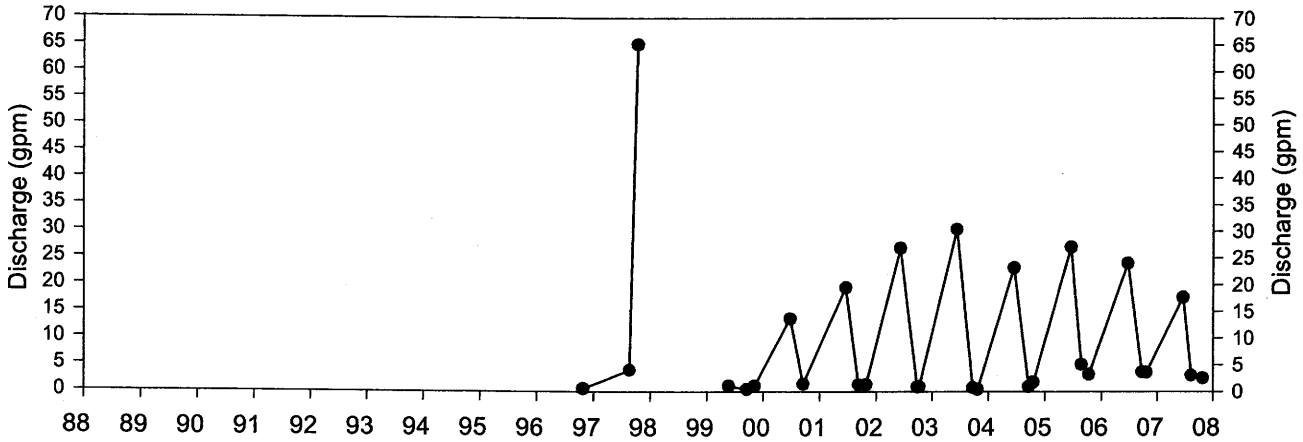

Discharge (gpm)
40
35
30
25
20
15
10
5
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

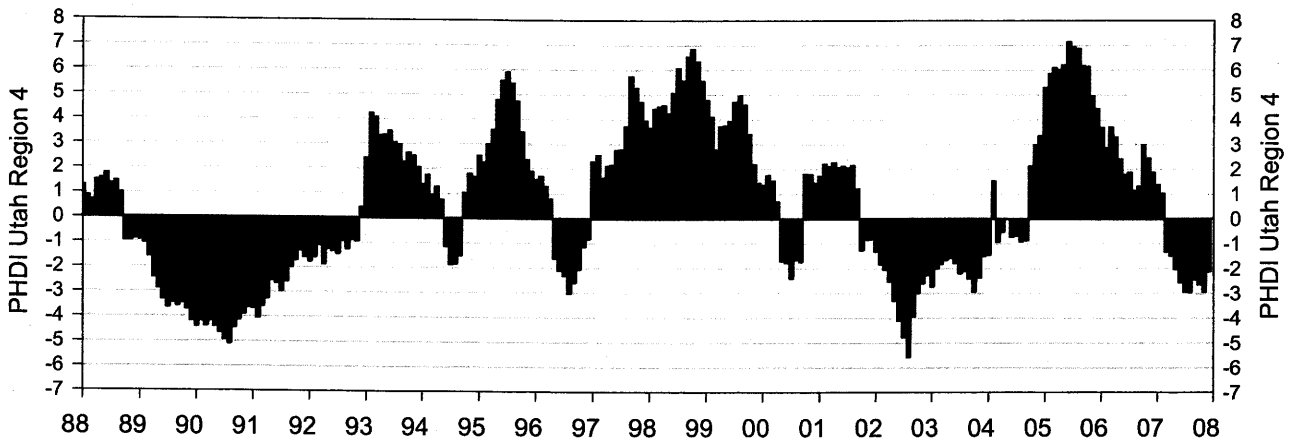

PHDI Utah Region 4
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP2-1

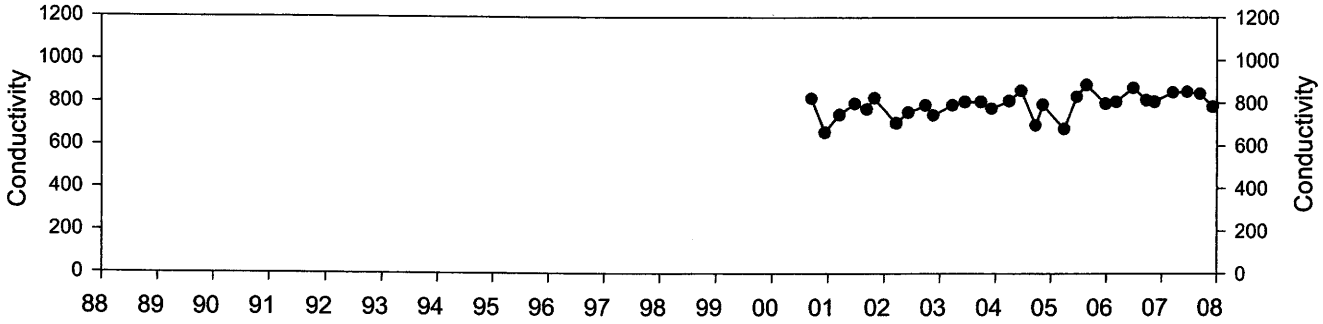

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

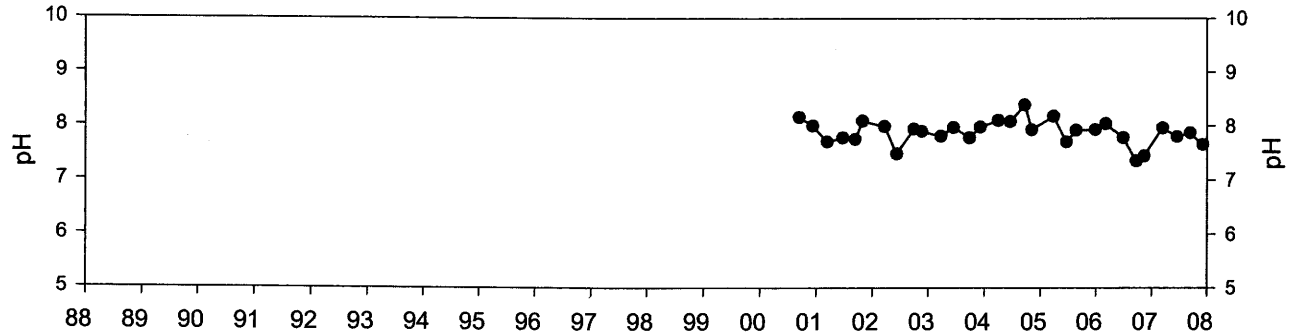

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

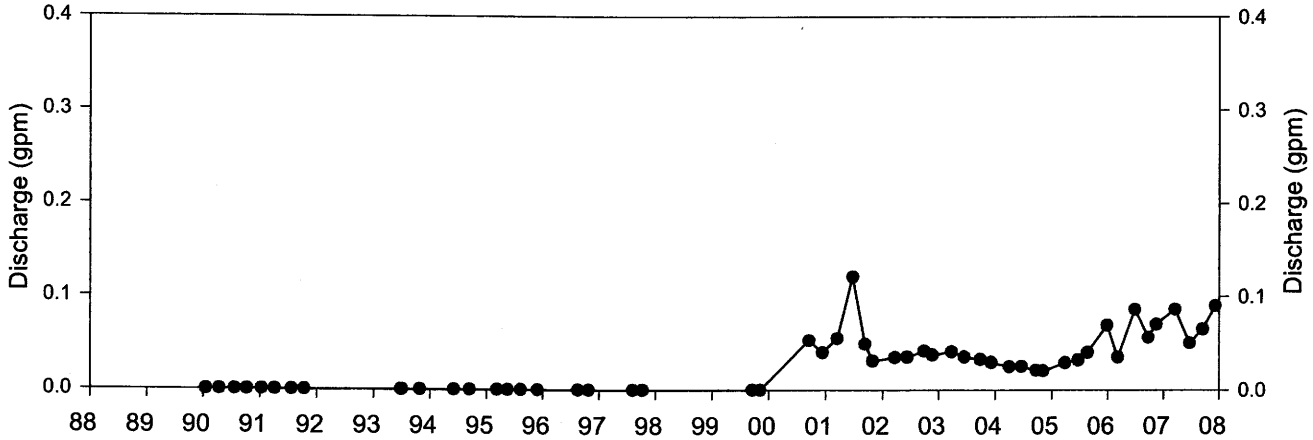

Discharge (gpm)
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

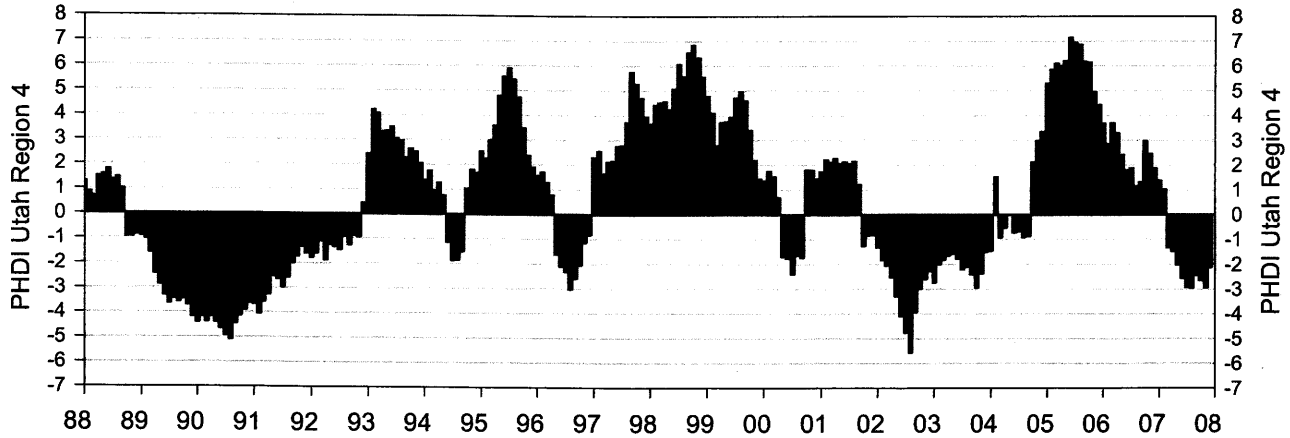

PHDI Utah Region 4
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP-30

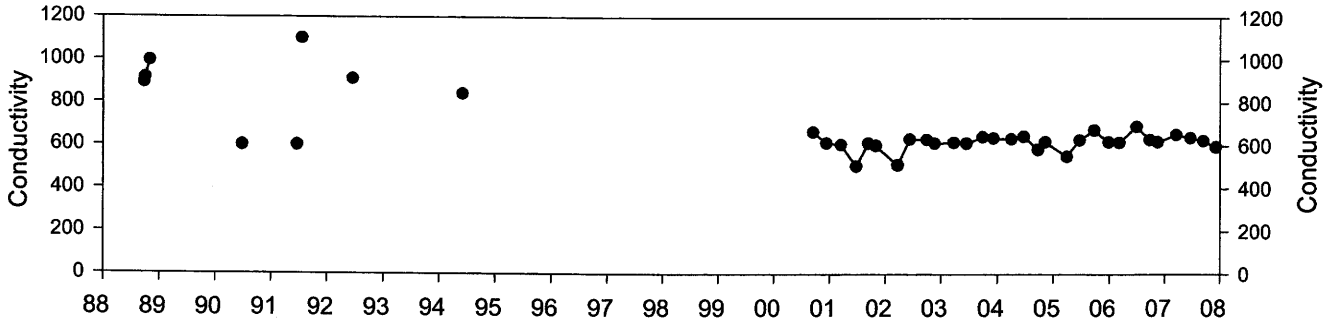

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

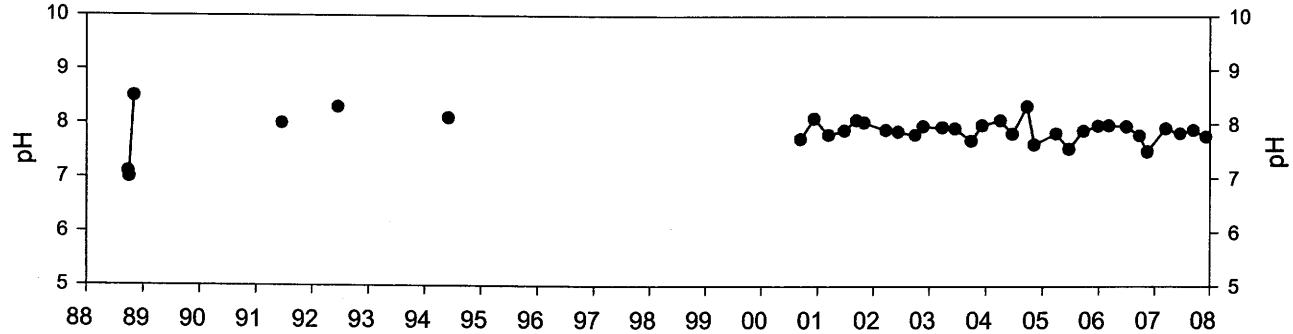

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

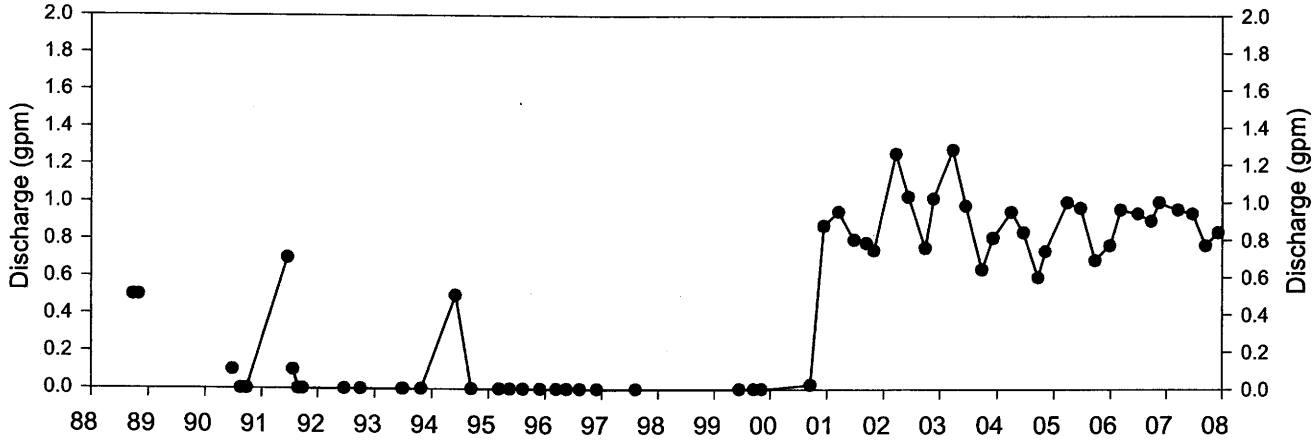

Discharge (gpm)
0.4
0.3
0.2
0.1
0.0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

