

Updated Trend Analysis for Petronila Creek Above Tidal Implementation-Plan (I-Plan) for Three Total Maximum Daily Loads for Chloride, Sulfate, and Total Dissolved Solids (TDS) 2007 - 2018

INTRODUCTION

The water quality data analysis that was conducted on three historic monitoring sites (Figure 1 – green dots) on the main stem as part of the 2014 I-Plan Revision included data from 1971 to 2012. Two sets of data graphs were created – one for the full date range and one from 2007 (date of the initial I-Plan) to 2012. The first updated analysis, completed in September 2016, added data collected in 2013 through 2015 and noted any changes in the 2007 – 2012 trends. The second updated analysis, completed in October 2017, added data collected through 2016. The third updated analysis, completed in September 2018, added data collected through 2017. For this updated analysis, data collected in 2018 have been added to the trend analysis. The tables below show the 2007 – 2012, 2007 – 2016, 2007 -2017, and 2007-2018 trend analysis results and the 2015 through 2018 rainfall correlations.

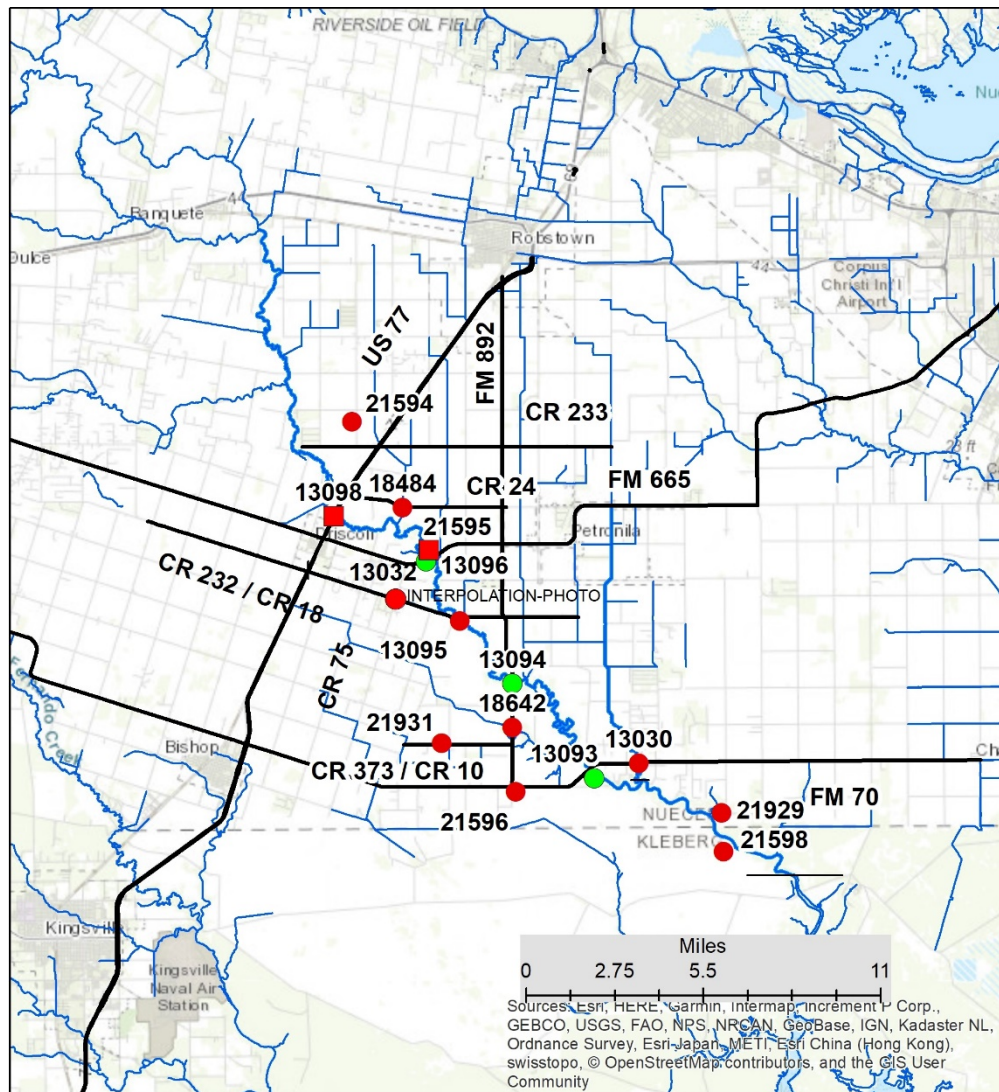


Figure 1. Monitoring Sites

MAIN STEM ANALYSIS

It should be noted that the accuracy of the trend analysis increases with each additional year of monitoring. Ten years is an accepted minimum, but for the purpose of this update, Station 13093 has nine years of data (beginning in 2010 because of no sampling in 2006 through 2009) and 13094 and 13096 each have at least ten years of data. The trend analysis used the Excel graphing option to 'Add Trendline' to determine the R^2 value. The larger the value, the greater the trend. Values <0.050 are not considered to have a trend. The Excel 'Correlation' function was used to determine if rainfall played a role in concentrations values. The closer the absolute value is to 1, the greater the correlation. Rainfall recorded at Kingsville (<https://www.usclimatedata.com/climate/kingsville/texas/United-States/ustx0697>) was used for the analysis. The raw data is included in Appendix A.

The tables below show the 2007 – 2012, 2007 – 2016, 2007 -2017, and 2007-2018 trend analysis results and the 2015 through 2018 rainfall correlations.

Chlorides – Standard 1,500 mg/l

Figure 2 is a graph of the yearly chloride averages from 2007 through 2018 along with the total yearly rainfall. Table 1 shows the trend analysis for the chloride yearly averages and Table 2 shows the rainfall correlation with the chloride yearly averages. The analysis shows that there is an inverse relationship between rainfall and chloride concentrations at all stations. For Station 13093, the over trend has changed from increasing in 2012 to decreasing in 2016 through 2018. For Station 13094, the over trend has changed from no trend in 2012 to decreasing in 2016 through 2018. For Station 13096, the over trend has changed from increasing in 2012 to decreasing in 2016 to no trend in 2017 and 2018.

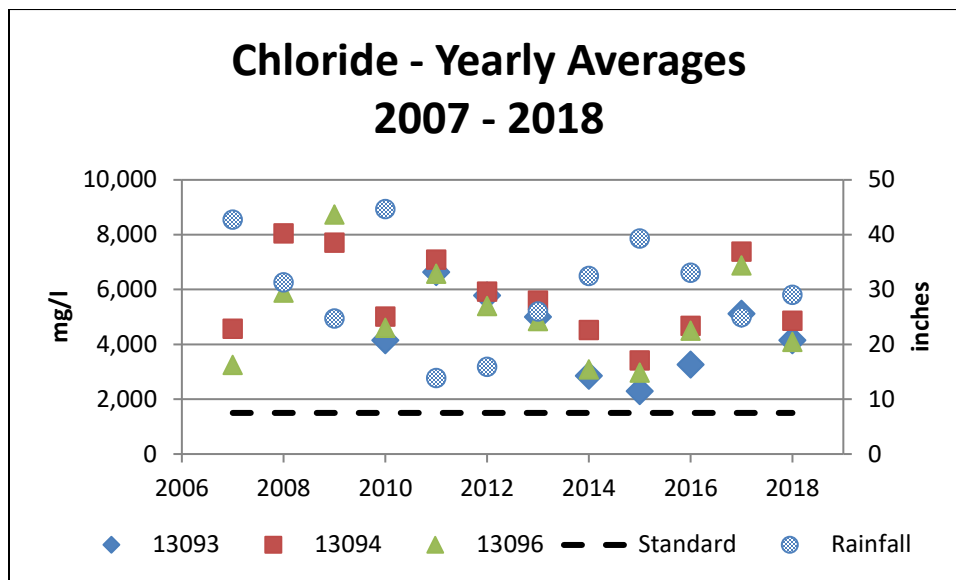


Figure 2. Chloride Yearly Averages

Table 1: Statistical Analysis of Annual Chloride Averages

	13093	13094	13096
2007 – 2012	Increasing: $R^2 = 0.418$	No Trend: $R^2 = 0.002$	Increasing: $R^2 = 0.062$
2007 – 2016	Decreasing: $R^2 = 0.474$	Decreasing: $R^2 = 0.318$	Decreasing: $R^2 = 0.152$
2007 – 2017	Decreasing: $R^2 = 0.193$	Decreasing: $R^2 = 0.084$	No Trend: $R^2 = 0.026$
2007 – 2018	Decreasing: $R^2 = 0.158$	Decreasing: $R^2 = 0.115$	No Trend: $R^2 = 0.050$

Table 2: Annual Rainfall Correlation with Annual Chloride Averages

	13093	13094	13096
2007 – 2015	-0.809	-0.586	-0.606
2007 – 2016	-0.809	-0.588	-0.610
2007 – 2017	-0.813	-0.602	-0.622
2007 – 2018	-0.812	-0.607	-0.607

Sulfate – Standard 500 mg/l

Figure 3 is a graph of the yearly sulfate averages from 2007 through 2018 along with the total yearly rainfall. Table 3 shows the trend analysis for the sulfate yearly averages and Table 4 shows the rainfall correlation with the sulfate yearly averages. The analysis shows that there is an inverse relationship between rainfall and TDS concentrations at all stations. For Station 13093, the over trend has changed from increasing in 2012 to decreasing in 2016 through 2018. For Station 13094, the over trend has changed from no trend in 2012 to decreasing in 2016 through 2018. For Station 13096, the over trend has changed from increasing in 2012 to decreasing in 2016 to no trend in 2017 and 2018.

