A & M ENGINEERING & ENVIRONMENTAL SERVICES, INC.
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January 25, 2018

Mr. Michael L. Bednar
Superintendent of Environmental Compliance
Grand River Dam Authority
PO Box 70
Langley, OK 74350-0070

RE: Second 2017 Semi-Annual Groundwater Sampling and Statistical Analysis Report
Grand River Dam Authority Landfill
Mayes County, Oklahoma
Solid Waste Permit No. 3549012

Dear Mr. Bednar:

A&M Engineering and Environmental Services, Inc. (A&M Engineering) is submitting three (3) copies of this Semi-Annual Groundwater Sampling and Statistical Analysis letter report for the Grand River Dam Authority (GRDA) Landfill located in Mayes County, Oklahoma.

In accordance with the facility permit, semi-annual groundwater sampling was conducted at the landfill on November 7, 2017. Groundwater samples were analyzed for Alkalinity, Arsenic, Chloride, pH, Sodium, Specific Conductance, Sulfate and other groundwater quality indicators. The analytical results from this sampling event are tabulated in Table 1 and historical data previously collected are presented in Table 2. Groundwater elevation data is plotted on the Groundwater Contour Map provided as Figure 1. The referenced figure and tables are attached to this letter report as Attachment 1; time series graphs and statistical analysis of the analytical results are provided in Attachment 2; and field sampling data and the laboratory analysis report is provided in Attachment 3.

Statistical analysis was performed for Alkalinity, Arsenic, Chloride, pH, Sodium, Specific Conductance, Sulfate, Fluoride, and Boron in MW-93-1, MW-93-2, MW-93-3, MW-03-1, and MW-03-2 based on data collected between December 1994 and the present. MW-93-1 is the only up-gradient well for this landfill facility and MW-93-2, MW-93-3, MW-03-1, and MW-03-2 are designated as down-gradient wells. The statistical analysis methods utilized in this report include the Shapiro-Francia Test of Normality, Levene's Equal Variance Test, and ANOVA (Analysis of Variance) for inter-well analysis. Inter-well analysis is used to identify whether chemical parameters in the down-gradient wells exhibit a significant increase relative to the background data for the up-gradient well. In the event that the inter-well analysis indicates a significant increase of a parameter within in a down-gradient well, an intra-well analysis is performed to determine if that particular parameter exhibits a statistically significant increase compared to background data for that particular well. The statistical analysis results for this sampling event are summarized in the table below.

Parameter	Inter-well Exceedance	Intra-Well Exceedance
Alkalinity	None	None
Arsenic	MW-93-2	None
Boron	None	None
Chloride	MW-93-2, MW-93-3, MW-03-2	MW-03-2
Fluoride	None	None
pH	MW-93-2	None
Sodium	MW-93-2, MW-93-3, MW-03-2	MW-03-2
Specific Conductance	MW-93-2, MW-03-2	MW-03-2
Sulfate	MW-93-2	MW-93-2

During this semi-annual monitoring event MW-93-2, MW-93-3, and MW-03-2 did exhibit inter-well exceedances for some of the parameters relative to background data. Further analysis reveals that MW-93-2 had an intra-well exceedance for Sulfate and MW-03-2 had intra-well exceedances for Chloride, Sodium, and Specific Conductance.

In addition to the regular semi-annual monitoring, GRDA also collected quarterly samples on September 22, 2017 from MW-93-3 and MW-03-2. Both samples were tested for pH, Reduction Potential (Eh), and Specific Conductance as well as sodium (MW93-3 only) and chloride (MW03-2 only). The results are presented in Table 3 along with previously collected historical data. Table 4 presents historical groundwater data and recent sampling results for pH, specific conductance and Eh for monitoring well MW93-3. GRDA will continue to conduct quarterly sampling as long as MW-93-2 remains in assessment monitoring.

A&M Engineering appreciates the opportunity to provide groundwater statistical analysis and reporting services for GRDA. After you review and approve this report, please forward one (1) copy to:

Ms. Hillary Young, P.E.
Chief Engineer
Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

If you should have any questions or require any further information, please do not hesitate to contact me at (918) 665-6575.

Sincerely,
A&M Engineering and Environmental Services, Inc.

Thomas A. Trebonik, P.G.
Senior Project Manager

Attachment 1: Tables and Figures
Attachment 2: Graphs and Statistical Analysis
Attachment 3: Groundwater Sampling and Analysis Data

2017 SECOND SEMI-ANNUAL GROUNDWATER SAMPLING AND STATISTICAL ANALYSIS REPORT

Grand River Dam Authority Landfill
Chouteau, Mayes County, Oklahoma
Permit No. 3549012

December 2017

Prepared for

Grand River Dam Authority
Chouteau, Oklahoma

Project No. 1986-002

Prepared by

A & M Engineering and Environmental Services, Inc.
10010 East 16th Street
Tulsa, Oklahoma 74128
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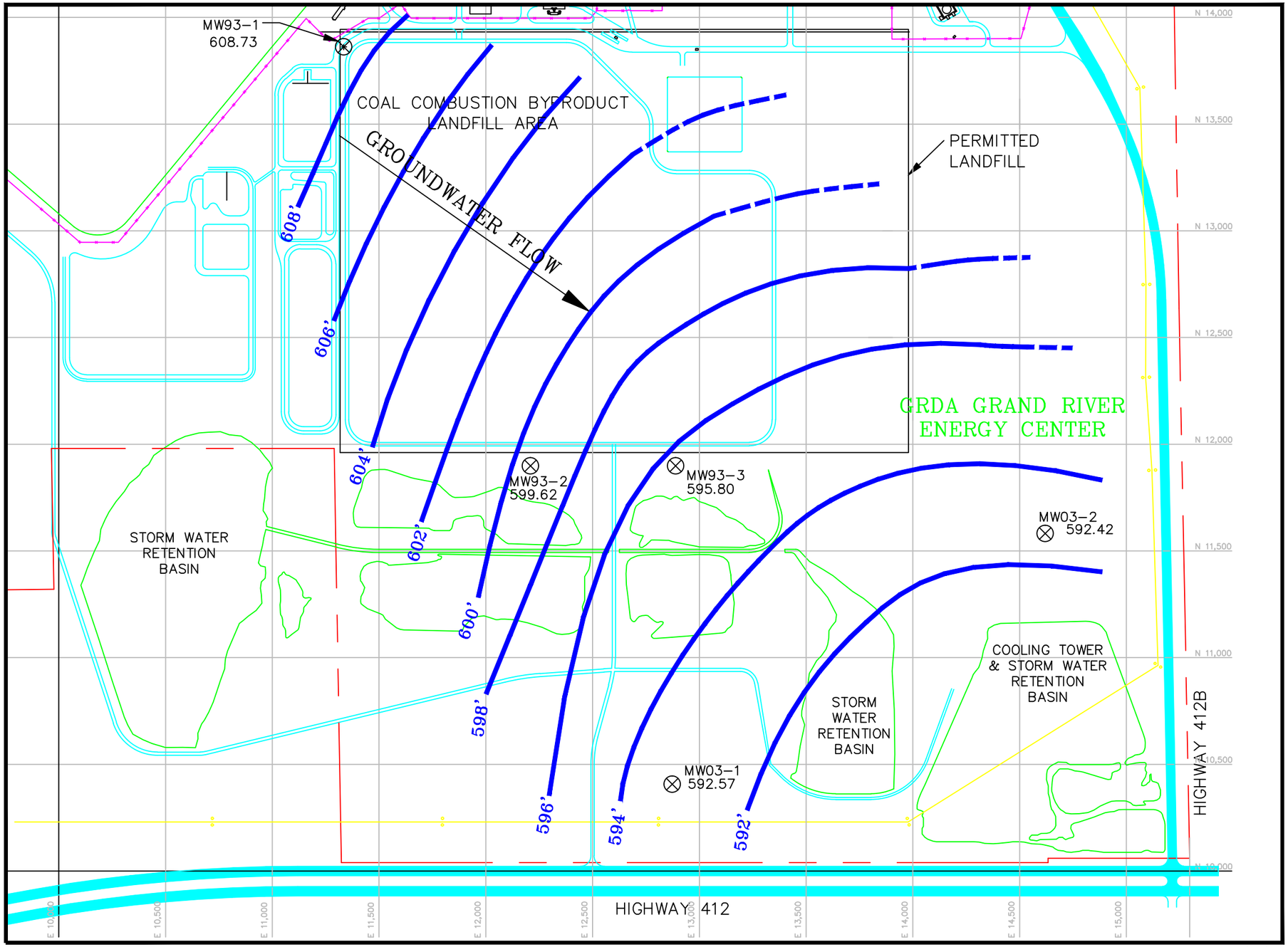
Attachment 1

Tables and Figures



HURON

SCALE

0 500' 1000'

DJR 4/13/06

GENERAL NOTES

1) GROUNDWATER ELEVATIONS MEASURED ON NOVEMBER 7, 2017.

REVISIONS

NO.	DESCRIPTION	BY	CHECKED	DATE	NO.	DESCRIPTION	BY	CHECKED	DATE

A & M ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

ENGINEERING – ENVIRONMENTAL – CONSTRUCTION

GROUNDWATER CONTOUR MAP
NOVEMBER 7, 2017
GRAND RIVER DAM AUTHORITY LANDFILL
CHOUTEAU, OK

DRAWN:	CHECKED BY:	MATERIALS BY:	ENGINEER:	APPROVED BY:	SCALE:	PROJECT NUMBER:	DRAWING NUMBER:	REV.:
BAG	TAT			TAT	AS SHOWN	1986-002	FIGURE 1	
DATE: 12/26/2017	DATE: 1/3/2018	DATE:	DATE:	DATE: 1/3/2018				

Table 1
Second Semi-Annual 2017 Analytical Results
November 07, 2017
Grand River Dam Authority (GRDA) Landfill
Chouteau, Oklahoma

PARAMETER	Monitoring Well I.D.				
	MW 93-1 (upgradient)	MW 93-2 (downgradient)	MW 93-3 (downgradient)	MW 03-1 (downgradient)	MW 03-2 (downgradient)
Stabilized Water Level (msl)	608.73	599.62	595.80	592.57	592.42
Temperature °C	18.5	18.7	17.3	16.5	15.9
pH (S.U.)	6.21	8.86	6.46	6.44	6.22
Specific Conductivity (umhos/cm)	1,458	10,520	2,121	444	2,042
ORP mv	-51.0	-44.5	-39.8	-42.2	-38.2
Alkalinity (mg/L)	394	430	409	217	192
Chloride (mg/L)	16.2	1,160	402	1.13	288
Sulfate (mg/L)	281	4,340	80.3	14.4	516
Dissolved Arsenic (mg/L)	<0.005	0.028	<0.005	<0.005	<0.005
Dissolved Sodium (mg/L)	45.2	2,750	368	17.60	120.0
Hardness (mg/L)	598	183	275	NT	NT
Calcium (mg/L	212	68.5	80.2	NT	NT
Dissolved Copper (mg/L)	<0.01	<0.01	<0.01	NT	NT
Dissolved Iron (mg/L)	<0.075	<0.075	<0.075	NT	NT
Nitrate-Nitrogen (mg/L)	<0.25	<0.25	0.96	NT	NT
Total Phosphorus (mg/L)	<0.025	0.484	0.056	NT	NT
Total Residue (mg/L)	896	9,360	1,220	NT	NT
TDS (mg/L)	878	7,820	1,250	NT	NT
COD (mg/L)	<15.0	148	<15.0	NT	NT
TOC (mg/L)	3.46	12.3	3.15	NT	NT
Dissolved Potassium (mg/L)	<0.25	246	3.73	NT	NT
Dissolved Barium (mg/L)	0.015	0.061	0.227	NT	NT
Dissolved Selenium (mg/L)	<0.005	0.015	<0.005	NT	NT

NT = Not Tested
NS = Insufficient Sample for analysis

Table 2
Historical Monitoring Well Analytical Results
November 7, 2017
Grand River Dam Authority (GRDA) Landfill
Chouteau, Oklahoma

	WELL ID																																
	MW 93-1 Upgradient																																
PARAMETER	6/24/04	9/15/04	12/15/04	3/16/05	6/15/05	9/21/05	12/21/05	3/15/06	6/21/06	12/20/06	6/12/07	12/17/07	6/11/08	12/3/08	6/17/09	12/9/09	6/17/10	12/22/10	6/29/11	12/7/11	6/6/12	12/12/12	6/19/13	12/11/13	6/11/14	12/3/14	6/17/15	12/1/15	6/22/16	12/20/16	6/6/17	11/7/17
pH (S.U.)	6.53	6.43	6.61	6.57	6.53	6.65	6.61	6.64	6.85	6.67	6.58	6.33	6.7	6.5	6.8	6.6	6.5	6.55	6.5	6.41	6.23	6.61	6.58	6.57	6.10	6.69	6.38	6.45	6.59	6.28	6.69	6.21
Specific Conductivity (umhos/cm)	1620	1618	1586	1521	1531	1441	1030	1318	1547	1370	1466	1327	1334	1352	1301	1218	1179	1270	1275	1236	1185	1227	1366	1329	1200	1230	1210	1230	1185	1186	1289	1458
Alkalinity (mg/L)	348	332	327	340	330	347	340	320	314	300	310	330	370	344	350	370	380	370	366	370	384	330	360	358	342	368	380	383	390	395.4	398	394
Chloride (mg/L)	61	44	48	42	42	42	58	50	31	35	24	27	29	28	20	24	17	20	20.8	17.6	23.8	22.2	21.5	17.6	19.3	16.9	13	15.2	13	15.2	16.1	16.2
Sodium (mg/L)	94.7	71	92.3	86.3	77.4	92.8	81.9	99.7	82	85.1	74.9	81.8	56.5	75.2	67.4	76.9	55	70.5	55.4	69.1	55.6	58.9	70	72.9	56.5	69.4	69.7	57.5	66.9	54.8	58.4	45.2
Sulfate (mg/L)	500	475	558	880	22	467	475	375	420	330	260	300	375	340	650	160	290	304	306	255	275	301	409	306	316	292	286	299	250	275	265	281
Arsenic (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0109	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0068	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005

	WELL ID																																
	MW 93-2 Downgradient																																
PARAMETER	6/24/04	9/15/04	12/15/04	3/16/05	6/15/05	9/21/05	12/21/05	3/15/06	6/21/06	12/20/06	2/21/07	6/12/07	12/17/07	6/11/08	12/3/08	12/15/08	6/17/09	12/9/09	6/17/10	12/22/10	6/29/11	12/7/11	6/6/12	12/12/12	6/19/13	12/11/13	6/11/14	12/3/14	6/17/15	12/1/15	6/22/16	12/20/16	6/6/17	11/7/17
pH (S.U.)	9.24	9.32	9.26	9.23	9.10	9.25	9.31	9.47	9.4	9.18	9.20	9.10	9.30	9.4	9.7	9.6*	9.8	9.8	9.6	9.5	9.4	9.5	9.68	10.02/9.51*	9.4	9.46	8.55	8.95	9.13	9.37	9.28	9.72	9.29	8.86
Specific Conductivity (umhos/cm)	10494	10340	9940	9690	10010	9660	10000	8650	9830	8310	7660	9590	9100	9600	10520	9070*	10690	10050	10020	11230	11110	10770	10490	11460	10500	10650	9940	10900	1270	10560	6710	11400	12590	10520
Alkalinity (mg/L)	329	272	288	240	246	228	232	250	290	356	340	312	210	240	280	280	250	236	252	240	266	288	256	248	364	328	342	296	384	226	176	162	246	430
Chloride (mg/L)	1892	1435	1600	1325	1400	1412	1550	1375	1500	1250	1250	1350	1399	1210	1584	1584	750	875	1500	1600	1670	1510	1610	1750	1390	1410	1360	1520	47.7	1760	1300	1690	1580	1160
Sodium (mg/L)	2180	1800	2480	2490	2030	2520	2300	2720	2450	2170	1900	1980	2244	2649	2120	2120	2220	240	2100	2460	2190	2500	2060	2730	2230	2290	1940	2730	270	3140 / 2780 / 1890**	2700	2400	2310	2750
Sulfate (mg/L)	2650	2700	2950	3200	2650	3200	3200	3000	2700	2500	2900	2400	3100	2350	3300	2400*	2300	2200	2900	3460	2630	2520	2360	3240	2510	2460	2790	2940	114	3600	2620	3800	3630	4340
Arsenic (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0343	0.0603	0.0510	0.0330	NT	0.0525	0.0635	0.0179	0.0215	0.0610	<0.005	0.0098	0.0562	0.0530	0.0353	0.0197	0.0274	<0.005	0.03	0.047	0.06	0.038	0.028

*MW-93-2 was resampled for pH on 1/9/2013.
**MW-93-2 was resampled for Sodium on 3/4/2016 and 5/25/2016

	WELL ID																																
	MW 93-3 Downgradient																																
PARAMETER	6/24/04	9/15/04	12/15/04	3/16/05	6/15/05	9/21/05	12/21/05	3/15/06	6/21/06	12/20/06	6/12/07	12/17/07	6/11/08	12/3/08	6/17/09	12/9/09	6/17/10	12/22/10	6/29/11	12/7/11	6/6/12	12/12/12	6/19/13	12/11/13	12/11/13	6/11/14	12/3/14	6/7/15	12/1/15	6/22/16	12/20/16	6/6/17	11/7/17
pH (S.U.)	6.80	6.70	6.88	6.69	6.81	6.85	6.70	7.07	6.84	6.93	6.89	6.8	6.8	6.8	7.2	6.9	6.7	6.82	6.7	6.77	6.42	6.85	6.49	7.07	7.07	6.08	6.80	6.4	6.6	6.43	6.27	6.65	6.46
Specific Conductivity (umhos/cm)	1129	1068	972	1134	1080	1155	1140	1035	1226	1087	1031	910	1023	1073	1073	1038	1108	1090	1178	930	1203	1010	1438	1252	1252	1500	1200	1480	1807	2494	2200	1743	2121
Alkalinity (mg/L)	309	264	254	290	268	264	246	227	253	250	280	290	300	226	240	214	296	230	256	244	288	226	316	262	262	338	262	388	480 / 462 / 440*	330	330.4	304	409
Chloride (mg/L)	160	139	122	180	150	215	180	221	210	210	110	131	144	152	120	175	150	170	170	98.9	194	168	194	173	173	254	194	168	280	518	475	113	402
Sodium (mg/L)	150	200	186	196	170	239	180	180	227	211	159	194	195	190	173	202	202	216	158	218	201	168	235	234	234	258	220	280	339 / 440 / 464*	449/ 368*	337	301	368
Sulfate (mg/L)	24	17	26	29	26	19	23	19	21	42	3	28	27	11	16	12	45	25.8	34.2	37.4	38.3	25.8	61.6	26.5	26.5	56.2	36.0	109	81	58.5	66.6	18.2	80.3
Arsenic (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005

*MW-93-3 was resampled for Sodium and Alklinity on 3/4/2016 and
5/25/2016, and Sodium on 10/11/2016.

Table 2 (continued)
Historical Monitoring Well Analytical Results
November 7, 2017
Grand River Dam Authority (GRDA) Landfill
Chouteau, Oklahoma

	WELL ID																															
	MW 03-1 Downgradient																															
PARAMETER	6/24/04	9/15/04	12/15/04	3/16/05	6/15/05	9/21/05	12/21/05	3/15/06	6/21/06	12/20/06	6/12/07	12/17/07	6/11/08	12/3/08	6/7/09	12/9/09	6/17/10	12/22/10	6/29/11	12/7/11	6/6/12	12/12/12	6/19/13	12/11/13	6/11/14	12/3/14	6/7/15	12/1/15	6/22/16	12/20/16	6/6/17	11/7/17
pH (S.U.)	7.27	6.78	7.32	7.30	7.28	7.88	**	**	**	7	7	7	7.4	7.4	7.6	7.5	7.1	6.89	7.3	7.05	7.33	DRY	7.15	7.19	6.62	6.73	6.66	6.34	7.2	6.75	6.64	6.44
Specific Conductivity (umhos/cm)	497	687	514	422	465	517	**	**	**	447	630	540	467	649	519	469	500	504	463	501	457	DRY	373	476	826	409	267	385	320	NS	198	444
Alkalinity (mg/L)	209	220	184	160	252	180	**	**	**	204	200	190	200	206	204	216	232	216	210	222	216	DRY	144	212	222	194	134	150	130	211.6	56	217
Chloride (mg/L)	10	22	6	4	6	5	**	**	**	5	4	3	11	11	4	32	5	8.7	4.86	5.88	9.36	DRY	<5.0	<5.0	44	<5.0	<5.00	0.777	0.628	0.786	0.887	1.13
Sodium (mg/L)	10.2	42	8.04	5.99	7.3	14.1	**	**	**	8	8	10	5.71	7.01	7.34	6.77	9.31	7.11	7.04	8.87	7.94	DRY	10.3	9.78	55.9	9.80	9.7	12	8.59	7.94	6.56	17.6
Sulfate (mg/L)	42	76	62	22	23	17	**	**	**	55	88	120	23	90	21	15	16	22.9	21.6	18.1	14.3	DRY	16.2	29.1	127	19.7	7.86	12.1	10.3	30.9	332	14.4
Arsenic (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	DRY	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.05	<0.005

NS = Insuffiecient sample for analysis

	WELL ID																															
	MW 03-2 Downgradient																															
PARAMETER	6/24/04	9/15/04	12/15/04	3/16/05	6/15/05	9/21/05	12/21/05	3/15/06	6/21/06	12/20/06	6/12/07	12/17/07	6/11/08	12/3/08	6/7/09	12/9/09	6/17/10	12/22/11	6/29/11	12/7/11	6/6/12	12/12/12	6/19/13	12/11/13	6/11/14	12/3/14	6/7/15	12/1/15	6/22/16	12/20/16	6/6/17	11/7/17
pH (S.U.)	6.84	7.17	6.86	6.80	6.87	6.87	6.83	6.88	6.78	6.88	6.87	6.7	6.9	6.8	7.3	6.8	6.8	7.2	6.7	6.69	6.73	6.82	6.88	6.72	7.00	7.14	6.45	6.39	6.75	6.36	6.73	6.22
Specific Conductivity (umhos/cm)	692	522	655	661	674	625	572	594	636	580	680	617	674	752	720	690	685	728	748	755	716	807	807	805	219	1540	965	967	1074	1454	1498	2042
Alkalinity (mg/L)	235	200	222	220	252	224	230	220	228	220	228	200	200	210	200	208	216	230	224	236	230	242	232	230	92	76	220	214	204	199.4	192.0	192
Chloride (mg/L)	36	4	28	30	30	27	26	27	23	35	30	20	41	46	60	45	33	29	28.4	23.5	29.3	28.3	32.1	32.8	<5.00	51.2	54.7	67.8 / 69.6 / 80.1*	79.7/ 88.4*	126	117	288
Sodium (mg/L)	47.4	8.7	51.3	47	42.8	52.6	46.5	50.4	44.9	50.5	47	50.2	33.8	54.4	48.2	47.3	52.9	51.7	51	60.1	52	61.3	57.3	54	9.78	68	66.3	63.8	76.8	80.2	96.8	17.6
Sulfate (mg/L)	72	32	54	78	23	80	72	30	***	34	68	130	67	210	84	80	106	98.9	101	98.8	107	111	113	106	10.3	158	179	197	254	451	332	516
Arsenic (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005

Table 3
Second Semi-Annual 2017 Additional Sampling Summary
Grand River Dam Authority (GRDA) Landfill
Chouteau, Oklahoma

	MW93-3		MW03-2
Sample Date	Sodium (mg/L)	Conductivity (uS/cm)	Chloride (mg/L)
12/1/2015	339*	1807	67.8*
3/4/2016	440*	N/A	69.6*
5/25/2016	464*	N/A	80.1*
6/22/2016	449*	2494*	79.7*
10/11/2016	368*	2005*	88.4*
12/20/2016	337	2200*	126*
3/8/2017	334*	2404*	146*
6/6/2017	301*	1743	117*
11/7/2017	368	2121	288*

* Indicates a verified intra-well statistical exceedance for the specified sampling event.

Table 4
Quarterly Test Results

Grand River Dam Authority (GRDA) Landfill
Chouteau, Oklahoma

	MW 93-2																															
Parameter	3/24/10	6/17/10	9/21/10	12/22/10	3/31/11	6/29/11	9/29/11	12/7/11	2/22/12	6/6/12	8/23/12	12/12/12	3/6/13	6/19/13	8/28/13	12/11/13	2/21/14	6/11/14	8/28/14	12/3/14	3/12/15	6/17/15	8/13/15	12/1/15	3/4/16	6/22/16	10/11/16	12/20/16	3/8/17	6/6/17	9/22/17	11/7/17
pH (S.U)	9.7	9.6	9.7	9.5	9.7	9.4	9.5	9.5	9.5	9.68	9.45	10.02 / 9.51*	9.4	9.4	9.3	9.46	9.1	8.55	8.8	8.95	8.8	9.13	8.9	9.4	9.5	9.3	9.5	9.72	9.6	9.29	9.01	8.86
Specific Conductivity (umhos/cm)	10100	10020	10670	11230	10950	11110	11520	10770	9930	10490	11450	11460	11320	10500	10610	10650	10140	9940	10340	10900	11200	1270	11090	10560	11480	6710	10910	11400	11500	12590	11,320	10520
Eh (mV)	-85.9	-47	-381.5	-392.2	-130.8	-227	-274.6	-141.8	-276.4	-316.3	-17.7	-309	-83.4	116.4	41.5	39.7	81.3	-237.9	-330.3	-394.0	-372	-317	27.2	-244.4	-260	-235	-116	80	-128.4	-166.4	-35.1	-44.5

* MW-93-2 resampled for pH 1/9/2013

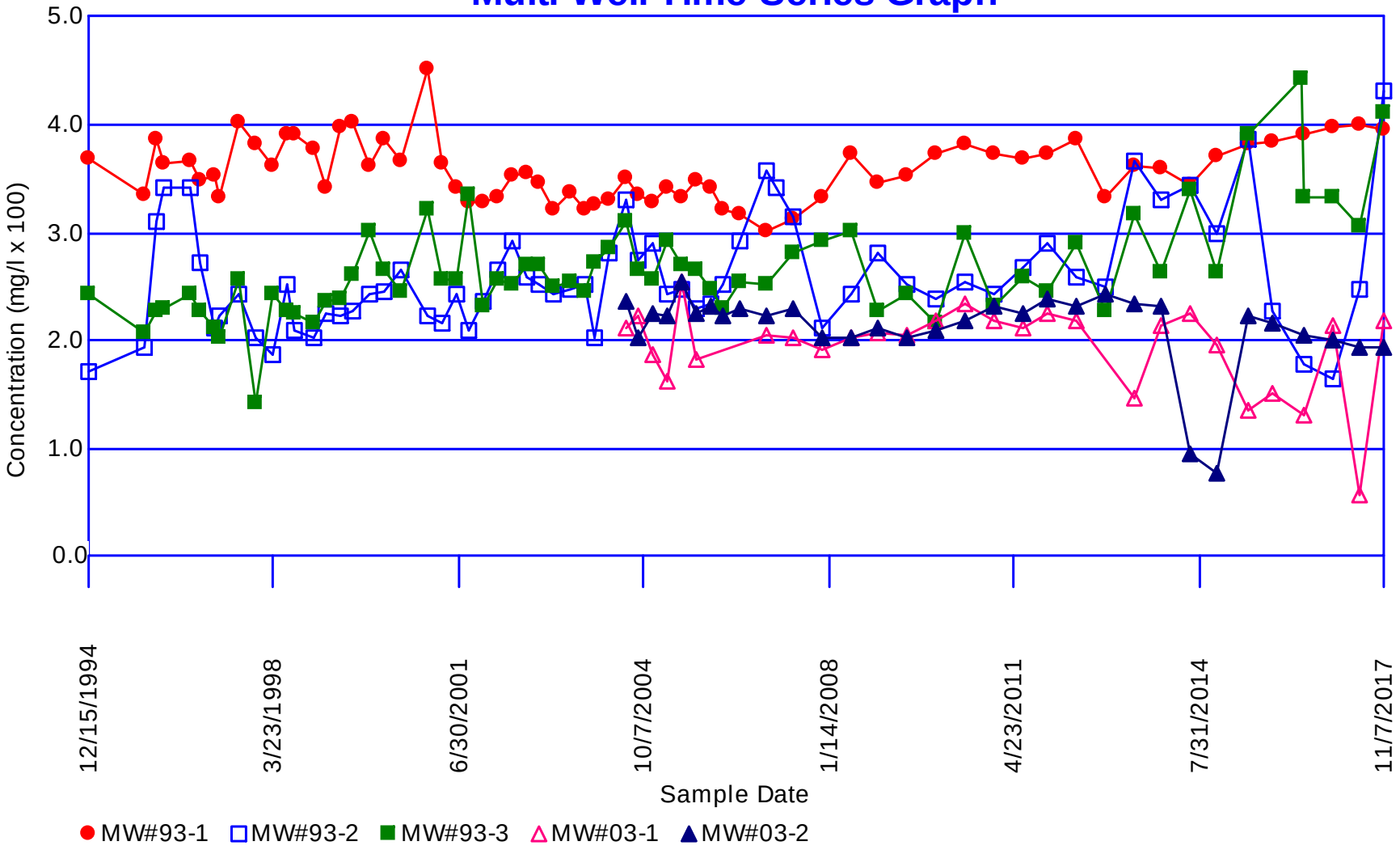
	F08 Surface Pond Adjacent to MW-93-2																															
Parameter	3/24/10	7/13/10	9/21/10	12/22/10	3/31/11	6/29/11	9/29/11	12/7/11	2/22/12	6/6/12	8/23/12	12/12/12	3/6/13	6/19/13	8/28/13	12/11/13	2/21/14	6/11/14	8/28/14	12/3/14	3/12/15	6/17/15	8/13/15	12/1/15	3/4/16	6/22/16	10/11/16	12/20/16	3/8/17	6/6/17
pH (S.U)	8.80	8.40	8.30	7.90	8.00	8.50	9.20	7.85	8.60	7.60	9.09	8.30	8.20	8.60	9.50	8.8	8.11	8.70	8.70	8.60	8.1	7.7	8.7	7.6	7.8	8.3	7.6	8.6	8.2	9.9
Specific Conductivity (umhos/cm)	1174	1079	1133	1125	1219	1208	1140	908	1003	1153	1285	1405	1315	1139	1182	1236	1341	1486	1326	234	1341	958	938	1009	1332	1172	920	1078	1102	869
Eh (mV)	-293	-157.3	-296.3	-156	-23.5	-160.3	-63.8	-55.3	-166.3	-39.4	-30.7	-6.4	17.3	165	-14.6	39.5	130.1	-184.3	-349.6	-234.0	207	-202.8	196.7	-171	-170	-251	-210	25	-111.1	69.4