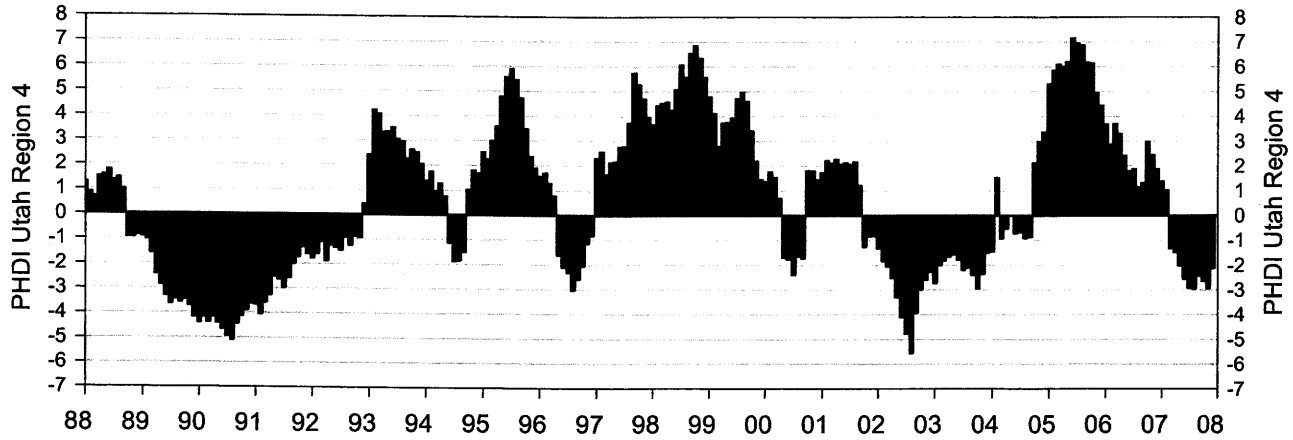

PHDI Utah Region 4
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

SP-36

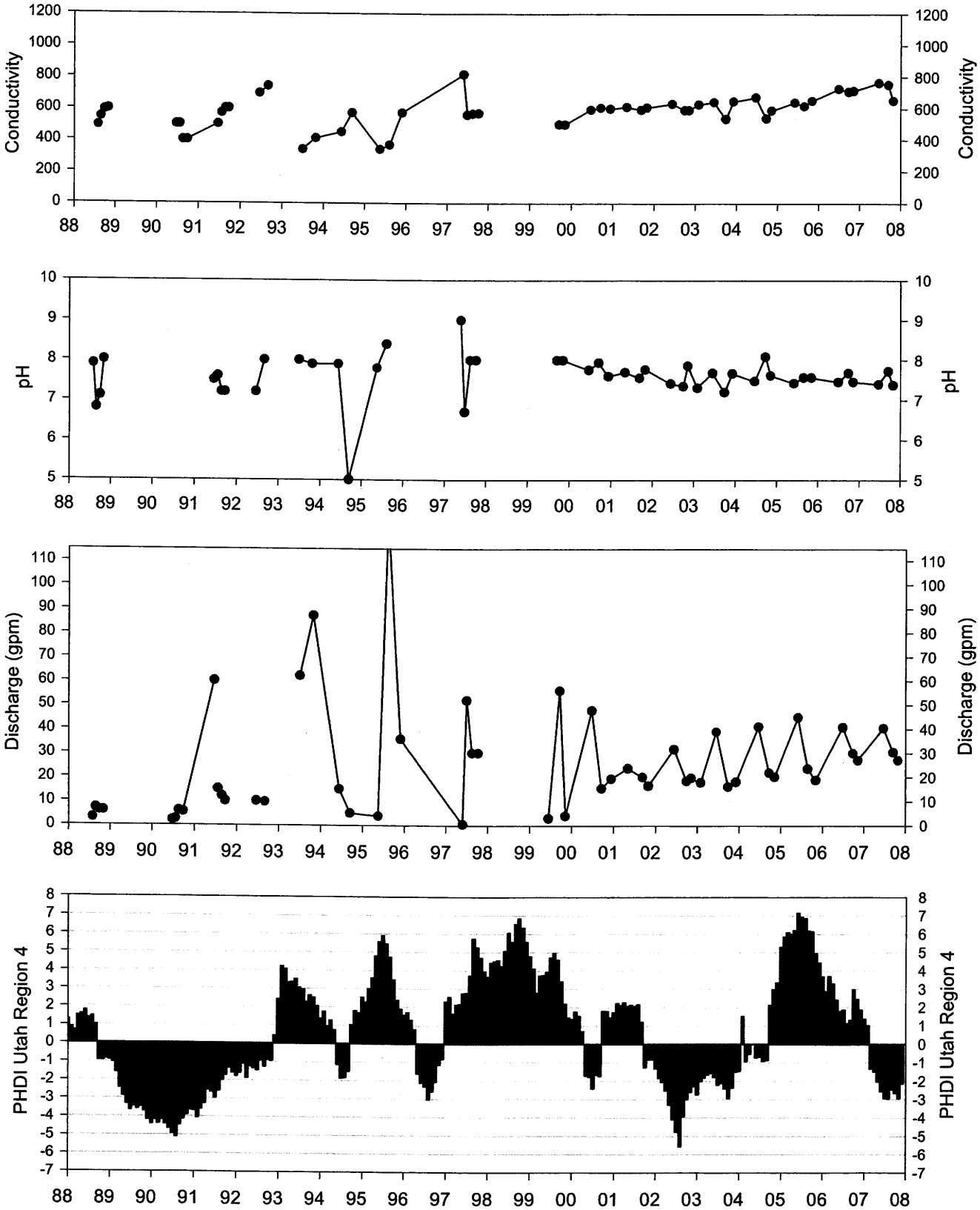

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

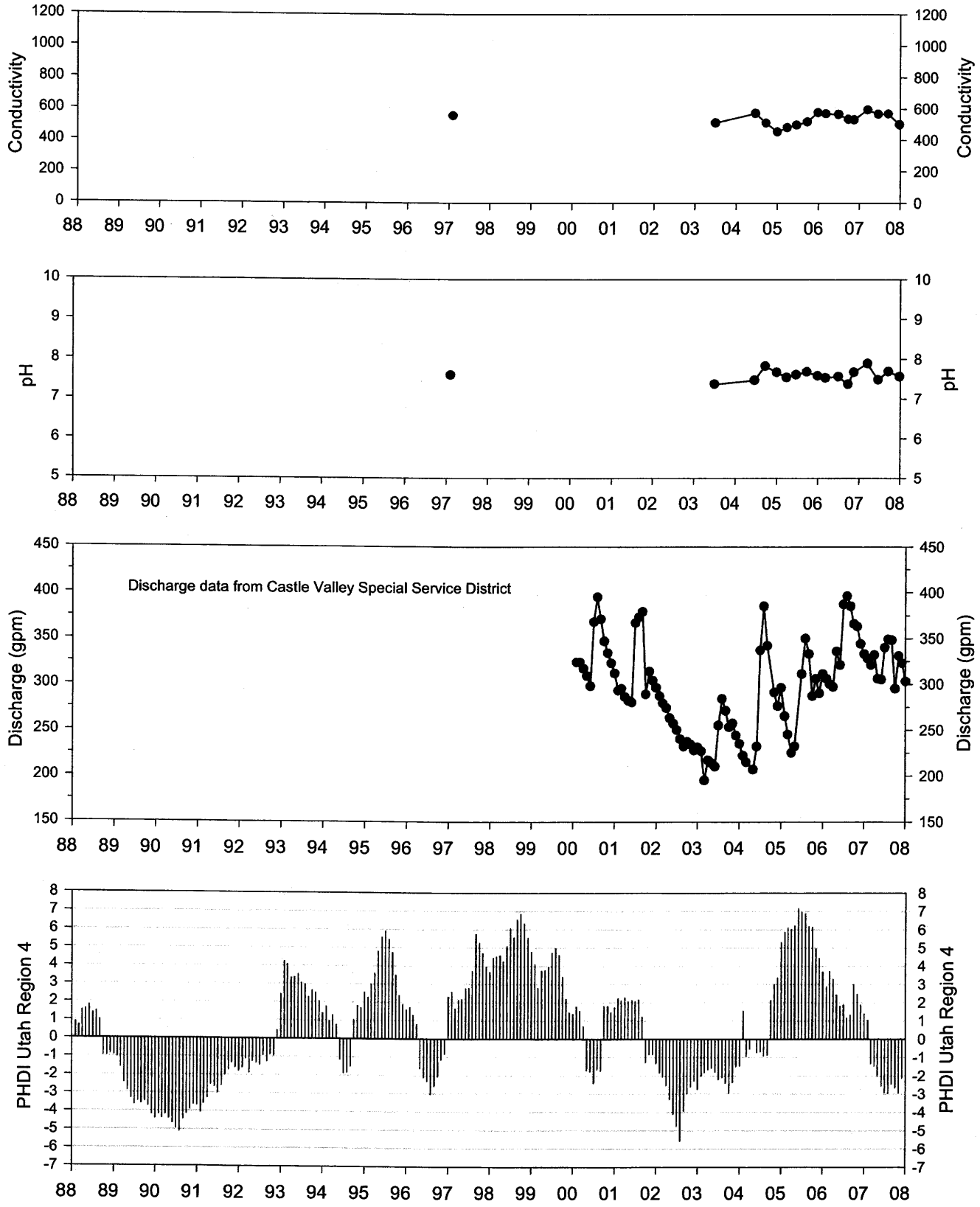

Discharge (gpm)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


PHDI Utah Region 4
8
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 05 06 07 08

