CL&A

GJC
(M&N)

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Date reviewed:

Violations?:

Comments Reviewed:

14 AUG 29 PM 2:09
CVRWQCB

August 12, 2014

Mr. Guy Childs
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-6114

FIRST

Subject: Letter Report, ~~Second~~ Half-Semi Annual 2014 Groundwater Monitoring Report, Morning Star Packing Company, LP

Dear Mr. Childs:

Enclosed is the semi-annual groundwater monitoring report prepared in accordance with Order No. R5-2013-0144. Although groundwater sampling is only required twice annually under the Monitoring and Reporting Program, Morning Star has continued with quarterly groundwater monitoring. Quarterly groundwater monitoring provides additional information regarding groundwater quality and enables the use or more robust analysis of conditions and trends.

The following items were requested in the Semi-Annual Groundwater Monitoring and Reporting Program:

1. Results of semi-annual monitoring of the groundwater in tabular format.

The results of groundwater monitoring activities for the monitoring wells are included as **Attachment A**.

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.

Field logs for the sampling activities are included as **Attachment B**. Prior to sampling, the groundwater elevations are measured. The monitoring wells are then purged a minimum of three well volumes or until temperature, pH and electrical conductivity have stabilized. Samples are collected and returned to the certified lab and tested for the different constituents.

3. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;

Groundwater elevations for the wells are shown in Table 1 and Table 2.

Table 1. Groundwater Elevations on February 2014

Monitoring Well Number	Elevation
MW1	89.82
MW2	86.68
MW3	86.43
MW4	87.73
MW5	83.38
MW6	83.61
MW7	80.66
MW8	73.81
MW9	71.12

Table 2. Groundwater Elevations on May 2014

Monitoring Well Number	Elevation
MW1	93.48
MW2	88.01
MW3	87.18
MW4	90.07
MW5	84.47
MW6	81.36
MW7	81.00
MW8	72.64
MW9	73.37

Groundwater sampling for this quarter was generally consistent with historic results. Groundwater in the vicinity of the processing facility usually flows toward the north and slightly east. This quarter, the results are consistent with historical results. Gradients for the four monitoring wells located near the settling pond are presented in Table 3.

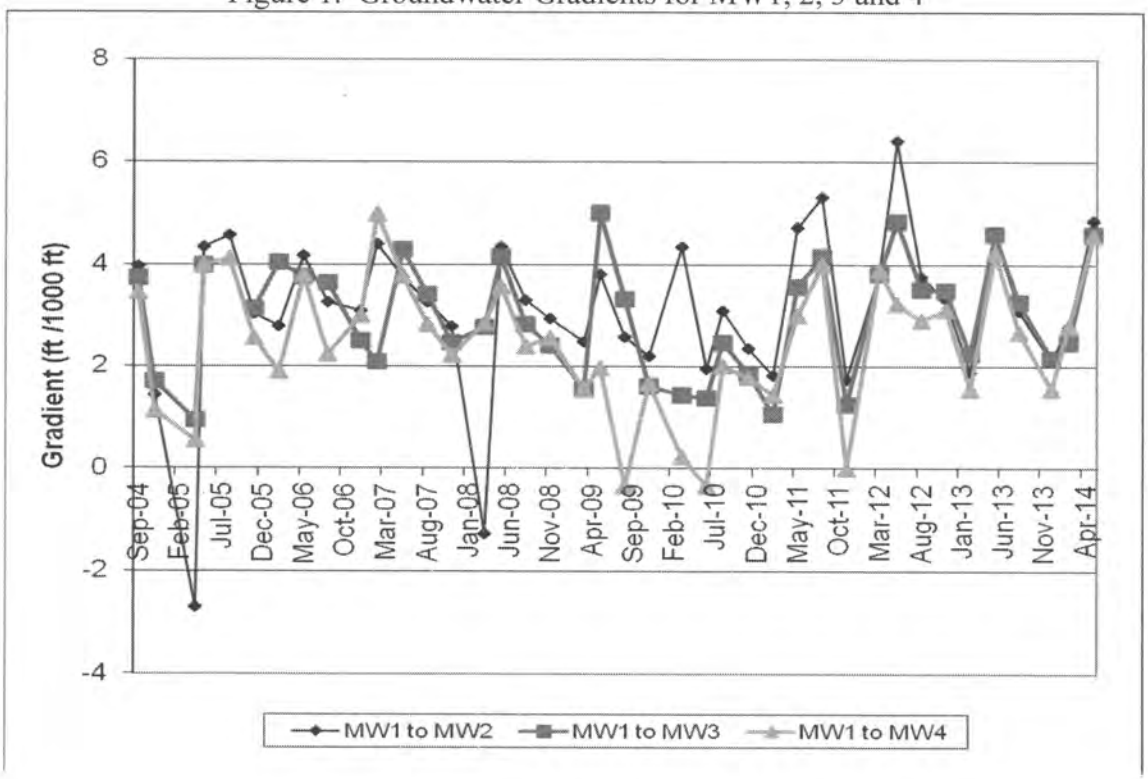
Table 3. Groundwater Gradients in MW 1, 2, 3 and 4

	Gradient (ft/1000ft)		
Date	MW1 to MW2	MW1 to MW3	MW1 to MW4
2/21/07	4.40	2.09	4.99
5/23/07	3.75	4.28	3.77
8/17/07	3.25	3.40	2.83
11/29/07	2.79	2.47	2.23
3/7/08	NA	2.77	2.84
5/20/08	4.32	4.16	3.56
8/30/08	3.31	2.83	2.39
11/17/08	2.93	2.41	2.56
3/6/09*	2.49	1.56	1.56
5/22/09	3.80	5.00	1.97
8/25/09	2.57	3.32	-0.33
11/23/09	2.20	1.61	1.67
3/16/10	4.35	1.43	0.23
6/7/10	1.95	1.73	-0.33
8/26/10	3.08	2.47	2.00
11/17/10	2.35	1.86	1.77
2/20/11	1.82	1.07	1.44
5/4/11	4.72	3.56	3.00
8/11/11	5.31	4.16	4.00
11/22/11	1.75	1.25	0.00
3/9/12	3.83	3.80	3.89
5/14/12	6.42	4.83	3.21
8/7/12	3.75	3.50	2.89
11/12/12	3.31	3.49	3.11
2/18/13	1.90	2.23	1.56
5/15/13	4.64	4.59	4.23
8/5/13	3.08	3.26	2.67
12/2/13	2.12	2.16	1.55
2/17/14	2.79	2.47	2.79
5/12/14	4.86	4.58	41.55

** Measurements from MW2 and MW3 taken on 3/13/2009.*

Groundwater gradients continue to appear to be highest during the summer and lowest during the winter months. Figure 1 below provides a graph of gradients for MW1, 2, 3, and 4.

Figure 1. Groundwater Gradients for MW1, 2, 3 and 4



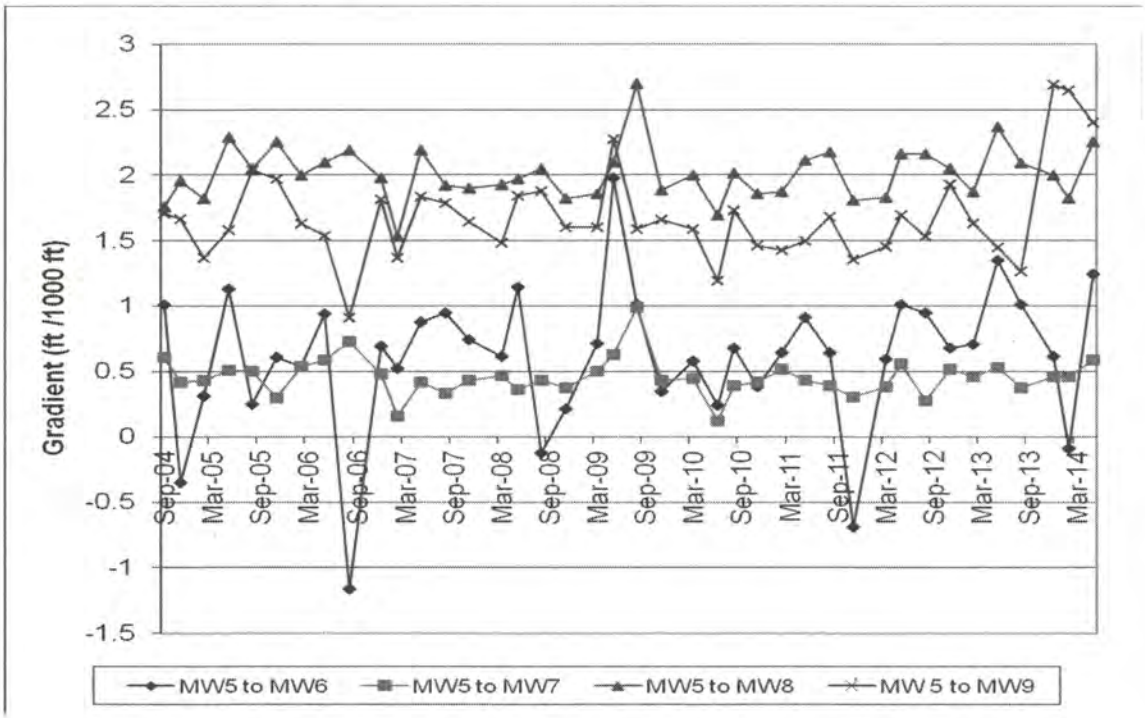
Groundwater in the cropped area north of the processing facility generally moves toward the northeast. This quarter, groundwater gradients are consistent with historical results. Groundwater gradients for these wells are included as Table 4.

Table 4. Groundwater Gradients in MW 5, 6, 7, 8, and 9

	Gradient (ft/1000ft)			
Date	MW5 to MW6	MW5 to MW7	MW5 to MW8	MW 5 to MW9
2/21/07	0.52	0.16	1.53	1.37
5/23/07	0.94	0.33	1.92	1.97
11/27/07	0.74	0.43	1.90	1.64
3/7/08	0.61	0.46	1.93	1.48
5/20/08	1.15	0.36	1.97	1.84
8/30/08	(0.12)	0.43	2.05	1.88
11/17/08	0.21	0.37	1.82	1.61
3/6/09	0.71	0.50	1.86	1.61
5/22/09	1.98	0.63	2.10	2.27
8/25/09	1.01	0.99	2.70	1.59
11/23/09	0.34	0.43	1.89	1.66
3/16/10	0.58	0.44	2.00	1.59
6/7/10	0.24	0.12	1.70	1.19
8/26/10	0.68	0.39	2.02	1.73
11/17/10	0.68	0.42	1.86	1.46
2/20/11	0.64	0.52	1.87	1.43
5/4//11	0.91	0.43	2.11	1.50
8/11//11	0.64	0.39	2.17	1.68
11/22/11	-0.69	0.30	1.81	1.36
3/9/12	0.60	0.38	1.83	1.45
5/14/12	1.01	0.56	2.16	1.70
8/7/12	0.94	0.28	2.16	1.54
11/12/12	0.68	0.52	1.05	1.93
2/18/13	0.71	0.46	1.87	1.63
5/15/13	1.35	0.53	2.37	1.45
8/5/13	1.01	0.37	2.09	1.26
12/2/13	0.61	0.46	2.00	2.69
2/17/14	-0.09	0.46	1.82	2.65
5/12/14	1.24	0.58	2.25	2.40

No clear seasonal trends are evident in the groundwater gradients in the cropped area. A graph of the gradients is provided below in Figure 2.

