

## **Monitoring Water Quality on Project 134-03**

### **Background**

The Department's recent sub base limitations on the use of Crack and Seat and/or Rubblize and Roll eliminate one option to the Department for pavement retrofit. Flexible Pavements saw this as an increased cost to the Department and proposed to the Office of Pavements a revised method of Rubblize and Roll. The existing Portland cement concrete would be removed, crushed, brought back to the jobsite, placed and rolled.

Questions concerning run off materials and noncompliance with EPA ground water regulations prompted the Department to install an experimental 2070 ft. test area on Project 134-03 on IR-71 in Fayette County with a section each of straight RPCC plus fines, RPCC +1/2", and 304 aggregate. Additional drainage outlets were installed for additional points of sampling. The 6" outlets were fitted with a prefabricated extension with a 10" reservoir for sample collection during times of no flow. It should be noted that the first half of the test area slopes from north to south.

### **Sampling and Testing**

Samples were taken on roughly a bi-weekly basis, for nine months. A final sampling was performed just over a year later. Seven outlets were sampled in the test area. In addition, one sample was taken from an outlet 1000' south of the test area as a control sample and three samples were taken from a small stream running parallel to the test area about fifty feet away. The samples from the stream are collected at each of the three sections, straight RPCC plus fines, RPCC+1/2, and the 304 aggregate. Rain water was also sampled and tested.

The testing includes pH, conductivity, total dissolved solids (TDS), calcium, sulfide, sulfate, and chloride content. The pH was taken at the site, while the other tests were performed in the lab. A Hanna 9810 meter was used to measure pH, conductivity, and TDS. The ions were tested photometrically using a Chemetrics V-2000 photometer.

### **Results**

The highest pH results occurred at station 299+00 which was in the middle of the RPCC plus fines section (see map below) with an average pH of 11.72 and with a final reading of 11.20. This station also had the highest average conductivity 3562, TDS 1872, chloride, and calcium levels. The lowest average pH, besides station 285+72 \*, occurred at station 293+00 just south of the 304 section with an average of 10.43. This station also had the lowest conductivity 852, TDS 460.59, calcium, and chloride levels. Acceptable levels are considered to be: pH 6.5-9.0, conductivity 2400 max., and TDS 1500 max.

\* Station 285+72 was considered statistically insignificant with only three samplings.

The samples taken from the stream did not seem to be greatly affected by the high pH runoff at any of the three sampling points. Average pH ranged from 7.99 to 8.18. Conductivity and TDS were within permissible limits. The average rain water pH of 7.83 was higher than expected, probably due to debris blown into the buckets.

The average pH values in each test area for pH exceeded 9.00 with the RPCC + fines at 11.48, the 304 aggregate at 11.09 and the RPCC + ½ at 10.89. The control sample measured 9.81. In addition the RPCC + fines exceeded the conductivity limit of 2400. All samples taken from the stream were below 9.00 in pH and met conductivity and TDS requirements. In addition the three test areas and the stream were high in sulfate, chloride, and calcium ions compared to rain water.

It should be noted that since June 2005 the control sample average pH lessened to 8.2.