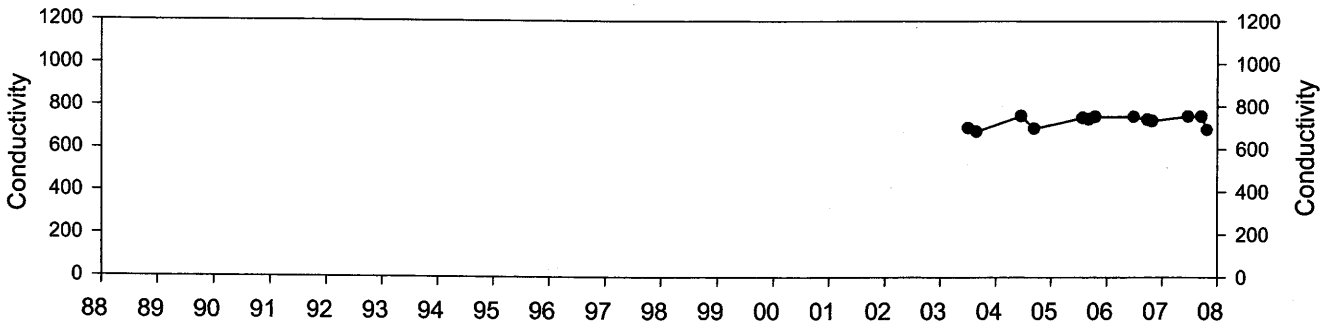
SP-58

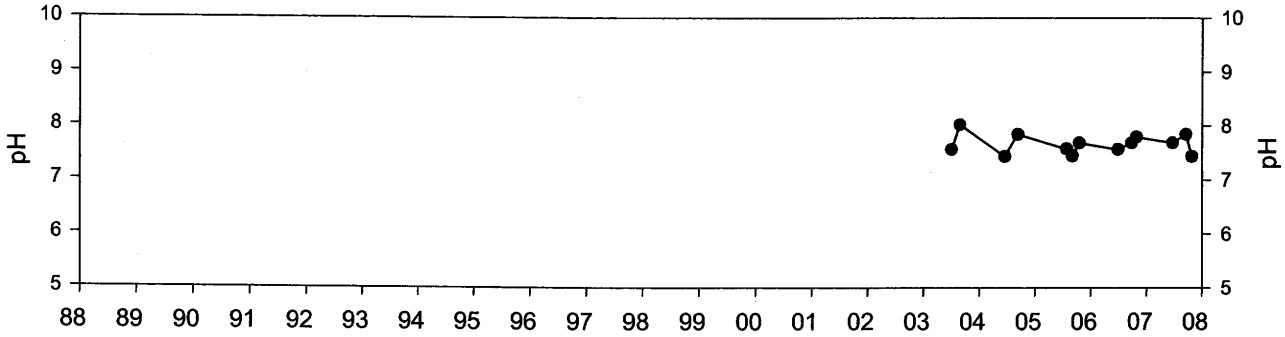

Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

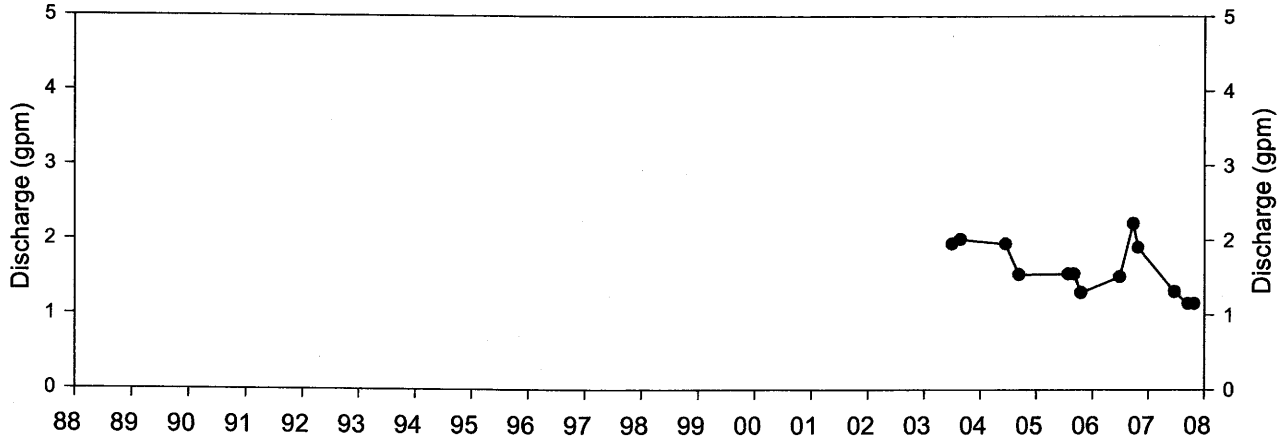
Little Bear Spring

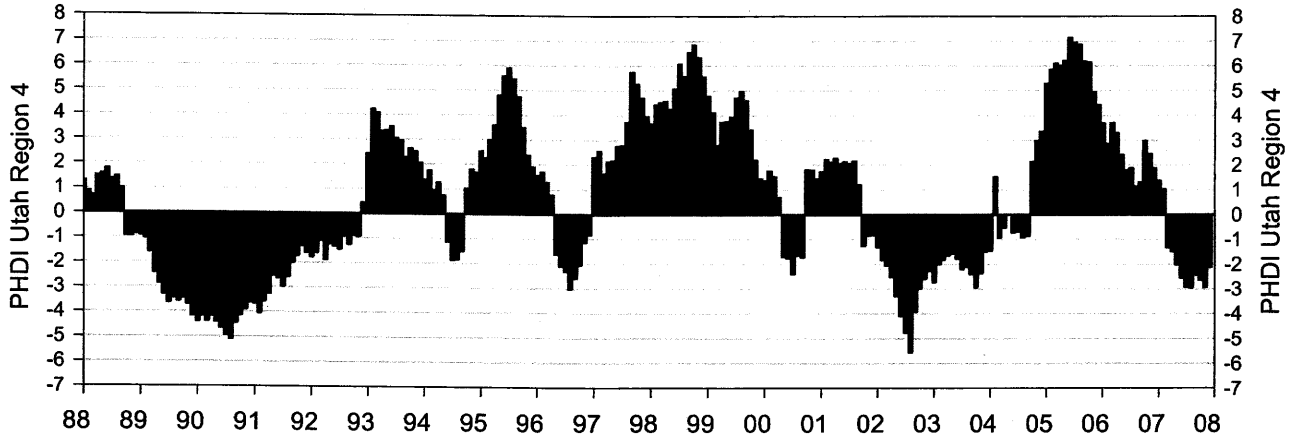


LB-5A

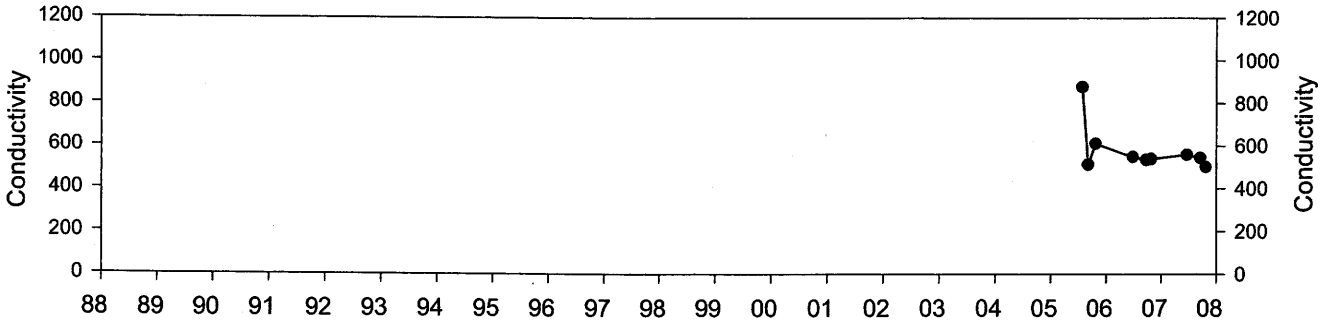

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

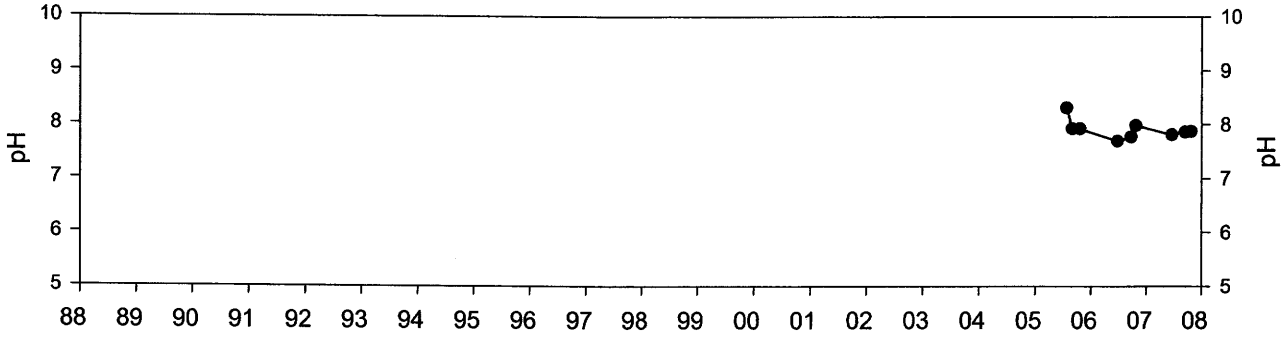

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

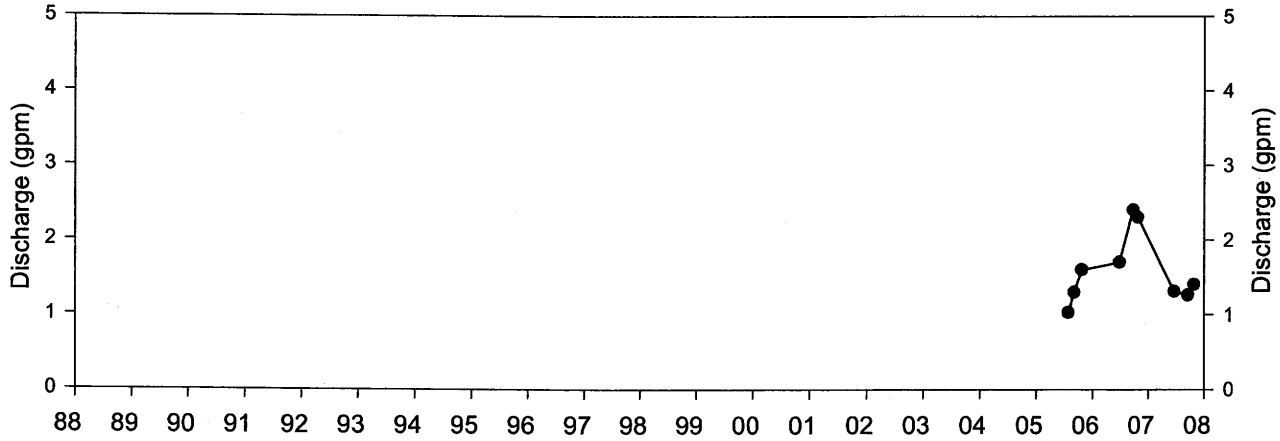

Discharge (gpm)
5
4
3
2
1
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

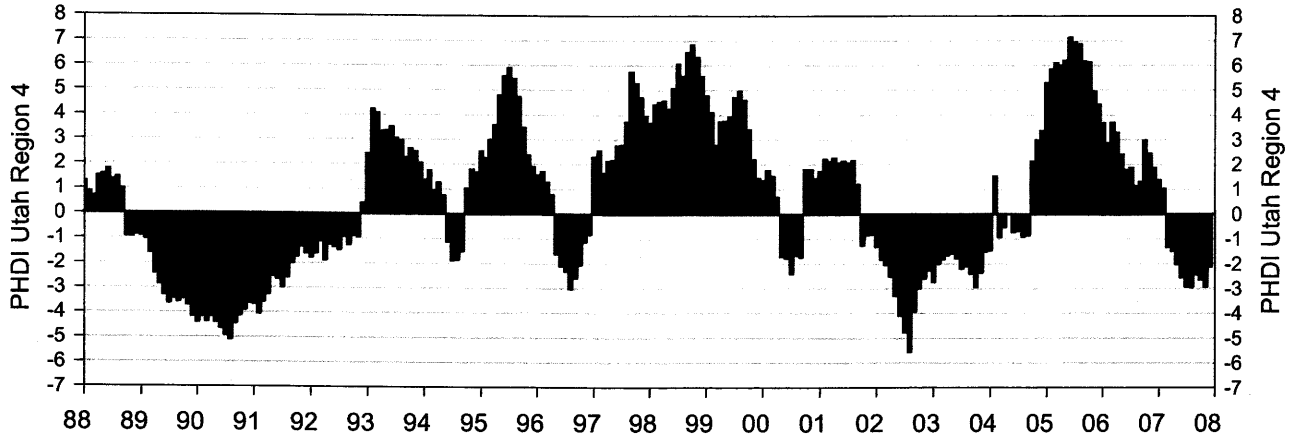

PHDI Utah Region 4
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

LB-7


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 05 06 07 08


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


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 05 06 07 08


PHDI Utah Region 4
8
7
6
5
4
3
2
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-1
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-3
-4
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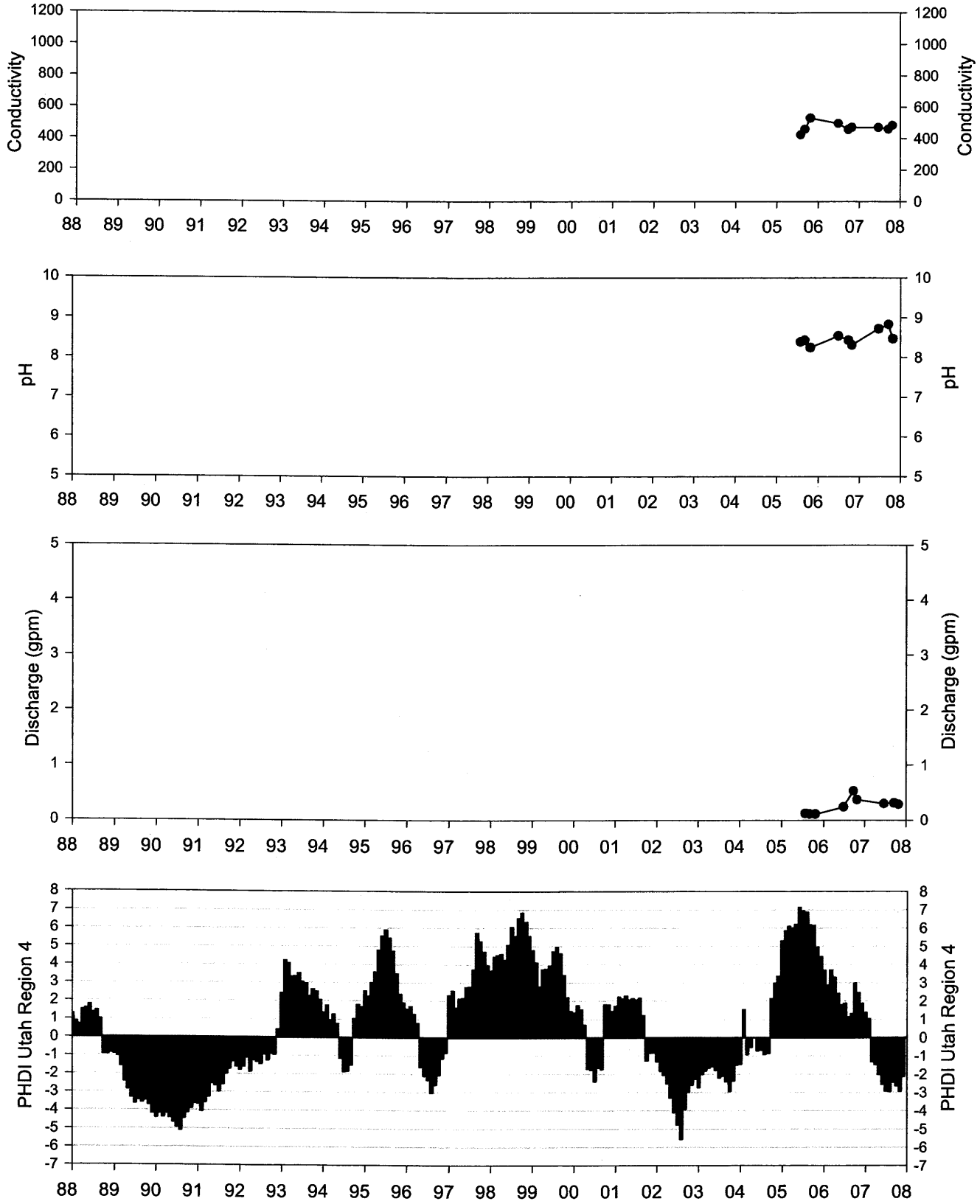
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

LB-7A


Conductivity
1200
1000
800
600
400
200
0
pH
10
9
8
7
6
5
Discharge (gpm)
5
4
3
2
1
0
PHDI Utah Region 4
8
7
6
5
4
3
2
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-5
-6
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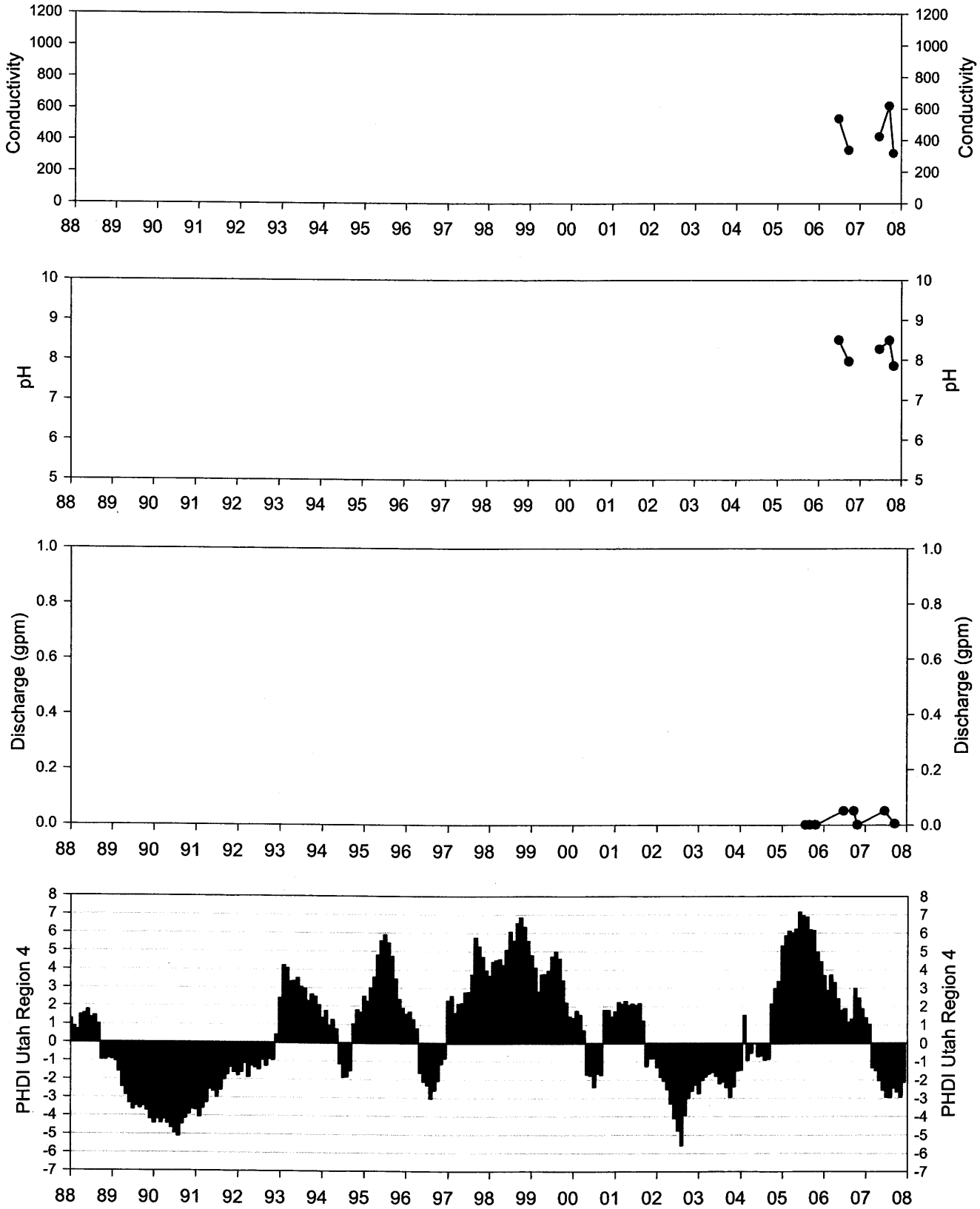
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

LB-7B


Conductivity
pH
Discharge (gpm)
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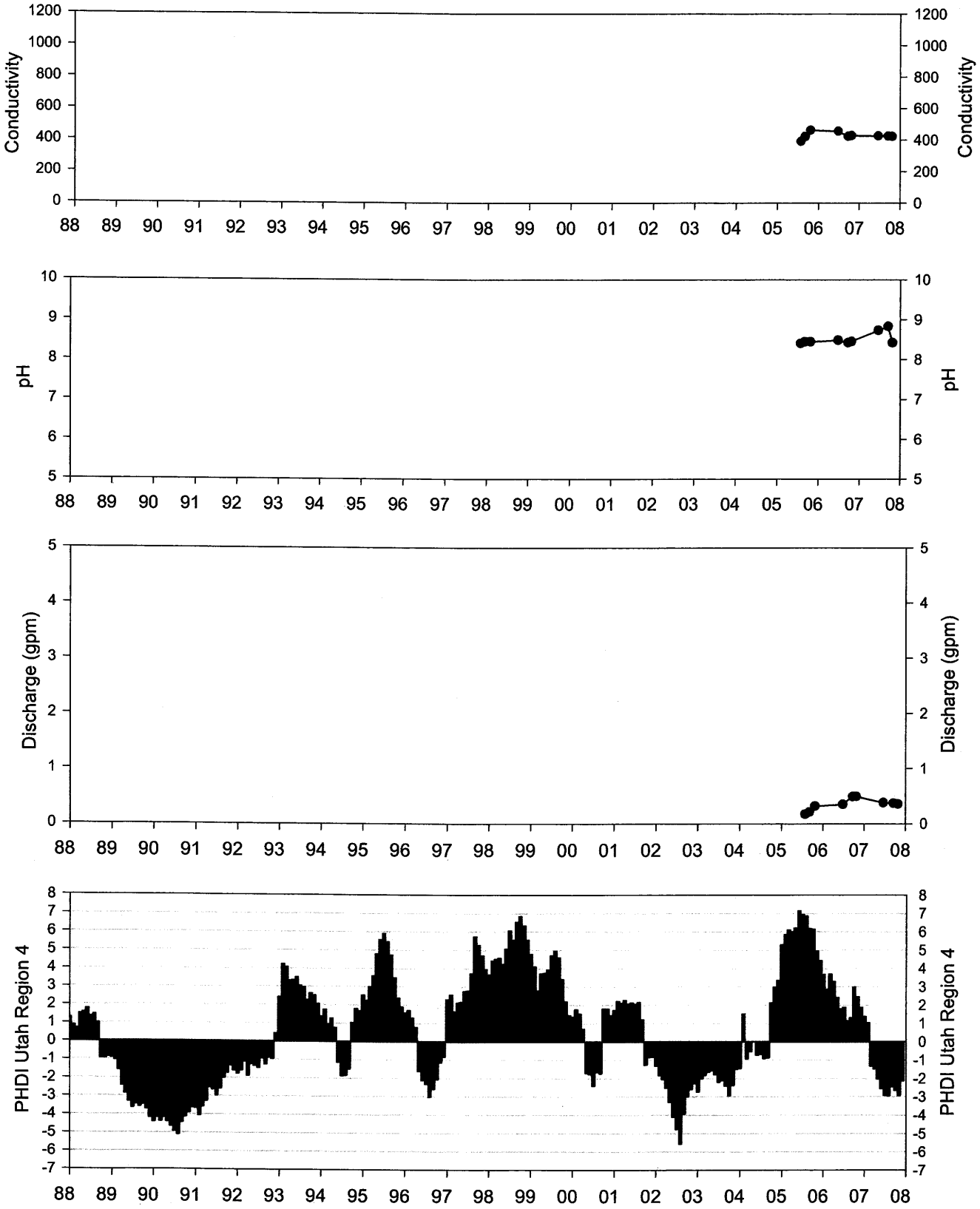
LB-7C


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 05 06 07 08
pH
10
9
8
7
6
5
Discharge (gpm)
5
4
3
2
1
0
PHDI Utah Region 4
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4
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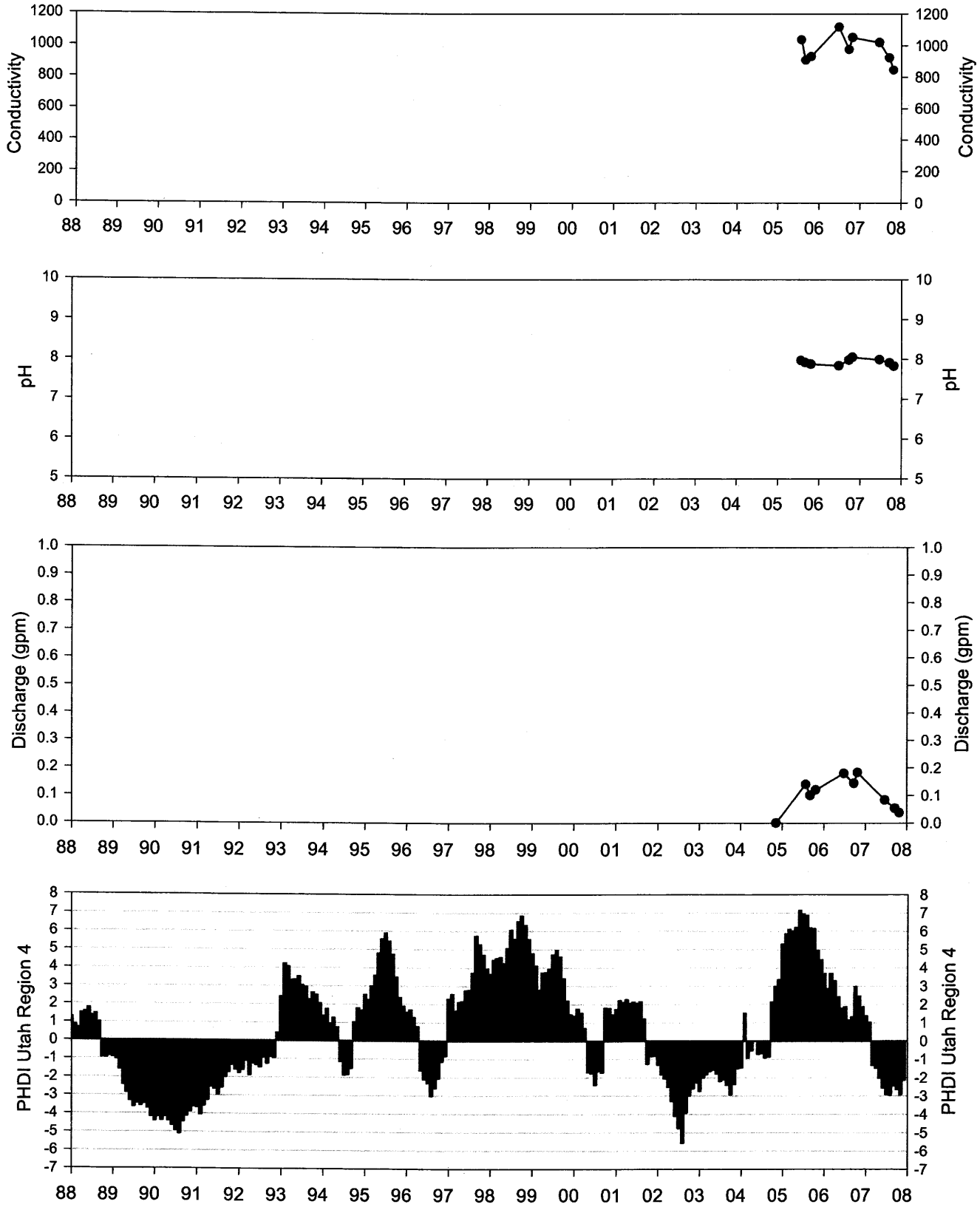
0
-1
-2
-3
-4
-5
-6
-7