Figure 2. Groundwater Gradients for MW5, 6, 7, 8 and 9



Groundwater flow direction was calculated using the EPA OnSite Hydraulic Gradient Calculator. Results from this analysis are provided **Attachment C** and summarized in Table 5:

Table 5. Site Groundwater Flow Direction Results

Date	Flow Direction (degrees from North)
2/17/14	12.29
5/12/14	17.35

4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs and appended analytical reports (as applicable).

The parameters and variability of water quality samples for MW1, 2, and 3 have remained consistent with past results. The results have been graphed to determine if any of the results are trending upward or downward. Samples from this quarter are consistent with historical data. The graphs of the sampling results for each monitoring well have been included as **Attachment A.**

Results from MW4, 5, 6, 7, 8, and 9 are consistent with previous sampling events. No trends are evident at this time and no seasonal trends have been identified.

The results from this sampling event are consistent with previous events with no upward trends or degradation evident. Natural spatial variability between the wells is evident in both the upgradient and downgradient wells.

5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements.

A statistical analysis consistent with the methods outlined in the Groundwater Limitations Compliance Assessment Plan was performed to determine if the results from the past four samples are consistent with the limitations outlined in the MRP. A summary of the groundwater constituent limitations is provided in Table 6.

Table 6. MRP Groundwater Constituent Limitations

Constituent	Compliance Wells	Limitations
Nitrate Nitrogen	MW2, MW6, MW7, MW8	10 mg/L (MCL)
Nitrate Nitrogen	MW3, MW9	Current Groundwater Quality
Manganese	MW2, MW3, MW6, MW9	0.05 mg/L (MCL)
Manganese	MW7, MW8	Current Groundwater Quality

Background nitrate concentrations from the wells were first checked for normalcy to ensure that the statistical analysis performed was relevant to the data. For the wells compared to the MCL, where the data was found to be normal a one-sample t-test was performed. Where the sample was no normal, a one-sample Wilcoxon signed rank test was used. In all cases, the null hypothesis that the mean of the concentrations from current sampling events was less than the MCL was proven true.

For MW3 and MW9, the most recent four samples were compared to the background data from the well to determine if the mean of the samples were statistically the same. A Wilcoxon-Mann-Whitney sample 1 vs. sample 2 test was performed with a 95% confidence interval to determine if the sample mean/medians were the same. For both wells, the tests showed that the mean/median results were statistically similar.

In MW7 and MW8, the manganese concentrations from the four most recent tests were compared with background data from the wells to determine if the sample mean/median has remained the same. Tarone-Ware sample 1 vs. sample 2 tests were performed. The results concluded that the current samples are equivalent to the background samples.

MW2, MW3 and MW6 had either non-detect results or results that was lower than the manganese MCL. No further analysis on these wells was needed to determine if they had maintained compliance.

MW9 was analyzed using a one-sample Wilcoxon Signed Rank tests with for samples with non-detects. The most recent four constituent concentration results were compared with the MCL. The results showed that the well was in compliance.

Results from the statistical analysis are included as **Attachment D.**

6. Summary data tables of historical and current water table elevations and analytical results.

Summary data tables for the monitoring wells are included with **Attachment A**.

7. A scaled map showing relevant structures and features of the facility, the land application area and irrigation check boundaries, the locations of monitoring wells and other sampling stations, and groundwater elevation contours referenced to mean sea level datum.

See **Attachment E**.

8. Copies of laboratory analytical report(s) for groundwater monitoring.

See **Attachment F**.

Respectfully,

Hilary A. Reinhard, P.E.

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #1	#1	#1	#1	#1	#1	#1	#1
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Aug-95	8.3	92.66	6.86	234				0.2
Sep-95	7.9	92.30	7.22					
Oct-95	8.1	92.41	7.11	177				0.2
Nov-95	7.3	91.74	7.78					
Jan-96	8.0	90.16	9.36					
Feb-96	8.0	90.66	8.86					
Mar-96	7.5	91.87	7.65					
Apr-96	7.9	91.51	8.01					
May-96	8.0	94.39	5.13					
Jun-96	7.9	94.15	5.37					
Jul-96	8.0	92.80	6.72	164				0.4
Aug-96	8.3	91.66	7.86					
Sep-96	7.7	91.04	8.48					
Oct-96	8.0	90.63	8.89	160				0.3
Nov-96	7.7	89.54	9.98					
Dec-96	8.1	89.28	10.24					
Jan-97	7.7	89.89	9.63					
Feb-97	7.6	90.65	8.87					
Mar-97	7.9	91.06	8.46					
Apr-97	7.5	91.76	7.76					
May-97	7.9	92.74	6.78					
Jun-97	7.8	92.82	6.70					
Jul-97	7.9	92.74	6.78	159				0.6
Aug-97	7.6	90.93	8.59					
Sep-97	8.2	91.41	8.11					
Oct-97	8.8	90.54	8.98	166				0.5
Nov-97	7.5	89.74	9.78					
Dec-97	7.4	89.77	9.75					
Jan-98	7.6	89.50	10.02					
Feb-98	7.4	94.18	5.34					
Mar-98	7.3	93.12	6.40					
Apr-98	7.4	93.68	5.84					
May-98	7.5	93.80	5.72					
Jun-98	7.6	94.19	5.33					
Jul-98	7.5	93.18	6.34					
Aug-98	7.5	93.09	6.43	224				1.2
Sep-98	7.6	92.23	7.29					
Oct-98	7.8	91.67	7.85	215				0.8
Nov-98	7.4	90.33	9.19					
Dec-98	7.4	88.76	10.76					
Jan-99	7.3	88.92	10.60					
Feb-99	7.6	91.14	8.38					
Mar-99	7.5	91.98	7.54					
Apr-99	7.7	91.92	7.60					
May-99	7.8	94.55	4.97					
Jun-99	7.6	93.18	6.34					

Attachment A

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #1	#1	#1	#1	#1	#1	#1	#1
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Jul-99	7.5	93.12	6.40					
Aug-99	7.6	92.31	7.21	181				0.7
Sep-99	7.9	91.31	8.21					
Oct-99	7.6	91.98	7.54	174				0.6
Nov-99	7.5	90.32	9.20					
Dec-99	7.1	89.79	9.73					
Jan-00	7.1	88.54	10.98					
Feb-00	7.6	89.73	9.79					
Mar-00	7.6	90.50	9.02					
Apr-00	7.7	92.78	6.74					
May-00	7.7	93.25	6.27					
Jun-00	7.6	93.42	6.10					
Jul-00	7.6	92.17	7.35	148				1.0
Aug-00	7.6	91.42	8.10					
Sep-00	7.6	91.30	8.22					
Oct-00	6.8	91.21	8.31	173				1.0
Nov-00	7.2	90.73	8.79					
Dec-00	7.1	89.86	9.66					
Jan-01	7.0	89.20	10.32					
Feb-01	6.9	89.29	10.23					
Mar-01	7.1	90.03	9.49					
Apr-01								
May-01	7.5	92.55	6.97					
Jun-01	7.1	92.81	6.71					
Jul-01	6.9	92.89	6.63					
Aug-01	7.4	91.99	7.53	166				1.0
Sep-01	7.3	91.33	8.19					
Oct-01	7.5	91.11	8.41	143				1.1
Nov-01	7.5	90.01	9.51					
Dec-01	7.4	89.92	9.60					
Jan-02	7.6	91.29	8.23					
Feb-02	7.4	90.71	8.81					
Mar-02	7.7	90.09	9.43					
Apr-02	7.6	92.95	6.57					
May-02	7.4	93.01	6.51					
Jun-02	7.6	93.07	6.45					
Jul-02	7.7	92.67	6.85					
Aug-02	7.5	91.88	7.64	166				2.1
Sep-02	7.8	91.30	8.22					
Oct-02	7.1	90.41	9.11	156				1.1
Nov-02	6.9	89.44	10.08					
Dec-02		89.41	10.11					
Jan-03		90.30	9.22					
Feb-03		90.32	9.20					
Mar-03	7.9	90.08	9.44					
Apr-03	6.0	92.42	7.10					

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #1	#1	#1	#1	#1	#1	#1	#1
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-03	6.5	92.26	7.26					
Jun-03	7.0	92.56	6.96					
Jul-03	7.6	92.12	7.40					
Aug-03	6.8	91.42	8.10	127				2.2
Sep-03	7.5	91.12	8.40					
Oct-03	7.7	90.56	8.96	150				1.4
Nov-03	7.0	89.72	9.80	133	0.2	40.0	0.00	1.0
Dec-03	8.0	89.62	9.90	0	0.4	197.0	0.00	1.1
Mar-04	7.7	91.42	8.10	158	0.0	0.0	0.00	6.2
May-04	7.7	94.44	5.08	222	0.4	0.8	0.00	6.7
Aug-04	7.6	93.48	6.00	192	0.0	0.1	0.00	7.9
Sep-04	7.6	92.40	7.08	162	0.0	0.2	0.00	5.8
Nov-04	7.6	90.48	9.00	208	0.0	0.2	0.00	7.1
Feb-05	7.6	91.48	8.00	187	0.0	5.4	0.16	10.0
May-05	7.8	93.31	6.17	185	0.0	1.0	0.00	5.6
Aug-05	7.7	94.48	5.00	170	0.2	1.6	0.00	3.0
Nov-05	7.4	91.48	8.00	137	0.0	0.4	0.00	3.4
Feb-06	7.4	90.90	8.58	134	0.0	0.3	0.00	2.3
May-06	7.5	92.96	6.52	171	0.0	0.0	0.00	5.7
Aug-06	7.6	93.14	6.34	183	0.7	0.0	0.00	4.9
Dec-06	7.6	91.40	8.08	174	0.0	0.0	0.00	2.1
Feb-07	7.8	89.45	10.03	169	0.0	0.0	0.00	5.8
May-07	7.7	94.48	5.00	142	0.8	0.2	0.00	1.2
Aug-07	7.9	93.52	5.96	184	0.9	0.0	0.00	1.6
Nov-07	7.7	90.90	8.58	210	0.5	0.0	0.00	2.2
Mar-08	7.8	91.65	7.83	198	0.1	0.0	0.00	3.7
May-08	7.8	94.15	5.33	222	0.5	0.0	0.00	1.4
Aug-08	8.1	93.23	6.25	212	0.5	0.0	0.00	1.6
Nov-08	8.0	91.23	8.25	210	0.0	0.0	0.00	2.7
Mar-09	7.9	89.40	10.08	181	0.0	0.0	0.00	2.6
May-09	7.4	93.88	5.60	210	0.7	0.0	0.00	2.2
Aug-09	7.9	92.82	6.66	178	0.0	0.0	0.00	1.6
Nov-09	7.5	89.81	9.67	170	0.0	0.0	0.00	1.1
Mar-10	7.6	90.40	9.08	143	0.4	0.0	0.00	0.6
Jun-10	7.6	91.15	8.33	155	1.4	0.0	0.00	1.1
Aug-10	7.6	93.31	6.17	158	0.4	0.0	0.00	3.2
Nov-10	7.5	90.48	9.00	145	0.4	0.0	0.00	2.1
Feb-11	7.7	89.56	9.92	151	0.6	0.0	0.00	3.3
May-11	7.6	92.90	6.58	141	0.4	0.0	0.00	1.7
Aug-11	7.7	96.23	3.25	190	0.4	0.0	0.00	2.9
Nov-11	7.4	91.23	8.25	208	0.3	0.4	0.00	1.7
Mar-12	7.8	91.15	8.33	157	0.2	0.0	0.00	2.2
May-12	8.0	93.81	5.67	136	0.2	0.0	0.00	2.4
Aug-12	7.2	92.73	6.75	151	0.0	0.0	0.00	1.0
Nov-12	7.5	91.56	7.92	144	0.1	0.0	0.00	1.7
Feb-13	7.5	89.40	10.08	150	0.0	0.0	0.00	1.1