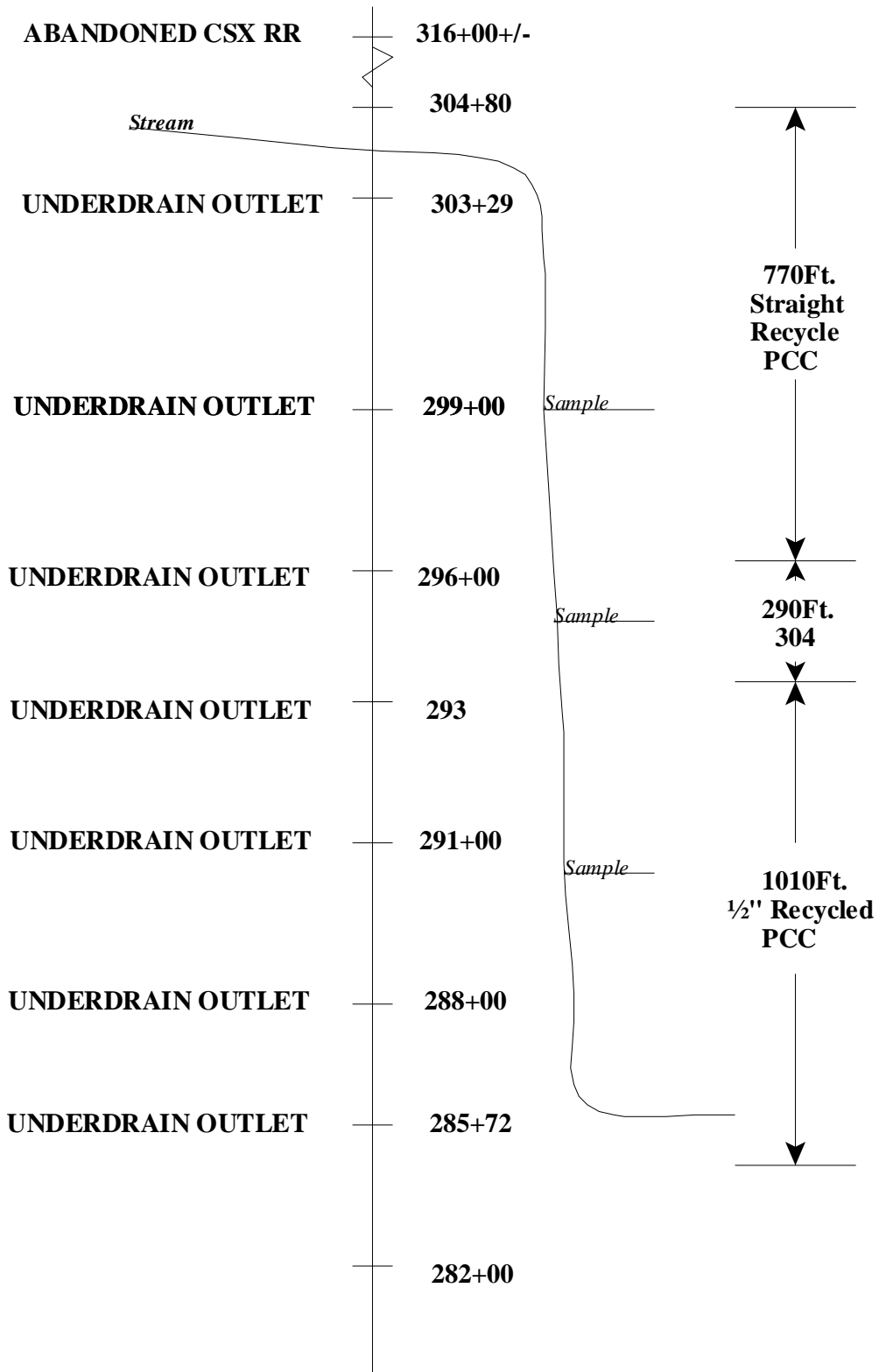
	<b>Average Values in Each Test Area</b>						
	<b>pH</b>	<b>Conduct.</b>	<b>TDS</b>	<b>Sulfide ppm</b>	<b>Sulfate ppm</b>	<b>Chloride ppm</b>	<b>Calcium ppm</b>
<b>RPCC +Fines</b>	11.48	2455	1227	0.05	77.47	103.42	133.36
<b>299*</b>	8.18	786	397	0.07	40.98	75.73	68.71
<b>304 Aggregate</b>	11.09	1843	931	0.07	49.11	106.62	103.44
<b>296*</b>	7.99	779	388	0.11	32.67	71.93	64.74
<b>RPCC +1/2"</b>	10.89	1302	653	0.06	59.79	99.87	54.71
<b>290*</b>	8.05	678	337	0.12	31.71	65.18	59.12
<b>Control</b>	9.81	764	358	0.06	21.86	70.85	18.29
<b>Rain</b>	7.83	39	19	0.05	6.41	6.74	2.29

\* Sampled from stream adjacent to test area

### **Conclusion**

After nearly two years of monitoring, the pH of the all three test areas failed to reach acceptable levels. The continued use of Rubblize and Roll is not recommended from a water quality standpoint.