LB-12


Conductivity
pH
Discharge (gpm)
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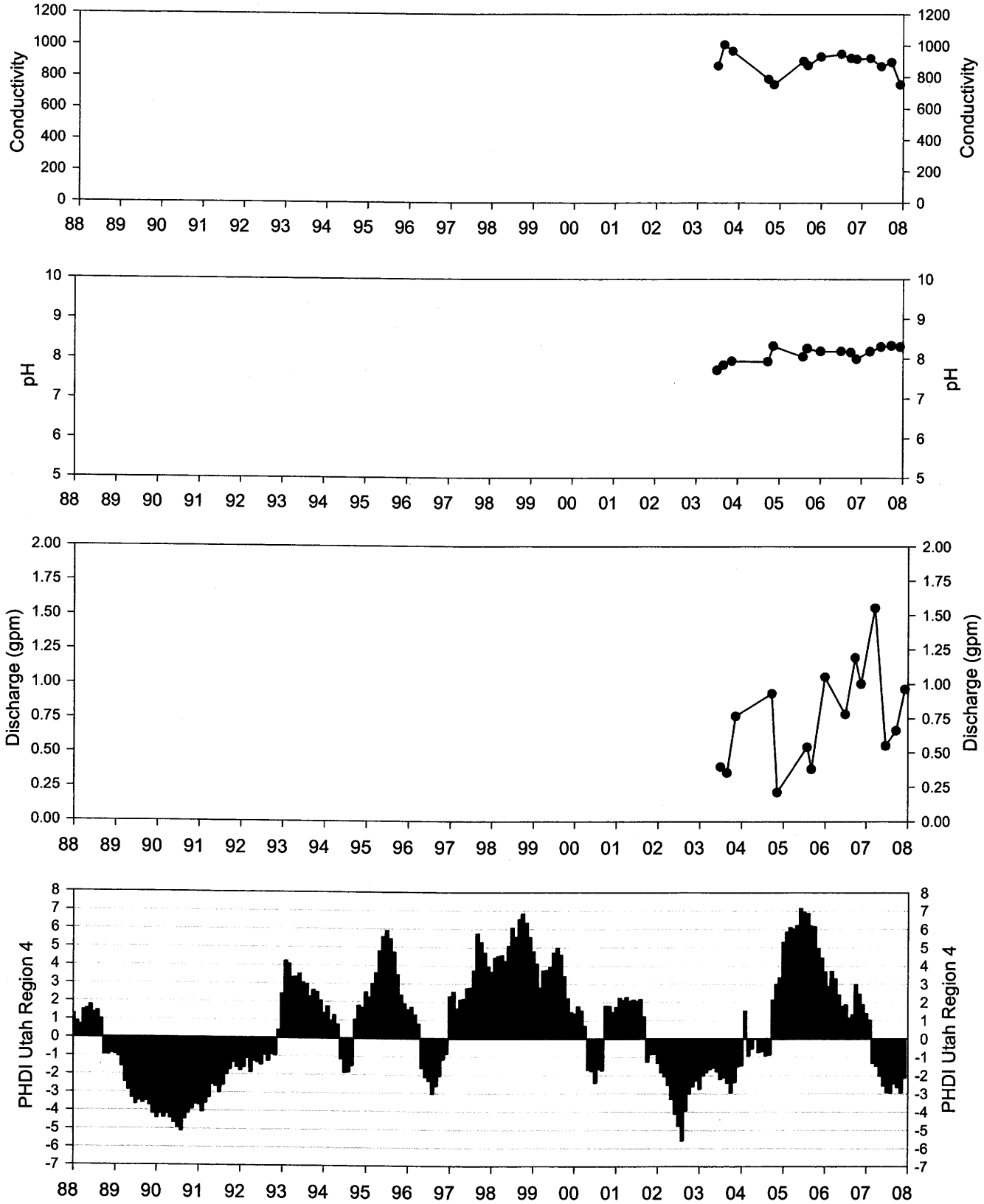
SP-79


Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
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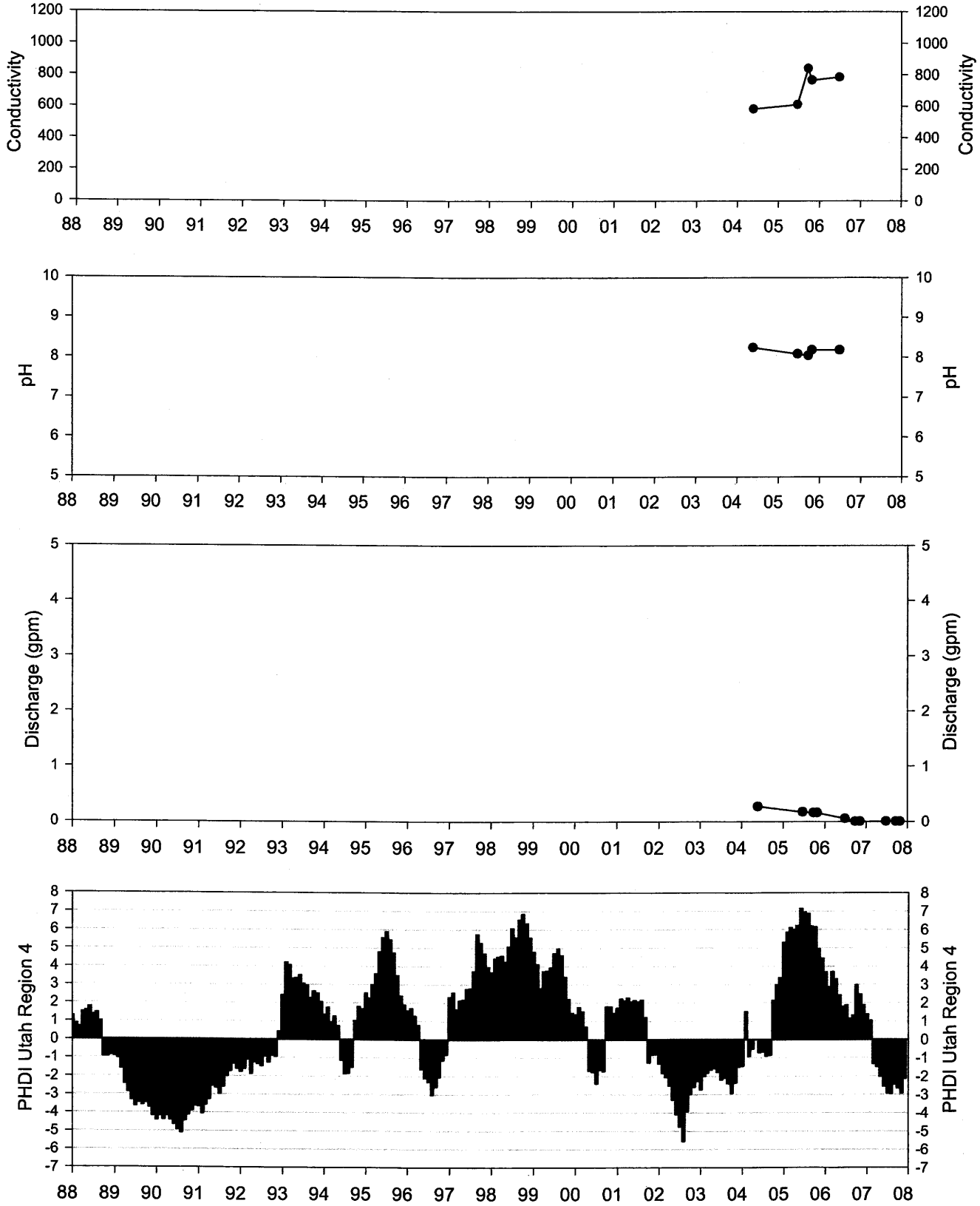
SP-18


Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
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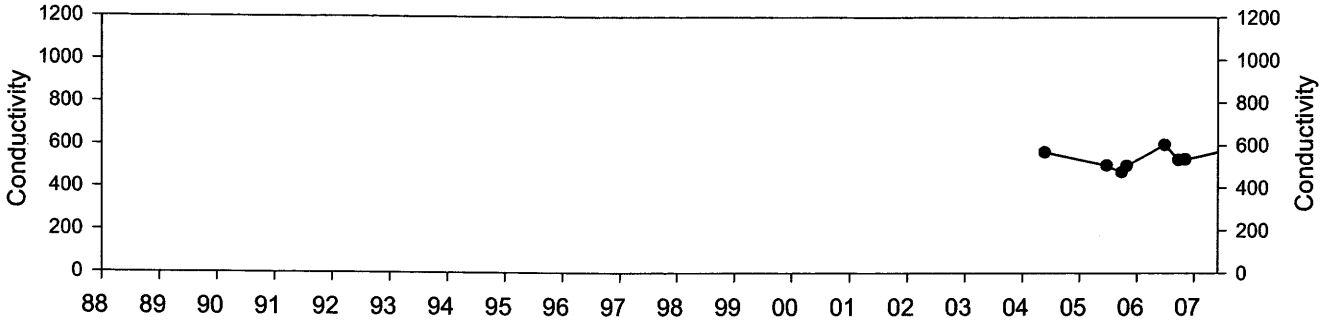
SP-22


Conductivity
1200
1000
800
600
400
200
0
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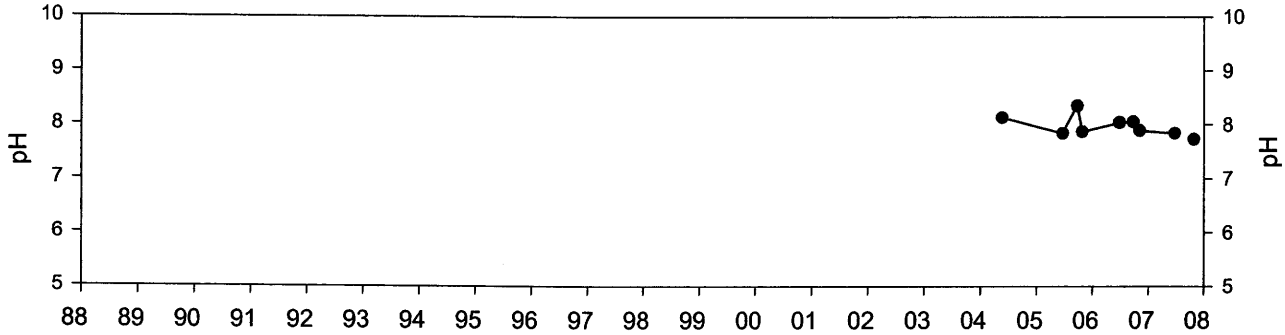
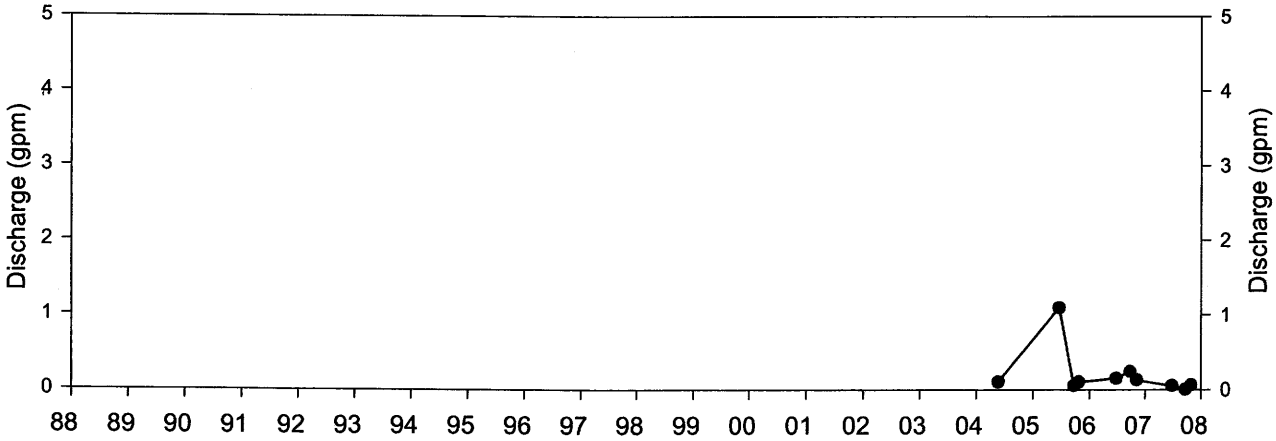
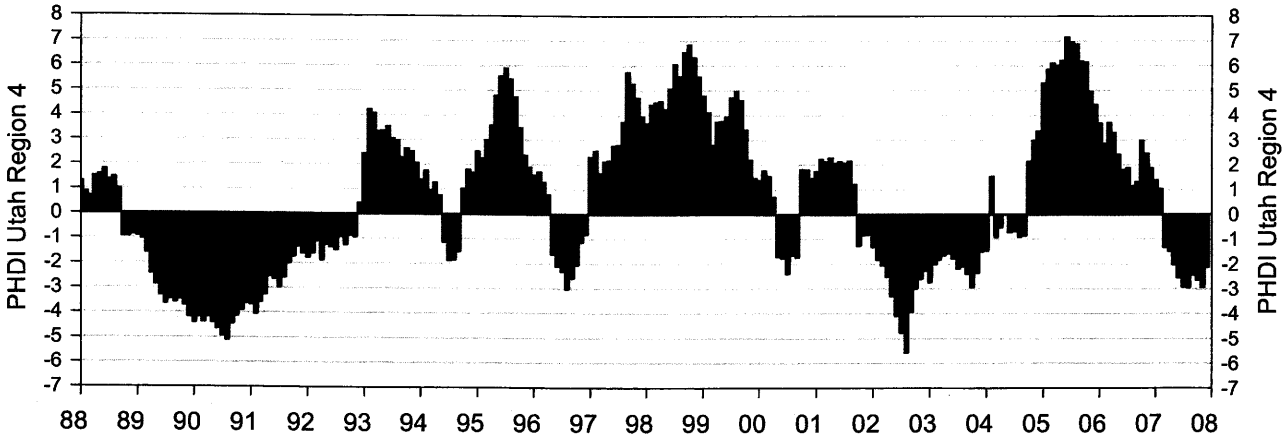

pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


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 05 06 07 08


PHDI Utah Region 4
8
7
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2
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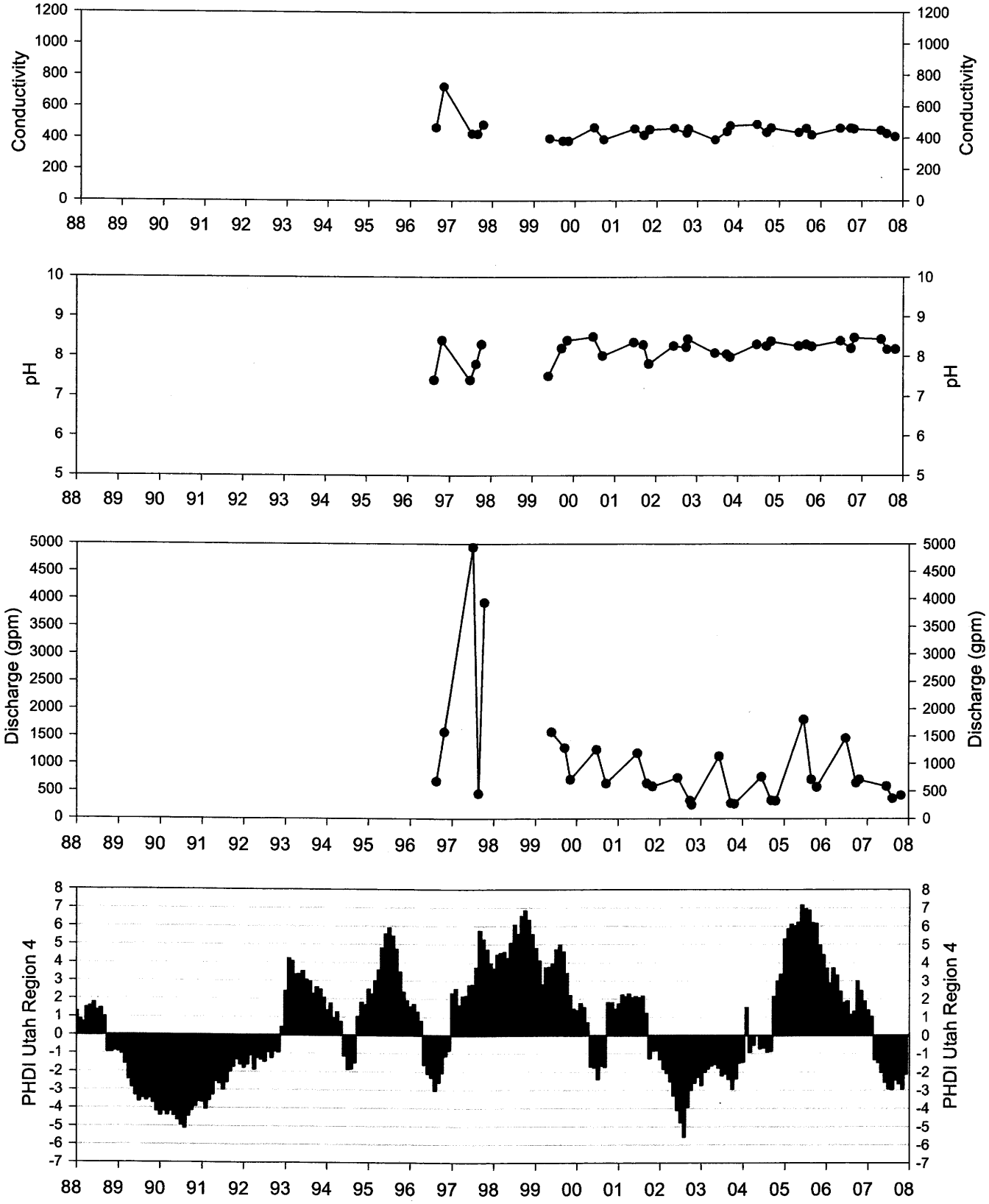
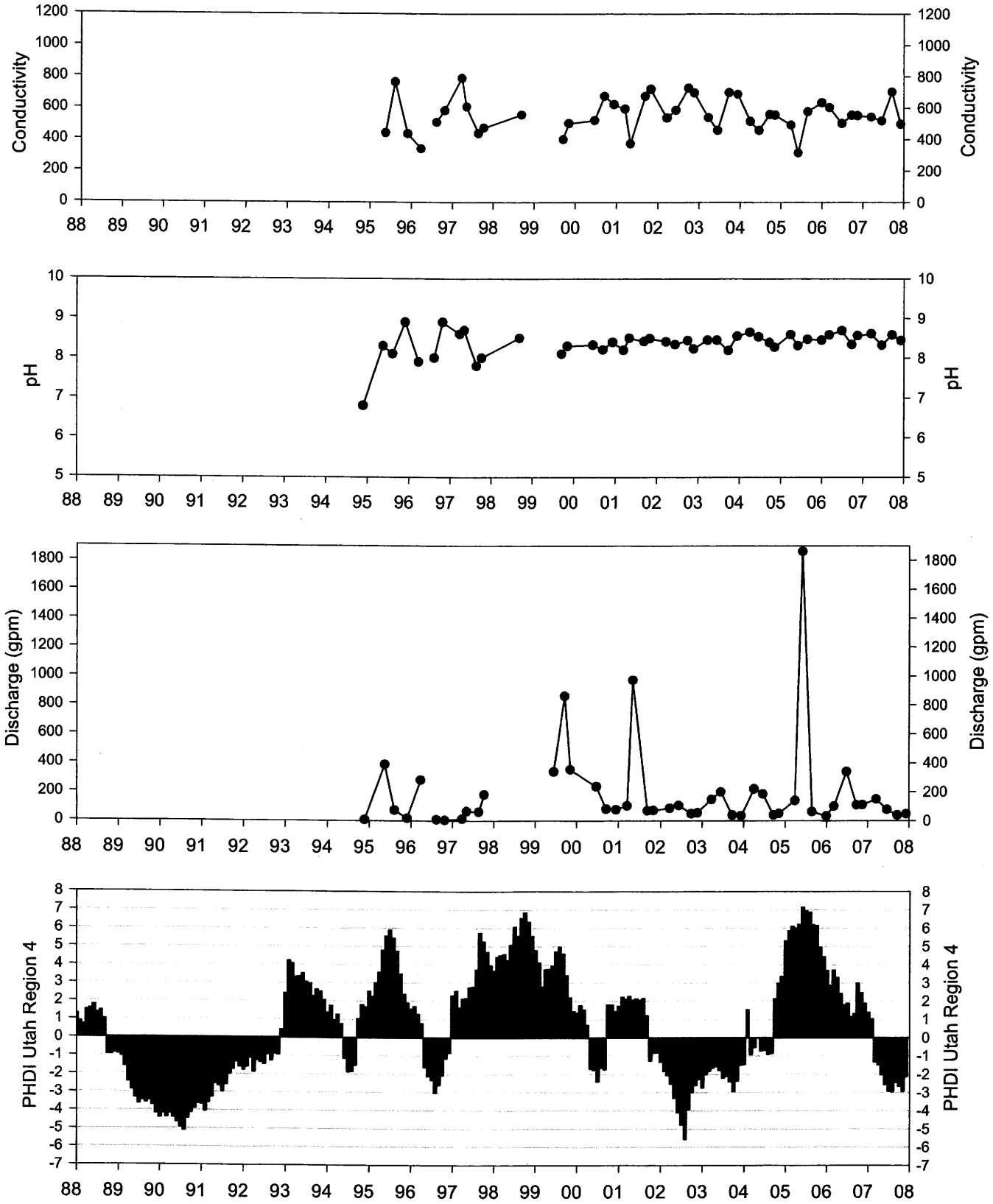
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

