

Long Term Monitoring Report (Seventh of Ten Semi-Annual Roubidoux Samples)  
November 2006

**Introduction:**

The seventh round of samples of the Long Term Monitoring (LTM) project at Tar Creek for the Roubidoux aquifer were collected in November 2006. The analytical results are shown in Table 1. The previous results for the LTM wells are also included in the table. A map with the well locations (Figure 1) is attached along with graphs of the Picher #5 iron and sulfate concentrations over time (Figure 2), and a Piper Diagram for the water samples from the LTM wells (Figure 3).

The primary and secondary maximum contaminant levels (MCLs) are identified in the header of the table for data comparison. The tolerance limits and Roubidoux background concentrations for the indicator parameters of mine water contamination are also provided in the header and in the footnotes. The indicator parameters are: sulfate, iron, and zinc. The values for tolerance limits and Roubidoux background concentrations, respectively, are: 82 mg/l & 25 mg/l for **sulfate**; 207 ug/l & 61.5 ug/l for **iron**; and 43 ug/l & 8.8 ug/l for **zinc**. These parameters and their values were determined in Phase I of After Action Monitoring (AAM) of the Roubidoux at Tar Creek and are included in the Phase II AAM report "Summary of Roubidoux Water Quality Tests" (September, 2002).

**QA/QC: Blanks, RPD, Cation-Anion Balance:**

The reporting limits (detection limits) for all the parameters analyzed following the methods for metals analyses defined in the QAPP for the LTM project (EPA 200.8) are below the respective MCL values.

The Miami #1 well was back in service at the time of sampling but the nearby Miami #3 well was again substituted as the Roubidoux sample from outside the mine area for inter-well water quality comparisons. The Miami #3 well is located about 1/2 mile south of the Miami #1 well as shown on the figure. It is of similar age and completed similarly as indicated on the list of LTM wells. Historical water quality and production data is also available for the Miami #3 well.

Two additional wells were sampled this time to provide a baseline database for Roubidoux background concentrations and tolerance limit calculations. These two wells are the Miami #11 located in the SE/4 NW/4 NW/4 of Section 16-T28N-R23E, about 3 miles northeast of the Miami #1 well and the Rural Water District 7 #2 well located in the NE/4 SE/4 SE/4 of Section 21-T29N-R22E about 4 miles west of the Cardin #1 well. Both are relatively new wells and the details are included in the list of LTM wells.

The blanks for two days of sampling showed no exceedances of detection limits for all parameters. The blank and duplicate for one day of sampling were not taken since access to the designated sample site was not attained. Only two samples (Picher #6 & #7) were collected this day and are flagged in Table 1. For the two duplicates taken this round of sampling, the relative percent difference (RPD) calculations showed mostly (72 of 74) less than 5 percent difference between the duplicate concentrations and the respective sample concentrations. At the Miami #11 well a 14.81 % difference between the sample and the duplicate was calculated for dissolved iron. The 0.058 mg/l concentration value compares to the 0.050 mg/l concentration in the

duplicate sample. The only other RPD greater than 5% was -18.18 % for sodium at the RWD7#2 well. The two values were 164 and 167 mg/l and this RPD does not indicate a problem. The cation-anion balance calculations were good (< 10 %) for all samples.

**Results:**

The Commerce #5, the Quapaw #4, and the Rural Water District #4 (Bluehole well) again have the best water quality, with conductivity values near 300 uS/cm, and total dissolved solids (TDS) concentrations less than 200 mg/l. The concentrations of sulfate, iron and zinc, the indicator parameters of mine water contamination, are below tolerance limits and represent background concentrations in these wells and at the Miami #3 well. The water from the Miami #7 and RWD7#2 wells are also below the tolerance limits for all three indicator parameters but are representative of background concentrations for only sulfate and zinc.

The primary MCL for lead (15 ug/l) was not exceeded in any samples and all samples tested less than reporting limits of 5 ug/l. There were no exceedances of primary drinking water standards from any of the wells. Secondary standards were violated in the Fernandez, Picher #6, and Quapaw #5 wells for total iron. The Quapaw #5 also had violations of SMCLs for sulfate and total dissolved solids concentrations. The well owners will be notified of these LTM results. One well showed impacts by mine water: the Quapaw #5. Mine water impacts are concluded when the indicator parameter concentrations exceed the tolerance limits. These are shown in bold type in Table 2 below.

Table 2: Concentrations of Indicator Parameters in LTM Wells (November 2006).

WELL	Zinc (ug/l)		Iron (ug/l)		Sulfate (mg/l)
	Total	Dissolved	Total	Dissolved	
Background Conc.	8.8		61.5		25
Tolerance Limit	43		207		82
Secondary MCL	5,000		300		250
	Total	Dissolved	Total	Dissolved	
Cardin #1	<5	<5	103	94	<b>156</b>
Commerce #4	15	9	106	103	<b>161</b>
Commerce #5	<5	<5	33	28	17.4
Fernandez	<b>273</b>	39	<b>350</b>	<b>334</b>	57.2
Miami #1	Ns	Ns	Ns	Ns	Ns
Miami #3	<5	<5	<20	<20	16.8
*Miami #11	<5	<5	80.5	54	15.6
Picher #5	<5	<5	118	108	<b>141</b>
Picher #6	8	8	<b>302</b>	<b>274</b>	<b>144</b>
Picher #7	<5	<5	124	113	<b>175</b>
Quapaw #4	<5	<5	<20	<20	20
Quapaw #5	<b>113</b>	<b>110</b>	<b>2,480</b>	<b>2,420</b>	<b>391</b>
RWD4 #4	<5	<5	25	22	11
*RWD4 #11	<5	<5	87	76	18.6

- Note: Means are indicated by an asterisk near the well names with duplicate samples; Shaded area indicates value at or below background; A Box indicates value greater than SMCL; Bold values are above tolerance limits; Detection limit values were used in calculation of means; Ns - not sampled.

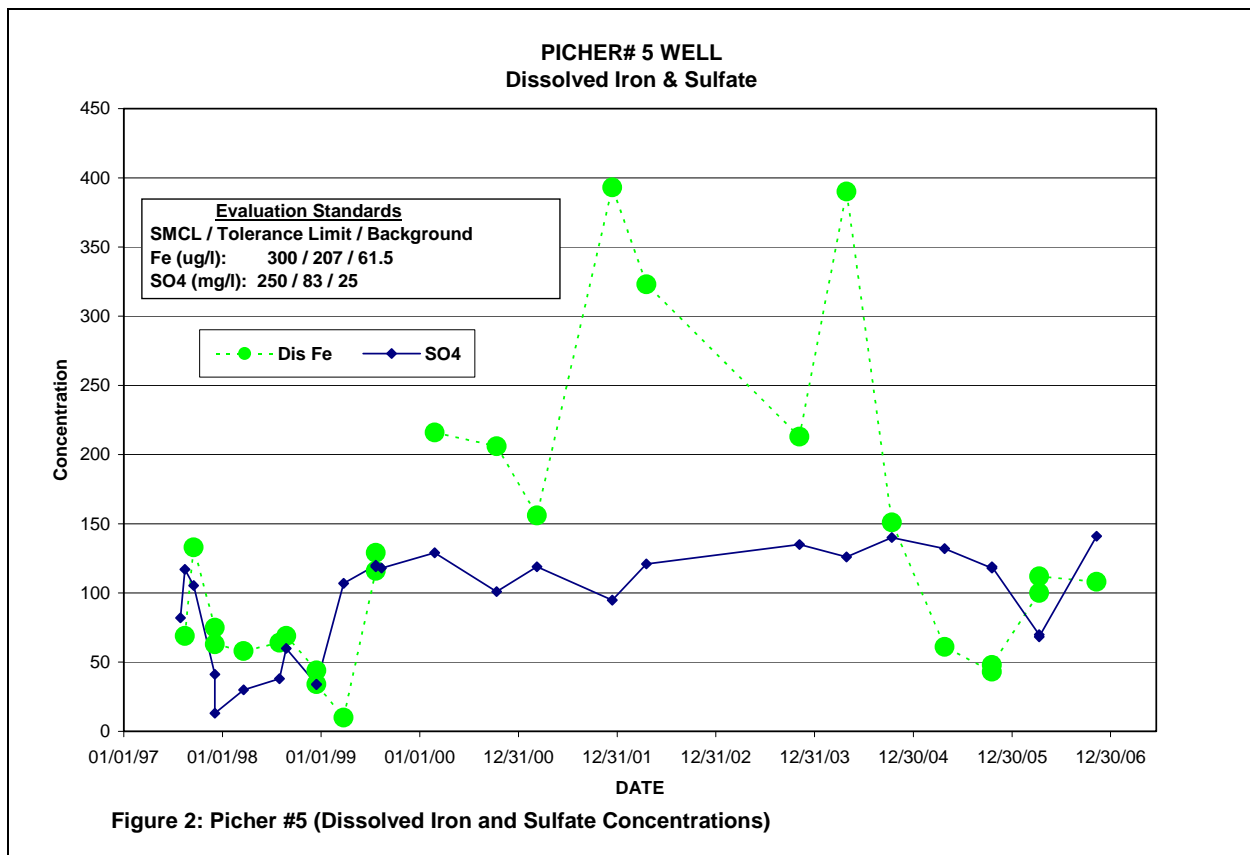
Tests at the Quapaw #5 continue to show that the Roubidoux water from this well is of very poor quality, exceeding secondary standards for iron, total dissolved solids (TDS), and sulfate. The iron, TDS, and sulfate concentrations observed are 2,480 ug/l, 960 mg/l and 391 mg/l, respectively. Although it is below the MCL (10 ug/l), an arsenic concentration of 3.9 ug/l was also detected and a manganese concentration (35 ug/l) is near the standard of 50 ug/l. Concentrations for all three of the indicator parameters (391 mg/l, 2,480 ug/l and 113 ug/l, respectively for sulfate, iron and zinc) are greater than tolerance limits at this well. Although the water is considered treatable (TDS < 3,000 mg/l), this well is not hooked up to the public water system. In the case of the Quapaw #5 well, which is relatively new and has casing installed to a depth of 850 feet, it is concluded that, since all three indicator parameters are exceeded, the Roubidoux aquifer is impacted by mine water near this well.