**I-71 SB RECYCLED PCC DEMO LOCATIONS  
OCTOBER 13-18, 2004**



## pH

### Project 134-03

Date	12/9/2004	12/17/2004	1/4/2005	1/13/2005	2/7/2005	2/14/2005	2/28/2005	3/7/2005	3/14/2005	3/21/2005		
Rain gauge inches	0.4	1.2	2.2	>5	1.3	0.8	0.2	0.4	0.2	0.5		
<b>pH</b>												
303+29	11.70	10.90	11.60	11.50	11.20	11.20	11.60	11.10	Dry	11.10		
299+00	12.20	11.80	12.00	11.90	12.10	12.10	12.10	12.10	12.00	12.00		
296+00	Dry	Dry	11.80	11.70	11.90	11.90	11.30	11.90	Dry	11.80		
293+00	10.50	Dry	11.20	11.00	11.20	11.20	9.80	11.10	11.50	10.70		
291+00	11.70	Dry	11.60	11.40	11.50	11.50	11.50	11.70	Dry	11.50		
288+00		11.40	11.70	11.40	11.50	11.50	11.70	11.70	11.60	11.70		
285+72	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry		
275+30	10.90	8.90	10.40	9.90	10.60	10.60	11.20	10.20	10.50	10.30		
299*			8.70	8.20	7.80	7.80	8.20	8.60	8.60	8.50		
296*			7.50	7.90	7.60	7.60	8.30	8.50	8.10	8.10		
290*			7.60	7.80	7.90	7.90	8.20	8.30	8.10	8.30		
Rain	7.50	8.10	8.00	7.30	7.10	7.10	8.20	8.80	Dry	8.90		
	<b>3/31/2005</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/2006</b>			
	3.5	1.4	3.3	0.5	1.5	0.5						
									<b>Average</b>	<b>Max.</b>	<b>Min.</b>	
	11.50	11.60	11.60	11.20	11.10	11.10	Dry	11.40	9.50	11.23	11.70	9.50
	11.90	12.00	12.10	11.70	11.80	11.70	9.50	10.50	11.20	11.72	12.20	9.50
	11.80	11.60	12.00	9.90	10.30	11.50	7.90	11.20	9.00	11.09	12.00	7.90
	11.00	11.40	11.20	9.40	10.70	10.40	7.80	8.50	9.10	10.43	11.50	7.80
	11.30	11.70	11.70	10.80	11.00	11.10	7.80	10.90	Dry	11.17	11.70	7.80
	11.50	11.70	11.70	Dry	11.30	10.90	7.80	9.80	9.50	11.08	11.70	7.80
	9.20	Dry	Dry	Dry	Dry	8.80	Dry	Dry	8.00	8.67	9.20	8.00
	9.30	9.80	10.10	8.40	10.80	8.60	7.80	8.20	Dry	9.81	11.20	7.80
	8.30	8.30	8.30	8.00	8.20	7.60	Dry	7.80	7.90	8.18	8.70	7.60
	8.00	8.30	8.20	7.70	8.00	Dry	Dry	Dry	8.00	7.99	8.50	7.50
	8.00	8.60	8.30	7.70	Dry	Dry	Dry	Dry	7.90	8.05	8.60	7.60
	7.80	8.10	8.20	Dry	6.60	9.00	Dry	6.70		7.83	9.00	6.60