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #1	#1	#1	#1	#1	#1	#1	#1
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.5	94.15	5.33	144	0.0	0.0	0.00	1.2
Aug-13	7.7	93.32	6.16	145	0.0	0.0	0.00	0.0
Dec-13	7.1	89.73	9.75	167	0.2	0.0	0.00	0.0
Feb-14	7.8	89.82	9.66	160	0.0	0.0	0.00	0.0
May-14	7.5	93.48	6.00	155	0.1	0.0	0.00	3.5
Averages	7.6	91.65	7.86	168	0.2	5.5	0.00	2.3
Min	6.0	88.54	3.25	0	0.0	0.0	0.00	0.0
Max	8.8	96.23	10.98	234	1.4	197.0	0.16	10.0

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #2	#2	#2	#2	#2	#2	#2	#2
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Aug-95	8.1	90.96	11.09	484				11.1
Sep-95	7.6	90.53	11.52					
Oct-95	7.6	90.05	12.00	422				10.6
Nov-95	7.6	88.07	13.98					
Jan-96	7.7	87.49	14.56					
Feb-96	7.9	88.01	14.04					
Mar-96	7.5	88.23	13.82					
Apr-96	7.7	87.95	14.10					
May-96	7.9	89.83	12.22					
Jun-96	8.0	89.31	12.74					
Jul-96	7.7	89.36	12.69	391				7.3
Aug-96	7.7	87.91	14.14					
Sep-96	7.3	88.74	13.31					
Oct-96	7.8	88.81	13.24	399				7.9
Nov-96	7.5	86.71	15.34					
Dec-96	7.9	86.39	15.66					
Jan-97	7.6	88.89	13.16					
Feb-97	7.4	88.05	14.00					
Mar-97	7.7	87.34	14.71					
Apr-97	7.3	89.57	12.48					
May-97	7.7	93.44	8.61					
Jun-97	7.6	89.63	12.42					
Jul-97	7.7	89.51	12.54	384				11.5
Aug-97	7.3	89.57	12.48					
Sep-97	7.9	89.62	12.43					
Oct-97	8.5	88.23	13.82	403				11.3
Nov-97	7.4	86.78	15.27					
Dec-97	7.3	87.60	14.45					
Jan-98	7.3	87.58	14.47					
Feb-98	7.1	90.46	11.59					
Mar-98	7.2	88.93	13.12					
Apr-98	7.4	88.79	13.26					
May-98	7.3	89.54	12.51					
Jun-98	7.5	90.43	11.62					
Jul-98	7.3	90.33	11.72					
Aug-98	7.4	89.21	12.84	401				8.9
Sep-98	7.4	89.41	12.64					
Oct-98	7.6	87.06	14.99	417				8.2
Nov-98	7.6	87.38	14.67					
Dec-98	7.5	87.08	14.97					
Jan-99	7.2	86.50	15.55					
Feb-99	7.5	88.45	13.60					
Mar-99	7.3	87.85	14.20					
Apr-99	7.5	88.09	13.96					
May-99	7.4	89.17	12.88					
Jun-99	7.4	89.15	12.90					

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #2	#2	#2	#2	#2	#2	#2	#2
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Jul-99	7.4	89.27	12.78					
Aug-99	7.2	88.92	13.13	400				8.9
Sep-99	7.7	88.60	13.45					
Oct-99	7.4	88.69	13.36	406				8.8
Nov-99	7.3	88.29	13.76					
Dec-99	7.2							
Jan-00	7.1	86.37	15.68					
Feb-00	7.4	88.37	13.68					
Mar-00	7.1	88.23	13.82					
Apr-00	7.3	89.81	12.24					
May-00	7.5	89.66	12.39					
Jun-00	7.3	89.76	12.29					
Jul-00	7.4	88.81	13.24	412				7.4
Aug-00	7.5	88.95	13.10					
Sep-00	7.2	89.42	12.63					
Oct-00	7.0	88.91	13.14	404				9.0
Nov-00	7.2	87.96	14.09					
Dec-00	7.1	87.08	14.97					
Jan-01	7.0	87.42	14.63					
Feb-01	7.0	87.05	15.00					
Mar-01	7.3	87.90	14.15					
Apr-01								
May-01	7.5	89.38	12.67					
Jun-01	7.4	88.83	13.22					
Jul-01	7.3	88.20	13.85					
Aug-01	6.9	89.60	12.45	405				7.9
Sep-01	7.1	89.76	12.29					
Oct-01	7.1	89.91	12.14	412				7.9
Nov-01	7.4	87.45	14.60					
Dec-01								
Jan-02								
Feb-02	7.1	88.66	13.39					
Mar-02	7.6	87.11	14.94					
Apr-02	7.3	89.32	12.73					
May-02	7.0	89.60	12.45					
Jun-02	7.0	88.85	13.20					
Jul-02	7.0	89.14	12.91					
Aug-02	7.3	88.54	13.51	386				7.1
Sep-02	7.4	89.21	12.84					
Oct-02	7.3	88.30	13.75	418				6.8
Nov-02	6.9	86.95	15.10					
Dec-02		87.86	14.19					
Jan-03		88.77	13.28					
Feb-03	6.9	81.50	20.55					
Mar-03	7.6	88.67	13.38					
Apr-03		88.15	13.90					

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #2	#2	#2	#2	#2	#2	#2	#2
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-03	6.5	89.21	12.84					
Jun-03	6.8	89.79	12.26					
Jul-03	7.4	88.03	14.02					
Aug-03	6.7	93.70	8.35	359				5.1
Sep-03	7.4	89.85	12.20					
Oct-03	7.3	88.05	14.00	394				5.5
Nov-03	6.9	86.95	15.10	423	0.0	0.0	0.00	6.1
Dec-03	7.4	88.19	13.86	426	0.0	0.0	0.00	5.6
Mar-04	7.0	91.93	10.12	460	0.0	0.0	0.00	10.5
May-04	7.3	90.05	12.00	448	0.5	0.4	0.00	9.5
Aug-04	6.9	91.60	10.16	479	0.0	0.0	0.00	8.2
Sep-04	7.0	87.93	13.83	426	0.0	0.0	0.00	7.2
Nov-04	7.5	88.86	12.90	354	0.0	0.2	0.00	8.2
Feb-05	7.0	94.51	7.25	476	0.2	2.4	0.00	9.0
May-05	7.6	88.43	13.33	445	0.0	0.7	0.00	8.8
Aug-05	7.0	89.34	12.42	445	0.0	1.3	0.00	3.9
Nov-05	6.8	88.06	13.70	428	0.0	0.3	0.00	5.7
Feb-06	7.0	87.76	14.00	463	0.0	0.5	0.00	5.5
May-06	7.5	88.26	13.50	517	0.0	0.0	0.00	5.5
Aug-06	6.9	89.47	12.29	531	0.7	0.0	0.00	6.7
Dec-06	6.8	87.93	13.83	538	0.0	0.0	0.00	2.2
Feb-07	7.2	86.60	15.16	407	0.0	0.0	0.00	9.7
May-07	7.1	90.26	11.50	353	0.6	0.0	0.00	3.9
Aug-07	7.1	89.86	11.90	493	0.9	0.0	0.00	5.0
Nov-07	7.1	87.76	14.00	469	0.6	0.0	0.00	5.0
Mar-08	7.0	93.09	8.67	445	0.2	0.0	0.00	5.0
May-08	7.3	89.26	12.50	451	0.4	0.0	0.00	3.0
Aug-08	7.7	89.51	12.25	502	0.6	0.0	0.00	3.2
Nov-08	7.5	87.93	13.83	524	0.2	0.0	0.00	4.6
Mar-09	7.1	86.60	15.16	530	0.0	0.0	0.00	6.7
May-09	7.4	89.60	12.16	544	0.0	0.3	0.00	7.7
Aug-09	7.2	89.93	11.83	450	0.9	0.0	0.00	6.1
Nov-09	6.9	87.34	14.42	540	0.0	0.0	0.00	2.4
Mar-10	6.9	85.51	16.25	449	0.0	0.0	0.00	2.6
Jun-10	7.2	88.96	12.80	405	0.6	0.0	0.00	3.4
Aug-10	7.2	89.84	11.92	463	0.3	0.0	0.00	9.4
Nov-10	7.0	87.84	13.92	501	0.3	0.0	0.00	3.2
Feb-11	7.2	87.51	14.25	459	0.6	0.0	0.00	3.9
May-11	7.2	87.59	14.17	393	0.3	0.0	0.00	2.6
Aug-11	7.3	90.26	11.50	528	0.3	0.0	0.00	5.8
Nov-11	6.9	89.26	12.50	534	0.4	0.3	0.00	4.6
Mar-12	7.0	86.84	14.92	463	0.3	0.0	0.00	4.9
May-12	7.4	86.59	15.17	446	0.4	0.0	0.00	3.7
Aug-12	6.8	88.51	13.25	560	0.0	0.0	0.00	4.6
Nov-12	7.4	87.84	13.92	438	0.4	0.0	0.00	2.2
Feb-13	7.1	87.26	14.50	460	0.0	0.0	0.00	2.3

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #2	#2	#2	#2	#2	#2	#2	#2
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.4	88.93	12.83	466	0.0	0.0	0.00	2.2
Aug-13	7.2	89.85	11.91	440	0.0	0.0	0.00	1.4
Dec-13	7.3	87.35	14.41	508	0.2	0.0	0.00	3.0
Feb-14	8.0	86.68	15.08	540	0.0	0.3	0.00	5.0
May-14	7.1	88.01	13.75	498	0.7	0.0	0.00	1.2
Averages	7.3	88.67	13.29	451	0.2	0.1	0.00	6.1
Min	6.5	81.50	7.25	353	0.0	0.0	0.00	1.2
Max	8.5	94.51	20.55	560	0.9	2.4	0.00	11.5

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #3	#3	#3	#3	#3	#3	#3	#3
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Aug-95	8.0	91.17	2.87	494				10.1
Sep-95	7.6	89.99	4.05					
Oct-95	7.6	89.32	4.72	486				10.3
Nov-95	7.5	87.87	6.17					
Jan-96	7.7	87.49	6.55					
Feb-96	7.8	87.55	6.49					
Mar-96	7.6	87.55	6.49					
Apr-96	7.6	87.44	6.60					
May-96	7.8	88.86	5.18					
Jun-96	7.9	88.83	5.21					
Jul-96	7.7	88.51	5.53	419				9.4
Aug-96	8.0	87.30	6.74					
Sep-96	7.4	87.78	6.26					
Oct-96	7.8	87.97	6.07	454				9.2
Nov-96	7.4	86.12	7.92					
Dec-96	7.8	85.86	8.18					
Jan-97	7.5	88.28	5.76					
Feb-97	7.4	87.37	6.67					
Mar-97	7.8	86.80	7.24					
Apr-97	7.3	88.77	5.27					
May-97	7.6	87.50	6.54					
Jun-97	7.6	88.46	5.58					
Jul-97	7.6	88.70	5.34	415				10.8
Aug-97	7.3	88.87	5.17					
Sep-97	7.9	88.84	5.20					
Oct-97	8.4	87.44	6.60	428				10.8
Nov-97	7.4	86.37	7.67					
Dec-97	7.3	87.04	7.00					
Jan-98	7.4	87.52	6.52					
Feb-98	7.2	89.56	4.48					
Mar-98	7.3	88.38	5.66					
Apr-98	7.5	87.96	6.08					
May-98	7.4	88.61	5.43					
Jun-98	7.5	88.79	5.25					
Jul-98	7.3	89.16	4.88					
Aug-98	7.4	89.04	5.00	443				13.8
Sep-98	7.4	88.51	5.53					
Oct-98	7.6	88.30	5.74	439				11.8
Nov-98	7.7	82.90	11.14					
Dec-98	7.6	86.64	7.40					
Jan-99	7.4	86.06	7.98					
Feb-99	7.6	87.90	6.14					
Mar-99	7.4	87.19	6.85					
Apr-99	7.5	87.16	6.88					
May-99	7.5	88.14	5.90					
Jun-99	7.4	88.31	5.73					