Attachment 2

Graphs and Statistical Analysis

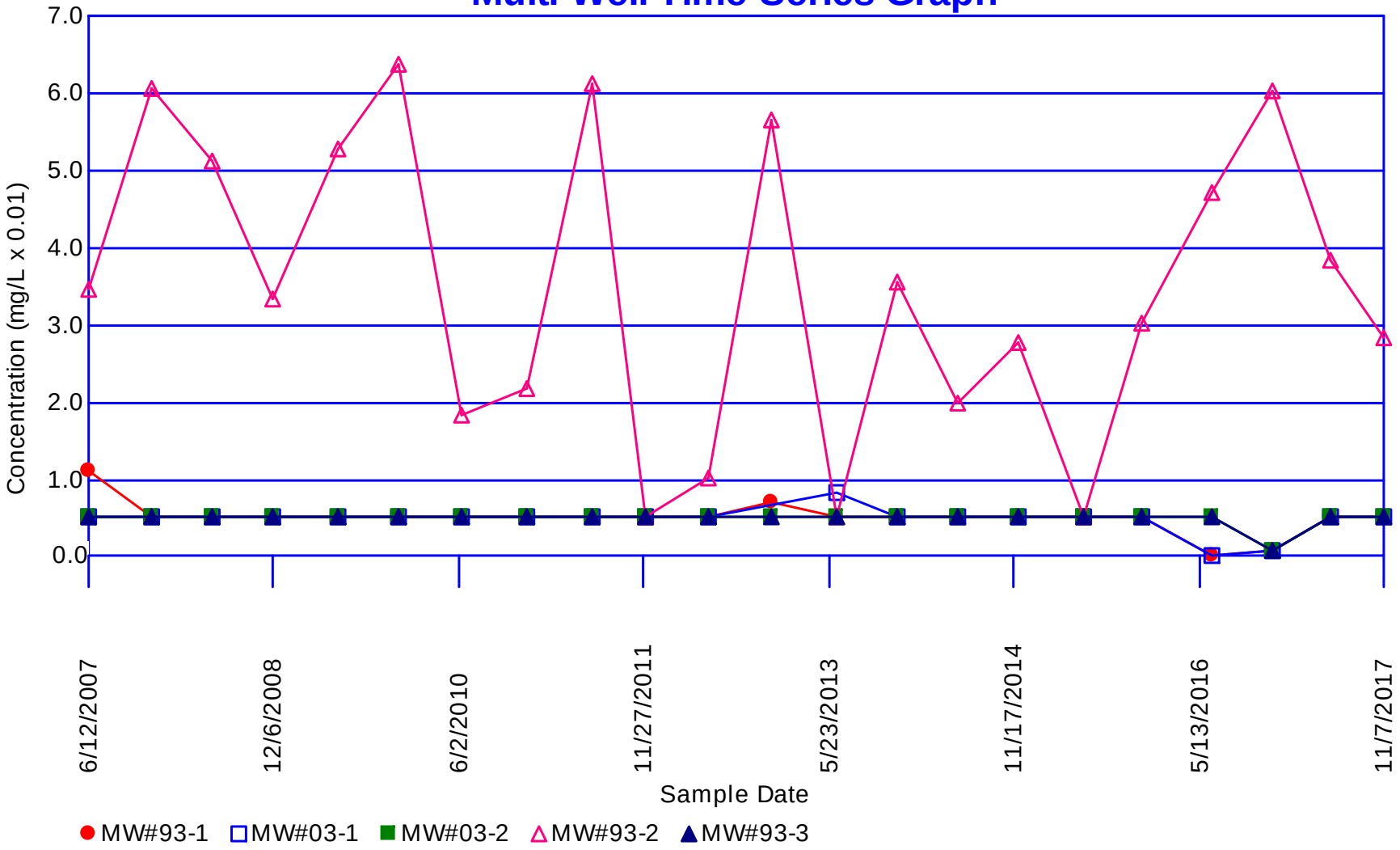
Alkalinity

Multi-Well Time-Series Graph



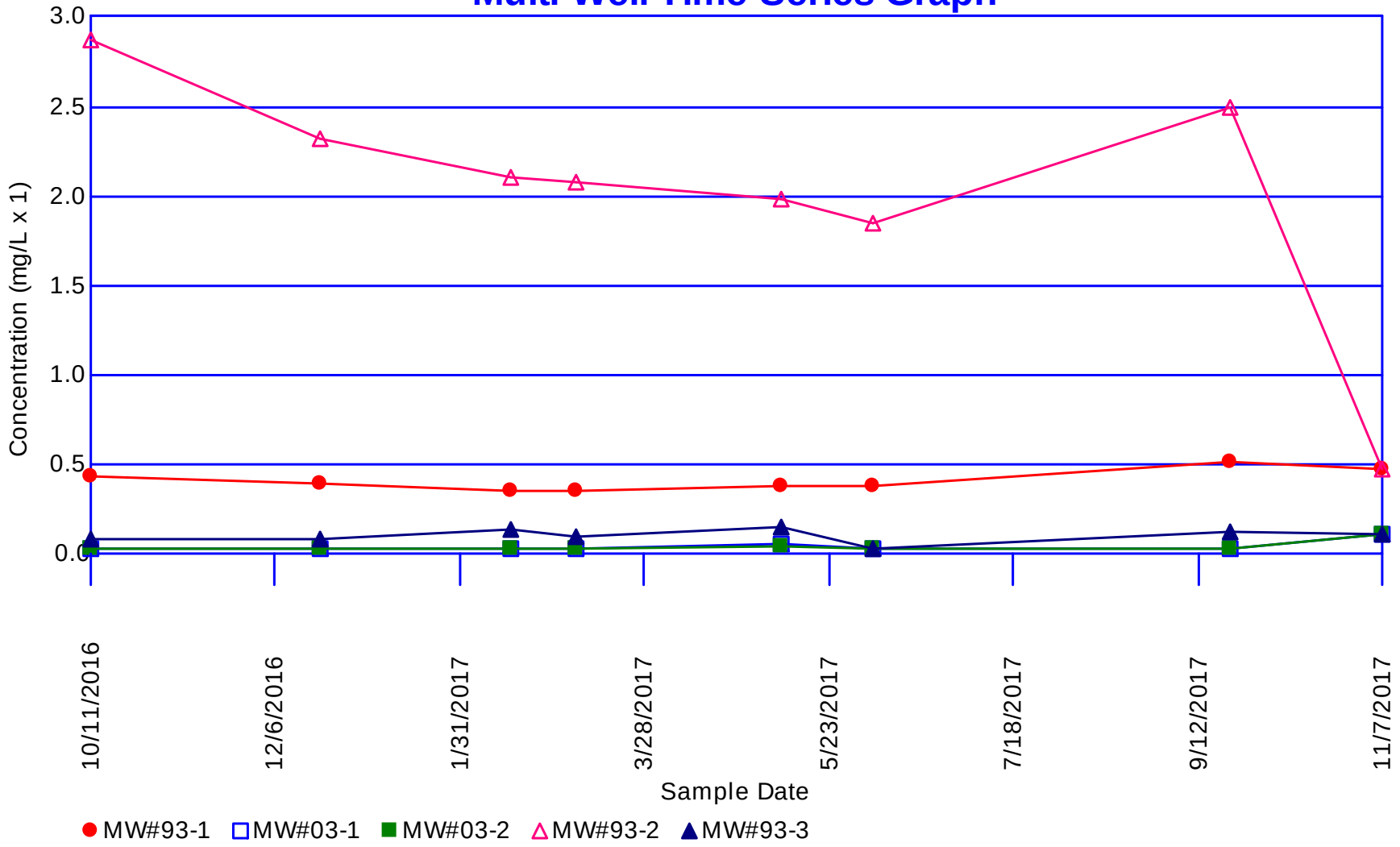
Arsenic

Multi-Well Time-Series Graph



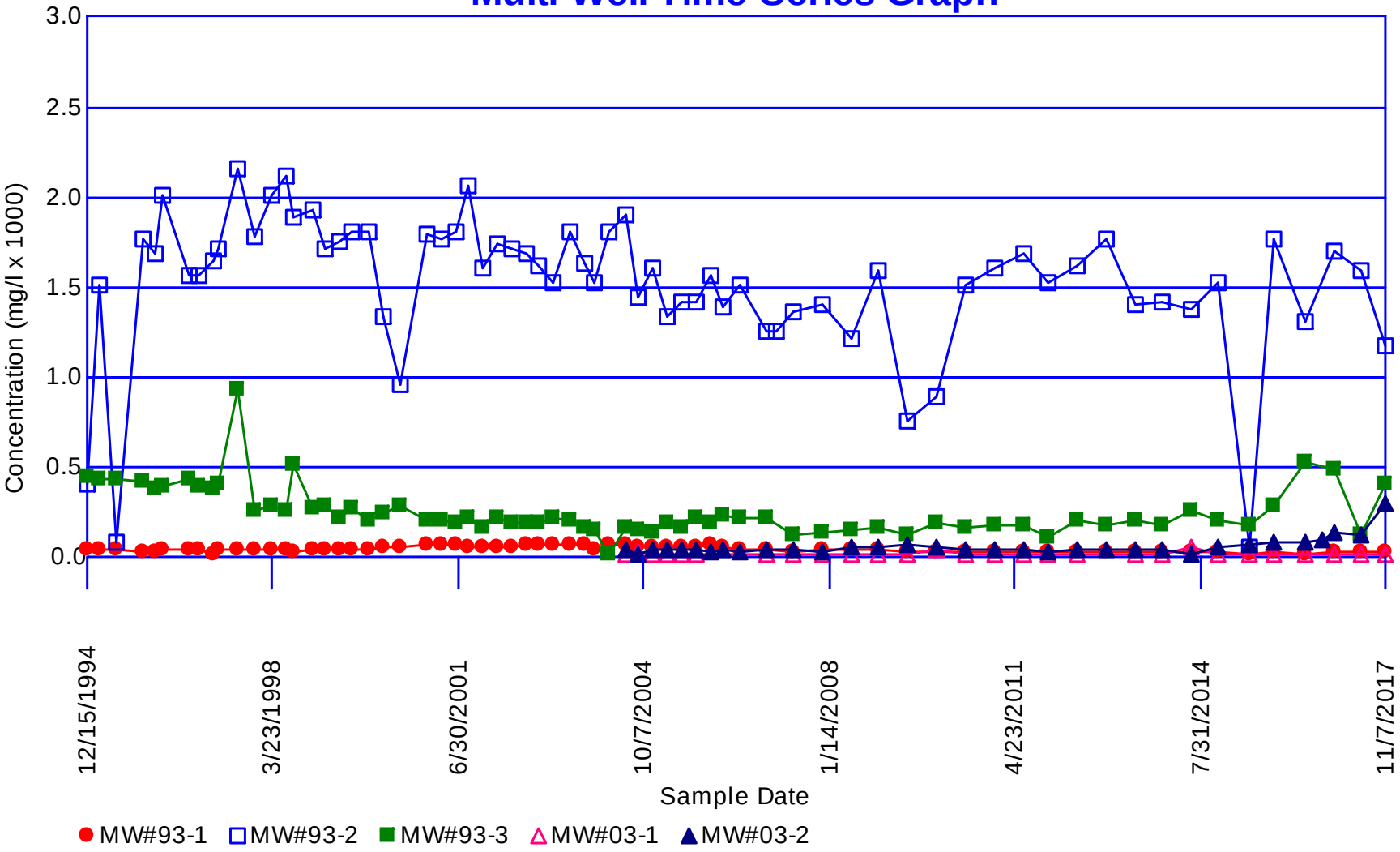
Boron

Multi-Well Time-Series Graph



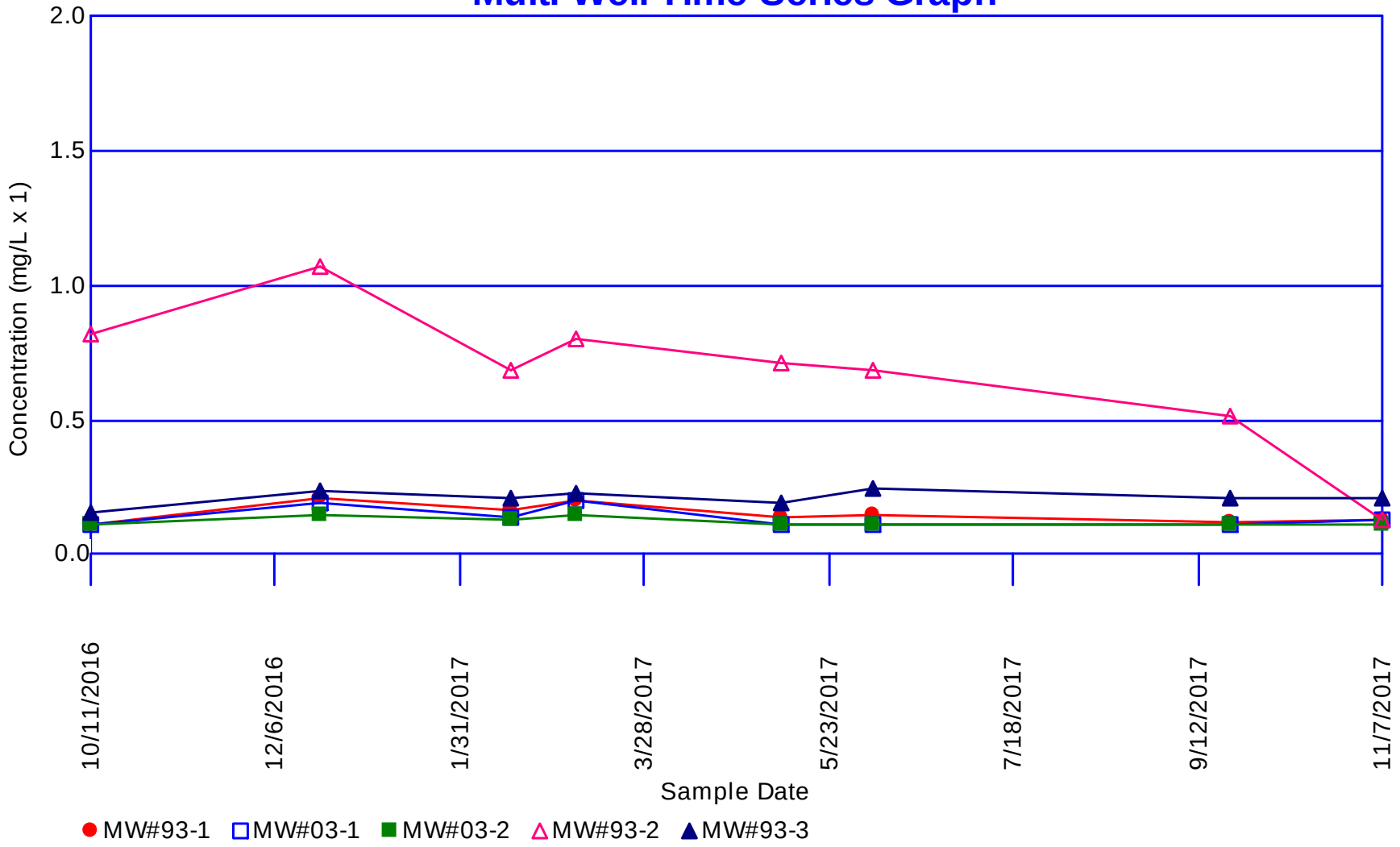
Chloride

Multi-Well Time-Series Graph



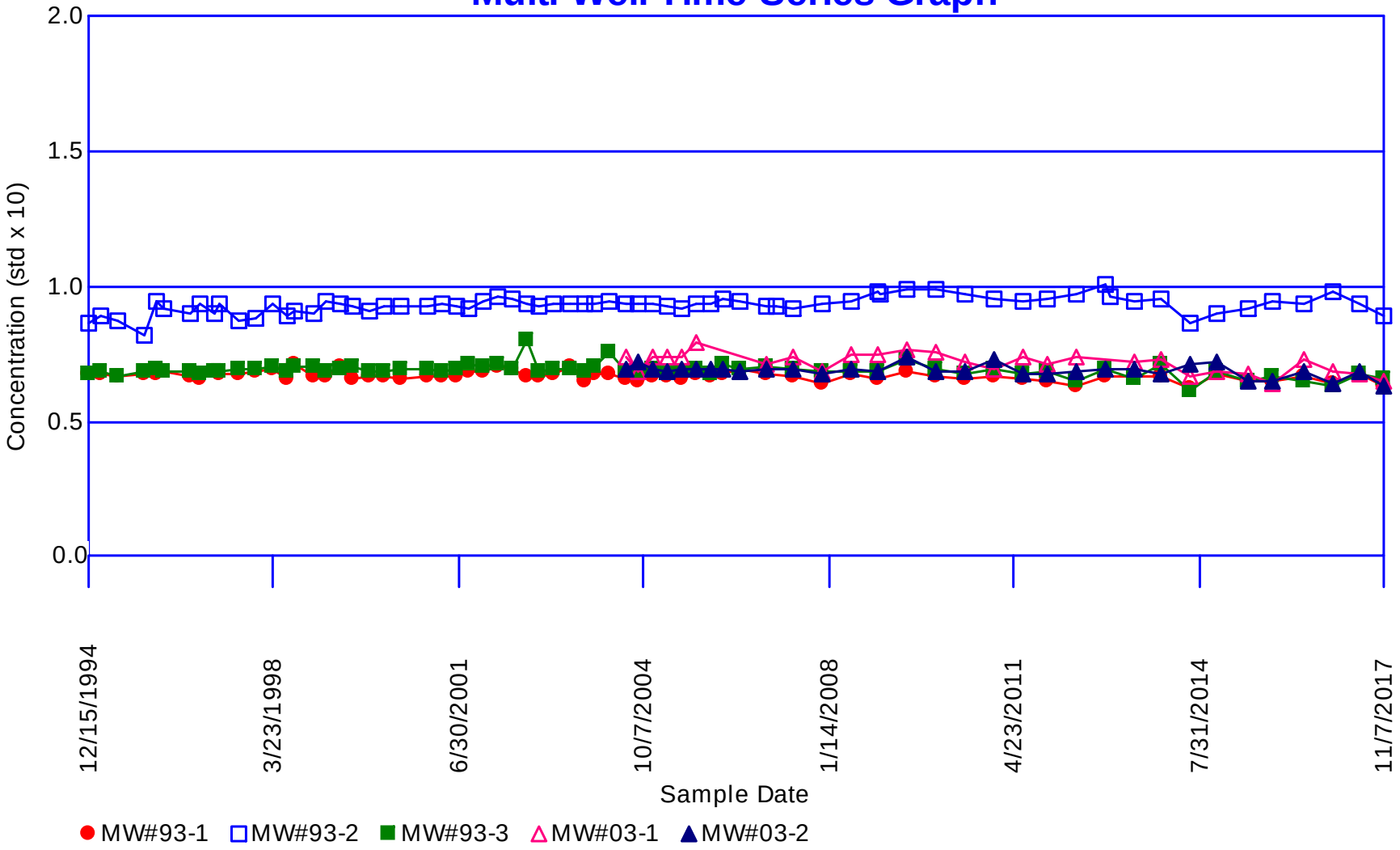
Fluoride

Multi-Well Time-Series Graph



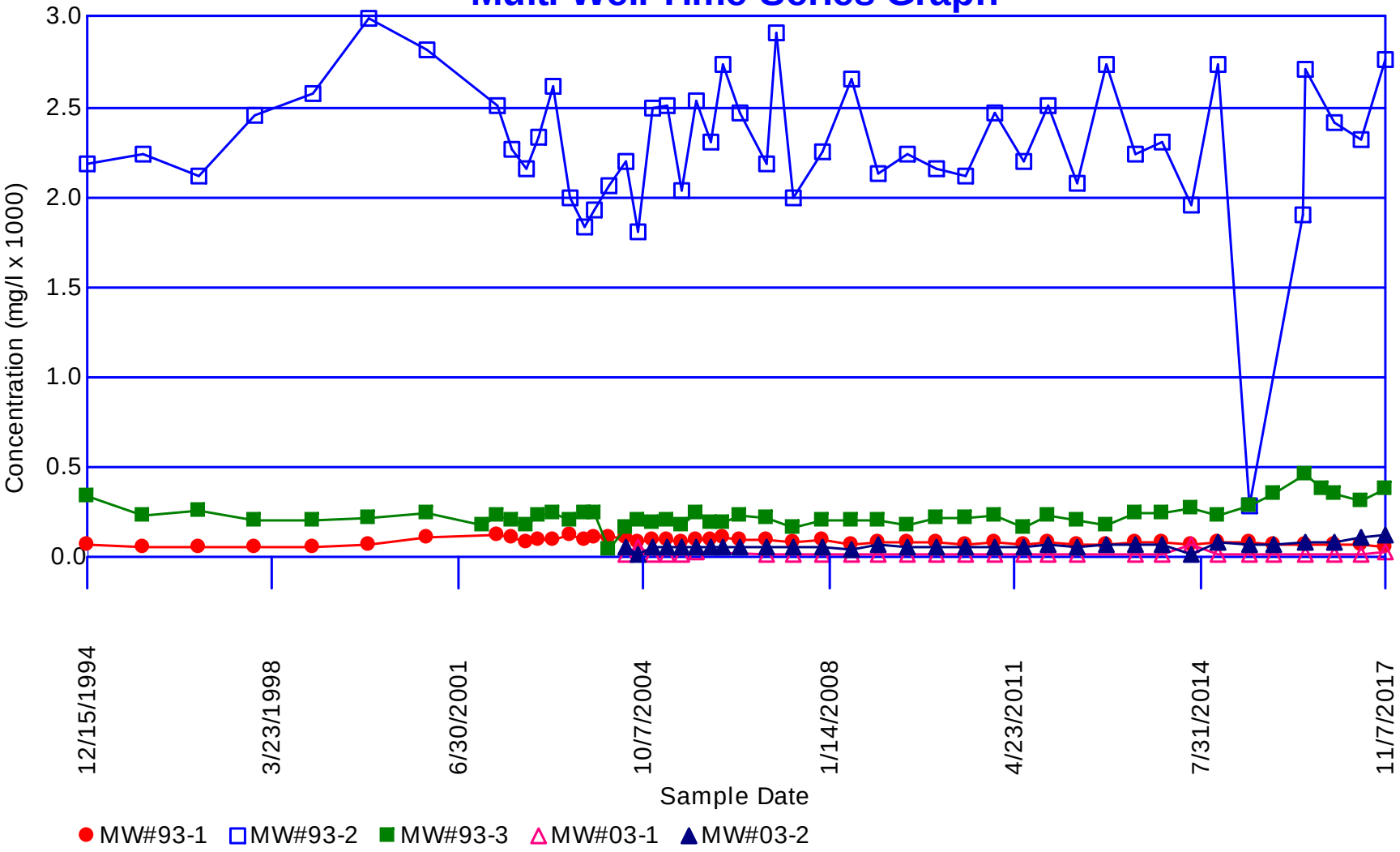
ph

Multi-Well Time-Series Graph



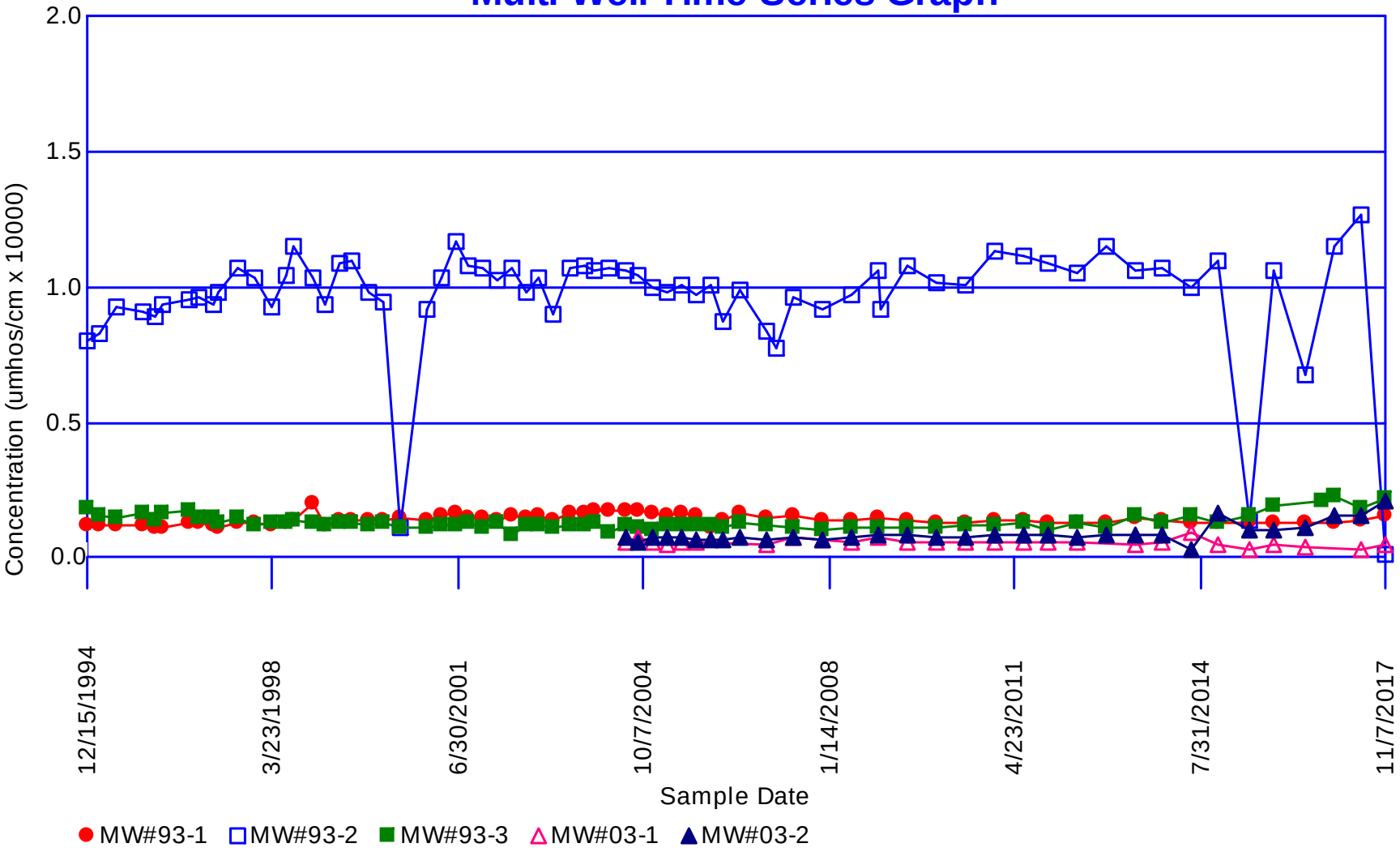
Sodium

Multi-Well Time-Series Graph



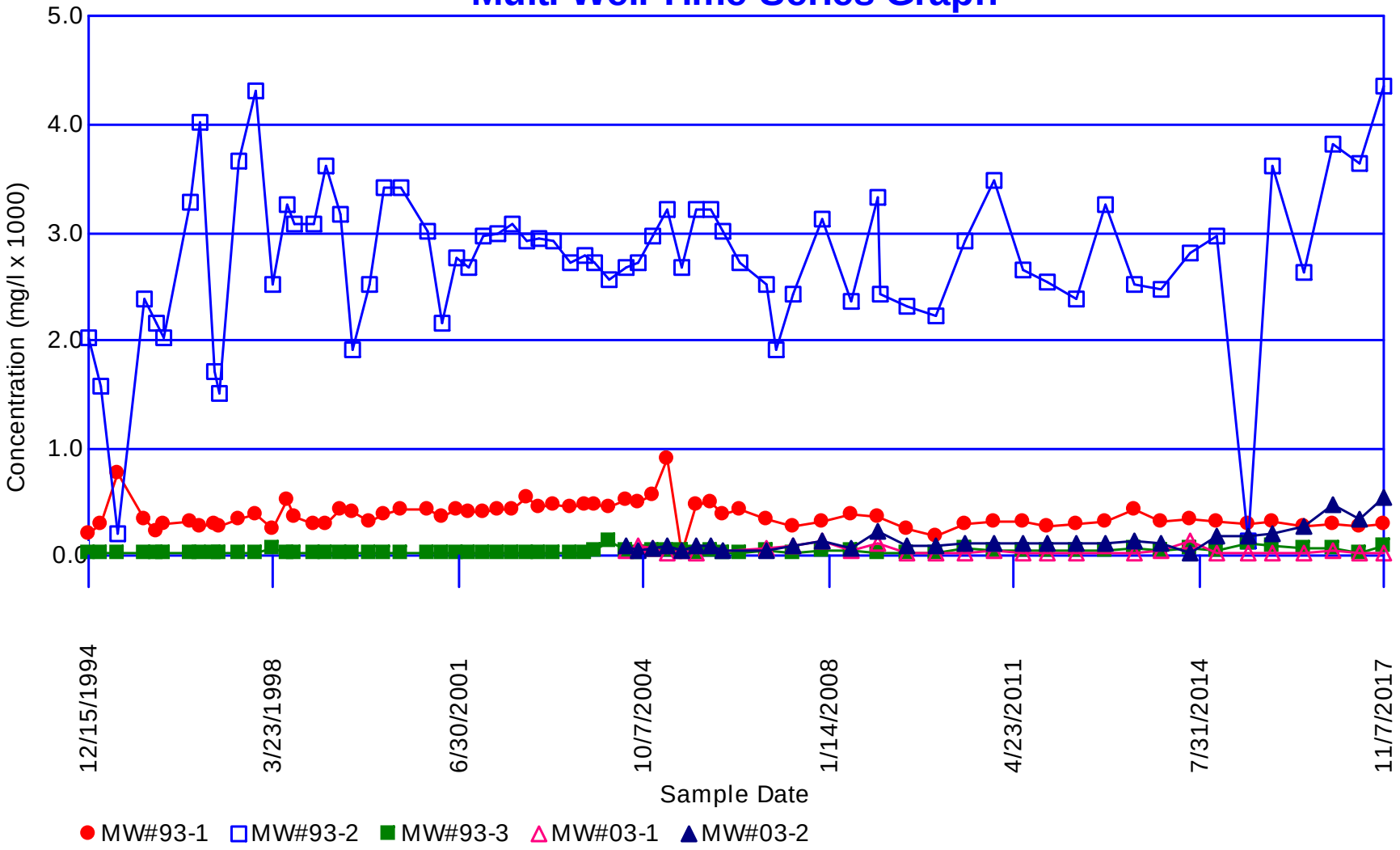
Specific Conductance

Multi-Well Time-Series Graph



Sulfate

Multi-Well Time-Series Graph



Concentrations (mg/l)

Parameter: Alkalinity

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 259
Total Non-Detect: 0
Percent Non-Detects: 0%
Total Background Samples: 66
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	66	0 (0%)	12/15/1994	367	367
			12/14/1995	334	334
			3/6/1996	384	384
			4/25/1996	363	363
			10/2/1996	365	365
			12/10/1996	346	346
			3/11/1997	350	350
			4/15/1997	330	330
			8/14/1997	400	400
			12/4/1997	380	380
			3/31/1998	360	360
			6/23/1998	390	390
			8/11/1998	389	389
			12/8/1998	376	376
			3/9/1999	340	340
			6/8/1999	395	395
			8/19/1999	400	400
			12/14/1999	360	360
			3/7/2000	384	384
			6/23/2000	364	364
			12/12/2000	450	450
			3/27/2001	362	362
			6/28/2001	340	340
			9/10/2001	326	326
			12/18/2001	326	326
			3/19/2002	330	330
			6/26/2002	350	350
			9/18/2002	353	353
			12/11/2002	344	344
			3/13/2003	320	320
			6/25/2003	336	336
			9/26/2003	320	320
			12/10/2003	324	324
			3/9/2004	329	329
			6/24/2004	348	348
			9/15/2004	332	332
			12/15/2004	327	327
			3/16/2005	340	340
			6/15/2005	330	330
			9/21/2005	347	347
			12/21/2005	340	340
			3/15/2006	320	320
			6/21/2006	314	314
			12/20/2006	300	300

			6/12/2007	310	310
			12/17/2007	330	330
			6/11/2008	370	370
			12/3/2008	344	344
			6/17/2009	350	350
			12/9/2009	370	370
			6/17/2010	380	380
			12/22/2010	370	370
			6/29/2011	366	366
			12/7/2011	370	370
			6/6/2012	384	384
			12/12/2012	330	330
			6/19/2013	360	360
			12/11/2013	358	358
			6/11/2014	342	342
			12/3/2014	368	368
			6/17/2015	380	380
			12/1/2015	383	383
			6/22/2016	390	390
			12/20/2016	395.4	395.4
			6/6/2017	398	398
			11/7/2017	394	394

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	67	0 (0%)	12/15/1994	170	170
			12/14/1995	191	191
			3/6/1996	308	308
			4/25/1996	340	340
			10/2/1996	340	340
			12/10/1996	270	270
			3/11/1997	210	210
			4/15/1997	220	220
			8/14/1997	240	240
			12/4/1997	200	200
			3/31/1998	184	184
			6/23/1998	250	250
			8/11/1998	208	208
			12/8/1998	200	200
			3/9/1999	224	224
			6/8/1999	220	220
			8/19/1999	226	226
			12/14/1999	240	240
			3/7/2000	244	244
			6/23/2000	264	264
			12/12/2000	220	220
			3/27/2001	215	215
			6/28/2001	240	240
			9/10/2001	208	208
			12/18/2001	235	235
			3/19/2002	263	263
			6/26/2002	290	290
			9/18/2002	256	256
			12/11/2002	249	249
			3/13/2003	240	240

			6/25/2003	246	246
			9/26/2003	250	250
			12/10/2003	200	200
			3/9/2004	280	280
			6/24/2004	329	329
			9/15/2004	272	272
			12/15/2004	288	288
			3/16/2005	240	240
			6/15/2005	246	246
			9/21/2005	228	228
			12/21/2005	232	232
			3/15/2006	250	250
			6/21/2006	290	290
			12/20/2006	356	356
			2/21/2007	340	340
			6/12/2007	312	312
			12/17/2007	210	210
			6/11/2008	240	240
			12/3/2008	280	280
			6/17/2009	250	250
			12/9/2009	236	236
			6/17/2010	252	252
			12/22/2010	240	240
			6/29/2011	266	266
			12/7/2011	288	288
			6/6/2012	256	256
			12/12/2012	248	248
			6/19/2013	364	364
			12/11/2013	328	328
			6/11/2014	342	342
			12/3/2014	296	296
			6/17/2015	384	384
			12/1/2015	226	226
			6/22/2016	176	176
			12/20/2016	162.2	162.2
			6/6/2017	246	246
			11/7/2017	430	430
MW#93-3	66	0 (0%)	12/15/1994	240	240
			12/14/1995	206	206
			3/6/1996	226	226
			4/25/1996	228	228
			10/2/1996	240	240
			12/10/1996	225	225
			3/11/1997	210	210
			4/15/1997	200	200
			8/14/1997	255	255
			12/4/1997	140	140
			3/31/1998	240	240
			6/23/1998	225	225
			8/11/1998	224	224
			12/8/1998	214	214
			3/9/1999	234	234
			6/8/1999	236	236
			8/19/1999	260	260
			12/14/1999	300	300
			3/7/2000	264	264

			6/23/2000	244	244
			12/12/2000	320	320
			3/27/2001	254	254
			6/28/2001	255	255
			9/10/2001	332	332
			12/18/2001	230	230
			3/19/2002	255	255
			6/26/2002	250	250
			9/18/2002	268	268
			12/11/2002	268	268
			3/13/2003	247	247
			6/25/2003	252	252
			9/26/2003	244	244
			12/10/2003	271	271
			3/9/2004	284	284
			6/24/2004	309	309
			9/15/2004	264	264
			12/15/2004	254	254
			3/16/2005	290	290
			6/15/2005	268	268
			9/21/2005	264	264
			12/21/2005	246	246
			3/15/2006	227	227
			6/21/2006	253	253
			12/20/2006	250	250
			6/12/2007	280	280
			12/17/2007	290	290
			6/11/2008	300	300
			12/3/2008	226	226
			6/17/2009	240	240
			12/9/2009	214	214
			6/17/2010	296	296
			12/22/2010	230	230
			6/29/2011	256	256
			12/7/2011	244	244
			6/6/2012	288	288
			12/12/2012	226	226
			6/19/2013	316	316
			12/11/2013	262	262
			6/11/2014	338	338
			12/3/2014	262	262
			6/17/2015	388	388
			5/25/2016	440	440
			6/22/2016	330	330
			12/20/2016	330.4	330.4
			6/6/2017	304	304
			11/7/2017	409	409
MW#03-1	28	0 (0%)	6/24/2004	209	209
			9/15/2004	220	220
			12/15/2004	184	184
			3/16/2005	160	160
			6/15/2005	252	252
			9/21/2005	180	180
			12/20/2006	204	204
			6/12/2007	200	200
			12/17/2007	190	190

			6/11/2008	200	200
			12/3/2008	206	206
			6/17/2009	204	204
			12/9/2009	216	216
			6/17/2010	232	232
			12/22/2010	216	216
			6/29/2011	210	210
			12/7/2011	222	222
			6/6/2012	216	216
			6/19/2013	144	144
			12/11/2013	212	212
			6/11/2014	222	222
			12/3/2014	194	194
			6/17/2015	134	134
			12/1/2015	150	150
			6/22/2016	130	130
			12/20/2016	211.6	211.6
			6/6/2017	56	56
			11/7/2017	217	217
MW#03-2	32	0 (0%)	6/24/2004	235	235
			9/15/2004	200	200
			12/15/2004	222	222
			3/16/2005	220	220
			6/15/2005	252	252
			9/21/2005	224	224
			12/21/2005	230	230
			3/15/2006	220	220
			6/21/2006	228	228
			12/20/2006	220	220
			6/12/2007	228	228
			12/17/2007	200	200
			6/11/2008	200	200
			12/3/2008	210	210
			6/17/2009	200	200
			12/9/2009	208	208
			6/17/2010	216	216
			12/22/2010	230	230
			6/29/2011	224	224
			12/7/2011	236	236
			6/6/2012	230	230
			12/12/2012	242	242
			6/19/2013	232	232
			12/11/2013	230	230
			6/11/2014	92	92
			12/3/2014	76	76
			6/17/2015	220	220
			12/1/2015	214	214
			6/22/2016	204	204
			12/20/2016	199.4	199.4
			6/6/2017	192	192
			11/7/2017	192	192

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Alkalinity

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 259

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	56	-2.74777	7.55021	-153.875
2	76	-2.45727	13.5884	-340.628
3	92	-2.29036	18.8342	-551.341
4	130	-2.17009	23.5435	-833.453
5	134	-2.07485	27.8485	-1111.48
6	140	-1.99539	31.8301	-1390.84
7	144	-1.94314	35.6058	-1670.65
8	150	-1.88079	39.1432	-1952.77
9	160	-1.82501	42.4738	-2244.77
10	162.2	-1.77438	45.6223	-2532.57
11	170	-1.72793	48.608	-2826.32
12	176	-1.68494	51.447	-3122.87
13	180	-1.64485	54.1526	-3418.94
14	184	-1.61644	56.7654	-3716.37
15	184	-1.58047	59.2633	-4007.17
16	190	-1.54643	61.6548	-4301
17	191	-1.5141	63.9473	-4590.19
18	192	-1.48328	66.1474	-4874.98
19	192	-1.4538	68.2609	-5154.11
20	194	-1.4325	70.313	-5432.02
21	199.4	-1.40507	72.2872	-5712.19
22	200	-1.37866	74.1879	-5987.92
23	200	-1.35317	76.019	-6258.55
24	200	-1.32854	77.784	-6524.26
25	200	-1.30469	79.4862	-6785.2
26	200	-1.28155	81.1286	-7041.51
27	200	-1.26464	82.7279	-7294.44
28	200	-1.24264	84.2721	-7542.97
29	200	-1.22123	85.7635	-7787.21
30	200	-1.20036	87.2044	-8027.28
31	200	-1.18	88.5968	-8263.28
32	204	-1.16012	89.9426	-8499.95
33	204	-1.1455	91.2548	-8733.63
34	204	-1.12639	92.5236	-8963.41
35	206	-1.10768	93.7505	-9191.6
36	206	-1.08935	94.9372	-9416
37	208	-1.07138	96.0851	-9638.85
38	208	-1.05375	97.1954	-9858.03
39	208	-1.03643	98.2696	-10073.6
40	209	-1.02365	99.3175	-10287.5
41	210	-1.00687	100.331	-10499
42	210	-0.990356	101.312	-10707
43	210	-0.974114	102.261	-10911.5
44	210	-0.958125	103.179	-11112.7
45	210	-0.942375	104.067	-11310.6
46	211.6	-0.930718	104.933	-11507.6