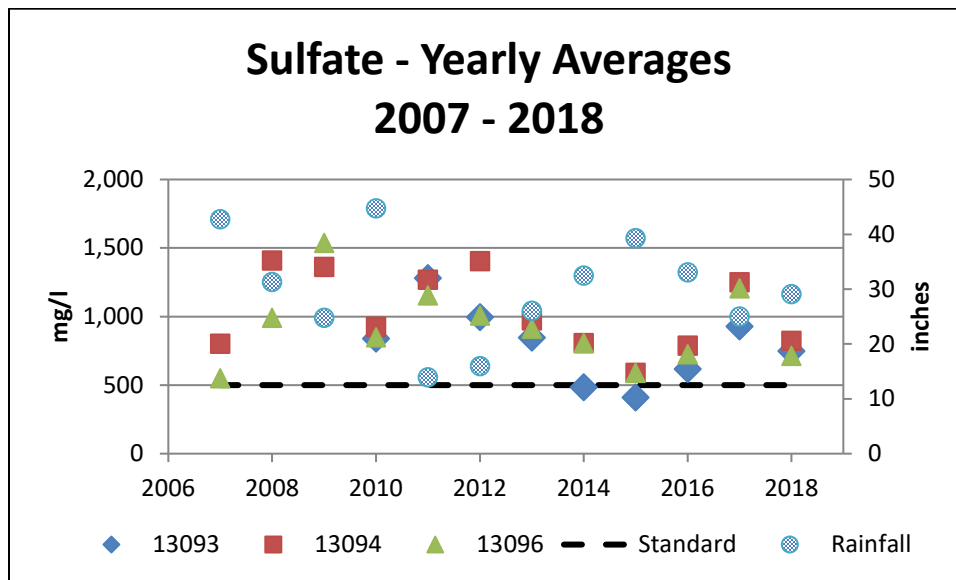


Figure 3. Sulfate Yearly Averages

Table 3: Statistical Analysis of Annual Sulfate Averages

	13093	13094	13096
2007 – 2012	Increasing: $R^2 = 0.120$	Increasing: $R^2 = 0.189$	Increasing: $R^2 = 0.116$
2007 – 2016	Decreasing: $R^2 = 0.547$	Decreasing: $R^2 = 0.259$	Decreasing: $R^2 = 0.094$
2007 – 2017	Decreasing: $R^2 = 0.241$	Decreasing: $R^2 = 0.101$	No Trend: $R^2 = 0.010$
2007 – 2018	Decreasing: $R^2 = 0.198$	Decreasing: $R^2 = 0.146$	No Trend: $R^2 = 0.038$

Table 4: Annual Rainfall Correlation with Annual Sulfate Averages

Trends	13093	13094	13096
2007 – 2015	-0.717	-0.711	-0.656
2007 – 2016	-0.724	-0.704	-0.656
2007 – 2017	-0.730	-0.714	-0.667
2007 – 2018	-0.729	-0.689	-0.643

TDS – Standard 4000 mg/l

Figure 4 is a graph of the yearly TDS averages from 2007 through 2018 along with the total yearly rainfall. Table 5 shows the trend analysis for the TDS yearly averages and Table 6 shows the rainfall correlation with the TDS yearly averages. The analysis shows that there is an inverse relationship between rainfall and TDS concentrations at all stations. For Station 13093, the over trend has changed from increasing in 2012 to decreasing in 2016 through 2018. For Station 13094, the over trend has changed from no trend in 2012 to decreasing in 2016 through 2018. For Station 13096, the over trend has changed from increasing in 2012 to no trend in 2016 through 2018.

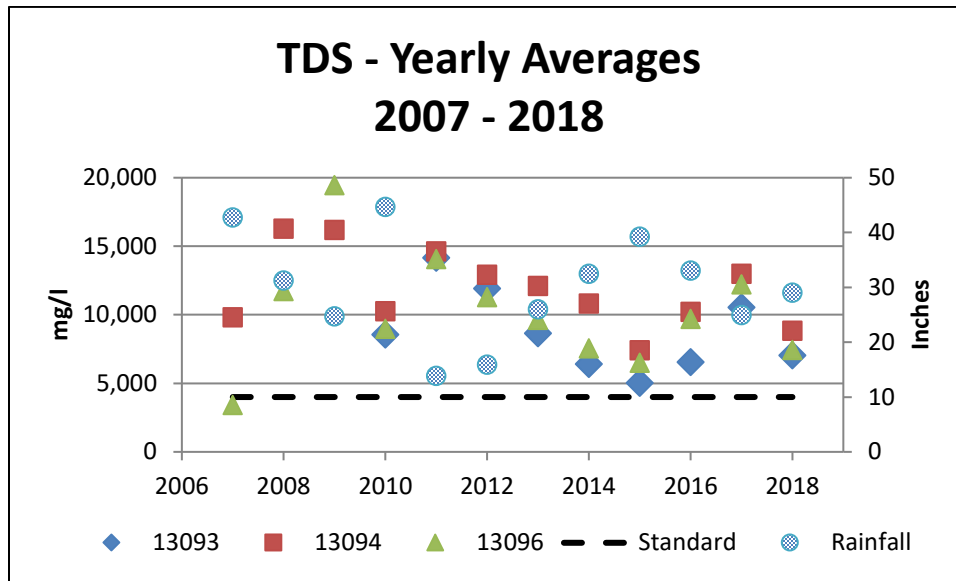


Figure 4. TDS Yearly Averages

Table 5: Statistical Analysis of Annual TDS Averages

	13093	13094	13096
2007 – 2012	Increasing: $R^2 = 0.354$	No Trend: $R^2 = 0.009$	Increasing: $R^2 = 0.130$
2007 – 2016	Decreasing: $R^2 = 0.500$	Decreasing: $R^2 = 0.262$	No Trend: $R^2 = 0.028$
2007 – 2017	Decreasing: $R^2 = 0.200$	Decreasing: $R^2 = 0.153$	No Trend: $R^2 = 0.005$
2007 – 2018	Decreasing: $R^2 = 0.235$	Decreasing: $R^2 = 0.235$	No Trend: $R^2 = 0.027$

Table 6: Annual Rainfall Correlation with Annual TDS Averages

Trends	13093	13094	13096
2007 – 2015	-0.811	-0.642	-0.652
2007 – 2016	-0.810	-0.643	-0.653
2007 – 2017	-0.814	-0.648	-0.661
2007 – 2018	-0.796	-0.600	-0.641

TRIBUTARY ANALYSIS

Monitoring on the tributaries to Petronila Creek began in FY 2015. Nine sites were monitored in FY 2015, seven sites in FY 2016, and ten sites in FY 2017 through FY 2019. The red dots in Figure 1 are the ten sites currently being monitored. The two red squares are additional sites that were monitored, but dropped because all the measured chloride, sulfate, and TDS values were consistently below the standards.

The following pages contain graphs of the chloride, sulfate, and TDS sampling results from FY 2015 through FY 2019. An inverse relationship between conductivity and rainfall are apparent at most sites (Table 6). Because the sampling was conducted monthly, allowing for more data points, trend analysis was conducted on all sites. The number of samples varies between stations because at times a site may have been dry, the pool was too small to sample, or the site was too muddy for access. The ↑ symbol in the table below indicates an increasing trend; the ↓ symbol indicates a decreasing trend; and the ↔ symbol indicates no trend ($R^2 < 0.050$).

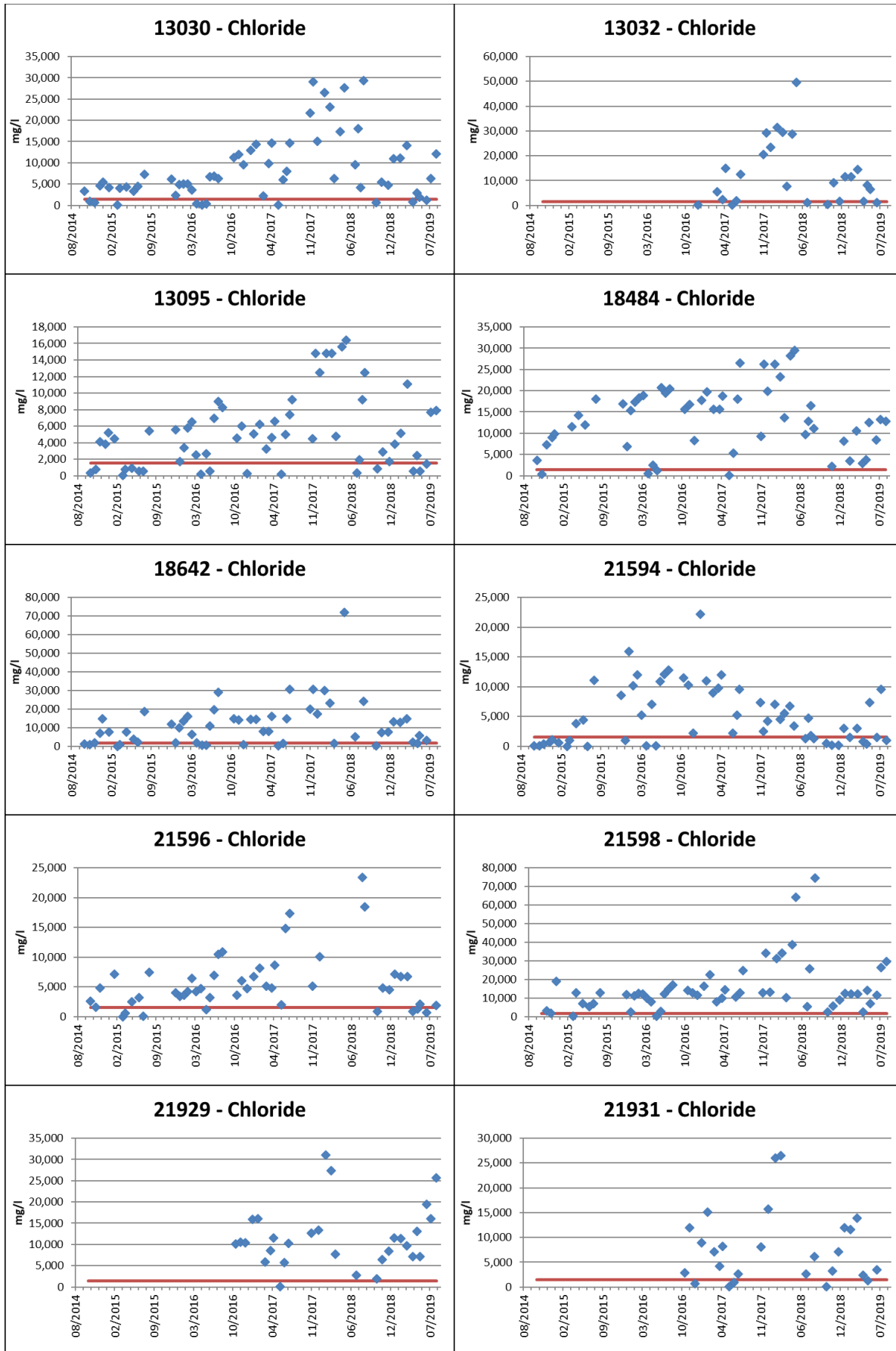
The highlighted cells indicate a change from the previous update. For Station 13030, the trend for TDS changed from increasing to no trend. For Station 13032, the trends for chloride, sulfate, and TDS changed from increasing to no trend. For Station 13095, the trend for TDS changed from increasing to no trend. For Station 18484, the trend for chloride changed from increasing to no trend. For Station 18642, the trends for chloride and TDS changed from increasing to no trend. For Station 21596, the trends for chloride and TDS changed from increasing to no trend. For Station 21929, the trend for sulfate changed from decreasing to increasing and the trend for TDS changed from decreasing to no trend. For Station 21931, the trends for chloride and sulfate changed from increasing to no trend.