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #3	#3	#3	#3	#3	#3	#3	#3
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
Jul-99	7.4	88.19	5.85					
Aug-99	7.4	88.20	5.84	480				13.6
Sep-99	8.0	88.05	5.99					
Oct-99	7.5	88.14	5.90	451				13.4
Nov-99	7.3	87.68	6.36					
Dec-99	7.2							
Jan-00	7.3	86.06	7.98					
Feb-00								
Mar-00	7.4	87.70	6.34					
Apr-00	7.5	88.68	5.36					
May-00	7.3	88.46	5.58					
Jun-00	7.5	88.41	5.63					
Jul-00	7.5	87.94	6.10	452				13.3
Aug-00	7.5	87.54	6.50					
Sep-00	7.4	88.73	5.31					
Oct-00	7.4	88.64	5.40	466				13.9
Nov-00	7.4	87.30	6.74					
Dec-00	7.3	86.44	7.60					
Jan-01	7.3	86.97	7.07					
Feb-01	7.4	86.58	7.46					
Mar-01	7.8	87.44	6.60					
Apr-01								
May-01	7.5	87.79	6.25					
Jun-01	7.4	88.12	5.92					
Jul-01	7.3	87.94	6.10					
Aug-01	7.4	88.65	5.39	498				13.2
Sep-01	7.2	88.73	5.31					
Oct-01	7.2	88.07	5.97	470				13.7
Nov-01	7.6	86.88	7.16					
Dec-01								
Jan-02								
Feb-02	7.2	87.92	6.12					
Mar-02	7.4	86.53	7.51					
Apr-02	7.2	88.28	5.76					
May-02	7.3	88.35	5.69					
Jun-02	7.4	88.05	5.99					
Jul-02	7.6	88.14	5.90					
Aug-02	7.3	87.85	6.19	452				8.8
Sep-02	7.4	88.23	5.81					
Oct-02	7.3	87.47	6.57	463				6.5
Nov-02	7.3	86.27	7.77					
Dec-02		87.57	6.47					
Jan-03		88.29	5.75					
Feb-03								
Mar-03	7.8	87.04	7.00					
Apr-03		85.43	8.61					

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #3	#3	#3	#3	#3	#3	#3	#3
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-03	6.7	88.02	6.02					
Jun-03	7.0	88.26	5.78					
Jul-03	7.6	85.14	8.90					
Aug-03	6.9	85.48	8.56	410				8.7
Sep-03	7.4	88.82	5.22					
Oct-03	7.7	87.12	6.92	432				10.0
Nov-03	7.1	86.44	7.60	454	0.0	0.0	0.00	11.0
Dec-03	7.7	88.80	5.24	462	0.7	0.0	31.00	11.7
Mar-04	7.4	88.08	5.96	487	0.0	0.0	0.00	19.8
May-04	7.6	88.96	5.08	492	0.0	0.8	0.00	21.0
Aug-04	7.3	87.84	6.00	499	0.0	0.1	0.00	17.1
Sep-04	7.4	87.26	6.58	446	0.2	0.0	0.00	15.2
Nov-04	7.7	88.14	5.70	396	0.0	0.0	0.00	18.1
Feb-05	7.3	89.18	4.66	522	0.6	20.0	0.64	18.5
May-05	7.5	87.38	6.46	516	0.0	0.7	0.00	27.2
Aug-05	7.5	88.59	5.25	480	0.9	0.0	0.35	18.4
Nov-05	7.1	87.18	6.66	473	0.0	0.6	0.00	6.4
Feb-06	7.1	85.34	8.50	488	0.0	0.7	0.00	10.8
May-06	7.1	87.80	6.04	633	0.0	0.1	0.00	12.9
Aug-06	7.2	88.14	5.70	576	0.8	0.0	0.00	9.3
Dec-06	7.2	87.97	5.87	510	0.0	0.0	0.00	11.9
Feb-07	7.3	88.68	5.16	537	0.0	0.0	0.00	15.0
May-07	7.5	88.59	5.25	360	0.8	0.0	0.00	10.3
Aug-07	7.5	88.84	5.00	555	1.0	0.0	0.00	10.8
Nov-07	7.4	87.51	6.33	495	0.5	0.0	0.00	15.1
Mar-08	7.4	87.84	6.00	253	0.1	0.0	0.00	3.9
May-08	7.6	88.43	5.41	463	0.5	0.0	0.00	6.4
Aug-08	7.9	89.34	4.50	479	0.5	0.0	0.00	8.6
Nov-08	7.9	87.92	5.92	549	0.0	0.0	0.00	12.1
Mar-09	7.3	87.26	6.58	432	0.0	0.0	0.00	12.3
May-09	7.4	87.01	6.83	420	0.2	0.2	0.00	10.8
Aug-09	7.6	88.26	5.58	540	0.0	0.0	0.00	8.7
Nov-09	7.3	87.59	6.25	517	0.3	0.0	0.00	8.9
Mar-10	7.4	88.43	5.41	406	0.0	0.0	0.00	15.1
Jun-10	7.2	89.26	4.58	388	0.4	0.0	0.00	7.7
Aug-10	7.3	89.92	3.92	536	0.5	0.0	0.00	51.4
Nov-10	7.3	87.92	5.92	456	0.3	0.0	0.00	16.4
Feb-11	7.5	88.09	5.75	524	0.9	0.0	0.00	12.2
May-11	7.4	88.01	5.83	431	0.7	0.0	0.00	20.0
Aug-11	7.5	90.51	3.33	560	0.6	0.0	0.00	27.4
Nov-11	7.3	89.51	4.33	630	0.6	0.5	0.00	30.8
Mar-12	7.4	85.92	7.92	498	0.6	0.0	0.00	18.0
May-12	7.6	87.17	6.67	534	0.7	0.0	0.00	26.3
Aug-12	7.1	87.92	5.92	520	0.0	0.0	0.00	20.6
Nov-12	7.4	86.76	7.08	477	0.6	0.0	0.00	11.1
Feb-13	7.3	86.34	7.50	515	0.0	0.0	0.00	21.3

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #3	#3	#3	#3	#3	#3	#3	#3
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.4	87.84	6.00	477	0.0	0.0	0.00	16.1
Aug-13	7.4	88.84	5.00	550	0.0	0.0	0.00	19.1
Dec-13	7.6	86.76	7.08	574	0.4	0.1	0.00	12.0
Feb-14	7.6	86.43	7.41	570	0.0	0.3	0.00	10.7
May-14	7.4	87.18	6.66	530	0.1	0.0	0.00	11.8
Averages	7.5	87.83	6.15	482	0.3	0.5	0.71	14.3
Min	6.7	82.90	2.87	253	0.0	0.0	0.00	3.9
Max	8.4	91.17	11.14	633	1.0	20.0	31.00	51.4

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #4	#4	#4	#4	#4	#4	#4	#4
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.4	89.81	7.42	348	0.0	0.0	0.00	5.2
Nov-04	7.6	89.63	7.60	352	0.0	0.2	0.00	6.8
Feb-05	7.3	90.07	7.16	438	0.4	83.0	2.80	7.1
May-05	7.7	90.31	6.92	506	0.3	0.8	0.00	5.2
Aug-05	7.5	91.40	5.83	298	0.0	3.3	0.00	2.7
Nov-05	7.4	89.57	7.66	296	0.0	0.2	0.00	8.3
Feb-06	7.2	89.48	7.75	367	0.0	1.3	0.00	5.8
May-06	7.4	90.11	7.12	481	0.0	0.0	0.00	3.9
Aug-06	7.2	91.47	5.76	305	0.8	0.0	0.00	3.8
Dec-06	7.5	89.15	8.08	365	0.0	0.0	0.00	4.2
Feb-07	7.4	87.81	9.42	414	0.0	0.0	0.00	10.8
May-07	7.4	91.65	5.58	309	0.7	0.0	0.00	4.1
Aug-07	7.5	91.40	5.83	327	0.9	0.0	0.00	3.9
Nov-07	7.4	89.23	8.00	385	0.3	0.0	0.00	5.8
Mar-08	7.4	89.52	7.71	378	0.1	0.0	0.00	4.2
May-08	7.5	91.48	5.75	371	0.3	0.0	0.00	4.8
Aug-08	8.0	91.44	5.79	351	0.5	0.0	0.00	5.4
Nov-08	7.6	89.31	7.92	360	0.0	0.0	0.00	7.5
Mar-09	7.8	88.23	9.00	373	0.0	0.0	0.00	6.6
May-09	7.6	92.40	4.83	347	0.0	0.2	0.00	7.1
Aug-09	7.8	93.07	4.16	420	0.5	0.0	0.00	4.4
Nov-09	7.3	88.56	8.67	327	0.4	0.0	0.00	2.1
Mar-10	7.4	90.23	7.00	324	0.3	0.0	0.00	2.1
Jun-10	7.7	91.40	5.83	344	0.8	0.0	0.00	4.1
Aug-10	7.5	91.81	5.42	290	0.6	0.0	0.00	9.4
Nov-10	7.3	89.15	8.08	286	0.5	0.0	0.00	4.8
Feb-11	7.5	88.48	8.75	323	0.7	0.0	0.00	4.6
May-11	7.5	90.65	6.58	275	0.4	0.0	0.00	5.8
Aug-11	7.6	93.23	4.00	355	0.5	0.0	0.00	7.2
Nov-11	7.4	91.23	6.00	320	0.5	0.4	0.00	6.1
Mar-12	7.5	88.23	9.00	319	0.6	0.0	0.00	5.6
May-12	7.9	91.40	5.83	298	0.5	0.0	0.00	7.2
Aug-12	7.0	90.56	6.67	350	0.0	0.0	0.00	7.7
Nov-12	7.3	89.23	8.00	306	0.5	0.0	0.00	5.0
Feb-13	7.6	88.23	9.00	290	0.0	0.0	0.00	4.1

New Monitoring Wells Completed 19 August 2004 and Sampled 4 September 2004

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #4	#4	#4	#4	#4	#4	#4	#4
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-13	7.5	90.98	6.25	310	0.0	0.0	0.00	4.2
Aug-13	7.4	91.32	5.91	330	0.0	0.0	0.00	2.1
Dec-13	7.7	88.57	8.66	380	0.3	0.0	0.00	6.0
Feb-14	7.7	87.73	9.50	255	0.0	0.3	0.00	0.0
May-14	7.6	90.07	7.16	245	0.4	0.0	0.00	0.6
Averages	7.5	90.19	7.04	343	0.3	2.2	0.07	5.2
Min	7.0	87.73	4.00	245	0.0	0.0	0.00	0.0
Max	8.0	93.23	9.50	506	0.9	83.0	2.80	10.8