47	212	-0.915365	105.771	-11701.6
48	214	-0.900227	106.582	-11894.3
49	214	-0.885291	107.365	-12083.7
50	214	-0.87055	108.123	-12270
51	215	-0.855996	108.856	-12454.1
52	216	-0.841621	109.564	-12635.9
53	216	-0.830953	110.255	-12815.3
54	216	-0.816874	110.922	-12991.8
55	216	-0.802956	111.567	-13165.2
56	217	-0.789191	112.19	-13336.5
57	220	-0.775574	112.791	-13507.1
58	220	-0.7621	113.372	-13674.8
59	220	-0.752084	113.938	-13840.2
60	220	-0.738846	114.483	-14002.8
61	220	-0.725736	115.01	-14162.4
62	220	-0.712751	115.518	-14319.2
63	220	-0.699883	116.008	-14473.2
64	220	-0.687131	116.48	-14624.4
65	222	-0.67449	116.935	-14774.1
66	222	-0.665079	117.377	-14921.8
67	222	-0.652622	117.803	-15066.7
68	224	-0.640266	118.213	-15210.1
69	224	-0.628006	118.608	-15350.7
70	224	-0.615839	118.987	-15488.7
71	224	-0.603765	119.351	-15623.9
72	225	-0.594766	119.705	-15757.8
73	225	-0.582841	120.045	-15888.9
74	226	-0.570999	120.371	-16017.9
75	226	-0.559237	120.684	-16144.3
76	226	-0.547551	120.983	-16268.1
77	226	-0.53594	121.271	-16389.2
78	226	-0.524401	121.546	-16507.7
79	227	-0.515791	121.812	-16624.8
80	228	-0.504372	122.066	-16739.8
81	228	-0.493018	122.309	-16852.2
82	228	-0.481728	122.541	-16962
83	228	-0.470498	122.763	-17069.3
84	230	-0.459327	122.974	-17175
85	230	-0.450985	123.177	-17278.7
86	230	-0.439913	123.37	-17379.9
87	230	-0.428895	123.554	-17478.5
88	230	-0.417928	123.729	-17574.6
89	230	-0.40701	123.895	-17668.2
90	232	-0.396142	124.052	-17760.2
91	232	-0.385321	124.2	-17849.5
92	232	-0.377233	124.342	-17937.1
93	234	-0.36649	124.477	-18022.8
94	235	-0.355788	124.603	-18106.4
95	235	-0.345126	124.722	-18187.5
96	236	-0.334503	124.834	-18266.5
97	236	-0.323919	124.939	-18342.9
98	236	-0.316004	125.039	-18417.5
99	240	-0.305481	125.132	-18490.8
100	240	-0.294992	125.22	-18561.6
101	240	-0.284535	125.3	-18629.9
102	240	-0.27411	125.376	-18695.7
103	240	-0.263715	125.445	-18759

104	240	-0.253347	125.509	-18819.8
105	240	-0.24559	125.57	-18878.7
106	240	-0.235269	125.625	-18935.2
107	240	-0.224974	125.676	-18989.2
108	240	-0.214702	125.722	-19040.7
109	240	-0.204452	125.764	-19089.8
110	242	-0.194225	125.801	-19136.8
111	244	-0.186567	125.836	-19182.3
112	244	-0.176374	125.867	-19225.3
113	244	-0.166199	125.895	-19265.9
114	244	-0.156042	125.919	-19304
115	246	-0.1459	125.94	-19339.9
116	246	-0.135774	125.959	-19373.3
117	246	-0.125661	125.975	-19404.2
118	246	-0.118085	125.989	-19433.2
119	247	-0.107995	126	-19459.9
120	248	-0.0979139	126.01	-19484.2
121	249	-0.0878447	126.018	-19506.1
122	250	-0.0777834	126.024	-19525.5
123	250	-0.0677301	126.028	-19542.4
124	250	-0.0601949	126.032	-19557.5
125	250	-0.0501541	126.034	-19570
126	250	-0.0401167	126.036	-19580
127	250	-0.0300838	126.037	-19587.6
128	252	-0.0200544	126.037	-19592.6
129	252	-0.0100272	126.037	-19595.1
130	252	0	126.037	-19595.1
131	252	0.0100272	126.037	-19592.6
132	253	0.0200544	126.038	-19587.5
133	254	0.0300838	126.039	-19579.9
134	254	0.0401167	126.04	-19569.7
135	255	0.0501541	126.043	-19556.9
136	255	0.0601949	126.046	-19541.6
137	255	0.0677301	126.051	-19524.3
138	256	0.0777834	126.057	-19504.4
139	256	0.0878447	126.065	-19481.9
140	256	0.0979139	126.074	-19456.8
141	260	0.107995	126.086	-19428.8
142	262	0.118085	126.1	-19397.8
143	262	0.125661	126.116	-19364.9
144	263	0.135774	126.134	-19329.2
145	264	0.1459	126.156	-19290.7
146	264	0.156042	126.18	-19249.5
147	264	0.166199	126.208	-19205.6
148	264	0.176374	126.239	-19159
149	266	0.186567	126.273	-19109.4
150	268	0.194225	126.311	-19057.4
151	268	0.204452	126.353	-19002.6
152	268	0.214702	126.399	-18945
153	270	0.224974	126.45	-18884.3
154	271	0.235269	126.505	-18820.5
155	272	0.24559	126.565	-18753.7
156	280	0.253347	126.63	-18682.8
157	280	0.263715	126.699	-18608.9
158	280	0.27411	126.774	-18532.2
159	284	0.284535	126.855	-18451.4
160	288	0.294992	126.942	-18366.4

161	288	0.305481	127.035	-18278.5
162	288	0.316004	127.135	-18187.4
163	290	0.323919	127.24	-18093.5
164	290	0.334503	127.352	-17996.5
165	290	0.345126	127.471	-17896.4
166	290	0.355788	127.598	-17793.2
167	296	0.36649	127.732	-17684.8
168	296	0.377233	127.874	-17573.1
169	300	0.385321	128.023	-17457.5
170	300	0.396142	128.18	-17338.7
171	300	0.40701	128.346	-17216.6
172	304	0.417928	128.52	-17089.5
173	308	0.428895	128.704	-16957.4
174	309	0.439913	128.898	-16821.5
175	310	0.450985	129.101	-16681.7
176	312	0.459327	129.312	-16538.4
177	314	0.470498	129.533	-16390.6
178	316	0.481728	129.765	-16238.4
179	320	0.493018	130.009	-16080.6
180	320	0.504372	130.263	-15919.2
181	320	0.515791	130.529	-15754.2
182	320	0.524401	130.804	-15586.4
183	324	0.53594	131.091	-15412.7
184	326	0.547551	131.391	-15234.2
185	326	0.559237	131.704	-15051.9
186	327	0.570999	132.03	-14865.2
187	328	0.582841	132.37	-14674
188	329	0.594766	132.723	-14478.3
189	329	0.603765	133.088	-14279.7
190	330	0.615839	133.467	-14076.5
191	330	0.628006	133.861	-13869.2
192	330	0.640266	134.271	-13657.9
193	330	0.652622	134.697	-13442.6
194	330	0.665079	135.14	-13223.1
195	330	0.67449	135.595	-13000.5
196	330.4	0.687131	136.067	-12773.5
197	332	0.699883	136.557	-12541.1
198	332	0.712751	137.065	-12304.5
199	334	0.725736	137.591	-12062.1
200	336	0.738846	138.137	-11813.9
201	338	0.752084	138.703	-11559.6
202	340	0.7621	139.284	-11300.5
203	340	0.775574	139.885	-11036.8
204	340	0.789191	140.508	-10768.5
205	340	0.802956	141.153	-10495.5
206	340	0.816874	141.82	-10217.8
207	340	0.830953	142.51	-9935.25
208	340	0.841621	143.219	-9649.1
209	342	0.855996	143.951	-9356.35
210	342	0.87055	144.709	-9058.62
211	344	0.885291	145.493	-8754.08
212	344	0.900227	146.303	-8444.4
213	346	0.915365	147.141	-8127.68
214	347	0.930718	148.008	-7804.73
215	348	0.942375	148.896	-7476.78
216	350	0.958125	149.814	-7141.44
217	350	0.974114	150.763	-6800.5

218	350	0.990356	151.743	-6453.87
219	353	1.00687	152.757	-6098.45
220	356	1.02365	153.805	-5734.03
221	358	1.03643	154.879	-5362.98
222	360	1.05375	155.99	-4983.64
223	360	1.07138	157.137	-4597.94
224	360	1.08935	158.324	-4205.77
225	362	1.10768	159.551	-3804.79
226	363	1.12639	160.82	-3395.91
227	364	1.1455	162.132	-2978.95
228	364	1.16012	163.478	-2556.67
229	365	1.18	164.87	-2125.97
230	366	1.20036	166.311	-1686.63
231	367	1.22123	167.803	-1238.44
232	368	1.24264	169.347	-781.151
233	370	1.26464	170.946	-313.234
234	370	1.28155	172.588	160.94
235	370	1.30469	174.291	643.674
236	370	1.32854	176.056	1135.23
237	376	1.35317	177.887	1644.03
238	380	1.37866	179.787	2167.92
239	380	1.40507	181.762	2701.84
240	380	1.4325	183.814	3246.2
241	383	1.4538	185.927	3803
242	384	1.48328	188.127	4372.58
243	384	1.5141	190.42	4954
244	384	1.54643	192.811	5547.83
245	384	1.58047	195.309	6154.73
246	388	1.61644	197.922	6781.91
247	389	1.64485	200.628	7421.75
248	390	1.68494	203.467	8078.88
249	390	1.72793	206.452	8752.77
250	394	1.77438	209.601	9451.88
251	395	1.82501	212.931	10172.8
252	395.4	1.88079	216.469	10916.4
253	398	1.94314	220.245	11689.8
254	400	1.99539	224.226	12487.9
255	400	2.07485	228.531	13317.9
256	409	2.17009	233.24	14205.5
257	430	2.29036	238.486	15190.3
258	440	2.45727	244.524	16271.5

Sample Standard Deviation = 69.9177
Numerator = 2.64762e+008
Denominator = 3.08401e+008 = 258 244.524
W Statistic = 0.858498
5% Critical value of 0.976 exceeds 0.858498
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.858498
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Alkalinity

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 30.9044
Overall Std Dev = 29.5729
Overall Total = 8004.23
SS Wells = 13370.3
SS Total = 225635

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	13370.3	4	3342.58	3.9998
Error (within wells)	212265	254	835.687	
Totals	225635	258		

3.9998 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	10.5242
	12/14/1995	22.4758
	3/6/1996	27.5242
	4/25/1996	6.52424
	10/2/1996	8.52424
	12/10/1996	10.4758
	3/11/1997	6.47576
	4/15/1997	26.4758
	8/14/1997	43.5242
	12/4/1997	23.5242
	3/31/1998	3.52424
	6/23/1998	33.5242
	8/11/1998	32.5242
	12/8/1998	19.5242
	3/9/1999	16.4758
	6/8/1999	38.5242
	8/19/1999	43.5242
	12/14/1999	3.52424
	3/7/2000	27.5242
	6/23/2000	7.52424
	12/12/2000	93.5242
	3/27/2001	5.52424
	6/28/2001	16.4758
	9/10/2001	30.4758
	12/18/2001	30.4758
	3/19/2002	26.4758
	6/26/2002	6.47576
	9/18/2002	3.47576
	12/11/2002	12.4758
	3/13/2003	36.4758
	6/25/2003	20.4758
	9/26/2003	36.4758

12/10/2003	32.4758
3/9/2004	27.4758
6/24/2004	8.47576
9/15/2004	24.4758
12/15/2004	29.4758
3/16/2005	16.4758
6/15/2005	26.4758
9/21/2005	9.47576
12/21/2005	16.4758
3/15/2006	36.4758
6/21/2006	42.4758
12/20/2006	56.4758
6/12/2007	46.4758
12/17/2007	26.4758
6/11/2008	13.5242
12/3/2008	12.4758
6/17/2009	6.47576
12/9/2009	13.5242
6/17/2010	23.5242
12/22/2010	13.5242
6/29/2011	9.52424
12/7/2011	13.5242
6/6/2012	27.5242
12/12/2012	26.4758
6/19/2013	3.52424
12/11/2013	1.52424
6/11/2014	14.4758
12/3/2014	11.5242
6/17/2015	23.5242
12/1/2015	26.5242
6/22/2016	33.5242
12/20/2016	38.9242
6/6/2017	41.5242
11/7/2017	37.5242

Well: MW#93-2

Sample	Residual
12/15/1994	87.3761
12/14/1995	66.3761
3/6/1996	50.6239
4/25/1996	82.6239
10/2/1996	82.6239
12/10/1996	12.6239
3/11/1997	47.3761
4/15/1997	37.3761
8/14/1997	17.3761
12/4/1997	57.3761
3/31/1998	73.3761
6/23/1998	7.37612
8/11/1998	49.3761
12/8/1998	57.3761
3/9/1999	33.3761
6/8/1999	37.3761
8/19/1999	31.3761
12/14/1999	17.3761
3/7/2000	13.3761
6/23/2000	6.62388
12/12/2000	37.3761

3/27/2001	42.3761
6/28/2001	17.3761
9/10/2001	49.3761
12/18/2001	22.3761
3/19/2002	5.62388
6/26/2002	32.6239
9/18/2002	1.37612
12/11/2002	8.37612
3/13/2003	17.3761
6/25/2003	11.3761
9/26/2003	7.37612
12/10/2003	57.3761
3/9/2004	22.6239
6/24/2004	71.6239
9/15/2004	14.6239
12/15/2004	30.6239
3/16/2005	17.3761
6/15/2005	11.3761
9/21/2005	29.3761
12/21/2005	25.3761
3/15/2006	7.37612
6/21/2006	32.6239
12/20/2006	98.6239
2/21/2007	82.6239
6/12/2007	54.6239
12/17/2007	47.3761
6/11/2008	17.3761
12/3/2008	22.6239
6/17/2009	7.37612
12/9/2009	21.3761
6/17/2010	5.37612
12/22/2010	17.3761
6/29/2011	8.62388
12/7/2011	30.6239
6/6/2012	1.37612
12/12/2012	9.37612
6/19/2013	106.624
12/11/2013	70.6239
6/11/2014	84.6239
12/3/2014	38.6239
6/17/2015	126.624
12/1/2015	31.3761
6/22/2016	81.3761
12/20/2016	95.1761
6/6/2017	11.3761
11/7/2017	172.624

Well: MW#93-3

Sample	Residual
12/15/1994	24.1727
12/14/1995	58.1727
3/6/1996	38.1727
4/25/1996	36.1727
10/2/1996	24.1727
12/10/1996	39.1727
3/11/1997	54.1727
4/15/1997	64.1727
8/14/1997	9.17273

12/4/1997	124.173
3/31/1998	24.1727
6/23/1998	39.1727
8/11/1998	40.1727
12/8/1998	50.1727
3/9/1999	30.1727
6/8/1999	28.1727
8/19/1999	4.17273
12/14/1999	35.8273
3/7/2000	0.172727
6/23/2000	20.1727
12/12/2000	55.8273
3/27/2001	10.1727
6/28/2001	9.17273
9/10/2001	67.8273
12/18/2001	34.1727
3/19/2002	9.17273
6/26/2002	14.1727
9/18/2002	3.82727
12/11/2002	3.82727
3/13/2003	17.1727
6/25/2003	12.1727
9/26/2003	20.1727
12/10/2003	6.82727
3/9/2004	19.8273
6/24/2004	44.8273
9/15/2004	0.172727
12/15/2004	10.1727
3/16/2005	25.8273
6/15/2005	3.82727
9/21/2005	0.172727
12/21/2005	18.1727
3/15/2006	37.1727
6/21/2006	11.1727
12/20/2006	14.1727
6/12/2007	15.8273
12/17/2007	25.8273
6/11/2008	35.8273
12/3/2008	38.1727
6/17/2009	24.1727
12/9/2009	50.1727
6/17/2010	31.8273
12/22/2010	34.1727
6/29/2011	8.17273
12/7/2011	20.1727
6/6/2012	23.8273
12/12/2012	38.1727
6/19/2013	51.8273
12/11/2013	2.17273
6/11/2014	73.8273
12/3/2014	2.17273
6/17/2015	123.827
5/25/2016	175.827
6/22/2016	65.8273
12/20/2016	66.2273
6/6/2017	39.8273
11/7/2017	144.827

Well: MW#03-1	Sample	Residual
	6/24/2004	16.4429
	9/15/2004	27.4429
	12/15/2004	8.55714
	3/16/2005	32.5571
	6/15/2005	59.4429
	9/21/2005	12.5571
	12/20/2006	11.4429
	6/12/2007	7.44286
	12/17/2007	2.55714
	6/11/2008	7.44286
	12/3/2008	13.4429
	6/17/2009	11.4429
	12/9/2009	23.4429
	6/17/2010	39.4429
	12/22/2010	23.4429
	6/29/2011	17.4429
	12/7/2011	29.4429
	6/6/2012	23.4429
	6/19/2013	48.5571
	12/11/2013	19.4429
	6/11/2014	29.4429
	12/3/2014	1.44286
	6/17/2015	58.5571
	12/1/2015	42.5571
	6/22/2016	62.5571
	12/20/2016	19.0429
	6/6/2017	136.557
	11/7/2017	24.4429

Well: MW#03-2	Sample	Residual
	6/24/2004	24.8
	9/15/2004	10.2
	12/15/2004	11.8
	3/16/2005	9.8
	6/15/2005	41.8
	9/21/2005	13.8
	12/21/2005	19.8
	3/15/2006	9.8
	6/21/2006	17.8
	12/20/2006	9.8
	6/12/2007	17.8
	12/17/2007	10.2
	6/11/2008	10.2
	12/3/2008	0.2
	6/17/2009	10.2
	12/9/2009	2.2
	6/17/2010	5.8
	12/22/2010	19.8
	6/29/2011	13.8
	12/7/2011	25.8
	6/6/2012	19.8
	12/12/2012	31.8
	6/19/2013	21.8
	12/11/2013	19.8

6/11/2014	118.2
12/3/2014	134.2
6/17/2015	9.8
12/1/2015	3.8
6/22/2016	6.2
12/20/2016	10.8
6/6/2017	18.2
11/7/2017	18.2

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Alkalinity

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 66
Maximum Background Concentration = 450
Confidence Level = 94.3%
False Positive Rate = 5.7%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	430	FALSE
MW#93-3	11/7/2017	1	409	FALSE
MW#03-1	11/7/2017	1	217	FALSE
MW#03-2	11/7/2017	1	192	FALSE

Concentrations (mg/L)

Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 109
Total Non-Detect: 87
Percent Non-Detects: 79.8165%
Total Background Samples: 22
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	22	20 (90.9091%)	6/12/2007	0.0109	0.0109
			12/17/2007	ND<0.005	ND<0.005
			6/11/2008	ND<0.005	ND<0.005
			12/3/2008	ND<0.005	ND<0.005
			6/17/2009	ND<0.005	ND<0.005
			12/9/2009	ND<0.005	ND<0.005
			6/17/2010	ND<0.005	ND<0.005
			12/22/2010	ND<0.005	ND<0.005
			6/29/2011	ND<0.005	ND<0.005
			12/7/2011	ND<0.005	ND<0.005
			6/6/2012	ND<0.005	ND<0.005
			12/12/2012	0.0068	0.0068
			6/19/2013	ND<0.005	ND<0.005
			12/11/2013	ND<0.005	ND<0.005
			6/11/2014	ND<0.005	ND<0.005
			12/3/2014	ND<0.005	ND<0.005
			6/17/2015	ND<0.005	ND<0.005
			12/1/2015	ND<0.005	ND<0.005
			6/22/2016	ND<0	ND<0
			12/20/2016	ND<0.0005	ND<0.0005
			6/6/2017	ND<0.005	ND<0.005
			11/7/2017	ND<0.005	ND<0.005

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#03-1	21	20 (95.2381%)	6/12/2007	ND<0.005	ND<0.005
			12/17/2007	ND<0.005	ND<0.005
			6/11/2008	ND<0.005	ND<0.005
			12/3/2008	ND<0.005	ND<0.005
			6/17/2009	ND<0.005	ND<0.005
			12/9/2009	ND<0.005	ND<0.005
			6/17/2010	ND<0.005	ND<0.005
			12/22/2010	ND<0.005	ND<0.005
			6/29/2011	ND<0.005	ND<0.005
			12/7/2011	ND<0.005	ND<0.005
			6/6/2012	ND<0.005	ND<0.005
			6/19/2013	0.008	0.008
			12/11/2013	ND<0.005	ND<0.005
			6/11/2014	ND<0.005	ND<0.005
			12/3/2014	ND<0.005	ND<0.005
			6/17/2015	ND<0.005	ND<0.005
			12/1/2015	ND<0.005	ND<0.005

			6/22/2016	ND<0	ND<0
			12/20/2016	ND<0.0005	ND<0.0005
			6/6/2017	ND<0.005	ND<0.005
			11/7/2017	ND<0.005	ND<0.005
MW#03-2	22	22 (100%)	6/12/2007	ND<0.005	ND<0.005
			12/17/2007	ND<0.005	ND<0.005
			6/11/2008	ND<0.005	ND<0.005
			12/3/2008	ND<0.005	ND<0.005
			6/17/2009	ND<0.005	ND<0.005
			12/9/2009	ND<0.005	ND<0.005
			6/17/2010	ND<0.005	ND<0.005
			12/22/2010	ND<0.005	ND<0.005
			6/29/2011	ND<0.005	ND<0.005
			12/7/2011	ND<0.005	ND<0.005
			6/6/2012	ND<0.005	ND<0.005
			12/12/2012	ND<0.005	ND<0.005
			6/19/2013	ND<0.005	ND<0.005
			12/11/2013	ND<0.005	ND<0.005
			6/11/2014	ND<0.005	ND<0.005
			12/3/2014	ND<0.005	ND<0.005
			6/17/2015	ND<0.005	ND<0.005
			12/1/2015	ND<0.005	ND<0.005
			6/22/2016	ND<0.005	ND<0.005
			12/20/2016	ND<0.0005	ND<0.0005
			6/6/2017	ND<0.005	ND<0.005
			11/7/2017	ND<0.005	ND<0.005
MW#93-2	22	3 (13.6364%)	6/12/2007	0.0343	0.0343
			12/17/2007	0.0603	0.0603
			6/11/2008	0.051	0.051
			12/3/2008	0.033	0.033
			6/17/2009	0.0525	0.0525
			12/9/2009	0.0635	0.0635
			6/17/2010	0.0179	0.0179
			12/22/2010	0.0215	0.0215
			6/29/2011	0.061	0.061
			12/7/2011	ND<0.005	ND<0.005
			6/6/2012	0.0098	0.0098
			12/12/2012	0.0562	0.0562
			6/19/2013	ND<0.005	ND<0.005
			12/11/2013	0.0353	0.0353
			6/11/2014	0.0197	0.0197
			12/3/2014	0.0274	0.0274
			6/17/2015	ND<0.005	ND<0.005
			12/1/2015	0.03	0.03
			6/22/2016	0.047	0.047
			12/20/2016	0.06	0.06
			6/6/2017	0.038	0.038
			11/7/2017	0.028	0.028
MW#93-3	22	22 (100%)	6/12/2007	ND<0.005	ND<0.005
			12/17/2007	ND<0.005	ND<0.005
			6/11/2008	ND<0.005	ND<0.005
			12/3/2008	ND<0.005	ND<0.005
			6/17/2009	ND<0.005	ND<0.005
			12/9/2009	ND<0.005	ND<0.005

6/17/2010	ND<0.005	ND<0.005
12/22/2010	ND<0.005	ND<0.005
6/29/2011	ND<0.005	ND<0.005
12/7/2011	ND<0.005	ND<0.005
6/6/2012	ND<0.005	ND<0.005
12/12/2012	ND<0.005	ND<0.005
6/19/2013	ND<0.005	ND<0.005
12/11/2013	ND<0.005	ND<0.005
6/11/2014	ND<0.005	ND<0.005
12/3/2014	ND<0.005	ND<0.005
6/17/2015	ND<0.005	ND<0.005
12/1/2015	ND<0.005	ND<0.005
6/22/2016	ND<0.005	ND<0.005
12/20/2016	ND<0.0005	ND<0.0005
6/6/2017	ND<0.005	ND<0.005
11/7/2017	ND<0.005	ND<0.005

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Arsenic

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 109

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0	-2.36561	5.59613	0
2	0	-2.09693	9.99325	0
3	0.0005	-1.92684	13.706	-0.000963419
4	0.0005	-1.79912	16.9428	-0.00186298
5	0.0005	-1.6954	19.8171	-0.00271068
6	0.0005	-1.60725	22.4004	-0.0035143
7	0.005	-1.53007	24.7415	-0.0111646
8	0.005	-1.46106	26.8762	-0.0184699
9	0.005	-1.39838	28.8316	-0.0254618
10	0.005	-1.34075	30.6293	-0.0321656
11	0.005	-1.28155	32.2716	-0.0385733
12	0.005	-1.23187	33.7891	-0.0447326
13	0.005	-1.18504	35.1935	-0.0506579
14	0.005	-1.14069	36.4946	-0.0563613
15	0.005	-1.09847	37.7013	-0.0618537
16	0.005	-1.05812	38.8209	-0.0671443
17	0.005	-1.01943	39.8601	-0.0722414
18	0.005	-0.982202	40.8248	-0.0771524
19	0.005	-0.946291	41.7203	-0.0818839
20	0.005	-0.911562	42.5513	-0.0864417
21	0.005	-0.877897	43.322	-0.0908312
22	0.005	-0.841621	44.0303	-0.0950393
23	0.005	-0.809896	44.6862	-0.0990887
24	0.005	-0.778966	45.293	-0.102984
25	0.005	-0.748762	45.8536	-0.106727
26	0.005	-0.719228	46.3709	-0.110324
27	0.005	-0.690309	46.8475	-0.113775
28	0.005	-0.661955	47.2856	-0.117085
29	0.005	-0.634124	47.6878	-0.120255
30	0.005	-0.606775	48.0559	-0.123289
31	0.005	-0.579873	48.3922	-0.126189
32	0.005	-0.553384	48.6984	-0.128956
33	0.005	-0.524401	48.9734	-0.131578
34	0.005	-0.498687	49.2221	-0.134071
35	0.005	-0.473299	49.4461	-0.136438
36	0.005	-0.448213	49.647	-0.138679
37	0.005	-0.423405	49.8263	-0.140796
38	0.005	-0.398855	49.9854	-0.14279
39	0.005	-0.374544	50.1257	-0.144663
40	0.005	-0.350451	50.2485	-0.146415
41	0.005	-0.326561	50.3551	-0.148048
42	0.005	-0.302855	50.4468	-0.149562
43	0.005	-0.279319	50.5249	-0.150959
44	0.005	-0.253347	50.589	-0.152225
45	0.005	-0.230118	50.642	-0.153376
46	0.005	-0.207012	50.6848	-0.154411

47	0.005	-0.184017	50.7187	-0.155331
48	0.005	-0.161119	50.7447	-0.156137
49	0.005	-0.138305	50.7638	-0.156828
50	0.005	-0.115562	50.7771	-0.157406
51	0.005	-0.0928787	50.7858	-0.15787
52	0.005	-0.0702426	50.7907	-0.158222
53	0.005	-0.0476439	50.793	-0.15846
54	0.005	-0.0250691	50.7936	-0.158585
55	0.005	0	50.7936	-0.158585
56	0.005	0.0250691	50.7942	-0.15846
57	0.005	0.0476439	50.7965	-0.158222
58	0.005	0.0702426	50.8014	-0.15787
59	0.005	0.0928787	50.8101	-0.157406
60	0.005	0.115562	50.8234	-0.156828
61	0.005	0.138305	50.8425	-0.156137
62	0.005	0.161119	50.8685	-0.155331
63	0.005	0.184017	50.9024	-0.154411
64	0.005	0.207012	50.9452	-0.153376
65	0.005	0.230118	50.9982	-0.152225
66	0.005	0.253347	51.0624	-0.150959
67	0.005	0.279319	51.1404	-0.149562
68	0.005	0.302855	51.2321	-0.148048
69	0.005	0.326561	51.3387	-0.146415
70	0.005	0.350451	51.4616	-0.144663
71	0.005	0.374544	51.6018	-0.14279
72	0.005	0.398855	51.7609	-0.140796
73	0.005	0.423405	51.9402	-0.138679
74	0.005	0.448213	52.1411	-0.136438
75	0.005	0.473299	52.3651	-0.134071
76	0.005	0.498687	52.6138	-0.131578
77	0.005	0.524401	52.8888	-0.128956
78	0.005	0.553384	53.195	-0.126189
79	0.005	0.579873	53.5313	-0.123289
80	0.005	0.606775	53.8995	-0.120255
81	0.005	0.634124	54.3016	-0.117085
82	0.005	0.661955	54.7398	-0.113775
83	0.005	0.690309	55.2163	-0.110324
84	0.005	0.719228	55.7336	-0.106727
85	0.005	0.748762	56.2942	-0.102984
86	0.005	0.778966	56.901	-0.0990887
87	0.005	0.809896	57.5569	-0.0950393
88	0.0068	0.841621	58.2653	-0.0893162
89	0.008	0.877897	59.036	-0.0822931
90	0.0098	0.911562	59.8669	-0.0733598
91	0.0109	0.946291	60.7624	-0.0630452
92	0.0179	0.982202	61.7271	-0.0454638
93	0.0197	1.01943	62.7663	-0.0253811
94	0.0215	1.05812	63.886	-0.00263143
95	0.0274	1.09847	65.0926	0.0274666
96	0.028	1.14069	66.3938	0.0594059
97	0.03	1.18504	67.7981	0.0949572
98	0.033	1.23187	69.3156	0.135609
99	0.0343	1.28155	70.9579	0.179566
100	0.0353	1.34075	72.7556	0.226895
101	0.038	1.39838	74.711	0.280033
102	0.047	1.46106	76.8457	0.348703
103	0.051	1.53007	79.1868	0.426736

104	0.0525	1.60725	81.7701	0.511117
105	0.0562	1.6954	84.6444	0.606398
106	0.06	1.79912	87.8813	0.714345
107	0.0603	1.92684	91.594	0.830533
108	0.061	2.09693	95.9911	0.958446

Sample Standard Deviation = 0.0148671
Numerator = 0.918619
Denominator = 2.29144 = 108 95.9911
W Statistic = 0.400892
5% Critical value of 0.976 exceeds 0.400892
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.400892
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 0.00377096
Overall Std Dev = 0.00788743
Overall Total = 0.411035
SS Wells = 0.0042943
SS Total = 0.00671885

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	0.0042943	4	0.00107358	46.0505
Error (within wells)	0.00242455	104	2.3313e-005	
Totals	0.00671885	108		

46.0505 exceeds 2.44724; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	6/12/2007	0.00598182
	12/17/2007	8.18182e-005
	6/11/2008	8.18182e-005
	12/3/2008	8.18182e-005
	6/17/2009	8.18182e-005
	12/9/2009	8.18182e-005
	6/17/2010	8.18182e-005
	12/22/2010	8.18182e-005
	6/29/2011	8.18182e-005
	12/7/2011	8.18182e-005
	6/6/2012	8.18182e-005
	12/12/2012	0.00188182
	6/19/2013	8.18182e-005
	12/11/2013	8.18182e-005
	6/11/2014	8.18182e-005
	12/3/2014	8.18182e-005
	6/17/2015	8.18182e-005
	12/1/2015	8.18182e-005
	6/22/2016	0.00491818
	12/20/2016	0.00441818
	6/6/2017	8.18182e-005
	11/7/2017	8.18182e-005

Well: MW#03-1	Sample	Residual
	6/12/2007	0.000309524
	12/17/2007	0.000309524
	6/11/2008	0.000309524
	12/3/2008	0.000309524
	6/17/2009	0.000309524
	12/9/2009	0.000309524
	6/17/2010	0.000309524
	12/22/2010	0.000309524

6/29/2011	0.000309524
12/7/2011	0.000309524
6/6/2012	0.000309524
6/19/2013	0.00330952
12/11/2013	0.000309524
6/11/2014	0.000309524
12/3/2014	0.000309524
6/17/2015	0.000309524
12/1/2015	0.000309524
6/22/2016	0.00469048
12/20/2016	0.00419048
6/6/2017	0.000309524
11/7/2017	0.000309524

Well: MW#03-2

Sample	Residual
6/12/2007	0.000204545
12/17/2007	0.000204545
6/11/2008	0.000204545
12/3/2008	0.000204545
6/17/2009	0.000204545
12/9/2009	0.000204545
6/17/2010	0.000204545
12/22/2010	0.000204545
6/29/2011	0.000204545
12/7/2011	0.000204545
6/6/2012	0.000204545
12/12/2012	0.000204545
6/19/2013	0.000204545
12/11/2013	0.000204545
6/11/2014	0.000204545
12/3/2014	0.000204545
6/17/2015	0.000204545
12/1/2015	0.000204545
6/22/2016	0.000204545
12/20/2016	0.00429545
6/6/2017	0.000204545
11/7/2017	0.000204545

Well: MW#93-2

Sample	Residual
6/12/2007	0.000309091
12/17/2007	0.0256909
6/11/2008	0.0163909
12/3/2008	0.00160909
6/17/2009	0.0178909
12/9/2009	0.0288909
6/17/2010	0.0167091
12/22/2010	0.0131091
6/29/2011	0.0263909
12/7/2011	0.0296091
6/6/2012	0.0248091
12/12/2012	0.0215909
6/19/2013	0.0296091
12/11/2013	0.000690909
6/11/2014	0.0149091
12/3/2014	0.00720909
6/17/2015	0.0296091

12/1/2015	0.00460909
6/22/2016	0.0123909
12/20/2016	0.0253909
6/6/2017	0.00339091
11/7/2017	0.00660909

Well: MW#93-3	**Sample**	**Residual**
	6/12/2007	0.000204545
	12/17/2007	0.000204545
	6/11/2008	0.000204545
	12/3/2008	0.000204545
	6/17/2009	0.000204545
	12/9/2009	0.000204545
	6/17/2010	0.000204545
	12/22/2010	0.000204545
	6/29/2011	0.000204545
	12/7/2011	0.000204545
	6/6/2012	0.000204545
	12/12/2012	0.000204545
	6/19/2013	0.000204545
	12/11/2013	0.000204545
	6/11/2014	0.000204545
	12/3/2014	0.000204545
	6/17/2015	0.000204545
	12/1/2015	0.000204545
	6/22/2016	0.000204545
	12/20/2016	0.00429545
	6/6/2017	0.000204545
	11/7/2017	0.000204545

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 79.8165%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 22
Maximum Background Concentration = 0.0109
Confidence Level = 84.6%
False Positive Rate = 15.4%

Well	Date	Samples	Mean	Impacted
MW#03-1	11/7/2017	1	0.005	FALSE
MW#03-2	11/7/2017	1	0.005	FALSE
MW#93-2	11/7/2017	1	0.028	TRUE
MW#93-3	11/7/2017	1	0.005	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-2

Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 14.2857%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 21
Maximum Baseline Concentration = 0.0635
Confidence Level = 95.5%
False Positive Rate = 4.5%

Baseline Samples	Date	Result
	6/12/2007	0.0343
	12/17/2007	0.0603
	6/11/2008	0.051
	12/3/2008	0.033
	6/17/2009	0.0525
	12/9/2009	0.0635
	6/17/2010	0.0179
	12/22/2010	0.0215
	6/29/2011	0.061
	12/7/2011	ND<0.005
	6/6/2012	0.0098
	12/12/2012	0.0562
	6/19/2013	ND<0.005
	12/11/2013	0.0353
	6/11/2014	0.0197
	12/3/2014	0.0274
	6/17/2015	ND<0.005
	12/1/2015	0.03
	6/22/2016	0.047
	12/20/2016	0.06
	6/6/2017	0.038

Date	Samples	Mean	Impacted
11/7/2017	1	0.028	FALSE

Concentrations (mg/L)

Parameter: Boron

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 40
Total Non-Detect: 15
Percent Non-Detects: 37.5%
Total Background Samples: 8
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	8	0 (0%)	10/11/2016	0.429	0.429
			12/20/2016	0.386	0.386
			2/16/2017	0.341	0.341
			3/8/2017	0.348	0.348
			5/9/2017	0.366	0.366
			6/6/2017	0.371	0.371
			9/22/2017	0.499	0.499
			11/7/2017	0.46	0.46