The concentrations for two of the three indicator parameters observed at the Picher #6 well (iron and sulfate) and the Fernandez well (total zinc and iron) exceed tolerance limits, so these wells are considered impacted by mine water and probable impacts to the Roubidoux aquifer are suggested. Specifically, the iron and sulfate concentrations at the Picher #6 exceeded tolerance limits, but the zinc concentrations represent background. The sulfate and iron concentrations are: 144 mg/l and 302 ug/l, respectively. The Picher #6 continues to show improved water quality compared to the first samples collected after the well was completed in October 2000. It had been purged for about 1 week prior to collecting samples for analyses and the sulfate and iron concentrations were tested at 307 mg/l and 2,304 ug/l, respectively. The effects of long term purging prior to sampling were evaluated during the October 2004 LTM monitoring event. Increased purging of the Picher #6 well to 4 days from 24 hours or less did not show an increase in concentrations compared to previous sampling events. The concentrations of most parameters were about the same as before with normal purging. The probable explanation for the improved iron and sulfate concentrations (compared to the initial sample) is the presence of an inflatable packer installed in the well in 2001 after the initial sampling. The packer prevents inflow of mine water into the well through the casing. This well is not hooked up to the distribution system and is not used as a public water supply well. The Fernandez well exceeded tolerance limits for total zinc and iron with concentrations of 273 and 350 ug/l, respectively. This is an old well originally installed in the 1920's at the Ontario smelter site. The previous data and the filtered zinc concentration for this sampling event (39 ug/l) suggest that the well itself is impacted by mine water probably due to inadequate or corroded casing across the Boone.

The iron concentration in the Picher #5 well was similar to the last sampling event and both iron and sulfate are significantly lower than previous sampling events (~2 years ago) as seen in Table 1 and the graph (Figure 2). The higher than normal iron concentration at the Picher #5, observed in April 2004 and the spike in 2001, were attributed to holes in the production pipe that allows some of the water to circulate out of the production pipe, down the casing, into the water column, and back into the pipe through the downhole pump. The well was taken out of service shortly after this sampling event due to low water discharge which turned out to be caused by holes in the production pipe. As a result of the frequent workovers to repair the holes in the production pipe, the City replaced the iron based production pipe with stainless steel pipe (in January 2006) to reduce corrosion. This change may result in lower iron concentrations in future samples if the

higher iron in the water was related to production pipe corrosion and not to inflow from the Boone, casing corrosion, or impacted Roubidoux aquifer.

Concentrations greater than tolerance limits for one of the three indicator parameters were observed at the Cardin #1 (sulfate = 156 mg/l), the Commerce #4 (sulfate = 161 mg/l), the Picher #5 (sulfate = 141 mg/l), and the Picher #7 (sulfate = 175 mg/l). The tolerance limit for sulfate is 82 mg/l. While the iron concentrations in these wells are above Roubidoux background values, both iron and zinc concentrations are below tolerance limits of 207 and 43 ug/l, respectively. **Possible** impacts from mine water to the Roubidoux in these four wells are indicated.



The Piper diagram (Figure 3) of the November 2006 LTM water quality data shows that five wells are impacted slightly by mine water. This is graphically displayed in the lower right triangle of the diagram where the points representing the anion percentage composition of the water samples from the five wells (Cardin #1, Commerce #4, Picher #6, Picher #7, and Quapaw #5) plot midway between the mine water and Roubidoux background endpoints. The RWD7 #2 well plots towards the Na and Cl apexes of the cation and anion triangles, respectively. The well is located outside the Tar Creek Superfund site by a couple of miles to the west in the direction that the Roubidoux dips. The high percentage of sodium and chloride in this well is result of its greater depth.

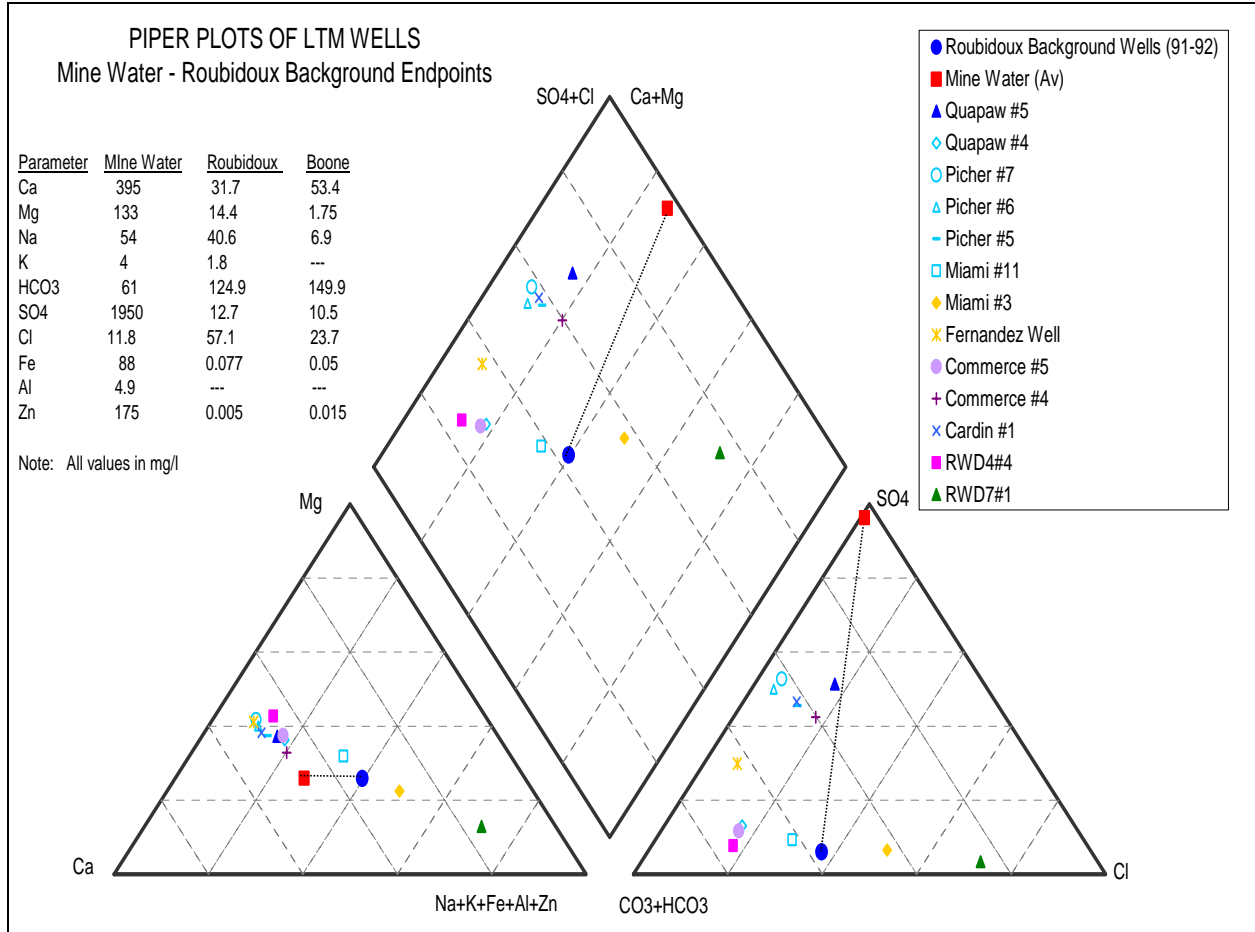


Figure 3 – Piper Diagram of LTM Water Quality (LTM wells sampled in November 2006).

Table 1 – Analytical Results for Tar Creek Long Term Monitoring of Roubidoux Wells