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #5	#5	#5	#5	#5	#5	#5	#5
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.3	84.05	4.25	704	0.3	0.0	0.00	42.3
Nov-04	7.8	84.14	4.16	528	0.0	0.2	0.00	7.1
Feb-05	7.7	85.05	3.25	462	0.3	88.0	2.40	9.0
May-05	7.8	84.01	4.29	488	0.0	1.0	0.00	7.6
Aug-05	7.8	84.72	3.58	469	0.0	5.5	0.10	4.4
Nov-05	7.8	82.93	5.37	533	0.0	0.2	0.00	6.2
Feb-06	7.6	84.05	4.25	572	0.0	1.7	0.00	5.8
May-06	7.8	84.47	3.83	697	0.0	0.1	0.00	5.1
Aug-06	7.6	81.45	6.85	627	0.7	0.0	0.00	5.9
Dec-06	7.9	84.59	3.71	610	0.0	0.0	0.00	6.2
Feb-07	7.7	82.17	6.13	655	0.0	0.0	0.00	9.3
May-07	7.7	84.97	3.33	563	0.9	0.0	0.00	3.9
Aug-07	7.7	84.55	3.75	524	1.0	0.0	0.00	4.2
Nov-07	7.7	83.55	4.75	484	0.4	0.0	0.00	3.8
Mar-08	7.8	84.13	4.17	533	0.3	0.0	0.00	4.8
May-08	7.8	84.64	3.66	617	0.5	0.0	0.00	3.3
Aug-08	8.2	84.63	3.67	585	0.5	0.0	0.00	4.1
Nov-08	7.9	83.80	4.50	670	0.0	0.0	0.00	5.8
Mar-09	8.1	84.72	3.58	663	0.2	0.0	0.00	8.5
May-09	7.9	84.64	3.66	624	0.3	0.2	0.14	8.8
Aug-09	7.9	83.22	5.08	608	0.8	0.0	0.00	4.2
Nov-09	7.6	84.13	4.17	571	0.3	0.0	0.00	5.4
Mar-10	7.5	84.64	3.66	582	0.5	0.0	0.00	7.1
Jun-10	8.0	82.55	5.75	566	1.2	0.0	0.00	6.9
Aug-10	7.7	85.05	3.25	498	0.5	0.0	0.00	15.2
Nov-10	7.5	84.30	4.00	487	0.5	0.0	0.00	7.4
Feb-11	7.7	85.30	3.00	545	0.8	0.0	0.00	12.5
May-11	7.6	84.72	3.58	553	0.8	0.0	0.00	25.3
Aug-11	7.7	85.80	2.50	779	0.9	0.0	0.00	54.1
Nov-11	7.6	84.39	3.91	760	0.9	0.4	0.00	40.2
Mar-12	7.7	84.09	4.21	628	0.9	0.0	0.00	25.3
May-12	8.1	83.47	4.83	602	0.9	0.0	0.00	22.4
Aug-12	7.3	84.30	4.00	930	0.0	0.0	0.00	83.7
Nov-12	7.6	83.30	5.00	638	0.9	0.0	0.00	26.3
Feb-13	7.6	83.22	5.08	520	0.0	0.0	0.00	11.2

New Monitoring Wells Completed 19 August 2004 and Sampled 4 September 2004

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #5	#5	#5	#5	#5	#5	#5	#5
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.5	84.89	3.41	566	0.0	0.0	0.00	10.4
Aug-13	7.6	84.55	3.75	638	0.0	0.0	0.00	5.7
Dec-13	7.8	83.55	4.75	680	0.2	0.0	0.00	10.5
Feb-14	8.0	83.38	4.92	565	0.0	0.3	0.00	5.0
May-14	7.6	84.47	3.83	610	0.2	0.0	0.00	3.0
Averages	7.7	84.11	4.19	598	0.4	2.4	0.07	13.4
Min	7.3	81.45	2.50	462	0.0	0.0	0.00	3.0
Max	8.2	85.80	6.85	930	1.2	88.0	2.40	83.7

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #6	#6	#6	#6	#6	#6	#6	#6
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.5	81.52	5.00	770	0.0	0.0	0.00	11.0
Nov-04	7.9	85.02	1.50	699	0.0	0.3	0.00	9.3
Feb-05	7.5	84.27	2.25	689	0.3	23.6	0.80	11.4
May-05	7.9	81.19	5.33	750	0.0	0.6	0.00	16.0
Aug-05	7.5	84.10	2.42	751	0.0	5.0	0.13	7.2
Nov-05	7.6	81.40	5.12	748	0.0	0.3	0.00	7.5
Feb-06	7.1	82.69	3.83	700	0.0	0.4	0.00	6.7
May-06	7.7	82.11	4.41	666	0.0	0.0	0.00	8.9
Aug-06	7.4	84.36	2.16	682	1.0	0.0	0.00	10.5
Dec-06	7.6	82.85	3.67	685	0.0	0.0	0.00	14.8
Feb-07	7.5	80.86	5.66	669	0.0	0.0	0.00	16.5
May-07	7.6	82.77	3.75	600	0.7	0.0	0.00	6.6
Aug-07	7.6	82.19	4.33	600	1.1	0.0	0.00	12.8
Nov-07	7.5	81.69	4.83	741	0.6	0.0	0.00	12.7
Mar-08	7.5	82.60	3.92	658	0.4	0.0	0.00	12.8
May-08	7.5	81.77	4.75	739	0.5	0.0	0.00	6.5
Aug-08	7.9	84.94	1.58	680	0.7	0.0	0.00	7.2
Nov-08	7.8	83.27	3.25	725	0.2	0.0	0.00	8.2
Mar-09	7.8	82.94	3.58	710	0.2	0.0	0.00	7.9
May-09	7.9	79.69	6.83	730	0.4	0.3	0.11	11.6
Aug-09	7.9	80.69	5.83	725	1.1	0.0	0.00	12.0
Nov-09	7.3	83.27	3.25	695	0.3	0.0	0.00	7.5
Mar-10	7.3	83.19	3.33	765	0.5	0.0	0.00	4.7
Jun-10	7.5	81.94	4.58	821	0.3	0.0	0.00	8.5
Aug-10	7.4	83.35	3.17	704	0.5	0.0	0.00	5.9
Nov-10	7.2	83.35	3.17	710	0.3	0.0	0.00	3.2
Feb-11	7.4	83.69	2.83	779	0.6	0.0	0.00	4.2
May-11	7.4	82.44	4.08	634	0.2	0.0	0.00	5.2
Aug-11	7.5	84.19	2.33	825	0.3	0.0	0.00	5.8
Nov-11	7.4	86.11	0.41	840	0.2	0.2	0.00	6.5
Mar-12	7.4	82.60	3.92	797	0.4	0.0	0.00	5.0
May-12	7.6	80.94	5.58	740	0.4	0.0	0.00	5.9
Aug-12	7.1	81.94	4.58	780	0.0	0.0	0.00	7.1
Nov-12	7.4	81.60	4.92	674	0.3	0.0	0.00	5.6
Feb-13	7.3	81.44	5.08	735	0.0	0.0	0.00	8.8

New Monitoring Wells Completed 19 August 2004
and Sampled 4 September 2004

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #6	#6	#6	#6	#6	#6	#6	#6
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.5	81.52	5.00	666	0.0	0.0	0.00	9.7
Aug-13	7.3	82.02	4.50	685	0.0	0.0	0.00	7.8
Dec-13	7.6	82.02	4.50	820	0.4	0.0	0.01	5.5
Feb-14	7.7	83.61	2.91	775	0.0	0.1	0.00	7.0
May-14	7.3	81.36	5.16	850	0.2	0.0	0.00	3.5
Averages	7.5	82.59	3.93	725	0.3	0.8	0.03	8.4
Min	7.1	79.69	0.41	600	0.0	0.0	0.00	3.2
Max	7.9	86.11	6.83	850	1.1	23.6	0.80	16.5

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #7	#7	#7	#7	#7	#7	#7	#7
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.5	80.41	4.75	534	0.0	0.0	0.00	11.0
Nov-04	7.5	81.66	3.50	542	0.0	0.2	0.22	9.9
Feb-05	7.4	82.50	2.66	531	0.0	56.0	2.20	11.8
May-05	7.9	80.99	4.17	536	0.3	0.8	0.13	11.5
Aug-05	7.6	81.74	3.42	528	0.0	1.8	0.34	7.0
Nov-05	7.5	81.16	4.00	554	0.0	0.3	0.14	8.6
Feb-06	7.2	80.83	4.33	563	0.0	0.6	0.00	7.5
May-06	7.6	80.96	4.20	616	0.0	0.0	0.00	8.4
Aug-06	7.3	77.12	8.04	619	0.7	0.0	0.00	6.8
Dec-06	7.2	81.74	3.42	647	0.0	0.0	0.14	4.3
Feb-07	7.4	81.24	3.92	742	0.0	0.0	1.00	13.1
May-07	7.5	82.49	2.67	624	0.8	0.1	0.00	6.2
Aug-07	7.5	82.58	2.58	615	1.0	0.0	0.00	7.9
Nov-07	7.4	81.00	4.16	694	0.5	0.0	0.14	5.2
Mar-08	7.4	81.37	3.79	607	0.2	0.0	0.00	13.8
May-08	7.5	82.50	2.66	591	0.5	0.0	0.00	3.7
Aug-08	8.0	82.08	3.08	613	0.5	0.0	0.00	7.0
Nov-08	8.0	81.58	3.58	710	0.2	0.0	0.00	9.9
Mar-09	7.5	81.75	3.41	698	0.5	0.0	0.11	12.4
May-09	7.7	80.91	4.25	655	0.4	0.0	0.15	14.6
Aug-09	7.9	77.33	7.83	680	0.9	0.0	0.00	10.4
Nov-09	7.3	81.58	3.58	678	0.3	0.0	0.00	2.4
Mar-10	7.3	82.00	3.16	652	0.4	0.0	0.14	4.2
Jun-10	7.5	81.83	3.33	665	0.3	0.0	0.00	4.3
Aug-10	7.4	82.74	2.42	584	0.2	0.0	0.08	4.7
Nov-10	7.3	81.83	3.33	620	0.2	0.0	0.00	3.1
Feb-11	7.4	82.24	2.92	696	0.5	0.1	0.16	3.8
May-11	7.4	82.16	3.00	567	0.5	0.0	0.00	4.8
Aug-11	7.6	83.49	1.67	710	0.6	0.0	0.00	6.5
Nov-11	7.3	82.58	2.58	830	0.5	0.3	0.33	5.5
Mar-12	7.4	81.83	3.33	675	0.5	0.0	0.72	5.8
May-12	7.6	80.16	5.00	659	0.5	0.0	0.78	4.4
Aug-12	7.0	82.66	2.50	710	0.0	0.0	0.00	5.0
Nov-12	7.4	80.24	4.92	653	0.5	0.0	0.56	1.1
Feb-13	7.3	80.50	4.66	644	0.0	0.0	0.00	2.5

New Monitoring Wells Completed 19 August 2004
and Sampled 4 September 2004

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #7	#7	#7	#7	#7	#7	#7	#7
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-13	7.4	81.75	3.41	653	0.0	0.0	0.00	8.8
Aug-13	7.3	82.33	2.83	720	0.0	0.0	0.00	2.1
Dec-13	7.6	80.83	4.33	762	0.4	0.1	0.19	2.0
Feb-14	7.9	80.66	4.50	718	0.0	0.2	0.27	2.0
May-14	7.3	81.00	4.16	786	0.3	0.0	0.24	1.5
Averages	7.5	81.41	3.75	647	0.3	1.5	0.20	6.6
Min	7.0	77.12	1.67	528	0.0	0.0	0.00	1.1
Max	8.0	83.49	8.04	830	1.0	56.0	2.20	14.6