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#03-1	8	6 (75%)	10/11/2016	ND<0.025	ND<0.025
			12/20/2016	ND<0.025	ND<0.025
			2/16/2017	ND<0.025	ND<0.025
			3/8/2017	ND<0.025	ND<0.025
			5/9/2017	0.041	0.041
			6/6/2017	ND<0.025	ND<0.025
			9/22/2017	0.025	0.025
			11/7/2017	ND<0.1	ND<0.1
MW#03-2	8	7 (87.5%)	10/11/2016	ND<0.025	ND<0.025
			12/20/2016	ND<0.025	ND<0.025
			2/16/2017	ND<0.025	ND<0.025
			3/8/2017	ND<0.025	ND<0.025
			5/9/2017	0.032	0.032
			6/6/2017	ND<0.025	ND<0.025
			9/22/2017	ND<0.025	ND<0.025
			11/7/2017	ND<0.1	ND<0.1
MW#93-2	8	0 (0%)	10/11/2016	2.86	2.86
			12/20/2016	2.31	2.31
			2/16/2017	2.09	2.09
			3/8/2017	2.07	2.07
			5/9/2017	1.97	1.97
			6/6/2017	1.83	1.83
			9/22/2017	2.48	2.48
			11/7/2017	0.46	0.46
MW#93-3	8	2 (25%)	10/11/2016	0.079	0.079
			12/20/2016	0.08	0.08
			2/16/2017	0.126	0.126
			3/8/2017	0.09	0.09

			5/9/2017	0.139	0.139
			6/6/2017	ND<0.025	ND<0.025
			9/22/2017	0.118	0.118
			11/7/2017	ND<0.1	ND<0.1

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Levene's Test for Equal of Variance

Parameter: Boron

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 0.109587
Overall Std Dev = 0.279224
Overall Total = 4.3835
SS Wells = 1.107
SS Total = 3.04067

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	1.107	4	0.27675	5.00927
Error (within wells)	1.93367	35	0.0552476	
Totals	3.04067	39		

5.00927 exceeds 2.60597; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	10/11/2016	0.029
	12/20/2016	0.014
	2/16/2017	0.059
	3/8/2017	0.052
	5/9/2017	0.034
	6/6/2017	0.029
	9/22/2017	0.099
	11/7/2017	0.06

Well: MW#03-1	Sample	Residual
	10/11/2016	0.011375
	12/20/2016	0.011375
	2/16/2017	0.011375
	3/8/2017	0.011375
	5/9/2017	0.004625
	6/6/2017	0.011375
	9/22/2017	0.011375
	11/7/2017	0.063625

Well: MW#03-2	Sample	Residual
	10/11/2016	0.01025
	12/20/2016	0.01025
	2/16/2017	0.01025
	3/8/2017	0.01025
	5/9/2017	0.00325
	6/6/2017	0.01025
	9/22/2017	0.01025
	11/7/2017	0.06475

Well: MW#93-2	Sample	Residual
	10/11/2016	0.85125

12/20/2016	0.30125
2/16/2017	0.08125
3/8/2017	0.06125
5/9/2017	0.03875
6/6/2017	0.17875
9/22/2017	0.47125
11/7/2017	1.54875

Well: MW#93-3

Sample	Residual
10/11/2016	0.015625
12/20/2016	0.014625
2/16/2017	0.031375
3/8/2017	0.004625
5/9/2017	0.044375
6/6/2017	0.069625
9/22/2017	0.023375
11/7/2017	0.005375

Shapiro-Wilks Test of Normality

Parameter: Boron

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
K = 20; Samples = 40

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	0.025	2.86	2.835	0.3964	1.12379
2	0.025	2.48	2.455	0.2737	0.671933
3	0.025	2.31	2.285	0.2368	0.541088
4	0.025	2.09	2.065	0.2098	0.433237
5	0.025	2.07	2.045	0.1878	0.384051
6	0.025	1.97	1.945	0.1691	0.3289
7	0.025	1.83	1.805	0.1526	0.275443
8	0.025	0.499	0.474	0.1376	0.0652224
9	0.025	0.46	0.435	0.1237	0.0538095
10	0.025	0.46	0.435	0.1108	0.048198
11	0.025	0.429	0.404	0.0986	0.0398344
12	0.025	0.386	0.361	0.087	0.031407
13	0.025	0.371	0.346	0.0759	0.0262614
14	0.032	0.366	0.334	0.0651	0.0217434
15	0.041	0.348	0.307	0.0546	0.0167622
16	0.079	0.341	0.262	0.0444	0.0116328
17	0.08	0.139	0.059	0.0343	0.0020237
18	0.09	0.126	0.036	0.0244	0.0008784
19	0.1	0.118	0.018	0.0146	0.0002628
20	0.1	0.1	0	0.0049	0
21	0.1	0.1	0		
22	0.118	0.1	-0.018		
23	0.126	0.09	-0.036		
24	0.139	0.08	-0.059		
25	0.341	0.079	-0.262		
26	0.348	0.041	-0.307		
27	0.366	0.032	-0.334		
28	0.371	0.025	-0.346		
29	0.386	0.025	-0.361		
30	0.429	0.025	-0.404		
31	0.46	0.025	-0.435		
32	0.46	0.025	-0.435		
33	0.499	0.025	-0.474		
34	1.83	0.025	-1.805		
35	1.97	0.025	-1.945		
36	2.07	0.025	-2.045		
37	2.09	0.025	-2.065		
38	2.31	0.025	-2.285		
39	2.48	0.025	-2.455		
40	2.86	0.025	-2.835		

Sum of b values = 4.07648
Sample Standard Deviation = 0.825318
W Statistic = 0.625553
5% Critical value of 0.94 exceeds 0.625553
Evidence of non-normality at 95% level of significance

1% Critical value of 0.919 exceeds 0.625553
Evidence of non-normality at 99% level of significance

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Boron

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 37.5%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 8
Maximum Background Concentration = 0.499
Confidence Level = 66.7%
False Positive Rate = 33.3%

Well	Date	Samples	Mean	Impacted
MW#03-1	11/7/2017	1	0.1	FALSE
MW#03-2	11/7/2017	1	0.1	FALSE
MW#93-2	11/7/2017	1	0.46	FALSE
MW#93-3	11/7/2017	1	0.1	FALSE

Concentrations (mg/l)

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 266
Total Non-Detect: 5
Percent Non-Detects: 1.8797%
Total Background Samples: 68
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	68	0 (0%)	12/15/1994	30	30
			3/14/1995	38	38
			6/21/1995	37	37
			12/14/1995	24	24
			3/6/1996	20	20
			4/25/1996	32	32
			10/2/1996	40	40
			12/10/1996	30	30
			3/11/1997	4	4
			4/15/1997	28	28
			8/14/1997	33	33
			12/4/1997	29	29
			3/31/1998	30	30
			6/23/1998	37	37
			8/11/1998	24	24
			12/8/1998	31	31
			3/9/1999	30	30
			6/8/1999	35	35
			8/19/1999	40	40
			12/14/1999	40	40
			3/7/2000	50	50
			6/23/2000	52	52
			12/12/2000	54	54
			3/27/2001	60	60
			6/28/2001	58	58
			9/10/2001	46	46
			12/18/2001	46	46
			3/19/2002	42	42
			6/26/2002	51	51
			9/18/2002	57	57
			12/11/2002	56	56
			3/13/2003	56	56
			6/25/2003	63	63
			9/26/2003	59	59
			12/10/2003	40	40
			3/9/2004	58	58
			6/24/2004	61	61
			9/15/2004	44	44
			12/15/2004	48	48
			3/16/2005	42	42
			6/15/2005	42	42
			9/21/2005	42	42
			12/21/2005	58	58
			3/15/2006	50	50

			6/21/2006	31	31
			12/20/2006	35	35
			6/12/2007	24	24
			12/17/2007	27	27
			6/11/2008	29	29
			12/3/2008	28	28
			6/17/2009	20	20
			12/9/2009	24	24
			6/17/2010	17	17
			12/22/2010	20	20
			6/29/2011	20.8	20.8
			12/7/2011	17.6	17.6
			6/6/2012	23.8	23.8
			12/12/2012	22.2	22.2
			6/19/2013	21.5	21.5
			12/11/2013	17.6	17.6
			6/11/2014	19.3	19.3
			12/3/2014	16.9	16.9
			6/17/2015	13	13
			12/1/2015	15.2	15.2
			6/22/2016	13	13
			12/20/2016	15.2	15.2
			6/6/2017	16.1	16.1
			11/7/2017	16.2	16.2

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	69	0 (0%)	12/15/1994	400	400
			3/14/1995	1500	1500
			6/21/1995	75	75
			12/14/1995	1749	1749
			3/6/1996	1674	1674
			4/25/1996	1999	1999
			10/2/1996	1553	1553
			12/10/1996	1560	1560
			3/11/1997	1634	1634
			4/15/1997	1700	1700
			8/14/1997	2149	2149
			12/4/1997	1769	1769
			3/31/1998	2000	2000
			6/23/1998	2099	2099
			8/11/1998	1874	1874
			12/8/1998	1922	1922
			3/9/1999	1700	1700
			6/8/1999	1739	1739
			8/19/1999	1800	1800
			12/14/1999	1800	1800
			3/7/2000	1328	1328
			6/23/2000	950	950
			12/12/2000	1789	1789
			3/27/2001	1749	1749
			6/28/2001	1799	1799
			9/10/2001	2050	2050
			12/18/2001	1600	1600
			3/19/2002	1730	1730

			6/26/2002	1699	1699
			9/18/2002	1674	1674
			12/11/2002	1613	1613
			3/13/2003	1510	1510
			6/25/2003	1800	1800
			9/26/2003	1616	1616
			12/10/2003	1509	1509
			3/9/2004	1800	1800
			6/24/2004	1892	1892
			9/15/2004	1435	1435
			12/15/2004	1600	1600
			3/16/2005	1325	1325
			6/15/2005	1400	1400
			9/21/2005	1412	1412
			12/21/2005	1550	1550
			3/15/2006	1375	1375
			6/21/2006	1500	1500
			12/20/2006	1250	1250
			2/21/2007	1250	1250
			6/12/2007	1350	1350
			12/17/2007	1399	1399
			6/11/2008	1210	1210
			12/3/2008	1584	1584
			6/17/2009	750	750
			12/9/2009	875	875
			6/17/2010	1500	1500
			12/22/2010	1600	1600
			6/29/2011	1670	1670
			12/7/2011	1510	1510
			6/6/2012	1610	1610
			12/12/2012	1750	1750
			6/19/2013	1390	1390
			12/11/2013	1410	1410
			6/11/2014	1360	1360
			12/3/2014	1520	1520
			6/17/2015	47.7	47.7
			12/1/2015	1760	1760
			6/22/2016	1300	1300
			12/20/2016	1690	1690
			6/6/2017	1580	1580
			11/7/2017	1160	1160
MW#93-3	68	0 (0%)	12/15/1994	440	440
			3/14/1995	420	420
			6/21/1995	420	420
			12/14/1995	406	406
			3/6/1996	368	368
			4/25/1996	384	384
			10/2/1996	430	430
			12/10/1996	377	377
			3/11/1997	375	375
			4/15/1997	400	400
			8/14/1997	916	916
			12/4/1997	249	249
			3/31/1998	275	275
			6/23/1998	246	246
			8/11/1998	500	500

			12/8/1998	260	260
			3/9/1999	280	280
			6/8/1999	214	214
			8/19/1999	260	260
			12/14/1999	200	200
			3/7/2000	232	232
			6/23/2000	270	270
			12/12/2000	196	196
			3/27/2001	190	190
			6/28/2001	180	180
			9/10/2001	202	202
			12/18/2001	149	149
			3/19/2002	203	203
			6/26/2002	180	180
			9/18/2002	185	185
			12/11/2002	178	178
			3/13/2003	207	207
			6/25/2003	190	190
			9/26/2003	158	158
			12/10/2003	140	140
			3/9/2004	13	13
			6/24/2004	160	160
			9/15/2004	139	139
			12/15/2004	122	122
			3/16/2005	180	180
			6/15/2005	150	150
			9/21/2005	215	215
			12/21/2005	180	180
			3/15/2006	221	221
			6/21/2006	210	210
			12/20/2006	210	210
			6/12/2007	110	110
			12/17/2007	131	131
			6/11/2008	144	144
			12/3/2008	152	152
			6/17/2009	120	120
			12/9/2009	175	175
			6/17/2010	150	150
			12/22/2010	170	170
			6/29/2011	170	170
			12/7/2011	98.9	98.9
			6/6/2012	194	194
			12/12/2012	168	168
			6/19/2013	194	194
			12/11/2013	173	173
			6/11/2014	254	254
			12/3/2014	194	194
			6/17/2015	168	168
			12/1/2015	280	280
			6/22/2016	518	518
			12/20/2016	475	475
			6/6/2017	113	113
			11/7/2017	402	402
MW#03-1	28	4 (14.2857%)	6/24/2004	10	10
			9/15/2004	22	22
			12/15/2004	6	6

			3/16/2005	4	4
			6/15/2005	6	6
			9/21/2005	5	5
			12/20/2006	5	5
			6/12/2007	4	4
			12/17/2007	3	3
			6/11/2008	11	11
			12/3/2008	11	11
			6/17/2009	4	4
			12/9/2009	32	32
			6/17/2010	5	5
			12/22/2010	8.7	8.7
			6/29/2011	4.86	4.86
			12/7/2011	5.88	5.88
			6/6/2012	9.36	9.36
			6/19/2013	ND<5	ND<5
			12/11/2013	ND<5	ND<5
			6/11/2014	44	44
			12/3/2014	ND<5	ND<5
			6/17/2015	ND<5	ND<5
			12/1/2015	0.777	0.777
			6/22/2016	0.628	0.628
			12/20/2016	0.786	0.786
			6/6/2017	0.887	0.887
			11/7/2017	1.13	1.13
MW#03-2	33	1 (3.0303%)	6/24/2004	36	36
			9/15/2004	4	4
			12/15/2004	28	28
			3/16/2005	30	30
			6/15/2005	30	30
			9/21/2005	27	27
			12/21/2005	26	26
			3/15/2006	27	27
			6/21/2006	23	23
			12/20/2006	35	35
			6/12/2007	30	30
			12/17/2007	20	20
			6/11/2008	41	41
			12/3/2008	46	46
			6/17/2009	60	60
			12/9/2009	45	45
			6/17/2010	33	33
			12/22/2010	29	29
			6/29/2011	28.4	28.4
			12/7/2011	23.5	23.5
			6/6/2012	29.3	29.3
			12/12/2012	28.3	28.3
			6/19/2013	32.1	32.1
			12/11/2013	32.8	32.8
			6/11/2014	ND<5	ND<5
			12/3/2014	51.2	51.2
			6/17/2015	54.7	54.7
			12/1/2015	67.8	67.8
			6/22/2016	79.7	79.7
			10/11/2016	88.4	88.4
			12/20/2016	126	126

			6/6/2017	117	117
			11/7/2017	288	288

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Chloride

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 266

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	0.628	-2.74777	7.55021	-1.7256
2	0.777	-2.45727	13.5884	-3.6349
3	0.786	-2.29036	18.8342	-5.43512
4	0.887	-2.19728	23.6622	-7.38411
5	1.13	-2.09693	28.0593	-9.75365
6	3	-2.01409	32.1159	-15.7959
7	4	-1.94314	35.8917	-23.5685
8	4	-1.8957	39.4854	-31.1513
9	4	-1.83843	42.8652	-38.505
10	4	-1.78661	46.0571	-45.6514
11	4	-1.7392	49.082	-52.6082
12	4.86	-1.70604	51.9925	-60.8996
13	5	-1.66456	54.7633	-69.2224
14	5	-1.62576	57.4064	-77.3512
15	5	-1.58927	59.9322	-85.2975
16	5	-1.56322	62.3759	-93.1136
17	5	-1.53007	64.717	-100.764
18	5	-1.49852	66.9625	-108.257
19	5	-1.46838	69.1187	-115.598
20	5	-1.44663	71.2114	-122.832
21	5.88	-1.41865	73.224	-131.173
22	6	-1.39175	75.1609	-139.524
23	6	-1.36581	77.0264	-147.719
24	8.7	-1.34694	78.8406	-159.437
25	9.36	-1.32251	80.5896	-171.816
26	10	-1.29884	82.2766	-184.804
27	11	-1.27588	83.9045	-198.839
28	11	-1.25908	85.4897	-212.689
29	13	-1.23724	87.0205	-228.773
30	13	-1.21596	88.4991	-244.58
31	13	-1.19522	89.9276	-260.118
32	15.2	-1.18	91.32	-278.054
33	15.2	-1.16012	92.6659	-295.688
34	16.1	-1.14069	93.9671	-314.053
35	16.2	-1.12168	95.2252	-332.224
36	16.9	-1.10768	96.4522	-350.944
37	17	-1.08935	97.6389	-369.463
38	17.6	-1.07138	98.7867	-388.319
39	17.6	-1.05375	99.8971	-406.865
40	19.3	-1.04073	100.98	-426.951
41	20	-1.02365	102.028	-447.424
42	20	-1.00687	103.042	-467.561
43	20	-0.990356	104.023	-487.369
44	20	-0.97815	104.979	-506.932
45	20.8	-0.9621	105.905	-526.943
46	21.5	-0.946291	106.801	-547.289

47	22	-0.930718	107.667	-567.764
48	22.2	-0.919183	108.512	-588.17
49	23	-0.903992	109.329	-608.962
50	23.5	-0.889006	110.119	-629.854
51	23.8	-0.874218	110.883	-650.66
52	24	-0.863249	111.629	-671.378
53	24	-0.848786	112.349	-691.749
54	24	-0.834498	113.045	-711.777
55	24	-0.823893	113.724	-731.55
56	26	-0.809896	114.38	-752.608
57	27	-0.796056	115.014	-774.101
58	27	-0.782366	115.626	-795.225
59	27	-0.772193	116.222	-816.074
60	28	-0.758753	116.798	-837.319
61	28	-0.745449	117.354	-858.192
62	28	-0.732275	117.89	-878.695
63	28.3	-0.722479	118.412	-899.142
64	28.4	-0.709522	118.915	-919.292
65	29	-0.696684	119.401	-939.496
66	29	-0.68396	119.868	-959.331
67	29	-0.67449	120.323	-978.891
68	29.3	-0.661955	120.762	-998.286
69	30	-0.649522	121.183	-1017.77
70	30	-0.637192	121.59	-1036.89
71	30	-0.628006	121.984	-1055.73
72	30	-0.615839	122.363	-1074.2
73	30	-0.603765	122.728	-1092.32
74	30	-0.591776	123.078	-1110.07
75	30	-0.582841	123.418	-1127.55
76	31	-0.570999	123.744	-1145.26
77	31	-0.559237	124.056	-1162.59
78	32	-0.547551	124.356	-1180.11
79	32	-0.538836	124.647	-1197.36
80	32.1	-0.52728	124.925	-1214.28
81	32.8	-0.515791	125.191	-1231.2
82	33	-0.504372	125.445	-1247.84
83	33	-0.49585	125.691	-1264.21
84	35	-0.484544	125.926	-1281.17
85	35	-0.473299	126.15	-1297.73
86	35	-0.462114	126.363	-1313.91
87	36	-0.453763	126.569	-1330.24
88	37	-0.442676	126.765	-1346.62
89	37	-0.431644	126.951	-1362.59
90	38	-0.420664	127.128	-1378.58
91	40	-0.412463	127.298	-1395.07
92	40	-0.401571	127.46	-1411.14
93	40	-0.390726	127.612	-1426.77
94	40	-0.379927	127.757	-1441.96
95	41	-0.371856	127.895	-1457.21
96	42	-0.361133	128.025	-1472.38
97	42	-0.350451	128.148	-1487.1
98	42	-0.33981	128.264	-1501.37
99	42	-0.331854	128.374	-1515.31
100	44	-0.321278	128.477	-1529.44
101	44	-0.310738	128.574	-1543.11
102	45	-0.300232	128.664	-1556.63
103	46	-0.292375	128.749	-1570.07

104	46	-0.281926	128.829	-1583.04
105	46	-0.271509	128.902	-1595.53
106	47.7	-0.26112	128.971	-1607.99
107	48	-0.253347	129.035	-1620.15
108	50	-0.243007	129.094	-1632.3
109	50	-0.232693	129.148	-1643.93
110	51	-0.224974	129.199	-1655.41
111	51.2	-0.214702	129.245	-1666.4
112	52	-0.204452	129.287	-1677.03
113	54	-0.194225	129.324	-1687.52
114	54.7	-0.186567	129.359	-1697.72
115	56	-0.176374	129.39	-1707.6
116	56	-0.166199	129.418	-1716.91
117	57	-0.156042	129.442	-1725.8
118	58	-0.148434	129.464	-1734.41
119	58	-0.138305	129.483	-1742.43
120	58	-0.128189	129.5	-1749.87
121	59	-0.118085	129.514	-1756.84
122	60	-0.110516	129.526	-1763.47
123	60	-0.100433	129.536	-1769.49
124	61	-0.0903606	129.544	-1775.01
125	63	-0.0802981	129.551	-1780.06
126	67.8	-0.0727562	129.556	-1785
127	75	-0.0627062	129.56	-1789.7
128	79.7	-0.0526632	129.563	-1793.9
129	88.4	-0.0426257	129.564	-1797.67
130	98.9	-0.0350997	129.566	-1801.14
131	110	-0.0250691	129.566	-1803.89
132	113	-0.0150408	129.566	-1805.59
133	117	-0.00501359	129.567	-1806.18
134	120	0.00501359	129.567	-1805.58
135	122	0.0150408	129.567	-1803.74
136	126	0.0250691	129.567	-1800.58
137	131	0.0350997	129.569	-1795.99
138	139	0.0426257	129.57	-1790.06
139	140	0.0526632	129.573	-1782.69
140	144	0.0627062	129.577	-1773.66
141	149	0.0727562	129.582	-1762.82
142	150	0.0802981	129.589	-1750.77
143	150	0.0903606	129.597	-1737.22
144	152	0.100433	129.607	-1721.95
145	158	0.110516	129.619	-1704.49
146	160	0.118085	129.633	-1685.6
147	168	0.128189	129.65	-1664.06
148	168	0.138305	129.669	-1640.83
149	170	0.148434	129.691	-1615.59
150	170	0.156042	129.715	-1589.07
151	173	0.166199	129.743	-1560.31
152	175	0.176374	129.774	-1529.45
153	178	0.186567	129.809	-1496.24
154	180	0.194225	129.846	-1461.28
155	180	0.204452	129.888	-1424.48
156	180	0.214702	129.934	-1385.83
157	180	0.224974	129.985	-1345.34
158	185	0.232693	130.039	-1302.29
159	190	0.243007	130.098	-1256.12
160	190	0.253347	130.162	-1207.98

161	194	0.26112	130.231	-1157.32
162	194	0.271509	130.304	-1104.65
163	194	0.281926	130.384	-1049.96
164	196	0.292375	130.469	-992.652
165	200	0.300232	130.559	-932.606
166	202	0.310738	130.656	-869.837
167	203	0.321278	130.759	-804.617
168	207	0.331854	130.869	-735.923
169	210	0.33981	130.985	-664.563
170	210	0.350451	131.108	-590.969
171	214	0.361133	131.238	-513.686
172	215	0.371856	131.376	-433.737
173	221	0.379927	131.521	-349.773
174	232	0.390726	131.673	-259.125
175	246	0.401571	131.835	-160.338
176	249	0.412463	132.005	-57.6351
177	254	0.420664	132.182	49.2136
178	260	0.431644	132.368	161.441
179	260	0.442676	132.564	276.537
180	270	0.453763	132.77	399.053
181	275	0.462114	132.983	526.134
182	280	0.473299	133.207	658.658
183	280	0.484544	133.442	794.33
184	288	0.49585	133.688	937.135
185	368	0.504372	133.942	1122.74
186	375	0.515791	134.208	1316.17
187	377	0.52728	134.486	1514.95
188	384	0.538836	134.777	1721.86
189	400	0.547551	135.077	1940.88
190	400	0.559237	135.389	2164.58
191	402	0.570999	135.715	2394.12
192	406	0.582841	136.055	2630.75
193	420	0.591776	136.405	2879.3
194	420	0.603765	136.77	3132.88
195	430	0.615839	137.149	3397.69
196	440	0.628006	137.544	3674.01
197	475	0.637192	137.95	3976.68
198	500	0.649522	138.371	4301.44
199	518	0.661955	138.81	4644.33
200	750	0.67449	139.265	5150.2
201	875	0.68396	139.732	5748.67
202	916	0.696684	140.218	6386.83
203	950	0.709522	140.721	7060.88
204	1160	0.722479	141.243	7898.95
205	1210	0.732275	141.779	8785
206	1250	0.745449	142.335	9716.82
207	1250	0.758753	142.911	10665.3
208	1300	0.772193	143.507	11669.1
209	1325	0.782366	144.119	12705.7
210	1328	0.796056	144.753	13762.9
211	1350	0.809896	145.409	14856.3
212	1360	0.823893	146.088	15976.8
213	1375	0.834498	146.784	17124.2
214	1390	0.848786	147.504	18304
215	1399	0.863249	148.25	19511.7
216	1400	0.874218	149.014	20735.6
217	1410	0.889006	149.804	21989.1

218	1412	0.903992	150.621	23265.5
219	1435	0.919183	151.466	24584.6
220	1500	0.930718	152.332	25980.6
221	1500	0.946291	153.228	27400.1
222	1500	0.9621	154.154	28843.2
223	1509	0.97815	155.11	30319.2
224	1510	0.990356	156.091	31814.7
225	1510	1.00687	157.105	33335.1
226	1520	1.02365	158.153	34891
227	1550	1.04073	159.236	36504.1
228	1553	1.05375	160.346	38140.6
229	1560	1.07138	161.494	39812
230	1580	1.08935	162.681	41533.1
231	1584	1.10768	163.908	43287.7
232	1600	1.12168	165.166	45082.4
233	1600	1.14069	166.467	46907.5
234	1600	1.16012	167.813	48763.7
235	1610	1.18	169.205	50663.5
236	1613	1.19522	170.634	52591.4
237	1616	1.21596	172.113	54556.4
238	1634	1.23724	173.643	56578
239	1670	1.25908	175.229	58680.7
240	1674	1.27588	176.856	60816.5
241	1674	1.29884	178.543	62990.7
242	1690	1.32251	180.292	65225.8
243	1699	1.34694	182.107	67514.2
244	1700	1.36581	183.972	69836.1
245	1700	1.39175	185.909	72202.1
246	1730	1.41865	187.922	74656.3
247	1739	1.44663	190.014	77172
248	1749	1.46838	192.171	79740.2
249	1749	1.49852	194.416	82361.1
250	1750	1.53007	196.757	85038.7
251	1760	1.56322	199.201	87790
252	1769	1.58927	201.727	90601.4
253	1789	1.62576	204.37	93509.9
254	1799	1.66456	207.14	96504.5
255	1800	1.70604	210.051	99575.3
256	1800	1.7392	213.076	102706
257	1800	1.78661	216.268	105922
258	1800	1.83843	219.648	109231
259	1874	1.8957	223.241	112784
260	1892	1.94314	227.017	116460
261	1922	2.01409	231.074	120331
262	1999	2.09693	235.471	124523
263	2000	2.19728	240.299	128917
264	2050	2.29036	245.545	133613
265	2099	2.45727	251.583	138770

Sample Standard Deviation = 662.108
Numerator = 1.92572e+010
Denominator = 2.9227e+010 = 265 251.583
W Statistic = 0.658885
5% Critical value of 0.976 exceeds 0.658885
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.658885
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 101.039
Overall Std Dev = 185.522
Overall Total = 26876.4
SS Wells = 2.77889e+006
SS Total = 9.12089e+006

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	2.77889e+006	4	694721	28.5907
Error (within wells)	6.34201e+006	261	24298.9	
Totals	9.12089e+006	265		

28.5907 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	4.56471
	3/14/1995	3.43529
	6/21/1995	2.43529
	12/14/1995	10.5647
	3/6/1996	14.5647
	4/25/1996	2.56471
	10/2/1996	5.43529
	12/10/1996	4.56471
	3/11/1997	30.5647
	4/15/1997	6.56471
	8/14/1997	1.56471
	12/4/1997	5.56471
	3/31/1998	4.56471
	6/23/1998	2.43529
	8/11/1998	10.5647
	12/8/1998	3.56471
	3/9/1999	4.56471
	6/8/1999	0.435294
	8/19/1999	5.43529
	12/14/1999	5.43529
	3/7/2000	15.4353
	6/23/2000	17.4353
	12/12/2000	19.4353
	3/27/2001	25.4353
	6/28/2001	23.4353
	9/10/2001	11.4353
	12/18/2001	11.4353
	3/19/2002	7.43529
	6/26/2002	16.4353
	9/18/2002	22.4353
	12/11/2002	21.4353
	3/13/2003	21.4353

6/25/2003	28.4353
9/26/2003	24.4353
12/10/2003	5.43529
3/9/2004	23.4353
6/24/2004	26.4353
9/15/2004	9.43529
12/15/2004	13.4353
3/16/2005	7.43529
6/15/2005	7.43529
9/21/2005	7.43529
12/21/2005	23.4353
3/15/2006	15.4353
6/21/2006	3.56471
12/20/2006	0.435294
6/12/2007	10.5647
12/17/2007	7.56471
6/11/2008	5.56471
12/3/2008	6.56471
6/17/2009	14.5647
12/9/2009	10.5647
6/17/2010	17.5647
12/22/2010	14.5647
6/29/2011	13.7647
12/7/2011	16.9647
6/6/2012	10.7647
12/12/2012	12.3647
6/19/2013	13.0647
12/11/2013	16.9647
6/11/2014	15.2647
12/3/2014	17.6647
6/17/2015	21.5647
12/1/2015	19.3647
6/22/2016	21.5647
12/20/2016	19.3647
6/6/2017	18.4647
11/7/2017	18.3647

Well: MW#93-2

Sample	Residual
12/15/1994	1120.68
3/14/1995	20.6768
6/21/1995	1445.68
12/14/1995	228.323
3/6/1996	153.323
4/25/1996	478.323
10/2/1996	32.3232
12/10/1996	39.3232
3/11/1997	113.323
4/15/1997	179.323
8/14/1997	628.323
12/4/1997	248.323
3/31/1998	479.323
6/23/1998	578.323
8/11/1998	353.323
12/8/1998	401.323
3/9/1999	179.323
6/8/1999	218.323
8/19/1999	279.323

12/14/1999	279.323
3/7/2000	192.677
6/23/2000	570.677
12/12/2000	268.323
3/27/2001	228.323
6/28/2001	278.323
9/10/2001	529.323
12/18/2001	79.3232
3/19/2002	209.323
6/26/2002	178.323
9/18/2002	153.323
12/11/2002	92.3232
3/13/2003	10.6768
6/25/2003	279.323
9/26/2003	95.3232
12/10/2003	11.6768
3/9/2004	279.323
6/24/2004	371.323
9/15/2004	85.6768
12/15/2004	79.3232
3/16/2005	195.677
6/15/2005	120.677
9/21/2005	108.677
12/21/2005	29.3232
3/15/2006	145.677
6/21/2006	20.6768
12/20/2006	270.677
2/21/2007	270.677
6/12/2007	170.677
12/17/2007	121.677
6/11/2008	310.677
12/3/2008	63.3232
6/17/2009	770.677
12/9/2009	645.677
6/17/2010	20.6768
12/22/2010	79.3232
6/29/2011	149.323
12/7/2011	10.6768
6/6/2012	89.3232
12/12/2012	229.323
6/19/2013	130.677
12/11/2013	110.677
6/11/2014	160.677
12/3/2014	0.676812
6/17/2015	1472.98
12/1/2015	239.323
6/22/2016	220.677
12/20/2016	169.323
6/6/2017	59.3232
11/7/2017	360.677

Well: MW#93-3	**Sample**	**Residual**
	12/15/1994	195.384
	3/14/1995	175.384
	6/21/1995	175.384
	12/14/1995	161.384
	3/6/1996	123.384

4/25/1996	139.384
10/2/1996	185.384
12/10/1996	132.384
3/11/1997	130.384
4/15/1997	155.384
8/14/1997	671.384
12/4/1997	4.38382
3/31/1998	30.3838
6/23/1998	1.38382
8/11/1998	255.384
12/8/1998	15.3838
3/9/1999	35.3838
6/8/1999	30.6162
8/19/1999	15.3838
12/14/1999	44.6162
3/7/2000	12.6162
6/23/2000	25.3838
12/12/2000	48.6162
3/27/2001	54.6162
6/28/2001	64.6162
9/10/2001	42.6162
12/18/2001	95.6162
3/19/2002	41.6162
6/26/2002	64.6162
9/18/2002	59.6162
12/11/2002	66.6162
3/13/2003	37.6162
6/25/2003	54.6162
9/26/2003	86.6162
12/10/2003	104.616
3/9/2004	231.616
6/24/2004	84.6162
9/15/2004	105.616
12/15/2004	122.616
3/16/2005	64.6162
6/15/2005	94.6162
9/21/2005	29.6162
12/21/2005	64.6162
3/15/2006	23.6162
6/21/2006	34.6162
12/20/2006	34.6162
6/12/2007	134.616
12/17/2007	113.616
6/11/2008	100.616
12/3/2008	92.6162
6/17/2009	124.616
12/9/2009	69.6162
6/17/2010	94.6162
12/22/2010	74.6162
6/29/2011	74.6162
12/7/2011	145.716
6/6/2012	50.6162
12/12/2012	76.6162
6/19/2013	50.6162
12/11/2013	71.6162
6/11/2014	9.38382
12/3/2014	50.6162

6/17/2015	76.6162
12/1/2015	35.3838
6/22/2016	273.384
12/20/2016	230.384
6/6/2017	131.616
11/7/2017	157.384

Well: MW#03-1	Sample	Residual
	6/24/2004	1.964
	9/15/2004	13.964
	12/15/2004	2.036
	3/16/2005	4.036
	6/15/2005	2.036
	9/21/2005	3.036
	12/20/2006	3.036
	6/12/2007	4.036
	12/17/2007	5.036
	6/11/2008	2.964
	12/3/2008	2.964
	6/17/2009	4.036
	12/9/2009	23.964
	6/17/2010	3.036
	12/22/2010	0.664
	6/29/2011	3.176
	12/7/2011	2.156
	6/6/2012	1.324
	6/19/2013	3.036
	12/11/2013	3.036
	6/11/2014	35.964
	12/3/2014	3.036
	6/17/2015	3.036
	12/1/2015	7.259
	6/22/2016	7.408
	12/20/2016	7.25
	6/6/2017	7.149
	11/7/2017	6.906

Well: MW#03-2	Sample	Residual
	6/24/2004	13.1576
	9/15/2004	45.1576
	12/15/2004	21.1576
	3/16/2005	19.1576
	6/15/2005	19.1576
	9/21/2005	22.1576
	12/21/2005	23.1576
	3/15/2006	22.1576
	6/21/2006	26.1576
	12/20/2006	14.1576
	6/12/2007	19.1576
	12/17/2007	29.1576
	6/11/2008	8.15758
	12/3/2008	3.15758
	6/17/2009	10.8424
	12/9/2009	4.15758
	6/17/2010	16.1576
	12/22/2010	20.1576

6/29/2011	20.7576
12/7/2011	25.6576
6/6/2012	19.8576
12/12/2012	20.8576
6/19/2013	17.0576
12/11/2013	16.3576
6/11/2014	44.1576
12/3/2014	2.04242
6/17/2015	5.54242
12/1/2015	18.6424
6/22/2016	30.5424
10/11/2016	39.2424
12/20/2016	76.8424
6/6/2017	67.8424
11/7/2017	238.842