## Conductivity

<b>Conduct.</b>	<b>12/9/2004</b>	<b>12/17/2004</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/2005</b>	<b>2/14/2005</b>	<b>2/28/2005</b>	<b>3/7/2005</b>	<b>3/14/05</b>	<b>3/21/2005</b>
303+29	1850	1950	1690	1990	940	1660	1510	710	Dry	920
299+00	4690	3720	4210	3880	4230	4230	4290	4910	4850	4530
296+00	Dry	Dry	2450	2960	2620	1550	930	3020	Dry	2620
293+00	650	Dry	850	790	1000	800	540	910	1780	580
291+00	1400	Dry	1500	1340	1760	1960	1370	1680	Dry	1530
288+00		2270	2100	1880	1790	2120	1970	2060	2020	2000
285+72	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
275+30	810	1010	550	550	500	820	760	650	700	590
299*			500	640	620	800	810	670	920	920
296*			510	660	550	820	810	700	1000	930
290*			480	630	610	770	700	620	760	760
Rain	20	40	30	0	80	60	70	70	Dry	40

<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
1540	1560	960	1360	1180	1180	Dry	1570	340	1348	1990	340
4110	4470	3350	3120	3310	2120	1980	1290	390	3562	4910	390
2930	1320	2520	1090	770	1680	1440	980	600	1843	3020	600
780	1040	520	810	830	980	1450	1210	550	893	1780	520
980	1400	970	1010	880	1100	1570	930	Dry	1336	1960	880
1670	1770	1290	Dry	1420	1100	1660	1000	410	1678	2270	410
160	Dry	Dry	Dry	Dry	760	Dry	Dry	500	473	760	160
480	540	350	720	840	810	1600	1480	Dry	764	1600	350
600	700	450	1100	1100	1020	Dry	1140	580	786	1140	450
620	790	470	1210	1180	Dry	Dry	Dry	650	779	1210	470
580	740	460	1050	Dry	Dry	Dry	Dry	650	678	1050	460
10	10	10	Dry	50	60	Dry	30		39	80	0

## TDS

<b>TDS mg/L</b>	<b>12/9/2004</b>	<b>12/17/2004</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/2005</b>	<b>2/14/2005</b>	<b>2/28/05</b>	<b>3/7/2005</b>	<b>3/14/05</b>	<b>3/21/2005</b>	
303+29	980.00	900.00	860.00	850.00	450.00	760.00	830.00	350.00	Dry	450.00	
299+00	2410.00	1730.00	2090.00	1990.00	2100.00	1910.00	2380.00	2520.00	2220.00	2250.00	
296+00	Dry	Dry	1230.00	1500.00	1220.00	700.00	490.00	1520.00	Dry	1290.00	
293+00	320.00	Dry	420.00	410.00	460.00	370.00	290.00	470.00	830.00	300.00	
291+00	720.00	Dry	760.00	680.00	810.00	910.00	740.00	840.00	Dry	780.00	
288+00		1020.00	1030.00	910.00	830.00	990.00	1040.00	1070.00	980.00	1020.00	
285+72	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
275+30	400.00	460.00	270.00	270.00	220.00	370.00	400.00	300.00	370.00	300.00	
299*			240.00	310.00	310.00	390.00	440.00	330.00	420.00	450.00	
296*			240.00	320.00	270.00	370.00	430.00	350.00	490.00	470.00	
290*			230.00	310.00	300.00	360.00	380.00	310.00	350.00	370.00	
Rain	10.00	20.00	20.00	0.00	50.00	20.00	30.00	30.00	Dry	10.00	
<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
760.00	780.00	560.00	670.00	580.00	610.00	Dry	830.00	170.00	670.00	980.00	170.00
1980.00	2230.00	1940.00	1540.00	1640.00	1120.00	970.00	680.00	190.00	1783.68	2520.00	190.00
1760.00	660.00	1190.00	540.00	380.00	880.00	710.00	530.00	300.00	931.25	1760.00	300.00
470.00	520.00	300.00	400.00	400.00	510.00	710.00	650.00	270.00	450.00	830.00	270.00
520.00	690.00	570.00	500.00	430.00	580.00	770.00	490.00	Dry	674.38	910.00	430.00
860.00	880.00	760.00	Dry	700.00	580.00	810.00	520.00	210.00	835.88	1070.00	210.00
80.00	Dry	Dry	Dry	Dry	400.00	Dry	Dry	250.00	243.33	400.00	80.00
240.00	260.00	200.00		40.00	420.00	780.00	780.00	Dry	357.65	780.00	40.00
310.00	350.00	270.00	550.00	550.00	530.00	Dry	600.00	300.00	396.88	600.00	240.00
310.00	390.00	280.00	600.00	590.00	Dry	Dry	Dry	320.00	387.86	600.00	240.00
290.00	370.00	270.00	520.00	Dry	Dry	Dry	Dry	320.00	336.92	520.00	230.00
0.00	0.00	0.00	Dry	20.00	30.00	Dry	50.00		19.33	50.00	0.00