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #8	#8	#8	#8	#8	#8	#8	#8
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.3	74.81	2.66	512	0.0	0.0	0.00	0.0
Nov-04	7.5	73.87	3.60	732	0.0	0.3	1.24	2.2
Feb-05	7.2	75.47	2.00	755	0.4	35.2	1.90	0.4
May-05	7.4	72.01	5.46	699	0.6	0.5	0.87	0.0
Aug-05	7.7	73.97	3.50	729	0.0	2.6	0.00	8.8
Nov-05	7.3	71.14	6.33	737	0.0	0.2	1.13	0.5
Feb-06	7.0	73.56	3.91	721	0.0	0.5	0.36	0.3
May-06	7.3	73.47	4.00	787	0.0	0.0	0.00	0.9
Aug-06	7.1	69.93	7.54	700	1.0	0.0	0.00	2.1
Dec-06	7.5	74.22	3.25	753	0.0	0.0	0.00	1.4
Feb-07	7.2	74.13	3.34	934	0.0	0.0	0.00	2.7
May-07	7.2	73.47	4.00	645	0.8	0.7	0.43	0.3
Aug-07	7.3	74.47	3.00	776	0.8	0.0	0.00	4.7
Nov-07	7.2	73.56	3.91	850	0.7	0.0	0.48	1.3
Mar-08	7.2	74.01	3.46	820	0.1	0.0	0.00	9.0
May-08	7.2	74.31	3.16	963	0.5	0.0	0.65	1.7
Aug-08	7.7	73.89	3.58	942	0.5	0.0	0.56	4.1
Nov-08	7.5	74.22	3.25	815	0.2	0.0	0.15	4.0
Mar-09	7.5	74.97	2.50	712	0.3	0.0	0.21	4.0
May-09	7.7	73.64	3.83	718	0.3	0.0	0.32	6.5
Aug-09	8.1	69.06	8.41	780	0.9	0.0	0.00	6.9
Nov-09	7.1	74.22	3.25	776	0.5	0.0	0.00	3.5
Mar-10	7.1	74.14	3.33	820	0.3	0.0	0.70	0.4
Jun-10	7.8	73.65	3.82	735	0.5	0.0	0.00	5.5
Aug-10	7.3	74.47	3.00	748	0.0	0.0	0.49	3.5
Nov-10	7.0	74.55	2.92	747	0.2	0.0	0.35	1.1
Feb-11	7.2	75.47	2.00	937	0.4	0.3	0.86	5.3
May-11	7.1	73.64	3.83	809	0.3	0.0	0.00	1.9
Aug-11	7.3	74.39	3.08	1,017	0.2	0.0	0.00	0.0
Nov-11	7.2	74.89	2.58	996	0.5	1.1	0.47	2.0
Mar-12	7.3	74.47	3.00	842	0.3	0.0	1.15	2.2
May-12	7.4	72.14	5.33	855	0.4	0.0	1.21	2.7
Aug-12	6.8	72.97	4.50	966	0.0	0.0	0.00	1.3
Nov-12	7.1	72.55	4.92	876	0.3	0.0	0.85	0.9
Feb-13	7.3	73.39	4.08	800	0.0	0.0	0.00	2.5

New Monitoring Wells Completed 19 August 2004
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MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #8	#8	#8	#8	#8	#8	#8	#8
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.1	72.47	5.00	870	0.0	0.0	0.00	9.0
Aug-13	7.1	73.56	3.91	954	0.0	0.0	0.00	0.0
Dec-13	7.5	73.05	4.42	859	0.4	0.0	0.96	1.0
Feb-14	7.5	73.81	3.66	860	0.0	0.3	1.18	0.0
May-14	7.1	72.64	4.83	1,090	0.7	0.0	1.15	1.2
Averages	7.3	73.57	3.90	816	0.3	1.0	0.44	2.6
Min	6.8	69.06	2.00	512	0.0	0.0	0.00	0.0
Max	8.1	75.47	8.41	1,090	1.0	35.2	1.90	9.0

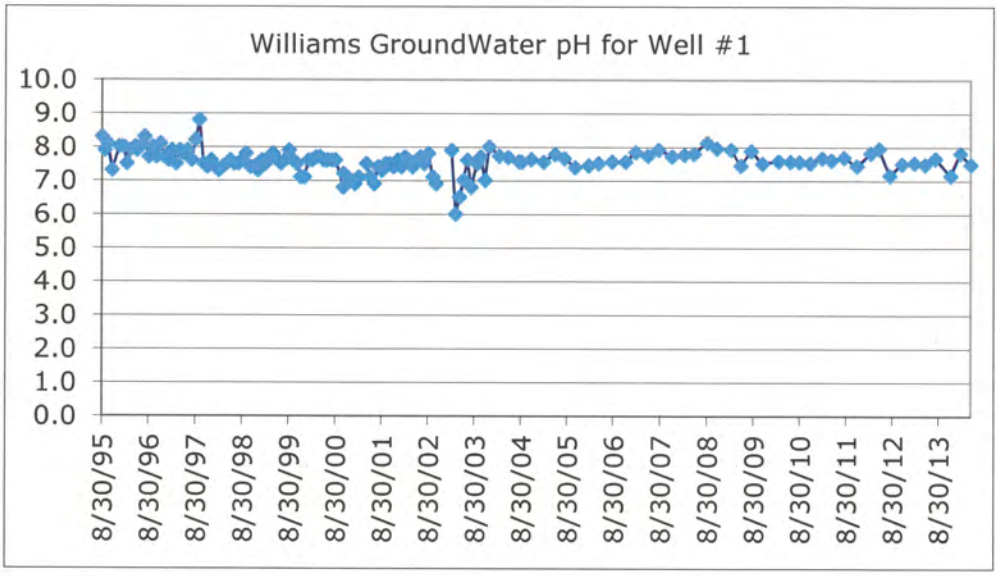
MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #9	#9	#9	#9	#9	#9	#9	#9
Date	pH	Elevation	Depth to GroundWater	TDS	TKN	Iron	Manganese	Nitrate Nitrogen
May-03								
Jun-03								
Jul-03								
Aug-03								
Sep-03								
Oct-03								
Nov-03								
Dec-03								
Mar-04								
May-04								
Aug-04								
Sep-04	7.8	76.12	3.58	1,080	0.2	0.0	0.00	23.0
Nov-04	7.7	76.40	3.30	1,204	0.0	0.2	0.91	30.8
Feb-05	7.6	78.70	1.00	1,157	0.3	4.5	0.26	26.6
May-05	8.0	76.70	3.00	904	0.2	0.6	0.00	20.8
Aug-05	7.7	75.28	4.42	936	0.2	2.3	0.00	19.6
Nov-05	7.8	73.83	5.87	951	0.0	0.5	0.11	26.8
Feb-06	7.5	76.53	3.17	780	0.0	0.5	0.11	12.0
May-06	7.8	77.37	2.33	950	0.0	0.0	0.00	8.4
Aug-06	7.6	77.25	2.45	857	0.7	0.0	0.00	8.1
Dec-06	8.0	76.20	3.50	732	0.0	0.0	0.00	11.5
Feb-07	7.8	75.83	3.87	952	0.0	0.0	0.00	15.4
May-07	7.7	77.28	2.42	862	0.7	2.9	0.00	7.8
Aug-07	7.8	76.29	3.41	859	1.2	0.0	0.00	11.2
Nov-07	7.7	75.95	3.75	861	0.4	0.0	0.00	10.7
Mar-08	7.7	77.28	2.42	813	0.2	0.0	0.00	7.7
May-08	7.8	76.12	3.58	865	0.5	0.0	0.00	4.3
Aug-08	8.2	75.95	3.75	885	0.5	0.0	0.00	6.1
Nov-08	8.0	76.37	3.33	830	0.2	0.0	0.15	8.8
Mar-09	7.8	77.29	2.41	817	0.5	0.0	0.00	10.2
May-09	7.7	74.12	5.58	775	0.3	0.2	0.12	12.8
Aug-09	8.2	75.87	3.83	885	1.2	0.0	0.00	13.8
Nov-09	7.6	76.45	3.25	830	0.3	0.0	0.45	8.8
Mar-10	7.6	77.29	2.41	836	0.2	0.0	0.00	7.2
Jun-10	8.1	77.03	2.67	832	0.5	0.0	0.00	36.8
Aug-10	7.7	77.03	2.67	799	0.7	0.0	0.09	12.8
Nov-10	7.5	77.53	2.17	862	0.6	0.0	0.00	10.1
Feb-11	7.7	78.70	1.00	935	0.4	0.0	0.00	5.9
May-11	7.6	77.78	1.92	843	0.3	0.0	0.00	10.6
Aug-11	7.6	78.03	1.67	1,353	0.4	0.0	0.00	16.6
Nov-11	7.6	78.12	1.58	1,225	0.3	0.5	0.00	13.7
Mar-12	7.7	77.37	2.33	1,015	0.3	0.0	0.00	14.6
May-12	8.3	75.62	4.08	989	0.2	0.0	0.00	24.4
Aug-12	7.4	77.20	2.50	1,050	0.0	0.0	0.00	18.7
Nov-12	7.5	74.37	5.33	992	0.2	0.0	0.00	11.3
Feb-13	7.5	75.70	4.00	1,110	0.0	0.0	0.00	12.5

New Monitoring Wells Completed 19 August 2004 and Sampled 4 September 2004

MORNING STAR PACKING COMPANY
GroundWater Samples Lab-Test Results

	Groundwater Sample Locations & Constituents							
Location	Well #9	#9	#9	#9	#9	#9	#9	#9
Date	pH	Elevation	Depth to	TDS	TKN	Iron	Manganese	Nitrate
			GroundWater					Nitrogen
May-13	7.4	78.20	1.50	855	0.0	0.0	0.00	11.4
Aug-13	7.6	78.70	1.00	972	0.0	0.0	0.00	11.3
Dec-13	7.8	71.12	8.58	1,040	0.2	0.0	0.14	7.0
Feb-14	7.8	71.12	8.58	1,017	0.0	0.3	0.10	0.1
May-14	7.4	73.37	6.33	1,480	0.7	0.0	0.10	10.1
Averages	7.7	76.34	3.36	950	0.3	0.3	0.06	13.5
Min	7.4	71.12	1.00	732	0.0	0.0	0.00	0.1
Max	8.3	78.70	8.58	1,480	1.2	4.5	0.91	36.8


Williams GroundWater pH for Well #1
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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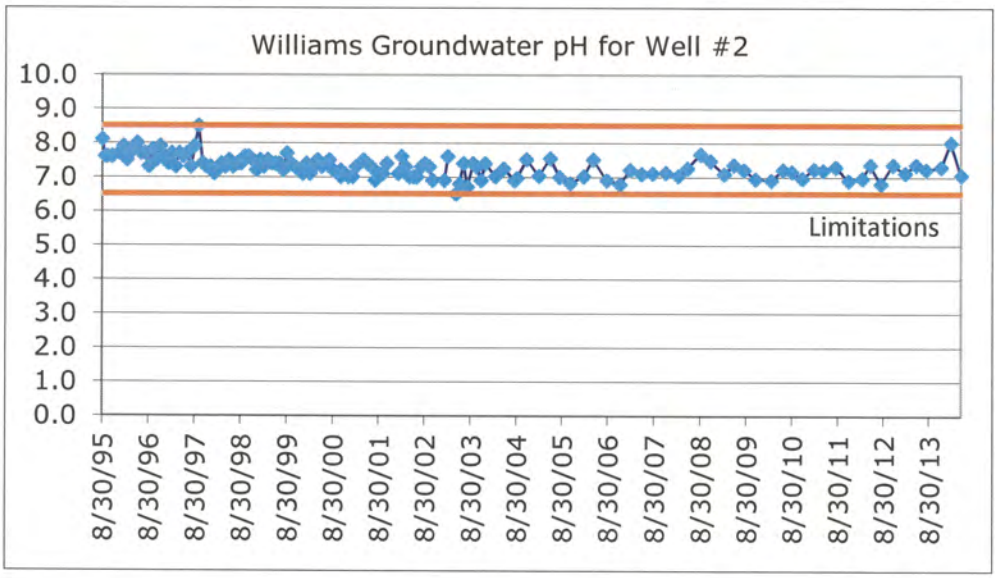
8/30/11
8/30/12
8/30/13