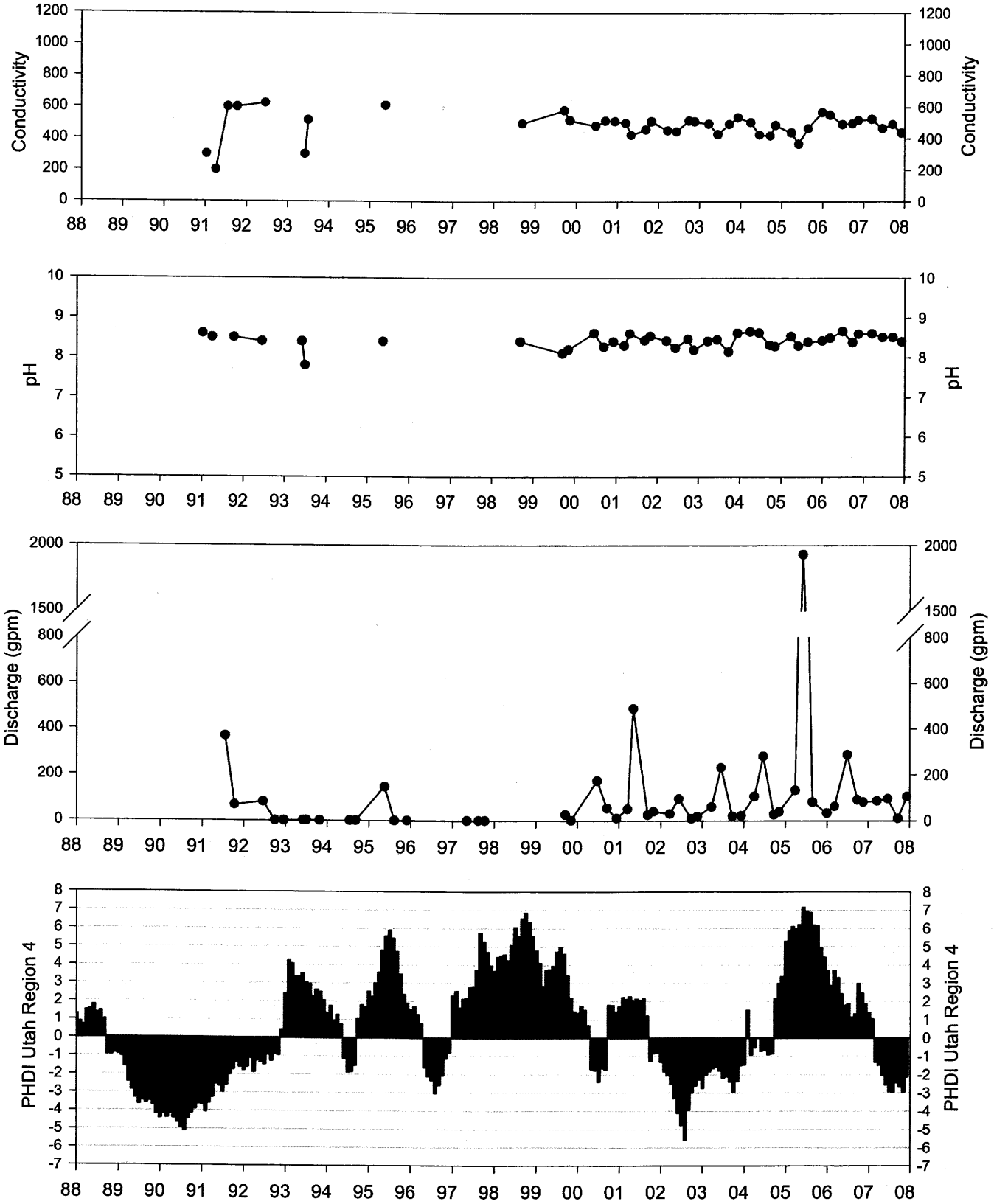
Indian Creek



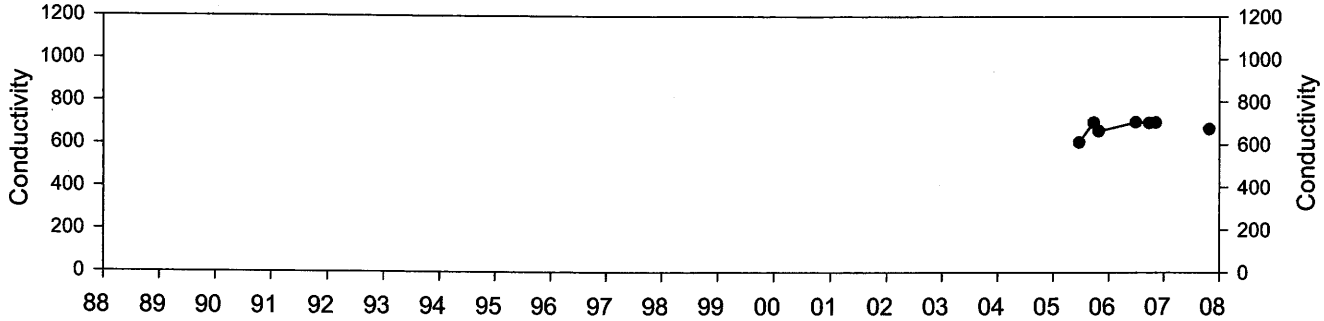
Horse Canyon Creek

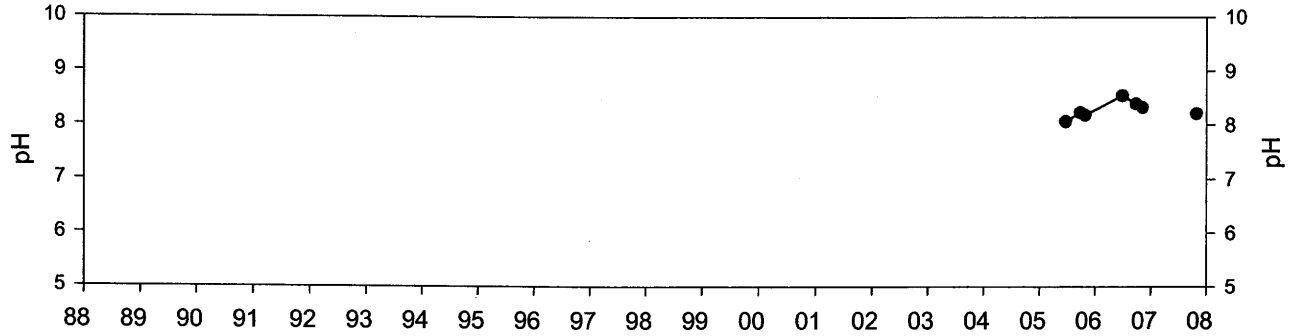


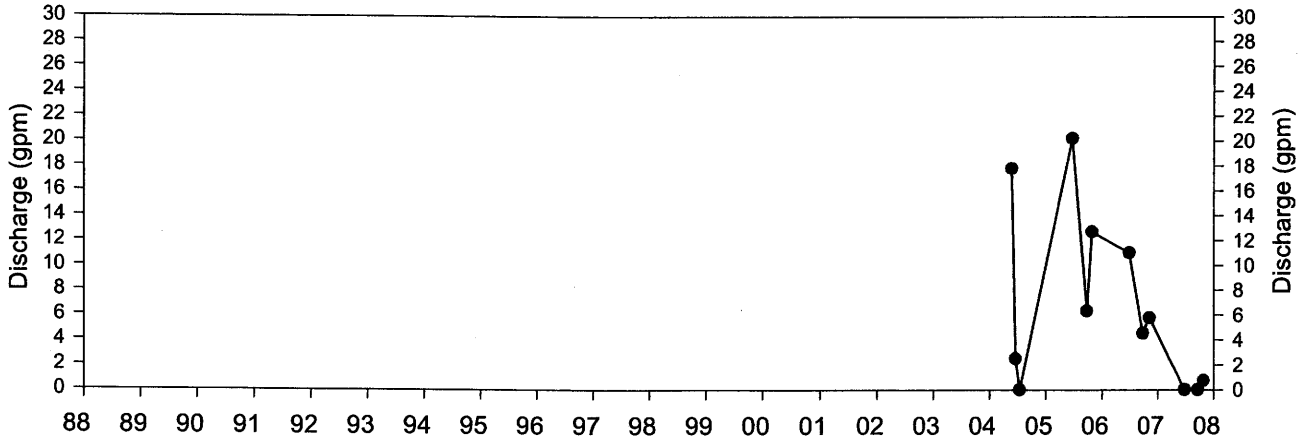
Blind Canyon Creek

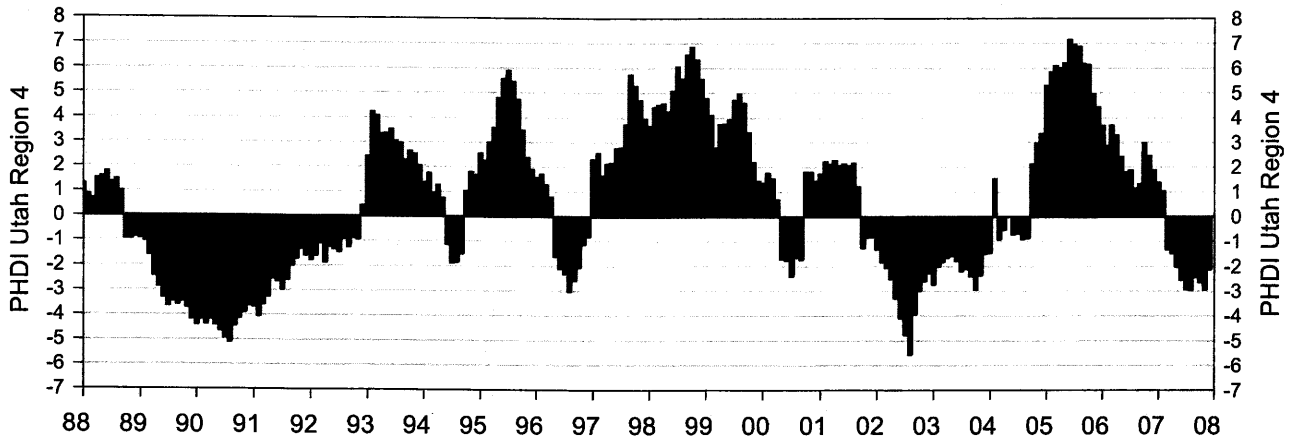


Shingle Creek

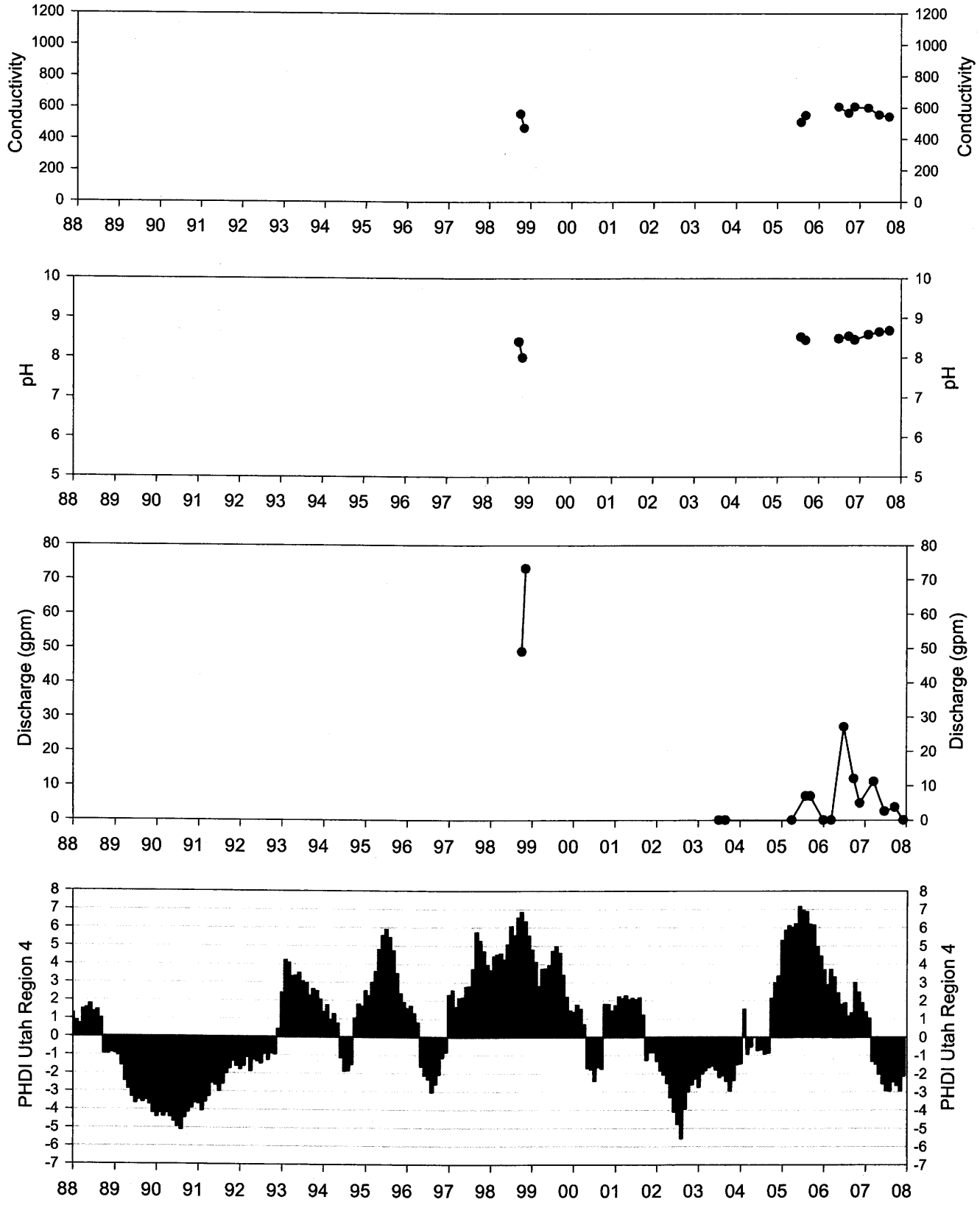




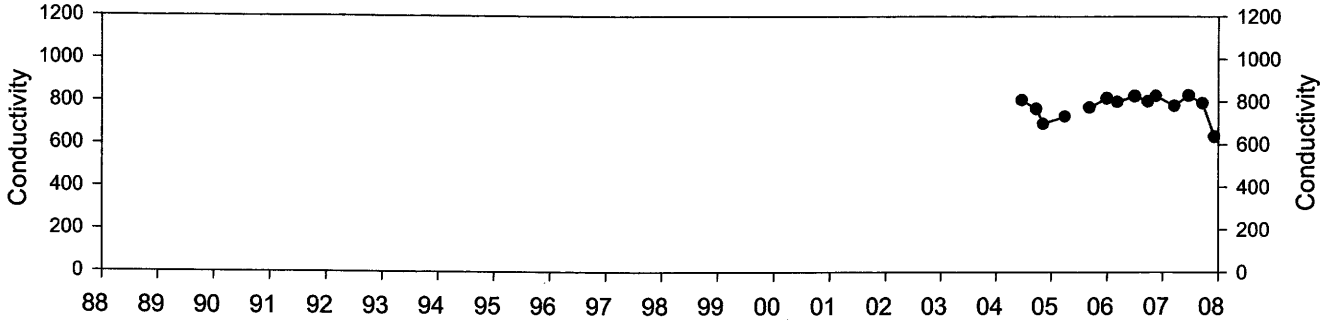


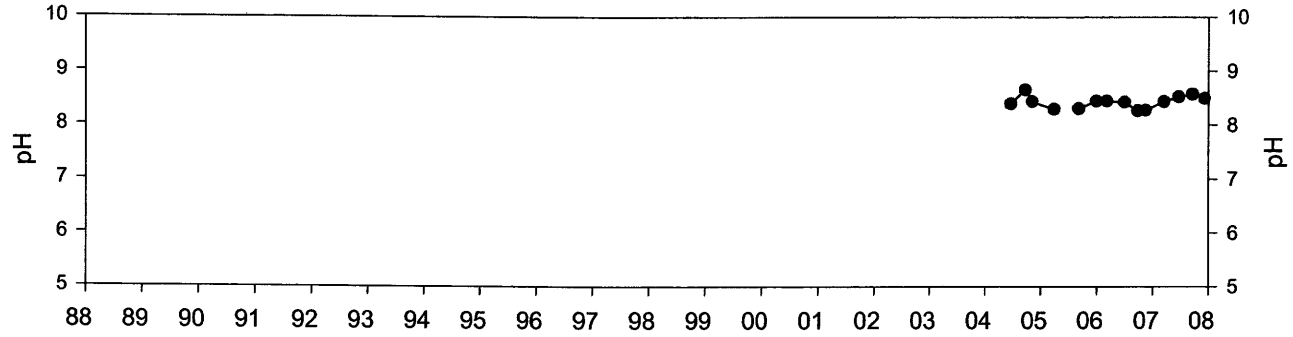


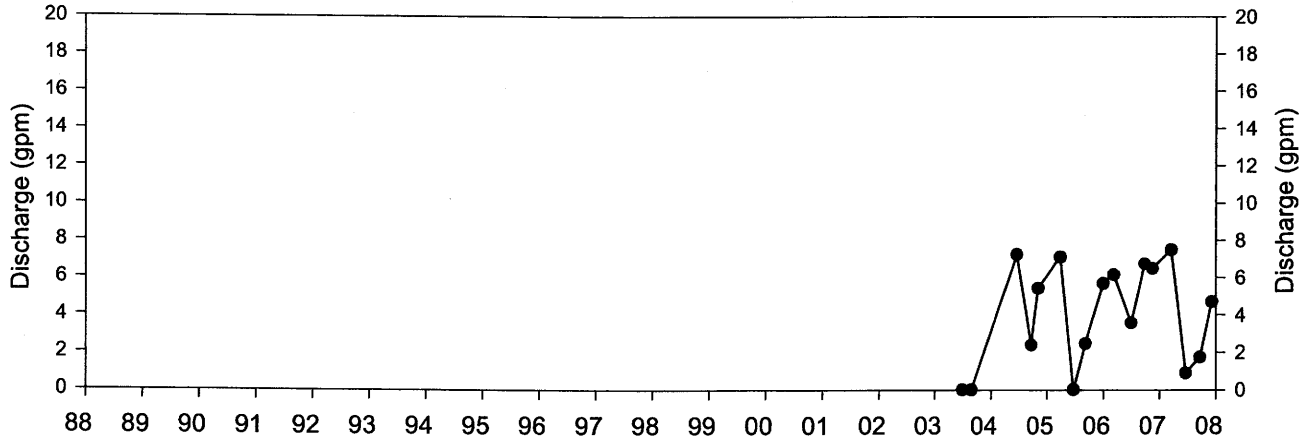
Little Bear Creek

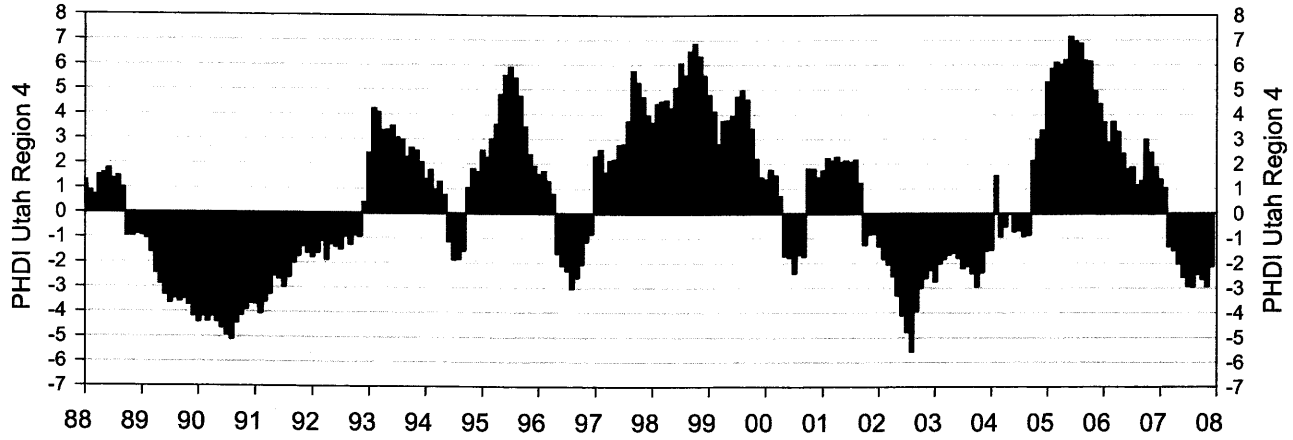


Section 4 Creek

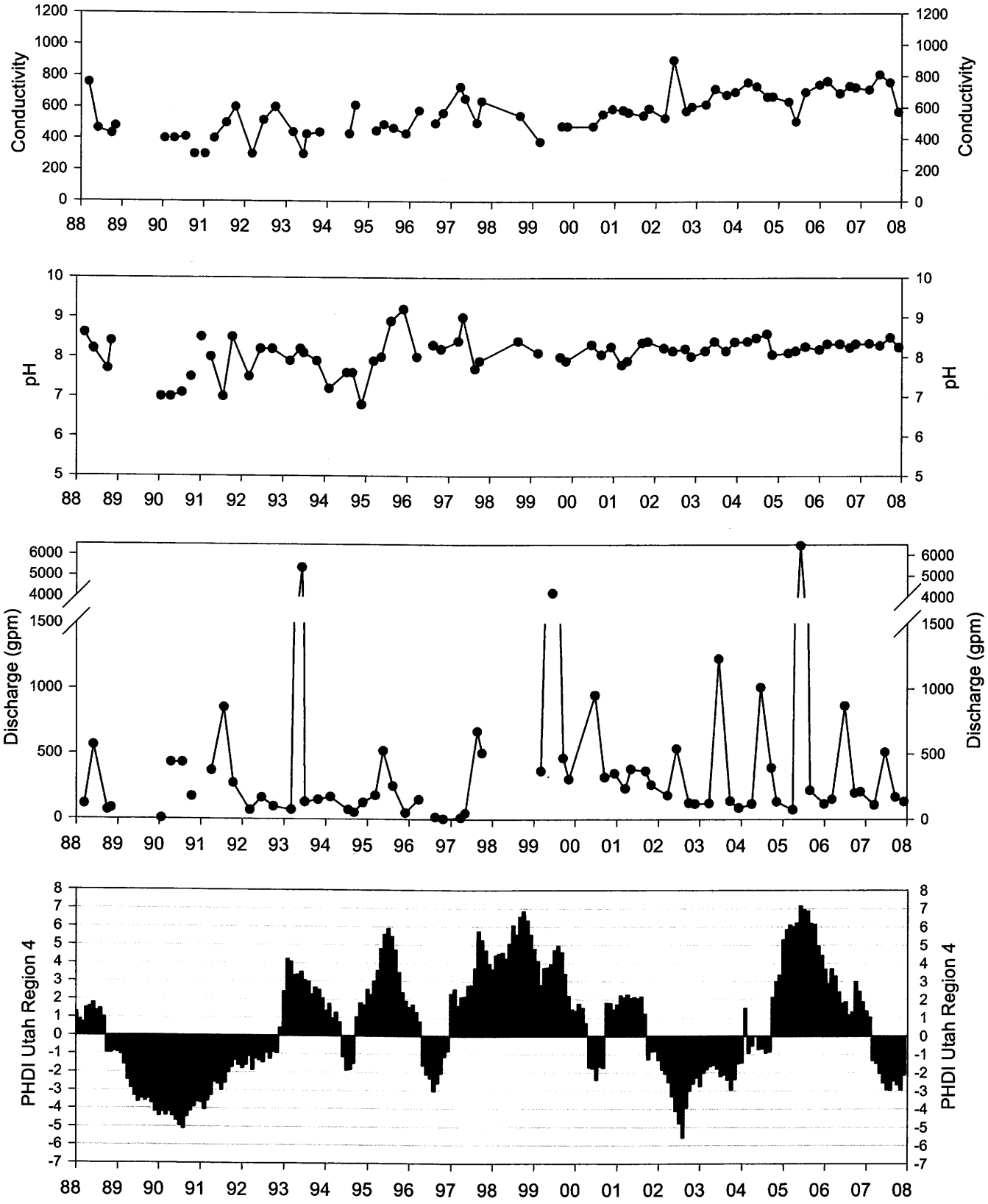