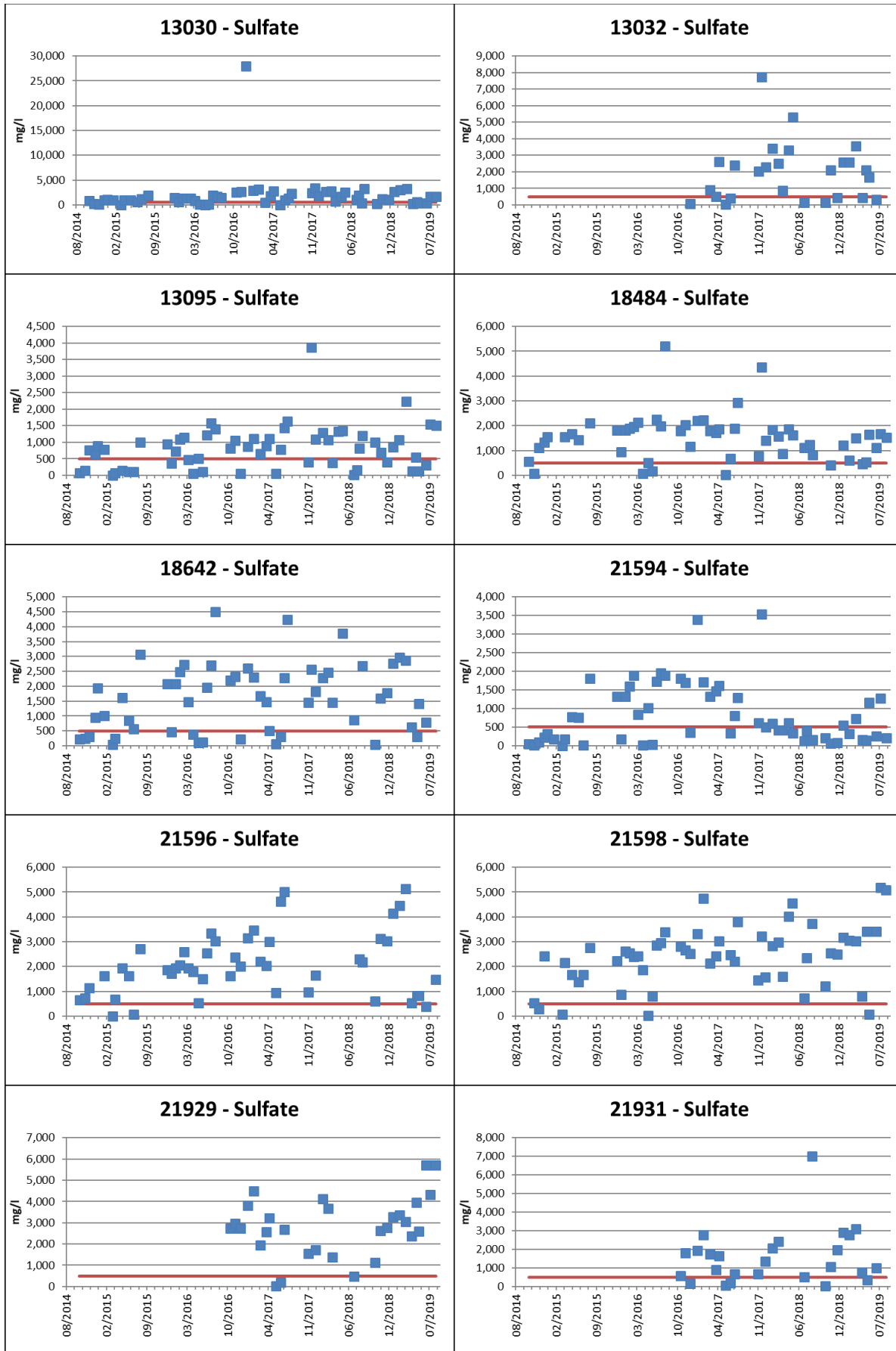
Table 7: Conductivity vs Previous 21-day rainfall and Trend Analysis

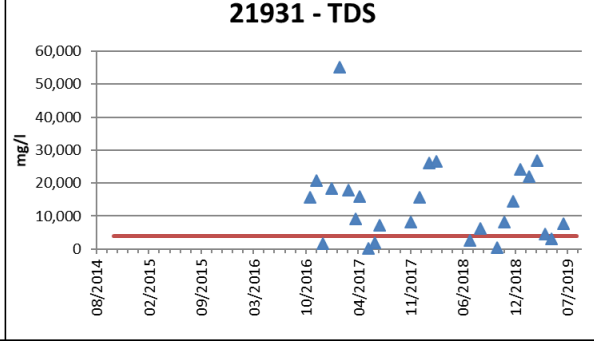
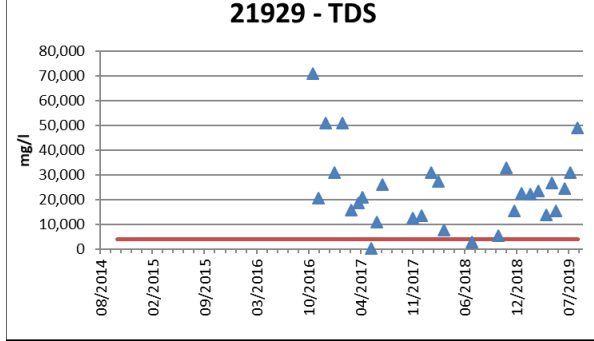
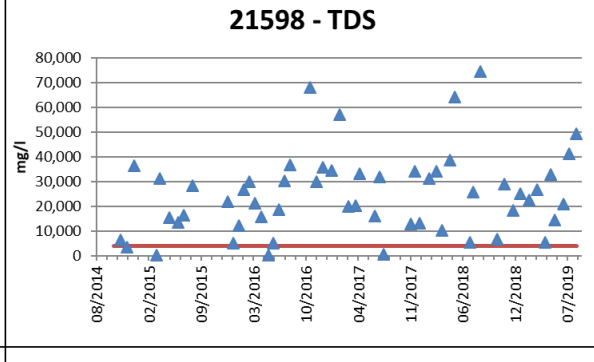
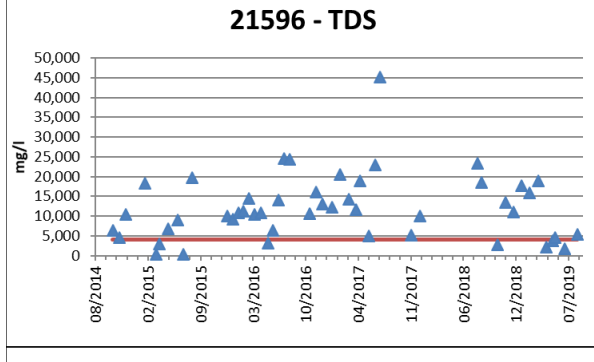
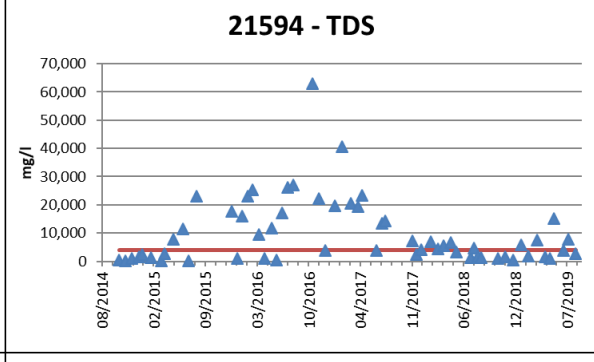
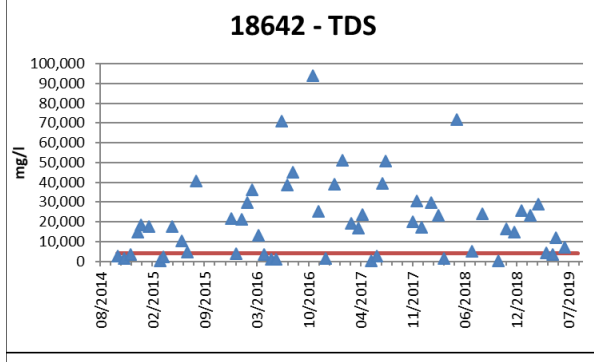
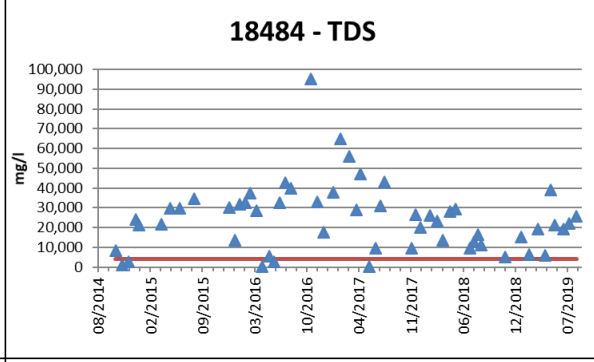
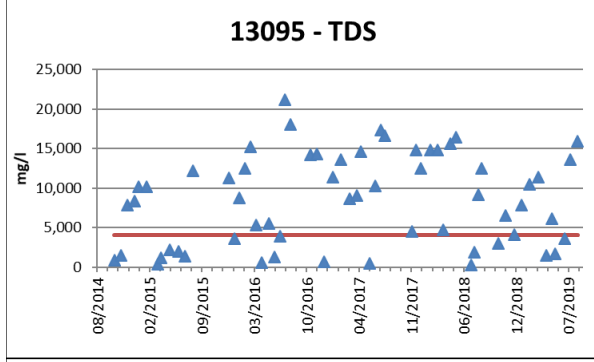
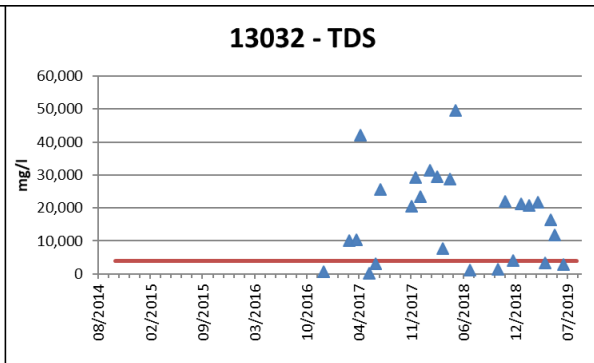
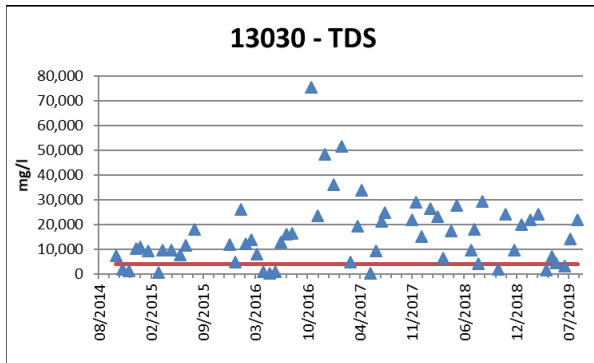
Station (# samples)	Rainfall Correlation	Chloride Trend	Sulfate Trend	TDS Trend
13030 (n=61)	-0.60	$R^2 = 0.130$ ↑	$R^2 = 0.003$ ↔	$R^2 = 0.022$ ↔
13032 (n=27)	-0.66	$R^2 = 0.006$ ↔	$R^2 = 0.001$ ↔	$R^2 = 0.007$ ↔
13095 (n=61)	-0.70	$R^2 = 0.089$ ↑	$R^2 = 0.069$ ↑	$R^2 = 0.026$ ↔
18484 (n=56)	-0.41	$R^2 = 0.004$ ↔	$R^2 = 0.005$ ↔	$R^2 = 0.007$ ↔
18642 (n=56)	-0.67	$R^2 = 0.049$ ↔	$R^2 = 0.052$ ↑	$R^2 = 0.005$ ↔
21594 (n=60)	-0.45	$R^2 = 0.004$ ↔	$R^2 = 0.004$ ↔	$R^2 = 0.017$ ↔
21596 (n=49)	-0.57	$R^2 = 0.035$ ↔	$R^2 = 0.069$ ↑	$R^2 = 0.006$ ↔
21598 (n=56)	-0.47	$R^2 = 0.109$ ↑	$R^2 = 0.156$ ↑	$R^2 = 0.055$ ↑
21929 (n=30)	-0.55	$R^2 = 0.017$ ↔	$R^2 = 0.100$ ↑	$R^2 = 0.035$ ↔
21931 (n=27)	-0.53	$R^2 = 0.000$ ↔	$R^2 = 0.034$ ↔	$R^2 = 0.026$ ↔