Analytical Data for Tar Creek Long Term Monitoring of Roubidoux Wells

WELL	DATE	Cond. (Field) uS/cm	Temp. (Field) °C	pH (Field)	D.O. (Field) mg/l	Alk (Field) CaCO <sub>3</sub> mg/l	Alkalinity CaCO <sub>3</sub> mg/l	Chloride Cl mg/l	Sulfate SO <sub>4</sub> mg/l	Tot Dis Sol TDS mg/l	Hardness CaCO <sub>3</sub> mg/l	Calcium Ca mg/l	Magnesium Mg mg/l	Sodium Na mg/l	Potassium K mg/l
<b>MCL(SMCL)</b>								(250)	(250)	(500)					
<b>Roub. T.L. / Back.</b>									82/25						
<b>Cardin #1: SW SE SE 19-T29N-R23E; N 36 58 23.3, W 94 51 07.2, EL=817; TD=1150</b>															
11/8/06	Totals	634	21.79	7.2	1.32	160	147	28	156	375	293	64	29	15	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	60	28	15	3
4/11/06	Totals	368	18.8	7.28	5.32	111	137	13.5	78.8	238	201	43	20	11	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	43	20	11	3
10/17/05	Totals	487	19.2	7.8	0.9	127	144	20.8	107	308	262	60	27	13	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	69	29	13	3
4/25/05	Totals	510	18.3	7.56	1.58	177	144	21	111	347	260	59	27	14	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	58	26	13	3
10/12/04	Totals	498	18.3	7.62	1.82	199	140	20.4	107	333	250	59	27	14	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	56	26	13	3
4/27/04	Totals	334	19.6	7.43	3.48	150	138	14.5	93.3	319	231	50	24	12	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	50	24	12	3
11/6/03	Totals	595	17.6	6.47	n.a.	145	149	27.1	134	388	281	61	30	17	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	61	30	17	3
	<b>Averages</b>	<b>489</b>	<b>19.1</b>	<b>7.34</b>	<b>2.40</b>	<b>153</b>	<b>143</b>	<b>20.8</b>	<b>112.4</b>	<b>330</b>	<b>254</b>	<b>57</b>	<b>26</b>	<b>14</b>	<b>3</b>
<b>Commerce #4: NW NE NW 6-T28N-R23E; N 36 56 31.9, W 94 52 21.1, EL=812; TD=1250</b>															
11/8/06	Totals	769	20.92	7.11	4.41	162	159	48.7	161	448	307	74	28	31	4
	Dissolved	-	-	-	-	-	-	-	-	-	-	66	28	30	4
4/11/06	Totals	412	20.1	8.41	3.54	164	161	56.5	166	437	311	70	29	36	4
	Dissolved	-	-	-	-	-	-	-	-	-	-	72	30	37	4
10/18/05	Totals	356	19.4	7.95	0.6	117	135	< 10	66	250	189	44	19	9	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	45	20	9	3
4/26/05	Totals	577	19.4	7.7	1.8	n.a.	135	60.5	76	342	214	49	22	34	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	48	21	34	3
10/12/04	Totals	614	19	7.47	1.61	183	148	43.5	126	403	270	65	27	29	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	63	26	29	3
4/27/04	Totals	403	18.7	7.75	3.39	218	144	59.5	107	409	252	54	24	35	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	56	25	35	3
11/6/03	Totals	615	17.9	6.42	n.a.	153	150	37.9	119	383	260	61	26	28	3
	Dissolved	-	-	-	-	-	-	-	-	-	-	57	25	27	3
	<b>Averages</b>	<b>535</b>	<b>19.3</b>	<b>7.54</b>	<b>2.56</b>	<b>166</b>	<b>147</b>	<b>45.2</b>	<b>117.3</b>	<b>382</b>	<b>258</b>	<b>59</b>	<b>25</b>	<b>29</b>	<b>3</b>
<b>Commerce #5 MW: NW SE NW 6-T28N-R23E; N 36 56 19.4, W 94 52 17.9, EL=812; TD=1100</b>															
11/8/06	Totals	313	21.2	7.74	2.12	115	111	18	17.4	157	129	28	13	11	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	26	13	10	2
4/11/06	Totals	301	19.9	8.57	1.44	107	115	15.3	14.6	138	124	26	13	10	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	27	13	10	2
10/18/05	Totals	269	20.4	7.81	0.1	145	114	10.3	13.7	173	130	29	14	8	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	31	14	8	2
4/26/05	Totals	268	18.4	8.17	5.18	n.a.	115	< 10	13.9	150	121	28	13	8	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	28	13	8	2
10/12/04	Totals	260	17.9	8.64	5.65	152	111	< 10	13	154	124	28	13	8	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	28	13	8	2
4/27/04	Totals	252	18.9	7.82	5.75	158	111	< 10	11.8	158	122	25	13	8	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	25	13	8	2
* 4/27/04	Totals	252	18.9	7.82	5.75	158	111	< 10	11.8	158	123	25	13	8	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	26	13	8	2
11/6/03	Totals	294	17.7	7.29	n.a.	108	112	15.6	12	155	127	26	13	11	2
	Dissolved	-	-	-	-	-	-	-	-	-	-	26	13	11	2
	<b>Averages</b>	<b>276</b>	<b>19.2</b>	<b>7.98</b>	<b>3.71</b>	<b>135</b>	<b>113</b>	<b>12.4</b>	<b>13.5</b>	<b>155</b>	<b>125</b>	<b>27</b>	<b>13</b>	<b>9</b>	<b>2</b>

WELL	DATE	Antimony Sb mg/l	Arsenic As mg/l	Cadmium Cd mg/l	Chromium Cr mg/l	Iron Fe mg/l	Lead Pb mg/l	Manganese Mn mg/l	Mercury Hg mg/l	Nickel Ni mg/l	Selenium Se mg/l	Thallium Tl mg/l	Zinc Zn mg/l	CAT / AN BALANCE % Error
MCL(SMCL)		0.006	0.01	0.005	0.1	(0.3)	0.015	0.05	0.002	0.1	0.05	0.002	(5)	
Roub. T.L. / Back.						207/62							43/9	

Cardin #1:

11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.103	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-5.01
	< 0.002	< 0.002	< 0.002	< 0.010	0.094	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.140	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.52
	< 0.002	< 0.002	< 0.002	< 0.010	0.121	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/17/05	< 0.002	< 0.002	< 0.002	< 0.010	0.170	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	1.44
	< 0.002	< 0.002	< 0.002	< 0.010	0.156	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	
4/25/05	< 0.002	< 0.002	< 0.002	< 0.010	0.193	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.036	0.61
	< 0.002	< 0.002	< 0.002	< 0.010	0.152	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	0.139	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.009	2.19
	< 0.002	< 0.002	< 0.002	< 0.010	0.114	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.132	< 0.010	0.009	0.00005	< 0.010	< 0.010	< 0.010	0.033	-0.39
	< 0.010	< 0.010	< 0.005	< 0.005	0.112	< 0.010	0.009	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
11/6/03	< 0.002	< 0.002	< 0.002	< 0.010	0.101	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.022	-1.58
	< 0.002	< 0.002	< 0.002	< 0.010	0.098	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
	0.003	0.003	0.002	0.009	0.130	0.006	0.010	0.00005	0.010	0.010	0.002	0.011	-1.04

Commerce #4:

11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.106	< 0.005	0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.015	-2.96
	< 0.002	< 0.002	< 0.002	< 0.010	0.103	< 0.005	0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.009	
4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.079	< 0.005	0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.027	-4.55
	< 0.002	< 0.002	< 0.002	< 0.010	0.079	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	0.132	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.47
	< 0.002	< 0.002	< 0.002	< 0.010	0.104	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	0.077	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.48
	< 0.002	< 0.002	< 0.002	< 0.010	0.072	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	0.090	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.03
	< 0.002	< 0.002	< 0.002	< 0.010	0.086	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.087	< 0.010	0.009	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-3.94
	< 0.010	< 0.010	< 0.005	< 0.005	0.085	< 0.010	0.010	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
11/6/03	< 0.002	< 0.002	< 0.002	< 0.010	0.095	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-0.50
	< 0.002	< 0.002	< 0.002	< 0.010	0.086	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
	0.003	0.003	0.002	0.009	0.092	0.006	0.010	0.00005	0.010	0.010	0.002	0.008	-2.13

Commerce #5 MW:

11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.033	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.50
	< 0.002	< 0.002	< 0.002	< 0.010	0.028	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.038	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-3.06
	< 0.002	< 0.002	< 0.002	< 0.010	0.026	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	0.043	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	2.47
	< 0.002	< 0.002	< 0.002	< 0.010	0.023	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	0.070	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.05
	< 0.002	< 0.002	< 0.002	< 0.010	0.034	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	0.092	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	1.70
	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.093	< 0.010	< 0.010	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-0.53
	< 0.010	< 0.010	< 0.005	< 0.005	0.034	< 0.010	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
* 4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.114	< 0.010	< 0.010	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-0.53
	< 0.010	< 0.010	< 0.005	< 0.005	0.039	< 0.010	< 0.010	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
11/6/03	< 0.002	< 0.002	< 0.002	< 0.010	0.080	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-0.53
	< 0.002	< 0.002	< 0.002	< 0.010	0.048	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.010	
	0.004	0.004	0.003	0.009	0.051	0.006	0.010	0.00005	0.010	0.010	0.003	0.006	-0.25