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 1.8797%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 68
Maximum Background Concentration = 63
Confidence Level = 94.4%
False Positive Rate = 5.6%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	1160	TRUE
MW#93-3	11/7/2017	1	402	TRUE
MW#03-1	11/7/2017	1	1.13	FALSE
MW#03-2	11/7/2017	1	288	TRUE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-2

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 68
Maximum Baseline Concentration = 2149
Confidence Level = 98.6%
False Positive Rate = 1.4%

Baseline Samples	Date	Result
	12/15/1994	400
	3/14/1995	1500
	6/21/1995	75
	12/14/1995	1749
	3/6/1996	1674
	4/25/1996	1999
	10/2/1996	1553
	12/10/1996	1560
	3/11/1997	1634
	4/15/1997	1700
	8/14/1997	2149
	12/4/1997	1769
	3/31/1998	2000
	6/23/1998	2099
	8/11/1998	1874
	12/8/1998	1922
	3/9/1999	1700
	6/8/1999	1739
	8/19/1999	1800
	12/14/1999	1800
	3/7/2000	1328
	6/23/2000	950
	12/12/2000	1789
	3/27/2001	1749
	6/28/2001	1799
	9/10/2001	2050
	12/18/2001	1600
	3/19/2002	1730
	6/26/2002	1699
	9/18/2002	1674
	12/11/2002	1613
	3/13/2003	1510
	6/25/2003	1800
	9/26/2003	1616
	12/10/2003	1509
	3/9/2004	1800
	6/24/2004	1892
	9/15/2004	1435
	12/15/2004	1600
	3/16/2005	1325
	6/15/2005	1400

9/21/2005	1412
12/21/2005	1550
3/15/2006	1375
6/21/2006	1500
12/20/2006	1250
2/21/2007	1250
6/12/2007	1350
12/17/2007	1399
6/11/2008	1210
12/3/2008	1584
6/17/2009	750
12/9/2009	875
6/17/2010	1500
12/22/2010	1600
6/29/2011	1670
12/7/2011	1510
6/6/2012	1610
12/12/2012	1750
6/19/2013	1390
12/11/2013	1410
6/11/2014	1360
12/3/2014	1520
6/17/2015	47.7
12/1/2015	1760
6/22/2016	1300
12/20/2016	1690
6/6/2017	1580

Date	Samples	Mean	Impacted
11/7/2017	1	1160	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-3

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 67
Maximum Baseline Concentration = 916
Confidence Level = 98.5%
False Positive Rate = 1.5%

Baseline Samples	Date	Result
	12/15/1994	440
	3/14/1995	420
	6/21/1995	420
	12/14/1995	406
	3/6/1996	368
	4/25/1996	384
	10/2/1996	430
	12/10/1996	377
	3/11/1997	375
	4/15/1997	400
	8/14/1997	916
	12/4/1997	249
	3/31/1998	275
	6/23/1998	246
	8/11/1998	500
	12/8/1998	260
	3/9/1999	280
	6/8/1999	214
	8/19/1999	260
	12/14/1999	200
	3/7/2000	232
	6/23/2000	270
	12/12/2000	196
	3/27/2001	190
	6/28/2001	180
	9/10/2001	202
	12/18/2001	149
	3/19/2002	203
	6/26/2002	180
	9/18/2002	185
	12/11/2002	178
	3/13/2003	207
	6/25/2003	190
	9/26/2003	158
	12/10/2003	140
	3/9/2004	13
	6/24/2004	160
	9/15/2004	139
	12/15/2004	122
	3/16/2005	180
	6/15/2005	150

9/21/2005	215
12/21/2005	180
3/15/2006	221
6/21/2006	210
12/20/2006	210
6/12/2007	110
12/17/2007	131
6/11/2008	144
12/3/2008	152
6/17/2009	120
12/9/2009	175
6/17/2010	150
12/22/2010	170
6/29/2011	170
12/7/2011	98.9
6/6/2012	194
12/12/2012	168
6/19/2013	194
12/11/2013	173
6/11/2014	254
12/3/2014	194
6/17/2015	168
12/1/2015	280
6/22/2016	518
12/20/2016	475
6/6/2017	113

Date	Samples	Mean	Impacted
11/7/2017	1	402	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#03-2

Parameter: Chloride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 3.125%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 32
Maximum Baseline Concentration = 126
Confidence Level = 97%
False Positive Rate = 3%

Baseline Samples	Date	Result
	6/24/2004	36
	9/15/2004	4
	12/15/2004	28
	3/16/2005	30
	6/15/2005	30
	9/21/2005	27
	12/21/2005	26
	3/15/2006	27
	6/21/2006	23
	12/20/2006	35
	6/12/2007	30
	12/17/2007	20
	6/11/2008	41
	12/3/2008	46
	6/17/2009	60
	12/9/2009	45
	6/17/2010	33
	12/22/2010	29
	6/29/2011	28.4
	12/7/2011	23.5
	6/6/2012	29.3
	12/12/2012	28.3
	6/19/2013	32.1
	12/11/2013	32.8
	6/11/2014	ND<5
	12/3/2014	51.2
	6/17/2015	54.7
	12/1/2015	67.8
	6/22/2016	79.7
	10/11/2016	88.4
	12/20/2016	126
	6/6/2017	117

Date	Samples	Mean	Impacted
11/7/2017	1	288	TRUE

Concentrations (mg/L)

Parameter: Fluoride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 40
Total Non-Detect: 5
Percent Non-Detects: 12.5%
Total Background Samples: 8
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	8	0 (0%)	10/11/2016	0.1	0.1
			12/20/2016	0.2	0.2
			2/16/2017	0.16	0.16
			3/8/2017	0.19	0.19
			5/9/2017	0.13	0.13
			6/6/2017	0.14	0.14
			9/22/2017	0.11	0.11
			11/7/2017	0.12	0.12

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#03-1	8	2 (25%)	10/11/2016	ND<0.1	ND<0.1
			12/20/2016	0.18	0.18
			2/16/2017	0.13	0.13
			3/8/2017	0.19	0.19
			5/9/2017	0.1	0.1
			6/6/2017	ND<0.1	ND<0.1
			9/22/2017	0.1	0.1
			11/7/2017	0.12	0.12
MW#03-2	8	3 (37.5%)	10/11/2016	ND<0.1	ND<0.1
			12/20/2016	0.14	0.14
			2/16/2017	0.12	0.12
			3/8/2017	0.14	0.14
			5/9/2017	ND<0.1	ND<0.1
			6/6/2017	0.1	0.1
			9/22/2017	ND<0.1	ND<0.1
			11/7/2017	0.1	0.1
MW#93-2	8	0 (0%)	10/11/2016	0.81	0.81
			12/20/2016	1.06	1.06
			2/16/2017	0.68	0.68
			3/8/2017	0.79	0.79
			5/9/2017	0.7	0.7
			6/6/2017	0.68	0.68
			9/22/2017	0.51	0.51
			11/7/2017	0.12	0.12
MW#93-3	8	0 (0%)	10/11/2016	0.15	0.15
			12/20/2016	0.23	0.23
			2/16/2017	0.2	0.2
			3/8/2017	0.22	0.22

5/9/2017	0.18	0.18
6/6/2017	0.24	0.24
9/22/2017	0.2	0.2
11/7/2017	0.2	0.2

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Levene's Test for Equal of Variance

Parameter: Fluoride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 0.0544375
Overall Std Dev = 0.104266
Overall Total = 2.1775
SS Wells = 0.151051
SS Total = 0.423987

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	0.151051	4	0.0377627	4.84249
Error (within wells)	0.272937	35	0.00779819	
Totals	0.423987	39		

4.84249 exceeds 2.60597; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	10/11/2016	0.04375
	12/20/2016	0.05625
	2/16/2017	0.01625
	3/8/2017	0.04625
	5/9/2017	0.01375
	6/6/2017	0.00375
	9/22/2017	0.03375
	11/7/2017	0.02375

Well: MW#03-1	Sample	Residual
	10/11/2016	0.0275
	12/20/2016	0.0525
	2/16/2017	0.0025
	3/8/2017	0.0625
	5/9/2017	0.0275
	6/6/2017	0.0275
	9/22/2017	0.0275
	11/7/2017	0.0075

Well: MW#03-2	Sample	Residual
	10/11/2016	0.0125
	12/20/2016	0.0275
	2/16/2017	0.0075
	3/8/2017	0.0275
	5/9/2017	0.0125
	6/6/2017	0.0125
	9/22/2017	0.0125
	11/7/2017	0.0125

Well: MW#93-2	Sample	Residual
	10/11/2016	0.14125

12/20/2016	0.39125
2/16/2017	0.01125
3/8/2017	0.12125
5/9/2017	0.03125
6/6/2017	0.01125
9/22/2017	0.15875
11/7/2017	0.54875

Well: MW#93-3

Sample	Residual
10/11/2016	0.0525
12/20/2016	0.0275
2/16/2017	0.0025
3/8/2017	0.0175
5/9/2017	0.0225
6/6/2017	0.0375
9/22/2017	0.0025
11/7/2017	0.0025

Shapiro-Wilks Test of Normality

Parameter: Fluoride

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
K = 20; Samples = 40

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	0.1	1.06	0.96	0.3964	0.380544
2	0.1	0.81	0.71	0.2737	0.194327
3	0.1	0.79	0.69	0.2368	0.163392
4	0.1	0.7	0.6	0.2098	0.12588
5	0.1	0.68	0.58	0.1878	0.108924
6	0.1	0.68	0.58	0.1691	0.098078
7	0.1	0.51	0.41	0.1526	0.062566
8	0.1	0.24	0.14	0.1376	0.019264
9	0.1	0.23	0.13	0.1237	0.016081
10	0.1	0.22	0.12	0.1108	0.013296
11	0.11	0.2	0.09	0.0986	0.008874
12	0.12	0.2	0.08	0.087	0.00696
13	0.12	0.2	0.08	0.0759	0.006072
14	0.12	0.2	0.08	0.0651	0.005208
15	0.12	0.19	0.07	0.0546	0.003822
16	0.13	0.19	0.06	0.0444	0.002664
17	0.13	0.18	0.05	0.0343	0.001715
18	0.14	0.18	0.04	0.0244	0.000976
19	0.14	0.16	0.02	0.0146	0.000292
20	0.14	0.15	0.01	0.0049	4.9e-005
21	0.15	0.14	-0.01		
22	0.16	0.14	-0.02		
23	0.18	0.14	-0.04		
24	0.18	0.13	-0.05		
25	0.19	0.13	-0.06		
26	0.19	0.12	-0.07		
27	0.2	0.12	-0.08		
28	0.2	0.12	-0.08		
29	0.2	0.12	-0.08		
30	0.2	0.11	-0.09		
31	0.22	0.1	-0.12		
32	0.23	0.1	-0.13		
33	0.24	0.1	-0.14		
34	0.51	0.1	-0.41		
35	0.68	0.1	-0.58		
36	0.68	0.1	-0.58		
37	0.7	0.1	-0.6		
38	0.79	0.1	-0.69		
39	0.81	0.1	-0.71		
40	1.06	0.1	-0.96		

Sum of b values = 1.21898
Sample Standard Deviation = 0.244161
W Statistic = 0.639117
5% Critical value of 0.94 exceeds 0.639117
Evidence of non-normality at 95% level of significance

1% Critical value of 0.919 exceeds 0.639117
Evidence of non-normality at 99% level of significance

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Fluoride

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 12.5%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 8
Maximum Background Concentration = 0.2
Confidence Level = 66.7%
False Positive Rate = 33.3%

Well	Date	Samples	Mean	Impacted
MW#03-1	11/7/2017	1	0.12	FALSE
MW#03-2	11/7/2017	1	0.1	FALSE
MW#93-2	11/7/2017	1	0.12	FALSE
MW#93-3	11/7/2017	1	0.2	FALSE

Concentrations (std)

Parameter: ph

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 267
Total Non-Detect: 0
Percent Non-Detects: 0%
Total Background Samples: 68
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	68	0 (0%)	12/15/1994	6.67	6.67
			3/14/1995	6.72	6.72
			6/21/1995	6.58	6.58
			12/14/1995	6.72	6.72
			3/6/1996	6.72	6.72
			4/25/1996	6.79	6.79
			10/2/1996	6.61	6.61
			12/10/1996	6.51	6.51
			3/11/1997	6.77	6.77
			4/15/1997	6.66	6.66
			8/14/1997	6.66	6.66
			12/4/1997	6.78	6.78
			3/31/1998	6.87	6.87
			6/23/1998	6.5	6.5
			8/11/1998	7.05	7.05
			12/8/1998	6.62	6.62
			3/9/1999	6.6	6.6
			6/8/1999	6.93	6.93
			8/19/1999	6.54	6.54
			12/14/1999	6.55	6.55
			3/7/2000	6.59	6.59
			6/23/2000	6.52	6.52
			12/12/2000	6.56	6.56
			3/27/2001	6.6	6.6
			6/28/2001	6.59	6.59
			9/10/2001	6.76	6.76
			12/18/2001	6.76	6.76
			3/19/2002	6.93	6.93
			6/26/2002	6.85	6.85
			9/18/2002	6.62	6.62
			12/11/2002	6.58	6.58
			3/13/2003	6.66	6.66
			6/25/2003	6.94	6.94
			9/26/2003	6.42	6.42
			12/10/2003	6.64	6.64
			3/9/2004	6.68	6.68
			6/24/2004	6.53	6.53
			9/15/2004	6.43	6.43
			12/15/2004	6.61	6.61
			3/16/2005	6.57	6.57
			6/15/2005	6.53	6.53
			9/21/2005	6.65	6.65
			12/21/2005	6.61	6.61
			3/15/2006	6.64	6.64

			6/21/2006	6.85	6.85
			12/20/2006	6.67	6.67
			6/12/2007	6.58	6.58
			12/17/2007	6.33	6.33
			6/11/2008	6.7	6.7
			12/3/2008	6.5	6.5
			6/17/2009	6.8	6.8
			12/9/2009	6.6	6.6
			6/17/2010	6.5	6.5
			12/22/2010	6.55	6.55
			6/29/2011	6.5	6.5
			12/7/2011	6.41	6.41
			6/6/2012	6.23	6.23
			12/12/2012	6.61	6.61
			6/19/2013	6.58	6.58
			12/11/2013	6.57	6.57
			6/11/2014	6.1	6.1
			12/3/2014	6.69	6.69
			6/17/2015	6.38	6.38
			12/1/2015	6.45	6.45
			6/22/2016	6.59	6.59
			12/20/2016	6.28	6.28
			6/6/2017	6.69	6.69
			11/7/2017	6.21	6.21

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	71	0 (0%)	12/15/1994	8.54	8.54
			3/14/1995	8.82	8.82
			6/21/1995	8.68	8.68
			12/14/1995	8.16	8.16
			3/6/1996	9.37	9.37
			4/25/1996	9.14	9.14
			10/2/1996	8.94	8.94
			12/10/1996	9.27	9.27
			3/11/1997	8.95	8.95
			4/15/1997	9.25	9.25
			8/14/1997	8.67	8.67
			12/4/1997	8.77	8.77
			3/31/1998	9.32	9.32
			6/23/1998	8.87	8.87
			8/11/1998	9	9
			12/8/1998	8.9	8.9
			3/9/1999	9.39	9.39
			6/8/1999	9.25	9.25
			8/19/1999	9.15	9.15
			12/14/1999	8.98	8.98
			3/7/2000	9.2	9.2
			6/23/2000	9.18	9.18
			12/12/2000	9.18	9.18
			3/27/2001	9.29	9.29
			6/28/2001	9.22	9.22
			9/10/2001	9.1	9.1
			12/18/2001	9.4	9.4
			3/19/2002	9.54	9.54

			6/26/2002	9.44	9.44
			9/18/2002	9.24	9.24
			12/11/2002	9.16	9.16
			3/13/2003	9.28	9.28
			6/25/2003	9.27	9.27
			9/26/2003	9.32	9.32
			12/10/2003	9.25	9.25
			3/9/2004	9.37	9.37
			6/24/2004	9.24	9.24
			9/15/2004	9.32	9.32
			12/15/2004	9.26	9.26
			3/16/2005	9.23	9.23
			6/15/2005	9.1	9.1
			9/21/2005	9.25	9.25
			12/21/2005	9.31	9.31
			3/15/2006	9.47	9.47
			6/21/2006	9.4	9.4
			12/20/2006	9.18	9.18
			2/21/2007	9.2	9.2
			6/12/2007	9.1	9.1
			12/17/2007	9.3	9.3
			6/11/2008	9.4	9.4
			12/3/2008	9.7	9.7
			12/15/2008	9.6	9.6
			6/17/2009	9.8	9.8
			12/9/2009	9.8	9.8
			6/17/2010	9.6	9.6
			12/22/2010	9.5	9.5
			6/29/2011	9.4	9.4
			12/7/2011	9.5	9.5
			6/6/2012	9.68	9.68
			12/12/2012	10.02	10.02
			1/9/2013	9.51	9.51
			6/19/2013	9.4	9.4
			12/11/2013	9.46	9.46
			6/11/2014	8.55	8.55
			12/3/2014	8.95	8.95
			6/17/2015	9.13	9.13
			12/1/2015	9.37	9.37
			6/22/2016	9.28	9.28
			12/20/2016	9.72	9.72
			6/6/2017	9.29	9.29
			11/7/2017	8.86	8.86
MW#93-3	68	0 (0%)	12/15/1994	6.68	6.68
			3/14/1995	6.74	6.74
			6/21/1995	6.61	6.61
			12/14/1995	6.75	6.75
			3/6/1996	6.85	6.85
			4/25/1996	6.78	6.78
			10/2/1996	6.75	6.75
			12/10/1996	6.7	6.7
			3/11/1997	6.8	6.8
			4/15/1997	6.74	6.74
			8/14/1997	6.88	6.88
			12/4/1997	6.88	6.88
			3/31/1998	6.92	6.92

			6/23/1998	6.76	6.76
			8/11/1998	6.91	6.91
			12/8/1998	6.93	6.93
			3/9/1999	6.78	6.78
			6/8/1999	6.85	6.85
			8/19/1999	6.97	6.97
			12/14/1999	6.8	6.8
			3/7/2000	6.77	6.77
			6/23/2000	6.82	6.82
			12/12/2000	6.86	6.86
			3/27/2001	6.79	6.79
			6/28/2001	6.86	6.86
			9/10/2001	7.04	7.04
			12/18/2001	6.93	6.93
			3/19/2002	7	7
			6/26/2002	6.89	6.89
			9/18/2002	7.96	7.96
			12/11/2002	6.74	6.74
			3/13/2003	6.87	6.87
			6/25/2003	6.85	6.85
			9/26/2003	6.77	6.77
			12/10/2003	6.99	6.99
			3/9/2004	7.45	7.45
			6/24/2004	6.8	6.8
			9/15/2004	6.7	6.7
			12/15/2004	6.88	6.88
			3/16/2005	6.69	6.69
			6/15/2005	6.81	6.81
			9/21/2005	6.85	6.85
			12/21/2005	6.7	6.7
			3/15/2006	7.07	7.07
			6/21/2006	6.84	6.84
			12/20/2006	6.93	6.93
			6/12/2007	6.89	6.89
			12/17/2007	6.8	6.8
			6/11/2008	6.8	6.8
			12/3/2008	6.8	6.8
			6/17/2009	7.2	7.2
			12/9/2009	6.9	6.9
			6/17/2010	6.7	6.7
			12/22/2010	6.82	6.82
			6/29/2011	6.7	6.7
			12/7/2011	6.77	6.77
			6/6/2012	6.42	6.42
			12/12/2012	6.85	6.85
			6/19/2013	6.49	6.49
			12/11/2013	7.07	7.07
			6/11/2014	6.08	6.08
			12/3/2014	6.8	6.8
			6/17/2015	6.4	6.4
			12/1/2015	6.6	6.6
			6/22/2016	6.43	6.43
			12/20/2016	6.27	6.27
			6/6/2017	6.65	6.65
			11/7/2017	6.46	6.46
MW#03-1	28	0 (0%)	6/24/2004	7.27	7.27

			9/15/2004	6.78	6.78
			12/15/2004	7.32	7.32
			3/16/2005	7.3	7.3
			6/15/2005	7.28	7.28
			9/21/2005	7.88	7.88
			12/20/2006	7	7
			6/12/2007	7.29	7.29
			12/17/2007	6.8	6.8
			6/11/2008	7.4	7.4
			12/3/2008	7.4	7.4
			6/17/2009	7.6	7.6
			12/9/2009	7.5	7.5
			6/17/2010	7.1	7.1
			12/22/2010	6.89	6.89
			6/29/2011	7.3	7.3
			12/7/2011	7.05	7.05
			6/6/2012	7.33	7.33
			6/19/2013	7.15	7.15
			12/11/2013	7.19	7.19
			6/11/2014	6.62	6.62
			12/3/2014	6.73	6.73
			6/17/2015	6.66	6.66
			12/1/2015	6.34	6.34
			6/22/2016	7.2	7.2
			12/20/2016	6.75	6.75
			6/6/2017	6.64	6.64
			11/7/2017	6.44	6.44
MW#03-2	32	0 (0%)	6/24/2004	6.84	6.84
			9/15/2004	7.17	7.17
			12/15/2004	6.86	6.86
			3/16/2005	6.8	6.8
			6/15/2005	6.87	6.87
			9/21/2005	6.87	6.87
			12/21/2005	6.83	6.83
			3/15/2006	6.88	6.88
			6/21/2006	6.78	6.78
			12/20/2006	6.88	6.88
			6/12/2007	6.87	6.87
			12/17/2007	6.7	6.7
			6/11/2008	6.9	6.9
			12/3/2008	6.8	6.8
			6/17/2009	7.3	7.3
			12/9/2009	6.8	6.8
			6/17/2010	6.8	6.8
			12/22/2010	7.2	7.2
			6/29/2011	6.7	6.7
			12/7/2011	6.69	6.69
			6/6/2012	6.73	6.73
			12/12/2012	6.82	6.82
			6/19/2013	6.88	6.88
			12/11/2013	6.72	6.72
			6/11/2014	7	7
			12/3/2014	7.14	7.14
			6/17/2015	6.45	6.45
			12/1/2015	6.39	6.39
			6/22/2016	6.75	6.75

			12/20/2016	6.36	6.36
			6/6/2017	6.73	6.73
			11/7/2017	6.22	6.22

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: ph

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 267

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	6.08	-2.74777	7.55021	-16.7064
2	6.1	-2.45727	13.5884	-31.6958
3	6.21	-2.29036	18.8342	-45.9189
4	6.22	-2.19728	23.6622	-59.586
5	6.23	-2.09693	28.0593	-72.6499
6	6.27	-2.01409	32.1159	-85.2783
7	6.28	-1.94314	35.8917	-97.4812
8	6.33	-1.8957	39.4854	-109.481
9	6.34	-1.83843	42.8652	-121.137
10	6.36	-1.78661	46.0571	-132.499
11	6.38	-1.7392	49.082	-143.595
12	6.39	-1.70604	51.9925	-154.497
13	6.4	-1.66456	54.7633	-165.15
14	6.41	-1.62576	57.4064	-175.571
15	6.42	-1.59819	59.9606	-185.832
16	6.42	-1.56322	62.4043	-195.868
17	6.43	-1.53007	64.7454	-205.706
18	6.43	-1.49852	66.9909	-215.341
19	6.44	-1.47579	69.1689	-224.846
20	6.45	-1.44663	71.2616	-234.176
21	6.45	-1.41865	73.2742	-243.327
22	6.46	-1.39175	75.2112	-252.317
23	6.49	-1.3722	77.0941	-261.223
24	6.5	-1.34694	78.9084	-269.978
25	6.5	-1.32251	80.6574	-278.574
26	6.5	-1.29884	82.3444	-287.017
27	6.5	-1.28155	83.9867	-295.347
28	6.51	-1.25908	85.572	-303.544
29	6.52	-1.23724	87.1028	-311.61
30	6.53	-1.22123	88.5942	-319.585
31	6.53	-1.20036	90.035	-327.423
32	6.54	-1.18	91.4274	-335.14
33	6.55	-1.16012	92.7733	-342.739
34	6.55	-1.1455	94.0855	-350.242
35	6.56	-1.12639	95.3543	-357.631
36	6.57	-1.10768	96.5812	-364.909
37	6.57	-1.08935	97.7679	-372.066
38	6.58	-1.07584	98.9253	-379.145
39	6.58	-1.05812	100.045	-386.107
40	6.58	-1.04073	101.128	-392.955
41	6.58	-1.02789	102.185	-399.719
42	6.59	-1.01104	103.207	-406.382
43	6.59	-0.994457	104.196	-412.935
44	6.59	-0.97815	105.153	-419.381
45	6.6	-0.966088	106.086	-425.757
46	6.6	-0.950222	106.989	-432.029

47	6.6	-0.93459	107.862	-438.197
48	6.6	-0.919183	108.707	-444.264
49	6.61	-0.907769	109.531	-450.264
50	6.61	-0.892733	110.328	-456.165
51	6.61	-0.877897	111.099	-461.968
52	6.61	-0.863249	111.844	-467.674
53	6.61	-0.852385	112.571	-473.308
54	6.62	-0.838054	113.273	-478.856
55	6.62	-0.823893	113.952	-484.31
56	6.62	-0.813379	114.613	-489.695
57	6.64	-0.7995	115.253	-495.004
58	6.64	-0.785774	115.87	-500.221
59	6.64	-0.772193	116.466	-505.348
60	6.65	-0.7621	117.047	-510.416
61	6.65	-0.748762	117.608	-515.396
62	6.66	-0.735557	118.149	-520.295
63	6.66	-0.722479	118.671	-525.106
64	6.66	-0.712751	119.179	-529.853
65	6.66	-0.699883	119.669	-534.514
66	6.67	-0.687131	120.141	-539.098
67	6.67	-0.67449	120.596	-543.596
68	6.68	-0.665079	121.038	-548.039
69	6.68	-0.652622	121.464	-552.399
70	6.69	-0.640266	121.874	-556.682
71	6.69	-0.631062	122.272	-560.904
72	6.69	-0.618872	122.655	-565.044
73	6.69	-0.606775	123.023	-569.103
74	6.7	-0.594766	123.377	-573.088
75	6.7	-0.585815	123.72	-577.013
76	6.7	-0.573953	124.05	-580.859
77	6.7	-0.56217	124.366	-584.625
78	6.7	-0.550465	124.669	-588.313
79	6.7	-0.541736	124.962	-591.943
80	6.7	-0.530162	125.243	-595.495
81	6.7	-0.518658	125.512	-598.97
82	6.72	-0.510074	125.772	-602.398
83	6.72	-0.498687	126.021	-605.749
84	6.72	-0.487364	126.259	-609.024
85	6.72	-0.476105	126.485	-612.224
86	6.73	-0.467699	126.704	-615.371
87	6.73	-0.456542	126.912	-618.444
88	6.73	-0.445443	127.111	-621.441
89	6.74	-0.434397	127.3	-624.369
90	6.74	-0.426148	127.481	-627.242
91	6.74	-0.415193	127.654	-630.04
92	6.75	-0.40429	127.817	-632.769
93	6.75	-0.393433	127.972	-635.425
94	6.75	-0.385321	128.12	-638.026
95	6.75	-0.374544	128.261	-640.554
96	6.76	-0.363809	128.393	-643.013
97	6.76	-0.355788	128.52	-645.418
98	6.76	-0.345126	128.639	-647.751
99	6.77	-0.334503	128.751	-650.016
100	6.77	-0.323919	128.855	-652.209
101	6.77	-0.316004	128.955	-654.348
102	6.77	-0.305481	129.049	-656.416
103	6.78	-0.294992	129.136	-658.416

104	6.78	-0.284535	129.217	-660.345
105	6.78	-0.276714	129.293	-662.221
106	6.78	-0.266311	129.364	-664.027
107	6.78	-0.255936	129.43	-665.762
108	6.79	-0.248174	129.491	-667.447
109	6.79	-0.237847	129.548	-669.062
110	6.8	-0.227545	129.6	-670.61
111	6.8	-0.217267	129.647	-672.087
112	6.8	-0.209575	129.691	-673.512
113	6.8	-0.199336	129.73	-674.868
114	6.8	-0.189118	129.766	-676.154
115	6.8	-0.17892	129.798	-677.37
116	6.8	-0.171285	129.828	-678.535
117	6.8	-0.161119	129.853	-679.631
118	6.8	-0.150969	129.876	-680.657
119	6.8	-0.140835	129.896	-681.615
120	6.8	-0.133244	129.914	-682.521
121	6.8	-0.123135	129.929	-683.358
122	6.8	-0.113039	129.942	-684.127
123	6.81	-0.105474	129.953	-684.845
124	6.82	-0.0953969	129.962	-685.496
125	6.82	-0.0853288	129.969	-686.078
126	6.82	-0.0752698	129.975	-686.591
127	6.83	-0.0677301	129.98	-687.054
128	6.84	-0.0576847	129.983	-687.448
129	6.84	-0.0476439	129.985	-687.774
130	6.85	-0.0376076	129.987	-688.032
131	6.85	-0.0300838	129.987	-688.238
132	6.85	-0.0200544	129.988	-688.375
133	6.85	-0.0100272	129.988	-688.444
134	6.85	0	129.988	-688.444
135	6.85	0.0100272	129.988	-688.375
136	6.85	0.0200544	129.988	-688.238
137	6.86	0.0300838	129.989	-688.032
138	6.86	0.0376076	129.991	-687.774
139	6.86	0.0476439	129.993	-687.447
140	6.87	0.0576847	129.996	-687.05
141	6.87	0.0677301	130.001	-686.585
142	6.87	0.0752698	130.007	-686.068
143	6.87	0.0853288	130.014	-685.482
144	6.87	0.0953969	130.023	-684.826
145	6.88	0.105474	130.034	-684.101
146	6.88	0.113039	130.047	-683.323
147	6.88	0.123135	130.062	-682.476
148	6.88	0.133244	130.08	-681.559
149	6.88	0.140835	130.1	-680.59
150	6.88	0.150969	130.122	-679.552
151	6.89	0.161119	130.148	-678.441
152	6.89	0.171285	130.178	-677.261
153	6.89	0.17892	130.21	-676.029
154	6.9	0.189118	130.246	-674.724
155	6.9	0.199336	130.285	-673.348
156	6.91	0.209575	130.329	-671.9
157	6.92	0.217267	130.376	-670.397
158	6.93	0.227545	130.428	-668.82
159	6.93	0.237847	130.485	-667.171
160	6.93	0.248174	130.546	-665.452

161	6.93	0.255936	130.612	-663.678
162	6.93	0.266311	130.683	-661.832
163	6.94	0.276714	130.759	-659.912
164	6.97	0.284535	130.84	-657.929
165	6.99	0.294992	130.927	-655.867
166	7	0.305481	131.021	-653.728
167	7	0.316004	131.12	-651.516
168	7	0.323919	131.225	-649.249
169	7.04	0.334503	131.337	-646.894
170	7.05	0.345126	131.456	-644.461
171	7.05	0.355788	131.583	-641.953
172	7.07	0.363809	131.715	-639.38
173	7.07	0.374544	131.856	-636.732
174	7.1	0.385321	132.004	-633.997
175	7.14	0.393433	132.159	-631.188
176	7.15	0.40429	132.322	-628.297
177	7.17	0.415193	132.495	-625.32
178	7.19	0.426148	132.676	-622.256
179	7.2	0.434397	132.865	-619.128
180	7.2	0.445443	133.063	-615.921
181	7.2	0.456542	133.272	-612.634
182	7.27	0.467699	133.491	-609.234
183	7.28	0.476105	133.717	-605.768
184	7.29	0.487364	133.955	-602.215
185	7.3	0.498687	134.204	-598.574
186	7.3	0.510074	134.464	-594.851
187	7.3	0.518658	134.733	-591.065
188	7.32	0.530162	135.014	-587.184
189	7.33	0.541736	135.307	-583.213
190	7.4	0.550465	135.61	-579.14
191	7.4	0.56217	135.926	-574.98
192	7.45	0.573953	136.256	-570.704
193	7.5	0.585815	136.599	-566.31
194	7.6	0.594766	136.953	-561.79
195	7.88	0.606775	137.321	-557.008
196	7.96	0.618872	137.704	-552.082
197	8.16	0.631062	138.102	-546.933
198	8.54	0.640266	138.512	-541.465
199	8.55	0.652622	138.938	-535.885
200	8.67	0.665079	139.38	-530.119
201	8.68	0.67449	139.835	-524.264
202	8.77	0.687131	140.307	-518.238
203	8.82	0.699883	140.797	-512.065
204	8.86	0.712751	141.305	-505.75
205	8.87	0.722479	141.827	-499.342
206	8.9	0.735557	142.368	-492.795
207	8.94	0.748762	142.929	-486.101
208	8.95	0.7621	143.51	-479.28
209	8.95	0.772193	144.106	-472.369
210	8.98	0.785774	144.723	-465.313
211	9	0.7995	145.363	-458.118
212	9.1	0.813379	146.024	-450.716
213	9.1	0.823893	146.703	-443.218
214	9.1	0.838054	147.405	-435.592
215	9.13	0.852385	148.132	-427.81
216	9.14	0.863249	148.877	-419.92
217	9.15	0.877897	149.648	-411.887

218	9.16	0.892733	150.445	-403.71
219	9.18	0.907769	151.269	-395.376
220	9.18	0.919183	152.114	-386.938
221	9.18	0.93459	152.987	-378.359
222	9.2	0.950222	153.89	-369.617
223	9.2	0.966088	154.823	-360.729
224	9.22	0.97815	155.78	-351.71
225	9.23	0.994457	156.769	-342.531
226	9.24	1.01104	157.791	-333.189
227	9.24	1.02789	158.848	-323.691
228	9.25	1.04073	159.931	-314.065
229	9.25	1.05812	161.051	-304.277
230	9.25	1.07584	162.208	-294.326
231	9.25	1.08935	163.395	-284.249
232	9.26	1.10768	164.622	-273.992
233	9.27	1.12639	165.89	-263.55
234	9.27	1.1455	167.203	-252.931
235	9.28	1.16012	168.548	-242.166
236	9.28	1.18	169.941	-231.215
237	9.29	1.20036	171.382	-220.064
238	9.29	1.22123	172.873	-208.719
239	9.3	1.23724	174.404	-197.212
240	9.31	1.25908	175.989	-185.49
241	9.32	1.28155	177.632	-173.546
242	9.32	1.29884	179.319	-161.441
243	9.32	1.32251	181.068	-149.115
244	9.37	1.34694	182.882	-136.494
245	9.37	1.3722	184.765	-123.637
246	9.37	1.39175	186.702	-110.596
247	9.39	1.41865	188.714	-97.2751
248	9.4	1.44663	190.807	-83.6768
249	9.4	1.47579	192.985	-69.8043
250	9.4	1.49852	195.231	-55.7183
251	9.4	1.53007	197.572	-41.3356
252	9.4	1.56322	200.015	-26.6414
253	9.44	1.59819	202.57	-11.5544
254	9.46	1.62576	205.213	3.82527
255	9.47	1.66456	207.983	19.5887
256	9.5	1.70604	210.894	35.7961
257	9.5	1.7392	213.919	52.3185
258	9.51	1.78661	217.111	69.3092
259	9.54	1.83843	220.491	86.8477
260	9.6	1.8957	224.084	105.046
261	9.6	1.94314	227.86	123.701
262	9.68	2.01409	231.917	143.197
263	9.7	2.09693	236.314	163.537
264	9.72	2.19728	241.142	184.895
265	9.8	2.29036	246.388	207.34
266	9.8	2.45727	252.426	231.422

Sample Standard Deviation = 1.1269
Numerator = 53556
Denominator = 85268.4 = 266 252.426
W Statistic = 0.628087
5% Critical value of 0.976 exceeds 0.628087
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.628087

Levene's Test for Equal of Variance

Parameter: ph

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 0.178413
Overall Std Dev = 0.190426
Overall Total = 47.6363
SS Wells = 0.874506
SS Total = 9.64569

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	0.874506	4	0.218626	6.53049
Error (within wells)	8.77119	262	0.0334778	
Totals	9.64569	266		