RECOMMENDATIONS

Water quality sampling should be continued until at least 10 years of data are collected so that the trend analysis is more statistically valid.







APPENDIX A.
HISTORICAL CHLORIDE, SULFATE, AND TDS ON MAIN STEM STATIONS

Chloride			
Station	Date	GTLT	Value
13093	10/27/1971		153
13093	01/15/1972		19400
13093	04/06/1972		3080
13093	07/26/1972		424
13093	10/08/1972		1020
13093	01/30/1973		28800
13093	04/08/1973		33000
13093	07/10/1973		880
13093	10/08/1973		317
13093	01/30/1974		17790
13093	02/24/1974		23410
13093	04/15/1974		2770
13093	07/22/1974		4910
13093	10/30/1974		15280
13093	01/29/1975		5660
13093	04/03/1975		20830
13093	07/01/1975		16835
13093	10/08/1975		3848
13093	01/22/1976		18644
13093	04/27/1976		734
13093	07/19/1976		31
13093	10/25/1976		990
13093	01/20/1977		290
13093	09/06/1977		19000
13093	05/13/1979		573
13093	11/29/1979		12200
13093	11/25/1980		4620
13093	02/22/1982		5670
13093	08/19/1982		13600
13093	11/30/1982		2950
13093	09/26/1983		1810
13093	10/23/1984		62
13093	12/18/1984		7180
13093	11/05/1985		88
13093	11/24/1986		1883
13093	12/29/1987		4300
13093	01/27/2003	>	4400
13093	05/09/2003	>	6400
13093	05/09/2003	>	3300

Chloride			
Station	Date	GTLT	Value
13094	08/19/1982		25300
13094	07/09/1984		29400
13094	10/23/1984		59
13094	12/18/1984		17800
13094	11/05/1985		69
13094	11/24/1986		4500
13094	11/12/1987		6428
13094	02/09/1989		2140
13094	08/22/1989		9500
13094	02/20/1990		8880
13094	08/29/1990		293
13094	02/21/1991		3130
13094	08/08/1991		6570
13094	09/28/1992		868
13094	05/13/1993		177
13094	10/28/1993		8880
13094	04/25/1994		7180
13094	10/05/1994		7660
13094	12/07/1994		6400
13094	05/08/1995		8430
13094	06/21/1995		2520
13094	10/17/1995		5570
13094	01/24/1996		5500
13094	04/08/1996		8020
13094	07/17/1996		8440
13094	10/15/1996		4260
13094	12/17/1996		7830
13094	01/23/1997		96
13094	04/08/1997		53
13094	07/07/1997		1050
13094	11/04/1997		2940
13094	12/17/1997		5470
13094	05/05/1998		7850
13094	11/12/1998		2310
13094	01/20/1999		6990
13094	05/04/1999		6730
13094	06/23/1999		390
13094	10/07/1999		2290
13094	01/19/2000		7470

Chloride			
Station	Date	GTLT	Value
13096	08/19/1982		32700
13096	12/18/1984		28100
13096	10/17/1995		2560
13096	01/24/1996		3480
13096	04/08/1996		650
13096	07/17/1996		8460
13096	01/27/2003	>	3800
13096	01/27/2003	>	3700
13096	05/09/2003	>	10600
13096	07/17/2003		5900
13096	08/12/2003		11000
13096	09/23/2003		6.5
13096	10/07/2003		900
13096	11/20/2003		4600
13096	05/06/2004		40
13096	06/08/2004		3300
13096	06/09/2004		3900
13096	10/11/2004		990
13096	02/02/2005		7400
13096	02/08/2005		7300
13096	03/21/2005		8
13096	03/22/2005		9
13096	06/02/2005		90
13096	06/03/2005		110
13096	09/15/2005		3400
13096	12/14/2005		8030
13096	05/04/2006		6570
13096	08/01/2006		7430
13096	10/23/2006		2580
13096	12/06/2006		7460
13096	05/22/2007		7020
13096	06/21/2007		2790
13096	06/21/2007		2720
13096	09/25/2007		455
13096	01/17/2008		7960
13096	03/27/2008		5740
13096	08/18/2008		3990
13096	11/19/2008		5880
13096	01/13/2009		8100

Chloride			
Station	Date	GTLT	Value
13093	07/16/2003		6600
13093	07/17/2003		6500
13093	08/13/2003		8200
13093	09/23/2003		13.8
13093	10/07/2003		750
13093	11/20/2003		3000
13093	05/06/2004		110
13093	06/08/2004		1950
13093	06/09/2004		2200
13093	10/12/2004		3000
13093	02/02/2005		8800
13093	02/08/2005		8300
13093	03/21/2005		32
13093	03/22/2005		30
13093	06/02/2005		2120
13093	09/01/2010		3720
13093	10/05/2010		838
13093	11/09/2010		4950
13093	12/07/2010		7090
13093	01/11/2011		6570
13093	02/08/2011		2220
13093	03/15/2011		5880
13093	04/12/2011		7460
13093	05/09/2011		9210
13093	06/06/2011		8230
13093	07/06/2011		9860
13093	08/10/2011		9910
13093	10/06/2011		1250
13093	11/09/2011		4980
13093	12/08/2011		7420
13093	01/10/2012		8630
13093	02/08/2012		7720
13093	03/20/2012		3810
13093	04/10/2012		2400
13093	05/08/2012		2320
13093	06/13/2012		1380
13093	07/17/2012		4500
13093	08/13/2012		6070
13093	09/12/2012		7360

Chloride			
Station	Date	GTLT	Value
13094	05/09/2000		6630
13094	08/10/2000		10100
13094	10/24/2000		5410
13094	02/22/2001		8020
13094	05/22/2001		8740
13094	06/25/2001		8830
13094	10/30/2001		7240
13094	02/12/2002		9350
13094	05/01/2002		8960
13094	08/08/2002		1150
13094	12/18/2002		350
13094	01/27/2003	>	4800
13094	03/06/2003		2120
13094	05/09/2003	>	11200
13094	05/21/2003		7980
13094	07/16/2003		10100
13094	07/17/2003		7900
13094	07/23/2003		8100
13094	08/13/2003		9800
13094	09/23/2003		8.5
13094	10/02/2003		651
13094	10/07/2003		1700
13094	11/20/2003		5800
13094	01/06/2004		7010
13094	03/08/2004		4220
13094	05/06/2004		80
13094	05/24/2004		415
13094	06/08/2004		4700
13094	06/09/2004		4900
13094	09/15/2004		1180
13094	10/12/2004		7900
13094	02/02/2005		8400
13094	02/08/2005		8800
13094	02/17/2005		7850
13094	03/21/2005		17
13094	03/22/2005		16
13094	04/25/2005		7100
13094	06/02/2005		580
13094	06/03/2005		270

Chloride			
Station	Date	GTLT	Value
13096	04/06/2009		9910
13096	08/12/2009		15700
13096	11/23/2009		1220
13096	02/18/2010		346
13096	08/18/2010		4830
13096	09/01/2010		7970
13096	10/05/2010		536
13096	11/09/2010		6440
13096	12/07/2010		7510
13096	01/11/2011		1290
13096	02/08/2011		2310
13096	03/15/2011		5220
13096	04/12/2011		7420
13096	05/09/2011		8950
13096	06/06/2011		9320
13096	07/06/2011		9640
13096	08/10/2011		10100
13096	10/06/2011		1350
13096	11/09/2011		8570
13096	12/08/2011		8230
13096	01/10/2012		8110
13096	02/08/2012		21.6
13096	03/20/2012		4490
13096	04/10/2012		1580
13096	05/08/2012		2800
13096	06/13/2012		3870
13096	07/17/2012		6180
13096	08/13/2012		7870
13096	09/12/2012		8800
13096	10/09/2012		6770
13096	11/28/2012		7500
13096	12/19/2012		6790
13096	01/22/2013		11700
13096	02/14/2013		6470
13096	03/19/2013		7140
13096	04/24/2013		7990
13096	05/15/2013		578
13096	06/06/2013		4050
13096	07/29/2013		3240