WELL	DATE		Cond. (Field) uS/cm	Temp. (Field) °C	pH (Field)	D.O. (Field) mg/l	Alk (Field) CaCO <sub>3</sub> mg/l	Alkalinity CaCO <sub>3</sub> mg/l	Chloride Cl mg/l	Sulfate SO <sub>4</sub> mg/l	Tot Dis Sol TDS mg/l	Hardness CaCO <sub>3</sub> mg/l	Calcium Ca mg/l	Magnesium Mg mg/l	Sodium Na mg/l	Potassium K mg/l
									(250)	(250)	(500)					
MCL(SMCL)																
Roub. T.L. / Back.										82/25						
<b>Fernandez Well:</b>			<b>SE NW NW 24-T29N-R23E; N 36 59 04.7, W 94 46 20.3, EL=852; TD=105f</b>													
	11/8/06	Totals	378	18.8	7.3	1.06	132	126	< 10.0	57.2	206	184	41	18	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	36	18	6	2
	4/10/06	Totals	239	17.8	6.69	1.43	153	155	< 10.0	130	306	262	25	13	5	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	26	14	5	2
	10/17/05	Totals	404	17.1	7.59	2.5	155	151	< 10.0	125	348	274	61	29	8	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	68	30	8	2
	4/25/05	Totals	402	15.8	7.27	1.4	180	136	< 10.0	72.5	241	199	44	21	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	43	21	7	2
	1/28/05	Totals	756	12.1	7.03	2.63	n.a.	211	< 10.0	282	648	477	-	-	49	13
	10/11/04	Totals	445	15.4	7.41	2.09	128	138	< 10.0	92.4	284	219	57	27	8	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	56	26	8	2
*	10/11/04	Totals	445	15.4	7.41	2.09	128	148	< 10.0	115	327	248	57	27	8	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	54	25	7	2
	4/29/04	Totals	427	17.3	7.5	2.27	134	128	< 10.0	56.3	233	185	43	22	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	28	15	6	2
*	4/29/04	Totals	427	17.3	7.5	2.27	134	144	< 10.0	103	328	236	39	20	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	28	15	6	2
	12/19/03	Totals	415	14.8	6.64	n.a.	125	147.0	< 10.0	85.5	274	213	46	23	8	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	46	24	8	2
	11/4/03	Totals	252	17.1	7.83	n.a.	115	114.0	< 10.0	16.4	138	126	27	14	5	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	27	14	5	2
	10/6/03	Totals	257	18.3	7.08	n.a.	130	98.9	< 10.0	14.0	148	124	26	14	5	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	26	14	5	2
*	10/6/03	Totals	257	18.3	7.08	n.a.	130	98.6	< 10.0	16.4	132	126	26	14	5	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	26	14	5	2
	7/30/03	Dis Met	370	18.2	8.19	n.a.	na	145.0	11.1	126.0	368	na	60	29	8	2
		<b>Averages</b>	<b>391</b>	<b>16.7</b>	<b>7.32</b>	<b>1.97</b>	<b>137</b>	<b>138.6</b>	<b>10.1</b>	<b>92.3</b>	<b>284</b>	<b>221</b>	<b>41</b>	<b>20</b>	<b>8</b>	<b>2</b>
<b>Miami #1:</b>			<b>SW NE SW 30-T28N-R23E; N 36 52 30.9, W 94 52 23.4; EL=790; TD=123f</b>													
	4/27/04	Totals	413	19.6	8.27	3.3	120	112	78.8	12.6	265	133	29	14	47	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	28	14	45	2
	11/4/03	Totals	500	15.7	7.15	n.a.	na	117.0	83.6	12.4	262	133	30	15	50	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	30	15	50	3
*	11/4/03	Totals	500	15.7	7.15	n.a.	na	116.0	84.5	12.5	264	135	29	14	49	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	30	15	50	3
		<b>Averages</b>	<b>471</b>	<b>17.0</b>	<b>7.52</b>	<b>3.30</b>	<b>120</b>	<b>115</b>	<b>82.3</b>	<b>12.5</b>	<b>264</b>	<b>134</b>	<b>29</b>	<b>15</b>	<b>49</b>	<b>3</b>
<b>Miami #3:</b>			<b>NE NW 31-T28N-R23E; N 36 52 10.28, W 94 52 23.82; EL=783; TD=1252</b>													
	11/8/06	Totals	538	18.56	7.52	1.51	116	115	95.6	16.8	275	129	27	14	54	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	27	13	52	3
	4/11/06	Totals	547	20.1	8.51	2.14	155	138	94.3	15.3	256	131	28	14	57	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	29	14	57	3
	10/18/05	Totals	492	19.3	7.7	0.7	125	118	92.8	12.9	263	138	31	14	54	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	31	14	55	3
*	10/18/05	Totals	492	19.3	7.7	0.7	125	118	91.6	13.7	258	138	32	14	54	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	34	15	54	3
	4/26/05	Totals	527	18.8	7.77	1.47	n.a.	116	96.8	14	282	131	30	14	56	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	29	14	57	3
*	4/26/05	Totals	527	18.8	7.77	1.47	n.a.	117	97.4	15.4	283	130	29	14	56	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	29	14	56	3
	10/12/04	Totals	506	16.5	8.00	1.65	102	114	97.2	13.4	293	134	30	14	57	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	32	15	56	3
*	10/12/04	Totals	506	16.5	8.00	1.65	102	114	95.7	13.6	291	132	28	13	54	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	30	14	56	3
		<b>Averages</b>	<b>517</b>	<b>18.5</b>	<b>7.87</b>	<b>1.41</b>	<b>121</b>	<b>119</b>	<b>95.2</b>	<b>14.4</b>	<b>275</b>	<b>133</b>	<b>30</b>	<b>14</b>	<b>55</b>	<b>3</b>

WELL	DATE	Antimony Sb mg/l	Arsenic As mg/l	Cadmium Cd mg/l	Chromium Cr mg/l	Iron Fe mg/l	Lead Pb mg/l	Manganese Mn mg/l	Mercury Hg mg/l	Nickel Ni mg/l	Selenium Se mg/l	Thallium Tl mg/l	Zinc Zn mg/l	CAT / AN BALANCE % Error
<b>MCL(SMCL)</b>		<b>0.006</b>	<b>0.01</b>	<b>0.005</b>	<b>0.1</b>	<b>(0.3)</b>	<b>0.015</b>	<b>0.05</b>	<b>0.002</b>	<b>0.1</b>	<b>0.05</b>	<b>0.002</b>	<b>(5)</b>	
<b>Roub. T.L. / Back.</b>						<b>207/62</b>							<b>43/9</b>	
<b>Fernandez Well:</b>														
	11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.350</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.273</b>	-1.93
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.334</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.039	
	4/10/06	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.302</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.090</b>	-40.36
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.277</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<0.005	
	10/17/05	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.393</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.251</b>	-0.61
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.391</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.140</b>	
	4/25/05	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.630</b>	< 0.005	0.011	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.689</b>	-2.61
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.526</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.321</b>	
	1/28/05	na	na	< 0.002	< 0.005	<b>0.512</b>	< 0.005	0.013	na	na	na	na	<b>1.200</b>	na
	10/11/04	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.349</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.244</b>	4.82
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.343</b>	<b>0.015</b>	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.148</b>	
*	10/11/04	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.358</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.251</b>	-1.52
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.318</b>	<b>0.021</b>	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.169</b>	
	4/29/04	< 0.010	< 0.010	< 0.005	< 0.005	<b>0.359</b>	< 0.010	0.006	0.00006	< 0.010	< 0.010	< 0.010	<b>0.299</b>	3.60
		< 0.010	< 0.010	< 0.005	< 0.005	<b>0.238</b>	0.012	< 0.005	< 0.00005	< 0.010	< 0.010	< 0.010	<b>0.089</b>	
*	4/29/04	< 0.010	< 0.010	< 0.005	< 0.005	<b>0.359</b>	< 0.010	0.006	< 0.00005	< 0.010	< 0.010	< 0.010	<b>0.228</b>	-14.66
		< 0.010	< 0.010	< 0.005	< 0.005	<b>0.249</b>	< 0.010	< 0.005	< 0.00005	< 0.010	< 0.010	< 0.010	<b>0.037</b>	
	12/19/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.319</b>	<b>0.026</b>	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.236</b>	-4.30
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.464</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.464</b>	
	11/4/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.316</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.083</b>	-2.35
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.246</b>	0.013	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.070</b>	
	10/6/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.208</b>	<b>0.017</b>	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.050</b>	3.20
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.288</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.067</b>	
*	10/6/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.287</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	<b>0.065</b>	2.34
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.224</b>	0.008	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.033	
	7/30/03	na	na	na	na	<b>0.410</b>	<b>0.056</b>	< 0.010	na	< 0.010	na	na	<b>0.239</b>	-0.46
		0.003	0.003	0.002	0.009	0.346	0.011	0.009	0.00005	0.010	0.010	0.003	0.231	-4.22
<b>Miami #1:</b>														
	4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	<b>1.130</b>	< 0.010	0.012	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-0.03
		< 0.010	< 0.010	< 0.005	< 0.005	<b>0.042</b>	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
	11/4/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.372</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.010	0.29
		< 0.002	< 0.002	< 0.002	< 0.010	<b>0.062</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
*	11/4/03	< 0.002	< 0.002	< 0.002	< 0.010	<b>0.057</b>	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-1.58
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
		0.005	0.005	0.003	0.008	0.281	0.007	0.010	0.0001	0.010	0.010	0.004	0.008	-0.44
<b>Miami #3:</b>														
	11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.08
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-5.82
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.15
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.50
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.70
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-2.80
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.89
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-3.62
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
		0.002	0.002	0.002	0.010	0.020	0.005	0.010	0.00005	0.010	0.010	0.001	0.005	-2.57