6.53049 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	0.0598529
	3/14/1995	0.109853
	6/21/1995	0.0301471
	12/14/1995	0.109853
	3/6/1996	0.109853
	4/25/1996	0.179853
	10/2/1996	0.000147059
	12/10/1996	0.100147
	3/11/1997	0.159853
	4/15/1997	0.0498529
	8/14/1997	0.0498529
	12/4/1997	0.169853
	3/31/1998	0.259853
	6/23/1998	0.110147
	8/11/1998	0.439853
	12/8/1998	0.00985294
	3/9/1999	0.0101471
	6/8/1999	0.319853
	8/19/1999	0.0701471
	12/14/1999	0.0601471
	3/7/2000	0.0201471
	6/23/2000	0.0901471
	12/12/2000	0.0501471
	3/27/2001	0.0101471
	6/28/2001	0.0201471
	9/10/2001	0.149853
	12/18/2001	0.149853
	3/19/2002	0.319853
	6/26/2002	0.239853
	9/18/2002	0.00985294
	12/11/2002	0.0301471
	3/13/2003	0.0498529

6/25/2003	0.329853
9/26/2003	0.190147
12/10/2003	0.0298529
3/9/2004	0.0698529
6/24/2004	0.0801471
9/15/2004	0.180147
12/15/2004	0.000147059
3/16/2005	0.0401471
6/15/2005	0.0801471
9/21/2005	0.0398529
12/21/2005	0.000147059
3/15/2006	0.0298529
6/21/2006	0.239853
12/20/2006	0.0598529
6/12/2007	0.0301471
12/17/2007	0.280147
6/11/2008	0.0898529
12/3/2008	0.110147
6/17/2009	0.189853
12/9/2009	0.0101471
6/17/2010	0.110147
12/22/2010	0.0601471
6/29/2011	0.110147
12/7/2011	0.200147
6/6/2012	0.380147
12/12/2012	0.000147059
6/19/2013	0.0301471
12/11/2013	0.0401471
6/11/2014	0.510147
12/3/2014	0.0798529
6/17/2015	0.230147
12/1/2015	0.160147
6/22/2016	0.0201471
12/20/2016	0.330147
6/6/2017	0.0798529
11/7/2017	0.400147

Well: MW#93-2

Sample	Residual
12/15/1994	0.695775
3/14/1995	0.415775
6/21/1995	0.555775
12/14/1995	1.07577
3/6/1996	0.134225
4/25/1996	0.0957746
10/2/1996	0.295775
12/10/1996	0.0342254
3/11/1997	0.285775
4/15/1997	0.0142254
8/14/1997	0.565775
12/4/1997	0.465775
3/31/1998	0.0842254
6/23/1998	0.365775
8/11/1998	0.235775
12/8/1998	0.335775
3/9/1999	0.154225
6/8/1999	0.0142254
8/19/1999	0.0857746

12/14/1999	0.255775
3/7/2000	0.0357746
6/23/2000	0.0557746
12/12/2000	0.0557746
3/27/2001	0.0542254
6/28/2001	0.0157746
9/10/2001	0.135775
12/18/2001	0.164225
3/19/2002	0.304225
6/26/2002	0.204225
9/18/2002	0.00422535
12/11/2002	0.0757746
3/13/2003	0.0442254
6/25/2003	0.0342254
9/26/2003	0.0842254
12/10/2003	0.0142254
3/9/2004	0.134225
6/24/2004	0.00422535
9/15/2004	0.0842254
12/15/2004	0.0242254
3/16/2005	0.00577465
6/15/2005	0.135775
9/21/2005	0.0142254
12/21/2005	0.0742254
3/15/2006	0.234225
6/21/2006	0.164225
12/20/2006	0.0557746
2/21/2007	0.0357746
6/12/2007	0.135775
12/17/2007	0.0642254
6/11/2008	0.164225
12/3/2008	0.464225
12/15/2008	0.364225
6/17/2009	0.564225
12/9/2009	0.564225
6/17/2010	0.364225
12/22/2010	0.264225
6/29/2011	0.164225
12/7/2011	0.264225
6/6/2012	0.444225
12/12/2012	0.784225
1/9/2013	0.274225
6/19/2013	0.164225
12/11/2013	0.224225
6/11/2014	0.685775
12/3/2014	0.285775
6/17/2015	0.105775
12/1/2015	0.134225
6/22/2016	0.0442254
12/20/2016	0.484225
6/6/2017	0.0542254
11/7/2017	0.375775

Well: MW#93-3	**Sample**	**Residual**
	12/15/1994	0.126471
	3/14/1995	0.0664706
	6/21/1995	0.196471

12/14/1995	0.0564706
3/6/1996	0.0435294
4/25/1996	0.0264706
10/2/1996	0.0564706
12/10/1996	0.106471
3/11/1997	0.00647059
4/15/1997	0.0664706
8/14/1997	0.0735294
12/4/1997	0.0735294
3/31/1998	0.113529
6/23/1998	0.0464706
8/11/1998	0.103529
12/8/1998	0.123529
3/9/1999	0.0264706
6/8/1999	0.0435294
8/19/1999	0.163529
12/14/1999	0.00647059
3/7/2000	0.0364706
6/23/2000	0.0135294
12/12/2000	0.0535294
3/27/2001	0.0164706
6/28/2001	0.0535294
9/10/2001	0.233529
12/18/2001	0.123529
3/19/2002	0.193529
6/26/2002	0.0835294
9/18/2002	1.15353
12/11/2002	0.0664706
3/13/2003	0.0635294
6/25/2003	0.0435294
9/26/2003	0.0364706
12/10/2003	0.183529
3/9/2004	0.643529
6/24/2004	0.00647059
9/15/2004	0.106471
12/15/2004	0.0735294
3/16/2005	0.116471
6/15/2005	0.00352941
9/21/2005	0.0435294
12/21/2005	0.106471
3/15/2006	0.263529
6/21/2006	0.0335294
12/20/2006	0.123529
6/12/2007	0.0835294
12/17/2007	0.00647059
6/11/2008	0.00647059
12/3/2008	0.00647059
6/17/2009	0.393529
12/9/2009	0.0935294
6/17/2010	0.106471
12/22/2010	0.0135294
6/29/2011	0.106471
12/7/2011	0.0364706
6/6/2012	0.386471
12/12/2012	0.0435294
6/19/2013	0.316471
12/11/2013	0.263529

6/11/2014	0.726471
12/3/2014	0.00647059
6/17/2015	0.406471
12/1/2015	0.206471
6/22/2016	0.376471
12/20/2016	0.536471
6/6/2017	0.156471
11/7/2017	0.346471

Well: MW#03-1	Sample	Residual
	6/24/2004	0.191071
	9/15/2004	0.298929
	12/15/2004	0.241071
	3/16/2005	0.221071
	6/15/2005	0.201071
	9/21/2005	0.801071
	12/20/2006	0.0789286
	6/12/2007	0.211071
	12/17/2007	0.278929
	6/11/2008	0.321071
	12/3/2008	0.321071
	6/17/2009	0.521071
	12/9/2009	0.421071
	6/17/2010	0.0210714
	12/22/2010	0.188929
	6/29/2011	0.221071
	12/7/2011	0.0289286
	6/6/2012	0.251071
	6/19/2013	0.0710714
	12/11/2013	0.111071
	6/11/2014	0.458929
	12/3/2014	0.348929
	6/17/2015	0.418929
	12/1/2015	0.738929
	6/22/2016	0.121071
	12/20/2016	0.328929
	6/6/2017	0.438929
	11/7/2017	0.638929

Well: MW#03-2	Sample	Residual
	6/24/2004	0.0359375
	9/15/2004	0.365938
	12/15/2004	0.0559375
	3/16/2005	0.0040625
	6/15/2005	0.0659375
	9/21/2005	0.0659375
	12/21/2005	0.0259375
	3/15/2006	0.0759375
	6/21/2006	0.0240625
	12/20/2006	0.0759375
	6/12/2007	0.0659375
	12/17/2007	0.104062
	6/11/2008	0.0959375
	12/3/2008	0.0040625
	6/17/2009	0.495938
	12/9/2009	0.0040625

6/17/2010	0.0040625
12/22/2010	0.395938
6/29/2011	0.104062
12/7/2011	0.114062
6/6/2012	0.0740625
12/12/2012	0.0159375
6/19/2013	0.0759375
12/11/2013	0.0840625
6/11/2014	0.195938
12/3/2014	0.335938
6/17/2015	0.354062
12/1/2015	0.414062
6/22/2016	0.0540625
12/20/2016	0.444062
6/6/2017	0.0740625
11/7/2017	0.584062

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: ph

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 68
Maximum Background Concentration = 7.05
Confidence Level = 94.4%
False Positive Rate = 5.6%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	8.86	TRUE
MW#93-3	11/7/2017	1	6.46	FALSE
MW#03-1	11/7/2017	1	6.44	FALSE
MW#03-2	11/7/2017	1	6.22	FALSE

Concentrations (mg/l)

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 207
Total Non-Detect: 0
Percent Non-Detects: 0%
Total Background Samples: 48
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	48	0 (0%)	12/15/1994	54.7	54.7
			12/14/1995	51.9	51.9
			12/10/1996	51.6	51.6
			12/4/1997	51.2	51.2
			12/8/1998	47	47
			12/14/1999	64.4	64.4
			12/12/2000	100	100
			3/19/2002	112	112
			6/26/2002	95	95
			9/18/2002	78	78
			12/11/2002	83	83
			3/13/2003	94	94
			6/25/2003	113	113
			9/26/2003	84.6	84.6
			12/10/2003	98.1	98.1
			3/9/2004	95.4	95.4
			6/24/2004	94.7	94.7
			9/15/2004	71	71
			12/15/2004	92.3	92.3
			3/16/2005	86.3	86.3
			6/15/2005	77.4	77.4
			9/21/2005	92.8	92.8
			12/21/2005	81.9	81.9
			3/15/2006	99.7	99.7
			6/21/2006	82	82
			12/20/2006	85.1	85.1
			6/12/2007	74.9	74.9
			12/17/2007	81.8	81.8
			6/11/2008	56.5	56.5
			12/3/2008	75.2	75.2
			6/17/2009	67.4	67.4
			12/9/2009	76.9	76.9
			6/17/2010	55	55
			12/22/2010	70.5	70.5
			6/29/2011	55.4	55.4
			12/7/2011	69.1	69.1
			6/6/2012	55.6	55.6
			12/12/2012	58.9	58.9
			6/19/2013	70	70
			12/11/2013	72.9	72.9
			6/11/2014	56.5	56.5
			12/3/2014	69.4	69.4
			6/17/2015	69.7	69.7
			12/1/2015	57.5	57.5

			6/22/2016	66.9	66.9
			12/20/2016	54.8	54.8
			6/6/2017	58.4	58.4
			11/7/2017	45.2	45.2

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	49	0 (0%)	12/15/1994	2170	2170
			12/14/1995	2220	2220
			12/10/1996	2100	2100
			12/4/1997	2440	2440
			12/8/1998	2565	2565
			12/14/1999	2980	2980
			12/12/2000	2800	2800
			3/19/2002	2500	2500
			6/26/2002	2260	2260
			9/18/2002	2140	2140
			12/11/2002	2320	2320
			3/13/2003	2600	2600
			6/25/2003	1990	1990
			9/26/2003	1820	1820
			12/10/2003	1920	1920
			3/9/2004	2050	2050
			6/24/2004	2180	2180
			9/15/2004	1800	1800
			12/15/2004	2480	2480
			3/16/2005	2490	2490
			6/15/2005	2030	2030
			9/21/2005	2520	2520
			12/21/2005	2300	2300
			3/15/2006	2720	2720
			6/21/2006	2450	2450
			12/20/2006	2170	2170
			2/21/2007	2900	2900
			6/12/2007	1980	1980
			12/17/2007	2244	2244
			6/11/2008	2649	2649
			12/3/2008	2120	2120
			6/17/2009	2230	2230
			12/9/2009	2140	2140
			6/17/2010	2100	2100
			12/22/2010	2460	2460
			6/29/2011	2190	2190
			12/7/2011	2500	2500
			6/6/2012	2060	2060
			12/12/2012	2730	2730
			6/19/2013	2230	2230
			12/11/2013	2290	2290
			6/11/2014	1940	1940
			12/3/2014	2730	2730
			6/17/2015	270	270
			5/25/2016	1890	1890
			6/22/2016	2700	2700
			12/20/2016	2400	2400
			6/6/2017	2310	2310

			11/7/2017	2750	2750
MW#93-3	50	0 (0%)	12/15/1994	330	330
			12/14/1995	219	219
			12/10/1996	248	248
			12/4/1997	201	201
			12/8/1998	199	199
			12/14/1999	208	208
			12/12/2000	230	230
			12/18/2001	172	172
			3/19/2002	222	222
			6/26/2002	189	189
			9/18/2002	163	163
			12/11/2002	216	216
			3/13/2003	230	230
			6/25/2003	190	190
			9/26/2003	229	229
			12/10/2003	231	231
			3/9/2004	30.8	30.8
			6/24/2004	150	150
			9/15/2004	200	200
			12/15/2004	186	186
			3/16/2005	196	196
			6/15/2005	170	170
			9/21/2005	239	239
			12/21/2005	180	180
			3/15/2006	180	180
			6/21/2006	227	227
			12/20/2006	211	211
			6/12/2007	159	159
			12/17/2007	194	194
			6/11/2008	195	195
			12/3/2008	190	190
			6/17/2009	173	173
			12/9/2009	202	202
			6/17/2010	202	202
			12/22/2010	216	216
			6/29/2011	158	158
			12/7/2011	218	218
			6/6/2012	201	201
			12/12/2012	168	168
			6/19/2013	235	235
			12/11/2013	234	234
			6/11/2014	258	258
			12/3/2014	220	220
			6/17/2015	280	280
			12/1/2015	339	339
			6/22/2016	449	449
			10/11/2016	368	368
			12/20/2016	337	337
			6/6/2017	301	301
			11/7/2017	368	368
MW#03-1	28	0 (0%)	6/24/2004	10.2	10.2
			9/15/2004	42	42
			12/15/2004	8.04	8.04
			3/16/2005	5.99	5.99

			6/15/2005	7.3	7.3
			9/21/2005	14.1	14.1
			12/20/2006	8	8
			6/12/2007	7.96	7.96
			12/17/2007	9.88	9.88
			6/11/2008	5.71	5.71
			12/3/2008	7.01	7.01
			6/17/2009	7.34	7.34
			12/9/2009	6.77	6.77
			6/17/2010	9.31	9.31
			12/22/2010	7.11	7.11
			6/29/2011	7.04	7.04
			12/7/2011	8.87	8.87
			6/6/2012	7.94	7.94
			6/19/2013	10.3	10.3
			12/11/2013	9.78	9.78
			6/11/2014	55.9	55.9
			12/3/2014	9.8	9.8
			6/17/2015	9.7	9.7
			12/1/2015	12	12
			6/22/2016	8.59	8.59
			12/20/2016	7.94	7.94
			6/6/2017	6.56	6.56
			11/7/2017	17.6	17.6
MW#03-2	32	0 (0%)	6/24/2004	47.4	47.4
			9/15/2004	8.7	8.7
			12/15/2004	51.3	51.3
			3/16/2005	47	47
			6/15/2005	42.8	42.8
			9/21/2005	52.6	52.6
			12/21/2005	46.5	46.5
			3/15/2006	50.4	50.4
			6/21/2006	44.9	44.9
			12/20/2006	50.5	50.5
			6/12/2007	47	47
			12/17/2007	50.2	50.2
			6/11/2008	33.8	33.8
			12/3/2008	54.4	54.4
			6/17/2009	48.2	48.2
			12/9/2009	47.3	47.3
			6/17/2010	52.9	52.9
			12/22/2010	51.7	51.7
			6/29/2011	51	51
			12/7/2011	60.1	60.1
			6/6/2012	52	52
			12/12/2012	61.3	61.3
			6/19/2013	57.3	57.3
			12/11/2013	54	54
			6/11/2014	9.78	9.78
			12/3/2014	68	68
			6/17/2015	66.3	66.3
			12/1/2015	63.8	63.8
			6/22/2016	76.8	76.8
			12/20/2016	80.2	80.2
			6/6/2017	96.8	96.8
			11/7/2017	120	120

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Sodium

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 207

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	5.71	-2.65209	7.03356	-15.1434
2	5.99	-2.36561	12.6297	-29.3134
3	6.56	-2.19728	17.4578	-43.7276
4	6.77	-2.07485	21.7627	-57.7744
5	7.01	-1.97737	25.6727	-71.6357
6	7.04	-1.91103	29.3248	-85.0894
7	7.11	-1.83843	32.7046	-98.1606
8	7.3	-1.77438	35.853	-111.114
9	7.34	-1.71688	38.8007	-123.715
10	7.94	-1.66456	41.5715	-136.932
11	7.94	-1.62576	44.2146	-149.841
12	7.96	-1.58047	46.7124	-162.421
13	8	-1.5382	49.0785	-174.727
14	8.04	-1.49852	51.324	-186.775
15	8.59	-1.46106	53.4587	-199.325
16	8.7	-1.4325	55.5108	-211.788
17	8.87	-1.39838	57.4663	-224.192
18	9.31	-1.36581	59.3317	-236.907
19	9.7	-1.33462	61.1129	-249.853
20	9.78	-1.30469	62.8151	-262.613
21	9.78	-1.28155	64.4575	-275.147
22	9.8	-1.25357	66.0289	-287.432
23	9.88	-1.22653	67.5333	-299.55
24	10.2	-1.20036	68.9741	-311.793
25	10.3	-1.17499	70.3547	-323.896
26	12	-1.15035	71.678	-337.7
27	14.1	-1.13113	72.9575	-353.649
28	17.6	-1.10768	74.1845	-373.144
29	30.8	-1.08482	75.3613	-406.557
30	33.8	-1.06252	76.4903	-442.47
31	42	-1.04073	77.5734	-486.18
32	42.8	-1.02365	78.6212	-529.993
33	44.9	-1.00271	79.6267	-575.015
34	45.2	-0.982202	80.5914	-619.41
35	46.5	-0.9621	81.517	-664.148
36	47	-0.942375	82.4051	-708.439
37	47	-0.926859	83.2642	-752.002
38	47	-0.907769	84.0882	-794.667
39	47.3	-0.889006	84.8785	-836.717
40	47.4	-0.87055	85.6364	-877.981
41	48.2	-0.852385	86.363	-919.066
42	50.2	-0.838054	87.0653	-961.136
43	50.4	-0.820379	87.7383	-1002.48
44	50.5	-0.802956	88.3831	-1043.03
45	51	-0.785774	89.0005	-1083.11
46	51.2	-0.768821	89.5916	-1122.47

47	51.3	-0.755415	90.1622	-1161.22
48	51.6	-0.738846	90.7081	-1199.35
49	51.7	-0.722479	91.2301	-1236.7
50	51.9	-0.706302	91.729	-1273.36
51	52	-0.690309	92.2055	-1309.25
52	52.6	-0.67449	92.6604	-1344.73
53	52.9	-0.661955	93.0986	-1379.75
54	54	-0.646431	93.5165	-1414.66
55	54.4	-0.631062	93.9147	-1448.99
56	54.7	-0.615839	94.294	-1482.67
57	54.8	-0.60076	94.6549	-1515.59
58	55	-0.588793	95.0016	-1547.98
59	55.4	-0.573953	95.331	-1579.77
60	55.6	-0.559237	95.6437	-1610.87
61	55.9	-0.544642	95.9404	-1641.31
62	56.5	-0.530162	96.2214	-1671.27
63	56.5	-0.518658	96.4905	-1700.57
64	57.3	-0.504372	96.7448	-1729.47
65	57.5	-0.490189	96.9851	-1757.66
66	58.4	-0.476105	97.2118	-1785.46
67	58.9	-0.462114	97.4254	-1812.68
68	60.1	-0.450985	97.6287	-1839.79
69	61.3	-0.437153	97.8198	-1866.58
70	63.8	-0.423405	97.9991	-1893.6
71	64.4	-0.409735	98.167	-1919.98
72	66.3	-0.396142	98.3239	-1946.25
73	66.9	-0.385321	98.4724	-1972.03
74	67.4	-0.371856	98.6107	-1997.09
75	68	-0.358459	98.7392	-2021.46
76	69.1	-0.345126	98.8583	-2045.31
77	69.4	-0.331854	98.9684	-2068.34
78	69.7	-0.318639	99.0699	-2090.55
79	70	-0.308108	99.1649	-2112.12
80	70.5	-0.294992	99.2519	-2132.92
81	71	-0.281926	99.3314	-2152.93
82	72.9	-0.268908	99.4037	-2172.54
83	74.9	-0.255936	99.4692	-2191.71
84	75.2	-0.24559	99.5295	-2210.17
85	76.8	-0.232693	99.5836	-2228.05
86	76.9	-0.219834	99.632	-2244.95
87	77.4	-0.207012	99.6748	-2260.97
88	78	-0.194225	99.7126	-2276.12
89	80.2	-0.184017	99.7464	-2290.88
90	81.8	-0.171285	99.7758	-2304.89
91	81.9	-0.158579	99.8009	-2317.88
92	82	-0.1459	99.8222	-2329.84
93	83	-0.133244	99.8399	-2340.9
94	84.6	-0.123135	99.8551	-2351.32
95	85.1	-0.110516	99.8673	-2360.72
96	86.3	-0.0979139	99.8769	-2369.17
97	92.3	-0.0853288	99.8842	-2377.05
98	92.8	-0.0727562	99.8895	-2383.8
99	94	-0.0627062	99.8934	-2389.7
100	94.7	-0.0501541	99.8959	-2394.45
101	95	-0.0376076	99.8973	-2398.02
102	95.4	-0.0250691	99.898	-2400.41
103	96.8	-0.0125328	99.8981	-2401.62

104	98.1	0	99.8981	-2401.62
105	99.7	0.0125328	99.8983	-2400.37
106	100	0.0250691	99.8989	-2397.87
107	112	0.0376076	99.9003	-2393.66
108	113	0.0501541	99.9028	-2387.99
109	120	0.0627062	99.9068	-2380.46
110	150	0.0727562	99.9121	-2369.55
111	158	0.0853288	99.9193	-2356.07
112	159	0.0979139	99.9289	-2340.5
113	163	0.110516	99.9411	-2322.49
114	168	0.123135	99.9563	-2301.8
115	170	0.133244	99.9741	-2279.15
116	172	0.1459	99.9954	-2254.05
117	173	0.158579	100.02	-2226.62
118	180	0.171285	100.05	-2195.79
119	180	0.184017	100.084	-2162.66
120	186	0.194225	100.121	-2126.54
121	189	0.207012	100.164	-2087.41
122	190	0.219834	100.213	-2045.64
123	190	0.232693	100.267	-2001.43
124	194	0.24559	100.327	-1953.79
125	195	0.255936	100.393	-1903.88
126	196	0.268908	100.465	-1851.17
127	199	0.281926	100.544	-1795.07
128	200	0.294992	100.631	-1736.07
129	201	0.308108	100.726	-1674.14
130	201	0.318639	100.828	-1610.1
131	202	0.331854	100.938	-1543.06
132	202	0.345126	101.057	-1473.35
133	208	0.358459	101.186	-1398.79
134	211	0.371856	101.324	-1320.33
135	216	0.385321	101.472	-1237.1
136	216	0.396142	101.629	-1151.53
137	218	0.409735	101.797	-1062.21
138	219	0.423405	101.976	-969.481
139	220	0.437153	102.168	-873.308
140	222	0.450985	102.371	-773.189
141	227	0.462114	102.584	-668.289
142	229	0.476105	102.811	-559.261
143	230	0.490189	103.051	-446.518
144	230	0.504372	103.306	-330.512
145	231	0.518658	103.575	-210.702
146	234	0.530162	103.856	-86.6444
147	235	0.544642	104.153	41.3464
148	239	0.559237	104.465	175.004
149	248	0.573953	104.795	317.344
150	258	0.588793	105.141	469.253
151	270	0.60076	105.502	631.458
152	280	0.615839	105.882	803.893
153	301	0.631062	106.28	993.843
154	330	0.646431	106.698	1207.17
155	337	0.661955	107.136	1430.24
156	339	0.67449	107.591	1658.9
157	368	0.690309	108.067	1912.93
158	368	0.706302	108.566	2172.85
159	449	0.722479	109.088	2497.24
160	1800	0.738846	109.634	3827.17

161	1820	0.755415	110.205	5202.02
162	1890	0.768821	110.796	6655.09
163	1920	0.785774	111.413	8163.78
164	1940	0.802956	112.058	9721.51
165	1980	0.820379	112.731	11345.9
166	1990	0.838054	113.433	13013.6
167	2030	0.852385	114.16	14743.9
168	2050	0.87055	114.918	16528.6
169	2060	0.889006	115.708	18359.9
170	2100	0.907769	116.532	20266.2
171	2100	0.926859	117.391	22212.6
172	2120	0.942375	118.279	24210.5
173	2140	0.9621	119.205	26269.4
174	2140	0.982202	120.17	28371.3
175	2170	1.00271	121.175	30547.2
176	2170	1.02365	122.223	32768.5
177	2180	1.04073	123.306	35037.3
178	2190	1.06252	124.435	37364.2
179	2220	1.08482	125.612	39772.5
180	2230	1.10768	126.839	42242.6
181	2230	1.13113	128.118	44765.1
182	2244	1.15035	129.442	47346.4
183	2260	1.17499	130.822	50001.9
184	2290	1.20036	132.263	52750.7
185	2300	1.22653	133.767	55571.8
186	2310	1.25357	135.339	58467.5
187	2320	1.28155	136.981	61440.7
188	2400	1.30469	138.683	64571.9
189	2440	1.33462	140.465	67828.4
190	2450	1.36581	142.33	71174.6
191	2460	1.39838	144.285	74614.6
192	2480	1.4325	146.338	78167.3
193	2490	1.46106	148.472	81805.3
194	2500	1.49852	150.718	85551.6
195	2500	1.5382	153.084	89397.1
196	2520	1.58047	155.582	93379.9
197	2565	1.62576	158.225	97549.9
198	2600	1.66456	160.996	101878
199	2649	1.71688	163.943	106426
200	2700	1.77438	167.092	111217
201	2720	1.83843	170.471	116217
202	2730	1.91103	174.124	121434
203	2730	1.97737	178.034	126832
204	2750	2.07485	182.339	132538
205	2800	2.19728	187.167	138691
206	2900	2.36561	192.763	145551

Sample Standard Deviation = 951.867
Numerator = 2.11851e+010
Denominator = 3.59785e+010 = 206 192.763
W Statistic = 0.588827
5% Critical value of 0.976 exceeds 0.588827
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.588827
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 82.9219
Overall Std Dev = 184.761
Overall Total = 17164.8
SS Wells = 2.48282e+006
SS Total = 7.03211e+006

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	2.48282e+006	4	620705	27.5609
Error (within wells)	4.54929e+006	202	22521.2	
Totals	7.03211e+006	206		

27.5609 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	19.375
	12/14/1995	22.175
	12/10/1996	22.475
	12/4/1997	22.875
	12/8/1998	27.075
	12/14/1999	9.675
	12/12/2000	25.925
	3/19/2002	37.925
	6/26/2002	20.925
	9/18/2002	3.925
	12/11/2002	8.925
	3/13/2003	19.925
	6/25/2003	38.925
	9/26/2003	10.525
	12/10/2003	24.025
	3/9/2004	21.325
	6/24/2004	20.625
	9/15/2004	3.075
	12/15/2004	18.225
	3/16/2005	12.225
	6/15/2005	3.325
	9/21/2005	18.725
	12/21/2005	7.825
	3/15/2006	25.625
	6/21/2006	7.925
	12/20/2006	11.025
	6/12/2007	0.825
	12/17/2007	7.725
	6/11/2008	17.575
	12/3/2008	1.125
	6/17/2009	6.675
	12/9/2009	2.825

6/17/2010	19.075
12/22/2010	3.575
6/29/2011	18.675
12/7/2011	4.975
6/6/2012	18.475
12/12/2012	15.175
6/19/2013	4.075
12/11/2013	1.175
6/11/2014	17.575
12/3/2014	4.675
6/17/2015	4.375
12/1/2015	16.575
6/22/2016	7.175
12/20/2016	19.275
6/6/2017	15.675
11/7/2017	28.875

Well: MW#93-2

Sample	Residual
12/15/1994	112.204
12/14/1995	62.2041
12/10/1996	182.204
12/4/1997	157.796
12/8/1998	282.796
12/14/1999	697.796
12/12/2000	517.796
3/19/2002	217.796
6/26/2002	22.2041
9/18/2002	142.204
12/11/2002	37.7959
3/13/2003	317.796
6/25/2003	292.204
9/26/2003	462.204
12/10/2003	362.204
3/9/2004	232.204
6/24/2004	102.204
9/15/2004	482.204
12/15/2004	197.796
3/16/2005	207.796
6/15/2005	252.204
9/21/2005	237.796
12/21/2005	17.7959
3/15/2006	437.796
6/21/2006	167.796
12/20/2006	112.204
2/21/2007	617.796
6/12/2007	302.204
12/17/2007	38.2041
6/11/2008	366.796
12/3/2008	162.204
6/17/2009	52.2041
12/9/2009	142.204
6/17/2010	182.204
12/22/2010	177.796
6/29/2011	92.2041
12/7/2011	217.796
6/6/2012	222.204
12/12/2012	447.796

6/19/2013	52.2041
12/11/2013	7.79592
6/11/2014	342.204
12/3/2014	447.796
6/17/2015	2012.2
5/25/2016	392.204
6/22/2016	417.796
12/20/2016	117.796
6/6/2017	27.7959
11/7/2017	467.796

Well: MW#93-3

Sample	Residual
12/15/1994	107.764
12/14/1995	3.236
12/10/1996	25.764
12/4/1997	21.236
12/8/1998	23.236
12/14/1999	14.236
12/12/2000	7.764
12/18/2001	50.236
3/19/2002	0.236
6/26/2002	33.236
9/18/2002	59.236
12/11/2002	6.236
3/13/2003	7.764
6/25/2003	32.236
9/26/2003	6.764
12/10/2003	8.764
3/9/2004	191.436
6/24/2004	72.236
9/15/2004	22.236
12/15/2004	36.236
3/16/2005	26.236
6/15/2005	52.236
9/21/2005	16.764
12/21/2005	42.236
3/15/2006	42.236
6/21/2006	4.764
12/20/2006	11.236
6/12/2007	63.236
12/17/2007	28.236
6/11/2008	27.236
12/3/2008	32.236
6/17/2009	49.236
12/9/2009	20.236
6/17/2010	20.236
12/22/2010	6.236
6/29/2011	64.236
12/7/2011	4.236
6/6/2012	21.236
12/12/2012	54.236
6/19/2013	12.764
12/11/2013	11.764
6/11/2014	35.764
12/3/2014	2.236
6/17/2015	57.764
12/1/2015	116.764

6/22/2016	226.764
10/11/2016	145.764
12/20/2016	114.764
6/6/2017	78.764
11/7/2017	145.764

Well: MW#03-1

Sample	Residual
6/24/2004	1.54071
9/15/2004	30.2593
12/15/2004	3.70071
3/16/2005	5.75071
6/15/2005	4.44071
9/21/2005	2.35929
12/20/2006	3.74071
6/12/2007	3.78071
12/17/2007	1.86071
6/11/2008	6.03071
12/3/2008	4.73071
6/17/2009	4.40071
12/9/2009	4.97071
6/17/2010	2.43071
12/22/2010	4.63071
6/29/2011	4.70071
12/7/2011	2.87071
6/6/2012	3.80071
6/19/2013	1.44071
12/11/2013	1.96071
6/11/2014	44.1593
12/3/2014	1.94071
6/17/2015	2.04071
12/1/2015	0.259286
6/22/2016	3.15071
12/20/2016	3.80071
6/6/2017	5.18071
11/7/2017	5.85929

Well: MW#03-2

Sample	Residual
6/24/2004	7.13062
9/15/2004	45.8306
12/15/2004	3.23062
3/16/2005	7.53062
6/15/2005	11.7306
9/21/2005	1.93062
12/21/2005	8.03062
3/15/2006	4.13062
6/21/2006	9.63062
12/20/2006	4.03062
6/12/2007	7.53062
12/17/2007	4.33062
6/11/2008	20.7306
12/3/2008	0.130625
6/17/2009	6.33062
12/9/2009	7.23062
6/17/2010	1.63062
12/22/2010	2.83062
6/29/2011	3.53062

12/7/2011	5.56938
6/6/2012	2.53062
12/12/2012	6.76938
6/19/2013	2.76938
12/11/2013	0.530625
6/11/2014	44.7506
12/3/2014	13.4694
6/17/2015	11.7694
12/1/2015	9.26938
6/22/2016	22.2694
12/20/2016	25.6694
6/6/2017	42.2694
11/7/2017	65.4694

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 48
Maximum Background Concentration = 113
Confidence Level = 92.3%
False Positive Rate = 7.7%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	2750	TRUE
MW#93-3	11/7/2017	1	368	TRUE
MW#03-1	11/7/2017	1	17.6	FALSE
MW#03-2	11/7/2017	1	120	TRUE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-2

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 48
Maximum Baseline Concentration = 2980
Confidence Level = 98%
False Positive Rate = 2%

Baseline Samples	Date	Result
	12/15/1994	2170
	12/14/1995	2220
	12/10/1996	2100
	12/4/1997	2440
	12/8/1998	2565
	12/14/1999	2980
	12/12/2000	2800
	3/19/2002	2500
	6/26/2002	2260
	9/18/2002	2140
	12/11/2002	2320
	3/13/2003	2600
	6/25/2003	1990
	9/26/2003	1820
	12/10/2003	1920
	3/9/2004	2050
	6/24/2004	2180
	9/15/2004	1800
	12/15/2004	2480
	3/16/2005	2490
	6/15/2005	2030
	9/21/2005	2520
	12/21/2005	2300
	3/15/2006	2720
	6/21/2006	2450
	12/20/2006	2170
	2/21/2007	2900
	6/12/2007	1980
	12/17/2007	2244
	6/11/2008	2649
	12/3/2008	2120
	6/17/2009	2230
	12/9/2009	2140
	6/17/2010	2100
	12/22/2010	2460
	6/29/2011	2190
	12/7/2011	2500
	6/6/2012	2060
	12/12/2012	2730
	6/19/2013	2230
	12/11/2013	2290

6/11/2014	1940
12/3/2014	2730
6/17/2015	270
5/25/2016	1890
6/22/2016	2700
12/20/2016	2400
6/6/2017	2310

Date	Samples	Mean	Impacted
11/7/2017	1	2750	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-3

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 49
Maximum Baseline Concentration = 449
Confidence Level = 98%
False Positive Rate = 2%

Baseline Samples	Date	Result
	12/15/1994	330
	12/14/1995	219
	12/10/1996	248
	12/4/1997	201
	12/8/1998	199
	12/14/1999	208
	12/12/2000	230
	12/18/2001	172
	3/19/2002	222
	6/26/2002	189
	9/18/2002	163
	12/11/2002	216
	3/13/2003	230
	6/25/2003	190
	9/26/2003	229
	12/10/2003	231
	3/9/2004	30.8
	6/24/2004	150
	9/15/2004	200
	12/15/2004	186
	3/16/2005	196
	6/15/2005	170
	9/21/2005	239
	12/21/2005	180
	3/15/2006	180
	6/21/2006	227
	12/20/2006	211
	6/12/2007	159
	12/17/2007	194
	6/11/2008	195
	12/3/2008	190
	6/17/2009	173
	12/9/2009	202
	6/17/2010	202
	12/22/2010	216
	6/29/2011	158
	12/7/2011	218
	6/6/2012	201
	12/12/2012	168
	6/19/2013	235
	12/11/2013	234

6/11/2014	258
12/3/2014	220
6/17/2015	280
12/1/2015	339
6/22/2016	449
10/11/2016	368
12/20/2016	337
6/6/2017	301