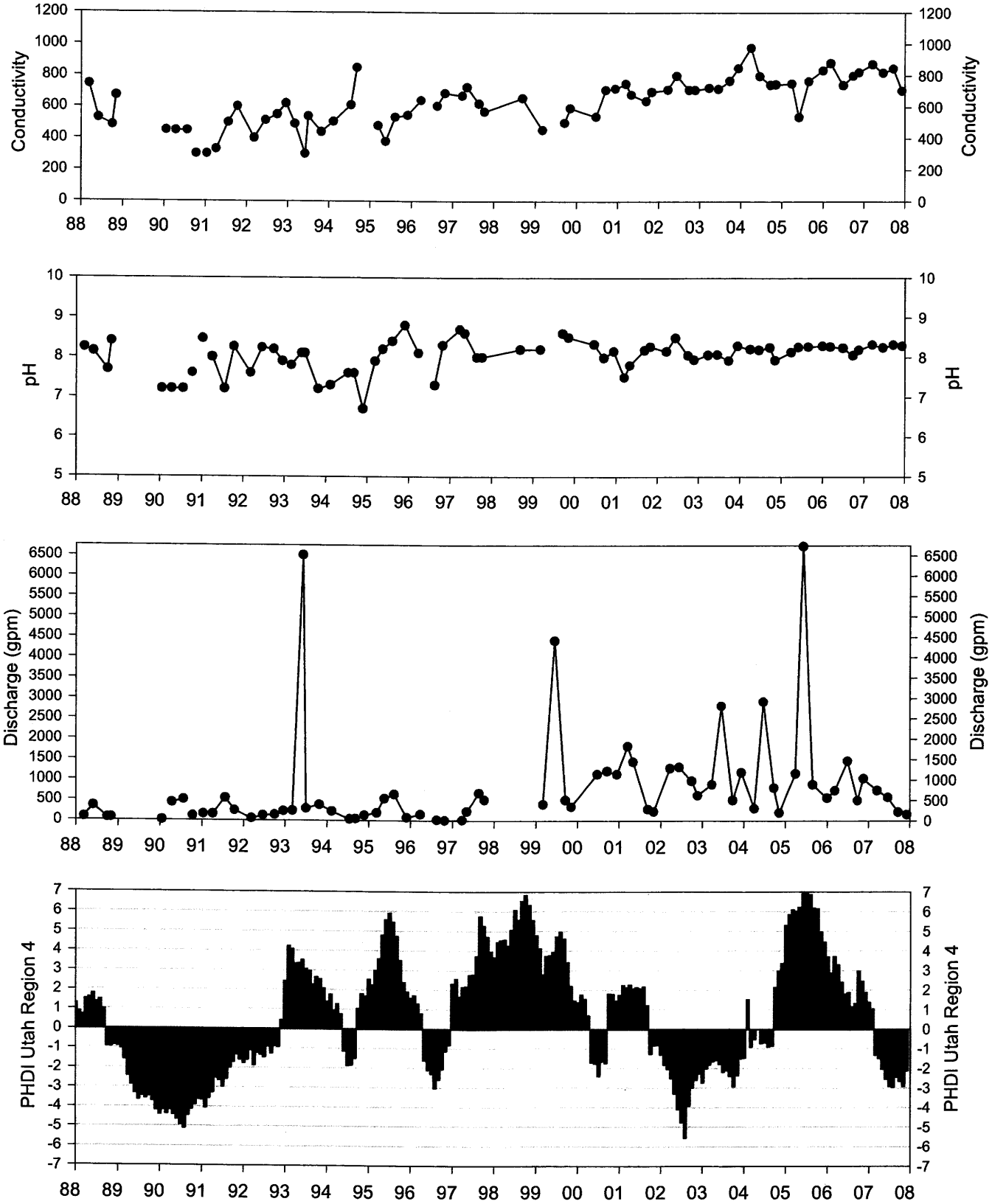




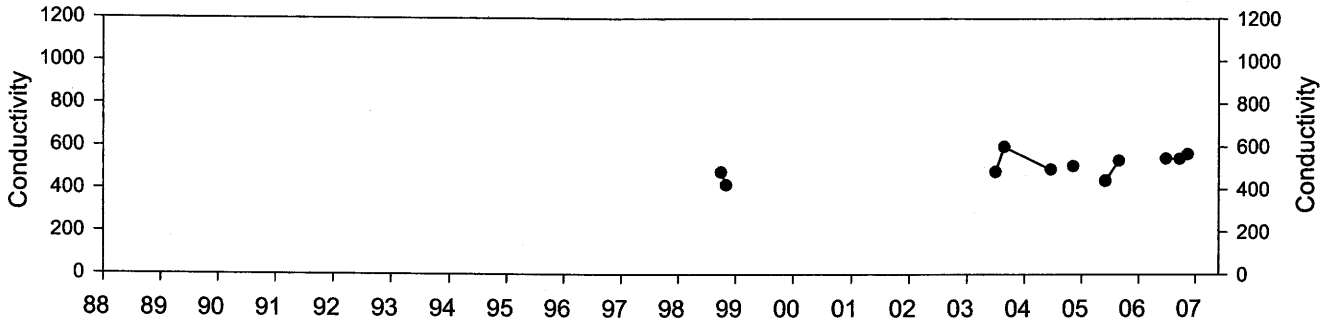
Crandall Canyon Upper Flume

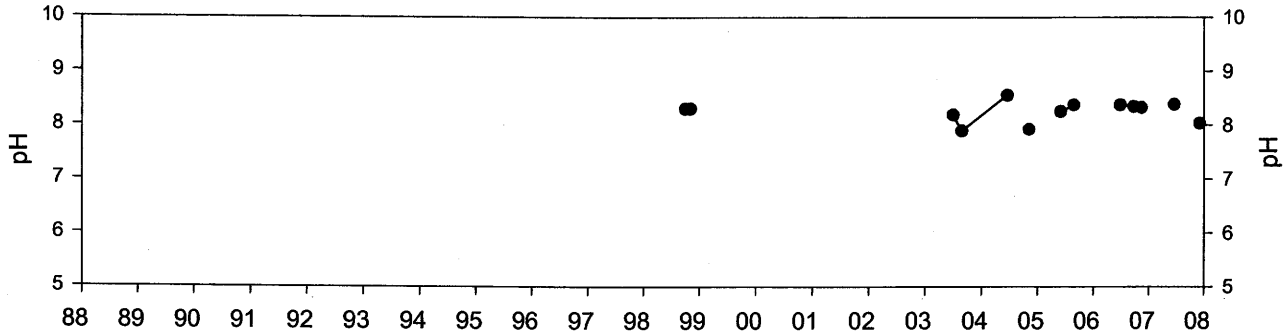


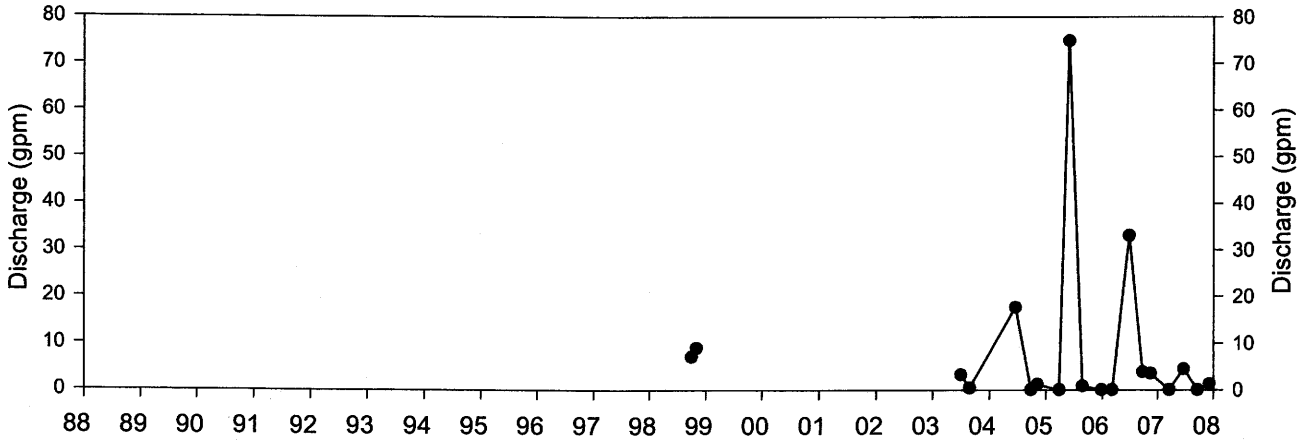
Crandall Canyon Lower Flume

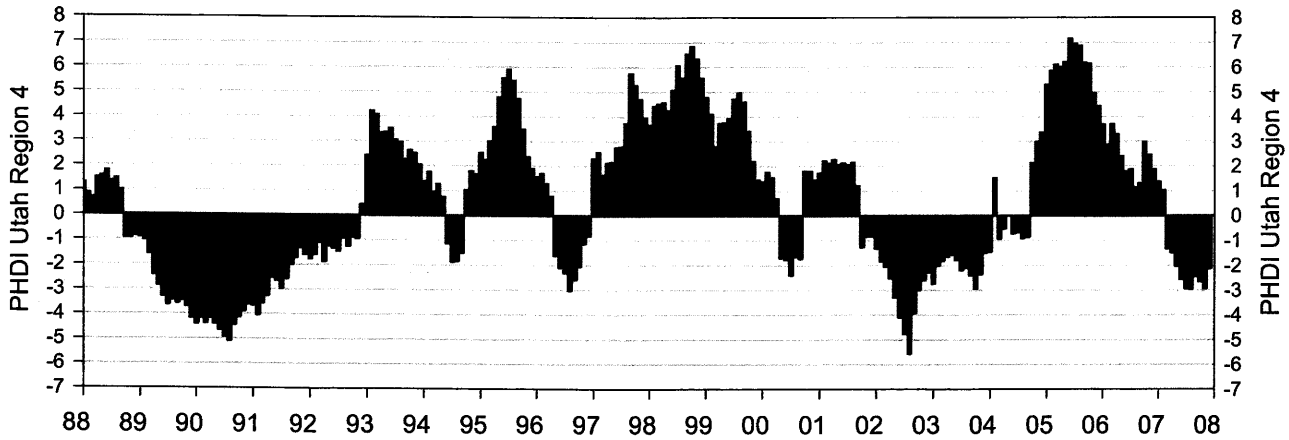


IBC-1

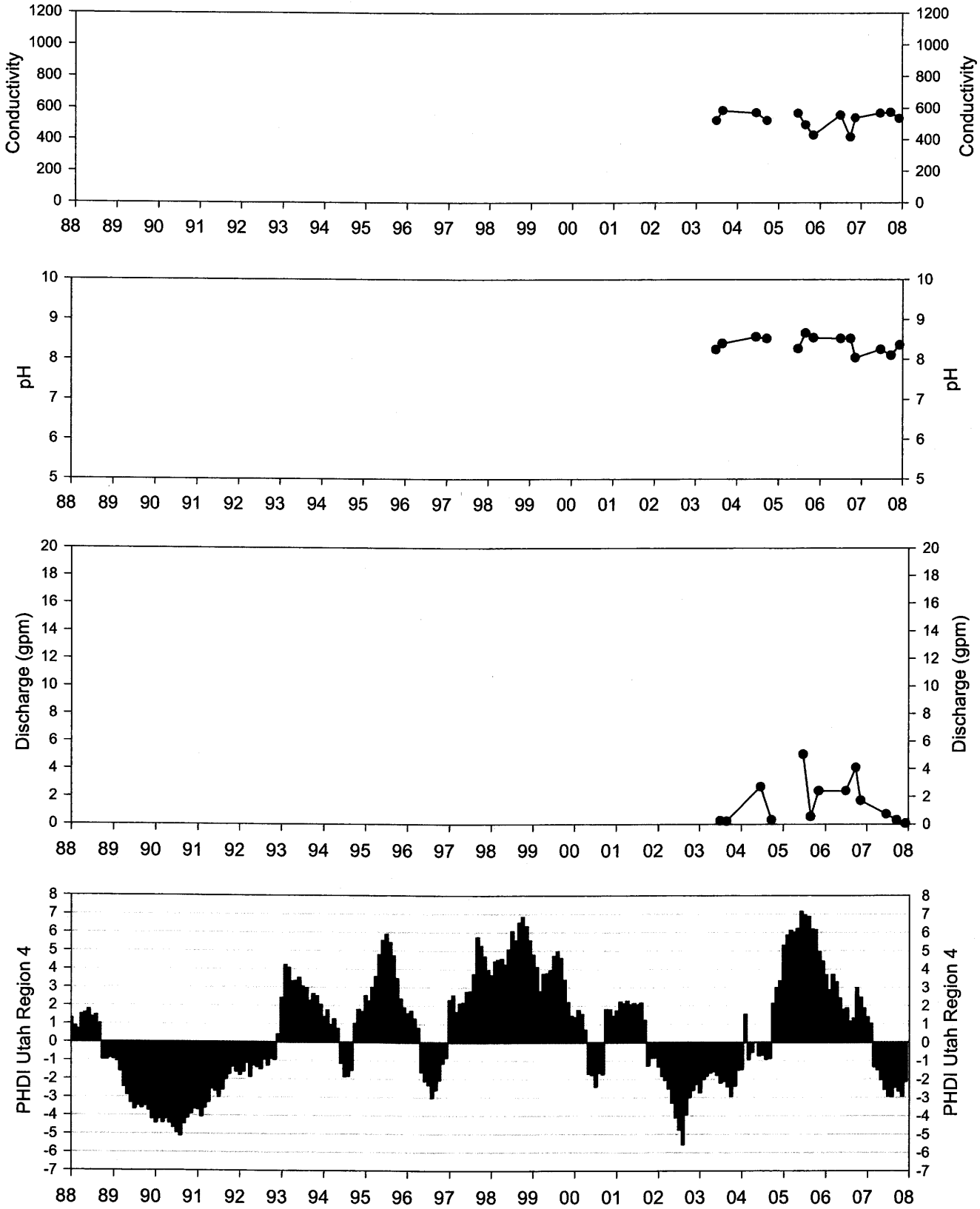

Conductivity
1200
1000
800
600
400
200
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

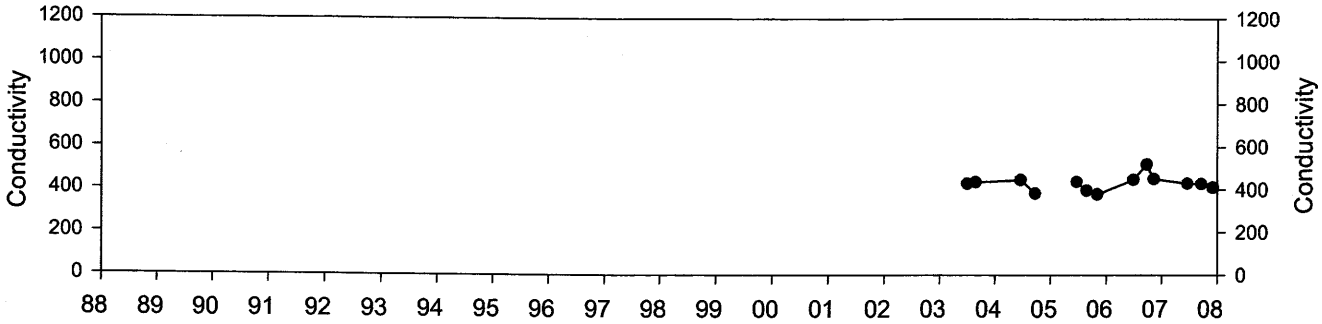

Discharge (gpm)
80
70
60
50
40
30
20
10
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