WELL	DATE	Cond. (Field) uS/cm	Temp. (Field) °C	pH (Field)	D.O. (Field) mg/l	Alk (Field) CaCO <sub>3</sub> mg/l	Alkalinity CaCO <sub>3</sub> mg/l	Chloride Cl mg/l	Sulfate SO <sub>4</sub> mg/l	Tot Dis Sol TDS mg/l	Hardness CaCO <sub>3</sub> mg/l	Calcium Ca mg/l	Magnesium Mg mg/l	Sodium Na mg/l	Potassium K mg/l	
MCL(SMCL)								(250)	(250)	(500)						
Roub. T.L. / Back.									82/25							
<b>Miami #11:</b>		<b>NW NW NW 16-T28N-R23E; N 36 54 46.6, W 94 50 24.0; EL=835 (topo); TD=?</b>														
	11/8/06	Totals	353	19.4	7.74	1.24	111	108.0	35.9	15.6	178	117	22	12	22	2
		Dissolved	-	-	-	-	-	-	-	-	-	22	12	22	2	
*	11/8/06	Totals	353	19.4	7.74	1.24	275	109.0	35.1	15.5	183	115	23	12	23	2
		Dissolved	-	-	-	-	-	-	-	-	-	23	12	23	2	
		<b>Averages</b>	<b>353</b>	<b>19.4</b>	<b>7.74</b>	<b>1.24</b>	<b>193</b>	<b>109</b>	<b>35.5</b>	<b>15.6</b>	<b>181</b>	<b>116</b>	<b>23</b>	<b>12</b>	<b>23</b>	<b>2</b>
<b>Picher #5-MW:</b>		<b>SE SE NE 29-T29N-R23E; N 36 57 55.6, W 94 49 54.7; GL(topo)=815; TD=1100.</b>														
	11/8/06	Totals	635	21.46	7.23	0.88	139	137	27.4	141	373	282	64	28	17	3
		Dissolved	-	-	-	-	-	-	-	-	-	58	27	17	3	
	4/11/06	Totals	483	23.9	8.51	2.68	157	127	34.4	68.3	243	189	39	19	21	3
		Dissolved	-	-	-	-	-	-	-	-	-	41	20	21	3	
*	4/11/06	Totals	483	23.9	8.51	2.68	157	126	34.4	69.8	245	189	40	20	21	3
		Dissolved	-	-	-	-	-	-	-	-	-	42	20	21	3	
	10/17/05	Totals	544	21.8	7.81	0.3	124	135	27.1	119	332	264	60	27	18	3
		Dissolved	-	-	-	-	-	-	-	-	-	71	30	18	3	
*	10/17/05	Totals	544	21.8	7.81	0.3	124	135	28.3	118	307	265	61	27	18	3
		Dissolved	-	-	-	-	-	-	-	-	-	73	30	18	3	
	4/25/05	Totals	581	18.5	7.56	2.91	132	138	25.4	132	373	273	61	28	17	3
		Dissolved	-	-	-	-	-	-	-	-	-	62	28	17	3	
	10/12/04	Totals	569	18.3	7.68	2.33	122	136	26.4	140	398	279	63	29	17	3
		Dissolved	-	-	-	-	-	-	-	-	-	62	28	17	3	
	4/27/04	Totals	536	20.7	7.33	3.19	142	134	28.3	126	384	253	55	26	19	3
		Dissolved	-	-	-	-	-	-	-	-	-	55	27	18	3	
	11/5/03	Totals	590	14	6.52	n.a.	na	140	25.6	135	381	278	61	29	18	3
		Dissolved	-	-	-	-	-	-	-	-	-	59	28	18	3	
		<b>Averages</b>	<b>552</b>	<b>20.5</b>	<b>7.66</b>	<b>1.91</b>	<b>137</b>	<b>134</b>	<b>28.6</b>	<b>116.6</b>	<b>337</b>	<b>252</b>	<b>57</b>	<b>26</b>	<b>18</b>	<b>3</b>
<b>Picher #6 MW:</b>		<b>SE NW NW 21-T29N-R23E; N 36 59 00.7, W 94 49 38.7, EL=824 Topo; TD=1100</b>														
**	11/7/06	Totals	602	21.4	6.94	4.17	141	136	< 10	144	339	273	56	27	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	55	27	12	2	
	4/10/06	Totals	511	20.3	8.11	2.62	134	139	10	142	315	258	56	26	13	2
		Dissolved	-	-	-	-	-	-	-	-	-	59	27	13	2	
*	4/10/06	Totals	511	20.3	8.11	2.62	134	138	10	143	316	258	54	25	13	2
		Dissolved	-	-	-	-	-	-	-	-	-	57	26	13	2	
	10/27/05	Totals	453	17.8	7.73	3.79	125	136	10	125	313	249	58	26	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	59	26	12	2	
*	10/27/05	Totals	453	17.8	7.73	3.79	125	137	10	125	307	251	63	27	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	59	26	12	2	
	4/25/05	Totals	510	18.6	7.77	3.24	n.a.	135	< 10	125	333	251	60	26	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	58	26	12	2	
*	4/25/05	Totals	510	18.6	7.77	3.24	n.a.	134	< 10	126	336	251	61	26	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	56	25	12	2	
	10/11/04	Totals	553	19.1	7.44	2.06	193	147	< 10	170	417	303	71	30	13	2
		Dissolved	-	-	-	-	-	-	-	-	-	71	30	13	2	
	4/27/04	Totals	555	20.9	7.26	4.92	157	143	< 10	156	407	293	63	29	14	2
		Dissolved	-	-	-	-	-	-	-	-	-	62	29	13	2	
	12/9/03	Totals	537	18.2	6.83	n.a.	135	143	< 10	150	380	280	65	29	13	2
		Dissolved	-	-	-	-	-	-	-	-	-	60	27	12	2	
*	12/9/03	Totals	537	18.2	6.83	n.a.	135	142	< 10	150	381	277	64	29	13	2
		Dissolved	-	-	-	-	-	-	-	-	-	61	27	12	2	
		<b>Averages</b>	<b>521</b>	<b>19.2</b>	<b>7.50</b>	<b>3.38</b>	<b>142</b>	<b>139</b>	<b>10.0</b>	<b>141.5</b>	<b>349</b>	<b>268</b>	<b>60</b>	<b>27</b>	<b>13</b>	<b>2</b>

WELL	DATE	Antimony Sb mg/l	Arsenic As mg/l	Cadmium Cd mg/l	Chromium Cr mg/l	Iron Fe mg/l	Lead Pb mg/l	Manganese Mn mg/l	Mercury Hg mg/l	Nickel Ni mg/l	Selenium Se mg/l	Thallium Tl mg/l	Zinc Zn mg/l	CAT / AN BALANCE % Error
<b>MCL(SMCL)</b>		<b>0.006</b>	<b>0.01</b>	<b>0.005</b>	<b>0.1</b>	<b>(0.3)</b>	<b>0.015</b>	<b>0.05</b>	<b>0.002</b>	<b>0.1</b>	<b>0.05</b>	<b>0.002</b>	<b>(5)</b>	
<b>Roub. T.L. / Back.</b>						<b>207/62</b>							<b>43/9</b>	
<b>Miami #11:</b>														
	11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.081	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-6.10
		< 0.002	< 0.002	< 0.002	< 0.010	0.058	< 0.005	< 0.010	0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.080	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.55
		< 0.002	< 0.002	< 0.002	< 0.010	0.050	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
		0.002	0.002	0.002	0.010	0.067	0.005	0.010	0.00005	0.010	0.010	0.001	0.005	-5.33
<b>Picher #5-MW:</b>														
	11/8/06	< 0.002	< 0.002	< 0.002	< 0.010	0.118	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.03
		< 0.002	< 0.002	< 0.002	< 0.010	0.108	< 0.005	< 0.010	< 0.00015	< 0.010	< 0.010	< 0.001	< 0.005	
	4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.629	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.56
		< 0.002	< 0.002	< 0.002	< 0.010	0.112	< 0.005	< 0.010	< 0.00015	< 0.010	< 0.010	< 0.001	< 0.005	
*	4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.227	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-3.23
		< 0.002	< 0.002	< 0.002	< 0.010	0.100	< 0.005	< 0.010	< 0.00015	< 0.010	< 0.010	< 0.001	< 0.005	
	10/17/05	< 0.002	< 0.002	< 0.002	< 0.010	0.098	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	1.13
		< 0.002	< 0.002	< 0.002	< 0.010	0.046	< 0.005	< 0.010	0.00015	< 0.010	< 0.010	< 0.001	< 0.005	
*	10/17/05	< 0.002	< 0.002	< 0.002	< 0.010	0.107	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	1.43
		< 0.002	< 0.002	< 0.002	< 0.010	0.043	< 0.005	< 0.010	0.00010	< 0.010	< 0.010	< 0.001	0.009	
	4/25/05	< 0.002	< 0.002	< 0.002	< 0.010	0.093	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.47
		< 0.002	< 0.002	< 0.002	< 0.010	0.061	< 0.005	< 0.010	0.00011	< 0.010	< 0.010	< 0.001	< 0.005	
	10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	0.171	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.24
		< 0.002	< 0.002	< 0.002	< 0.010	0.151	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.433	< 0.010	0.007	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-2.62
		< 0.010	< 0.010	< 0.005	< 0.005	0.390	< 0.010	0.007	0.00008	< 0.010	< 0.010	< 0.010	< 0.005	
	11/5/03	< 0.002	< 0.002	< 0.002	< 0.010	0.232	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-0.32
		< 0.002	< 0.002	< 0.002	< 0.010	0.213	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
		0.003	0.003	0.002	0.009	0.185	0.006	0.010	0.00008	0.010	0.010	0.002	0.006	-1.10
<b>Picher #6 MW:</b>														
**	11/7/06	< 0.002	< 0.002	< 0.002	< 0.010	0.302	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.008	-3.52
		< 0.002	< 0.002	< 0.002	< 0.010	0.274	< 0.005	< 0.010	0.00005	< 0.010	< 0.010	< 0.001	0.008	
	4/10/06	< 0.002	< 0.002	< 0.002	< 0.010	0.309	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.02
		< 0.002	< 0.002	< 0.002	< 0.010	0.284	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	4/10/06	< 0.002	< 0.002	< 0.002	< 0.010	0.301	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-5.69
		< 0.002	< 0.002	< 0.002	< 0.010	0.222	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/27/05	< 0.002	0.002	< 0.002	< 0.010	0.296	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	0.04
		< 0.002	0.002	< 0.002	< 0.010	0.238	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
*	10/27/05	< 0.002	0.002	< 0.002	< 0.010	0.298	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	2.74
		< 0.002	< 0.002	< 0.002	< 0.010	0.282	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	
	4/25/05	< 0.002	< 0.002	< 0.002	< 0.010	0.345	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	1.11
		< 0.002	0.002	< 0.002	< 0.010	0.341	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.007	
*	4/25/05	< 0.002	0.002	< 0.002	< 0.010	0.338	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	1.53
		< 0.002	0.002	< 0.002	< 0.010	0.331	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.006	
	10/11/04	< 0.002	0.002	< 0.002	< 0.010	0.531	< 0.005	0.012	< 0.00005	< 0.010	< 0.010	< 0.001	0.021	-0.97
		< 0.002	0.002	< 0.002	< 0.010	0.507	< 0.005	0.012	< 0.00005	< 0.010	< 0.010	< 0.001	0.020	
	4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.444	< 0.010	0.011	0.00005	< 0.010	< 0.010	< 0.010	0.015	-1.57
		< 0.010	< 0.010	< 0.005	< 0.005	0.414	< 0.010	0.011	0.00005	< 0.010	< 0.010	< 0.010	0.019	
	12/9/03	< 0.002	0.002	< 0.002	< 0.010	0.464	< 0.005	0.013	< 0.00005	< 0.010	< 0.010	< 0.001	0.016	-0.13
		< 0.002	0.002	< 0.002	< 0.010	0.337	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.015	
*	12/9/03	< 0.002	0.002	< 0.002	< 0.010	0.460	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.014	-0.37
		< 0.002	0.002	< 0.002	< 0.010	0.337	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.016	
		0.003	0.003	0.002	0.010	0.348	0.005	0.010	0.00005	0.010	0.010	0.002	0.010	-0.99