Date	Samples	Mean	Impacted
11/7/2017	1	368	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#03-2

Parameter: Sodium

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 31
Maximum Baseline Concentration = 96.8
Confidence Level = 96.9%
False Positive Rate = 3.1%

Baseline Samples	Date	Result
	6/24/2004	47.4
	9/15/2004	8.7
	12/15/2004	51.3
	3/16/2005	47
	6/15/2005	42.8
	9/21/2005	52.6
	12/21/2005	46.5
	3/15/2006	50.4
	6/21/2006	44.9
	12/20/2006	50.5
	6/12/2007	47
	12/17/2007	50.2
	6/11/2008	33.8
	12/3/2008	54.4
	6/17/2009	48.2
	12/9/2009	47.3
	6/17/2010	52.9
	12/22/2010	51.7
	6/29/2011	51
	12/7/2011	60.1
	6/6/2012	52
	12/12/2012	61.3
	6/19/2013	57.3
	12/11/2013	54
	6/11/2014	9.78
	12/3/2014	68
	6/17/2015	66.3
	12/1/2015	63.8
	6/22/2016	76.8
	12/20/2016	80.2
	6/6/2017	96.8

Date	Samples	Mean	Impacted
11/7/2017	1	120	TRUE

Concentrations (umhos/cm)

Parameter: Specific Conductance

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 265
Total Non-Detect: 0
Percent Non-Detects: 0%
Total Background Samples: 68
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	68	0 (0%)	12/15/1994	1080	1080
			3/14/1995	1103	1103
			6/21/1995	1154	1154
			12/14/1995	1109	1109
			3/6/1996	1010	1010
			4/25/1996	1063	1063
			10/2/1996	1169	1169
			12/10/1996	1187	1187
			3/11/1997	1077	1077
			4/15/1997	1070	1070
			8/14/1997	1217	1217
			12/4/1997	1170	1170
			3/31/1998	1092	1092
			6/23/1998	1210	1210
			8/11/1998	1273	1273
			12/8/1998	1888	1888
			3/9/1999	1080	1080
			6/8/1999	1301	1301
			8/19/1999	1301	1301
			12/14/1999	1270	1270
			3/7/2000	1290	1290
			6/23/2000	1393	1393
			12/12/2000	1309	1309
			3/27/2001	1469	1469
			6/28/2001	1560	1560
			9/10/2001	1374	1374
			12/18/2001	1374	1374
			3/19/2002	1326	1326
			6/26/2002	1516	1516
			9/18/2002	1423	1423
			12/11/2002	1515	1515
			3/13/2003	1332	1332
			6/25/2003	1608	1608
			9/26/2003	1602	1602
			12/10/2003	1620	1620
			3/9/2004	1630	1630
			6/24/2004	1620	1620
			9/15/2004	1618	1618
			12/15/2004	1586	1586
			3/16/2005	1521	1521
			6/15/2005	1531	1531
			9/21/2005	1441	1441
			12/21/2005	1030	1030
			3/15/2006	1318	1318

			6/21/2006	1547	1547
			12/20/2006	1370	1370
			6/12/2007	1466	1466
			12/17/2007	1327	1327
			6/11/2008	1334	1334
			12/3/2008	1352	1352
			6/17/2009	1301	1301
			12/9/2009	1218	1218
			6/17/2010	1179	1179
			12/22/2010	1270	1270
			6/29/2011	1275	1275
			12/7/2011	1236	1236
			6/6/2012	1185	1185
			12/12/2012	1227	1227
			6/19/2013	1366	1366
			12/11/2013	1329	1329
			6/11/2014	1200	1200
			12/3/2014	1230	1230
			6/17/2015	1210	1210
			12/1/2015	1230	1230
			6/22/2016	1185	1185
			12/20/2016	1186	1186
			6/6/2017	1289	1289
			11/7/2017	1458	1458

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	70	0 (0%)	12/15/1994	7950	7950
			3/14/1995	8217	8217
			6/21/1995	9210	9210
			12/14/1995	9000	9000
			3/6/1996	8820	8820
			4/25/1996	9310	9310
			10/2/1996	9420	9420
			12/10/1996	9590	9590
			3/11/1997	9250	9250
			4/15/1997	9690	9690
			8/14/1997	10660	10660
			12/4/1997	10240	10240
			3/31/1998	9237	9237
			6/23/1998	10400	10400
			8/11/1998	11460	11460
			12/8/1998	10280	10280
			3/9/1999	9240	9240
			6/8/1999	10850	10850
			8/19/1999	10873	10873
			12/14/1999	9690	9690
			3/7/2000	9340	9340
			6/23/2000	1034	1034
			12/12/2000	9080	9080
			3/27/2001	10260	10260
			6/28/2001	11600	11600
			9/10/2001	10700	10700
			12/18/2001	10660	10660
			3/19/2002	10197	10197

			6/26/2002	10590	10590
			9/18/2002	9690	9690
			12/11/2002	10283	10283
			3/13/2003	8920	8920
			6/25/2003	10590	10590
			9/26/2003	10693	10693
			12/10/2003	10550	10550
			3/9/2004	10620	10620
			6/24/2004	10494	10494
			9/15/2004	10340	10340
			12/15/2004	9940	9940
			3/16/2005	9690	9690
			6/15/2005	10010	10010
			9/21/2005	9660	9660
			12/21/2005	10000	10000
			3/15/2006	8650	8650
			6/21/2006	9830	9830
			12/20/2006	8310	8310
			2/21/2007	7660	7660
			6/12/2007	9590	9590
			12/17/2007	9100	9100
			6/11/2008	9600	9600
			12/3/2008	10520	10520
			12/15/2008	9070	9070
			6/17/2009	10690	10690
			12/9/2009	10050	10050
			6/17/2010	10020	10020
			12/22/2010	11230	11230
			6/29/2011	11110	11110
			12/7/2011	10770	10770
			6/6/2012	10490	10490
			12/12/2012	11460	11460
			6/19/2013	10500	10500
			12/11/2013	10650	10650
			6/11/2014	9940	9940
			12/3/2014	10900	10900
			6/17/2015	1270	1270
			12/1/2015	10560	10560
			6/22/2016	6710	6710
			12/20/2016	11400	11400
			6/6/2017	12590	12590
			11/7/2017	10.52	10.52
MW#93-3	68	0 (0%)	12/15/1994	1762	1762
			3/14/1995	1490	1490
			6/21/1995	1421	1421
			12/14/1995	1534	1534
			3/6/1996	1327	1327
			4/25/1996	1570	1570
			10/2/1996	1657	1657
			12/10/1996	1427	1427
			3/11/1997	1370	1370
			4/15/1997	1244	1244
			8/14/1997	1351	1351
			12/4/1997	1140	1140
			3/31/1998	1172	1172
			6/23/1998	1214	1214

			8/11/1998	1296	1296
			12/8/1998	1177	1177
			3/9/1999	1137	1137
			6/8/1999	1180	1180
			8/19/1999	1253	1253
			12/14/1999	1088	1088
			3/7/2000	1250	1250
			6/23/2000	1070	1070
			12/12/2000	1051	1051
			3/27/2001	1149	1149
			6/28/2001	1155	1155
			9/10/2001	1250	1250
			12/18/2001	1064	1064
			3/19/2002	1240	1240
			6/26/2002	787	787
			9/18/2002	1109	1109
			12/11/2002	1125	1125
			3/13/2003	1034	1034
			6/25/2003	1111	1111
			9/26/2003	1109	1109
			12/10/2003	1173	1173
			3/9/2004	881	881
			6/24/2004	1129	1129
			9/15/2004	1068	1068
			12/15/2004	972	972
			3/16/2005	1134	1134
			6/15/2005	1080	1080
			9/21/2005	1155	1155
			12/21/2005	1140	1140
			3/15/2006	1035	1035
			6/21/2006	1226	1226
			12/20/2006	1087	1087
			6/12/2007	1031	1031
			12/17/2007	910	910
			6/11/2008	1023	1023
			12/3/2008	1073	1073
			6/17/2009	1073	1073
			12/9/2009	1038	1038
			6/17/2010	1108	1108
			12/22/2010	1090	1090
			6/29/2011	1178	1178
			12/7/2011	930	930
			6/6/2012	1203	1203
			12/12/2012	1010	1010
			6/19/2013	1438	1438
			12/11/2013	1252	1252
			6/11/2014	1500	1500
			12/3/2014	1200	1200
			6/17/2015	1480	1480
			12/1/2015	1807	1807
			10/11/2016	2005	2005
			12/20/2016	2200	2200
			6/6/2017	1743	1743
			11/7/2017	2121	2121
MW#03-1	27	0 (0%)	6/24/2004	497	497
			9/15/2004	687	687

			12/15/2004	514	514
			3/16/2005	422	422
			6/15/2005	465	465
			9/21/2005	517	517
			12/20/2006	447	447
			6/12/2007	630	630
			12/17/2007	540	540
			6/11/2008	467	467
			12/3/2008	649	649
			6/17/2009	519	519
			12/9/2009	469	469
			6/17/2010	500	500
			12/22/2010	504	504
			6/29/2011	463	463
			12/7/2011	501	501
			6/6/2012	457	457
			6/19/2013	373	373
			12/11/2013	476	476
			6/11/2014	826	826
			12/3/2014	409	409
			6/17/2015	267	267
			12/1/2015	385	385
			6/22/2016	320	320
			6/6/2017	198	198
			11/7/2017	444	444
MW#03-2	32	0 (0%)	6/24/2004	692	692
			9/15/2004	522	522
			12/15/2004	655	655
			3/16/2005	661	661
			6/15/2005	674	674
			9/21/2005	625	625
			12/21/2005	572	572
			3/15/2006	594	594
			6/21/2006	636	636
			12/20/2006	580	580
			6/12/2007	680	680
			12/17/2007	617	617
			6/11/2008	674	674
			12/3/2008	752	752
			6/17/2009	720	720
			12/9/2009	690	690
			6/17/2010	685	685
			12/22/2010	728	728
			6/29/2011	748	748
			12/7/2011	755	755
			6/6/2012	716	716
			12/12/2012	807	807
			6/19/2013	807	807
			12/11/2013	805	805
			6/11/2014	219	219
			12/3/2014	1540	1540
			6/17/2015	965	965
			12/1/2015	967	967
			6/22/2016	1074	1074
			12/20/2016	1454	1454
			6/6/2017	1498	1498

			11/7/2017	2042	2042

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Specific Conductance

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 265

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	10.52	-2.74777	7.55021	-28.9065
2	198	-2.45727	13.5884	-515.447
3	219	-2.29036	18.8342	-1017.04
4	267	-2.17009	23.5435	-1596.45
5	320	-2.09693	27.9406	-2267.47
6	373	-2.01409	31.9972	-3018.73
7	385	-1.94314	35.7729	-3766.83
8	409	-1.88079	39.3103	-4536.08
9	422	-1.83843	42.6901	-5311.89
10	444	-1.78661	45.8821	-6105.15
11	447	-1.7392	48.9069	-6882.57
12	457	-1.6954	51.7813	-7657.37
13	463	-1.66456	54.552	-8428.06
14	465	-1.62576	57.1951	-9184.04
15	467	-1.58927	59.7209	-9926.23
16	469	-1.55477	62.1382	-10655.4
17	476	-1.53007	64.4793	-11383.7
18	497	-1.49852	66.7249	-12128.5
19	500	-1.46838	68.881	-12862.7
20	501	-1.43953	70.9533	-13583.9
21	504	-1.41865	72.9659	-14298.9
22	514	-1.39175	74.9028	-15014.2
23	517	-1.36581	76.7682	-15720.4
24	519	-1.34075	78.5659	-16416.2
25	522	-1.32251	80.3149	-17106.6
26	540	-1.29884	82.0019	-17807.9
27	572	-1.27588	83.6297	-18537.7
28	580	-1.25357	85.2011	-19264.8
29	594	-1.23187	86.7186	-19996.5
30	617	-1.21596	88.1972	-20746.8
31	625	-1.19522	89.6257	-21493.8
32	630	-1.17499	91.0063	-22234
33	636	-1.15522	92.3409	-22968.8
34	649	-1.14069	93.6421	-23709.1
35	655	-1.12168	94.9002	-24443.8
36	661	-1.10306	96.117	-25172.9
37	674	-1.08482	97.2938	-25904.1
38	674	-1.07138	98.4417	-26626.2
39	680	-1.05375	99.552	-27342.7
40	685	-1.03643	100.626	-28052.7
41	687	-1.01943	101.665	-28753
42	690	-1.00687	102.679	-29447.8
43	692	-0.990356	103.66	-30133.1
44	716	-0.974114	104.609	-30830.5
45	720	-0.958125	105.527	-31520.4
46	728	-0.946291	106.422	-32209.3

47	748	-0.930718	107.289	-32905.5
48	752	-0.915365	108.127	-33593.8
49	755	-0.900227	108.937	-34273.5
50	787	-0.889006	109.727	-34973.1
51	805	-0.874218	110.492	-35676.9
52	807	-0.859618	111.23	-36370.6
53	807	-0.845198	111.945	-37052.7
54	826	-0.830953	112.635	-37739
55	881	-0.820379	113.308	-38461.8
56	910	-0.806422	113.959	-39195.6
57	930	-0.792618	114.587	-39932.8
58	965	-0.778966	115.194	-40684.5
59	967	-0.768821	115.785	-41427.9
60	972	-0.755415	116.355	-42162.2
61	1010	-0.742143	116.906	-42911.8
62	1010	-0.729003	117.438	-43648
63	1023	-0.719228	117.955	-44383.8
64	1030	-0.706302	118.454	-45111.3
65	1031	-0.693493	118.935	-45826.3
66	1034	-0.680797	119.398	-46530.2
67	1034	-0.671346	119.849	-47224.4
68	1035	-0.658838	120.283	-47906.3
69	1038	-0.646431	120.701	-48577.3
70	1051	-0.634124	121.103	-49243.8
71	1063	-0.624956	121.494	-49908.1
72	1064	-0.612813	121.869	-50560.1
73	1068	-0.60076	122.23	-51201.7
74	1070	-0.588793	122.577	-51831.8
75	1070	-0.579873	122.913	-52452.2
76	1073	-0.568052	123.236	-53061.7
77	1073	-0.556308	123.545	-53658.7
78	1074	-0.544642	123.842	-54243.6
79	1077	-0.53594	124.129	-54820.8
80	1080	-0.524401	124.404	-55387.2
81	1080	-0.51293	124.667	-55941.1
82	1080	-0.501527	124.919	-56482.8
83	1087	-0.490189	125.159	-57015.6
84	1088	-0.481728	125.391	-57539.7
85	1090	-0.470498	125.612	-58052.6
86	1092	-0.459327	125.823	-58554.2
87	1103	-0.448213	126.024	-59048.5
88	1108	-0.439913	126.218	-59536
89	1109	-0.428895	126.402	-60011.6
90	1109	-0.417928	126.576	-60475.1
91	1109	-0.40701	126.742	-60926.5
92	1111	-0.398855	126.901	-61369.6
93	1125	-0.388022	127.052	-61806.1
94	1129	-0.377233	127.194	-62232
95	1134	-0.36649	127.328	-62647.6
96	1137	-0.358459	127.457	-63055.2
97	1140	-0.347787	127.578	-63451.7
98	1140	-0.337155	127.691	-63836
99	1149	-0.326561	127.798	-64211.2
100	1154	-0.318639	127.9	-64578.9
101	1155	-0.308108	127.994	-64934.8
102	1155	-0.297612	128.083	-65278.6
103	1169	-0.287147	128.165	-65614.2

104	1170	-0.279319	128.244	-65941
105	1172	-0.268908	128.316	-66256.2
106	1173	-0.258527	128.383	-66559.4
107	1177	-0.248174	128.444	-66851.5
108	1178	-0.237847	128.501	-67131.7
109	1179	-0.230118	128.554	-67403
110	1180	-0.219834	128.602	-67662.4
111	1185	-0.209575	128.646	-67910.8
112	1185	-0.199336	128.686	-68147
113	1186	-0.191671	128.722	-68374.3
114	1187	-0.181468	128.755	-68589.7
115	1200	-0.171285	128.785	-68795.3
116	1200	-0.161119	128.811	-68988.6
117	1203	-0.153505	128.834	-69173.3
118	1210	-0.143367	128.855	-69346.7
119	1210	-0.133244	128.873	-69508
120	1214	-0.123135	128.888	-69657.5
121	1217	-0.115562	128.901	-69798.1
122	1218	-0.105474	128.912	-69926.6
123	1226	-0.0953969	128.921	-70043.5
124	1227	-0.0853288	128.929	-70148.2
125	1230	-0.0777834	128.935	-70243.9
126	1230	-0.0677301	128.939	-70327.2
127	1236	-0.0576847	128.943	-70398.5
128	1240	-0.0476439	128.945	-70457.6
129	1244	-0.0401167	128.946	-70507.5
130	1250	-0.0300838	128.947	-70545.1
131	1250	-0.0200544	128.948	-70570.2
132	1252	-0.0100272	128.948	-70582.7
133	1253	0	128.948	-70582.7
134	1270	0.0100272	128.948	-70570
135	1270	0.0200544	128.948	-70544.5
136	1270	0.0300838	128.949	-70506.3
137	1273	0.0401167	128.951	-70455.2
138	1275	0.0476439	128.953	-70394.5
139	1289	0.0576847	128.956	-70320.1
140	1290	0.0677301	128.961	-70232.8
141	1296	0.0777834	128.967	-70132
142	1301	0.0853288	128.974	-70020.9
143	1301	0.0953969	128.983	-69896.8
144	1301	0.105474	128.995	-69759.6
145	1309	0.115562	129.008	-69608.3
146	1318	0.123135	129.023	-69446
147	1326	0.133244	129.041	-69269.4
148	1327	0.143367	129.061	-69079.1
149	1327	0.153505	129.085	-68875.4
150	1329	0.161119	129.111	-68661.3
151	1332	0.171285	129.14	-68433.1
152	1334	0.181468	129.173	-68191.1
153	1351	0.191671	129.21	-67932.1
154	1352	0.199336	129.25	-67662.6
155	1366	0.209575	129.294	-67376.3
156	1370	0.219834	129.342	-67075.2
157	1370	0.230118	129.395	-66759.9
158	1374	0.237847	129.451	-66433.1
159	1374	0.248174	129.513	-66092.1
160	1393	0.258527	129.58	-65732

161	1421	0.268908	129.652	-65349.9
162	1423	0.279319	129.73	-64952.4
163	1427	0.287147	129.813	-64542.6
164	1438	0.297612	129.901	-64114.7
165	1441	0.308108	129.996	-63670.7
166	1454	0.318639	130.098	-63207.4
167	1458	0.326561	130.204	-62731.2
168	1466	0.337155	130.318	-62237
169	1469	0.347787	130.439	-61726.1
170	1480	0.358459	130.567	-61195.6
171	1490	0.36649	130.702	-60649.5
172	1498	0.377233	130.844	-60084.4
173	1500	0.388022	130.995	-59502.4
174	1515	0.398855	131.154	-58898.1
175	1516	0.40701	131.319	-58281.1
176	1521	0.417928	131.494	-57645.4
177	1531	0.428895	131.678	-56988.8
178	1534	0.439913	131.872	-56313.9
179	1540	0.448213	132.072	-55623.7
180	1547	0.459327	132.283	-54913.1
181	1560	0.470498	132.505	-54179.1
182	1570	0.481728	132.737	-53422.8
183	1586	0.490189	132.977	-52645.4
184	1602	0.501527	133.229	-51841.9
185	1608	0.51293	133.492	-51017.1
186	1618	0.524401	133.767	-50168.7
187	1620	0.53594	134.054	-49300.4
188	1620	0.544642	134.351	-48418.1
189	1630	0.556308	134.66	-47511.3
190	1657	0.568052	134.983	-46570.1
191	1743	0.579873	135.319	-45559.4
192	1762	0.588793	135.666	-44521.9
193	1807	0.60076	136.027	-43436.3
194	1888	0.612813	136.402	-42279.3
195	2005	0.624956	136.793	-41026.3
196	2042	0.634124	137.195	-39731.4
197	2121	0.646431	137.613	-38360.3
198	2200	0.658838	138.047	-36910.9
199	6710	0.671346	138.498	-32406.2
200	7660	0.680797	138.961	-27191.3
201	7950	0.693493	139.442	-21678
202	8217	0.706302	139.941	-15874.3
203	8310	0.719228	140.458	-9897.52
204	8650	0.729003	140.99	-3591.64
205	8820	0.742143	141.54	2954.06
206	8920	0.755415	142.111	9692.37
207	9000	0.768821	142.702	16611.8
208	9070	0.778966	143.309	23677
209	9080	0.792618	143.937	30873.9
210	9100	0.806422	144.587	38212.4
211	9210	0.820379	145.26	45768.1
212	9237	0.830953	145.951	53443.6
213	9240	0.845198	146.665	61253.2
214	9250	0.859618	147.404	69204.7
215	9310	0.874218	148.168	77343.7
216	9340	0.889006	148.959	85647
217	9420	0.900227	149.769	94127.1

218	9590	0.915365	150.607	102905
219	9590	0.930718	151.473	111831
220	9600	0.946291	152.369	120915
221	9660	0.958125	153.287	130171
222	9690	0.974114	154.236	139610
223	9690	0.990356	155.216	149207
224	9690	1.00687	156.23	158963
225	9690	1.01943	157.27	168841
226	9830	1.03643	158.344	179030
227	9940	1.05375	159.454	189504
228	9940	1.07138	160.602	200153
229	10000	1.08482	161.779	211001
230	10010	1.10306	162.996	222043
231	10020	1.12168	164.254	233282
232	10050	1.14069	165.555	244746
233	10197	1.15522	166.889	256526
234	10240	1.17499	168.27	268558
235	10260	1.19522	169.699	280821
236	10280	1.21596	171.177	293321
237	10283	1.23187	172.695	305988
238	10340	1.25357	174.266	318950
239	10400	1.27588	175.894	332219
240	10490	1.29884	177.581	345844
241	10494	1.32251	179.33	359722
242	10500	1.34075	181.127	373800
243	10520	1.36581	182.993	388169
244	10550	1.39175	184.93	402852
245	10560	1.41865	186.942	417832
246	10590	1.43953	189.015	433077
247	10590	1.46838	191.171	448627
248	10620	1.49852	193.416	464542
249	10650	1.53007	195.757	480837
250	10660	1.55477	198.175	497411
251	10660	1.58927	200.701	514352
252	10690	1.62576	203.344	531732
253	10693	1.66456	206.114	549531
254	10700	1.6954	208.989	567672
255	10770	1.7392	212.014	586403
256	10850	1.78661	215.206	605787
257	10873	1.83843	218.585	625777
258	10900	1.88079	222.123	646277
259	11110	1.94314	225.899	667865
260	11230	2.01409	229.955	690484
261	11400	2.09693	234.352	714389
262	11460	2.17009	239.062	739258
263	11460	2.29036	244.307	765506
264	11600	2.45727	250.346	794010

Sample Standard Deviation = 3918.08
Numerator = 6.30452e+011
Denominator = 1.01459e+012 = 264 250.346
W Statistic = 0.621386
5% Critical value of 0.976 exceeds 0.621386
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.621386
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Specific Conductance

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 443.219
Overall Std Dev = 1011.77
Overall Total = 117453
SS Wells = 5.52738e+007
SS Total = 2.7025e+008

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	5.52738e+007	4	1.38185e+007	16.7125
Error (within wells)	2.14977e+008	260	826833	
Totals	2.7025e+008	264		

16.7125 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	240.588
	3/14/1995	217.588
	6/21/1995	166.588
	12/14/1995	211.588
	3/6/1996	310.588
	4/25/1996	257.588
	10/2/1996	151.588
	12/10/1996	133.588
	3/11/1997	243.588
	4/15/1997	250.588
	8/14/1997	103.588
	12/4/1997	150.588
	3/31/1998	228.588
	6/23/1998	110.588
	8/11/1998	47.5882
	12/8/1998	567.412
	3/9/1999	240.588
	6/8/1999	19.5882
	8/19/1999	19.5882
	12/14/1999	50.5882
	3/7/2000	30.5882
	6/23/2000	72.4118
	12/12/2000	11.5882
	3/27/2001	148.412
	6/28/2001	239.412
	9/10/2001	53.4118
	12/18/2001	53.4118
	3/19/2002	5.41176
	6/26/2002	195.412
	9/18/2002	102.412
	12/11/2002	194.412
	3/13/2003	11.4118

6/25/2003	287.412
9/26/2003	281.412
12/10/2003	299.412
3/9/2004	309.412
6/24/2004	299.412
9/15/2004	297.412
12/15/2004	265.412
3/16/2005	200.412
6/15/2005	210.412
9/21/2005	120.412
12/21/2005	290.588
3/15/2006	2.58824
6/21/2006	226.412
12/20/2006	49.4118
6/12/2007	145.412
12/17/2007	6.41176
6/11/2008	13.4118
12/3/2008	31.4118
6/17/2009	19.5882
12/9/2009	102.588
6/17/2010	141.588
12/22/2010	50.5882
6/29/2011	45.5882
12/7/2011	84.5882
6/6/2012	135.588
12/12/2012	93.5882
6/19/2013	45.4118
12/11/2013	8.41176
6/11/2014	120.588
12/3/2014	90.5882
6/17/2015	110.588
12/1/2015	90.5882
6/22/2016	135.588
12/20/2016	134.588
6/6/2017	31.5882
11/7/2017	137.412

Well: MW#93-2

Sample	Residual
12/15/1994	1635.84
3/14/1995	1368.84
6/21/1995	375.836
12/14/1995	585.836
3/6/1996	765.836
4/25/1996	275.836
10/2/1996	165.836
12/10/1996	4.164
3/11/1997	335.836
4/15/1997	104.164
8/14/1997	1074.16
12/4/1997	654.164
3/31/1998	348.836
6/23/1998	814.164
8/11/1998	1874.16
12/8/1998	694.164
3/9/1999	345.836
6/8/1999	1264.16
8/19/1999	1287.16

12/14/1999	104.164
3/7/2000	245.836
6/23/2000	8551.84
12/12/2000	505.836
3/27/2001	674.164
6/28/2001	2014.16
9/10/2001	1114.16
12/18/2001	1074.16
3/19/2002	611.164
6/26/2002	1004.16
9/18/2002	104.164
12/11/2002	697.164
3/13/2003	665.836
6/25/2003	1004.16
9/26/2003	1107.16
12/10/2003	964.164
3/9/2004	1034.16
6/24/2004	908.164
9/15/2004	754.164
12/15/2004	354.164
3/16/2005	104.164
6/15/2005	424.164
9/21/2005	74.164
12/21/2005	414.164
3/15/2006	935.836
6/21/2006	244.164
12/20/2006	1275.84
2/21/2007	1925.84
6/12/2007	4.164
12/17/2007	485.836
6/11/2008	14.164
12/3/2008	934.164
12/15/2008	515.836
6/17/2009	1104.16
12/9/2009	464.164
6/17/2010	434.164
12/22/2010	1644.16
6/29/2011	1524.16
12/7/2011	1184.16
6/6/2012	904.164
12/12/2012	1874.16
6/19/2013	914.164
12/11/2013	1064.16
6/11/2014	354.164
12/3/2014	1314.16
6/17/2015	8315.84
12/1/2015	974.164
6/22/2016	2875.84
12/20/2016	1814.16
6/6/2017	3004.16
11/7/2017	9575.32

Well: MW#93-3	**Sample**	**Residual**
	12/15/1994	514.838
	3/14/1995	242.838
	6/21/1995	173.838
	12/14/1995	286.838

3/6/1996	79.8382
4/25/1996	322.838
10/2/1996	409.838
12/10/1996	179.838
3/11/1997	122.838
4/15/1997	3.16176
8/14/1997	103.838
12/4/1997	107.162
3/31/1998	75.1618
6/23/1998	33.1618
8/11/1998	48.8382
12/8/1998	70.1618
3/9/1999	110.162
6/8/1999	67.1618
8/19/1999	5.83824
12/14/1999	159.162
3/7/2000	2.83824
6/23/2000	177.162
12/12/2000	196.162
3/27/2001	98.1618
6/28/2001	92.1618
9/10/2001	2.83824
12/18/2001	183.162
3/19/2002	7.16176
6/26/2002	460.162
9/18/2002	138.162
12/11/2002	122.162
3/13/2003	213.162
6/25/2003	136.162
9/26/2003	138.162
12/10/2003	74.1618
3/9/2004	366.162
6/24/2004	118.162
9/15/2004	179.162
12/15/2004	275.162
3/16/2005	113.162
6/15/2005	167.162
9/21/2005	92.1618
12/21/2005	107.162
3/15/2006	212.162
6/21/2006	21.1618
12/20/2006	160.162
6/12/2007	216.162
12/17/2007	337.162
6/11/2008	224.162
12/3/2008	174.162
6/17/2009	174.162
12/9/2009	209.162
6/17/2010	139.162
12/22/2010	157.162
6/29/2011	69.1618
12/7/2011	317.162
6/6/2012	44.1618
12/12/2012	237.162
6/19/2013	190.838
12/11/2013	4.83824
6/11/2014	252.838

12/3/2014	47.1618
6/17/2015	232.838
12/1/2015	559.838
10/11/2016	757.838
12/20/2016	952.838
6/6/2017	495.838
11/7/2017	873.838

Well: MW#03-1	Sample	Residual
	6/24/2004	17.5185
	9/15/2004	207.519
	12/15/2004	34.5185
	3/16/2005	57.4815
	6/15/2005	14.4815
	9/21/2005	37.5185
	12/20/2006	32.4815
	6/12/2007	150.519
	12/17/2007	60.5185
	6/11/2008	12.4815
	12/3/2008	169.519
	6/17/2009	39.5185
	12/9/2009	10.4815
	6/17/2010	20.5185
	12/22/2010	24.5185
	6/29/2011	16.4815
	12/7/2011	21.5185
	6/6/2012	22.4815
	6/19/2013	106.481
	12/11/2013	3.48148
	6/11/2014	346.519
	12/3/2014	70.4815
	6/17/2015	212.481
	12/1/2015	94.4815
	6/22/2016	159.481
	6/6/2017	281.481
	11/7/2017	35.4815

Well: MW#03-2	Sample	Residual
	6/24/2004	125.313
	9/15/2004	295.313
	12/15/2004	162.313
	3/16/2005	156.313
	6/15/2005	143.313
	9/21/2005	192.313
	12/21/2005	245.313
	3/15/2006	223.313
	6/21/2006	181.313
	12/20/2006	237.313
	6/12/2007	137.313
	12/17/2007	200.313
	6/11/2008	143.313
	12/3/2008	65.3125
	6/17/2009	97.3125
	12/9/2009	127.313
	6/17/2010	132.313
	12/22/2010	89.3125

6/29/2011	69.3125
12/7/2011	62.3125
6/6/2012	101.313
12/12/2012	10.3125
6/19/2013	10.3125
12/11/2013	12.3125
6/11/2014	598.313
12/3/2014	722.688
6/17/2015	147.688
12/1/2015	149.688
6/22/2016	256.688
12/20/2016	636.688
6/6/2017	680.688
11/7/2017	1224.69

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Specific Conductance

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 68
Maximum Background Concentration = 1888
Confidence Level = 94.4%
False Positive Rate = 5.6%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	10.52	FALSE
MW#93-3	11/7/2017	1	2121	TRUE
MW#03-1	11/7/2017	1	444	FALSE
MW#03-2	11/7/2017	1	2042	TRUE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-2

Parameter: Specific Conductance

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 69
Maximum Baseline Concentration = 12590
Confidence Level = 98.6%
False Positive Rate = 1.4%

Baseline Samples	Date	Result
	12/15/1994	7950
	3/14/1995	8217
	6/21/1995	9210
	12/14/1995	9000
	3/6/1996	8820
	4/25/1996	9310
	10/2/1996	9420
	12/10/1996	9590
	3/11/1997	9250
	4/15/1997	9690
	8/14/1997	10660
	12/4/1997	10240
	3/31/1998	9237
	6/23/1998	10400
	8/11/1998	11460
	12/8/1998	10280
	3/9/1999	9240
	6/8/1999	10850
	8/19/1999	10873
	12/14/1999	9690
	3/7/2000	9340
	6/23/2000	1034
	12/12/2000	9080
	3/27/2001	10260
	6/28/2001	11600
	9/10/2001	10700
	12/18/2001	10660
	3/19/2002	10197
	6/26/2002	10590
	9/18/2002	9690
	12/11/2002	10283
	3/13/2003	8920
	6/25/2003	10590
	9/26/2003	10693
	12/10/2003	10550
	3/9/2004	10620
	6/24/2004	10494
	9/15/2004	10340
	12/15/2004	9940
	3/16/2005	9690
	6/15/2005	10010

9/21/2005	9660
12/21/2005	10000
3/15/2006	8650
6/21/2006	9830
12/20/2006	8310
2/21/2007	7660
6/12/2007	9590
12/17/2007	9100
6/11/2008	9600
12/3/2008	10520
12/15/2008	9070
6/17/2009	10690
12/9/2009	10050
6/17/2010	10020
12/22/2010	11230
6/29/2011	11110
12/7/2011	10770
6/6/2012	10490
12/12/2012	11460
6/19/2013	10500
12/11/2013	10650
6/11/2014	9940
12/3/2014	10900
6/17/2015	1270
12/1/2015	10560
6/22/2016	6710
12/20/2016	11400
6/6/2017	12590

Date	Samples	Mean	Impacted
11/7/2017	1	10.52	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#03-2

Parameter: Specific Conductance

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 31
Maximum Baseline Concentration = 1540
Confidence Level = 96.9%
False Positive Rate = 3.1%

Baseline Samples	Date	Result
	6/24/2004	692
	9/15/2004	522
	12/15/2004	655
	3/16/2005	661
	6/15/2005	674
	9/21/2005	625
	12/21/2005	572
	3/15/2006	594
	6/21/2006	636
	12/20/2006	580
	6/12/2007	680
	12/17/2007	617
	6/11/2008	674
	12/3/2008	752
	6/17/2009	720
	12/9/2009	690
	6/17/2010	685
	12/22/2010	728
	6/29/2011	748
	12/7/2011	755
	6/6/2012	716
	12/12/2012	807
	6/19/2013	807
	12/11/2013	805
	6/11/2014	219
	12/3/2014	1540
	6/17/2015	965
	12/1/2015	967
	6/22/2016	1074
	12/20/2016	1454
	6/6/2017	1498

Date	Samples	Mean	Impacted
11/7/2017	1	2042	TRUE

Concentrations (mg/l)

Parameter: Sulfate

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Samples: 265
Total Non-Detect: 8
Percent Non-Detects: 3.01887%
Total Background Samples: 68
There is 1 background well

Well	Samples	ND	Date	Result	Original
MW#93-1	68	0 (0%)	12/15/1994	195	195
			3/14/1995	275	275
			6/21/1995	750	750
			12/14/1995	320	320
			3/6/1996	215	215
			4/25/1996	272	272
			10/2/1996	300	300
			12/10/1996	260	260
			3/11/1997	278	278
			4/15/1997	250	250
			8/14/1997	320	320
			12/4/1997	360	360
			3/31/1998	230	230
			6/23/1998	500	500
			8/11/1998	350	350
			12/8/1998	270	270
			3/9/1999	290	290
			6/8/1999	408	408
			8/19/1999	388	388
			12/14/1999	310	310
			3/7/2000	373	373
			6/23/2000	410	410
			12/12/2000	420	420
			3/27/2001	350	350
			6/28/2001	425	425
			9/10/2001	390	390
			12/18/2001	390	390
			3/19/2002	425	425
			6/26/2002	420	420
			9/18/2002	517	517
			12/11/2002	430	430
			3/13/2003	450	450
			6/25/2003	434	434
			9/26/2003	460	460
			12/10/2003	470	470
			3/9/2004	444	444
			6/24/2004	500	500
			9/15/2004	475	475
			12/15/2004	558	558
			3/16/2005	880	880
			6/15/2005	22	22
			9/21/2005	467	467
			12/21/2005	475	475
			3/15/2006	375	375