Chloride			
Station	Date	GTLT	Value
13093	10/09/2012		8070
13093	11/28/2012		9190
13093	12/19/2012		7950
13093	01/22/2013		10600
13093	02/14/2013		8140
13093	03/19/2013		7720
13093	04/24/2013		12900
13093	05/15/2013		242
13093	06/06/2013		1680
13093	07/29/2013		4870
13093	08/21/2013		6960
13093	09/25/2013		256
13093	10/23/2013		2250
13093	11/13/2013		2580
13093	12/11/2013		1780
13093	01/14/2014		4130
13093	02/13/2014		6150
13093	03/17/2014		8020
13093	04/23/2014		7660
13093	05/14/2014		94.9
13093	06/18/2014		675
13093	07/16/2014		1850
13093	08/13/2014		1960
13093	09/17/2014		89.1
13093	10/22/2014		1360
13093	11/12/2014		647
13093	12/16/2014		1610
13093	01/12/2015		4240
13093	02/02/2015		5200
13093	03/17/2015		590
13093	04/27/2015		11
13093	05/11/2015		1360
13093	06/09/2015		706
13093	07/08/2015		1270
13093	08/03/2015		4460
13093	10/01/2015		4250
13093	10/26/2015		829
13093	11/17/2015		474
13093	12/15/2015		4120

Chloride			
Station	Date	GTLT	Value
13094	06/22/2005		6910
13094	09/15/2005		3420
13094	12/14/2005		7320
13094	05/04/2006		8240
13094	08/01/2006		7880
13094	10/23/2006		3880
13094	12/06/2006		8460
13094	05/22/2007		7900
13094	06/21/2007		4810
13094	09/25/2007		1010
13094	01/17/2008		8180
13094	03/27/2008		6870
13094	06/26/2008		9640
13094	11/19/2008		7490
13094	01/13/2009		9590
13094	04/06/2009		8540
13094	08/12/2009		10300
13094	11/23/2009		2410
13094	02/18/2010		628
13094	08/18/2010		5720
13094	09/01/2010		7580
13094	10/05/2010		1090
13094	11/09/2010		7030
13094	12/07/2010		8020
13094	01/11/2011		4870
13094	02/08/2011		3460
13094	03/15/2011		6380
13094	04/12/2011		9660
13094	05/09/2011		6970
13094	06/06/2011		8790
13094	07/06/2011		9970
13094	08/10/2011		8840
13094	10/06/2011		2900
13094	11/09/2011		7920
13094	12/08/2011		8210
13094	01/10/2012		8080
13094	02/08/2012		74.3
13094	03/20/2012		6660
13094	04/10/2012		3540

Chloride			
Station	Date	GTLT	Value
13096	08/21/2013		6640
13096	09/25/2013		253
13096	10/23/2013		652
13096	11/13/2013		5950
13096	12/11/2013		3550
13096	01/14/2014		5660
13096	02/13/2014		5750
13096	03/17/2014		4560
13096	04/23/2014		5880
13096	05/14/2014		496
13096	06/18/2014		1020
13096	07/16/2014		4330
13096	08/13/2014		4560
13096	09/17/2014		11
13096	10/22/2014		2020
13096	11/12/2014		1230
13096	12/16/2014		1580
13096	01/12/2015		4470
13096	02/02/2015		4250
13096	03/17/2015		422
13096	04/27/2015		5
13096	05/11/2015		1840
13096	06/09/2015		463
13096	07/08/2015		1300
13096	08/03/2015		6340
13096	10/01/2015		7340
13096	10/26/2015		2430
13096	11/17/2015		444
13096	12/15/2015		6380
13096	01/12/2016		1450
13096	02/09/2016		5930
13096	03/23/2016		456
13096	04/13/2016		6410
13096	05/25/2016		4500
13096	06/21/2016		4260
13096	07/12/2016		14600
13096	08/11/2016		9420
13096	09/06/2016		1810
13096	10/17/2016		2680

Chloride			
Station	Date	GTLT	Value
13093	01/12/2016		3300
13093	02/09/2016		4810
13093	03/23/2016		432
13093	04/13/2016		4550
13093	05/25/2016		1060
13093	06/21/2016		2330
13093	07/12/2016		6000
13093	08/11/2016		8360
13093	09/06/2016		1950
13093	10/17/2016		1840
13093	11/08/2016		4460
13093	12/07/2016		22.3
13093	11/13/2017		6580
13093	11/29/2017		6540
13093	12/19/2017		6660
13093	01/23/2018		8600
13093	02/20/2018		7470
13093	03/13/2018		1810
13093	04/11/2018		3800
13093	05/02/2018		6470
13093	06/28/2018		59.9
13093	07/11/2018		586
13093	07/25/2018		8110
13093	08/07/2018		3890
13093	10/10/2018		901
13093	11/07/2018		1428
13093	12/10/2018		3000
13093	01/07/2019		3046
13093	02/08/2019		5941
13093	03/12/2019		6224
13093	04/11/2019		398
13093	05/06/2019		2250
13093	05/17/2019		469
13093	06/20/2019		659
13093	07/11/2019		2619
13093	08/09/2019		5927

Chloride			
Station	Date	GTLT	Value
13094	05/08/2012		4690
13094	06/13/2012		7130
13094	07/17/2012		5420
13094	08/13/2012		7850
13094	09/12/2012		7750
13094	10/09/2012		7200
13094	11/28/2012		5320
13094	12/19/2012		7420
13094	01/22/2013		8110
13094	02/14/2013		7540
13094	03/19/2013		7940
13094	04/24/2013		8830
13094	05/15/2013		1620
13094	06/06/2013		6020
13094	07/29/2013		6100
13094	08/21/2013		8140
13094	09/25/2013		512
13094	10/23/2013		823
13094	10/23/2013		5590
13094	12/11/2013		5910
13094	01/14/2014		6980
13094	02/13/2014		6000
13094	03/17/2014		7580
13094	04/23/2014		6870
13094	05/14/2014		310
13094	06/18/2014		3450
13094	07/16/2014		6960
13094	08/13/2014		6120
13094	09/17/2014		31.4
13094	10/22/2014		4500
13094	11/12/2014		2170
13094	12/16/2014		3320
13094	01/12/2015		5400
13094	02/02/2015		6100
13094	03/17/2015		804
13094	04/27/2015	<	5
13094	05/11/2015		2660
13094	06/09/2015		745
13094	07/08/2015		2140

Chloride			
Station	Date	GTLT	Value
13096	11/08/2016		2400
13096	12/07/2016		11.7
13096	11/14/2017		3110
13096	11/30/2017		17700
13096	12/20/2017		6410
13096	1/24/2018		7380
13096	2/21/2018		6040
13096	3/14/2018		1610
13096	4/11/2018		7940
13096	5/3/2018		8400
13096	6/28/2018		28.1
13096	7/12/2018		552
13096	7/26/2018		3720
13096	8/7/2018		9610
13096	10/30/2018		538
13096	11/08/2018		1754
13096	12/10/2018		30
13096	01/24/2019		3950
13096	02/07/2019		4842
13096	03/13/2019		9870
13096	04/09/2019		427
13096	05/02/2019		2061
13096	05/17/2019		388
13096	06/21/2019		3984
13096	07/10/2019		7180
13096	08/09/2019		6785

Chloride			
Station	Date	GTLT	Value

Chloride			
Station	Date	GTLT	Value
13094	08/03/2015		6800
13094	10/01/2015		7590
13094	10/26/2015		1480
13094	11/17/2015		780
13094	12/15/2015		6490
13094	01/12/2016		2750
13094	02/09/2016		6320
13094	03/23/2016		636
13094	04/13/2016		6600
13094	05/25/2016		3880
13094	06/21/2016		4730
13094	07/12/2016		9440
13094	08/11/2016		8720
13094	09/06/2016		2870
13094	10/17/2016		4260
13094	11/08/2016		5880
13094	12/07/2016		12.2
13094	11/14/2017		3230
13094	11/30/2017		16800
13094	12/20/2017		6660
13094	01/24/2018		8660
13094	02/21/2018		7610
13094	03/14/2018		2620
13094	04/11/2018		7470
13094	05/03/2018		8190
13094	06/28/2018		38.7
13094	07/12/2018		970
13094	07/26/2018		4880
13094	08/07/2018		10700
13094	10/30/2018		1065
13094	11/08/2018		2745
13094	12/10/2018		2190
13094	01/24/2019		5136
13094	02/07/2019		5854
13094	03/13/2019		6154
13094	04/09/2019		209
13094	05/02/2019		3073
13094	05/17/2019		669
13094	06/21/2019		3619

Chloride			
Station	Date	GTLT	Value

Chloride			
Station	Date	GTLT	Value

Chloride			
Station	Date	GTLT	Value
13094	07/10/2019		11236
13094	08/09/2019		8160

Chloride			
Station	Date	GTLT	Value

Sulfate			
Station	Date	GTLT	Value
13093	10/27/1971		6
13093	01/15/1972		420
13093	04/06/1972		124
13093	07/26/1972		26
13093	10/08/1972		35
13093	01/30/1973		370
13093	04/08/1973		530
13093	07/10/1973		52
13093	10/08/1973		19
13093	01/30/1974		680
13093	02/24/1974		500
13093	04/15/1974		174
13093	07/22/1974		164
13093	10/30/1974		221
13093	01/29/1975		116
13093	04/03/1975		498
13093	07/01/1975		69
13093	10/08/1975		112
13093	01/22/1976		173
13093	04/27/1976		19
13093	10/25/1976		6
13093	01/20/1977		44
13093	09/06/1977		930
13093	05/13/1979		62
13093	11/29/1979		770
13093	11/25/1980		400
13093	02/22/1982		410
13093	08/19/1982		750
13093	11/30/1982		210
13093	09/26/1983		130
13093	10/23/1984	<	10
13093	12/18/1984		440
13093	11/05/1985		3
13093	11/24/1986		228

Sulfate			
Station	Date	GTLT	Value
13094	08/19/1982		830
13094	07/09/1984		460
13094	10/23/1984	<	10
13094	12/18/1984		540
13094	11/05/1985		5
13094	11/24/1986		292
13094	11/12/1987		842
13094	02/09/1989		560
13094	08/22/1989		860
13094	02/20/1990		1000
13094	08/29/1990		178
13094	02/21/1991		445
13094	08/08/1991		1390
13094	09/28/1992		151
13094	05/13/1993		39
13094	10/28/1993		1330
13094	04/25/1994		985
13094	10/05/1994		1190
13094	12/07/1994		1120
13094	05/08/1995		1160
13094	06/21/1995		374
13094	10/17/1995		874
13094	01/24/1996		839
13094	04/08/1996		914
13094	07/17/1996		1700
13094	10/15/1996		658
13094	12/17/1996		1330
13094	01/23/1997		68
13094	04/08/1997		20
13094	07/07/1997		200
13094	11/04/1997		504
13094	12/17/1997		444
13094	05/05/1998		1420
13094	11/12/1998		392