WELL	DATE	Cond. (Field) uS/cm	Temp. (Field) °C	pH (Field)	D.O. (Field) mg/l	Alk (Field) CaCO <sub>3</sub> mg/l	Alkalinity CaCO <sub>3</sub> mg/l	Chloride Cl mg/l	Sulfate SO <sub>4</sub> mg/l	Tot Dis Sol TDS mg/l	Hardness CaCO <sub>3</sub> mg/l	Calcium Ca mg/l	Magnesium Mg mg/l	Sodium Na mg/l	Potassium K mg/l	
MCL(SMCL)								(250)	(250)	(500)						
Roub. T.L. / Back.									82/25							
<b>Picher #7 MW: aka: PICHER - CARDIN MW; NW SE SW 20-T29N-R23E; N 36 58 28.2, W 94 50 38.3, EL=815; TD=110f</b>																
**	11/7/06	Totals	652	19.81	7.04	2.04	153	146	12.3	175	397	329	65	33	12	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	60	31	11	3
	4/11/06	Totals	482	19.6	8.2	1.43	117	129	17.5	103	257	216	44	23	13	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	47	23	13	3
	10/17/05	Totals	527	20.4	7.82	0.2	179	142	11.4	137	326	280	62	30	11	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	72	32	11	3
	4/25/05	Totals	524	18.3	7.71	1.87	174	140	10.1	125	341	261	59	28	11	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	56	28	11	3
	10/12/04	Totals	483	17.9	7.83	1.31	129	136	13.5	112	306	244	54	26	12	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	55	27	12	3
	4/27/04	Totals	480	20.2	7.5	4.35	105	134	12.6	112	335	237	51	26	12	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	49	26	12	3
	11/5/03	Totals	563	14.7	6.89	n.a.	na	145	< 10	141	374	284	60	31	12	3
		Dissolved	-	-	-	-	-	-	-	-	-	-	59	31	12	3
		<b>Averages</b>	<b>530</b>	<b>18.7</b>	<b>7.57</b>	<b>1.87</b>	<b>143</b>	<b>139</b>	<b>12.5</b>	<b>129.3</b>	<b>334</b>	<b>264</b>	<b>57</b>	<b>28</b>	<b>12</b>	<b>3</b>
<b>Quapaw #4: NW NW NW 1-T28N-R23E; N 36 56 33.4, W 94 47 11.2, EL(Topo)=845; TD=135f</b>																
	11/9/06	Totals	276	19.12	7.39	0.52	118	112	18.6	20	160	134	29	14	12	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	27	13	11	2
	4/12/06	Totals	270	18.8	8.53	1.03	92	109	< 10	15.2	118	118	24	13	5	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	25	13	5	1
	10/18/05	Totals	258	19.9	7.96	1.58	96	115	18.6	16.4	184	136	30	14	11	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	30	14	11	2
	4/26/05	Totals	261	16.8	8.04	1.57	n.a.	109	< 10	13.5	138	119	26	13	6	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	25	13	6	1
	10/13/04	Totals	242	17.4	7.86	1.43	124	104	< 10	12.7	149	121	27	14	5	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	27	13	5	1
*	10/13/04	Totals	242	17.4	7.86	1.43	124	104	< 10	12.8	147	121	27	13	5	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	27	14	5	1
	4/28/04	Totals	275	19.4	7.31	2.29	146	107	< 10	11.8	152	122	25	13	8	2
		Dissolved	-	-	-	-	-	-	-	-	-	-	24	13	7	2
	11/6/03	Totals	249	17.7	7.03	n.a.	107	109	< 10	11.1	129	120	25	13	5	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	24	13	5	1
*	11/6/03	Totals	249	17.7	7.03	n.a.	107	109	< 10	11.1	131	121	24	13	5	1
		Dissolved	-	-	-	-	-	-	-	-	-	-	25	13	5	1
		<b>Averages</b>	<b>258</b>	<b>18.2</b>	<b>7.67</b>	<b>1.41</b>	<b>114</b>	<b>109</b>	<b>11.9</b>	<b>13.8</b>	<b>145</b>	<b>124</b>	<b>26</b>	<b>13</b>	<b>7</b>	<b>1</b>
<b>Quapaw #5 MW: SW SW NE 35-T29N-R23E; N 36 57 04.4, W 94 47 07.3, EL=850 Topo; TD=110f</b>																
	11/9/06	Totals	1446	19.93	6.78	1.39	272	251	95.4	391	968	709	156	69	50	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	143	69	49	8
	4/12/06	Totals	1497	20.3	7.7	1.29	244	252	93.6	434	992	767	151	69	54	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	150	68	53	8
*	4/12/06	Totals	1497	20.3	7.7	1.29	244	253	93.8	422	993	764	150	69	54	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	147	67	53	8
	10/18/05	Totals	1378	20.8	7.11	3.8	308	249	95.1	417	1020	358	162	72	53	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	168	73	50	7
	4/26/05	Totals	1350	19.2	7.1	1.93	n.a.	246	92.4	412	1020	733	159	72	52	7
		Dissolved	-	-	-	-	-	-	-	-	-	-	152	68	51	7
	10/13/04	Totals	1341	18.6	7.01	2.43	247	250	95.9	410	1010	739	159	70	53	7
		Dissolved	-	-	-	-	-	-	-	-	-	-	144	65	48	7
	4/28/04	Totals	1372	21.7	6.87	1.75	260	254	104	455	1083	754	148	71	59	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	147	72	58	7
	11/6/03	Totals	1427	18.5	6.41	n.a.	265	250	102	401	1050	751	146	70	58	8
		Dissolved	-	-	-	-	-	-	-	-	-	-	147	71	59	8
		<b>Averages</b>	<b>1414</b>	<b>19.9</b>	<b>7.09</b>	<b>1.98</b>	<b>263</b>	<b>251</b>	<b>96.5</b>	<b>417.8</b>	<b>1017</b>	<b>697</b>	<b>152</b>	<b>70</b>	<b>53</b>	<b>8</b>

WELL	DATE	Antimony Sb mg/l	Arsenic As mg/l	Cadmium Cd mg/l	Chromium Cr mg/l	Iron Fe mg/l	Lead Pb mg/l	Manganese Mn mg/l	Mercury Hg mg/l	Nickel Ni mg/l	Selenium Se mg/l	Thallium Tl mg/l	Zinc Zn mg/l	CAT / AN BALANCE % Error
<b>MCL(SMCL)</b>		<b>0.006</b>	<b>0.01</b>	<b>0.005</b>	<b>0.1</b>	<b>(0.3)</b>	<b>0.015</b>	<b>0.05</b>	<b>0.002</b>	<b>0.1</b>	<b>0.05</b>	<b>0.002</b>	<b>(5)</b>	
<b>Roub. T.L. / Back.</b>						<b>207/62</b>							<b>43/9</b>	
<b>Picher #7 MW:</b>														
**	11/7/06	< 0.002	< 0.002	< 0.002	< 0.010	0.124	< 0.005	0.006	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-2.60
		< 0.002	< 0.002	< 0.002	< 0.010	0.113	< 0.005	0.006	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/11/06	< 0.002	< 0.002	< 0.002	< 0.010	0.079	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-4.88
		< 0.002	< 0.002	< 0.002	< 0.010	0.065	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/17/05	< 0.002	< 0.002	< 0.002	< 0.010	0.064	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	0.88
		< 0.002	< 0.002	< 0.002	< 0.010	0.062	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/25/05	< 0.002	< 0.002	< 0.002	< 0.010	0.090	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	1.03
		< 0.002	< 0.002	< 0.002	< 0.010	0.090	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/12/04	< 0.002	< 0.002	< 0.002	< 0.010	0.127	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	0.03
		< 0.002	< 0.002	< 0.002	< 0.010	0.121	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/27/04	< 0.010	< 0.010	< 0.005	< 0.005	0.078	< 0.010	0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-0.76
		< 0.010	< 0.010	< 0.005	< 0.005	0.072	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
	11/5/03	< 0.002	< 0.002	< 0.002	< 0.010	0.166	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	0.24
		< 0.002	< 0.002	< 0.002	< 0.010	0.160	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
		0.003	0.003	0.002	0.009	0.101	0.006	0.009	0.00005	0.010	0.010	0.002	0.006	-0.87
<b>Quapaw #4:</b>														
	11/9/06	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.10
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/12/06	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-5.03
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	0.23
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.62
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/13/04	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	2.20
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	0.005	
*	10/13/04	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	0.64
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/28/04	< 0.010	< 0.010	< 0.005	< 0.005	< 0.020	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	0.005	0.94
		< 0.010	< 0.010	< 0.005	< 0.005	< 0.020	< 0.010	< 0.005	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
	11/6/03	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-2.49
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
*	11/6/03	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-3.47
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
		0.003	0.003	0.002	0.009	0.020	0.006	0.009	0.00005	0.010	0.010	0.002	0.006	-0.97
<b>Quapaw #5 MW:</b>														
	11/9/06	< 0.002	0.004	< 0.002	< 0.010	2.480	< 0.005	0.035	< 0.00005	< 0.010	< 0.010	< 0.001	0.113	-0.02
		< 0.002	0.004	< 0.002	< 0.010	2.420	< 0.005	0.035	0.00005	< 0.010	< 0.010	< 0.001	0.110	
	4/12/06	< 0.002	< 0.002	< 0.002	< 0.010	2.620	< 0.005	0.027	< 0.00005	< 0.010	< 0.010	< 0.001	0.118	-2.91
		< 0.002	0.005	< 0.002	< 0.010	2.570	< 0.005	0.037	< 0.00005	< 0.010	< 0.010	< 0.001	0.112	
*	4/12/06	< 0.002	< 0.002	< 0.002	< 0.010	2.610	< 0.005	0.026	< 0.00005	< 0.010	< 0.010	< 0.001	0.119	-2.39
		< 0.002	< 0.002	< 0.002	< 0.010	2.530	< 0.005	0.037	< 0.00005	< 0.010	< 0.010	< 0.001	0.110	
	10/18/05	< 0.002	0.005	< 0.002	< 0.010	2.440	< 0.005	0.036	< 0.00005	< 0.010	< 0.010	< 0.001	0.139	0.55
		< 0.002	0.005	< 0.002	< 0.010	2.340	< 0.005	0.038	< 0.00005	< 0.010	< 0.010	< 0.001	0.143	
	4/26/05	< 0.002	0.005	< 0.002	< 0.010	2.860	< 0.005	0.039	< 0.00005	< 0.010	< 0.010	< 0.001	0.167	0.62
		< 0.002	0.005	< 0.002	< 0.010	2.680	< 0.005	0.039	< 0.00005	< 0.010	< 0.010	< 0.001	0.159	
	10/13/04	< 0.002	0.005	< 0.002	< 0.010	3.060	< 0.005	0.043	< 0.00005	< 0.010	< 0.010	< 0.001	0.178	-0.18
		< 0.002	0.005	< 0.002	< 0.010	2.750	< 0.005	0.042	< 0.00005	< 0.010	< 0.010	< 0.001	0.160	
	4/28/04	< 0.010	< 0.010	< 0.005	< 0.005	3.680	< 0.010	0.050	< 0.00005	< 0.010	< 0.010	< 0.010	0.208	-4.43
		< 0.010	0.011	< 0.005	< 0.005	3.580	< 0.010	0.049	< 0.00005	< 0.010	< 0.010	< 0.010	0.194	
	11/6/03	< 0.002	0.005	< 0.002	< 0.010	3.720	< 0.005	0.046	< 0.00005	< 0.010	< 0.010	< 0.001	0.222	-1.40
		< 0.002	0.005	< 0.002	< 0.010	3.690	< 0.005	0.047	< 0.00005	< 0.010	< 0.010	< 0.001	0.213	
		0.003	0.005	0.002	0.009	2.877	0.006	0.039	0.00005	0.010	0.010	0.002	0.154	-1.27