Williams Groundwater pH for Well #2
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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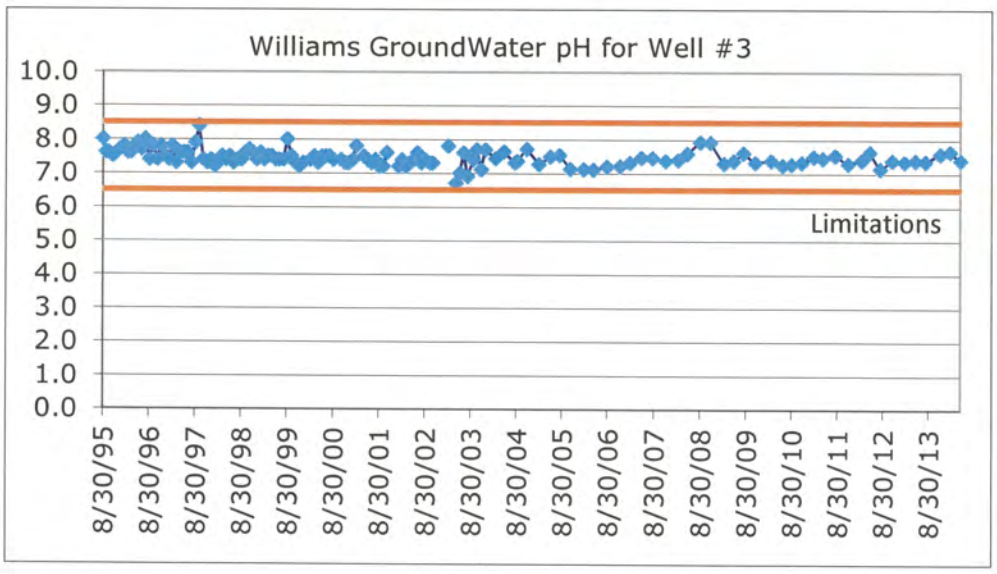
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #3
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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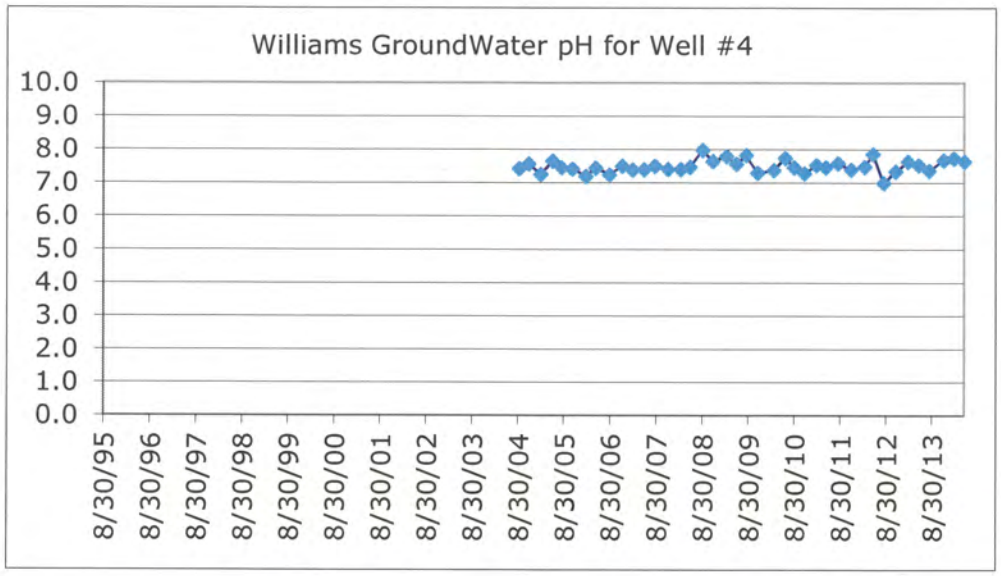
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #4
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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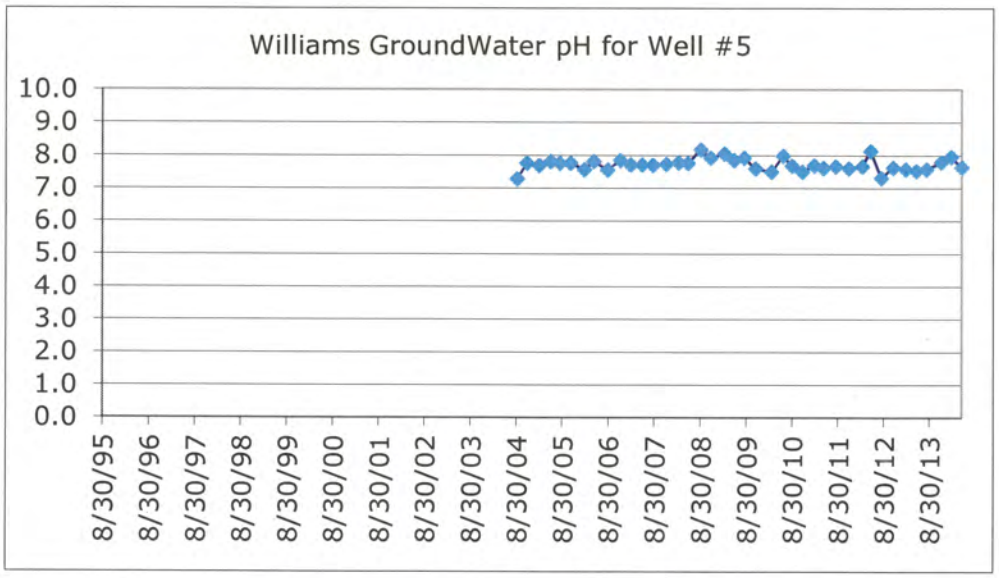
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #5
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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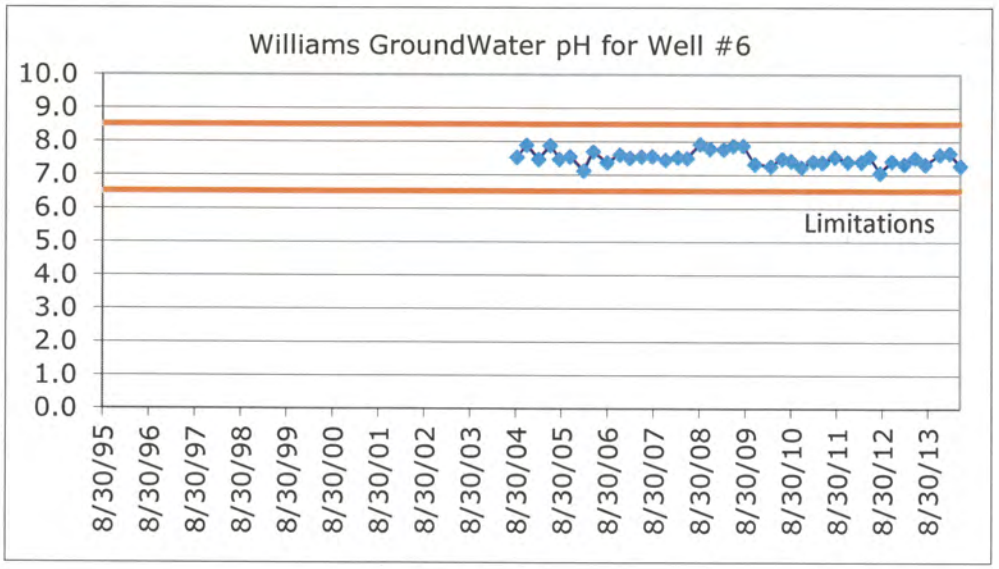
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #6
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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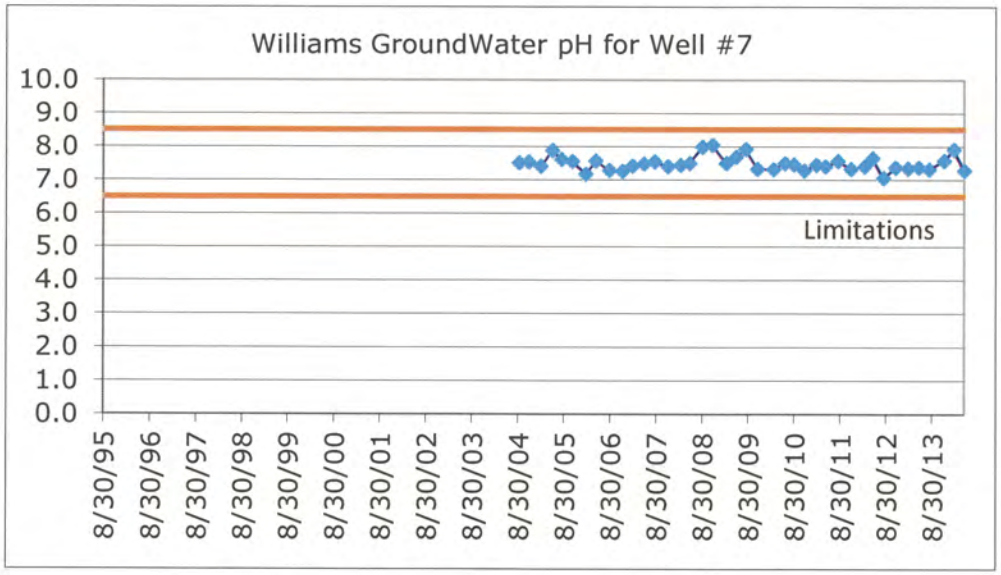
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #7
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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8/30/08
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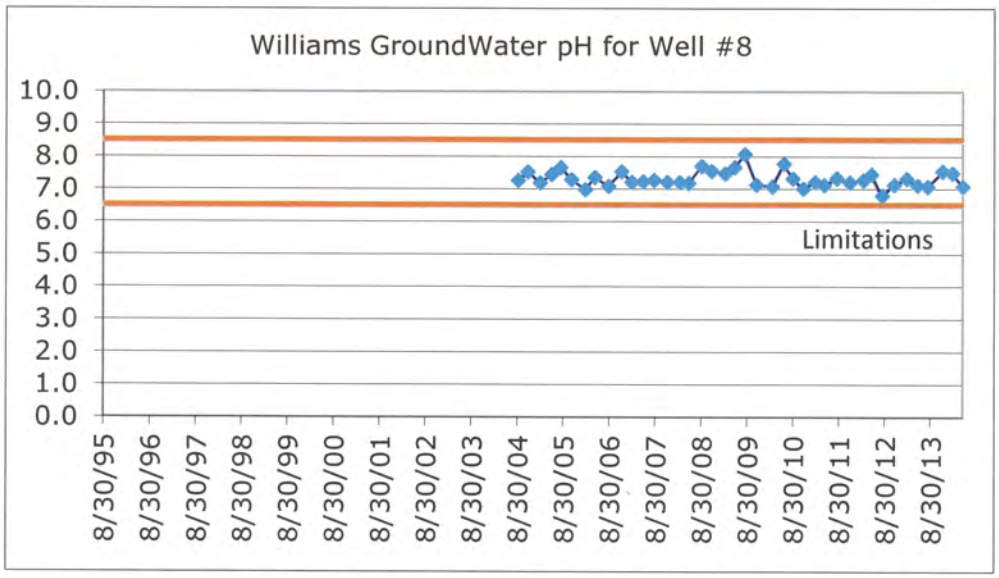
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #8
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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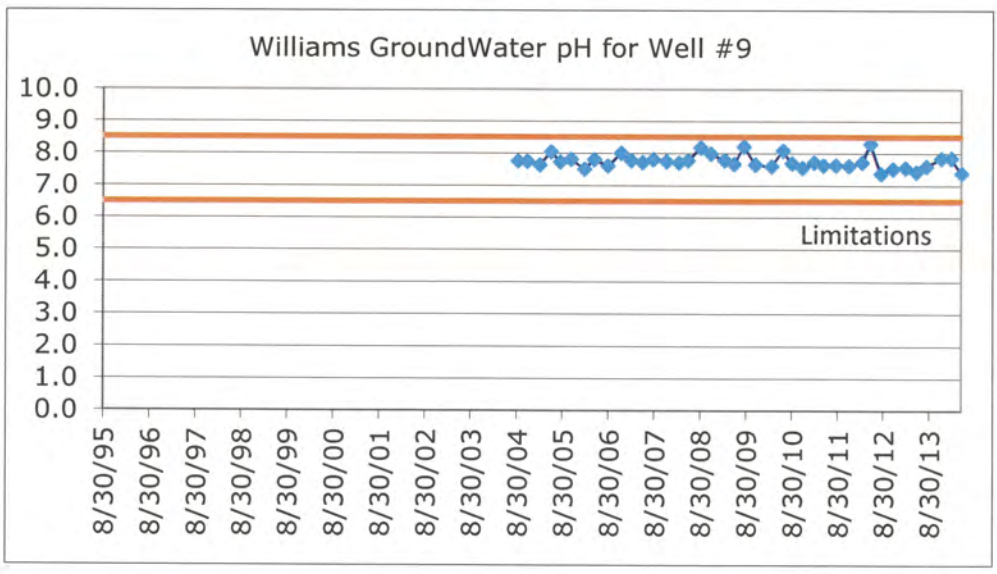
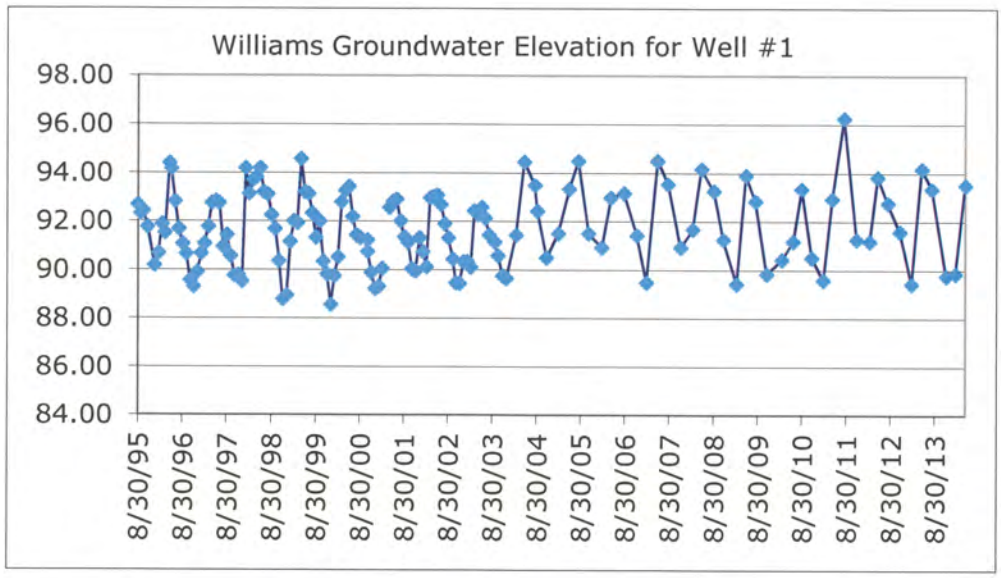
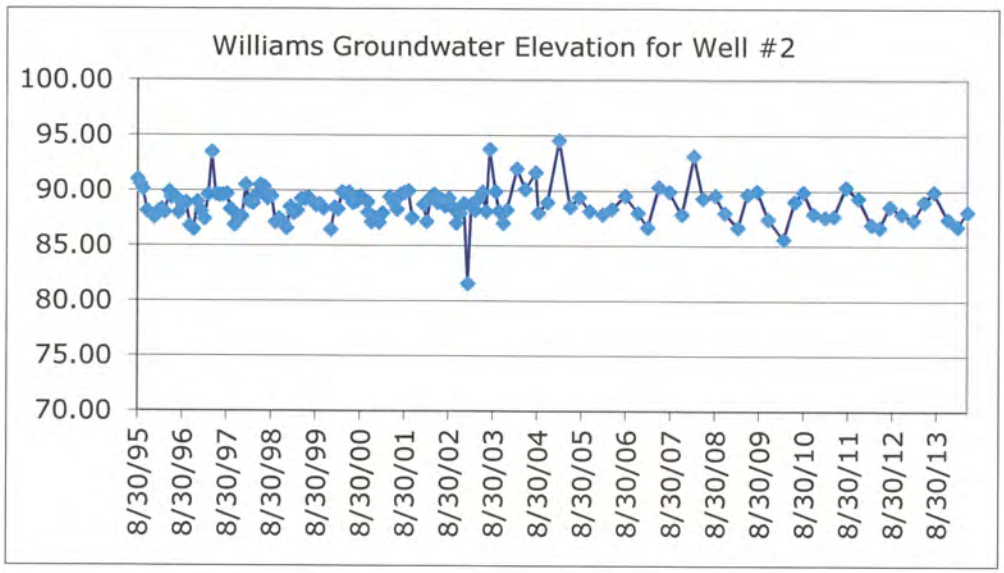
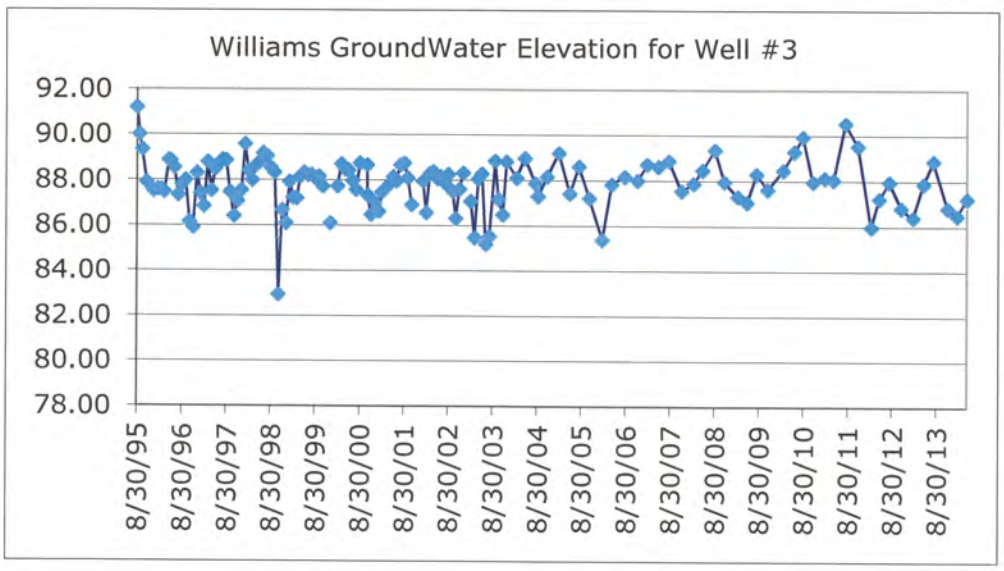
8/30/11
8/30/12
8/30/13