Sulfate			
Station	Date	GTLT	Value
13096	08/19/1982		340
13096	12/18/1984		150
13096	10/17/1995		329
13096	01/24/1996		546
13096	04/08/1996		1416.5
13096	07/17/1996		1490
13096	01/27/2003	>	710
13096	01/27/2003	>	710
13096	05/09/2003	>	1800
13096	07/17/2003		1080
13096	08/12/2003		2000
13096	09/23/2003		3
13096	10/07/2003		140
13096	11/20/2003		960
13096	05/06/2004		11
13096	06/08/2004		670
13096	06/09/2004		790
13096	10/11/2004		1010
13096	02/02/2005		1100
13096	02/08/2005		1300
13096	03/21/2005		3
13096	03/22/2005		4
13096	06/02/2005		21
13096	06/03/2005		30
13096	09/15/2005		547
13096	12/14/2005		1280
13096	05/04/2006		1030
13096	08/01/2006		1350
13096	10/23/2006		456
13096	12/06/2006		1240
13096	05/22/2007		1290
13096	06/21/2007		407
13096	06/21/2007		408
13096	09/25/2007		88

Sulfate			
Station	Date	GTLT	Value
13093	12/29/1987		738
13093	01/27/2003	>	700
13093	05/09/2003	>	1130
13093	05/09/2003	>	1140
13093	07/16/2003		1140
13093	07/17/2003		1210
13093	08/13/2003		1570
13093	09/23/2003		8
13093	10/07/2003		120
13093	11/20/2003		670
13093	05/06/2004		33
13093	06/08/2004		450
13093	06/09/2004		520
13093	10/12/2004		620
13093	02/02/2005		1500
13093	02/08/2005		1600
13093	03/21/2005		10
13093	03/22/2005		10
13093	06/02/2005		470
13093	09/01/2010		786
13093	10/05/2010		171
13093	11/09/2010		968
13093	12/07/2010		1430
13093	01/11/2011		1440
13093	02/08/2011		447
13093	03/15/2011		1120
13093	04/12/2011		1400
13093	05/09/2011		1740
13093	06/06/2011		1580
13093	07/06/2011		1710
13093	08/10/2011		1740
13093	09/12/2011		1910
13093	10/06/2011		193
13093	11/09/2011		818
13093	12/08/2011		1260
13093	01/10/2012		1430
13093	02/08/2012		1270
13093	03/20/2012		651
13093	04/10/2012		413

Sulfate			
Station	Date	GTLT	Value
13094	01/20/1999		1490
13094	05/04/1999		880
13094	06/23/1999		71
13094	10/07/1999		340
13094	01/19/2000		1390
13094	05/09/2000		1110
13094	08/10/2000		1780
13094	10/24/2000		974
13094	02/22/2001		1360
13094	05/22/2001		1490
13094	06/25/2001		1520
13094	10/30/2001		1260
13094	02/12/2002		1280
13094	05/01/2002		1530
13094	08/08/2002		189
13094	12/18/2002		80
13094	01/27/2003	>	1100
13094	03/06/2003		391
13094	05/09/2003	>	1630
13094	05/21/2003		1430
13094	07/16/2003		1520
13094	07/17/2003		1510
13094	07/23/2003		1470
13094	08/13/2003		1680
13094	09/23/2003		4
13094	10/02/2003		119
13094	10/07/2003		310
13094	11/20/2003		1220
13094	01/06/2004		1320
13094	03/08/2004		756
13094	05/06/2004		20
13094	05/24/2004		84
13094	06/08/2004		910
13094	06/09/2004		1000
13094	09/15/2004		212
13094	10/12/2004		1300
13094	02/02/2005		1300
13094	02/08/2005		1400
13094	02/17/2005		1400

Sulfate			
Station	Date	GTLT	Value
13096	01/17/2008		1420
13096	03/27/2008		940
13096	08/18/2008		591
13096	11/19/2008		1010
13096	01/13/2009		1460
13096	04/06/2009		1950
13096	08/12/2009		2520
13096	11/23/2009		213
13096	02/18/2010		54
13096	08/18/2010		801
13096	09/01/2010		1360
13096	10/05/2010		96.2
13096	11/09/2010		1360
13096	12/07/2010		1410
13096	01/11/2011		296
13096	02/08/2011		399
13096	03/15/2011		936
13096	04/12/2011		1200
13096	05/09/2011		1520
13096	06/06/2011		1700
13096	07/06/2011		1560
13096	08/10/2011		1600
13096	09/12/2011		1660
13096	10/06/2011		207
13096	11/09/2011		1340
13096	12/08/2011		1410
13096	01/10/2012		1290
13096	02/08/2012		7.5
13096	03/20/2012		769
13096	04/10/2012		256
13096	05/08/2012		424
13096	06/13/2012		545
13096	07/17/2012		2000
13096	08/13/2012		1380
13096	09/12/2012		1590
13096	10/09/2012		1410
13096	11/28/2012		1280
13096	12/19/2012		1120
13096	01/22/2013		1830

Sulfate			
Station	Date	GTLT	Value
13093	05/08/2012		401
13093	06/13/2012		218
13093	07/17/2012		723
13093	08/13/2012		1060
13093	09/12/2012		1330
13093	10/09/2012		1400
13093	11/28/2012		1590
13093	12/19/2012		1440
13093	01/22/2013		1680
13093	02/14/2013		1460
13093	03/19/2013		1400
13093	04/24/2013		2120
13093	05/15/2013		66.3
13093	06/06/2013		278
13093	07/29/2013		790
13093	08/21/2013		1150
13093	09/25/2013		52.8
13093	10/23/2013		438
13093	11/13/2013		428
13093	12/11/2013		293
13093	01/14/2014		659
13093	02/13/2014		1030
13093	03/17/2014		1410
13093	04/23/2014		1340
13093	05/14/2014		44.9
13093	06/18/2014		102
13093	07/16/2014		285
13093	08/13/2014		317
13093	09/17/2014		18.4
13093	10/22/2014		216
13093	11/12/2014		130
13093	12/16/2014		248
13093	01/12/2015		658
13093	02/02/2015		842
13093	03/17/2015		95.9
13093	04/27/2015	<	5
13093	05/11/2015		230
13093	06/09/2015		138
13093	07/08/2015		234

Sulfate			
Station	Date	GTLT	Value
13094	03/21/2005		5
13094	03/22/2005		6
13094	04/25/2005		1250
13094	06/02/2005		130
13094	06/03/2005		50
13094	06/22/2005		1230
13094	09/15/2005		575
13094	12/14/2005		1240
13094	05/04/2006		1370
13094	08/01/2006		1330
13094	10/23/2006		680
13094	12/06/2006		1340
13094	05/22/2007		1360
13094	06/21/2007		841
13094	09/25/2007		201
13094	01/17/2008		1450
13094	03/27/2008		1170
13094	06/26/2008		1680
13094	11/19/2008		1330
13094	01/13/2009		1730
13094	04/06/2009		1630
13094	08/12/2009		1670
13094	11/23/2009		415
13094	02/18/2010		112
13094	08/18/2010		989
13094	09/01/2010		1290
13094	10/05/2010		198
13094	11/09/2010		1410
13094	12/07/2010		1550
13094	01/11/2011		1070
13094	02/08/2011		670
13094	03/15/2011		1110
13094	04/12/2011		1580
13094	05/09/2011		1240
13094	06/06/2011		1640
13094	07/06/2011		1670
13094	08/10/2011		1470
13094	09/12/2011		1500
13094	10/06/2011		472

Sulfate			
Station	Date	GTLT	Value
13096	02/14/2013		2580
13096	03/19/2013		1270
13096	04/24/2013		1280
13096	05/15/2013		91
13096	06/06/2013		590
13096	07/29/2013		393
13096	08/21/2013		1190
13096	09/25/2013		42.5
13096	10/23/2013		99.1
13096	11/13/2013		1040
13096	12/11/2013		527
13096	01/14/2014		1130
13096	02/13/2014		1260
13096	03/17/2014		825
13096	04/23/2014		1150
13096	05/14/2014		80.2
13096	06/18/2014		167
13096	07/16/2014		848
13096	08/13/2014		715
13096	09/17/2014	<	5
13096	10/22/2014		331
13096	11/12/2014		209
13096	12/16/2014		256
13096	01/12/2015		748
13096	02/02/2015		741
13096	03/17/2015		67.8
13096	04/27/2015	<	5
13096	05/11/2015		292
13096	06/09/2015		81.6
13096	07/08/2015		238
13096	08/03/2015		1170
13096	10/01/2015		1280
13096	10/26/2015		506
13096	11/17/2015		73.4
13096	12/15/2015		987
13096	01/12/2016		249
13096	02/09/2016		1010
13096	03/23/2016		81.2
13096	04/13/2016		1030

Sulfate			
Station	Date	GTLT	Value
13093	08/03/2015		843
13093	10/01/2015		814
13093	10/26/2015		173
13093	11/17/2015		90.6
13093	12/15/2015		790
13093	01/12/2016		660
13093	02/09/2016		965
13093	03/23/2016		96.9
13093	04/13/2016		877
13093	05/25/2016		219
13093	06/21/2016		475
13093	07/12/2016		1150
13093	08/11/2016		1520
13093	09/06/2016		336
13093	10/17/2016		311
13093	11/08/2016		788
13093	12/07/2016		9.63
13093	11/13/2017		1080
13093	11/29/2017		1280
13093	12/19/2017		1110
13093	01/23/2018		1620
13093	02/20/2018		1280
13093	03/13/2018		295
13093	04/11/2018		678
13093	05/02/2018		1050
13093	06/28/2018		14.7
13093	07/11/2018		104
13093	07/25/2018		2080
13093	08/07/2018		715
13093	10/10/2018		239
13093	11/07/2018		290
13093	12/10/2018		598
13093	01/07/2019		667
13093	02/08/2019		1160
13093	03/12/2019		1156
13093	04/11/2019		102
13093	05/06/2019		454
13093	05/17/2019		100
13093	06/20/2019		141