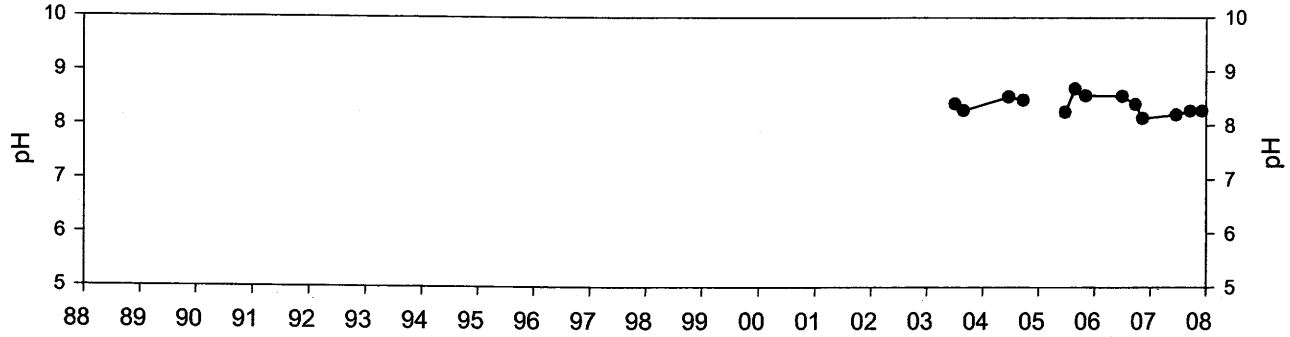

PHDI Utah Region 4
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

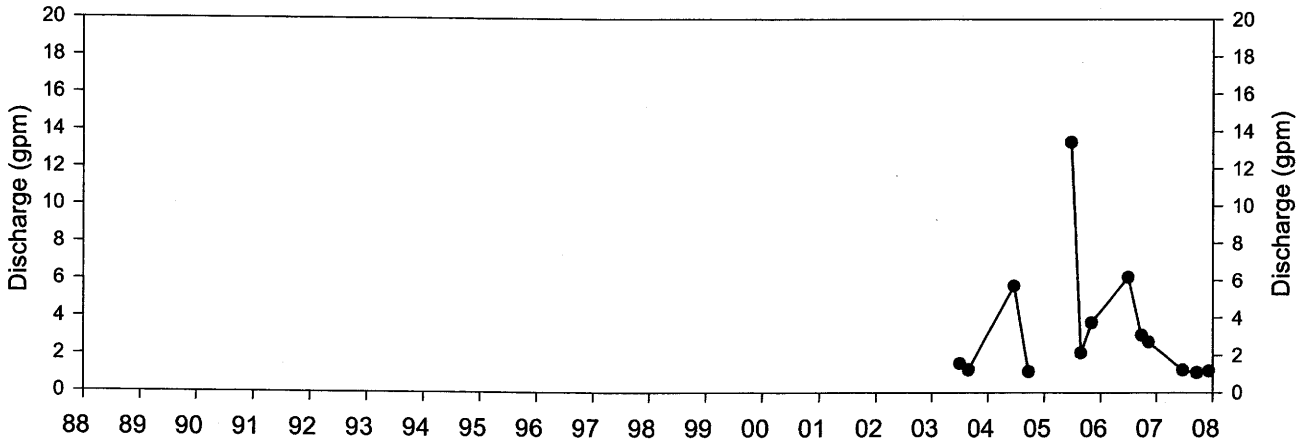
Section 5 U.R. Creek

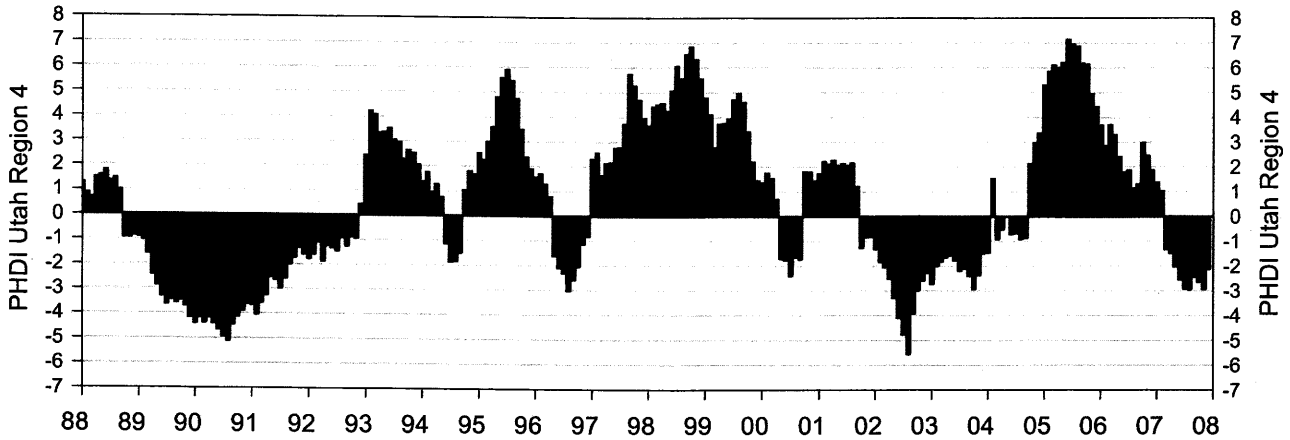


Section 5 U.L. Creek

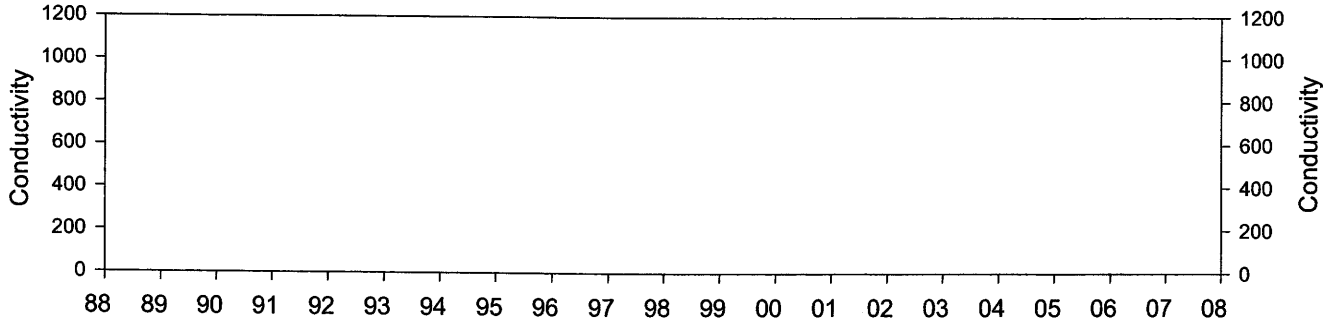


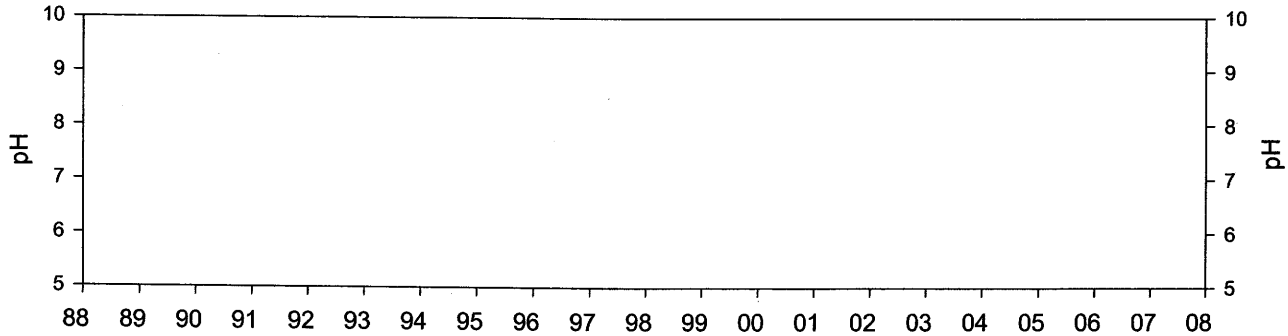


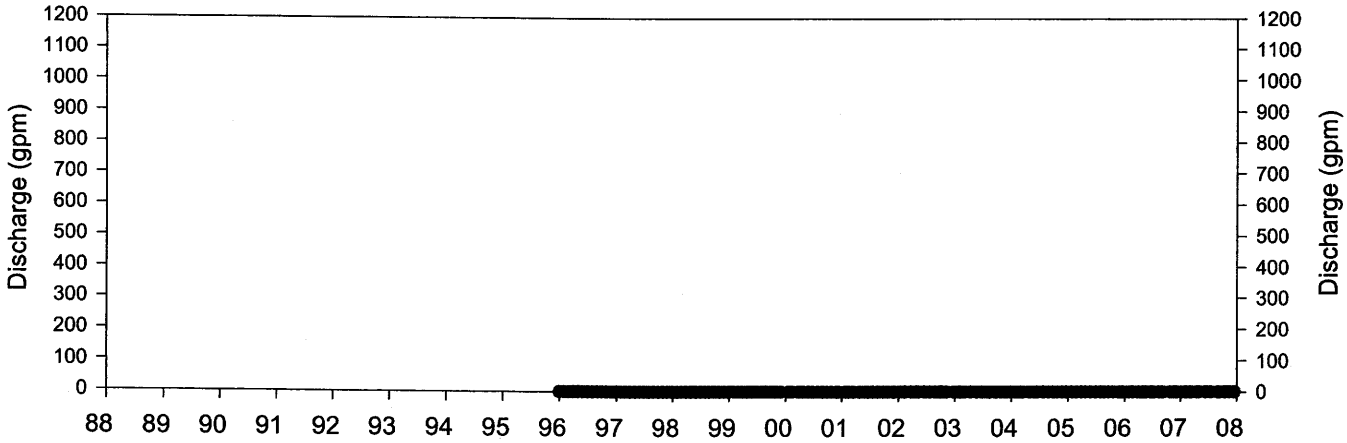


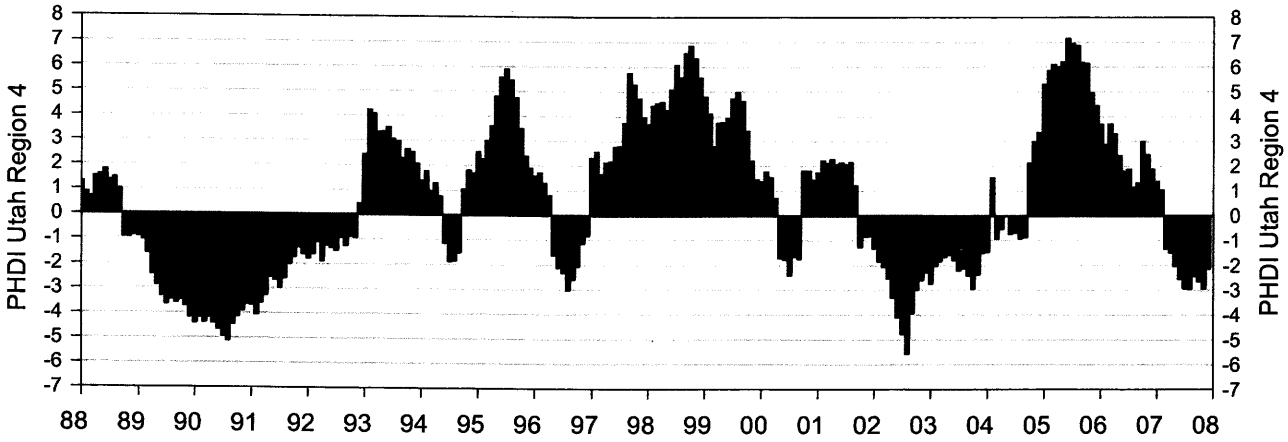


UPDES 001


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 05 06 07 08


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


Discharge (gpm)
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


PHDI Utah Region 4
8
7
6
5
4
3
2
1
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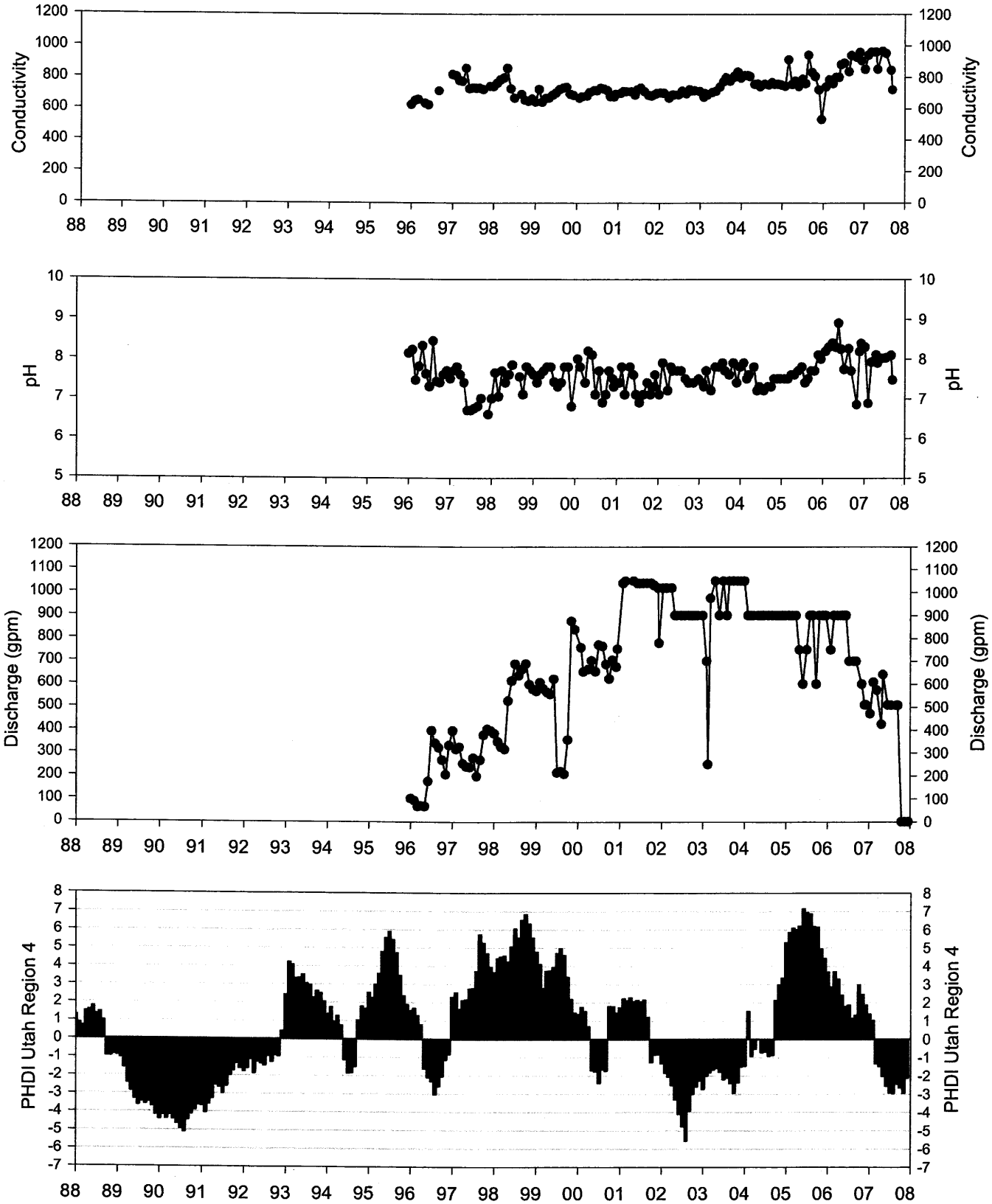
-3
-4
-5
-6
-7
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

UPDES 002


Conductivity
pH
Discharge (gpm)