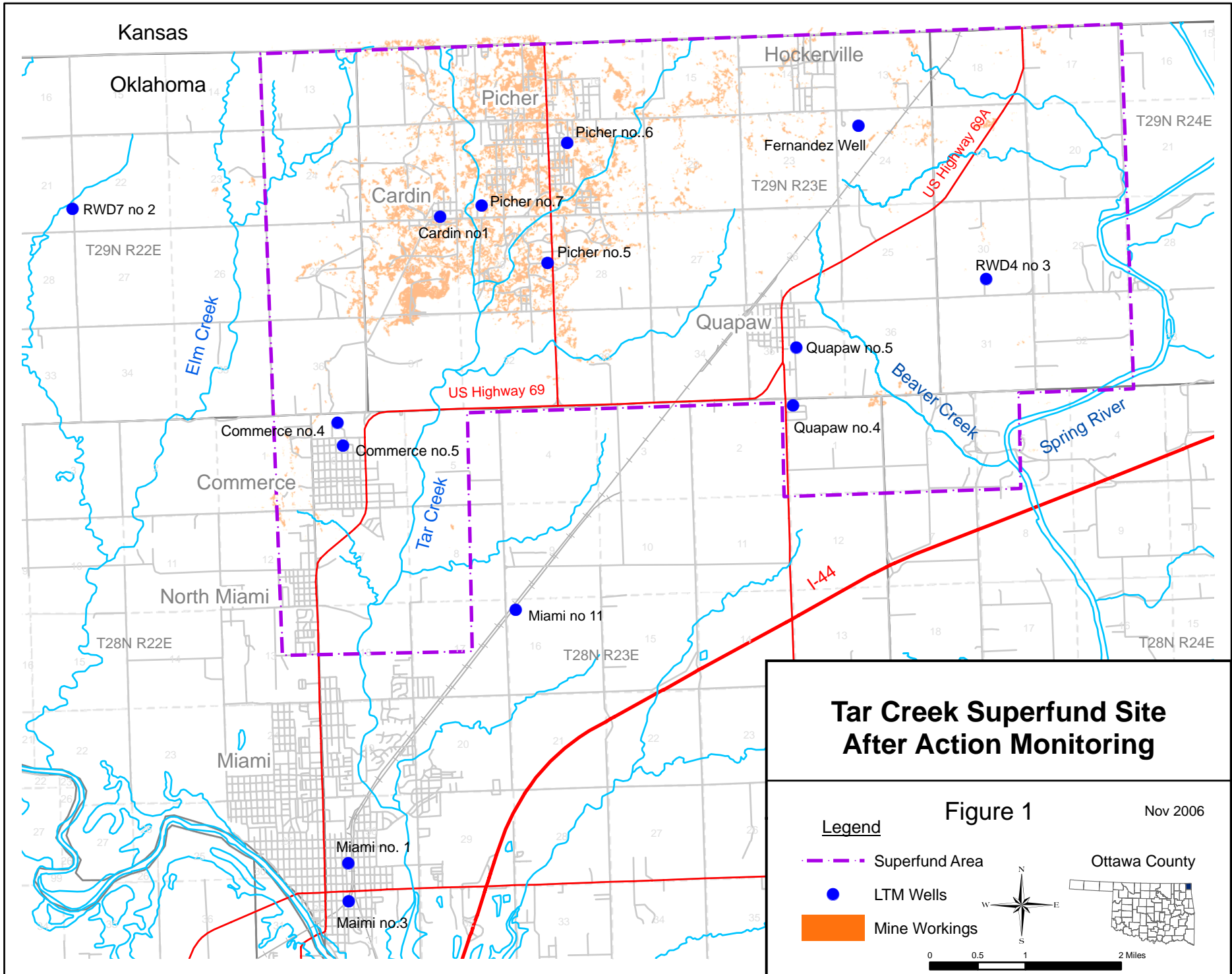
WELL	DATE	Cond. (Field) uS/cm	Temp. (Field) °C	pH (Field)	D.O. (Field) mg/l	Alk (Field) CaCO <sub>3</sub> mg/l	Alkalinity CaCO <sub>3</sub> mg/l	Chloride Cl mg/l	Sulfate SO <sub>4</sub> mg/l	Tot Dis Sol TDS mg/l	Hardness CaCO <sub>3</sub> mg/l	Calcium Ca mg/l	Magnesium Mg mg/l	Sodium Na mg/l	Potassium K mg/l	
<b>MCL/(SMCL)</b>								(250)	(250)	(500)						
<b>Roub. T.L. / Back.</b>									82/25							
<b>RWD4 #4</b>	<b>(aka: Blue hole Well): NE SE SW 30-T29N-R24E; N 36 57 38.7, W 94 44 56.3, EL(Topo)=900; TD=110(</b>															
	11/9/06	Totals	299	20.28	7.69	1.25	116	111	18.1	11	160	135	27	15	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	26	15	7	2	
	4/2/06	Totals	309	19.4	7.98	0.86	99	114	17.9	10.5	134	130	25	15	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	27	15	7	2	
	10/18/05	Totals	295	20.4	8.09	1.05	141	114	17.7	10.4	168	140	29	16	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	28	15	6	2	
	4/26/05	Totals	282	18.4	8.01	1.91	n.a.	114	16.5	10.2	157	133	28	15	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	28	15	6	2	
	10/13/04	Totals	275	18.9	7.97	2.3	157	109	16.6	10.2	154	132	29	16	7	2
		Dissolved	-	-	-	-	-	-	-	-	-	28	15	6	2	
	4/28/04	Totals	273	19.9	7.42	3.34	124	110	15.2	< 10.0	160	135	26	15	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	26	15	6	2	
	* 4/28/04	Totals	273	19.9	7.42	3.34	124	110	15.2	< 10.0	159	132	25	15	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	26	15	6	2	
	11/7/03	Totals	283	17.7	6.65	n.a.	110	114	14.8	< 10.0	133	135	27	15	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	27	15	6	2	
	* 11/7/03	Totals	283	17.7	6.65	n.a.	110	114	14.6	< 10.0	136	134	27	16	6	2
		Dissolved	-	-	-	-	-	-	-	-	-	27	16	6	2	
		<b>Averages</b>	<i>286</i>	<i>19.2</i>	<i>7.54</i>	<i>2.01</i>	<i>123</i>	<i>112</i>	<i>16.3</i>	<i>10.3</i>	<i>151</i>	<i>134</i>	<i>27</i>	<i>15</i>	<i>6</i>	<i>2</i>
<b>RWD7 #1:</b>	<b>NE SE SE 21-T29N-R23E; N 36 58 33.4 , W 94 55 16.6; EL=825; TD=1100</b>															
	11/9/06	Totals	1446	19.9	6.78	1.39	270	139.0	<b>286.0</b>	18.6	606	159	37	16	172	6
		Dissolved	-	-	-	-	-	-	-	-	-	32	16	164	5	
	* 11/9/06	Totals	1446	19.9	6.78	1.39	275	140.0	<b>287.0</b>	18.8	598	160	36	16	171	6
		Dissolved	-	-	-	-	-	-	-	-	-	33	16	167	6	
		<b>Averages</b>	<i>1446</i>	<i>19.9</i>	<i>6.78</i>	<i>1.39</i>	<i>273</i>	<i>140</i>	<i>286.5</i>	<i>18.7</i>	<i>602</i>	<i>160</i>	<i>35</i>	<i>16</i>	<i>169</i>	<i>6</i>