Sulfate			
Station	Date	GTLT	Value
13094	11/09/2011		1330
13094	12/08/2011		1460
13094	01/10/2012		1310
13094	02/08/2012		22.4
13094	03/20/2012		1110
13094	04/10/2012		601
13094	05/08/2012		814
13094	06/13/2012		1200
13094	07/17/2012		2930
13094	08/13/2012		1380
13094	09/12/2012		3610
13094	10/09/2012		1430
13094	11/28/2012		913
13094	12/19/2012		1510
13094	01/22/2013		1330
13094	02/14/2013		1310
13094	03/19/2013		1340
13094	04/24/2013		1520
13094	05/15/2013		261
13094	06/06/2013		988
13094	07/29/2013		1050
13094	08/21/2013		1350
13094	09/25/2013		88.8
13094	10/23/2013		148
13094	10/23/2013		1310
13094	12/11/2013		960
13094	01/14/2014		1180
13094	02/13/2014		1450
13094	03/17/2014		1360
13094	04/23/2014		1230
13094	05/14/2014		75.8
13094	06/18/2014		558
13094	07/16/2014		1210
13094	08/13/2014		950
13094	09/17/2014		8.13
13094	10/22/2014		729
13094	11/12/2014		363
13094	12/16/2014		565
13094	01/12/2015		896

Sulfate			
Station	Date	GTLT	Value
13096	05/25/2016		721
13096	06/21/2016		694
13096	07/12/2016		2290
13096	08/11/2016		1480
13096	09/06/2016		274
13096	10/17/2016		422
13096	11/08/2016		429
13096	12/07/2016		5.82
13096	11/14/2017		618
13096	11/30/2017		3050
13096	12/20/2017		1110
13096	1/24/2018		1240
13096	2/21/2018		996
13096	3/14/2018		296
13096	4/11/2018		1520
13096	5/3/2018		1360
13096	6/28/2018		7.01
13096	7/12/2018		104
13096	7/26/2018		730
13096	8/7/2018		1770
13096	10/30/2018		131
13096	11/08/2018		399
13096	12/10/2018		6.3
13096	01/24/2019		793
13096	02/07/2019		952
13096	03/13/2019		2072
13096	04/09/2019		133
13096	05/02/2019		360
13096	05/17/2019		86
13096	06/21/2019		249
13096	07/10/2019		1355
13096	08/09/2019		1241

Sulfate			
Station	Date	GTLT	Value
13093	07/11/2019		522
13093	08/09/2019		1173

Sulfate			
Station	Date	GTLT	Value
13094	02/02/2015		1000
13094	03/17/2015		154
13094	04/27/2015	<	5
13094	05/11/2015		440
13094	06/09/2015		134
13094	07/08/2015		381
13094	08/03/2015		1260
13094	10/01/2015		1290
13094	10/26/2015		289
13094	11/17/2015		129
13094	12/15/2015		1080
13094	01/12/2016		479
13094	02/09/2016		1110
13094	03/23/2016		113
13094	04/13/2016		1100
13094	05/25/2016		632
13094	06/21/2016		813
13094	07/12/2016		1550
13094	08/11/2016		1420
13094	09/06/2016		475
13094	10/17/2016		773
13094	11/08/2016		970
13094	12/07/2016		5.84
13094	11/14/2017		521
13094	11/30/2017		2910
13094	12/20/2017		1220
13094	01/24/2018		1460
13094	02/21/2018		1310
13094	03/14/2018		465
13094	04/11/2018		1580
13094	05/03/2018		1820
13094	06/28/2018		10.6
13094	07/12/2018		202
13094	07/26/2018		921
13094	08/07/2018		193
13094	10/30/2018		243
13094	11/08/2018		627
13094	12/10/2018		1040
13094	01/24/2019		1015

Sulfate			
Station	Date	GTLT	Value

Sulfate			
Station	Date	GTLT	Value

Sulfate			
Station	Date	GTLT	Value
13094	02/07/2019		1221
13094	03/13/2019		1155
13094	04/09/2019		61
13094	05/02/2019		637
13094	05/17/2019		135
13094	06/21/2019		371
13094	07/10/2019		2067
13094	08/09/2019		1497

Sulfate			
Station	Date	GTLT	Value

TDS			
Station	Date	GTLT	Value
13093	10/27/1971		750
13093	01/15/1972		68208
13093	02/06/1972		60000
13093	04/06/1972		11040
13093	05/26/1972		3000
13093	07/26/1972		1665
13093	10/08/1972		3696
13093	01/30/1973		101640
13093	02/26/1973	>	60000
13093	03/21/1973	>	60000
13093	04/08/1973	>	60000
13093	05/28/1973	>	60000
13093	06/03/1973	>	100000
13093	07/10/1973		3000
13093	08/19/1973		1700
13093	09/03/1973		3400
13093	10/08/1973		1200
13093	11/17/1973		5200
13093	12/02/1973		16000
13093	01/30/1974		44500
13093	02/24/1974		50000
13093	04/15/1974		8350
13093	06/28/1974		2300
13093	07/22/1974		9600
13093	08/16/1974		2150
13093	09/28/1974		22000
13093	10/30/1974		37000
13093	11/27/1974		13000

TDS			
Station	Date	GTLT	Value
13094	08/19/1982		41900
13094	07/09/1984		78600
13094	10/23/1984		347
13094	12/18/1984		31700
13094	11/05/1985		431
13094	11/24/1986		15000
13094	11/12/1987		18940
13094	02/09/1989		10440
13094	08/22/1989		31700
13094	02/20/1990		25000
13094	08/29/1990		1700
13094	02/21/1991		9010
13094	08/08/1991		22400
13094	10/08/1991		5140
13094	04/22/1992		452
13094	09/28/1992		3270
13094	05/13/1993		941
13094	10/28/1993		22000
13094	04/25/1994		15400
13094	10/05/1994		17300
13094	12/07/1994		12700
13094	05/08/1995		18400
13094	06/21/1995		5760
13094	10/17/1995		12100
13094	01/24/1996		10500
13094	04/08/1996		17900
13094	07/17/1996		25300
13094	10/15/1996		8770

TDS			
Station	Date	GTLT	Value
13096	08/19/1982		52700
13096	12/18/1984		46000
13096	10/17/1995		6550
13096	01/24/1996		6500
13096	04/08/1996		18500
13096	07/17/1996		24500
13096	01/27/2003	>	7380
13096	05/09/2003	>	15000
13096	07/17/2003		12800
13096	08/12/2003		20900
13096	09/23/2003		190
13096	10/07/2003		1950
13096	11/20/2003		9260
13096	05/06/2004		280
13096	06/08/2004		6670
13096	06/09/2004		7750
13096	10/11/2004		12400
13096	02/02/2005		13200
13096	02/08/2005		15100
13096	03/21/2005		130
13096	03/22/2005		260
13096	06/02/2005		340
13096	06/03/2005		400
13096	09/15/2005		7040
13096	12/14/2005		16800
13096	05/04/2006		12800
13096	08/01/2006		14100
13096	10/23/2006		6050

TDS			
Station	Date	GTLT	Value
13093	12/22/1974		30000
13093	01/29/1975		17500
13093	02/05/1975		15200
13093	03/07/1975		30500
13093	04/03/1975		51500
13093	07/01/1975		41000
13093	10/08/1975		9500
13093	01/22/1976		50000
13093	04/27/1976		1600
13093	10/25/1976		3500
13093	09/06/1977		37945
13093	05/13/1979		2150
13093	11/29/1979		31000
13093	02/11/1980		31400
13093	05/28/1980		39200
13093	11/25/1980		14500
13093	02/22/1982		19900
13093	08/19/1982		24600
13093	11/30/1982		9310
13093	09/26/1983		5380
13093	10/23/1984		354
13093	12/18/1984		12900
13093	11/05/1985		470
13093	11/24/1986		7200
13093	12/29/1987		13690
13093	01/27/2003	>	8500
13093	05/09/2003	>	11600
13093	07/16/2003		13400
13093	07/17/2003		14100
13093	08/13/2003		17000
13093	09/23/2003		240
13093	10/07/2003		1350
13093	11/20/2003		5930
13093	05/06/2004		370
13093	06/08/2004		4350
13093	06/09/2004		4860
13093	10/12/2004		6230
13093	02/02/2005		16400
13093	02/08/2005		17400

TDS			
Station	Date	GTLT	Value
13094	12/17/1996		16900
13094	01/23/1997		426
13094	04/08/1997		366
13094	07/07/1997		2740
13094	11/04/1997		6430
13094	12/17/1997		10300
13094	05/05/1998		19300
13094	07/07/1998		26800
13094	11/12/1998		5410
13094	01/20/1999		15200
13094	05/04/1999		13900
13094	06/23/1999		1120
13094	10/07/1999		5490
13094	11/22/1999		21300
13094	01/19/2000		14200
13094	05/09/2000		18400
13094	08/10/2000		29100
13094	10/24/2000		12700
13094	02/22/2001		15000
13094	05/22/2001		16900
13094	06/25/2001		18900
13094	10/30/2001		15500
13094	02/12/2002		16300
13094	05/01/2002		23000
13094	08/08/2002		2740
13094	12/18/2002		848
13094	01/27/2003	>	9600
13094	03/06/2003		4820
13094	05/09/2003	>	17100
13094	05/21/2003		16900
13094	07/16/2003		17500
13094	07/17/2003		17600
13094	07/23/2003		15900
13094	08/13/2003		20200
13094	09/23/2003		210
13094	10/02/2003		1680
13094	10/07/2003		3930
13094	11/20/2003		11300
13094	01/06/2004		15700

TDS			
Station	Date	GTLT	Value
13096	12/06/2006		13700
13096	06/21/2007		5580
13096	09/25/2007		1260
13096	01/17/2008		15300
13096	03/27/2008		11900
13096	08/18/2008		8730
13096	11/19/2008		11000
13096	01/13/2009		16800
13096	04/06/2009		19300
13096	08/12/2009		38800
13096	11/23/2009		2990
13096	02/18/2010		1600
13096	05/11/2010		6780
13096	08/18/2010		10800
13096	09/01/2010		15600
13096	10/05/2010		1280
13096	11/09/2010		13200
13096	12/07/2010		13700
13096	01/11/2011		3000
13096	02/08/2011		4530
13096	03/15/2011		12500
13096	04/12/2011		16300
13096	05/09/2011		18400
13096	06/06/2011		19000
13096	07/06/2011		18000
13096	08/10/2011		21100
13096	09/12/2011		22200
13096	10/06/2011		2950
13096	11/09/2011		14900
13096	12/08/2011		16100
13096	01/10/2012		16000
13096	02/08/2012		760
13096	03/20/2012		8780
13096	04/10/2012		3330
13096	05/08/2012		5240
13096	06/13/2012		7660
13096	07/17/2012		13600
13096	08/13/2012		18000
13096	09/12/2012		19000