			6/21/2006	420	420
			12/20/2006	330	330
			6/12/2007	260	260
			12/17/2007	300	300
			6/11/2008	375	375
			12/3/2008	340	340
			6/17/2009	240	240
			12/9/2009	160	160
			6/17/2010	290	290
			12/22/2010	304	304
			6/29/2011	306	306
			12/7/2011	255	255
			6/6/2012	275	275
			12/12/2012	301	301
			6/19/2013	409	409
			12/11/2013	306	306
			6/11/2014	316	316
			12/3/2014	292	292
			6/17/2015	286	286
			12/1/2015	299	299
			6/22/2016	250	250
			12/20/2016	275	275
			6/6/2017	265	265
			11/7/2017	281	281

There are 4 compliance wells

Well	Samples	ND	Date	Result	Original
MW#93-2	70	0 (0%)	12/15/1994	2000	2000
			3/14/1995	1550	1550
			6/21/1995	185	185
			12/14/1995	2367	2367
			3/6/1996	2150	2150
			4/25/1996	2000	2000
			10/2/1996	3267	3267
			12/10/1996	4000	4000
			3/11/1997	1700	1700
			4/15/1997	1500	1500
			8/14/1997	3650	3650
			12/4/1997	4300	4300
			3/31/1998	2500	2500
			6/23/1998	3250	3250
			8/11/1998	3050	3050
			12/8/1998	3050	3050
			3/9/1999	3600	3600
			6/8/1999	3150	3150
			8/19/1999	1897	1897
			12/14/1999	2500	2500
			3/7/2000	3400	3400
			6/23/2000	3400	3400
			12/12/2000	3000	3000
			3/27/2001	2133	2133
			6/28/2001	2750	2750
			9/10/2001	2650	2650
			12/18/2001	2950	2950
			3/19/2002	2967	2967

			6/26/2002	3050	3050
			9/18/2002	2900	2900
			12/11/2002	2933	2933
			3/13/2003	2900	2900
			6/25/2003	2700	2700
			9/26/2003	2767	2767
			12/10/2003	2700	2700
			3/9/2004	2550	2550
			6/24/2004	2650	2650
			9/15/2004	2700	2700
			12/15/2004	2950	2950
			3/16/2005	3200	3200
			6/15/2005	2650	2650
			9/21/2005	3200	3200
			12/21/2005	3200	3200
			3/15/2006	3000	3000
			6/21/2006	2700	2700
			12/20/2006	2500	2500
			2/21/2007	1900	1900
			6/12/2007	2400	2400
			12/17/2007	3100	3100
			6/11/2008	2350	2350
			12/3/2008	3300	3300
			12/15/2008	2400	2400
			6/17/2009	2300	2300
			12/9/2009	2200	2200
			6/17/2010	2900	2900
			12/22/2010	3460	3460
			6/29/2011	2630	2630
			12/7/2011	2520	2520
			6/6/2012	2360	2360
			12/12/2012	3240	3240
			6/19/2013	2510	2510
			12/11/2013	2460	2460
			6/11/2014	2790	2790
			12/3/2014	2940	2940
			6/17/2015	114	114
			12/1/2015	3600	3600
			6/22/2016	2620	2620
			12/20/2016	3800	3800
			6/6/2017	3630	3630
			11/7/2017	4340	4340
MW#93-3	68	8 (11.7647%)	12/15/1994	ND<10	ND<10
			3/14/1995	ND<10	ND<10
			6/21/1995	10	10
			12/14/1995	ND<10	ND<10
			3/6/1996	10	10
			4/25/1996	ND<10	ND<10
			10/2/1996	11	11
			12/10/1996	10	10
			3/11/1997	12	12
			4/15/1997	15	15
			8/14/1997	11	11
			12/4/1997	8	8
			3/31/1998	45	45
			6/23/1998	4	4

			8/11/1998	9	9
			12/8/1998	2	2
			3/9/1999	ND<10	ND<10
			6/8/1999	3	3
			8/19/1999	ND<10	ND<10
			12/14/1999	ND<10	ND<10
			3/7/2000	13	13
			6/23/2000	14	14
			12/12/2000	7	7
			3/27/2001	3	3
			6/28/2001	ND<10	ND<10
			9/10/2001	20	20
			12/18/2001	19	19
			3/19/2002	8	8
			6/26/2002	8	8
			9/18/2002	8	8
			12/11/2002	6	6
			3/13/2003	18	18
			6/25/2003	13	13
			9/26/2003	16	16
			12/10/2003	34	34
			3/9/2004	130	130
			6/24/2004	24	24
			9/15/2004	17	17
			12/15/2004	26	26
			3/16/2005	29	29
			6/15/2005	26	26
			9/21/2005	19	19
			12/21/2005	23	23
			3/15/2006	19	19
			6/21/2006	21	21
			12/20/2006	42	42
			6/12/2007	3	3
			12/17/2007	28	28
			6/11/2008	27	27
			12/3/2008	11	11
			6/17/2009	16	16
			12/9/2009	12	12
			6/17/2010	45	45
			12/22/2010	25.8	25.8
			6/29/2011	34.2	34.2
			12/7/2011	37.4	37.4
			6/6/2012	38.3	38.3
			12/12/2012	25.8	25.8
			6/19/2013	61.6	61.6
			12/11/2013	26.5	26.5
			6/11/2014	56.2	56.2
			12/3/2014	36	36
			6/17/2015	109	109
			12/1/2015	81	81
			6/22/2016	58.5	58.5
			12/20/2016	66.6	66.6
			6/6/2017	18.2	18.2
			11/7/2017	80.3	80.3
MW#03-1	28	0 (0%)	6/24/2004	42	42
			9/15/2004	76	76

			12/15/2004	62	62
			3/16/2005	22	22
			6/15/2005	23	23
			9/21/2005	17	17
			12/20/2006	55	55
			6/12/2007	88	88
			12/17/2007	120	120
			6/11/2008	23	23
			12/3/2008	90	90
			6/17/2009	21	21
			12/9/2009	15	15
			6/17/2010	16	16
			12/22/2010	22.9	22.9
			6/29/2011	21.6	21.6
			12/7/2011	18.1	18.1
			6/6/2012	14.3	14.3
			6/19/2013	16.2	16.2
			12/11/2013	29.1	29.1
			6/11/2014	127	127
			12/3/2014	19.7	19.7
			6/17/2015	7.86	7.86
			12/1/2015	12.1	12.1
			6/22/2016	10.3	10.3
			12/20/2016	30.9	30.9
			6/6/2017	8.92	8.92
			11/7/2017	14.4	14.4
MW#03-2	31	0 (0%)	6/24/2004	72	72
			9/15/2004	32	32
			12/15/2004	54	54
			3/16/2005	78	78
			6/15/2005	23	23
			9/21/2005	80	80
			12/21/2005	72	72
			3/15/2006	30	30
			12/20/2006	34	34
			6/12/2007	68	68
			12/17/2007	130	130
			6/11/2008	67	67
			12/3/2008	210	210
			6/17/2009	84	84
			12/9/2009	80	80
			6/17/2010	106	106
			12/22/2010	98.9	98.9
			6/29/2011	101	101
			12/7/2011	98.8	98.8
			6/6/2012	107	107
			12/12/2012	111	111
			6/19/2013	113	113
			12/11/2013	106	106
			6/11/2014	10.3	10.3
			12/3/2014	158	158
			6/17/2015	179	179
			12/1/2015	197	197
			6/22/2016	254	254
			12/20/2016	451	451
			6/6/2017	332	332

			11/7/2017	516	516

There are 0 unused wells

Well	Samples	ND	Date	Result	Original

Shapiro-Francia Test of Normality

Parameter: Sulfate

All Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit
Total Sample Size = 265

i	x(i)	m(i)	sum(m^2)	sum(mx)
0	0	0	0	0
1	2	-2.74777	7.55021	-5.49553
2	3	-2.45727	13.5884	-12.8673
3	3	-2.29036	18.8342	-19.7384
4	3	-2.17009	23.5435	-26.2487
5	4	-2.09693	27.9406	-34.6364
6	6	-2.01409	31.9972	-46.721
7	7	-1.94314	35.7729	-60.3229
8	7.86	-1.88079	39.3103	-75.106
9	8	-1.83843	42.6901	-89.8134
10	8	-1.78661	45.8821	-104.106
11	8	-1.7392	48.9069	-118.02
12	8	-1.6954	51.7813	-131.583
13	8.92	-1.66456	54.552	-146.431
14	9	-1.62576	57.1951	-161.063
15	10	-1.58927	59.7209	-176.955
16	10	-1.55477	62.1382	-192.503
17	10	-1.53007	64.4793	-207.804
18	10	-1.49852	66.7249	-222.789
19	10	-1.46838	68.881	-237.473
20	10	-1.43953	70.9533	-251.868
21	10	-1.41865	72.9659	-266.055
22	10	-1.39175	74.9028	-279.972
23	10	-1.36581	76.7682	-293.63
24	10	-1.34075	78.5659	-307.038
25	10	-1.32251	80.3149	-320.263
26	10.3	-1.29884	82.0019	-333.641
27	10.3	-1.27588	83.6297	-346.782
28	11	-1.25357	85.2011	-360.572
29	11	-1.23187	86.7186	-374.122
30	11	-1.21596	88.1972	-387.498
31	12	-1.19522	89.6257	-401.84
32	12	-1.17499	91.0063	-415.94
33	12.1	-1.15522	92.3409	-429.918
34	13	-1.14069	93.6421	-444.747
35	13	-1.12168	94.9002	-459.329
36	14	-1.10306	96.117	-474.772
37	14.3	-1.08482	97.2938	-490.285
38	14.4	-1.07138	98.4417	-505.713
39	15	-1.05375	99.552	-521.519
40	15	-1.03643	100.626	-537.065
41	16	-1.01943	101.665	-553.376
42	16	-1.00687	102.679	-569.486
43	16	-0.990356	103.66	-585.332
44	16.2	-0.974114	104.609	-601.112
45	17	-0.958125	105.527	-617.401
46	17	-0.946291	106.422	-633.488

47	18	-0.930718	107.289	-650.24
48	18.1	-0.915365	108.127	-666.809
49	18.2	-0.900227	108.937	-683.193
50	19	-0.889006	109.727	-700.084
51	19	-0.874218	110.492	-716.694
52	19	-0.859618	111.23	-733.027
53	19.7	-0.845198	111.945	-749.677
54	20	-0.830953	112.635	-766.296
55	21	-0.820379	113.308	-783.524
56	21	-0.806422	113.959	-800.459
57	21.6	-0.792618	114.587	-817.579
58	22	-0.778966	115.194	-834.717
59	22	-0.768821	115.785	-851.631
60	22.9	-0.755415	116.355	-868.93
61	23	-0.742143	116.906	-885.999
62	23	-0.729003	117.438	-902.766
63	23	-0.719228	117.955	-919.308
64	23	-0.706302	118.454	-935.553
65	24	-0.693493	118.935	-952.197
66	25.8	-0.680797	119.398	-969.762
67	25.8	-0.671346	119.849	-987.082
68	26	-0.658838	120.283	-1004.21
69	26	-0.646431	120.701	-1021.02
70	26.5	-0.634124	121.103	-1037.82
71	27	-0.624956	121.494	-1054.7
72	28	-0.612813	121.869	-1071.86
73	29	-0.60076	122.23	-1089.28
74	29.1	-0.588793	122.577	-1106.41
75	30	-0.579873	122.913	-1123.81
76	30.9	-0.568052	123.236	-1141.36
77	32	-0.556308	123.545	-1159.16
78	34	-0.544642	123.842	-1177.68
79	34	-0.53594	124.129	-1195.9
80	34.2	-0.524401	124.404	-1213.84
81	36	-0.51293	124.667	-1232.3
82	37.4	-0.501527	124.919	-1251.06
83	38.3	-0.490189	125.159	-1269.83
84	42	-0.481728	125.391	-1290.07
85	42	-0.470498	125.612	-1309.83
86	45	-0.459327	125.823	-1330.5
87	45	-0.448213	126.024	-1350.67
88	54	-0.439913	126.218	-1374.42
89	55	-0.428895	126.402	-1398.01
90	56.2	-0.417928	126.576	-1421.5
91	58.5	-0.40701	126.742	-1445.31
92	61.6	-0.398855	126.901	-1469.88
93	62	-0.388022	127.052	-1493.94
94	66.6	-0.377233	127.194	-1519.06
95	67	-0.36649	127.328	-1543.61
96	68	-0.358459	127.457	-1567.99
97	72	-0.347787	127.578	-1593.03
98	72	-0.337155	127.691	-1617.31
99	76	-0.326561	127.798	-1642.12
100	78	-0.318639	127.9	-1666.98
101	80	-0.308108	127.994	-1691.63
102	80	-0.297612	128.083	-1715.44
103	80.3	-0.287147	128.165	-1738.49

104	81	-0.279319	128.244	-1761.12
105	84	-0.268908	128.316	-1783.71
106	88	-0.258527	128.383	-1806.46
107	90	-0.248174	128.444	-1828.79
108	98.8	-0.237847	128.501	-1852.29
109	98.9	-0.230118	128.554	-1875.05
110	101	-0.219834	128.602	-1897.25
111	106	-0.209575	128.646	-1919.47
112	106	-0.199336	128.686	-1940.6
113	107	-0.191671	128.722	-1961.11
114	109	-0.181468	128.755	-1980.89
115	111	-0.171285	128.785	-1999.9
116	113	-0.161119	128.811	-2018.11
117	114	-0.153505	128.834	-2035.61
118	120	-0.143367	128.855	-2052.81
119	127	-0.133244	128.873	-2069.73
120	130	-0.123135	128.888	-2085.74
121	130	-0.115562	128.901	-2100.76
122	158	-0.105474	128.912	-2117.43
123	160	-0.0953969	128.921	-2132.69
124	179	-0.0853288	128.929	-2147.97
125	185	-0.0777834	128.935	-2162.36
126	195	-0.0677301	128.939	-2175.56
127	197	-0.0576847	128.943	-2186.93
128	210	-0.0476439	128.945	-2196.93
129	215	-0.0401167	128.946	-2205.56
130	230	-0.0300838	128.947	-2212.48
131	240	-0.0200544	128.948	-2217.29
132	250	-0.0100272	128.948	-2219.8
133	250	0	128.948	-2219.8
134	254	0.0100272	128.948	-2217.25
135	255	0.0200544	128.948	-2212.13
136	260	0.0300838	128.949	-2204.31
137	260	0.0401167	128.951	-2193.88
138	265	0.0476439	128.953	-2181.26
139	270	0.0576847	128.956	-2165.68
140	272	0.0677301	128.961	-2147.26
141	275	0.0777834	128.967	-2125.87
142	275	0.0853288	128.974	-2102.4
143	275	0.0953969	128.983	-2076.17
144	278	0.105474	128.995	-2046.85
145	281	0.115562	129.008	-2014.38
146	286	0.123135	129.023	-1979.16
147	290	0.133244	129.041	-1940.52
148	290	0.143367	129.061	-1898.94
149	292	0.153505	129.085	-1854.12
150	299	0.161119	129.111	-1805.94
151	300	0.171285	129.14	-1754.56
152	300	0.181468	129.173	-1700.12
153	301	0.191671	129.21	-1642.42
154	304	0.199336	129.25	-1581.83
155	306	0.209575	129.294	-1517.7
156	306	0.219834	129.342	-1450.43
157	310	0.230118	129.395	-1379.09
158	316	0.237847	129.451	-1303.93
159	320	0.248174	129.513	-1224.51
160	320	0.258527	129.58	-1141.79

161	330	0.268908	129.652	-1053.05
162	332	0.279319	129.73	-960.313
163	340	0.287147	129.813	-862.683
164	350	0.297612	129.901	-758.519
165	350	0.308108	129.996	-650.681
166	360	0.318639	130.098	-535.971
167	373	0.326561	130.204	-414.163
168	375	0.337155	130.318	-287.73
169	375	0.347787	130.439	-157.31
170	388	0.358459	130.567	-18.2276
171	390	0.36649	130.702	124.703
172	390	0.377233	130.844	271.824
173	408	0.388022	130.995	430.138
174	409	0.398855	131.154	593.269
175	410	0.40701	131.319	760.144
176	420	0.417928	131.494	935.673
177	420	0.428895	131.678	1115.81
178	420	0.439913	131.872	1300.57
179	425	0.448213	132.072	1491.06
180	425	0.459327	132.283	1686.28
181	430	0.470498	132.505	1888.59
182	434	0.481728	132.737	2097.66
183	444	0.490189	132.977	2315.3
184	450	0.501527	133.229	2540.99
185	451	0.51293	133.492	2772.32
186	460	0.524401	133.767	3013.55
187	467	0.53594	134.054	3263.83
188	470	0.544642	134.351	3519.81
189	475	0.556308	134.66	3784.06
190	475	0.568052	134.983	4053.88
191	500	0.579873	135.319	4343.82
192	500	0.588793	135.666	4638.22
193	516	0.60076	136.027	4948.21
194	517	0.612813	136.402	5265.03
195	558	0.624956	136.793	5613.76
196	750	0.634124	137.195	6089.35
197	880	0.646431	137.613	6658.21
198	1500	0.658838	138.047	7646.47
199	1550	0.671346	138.498	8687.06
200	1700	0.680797	138.961	9844.41
201	1897	0.693493	139.442	11160
202	1900	0.706302	139.941	12501.9
203	2000	0.719228	140.458	13940.4
204	2000	0.729003	140.99	15398.4
205	2133	0.742143	141.54	16981.4
206	2150	0.755415	142.111	18605.5
207	2200	0.768821	142.702	20296.9
208	2300	0.778966	143.309	22088.6
209	2350	0.792618	143.937	23951.2
210	2360	0.806422	144.587	25854.4
211	2367	0.820379	145.26	27796.2
212	2400	0.830953	145.951	29790.5
213	2400	0.845198	146.665	31819
214	2460	0.859618	147.404	33933.6
215	2500	0.874218	148.168	36119.2
216	2500	0.889006	148.959	38341.7
217	2500	0.900227	149.769	40592.3

218	2510	0.915365	150.607	42889.8
219	2520	0.930718	151.473	45235.2
220	2550	0.946291	152.369	47648.3
221	2620	0.958125	153.287	50158.6
222	2630	0.974114	154.236	52720.5
223	2650	0.990356	155.216	55344.9
224	2650	1.00687	156.23	58013.1
225	2650	1.01943	157.27	60714.6
226	2700	1.03643	158.344	63513
227	2700	1.05375	159.454	66358.1
228	2700	1.07138	160.602	69250.8
229	2700	1.08482	161.779	72179.8
230	2750	1.10306	162.996	75213.2
231	2767	1.12168	164.254	78316.9
232	2790	1.14069	165.555	81499.4
233	2900	1.15522	166.889	84849.6
234	2900	1.17499	168.27	88257.1
235	2900	1.19522	169.699	91723.2
236	2933	1.21596	171.177	95289.6
237	2940	1.23187	172.695	98911.3
238	2950	1.25357	174.266	102609
239	2950	1.27588	175.894	106373
240	2967	1.29884	177.581	110227
241	3000	1.32251	179.33	114194
242	3000	1.34075	181.127	118217
243	3050	1.36581	182.993	122382
244	3050	1.39175	184.93	126627
245	3050	1.41865	186.942	130954
246	3100	1.43953	189.015	135417
247	3150	1.46838	191.171	140042
248	3200	1.49852	193.416	144837
249	3200	1.53007	195.757	149733
250	3200	1.55477	198.175	154709
251	3240	1.58927	200.701	159858
252	3250	1.62576	203.344	165142
253	3267	1.66456	206.114	170580
254	3300	1.6954	208.989	176175
255	3400	1.7392	212.014	182088
256	3400	1.78661	215.206	188162
257	3460	1.83843	218.585	194523
258	3600	1.88079	222.123	201294
259	3600	1.94314	225.899	208289
260	3630	2.01409	229.955	215601
261	3650	2.09693	234.352	223254
262	3800	2.17009	239.062	231501
263	4000	2.29036	244.307	240662
264	4300	2.45727	250.346	251228

Sample Standard Deviation = 1210.88
Numerator = 6.31157e+010
Denominator = 9.6905e+010 = 264 250.346
W Statistic = 0.651316
5% Critical value of 0.976 exceeds 0.651316
Evidence of non-normality at 95% level of significance
1% Critical value of 0.967 exceeds 0.651316
Evidence of non-normality at 99% level of significance

Levene's Test for Equal of Variance

Parameter: Sulfate

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Overall Mean = 177.529
Overall Std Dev = 339.364
Overall Total = 47045.2
SS Wells = 1.14375e+007
SS Total = 3.04044e+007

ANOVA Table

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	1.14375e+007	4	2.85938e+006	39.1967
Error (within wells)	1.89669e+007	260	72949.6	
Totals	3.04044e+007	264		

39.1967 exceeds 2.37; assumption of equal variance should be rejected

Well: MW#93-1	Sample	Residual
	12/15/1994	161.412
	3/14/1995	81.4118
	6/21/1995	393.588
	12/14/1995	36.4118
	3/6/1996	141.412
	4/25/1996	84.4118
	10/2/1996	56.4118
	12/10/1996	96.4118
	3/11/1997	78.4118
	4/15/1997	106.412
	8/14/1997	36.4118
	12/4/1997	3.58824
	3/31/1998	126.412
	6/23/1998	143.588
	8/11/1998	6.41176
	12/8/1998	86.4118
	3/9/1999	66.4118
	6/8/1999	51.5882
	8/19/1999	31.5882
	12/14/1999	46.4118
	3/7/2000	16.5882
	6/23/2000	53.5882
	12/12/2000	63.5882
	3/27/2001	6.41176
	6/28/2001	68.5882
	9/10/2001	33.5882
	12/18/2001	33.5882
	3/19/2002	68.5882
	6/26/2002	63.5882
	9/18/2002	160.588
	12/11/2002	73.5882
	3/13/2003	93.5882

6/25/2003	77.5882
9/26/2003	103.588
12/10/2003	113.588
3/9/2004	87.5882
6/24/2004	143.588
9/15/2004	118.588
12/15/2004	201.588
3/16/2005	523.588
6/15/2005	334.412
9/21/2005	110.588
12/21/2005	118.588
3/15/2006	18.5882
6/21/2006	63.5882
12/20/2006	26.4118
6/12/2007	96.4118
12/17/2007	56.4118
6/11/2008	18.5882
12/3/2008	16.4118
6/17/2009	116.412
12/9/2009	196.412
6/17/2010	66.4118
12/22/2010	52.4118
6/29/2011	50.4118
12/7/2011	101.412
6/6/2012	81.4118
12/12/2012	55.4118
6/19/2013	52.5882
12/11/2013	50.4118
6/11/2014	40.4118
12/3/2014	64.4118
6/17/2015	70.4118
12/1/2015	57.4118
6/22/2016	106.412
12/20/2016	81.4118
6/6/2017	91.4118
11/7/2017	75.4118

Well: MW#93-2

Sample	Residual
12/15/1994	743.286
3/14/1995	1193.29
6/21/1995	2558.29
12/14/1995	376.286
3/6/1996	593.286
4/25/1996	743.286
10/2/1996	523.714
12/10/1996	1256.71
3/11/1997	1043.29
4/15/1997	1243.29
8/14/1997	906.714
12/4/1997	1556.71
3/31/1998	243.286
6/23/1998	506.714
8/11/1998	306.714
12/8/1998	306.714
3/9/1999	856.714
6/8/1999	406.714
8/19/1999	846.286

12/14/1999	243.286
3/7/2000	656.714
6/23/2000	656.714
12/12/2000	256.714
3/27/2001	610.286
6/28/2001	6.71429
9/10/2001	93.2857
12/18/2001	206.714
3/19/2002	223.714
6/26/2002	306.714
9/18/2002	156.714
12/11/2002	189.714
3/13/2003	156.714
6/25/2003	43.2857
9/26/2003	23.7143
12/10/2003	43.2857
3/9/2004	193.286
6/24/2004	93.2857
9/15/2004	43.2857
12/15/2004	206.714
3/16/2005	456.714
6/15/2005	93.2857
9/21/2005	456.714
12/21/2005	456.714
3/15/2006	256.714
6/21/2006	43.2857
12/20/2006	243.286
2/21/2007	843.286
6/12/2007	343.286
12/17/2007	356.714
6/11/2008	393.286
12/3/2008	556.714
12/15/2008	343.286
6/17/2009	443.286
12/9/2009	543.286
6/17/2010	156.714
12/22/2010	716.714
6/29/2011	113.286
12/7/2011	223.286
6/6/2012	383.286
12/12/2012	496.714
6/19/2013	233.286
12/11/2013	283.286
6/11/2014	46.7143
12/3/2014	196.714
6/17/2015	2629.29
12/1/2015	856.714
6/22/2016	123.286
12/20/2016	1056.71
6/6/2017	886.714
11/7/2017	1596.71

Well: MW#93-3

Sample	Residual
12/15/1994	14.8588
3/14/1995	14.8588
6/21/1995	14.8588
12/14/1995	14.8588

3/6/1996	14.8588
4/25/1996	14.8588
10/2/1996	13.8588
12/10/1996	14.8588
3/11/1997	12.8588
4/15/1997	9.85882
8/14/1997	13.8588
12/4/1997	16.8588
3/31/1998	20.1412
6/23/1998	20.8588
8/11/1998	15.8588
12/8/1998	22.8588
3/9/1999	14.8588
6/8/1999	21.8588
8/19/1999	14.8588
12/14/1999	14.8588
3/7/2000	11.8588
6/23/2000	10.8588
12/12/2000	17.8588
3/27/2001	21.8588
6/28/2001	14.8588
9/10/2001	4.85882
12/18/2001	5.85882
3/19/2002	16.8588
6/26/2002	16.8588
9/18/2002	16.8588
12/11/2002	18.8588
3/13/2003	6.85882
6/25/2003	11.8588
9/26/2003	8.85882
12/10/2003	9.14118
3/9/2004	105.141
6/24/2004	0.858824
9/15/2004	7.85882
12/15/2004	1.14118
3/16/2005	4.14118
6/15/2005	1.14118
9/21/2005	5.85882
12/21/2005	1.85882
3/15/2006	5.85882
6/21/2006	3.85882
12/20/2006	17.1412
6/12/2007	21.8588
12/17/2007	3.14118
6/11/2008	2.14118
12/3/2008	13.8588
6/17/2009	8.85882
12/9/2009	12.8588
6/17/2010	20.1412
12/22/2010	0.941176
6/29/2011	9.34118
12/7/2011	12.5412
6/6/2012	13.4412
12/12/2012	0.941176
6/19/2013	36.7412
12/11/2013	1.64118
6/11/2014	31.3412

12/3/2014	11.1412
6/17/2015	84.1412
12/1/2015	56.1412
6/22/2016	33.6412
12/20/2016	41.7412
6/6/2017	6.65882
11/7/2017	55.4412

Well: MW#03-1	Sample	Residual
	6/24/2004	5.45071
	9/15/2004	39.4507
	12/15/2004	25.4507
	3/16/2005	14.5493
	6/15/2005	13.5493
	9/21/2005	19.5493
	12/20/2006	18.4507
	6/12/2007	51.4507
	12/17/2007	83.4507
	6/11/2008	13.5493
	12/3/2008	53.4507
	6/17/2009	15.5493
	12/9/2009	21.5493
	6/17/2010	20.5493
	12/22/2010	13.6493
	6/29/2011	14.9493
	12/7/2011	18.4493
	6/6/2012	22.2493
	6/19/2013	20.3493
	12/11/2013	7.44929
	6/11/2014	90.4507
	12/3/2014	16.8493
	6/17/2015	28.6893
	12/1/2015	24.4493
	6/22/2016	26.2493
	12/20/2016	5.64929
	6/6/2017	27.6293
	11/7/2017	22.1493

Well: MW#03-2	Sample	Residual
	6/24/2004	58.7419
	9/15/2004	98.7419
	12/15/2004	76.7419
	3/16/2005	52.7419
	6/15/2005	107.742
	9/21/2005	50.7419
	12/21/2005	58.7419
	3/15/2006	100.742
	12/20/2006	96.7419
	6/12/2007	62.7419
	12/17/2007	0.741935
	6/11/2008	63.7419
	12/3/2008	79.2581
	6/17/2009	46.7419
	12/9/2009	50.7419
	6/17/2010	24.7419
	12/22/2010	31.8419

6/29/2011	29.7419
12/7/2011	31.9419
6/6/2012	23.7419
12/12/2012	19.7419
6/19/2013	17.7419
12/11/2013	24.7419
6/11/2014	120.442
12/3/2014	27.2581
6/17/2015	48.2581
12/1/2015	66.2581
6/22/2016	123.258
12/20/2016	320.258
6/6/2017	201.258
11/7/2017	385.258

Non-Parametric Prediction Interval

Inter-Well Comparison

Parameter: Sulfate

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 3.01887%
Number of comparisons = 4
Future Samples (k) = 4
Recent Dates = 1
Background Samples (n) = 68
Maximum Background Concentration = 880
Confidence Level = 94.4%
False Positive Rate = 5.6%

Well	Date	Samples	Mean	Impacted
MW#93-2	11/7/2017	1	4340	TRUE
MW#93-3	11/7/2017	1	80.3	FALSE
MW#03-1	11/7/2017	1	14.4	FALSE
MW#03-2	11/7/2017	1	516	FALSE

Non-Parametric Prediction Interval

Intra-Well Comparison for MW#93-2

Parameter: Sulfate

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Total Percent Non-Detects = 0%
Future Samples (k) = 1
Recent Dates = 1
Baseline Samples (n) = 69
Maximum Baseline Concentration = 4300
Confidence Level = 98.6%
False Positive Rate = 1.4%

Baseline Samples	Date	Result
	12/15/1994	2000
	3/14/1995	1550
	6/21/1995	185
	12/14/1995	2367
	3/6/1996	2150
	4/25/1996	2000
	10/2/1996	3267
	12/10/1996	4000
	3/11/1997	1700
	4/15/1997	1500
	8/14/1997	3650
	12/4/1997	4300
	3/31/1998	2500
	6/23/1998	3250
	8/11/1998	3050
	12/8/1998	3050
	3/9/1999	3600
	6/8/1999	3150
	8/19/1999	1897
	12/14/1999	2500
	3/7/2000	3400
	6/23/2000	3400
	12/12/2000	3000
	3/27/2001	2133
	6/28/2001	2750
	9/10/2001	2650
	12/18/2001	2950
	3/19/2002	2967
	6/26/2002	3050
	9/18/2002	2900
	12/11/2002	2933
	3/13/2003	2900
	6/25/2003	2700
	9/26/2003	2767
	12/10/2003	2700
	3/9/2004	2550
	6/24/2004	2650
	9/15/2004	2700
	12/15/2004	2950
	3/16/2005	3200
	6/15/2005	2650

9/21/2005	3200
12/21/2005	3200
3/15/2006	3000
6/21/2006	2700
12/20/2006	2500
2/21/2007	1900
6/12/2007	2400
12/17/2007	3100
6/11/2008	2350
12/3/2008	3300
12/15/2008	2400
6/17/2009	2300
12/9/2009	2200
6/17/2010	2900
12/22/2010	3460
6/29/2011	2630
12/7/2011	2520
6/6/2012	2360
12/12/2012	3240
6/19/2013	2510
12/11/2013	2460
6/11/2014	2790
12/3/2014	2940
6/17/2015	114
12/1/2015	3600
6/22/2016	2620
12/20/2016	3800
6/6/2017	3630

Date	Samples	Mean	Impacted
11/7/2017	1	4340	TRUE

Attachment 3

Groundwater Sampling and Analysis Data

GRDA GROUNDWATER SAMPLING

DATE: 09/22/17

Logbook Entry By: wsh
Reviewed By: MB
Final Review By: _____

Well Number	Total Depth	TOC Elev.	Depth to Water Level	Stabilized Water Level
MW93-1	15.6'	619.83	11.3	608.53
MW93-2	22.2'	607.62	7.1	600.52
MW93-3	27.3'	608.10	12.1	596.00
MW03-1	12.3'	602.87	10.7	592.17
MW03-2	26.9'	607.82	15.1	592.71
F0-8				

Date Sampled	Time Sampled	Sampler
9/22/17	1006	wsh
9/22/17	1021	wsh
9/22/17	1026	wsh
9/22/17	1055	wsh/ev
9/22/17	1044	wsh/ev

Date Sample Analyzed	Time Sample Analyzed	Analyst	Temp. ° C	pH	Specific Conductivity	ORP mv	Fluoride mg/L	Boron mg/L
9/22/17	1006	wsh	24.4	6.70	1203	21.4	0.110	0.499
9/22/17	1021	wsh	25.0	9.01	11.32	-35.1	0.510	2.480
9/22/17	1026	wsh	21.8	6.82	2,242	-34.0	0.200	0.118
9/22/17	1055	wsh	22.9	7.30	463	-14.4	0.100	0.025
9/22/17	1044	wsh	22.0	6.83	1,694	-16.0	< .10	< .025

Well Number	Chloride mg/L	Nitrate-Nitrogen mg/L	Sulfate mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Calcium mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Potassium mg/L	Dissolved Selenium mg/L	Dissolved Sodium mg/L	Alkalinity mg/L	COD mg/L	Hardness mg/L	Total Phosphorus mg/L	TDS mg/L	TOC mg/L	Total Residue mg/L
MW93-1																		
MW93-2																		
MW93-3											369							
MW03-1																		
MW03-2	188																	

GRDA GROUNDWATER SAMPLING

DATE: 11/07/17

Logbook Entry By: wsh
Reviewed By:
Final Review By:

Well Number	Total Depth	TOC Elev.	Depth to Water Level	Stabilized Water Level
MW93-1	15.6'	619.83	11.1	608.73
MW93-2	22.2'	607.62	8.0	599.62
MW93-3	27.3'	608.10	12.3	595.80
MW03-1	12.3'	602.87	10.3	592.57
MW03-2	26.9'	607.82	15.4	592.42
F0-8				

Date Sampled	Time Sampled	Sampler
11/7/17	1023	bs/cb
11/7/17	1038	bs/cb
11/7/17	1048	bs/cb
11/7/17	1118	bs/cb
11/7/17	1058	bs/cb

Date Sample Analyzed	Time Sample Analyzed	Analyst	Temp. ° C	pH	Specific Conductivity	ORP mv	Fluoride mg/L	Boron mg/L
11/7/17	1023	bs/cb	18.5	6.21	1458	-51.0	0.120	0.460
11/7/17	1038	bs/cb	18.7	8.86	10.52	-44.5	<.10	2.180
11/7/17	1048	bs/cb	17.3	6.46	2,121	-39.8	0.200	<.100
11/7/17	1118	bs/cb	16.5	6.44	444	-42.2	0.120	<.100
11/7/17	1058	bs/cb	15.9	6.22	2,042	-38.2	0.100	<.100

Well Number	Chloride mg/L	Nitrate-Nitrogen mg/L	Sulfate mg/L	Dissolved Arsenic mg/L	Dissolved Barium mg/L	Dissolved Calcium mg/L	Dissolved Copper mg/L	Dissolved Iron mg/L	Dissolved Potassium mg/L	Dissolved Selenium mg/L	Dissolved Sodium mg/L	Alkalinity mg/L	COD mg/L	Hardness mg/L	Total Phosphorus mg/L	TDS mg/L	TOC mg/L	Total Residue mg/L
MW93-1	16.2	<.25	281	<.005	0.015	212.00	<.010	<.075	<.25	<.005	45.2	394	<15	598	<.025	878	3.46	896
MW93-2	1160	<.25	4340	0.028	0.061	68.50	<.010	<.075	246	0.015	2750	430	148	183	0.484	7820	12.3	9360
MW93-3	402	0.96	80.3	<.005	0.227	80.20	<.010	<.075	3.73	<.005	368	409	<15	275	0.056	1250	3.15	1220
MW03-1	1.13		14.4	<.005							17.6	217						
MW03-2	288		516	<.005							120	192						