NOTE: 1) Detection limits used in calculation of means; 2) total and dissolved metals concentrations used in calculation of means; 3) means are in italics type  
4) Duplicate samples are highlighted with asterisk near date of sample; 5) a box indicates an MCL or SMCL violation; 6) shaded box is a Roubidoux background val  
7) underline indicates a value detected in blank; 8) na indicates not analyzed; 9) dash indicates not relevant; 10) Bold type indicates value > Tolerance Limi  
11) Indicator parameters of mine water contamination with tolerance limits and Roubidoux background concentration: **Sulfate** (82 / 25 mg/l); **Iron** (207 / 61.5 ug/l); **Zinc** (43 / 8.8 ug/l).  
\*\* - indicates no blank for that day's samples

WELL	DATE	Antimony Sb mg/l	Arsenic As mg/l	Cadmium Cd mg/l	Chromium Cr mg/l	Iron Fe mg/l	Lead Pb mg/l	Manganese Mn mg/l	Mercury Hg mg/l	Nickel Ni mg/l	Selenium Se mg/l	Thallium Tl mg/l	Zinc Zn mg/l	CAT / AN BALANCE % Error
<b>MCL(SMCL)</b>		<b>0.006</b>	<b>0.01</b>	<b>0.005</b>	<b>0.1</b>	<b>(0.3)</b>	<b>0.015</b>	<b>0.05</b>	<b>0.002</b>	<b>0.1</b>	<b>0.05</b>	<b>0.002</b>	<b>(5)</b>	
<b>Roub. T.L. / Back.</b>						<b>207/62</b>							<b>43/9</b>	
<b>RWD4 #4</b>														
	11/9/06	< 0.002	< 0.002	< 0.002	< 0.010	0.025	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.34
		< 0.002	< 0.002	< 0.002	< 0.010	0.022	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/2/06	< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-2.81
		< 0.002	< 0.002	< 0.002	< 0.010	0.022	< 0.005	0.015	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/18/05	< 0.002	< 0.002	< 0.002	< 0.010	0.025	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	2.06
		< 0.002	< 0.002	< 0.002	< 0.010	0.022	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/26/05	< 0.002	< 0.002	< 0.002	< 0.010	0.031	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-0.20
		< 0.002	< 0.002	< 0.002	< 0.010	0.026	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	10/13/04	< 0.002	< 0.002	< 0.002	< 0.010	0.026	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	4.36
		< 0.002	< 0.002	< 0.002	< 0.010	< 0.020	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	4/28/04	< 0.010	< 0.010	< 0.005	< 0.005	0.026	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	0.16
		< 0.010	< 0.010	< 0.005	< 0.005	0.027	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
	* 4/28/04	< 0.010	< 0.010	< 0.005	< 0.005	0.025	< 0.010	< 0.005	0.00005	< 0.010	< 0.010	< 0.010	< 0.005	-0.72
		< 0.010	< 0.010	< 0.005	< 0.005	0.029	< 0.010	< 0.005	< 0.00005	< 0.010	< 0.010	< 0.010	< 0.005	
	11/7/03	< 0.002	< 0.002	< 0.002	< 0.010	0.044	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	-0.17
		< 0.002	< 0.002	< 0.002	< 0.010	0.038	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
	* 11/7/03	< 0.002	< 0.002	< 0.002	< 0.010	0.045	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	1.33
		< 0.002	< 0.002	< 0.002	< 0.010	0.038	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.010	
		<i>0.004</i>	<i>0.004</i>	<i>0.003</i>	<i>0.009</i>	<i>0.028</i>	<i>0.006</i>	<i>0.009</i>	<i>0.00005</i>	<i>0.010</i>	<i>0.010</i>	<i>0.003</i>	<i>0.006</i>	<i>0.41</i>
<b>RWD7 #1:</b>														
	11/9/06	< 0.002	< 0.002	< 0.002	< 0.010	0.087	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-1.97
		< 0.002	< 0.002	< 0.002	< 0.010	0.076	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
	* 11/9/06	< 0.002	< 0.002	< 0.002	< 0.010	0.090	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	-2.64
		< 0.002	< 0.002	< 0.002	< 0.010	0.075	< 0.005	< 0.010	< 0.00005	< 0.010	< 0.010	< 0.001	< 0.005	
		<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	<i>0.010</i>	<i>0.082</i>	<i>0.005</i>	<i>0.010</i>	<i>0.00005</i>	<i>0.010</i>	<i>0.010</i>	<i>0.001</i>	<i>0.005</i>	<i>-2.30</i>

NOTE: 1) Detection limits used in calculation of means; 2) total and dissolved metals concentrations used in calculation of means; 3) means are in italics type  
4) Duplicate samples are highlighted with asterisk near date of sample; 5) a box indicates an MCL or SMCL violation; 6) shaded box is a Roubidoux background val  
7) underline indicates a value detected in blank; 8) na indicates not analyzed; 9) dash indicates not relevant; 10) Bold type indicates value > Tolerance Limi  
11) Indicator parameters of mine water contamination with tolerance limits and Roubidoux background concentration: **Sulfate** (82 / 25 mg/l); **Iron** (207 / 61.5 ug/l); **Zinc** (43 / 8.8 ug/l).  
\*\* - indicates no blank for that day's samples

Figure 1 – Map of Site and Long Term Monitoring Wells



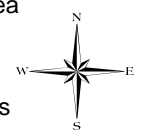
## Tar Creek Superfund Site After Action Monitoring

Figure 1

Nov 2006

**Legend**

-  Superfund Area
-  LTM Wells
-  Mine Workings



0 0.5 1 2 Miles

## List of Long Term Monitoring Wells

- 1a. **Miami # 1:** SW NE SW S30-T28N-R23E (N 36° 52' 30.9'' W 94° 52' 23.4''); Public Water Supply Well; Elevation: 795'; Total Depth: 1233'; Casing Depth: 433'.
- 1b. **Miami #3:** SWNENW S31-T28N-R23E (N 36° 52' 06.0'' W 94° 52' 22.0'); Public Water Supply Well; Elevation: 783'; Total depth: 1252'; Casing Depth: 460'.
2. **Commerce # 5:** NW SE NW S6-T28N-R23E (N 36° 56' 19.4'' W 94° 52' 17.9''); Monitoring Well; Elevation: 810'; Total depth: 1100'; Casing Depth: 8" @ 850'.
3. **Commerce # 4:** NW NE NW S6-T28N-R23E (N 36° 56' 31.9'' W 94° 52' 21.1''); Public Water Supply Well; Elevation: 812'; Total depth: 1,250'; Casing Depth: 680'.
4. **Cardin # 1:** SW SE SE S19-T29N-R23E (N 36° 58' 23.3'' W 94° 51' 07.2''); Public Water Supply Well; Elevation: 817'; Total depth: 1150'; Casing Depth: 600'.
5. **Picher # 6:** SE NW NW S21-T29N-R23E (N 36° 59' 00.7'' W 94° 49' 38.7''); Monitoring Well; Elevation: 822'; Total depth: 1100'; Casing Depth: 850'; Inflatable Packer at 800'.
6. **Picher # 7 (aka Picher-Cardin Well):** NW SE SW S20-T29N-R23E (N 36° 58' 28.2'' W 94° 50' 38.3''); Stand-By Well; Elevation: 814'; Total depth: 1100'; Casing Depth: 850'.
7. **Picher # 5:** SE SE NE S29-T29N-R23E (N 36° 57' 55.6'' W 94° 49' 54.7''); Public Water Supply Well; Elevation: 812'; Total depth: 1100'; Casing Depth: 8" @ 850'.
8. **RWD4 # 4 (aka Bluehole Well):** NE SE SW S30-T29N-R24E (N 36° 57' 38.7'' W 94° 44' 56.3''); Public Water Supply Well; Elevation: 831'; Total depth: 1100'; Casing Depth: 800'.
9. **Quapaw # 5:** SW SW NE S35-T29N-R23E (N 36° 57' 04.4'' W 94° 47' 07.3''); Monitoring Well; Elevation: 850'; Total depth: 1100'; Casing Depth: 8" @ 850'.
10. **Quapaw # 4:** NW NW NW S1-T28N-R23E (N 36° 56' 33.4'' W 94° 47' 11.2''); Public Water Supply Well; Elevation: 845'; Total depth: 1,350'; Casing Depth: 620'.
11. **Fernandez Well:** SE NW NW S24-T29N-R23E (N 36° 59' 04.7'' W 94° 46' 20.3''); Domestic Drinking Water Well; Elevation: 850'; Total depth: 1050'; Casing Depth: 450'.
12. **Miami #11:** NW NW NW S16-T28N-R23E (N 36° 54' 46.6'' W 94° 50' 24.0'); Public Water Supply Well; Elevation: 832'; Total depth: 1250'; Casing Depth: 650'.
8. **RWD7 # 2:** NE SE SE S21-T29N-R22E (N 36° 58' 33.4'' W 94° 55' 16.6''); Public Water Supply Well; Elevation: 825'; Total depth: 1100'; Casing Depth: 8" @ 800'.