TDS			
Station	Date	GTLT	Value
13093	03/21/2005		170
13093	03/22/2005		300
13093	06/02/2005		5330
13093	09/01/2010		7960
13093	10/05/2010		1930
13093	11/09/2010		10900
13093	12/07/2010		13500
13093	01/11/2011		13900
13093	02/08/2011		4710
13093	03/15/2011		11900
13093	04/12/2011		14800
13093	05/09/2011		16900
13093	06/06/2011		17300
13093	07/06/2011		17700
13093	08/10/2011		21700
13093	09/12/2011		23900
13093	10/06/2011		2600
13093	11/09/2011		9880
13093	12/08/2011		14800
13093	01/10/2012		16900
13093	02/08/2012		16000
13093	03/20/2012		7560
13093	04/10/2012		4830
13093	05/08/2012		4730
13093	06/13/2012		3160
13093	07/17/2012		8960
13093	08/13/2012		13400
13093	09/12/2012		16400
13093	10/09/2012		17500
13093	11/28/2012		17500
13093	12/19/2012		16200
13093	01/22/2013		17300
13093	02/14/2013		15900
13093	03/19/2013		17100
13093	04/24/2013		19600
13093	05/15/2013		611
13093	06/06/2013		3870
13093	07/29/2013		600
13093	08/21/2013		14000

TDS			
Station	Date	GTLT	Value
13094	03/08/2004		9410
13094	05/06/2004		380
13094	05/24/2004		1280
13094	06/08/2004		9610
13094	06/09/2004		10000
13094	09/15/2004		2800
13094	10/12/2004		15200
13094	02/02/2005		15200
13094	02/08/2005		17000
13094	02/17/2005		18100
13094	03/21/2005		140
13094	03/22/2005		290
13094	04/25/2005		16500
13094	06/02/2005		1510
13094	06/03/2005		720
13094	06/22/2005		15200
13094	09/15/2005		6880
13094	12/14/2005		15200
13094	05/04/2006		15700
13094	08/01/2006		15100
13094	10/23/2006		8790
13094	12/06/2006		14900
13094	05/22/2007		17400
13094	06/21/2007		9590
13094	09/25/2007		2470
13094	01/17/2008		16100
13094	03/27/2008		14800
13094	06/26/2008		19900
13094	11/19/2008		14400
13094	01/13/2009		17300
13094	04/06/2009		16500
13094	08/12/2009		26200
13094	11/23/2009		4750
13094	02/18/2010		1640
13094	05/11/2010		9700
13094	08/18/2010		12600
13094	09/01/2010		14600
13094	10/05/2010		2480
13094	11/09/2010		15300

TDS			
Station	Date	GTLT	Value
13096	10/09/2012		14700
13096	11/28/2012		13800
13096	12/19/2012		14700
13096	01/22/2013		6790
13096	02/14/2013		11700
13096	03/19/2013		6470
13096	04/24/2013		7140
13096	05/15/2013		7990
13096	06/06/2013		578
13096	07/29/2013		4050
13096	08/21/2013		3240
13096	09/25/2013		6640
13096	10/23/2013		253
13096	11/13/2013		652
13096	12/11/2013		5950
13096	01/14/2014		3550
13096	02/13/2014		5660
13096	03/17/2014		5750
13096	04/23/2014		4560
13096	05/14/2014		5880
13096	06/18/2014		496
13096	07/16/2014		1020
13096	08/13/2014		4330
13096	09/17/2014		4560
13096	10/22/2014		11
13096	11/12/2014		2020
13096	12/16/2014		1230
13096	01/12/2015		1580
13096	02/02/2015		4470
13096	03/17/2015		4250
13096	04/27/2015		422
13096	05/11/2015		5
13096	06/09/2015		1840
13096	07/08/2015		463
13096	08/03/2015		1300
13096	10/01/2015		6340
13096	10/26/2015		7340
13096	11/17/2015		2430
13096	12/15/2015		444

TDS			
Station	Date	GTLT	Value
13093	09/25/2013		654
13093	10/23/2013		4580
13093	11/13/2013		5760
13093	12/11/2013		3850
13093	01/14/2014		9140
13093	02/13/2014		13100
13093	03/17/2014		17400
13093	04/23/2014		17800
13093	05/14/2014		336
13093	06/18/2014		1540
13093	07/16/2014		5080
13093	08/13/2014		4880
13093	09/17/2014		364
13093	10/22/2014		2660
13093	11/12/2014		1380
13093	12/16/2014		3190
13093	01/12/2015		8540
13093	02/02/2015		11600
13093	03/17/2015		1340
13093	04/27/2015		300
13093	05/11/2015		3280
13093	06/09/2015		2090
13093	07/08/2015		2800
13093	08/03/2015		9860
13093	10/01/2015		10300
13093	10/26/2015		1830
13093	11/17/2015		1050
13093	12/15/2015		7390
13093	01/12/2016		7120
13093	02/09/2016		10800
13093	03/23/2016		1000
13093	04/13/2016		7140
13093	05/25/2016		2240
13093	06/21/2016		5380
13093	07/12/2016		10100
13093	08/11/2016		23400
13093	09/06/2016		3390
13093	10/17/2016		2400
13093	11/08/2016		5380

TDS			
Station	Date	GTLT	Value
13094	12/07/2010		15600
13094	01/11/2011		10900
13094	02/08/2011		7000
13094	03/15/2011		14000
13094	04/12/2011		16500
13094	05/09/2011		17200
13094	06/06/2011		17500
13094	07/06/2011		17300
13094	08/10/2011		19700
13094	09/12/2011		19700
13094	10/06/2011		5560
13094	11/09/2011		14700
13094	12/08/2011		15600
13094	01/10/2012		16100
13094	02/08/2012		460
13094	03/20/2012		12700
13094	04/10/2012		6780
13094	05/08/2012		10900
13094	06/13/2012		14300
13094	07/17/2012		15600
13094	08/13/2012		18300
13094	09/12/2012		17600
13094	10/09/2012		16100
13094	11/28/2012		11100
13094	12/19/2012		15200
13094	01/22/2013		16400
13094	02/14/2013		14100
13094	03/19/2013		16300
13094	04/24/2013		17300
13094	05/15/2013		3960
13094	06/06/2013		14200
13094	07/29/2013		14800
13094	08/21/2013		19000
13094	09/25/2013		1220
13094	10/23/2013		1900
13094	10/23/2013		14200
13094	12/11/2013		12000
13094	01/14/2014		15700
13094	02/13/2014		15800

TDS			
Station	Date	GTLT	Value
13096	12/15/2015		6380
13096	01/12/2016		3450
13096	02/09/2016		12300
13096	03/23/2016		1030
13096	04/13/2016		8640
13096	05/25/2016		8100
13096	06/21/2016		11800
13096	07/12/2016		56800
13096	08/11/2016		2270
13096	09/06/2016		4350
13096	10/17/2016		5120
13096	11/08/2016		2540
13096	12/07/2016		160
13096	11/14/2017		6380
13096	11/30/2017		14900
13096	12/20/2017		12400
13096	1/24/2018		16200
13096	2/21/2018		13200
13096	3/14/2018		3690
13096	4/11/2018		7980
13096	5/3/2018		12700
13096	6/28/2018		194
13096	7/12/2018		1430
13096	7/26/2018		8580
13096	8/7/2018		12260
13096	10/30/2018		1878
13096	11/08/2018		4623
13096	12/10/2018		3304
13096	01/24/2019		8336
13096	02/07/2019		9608
13096	03/13/2019		10184
13096	04/09/2019		1324
13096	05/02/2019		8596
13096	05/17/2019		1492
13096	06/21/2019		3260
13096	07/10/2019		13332
13096	08/09/2019		15814

TDS			
Station	Date	GTLT	Value
13093	12/07/2016		210
13093	11/13/2017		12800
13093	11/29/2017		13300
13093	12/19/2017		12000
13093	01/23/2018		16600
13093	02/20/2018		14800
13093	03/13/2018		3690
13093	04/11/2018		5300
13093	05/02/2018		2660
13093	06/28/2018		253
13093	07/11/2018		1550
13093	07/25/2018		8220
13093	08/07/2018		7040
13093	10/10/2018		2684
13093	11/07/2018		6424
13093	12/10/2018		6286
13093	01/07/2019		5924
13093	02/08/2019		11620
13093	03/12/2019		13392
13093	04/11/2019		940
13093	05/06/2019		5657
13093	05/17/2019		1436
13093	06/20/2019		1868
13093	07/11/2019		6208
13093	08/09/2019		11206

TDS			
Station	Date	GTLT	Value
13094	03/17/2014		18000
13094	04/23/2014		18100
13094	05/14/2014		776
13094	06/18/2014		6840
13094	07/16/2014		19000
13094	08/13/2014		16200
13094	09/17/2014		242
13094	10/22/2014	<	9000
13094	11/12/2014		3270
13094	12/16/2014		7060
13094	01/12/2015		11900
13094	02/02/2015		12800
13094	03/17/2015		1900
13094	04/27/2015		306
13094	05/11/2015		6020
13094	06/09/2015		2120
13094	07/08/2015		4670
13094	08/03/2015		14200
13094	10/01/2015		18500
13094	10/26/2015		3100
13094	11/17/2015		1680
13094	12/15/2015		11800
13094	01/12/2016		6080
13094	02/09/2016		13800
13094	03/23/2016		1530
13094	04/13/2016		9860
13094	05/25/2016		6980
13094	06/21/2016		12100
13094	07/12/2016		15600
13094	08/11/2016		21000
13094	09/06/2016		8500
13094	10/17/2016		9940
13094	11/08/2016		17000
13094	12/07/2016		202
13094	11/14/2017		6420
13094	11/30/2017		14500
13094	12/20/2017		13100
13094	01/24/2018		16300
13094	02/21/2018		13600

TDS			
Station	Date	GTLT	Value

TDS			
Station	Date	GTLT	Value

TDS			
Station	Date	GTLT	Value
13094	03/14/2018		6470
13094	04/11/2018		8420
13094	05/03/2018		17400
13094	06/28/2018		197
13094	07/12/2018		2480
13094	07/26/2018		10530
13094	08/07/2018		12960
13094	10/30/2018		3278
13094	11/08/2018		6776
13094	12/10/2018		5108
13094	01/24/2019		10708
13094	02/07/2019		11388
13094	03/13/2019		12880
13094	04/09/2019		802
13094	05/02/2019		7008
13094	05/17/2019		1932
13094	06/21/2019		3984
13094	07/10/2019		13860
13094	08/09/2019		16762

TDS			
Station	Date	GTLT	Value