## Sulfide

<b>Sulfide</b>	<b>ppm</b>	<b>12/9/2004</b>	<b>12/17/04</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/05</b>	<b>2/14/05</b>	<b>2/28/05</b>	<b>3/7/05</b>	<b>3/14/05</b>	<b>3/21/2005</b>
303+29		<.2	0.05	0.05	0.03	0.06	0.05	0.05	0.06	Dry	0.04
299+00		<.2	0.04	0.04	0.05	0.05	0.04	0.05	0.06	0.06	0.05
296+00		Dry	Dry	0.06	0.10	0.07	0.05	0.07	0.06	Dry	0.03
293+00		<.2	Dry	0.06	0.07	0.07	0.06	0.05	0.07	0.084	0.04
291+00		<.2	Dry	0.05	0.06	0.07	0.07	0.07	0.08	Dry	0.05
288+00			0.03	0.04	0.06	0.07	0.05	0.07	0.09	0.027	0.06
285+72		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
275+30		<.2	0.04	0.06	0.06	0.08	0.07	0.07	0.09	0.014	0.06
299*				0.06	0.06	0.08	0.07	0.05	0.06	0.16	0.04
296*				0.08	0.10	0.07	0.1	0.25	0.11	0.288	0.13
290*				0.10	0.17	0.07	0.07	0.19	0.09	0.135	0.05
Rain		<.2	0.08	0.06	0.04	0.04	0.09	0.04	0.08	Dry	0.03
<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
0.03	0.04	0.05	0.06	0.07	0.03	Dry	0.02		0.05	0.07	0.02
0.03	0.06	0.04	0.07	0.03	0.06	0.02	0.03		0.05	0.07	0.02
0.06	0.06	0.06	0.12	0.03	0.13	0.05	0.05		0.07	0.13	0.03
0.04	0.05	0.04	0.06	0.02	0.27	0.07	0.02		0.07	0.27	0.02
0.06	0.06	0.05	0.08	0.03	0.04	0.06	0.09		0.06	0.086	0.03
0.04	0.04	0.05	Dry	0.03	0.07	0.08	0.05		0.05	0.09	0.026
0.13	Dry	Dry	Dry	Dry	0.05	Dry	Dry		0.09	0.13	0.05
0.05	0.05	0.05	0.07	0.04	0.05	0.06	0.12		0.06	0.119	0.014
0.04	0.13	0.06	0.08	0.04	0.08	Dry	0.06		0.07	0.16	0.04
0.1	0.05	0.08	0.06	0.06	Dry	Dry	Dry		0.11	0.288	0.045
0.08	0.06	0.09	0.31	Dry	Dry	Dry	Dry		0.12	0.31	0.05
0.03	0.03	0.02	Dry	0.02	0.06	Dry	0.10		0.05	0.095	0.016