PHDI Utah Region 4
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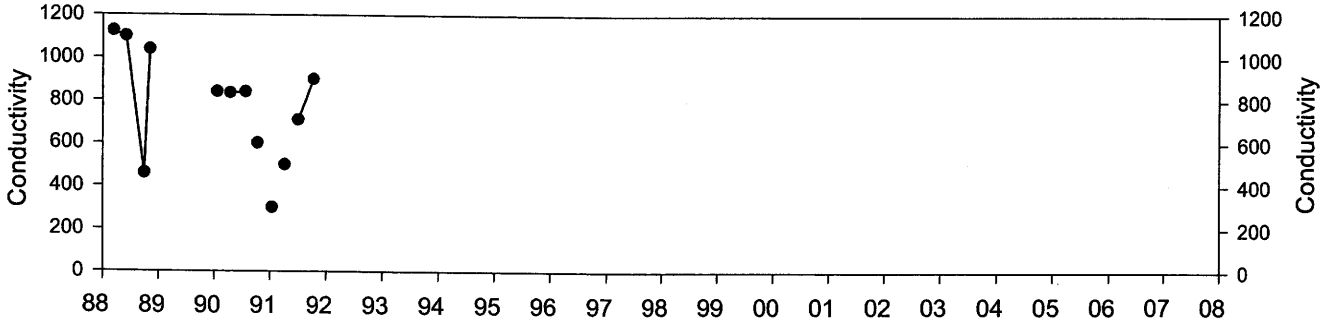
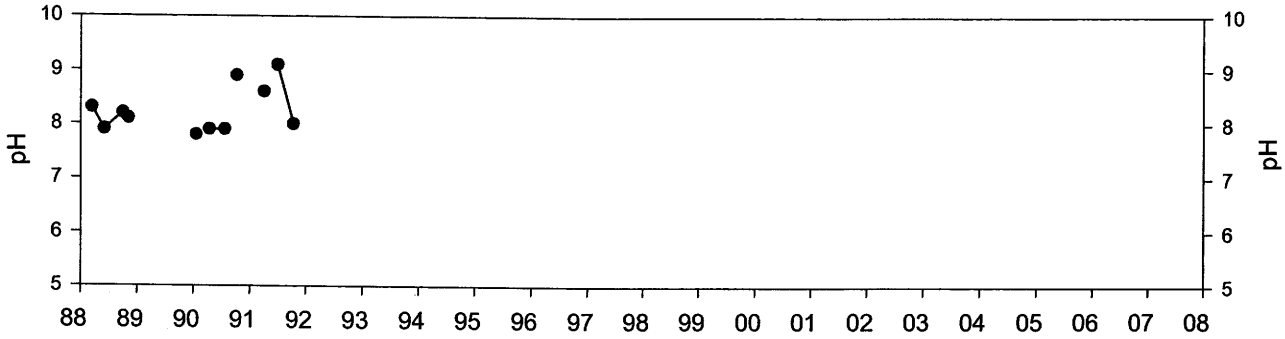
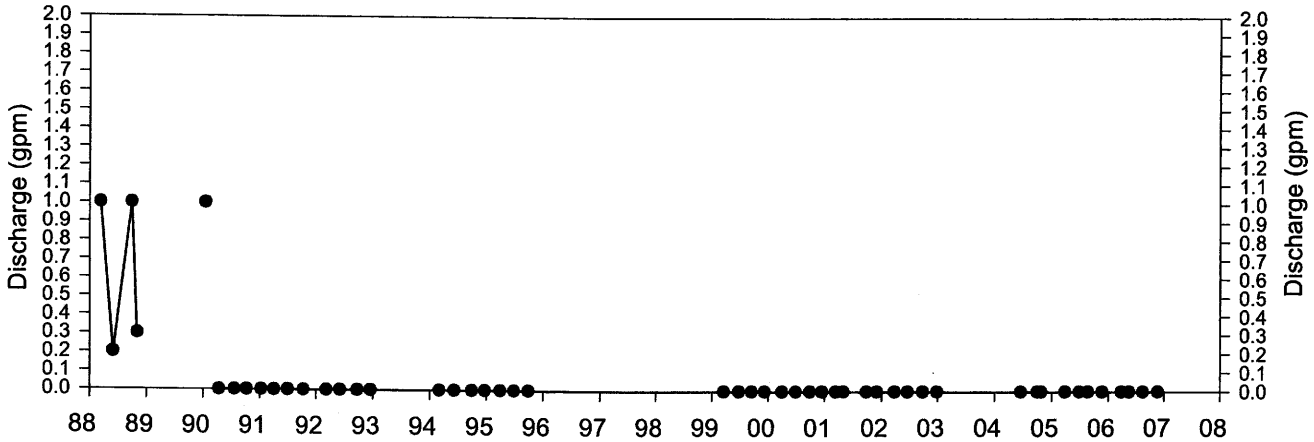
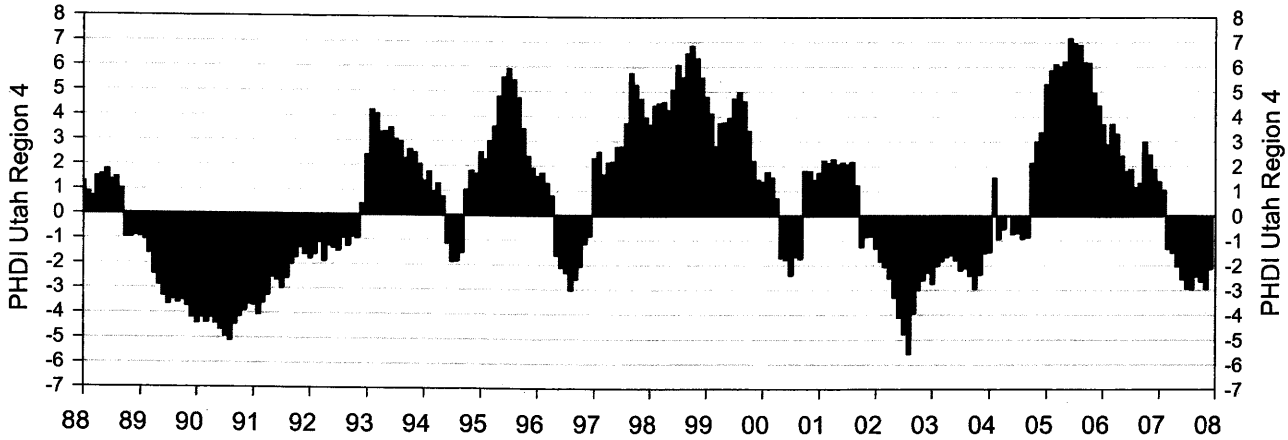
DH-1


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 05 06 07 08


pH
10
9
8
7
6
5
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


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
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08


PHDI Utah Region 4
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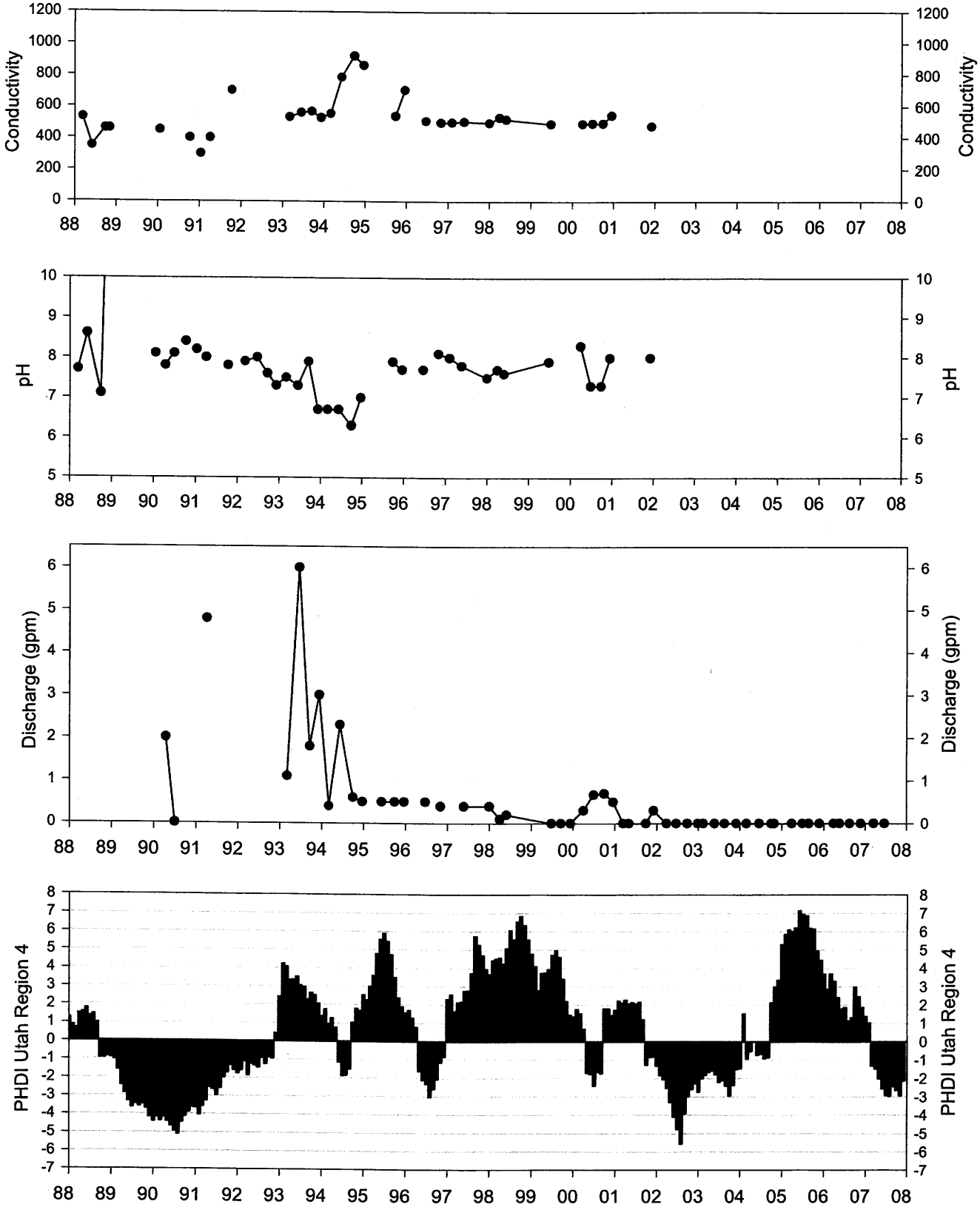
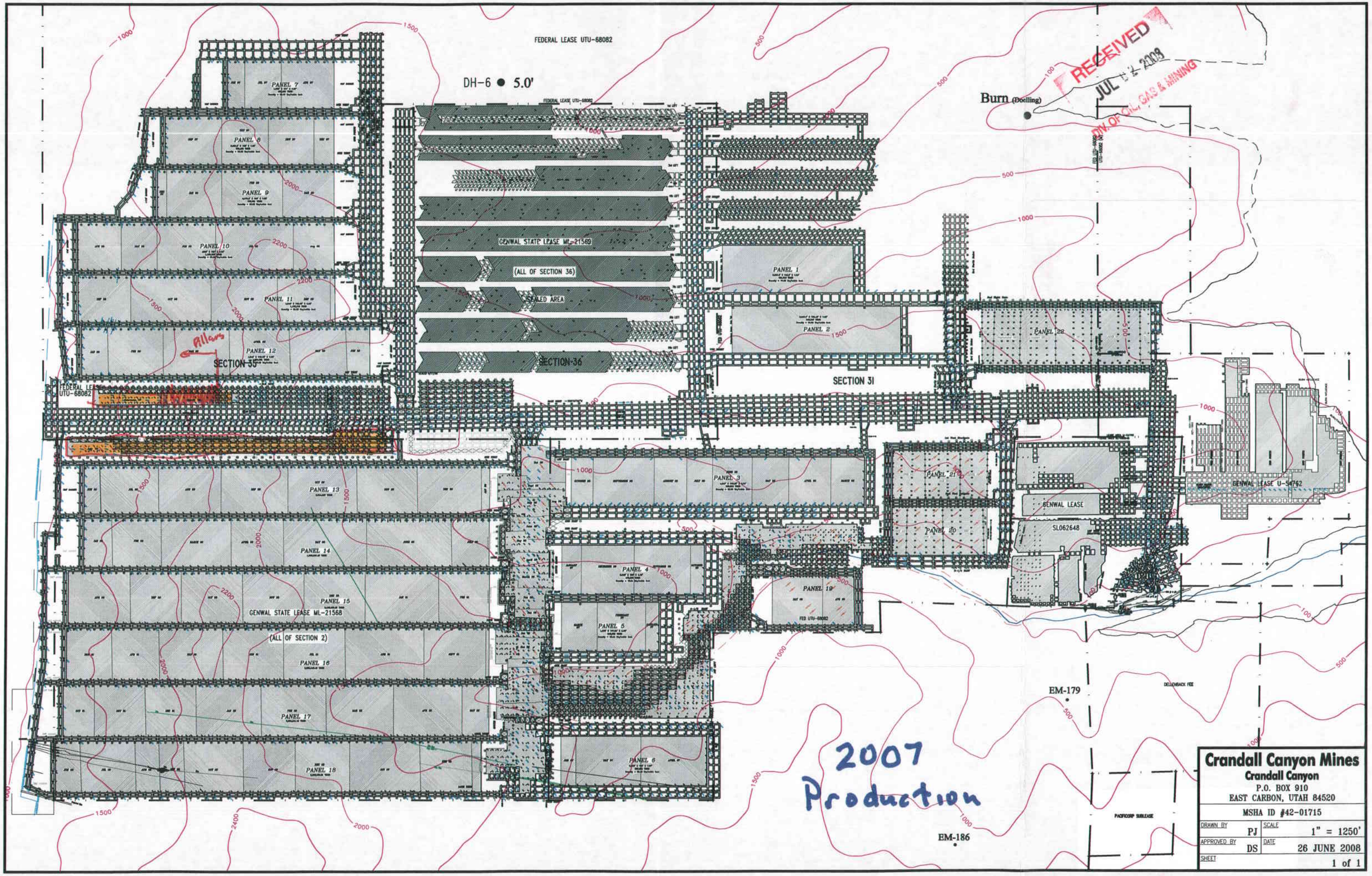
88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

MW-1


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 05 06 07 08

2007 PRODUCTION MAP



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