## Sulfate

<b>Sulfate</b>	<b>ppm</b>	<b>12/9/2004</b>	<b>12/17/04</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/05</b>	<b>2/14/05</b>	<b>2/28/05</b>	<b>3/7/05</b>	<b>3/14/05</b>	<b>3/21/2005</b>
303+29		80.2	250.8	37	68.30	45.23	59.98	32.43	32.18	Dry	47.91
299+00		30.6	130.8	30.6	35.70	24.27	62.27	20.53	11.82	21.88	13.06
296+00		Dry	Dry	32.1	39.00	26.45	26.9	8.04	18.82	Dry	19.56
293+00		55.3	Dry	88.9	67.00	70.01	68.85	15.24	45.94	28.79	27.9
291+00		59.7	Dry	31.6	48.25	22.07	54.94	19.51	13.21	Dry	20.06
288+00			106.8	32.2	30.30	22.43	36.03	24.04	12.56	26.72	16.16
285+72		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
275+30		85.7	123	46.2	64.60	59.90	74.98	33.17	31.58	50.66	40.73
299*				30.4	63.10	38.22	48.11	<.8	<.8	35.97	15.77
296*				31.4	29.70	34.12	53.82	36.56	<.8	36.31	28.63
290*				30.8	46.70	42.42	47.1	17.06	<.8	11.84	28.75
Rain		< 8	4.2	4.1	3.50	9.07	4.82	<.8	<.8	Dry	<8
<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
31.81	73.84	63.32	128.42	103.80	200.60	Dry	86.14		83.87	250.8	31.81
0	40.56	32.40	48.48	83.27	152.64	286.16	254.16		71.07	286.16	0
0	30.28	34.77	53.81	54.23	125.28	184.94	82.54		49.11	184.94	0
18.08	52.47	57.01	93.54	72.46	155.98	301.72	185.07		82.60	301.72	15.24
0	37.46	33.70	70.68	63.89	69.20	176.48	65.64		49.15	176.48	0
0	37.20	31.89	Dry	76.66	80.12	183.84	44.97		47.62	183.84	0
0	Dry	Dry	Dry	Dry	64.02	Dry	Dry		32.01	64.02	0
21.86	41.78	67.19	59.70	109.50	88.22	151.24	268.29		78.79	268.29	21.86
0	37.91	30.41	44.20	31.99	29.24	Dry	127.48		40.98	127.48	0
0.96	35.98	32.16	41.97	30.40	Dry	Dry	Dry		32.67	53.82	0.96
0	36.60	36.03	51.55	Dry	Dry	Dry	Dry		31.71	51.55	0
0	3.27	4.10	Dry	10.65	12.28	Dry	14.53		6.41	14.53	0

## Chloride

<b>Chloride</b>	<b>ppm</b>	<b>12/9/2004</b>	<b>12/17/04</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/05</b>	<b>2/14/05</b>	<b>2/28/05</b>	<b>3/7/05</b>	<b>3/14/05</b>	<b>3/21/05</b>
303+29		151.4	163.3	95.7	82.40	47.86	68	52.6	41.94	Dry	73.45
299+00		105.7	164	169.8	140.00	120.20	140.1	138.2	78.32	135.25	138.12
296+00		Dry	Dry	146.5	108.80	122.76	84.15	92	77.12	Dry	149.96
293+00		84.9	Dry	99.6	64.90	104.40	77.75	81.3	42.36	151.84	67.79
291+00		140.9	Dry	121.7	88.60	93.80	110.9	99.5	50.72	Dry	120.68
288+00			157.1	141.6	103.36	102.44	109.65	113.2	72.62	156.16	137.88
285+72		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
275+30		106.2	134.3	94.3	56.10	59.48	7.068	56.7	29.54	83.2	102.84
299*				73.2	50.20	84.84	73.16	74.3	16.68	77.88	101.28
296*				64.9	58.10	76.54	46.5	55.4	37.74	99.96	117
290*				61.4	50.60	80.22	82.92	84	18.21	64.24	72.28
<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
73.6	83.66	42.00	57.96	106.69	86.56	Dry	101.46		83.04	163.3	41.94
89.85	148.60	107.40	103.14	136.75	133.48	81.52	97.98		123.80	169.8	78.32
114.68	83.60	86.40	82.35	131.56	161.04	50.76	107.64		106.62	161.04	50.76
65.72	79.60	48.72	105.96	105.64	136.60	73.24	88.38		86.98	151.84	42.36
64.28	98.44	57.88	98.64	123.08	115.16	73.28	95.19		97.05	140.9	50.72
82.6	118.76	68.26	Dry	154.76	140.24	95.28	95.49		115.59	157.1	68.26
8.23	Dry	Dry	Dry	Dry	73.16	Dry	Dry		40.70	73.16	8.23
58.88	66.28	48.72	80.48	99.00	70.24	54.48	67.44		70.85	134.3	7.068
49.32	59.90	39.54	84.88	127.56	102.60	Dry	120.63		75.73	127.56	16.68
55.24	63.56	47.58	93.36	119.20	Dry	Dry	Dry		71.93	119.2	37.74
54.8	64.06	51.20	98.28	Dry	Dry	Dry	Dry		65.18	98.28	18.21
0.64	1.06	0.96	Dry	1.37	1.28	Dry	47.78		6.74	47.78	0.27

<b>Calcium</b>	<b>ppm</b>	<b>12/9/2004</b>	<b>12/17/04</b>	<b>1/4/2005</b>	<b>1/13/2005</b>	<b>2/7/05</b>	<b>2/14/05</b>	<b>2/28/05</b>	<b>3/7/05</b>	<b>3/14/05</b>	<b>3/21/2005</b>
303+29	80.16	4.01	112.22	108.22	36.07	52.1	0	16.03	Dry	24.05	
299+00	232.46	20.04	452.9	232.46	144.29	232.64	80.16	264.53	172.34	376.75	
296+00	Dry	Dry	152.3	170.38	92.18	140.28	0	144.29	Dry	180.36	
293+00	24.05	Dry	44.09	36.07	32.06	44.09	12.02	28.06	108.22	20.04	
291+00	40.08	Dry	84.17	68.14	76.15	88.18	0	76.15	Dry	80.16	
288+00			108.22	84.17	80.16	92.18	0	96.19	68.14	108.22	
285+72	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
275+30	16.03	8.02	16.03	8.02	16.03	40.08	12.02	8.02	12.02	8.02	
299*			80.16	60.12	48.1	52.1	80.16	56.11	80.16	84.17	
296*			44.09	56.11	36.07	36.07	80.16	60.12	92.18	84.17	
290*			40.08	56.11	44.09	52.1	56.11	56.11	68.14	68.14	
Rain	0	0	0	0	4.01	8.02	0	4.01	Dry	0	

\* Sampled from stream

<b>3/31/05</b>	<b>4/5/2005</b>	<b>4/25/2005</b>	<b>5/9/2005</b>	<b>5/23/2005</b>	<b>6/14/2005</b>	<b>7/28/2005</b>	<b>9/3/2005</b>	<b>10/27/06</b>	<b>Avg.</b>	<b>Max.</b>	<b>Min.</b>
76.15	56.11	84.17	48.10	44.09	80.16				54.78	112.22	0
236.47	212.42	408.82	64.13	164.33	96.19				211.93	452.9	20.04
164.32	40.08	188.38	0.00	0.00	72.14				103.44	188.38	0
36.07	36.07	28.06	12.02	74.05	52.10				39.14	108.22	12.02
36.07	60.12	84.17	16.03	12.02	44.09				54.68	88.18	0
80.16	68.14	84.17	Dry	20.04	24.05				70.30	108.22	0
20.04	Dry	Dry	Dry	Dry	68.14				44.09	68.14	20.04
8.02	8.02	16.03	24.05	16.03	76.15				18.29	76.15	8.02
60.12	56.11	60.12	64.13	92.18	88.18				68.71	92.18	48.1
56.11	40.08	60.12	96.19	100.20	Dry				64.74	100.2	36.07
60.12	56.11	52.10	100.20	Dry	Dry				59.12	100.2	40.08
0	0.00	0.00	Dry	4.01	12.02				2.29	12.02	0