Williams GroundWater pH for Well #9
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #1
98.00
96.00
94.00
92.00
90.00
88.00
86.00
84.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #2
100.00
95.00
90.00
85.00
80.00
75.00
70.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Elevation for Well #3
92.00
90.00
88.00
86.00
84.00
82.00
80.00
78.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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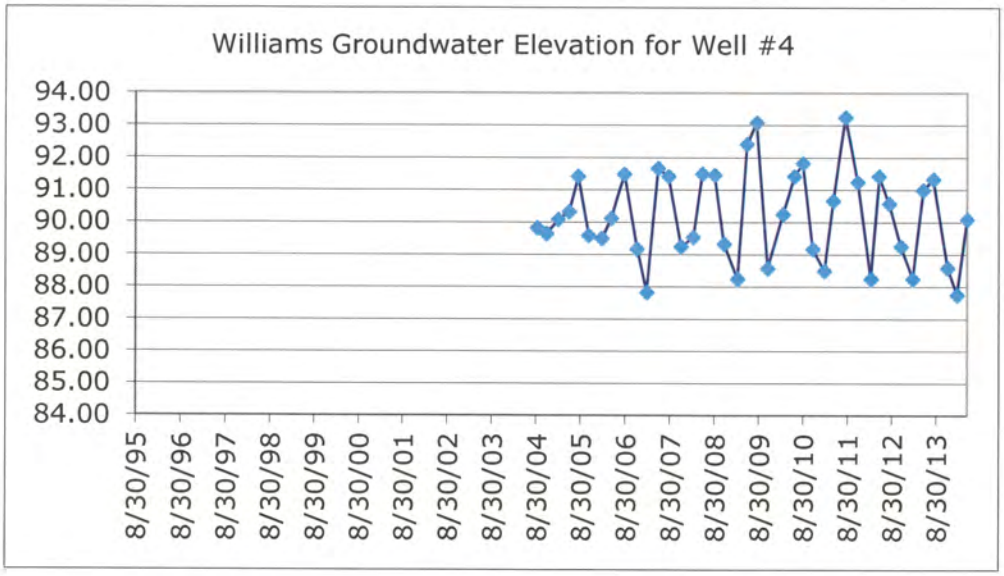
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #4
94.00
93.00
92.00
91.00
90.00
89.00
88.00
87.00
86.00
85.00
84.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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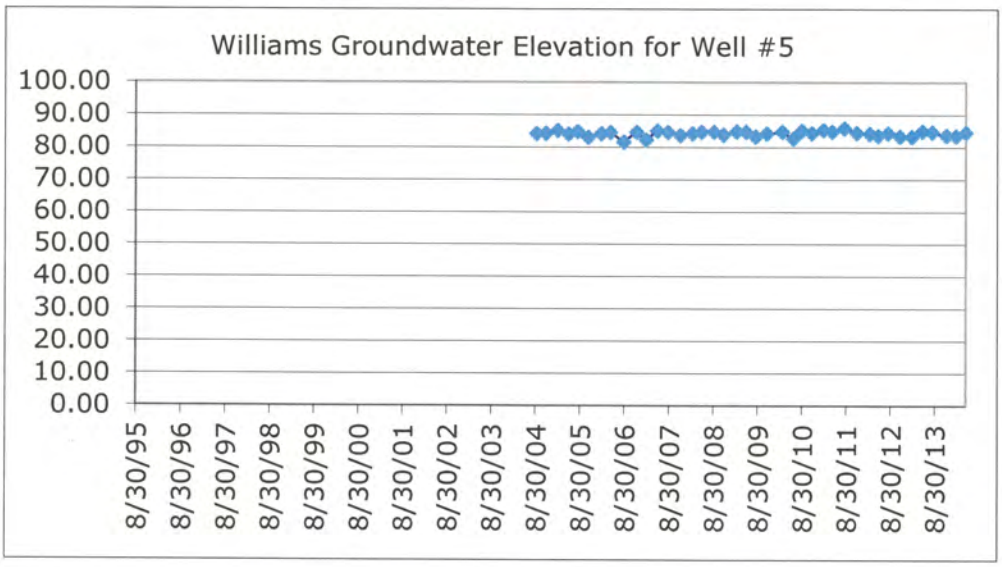
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #5
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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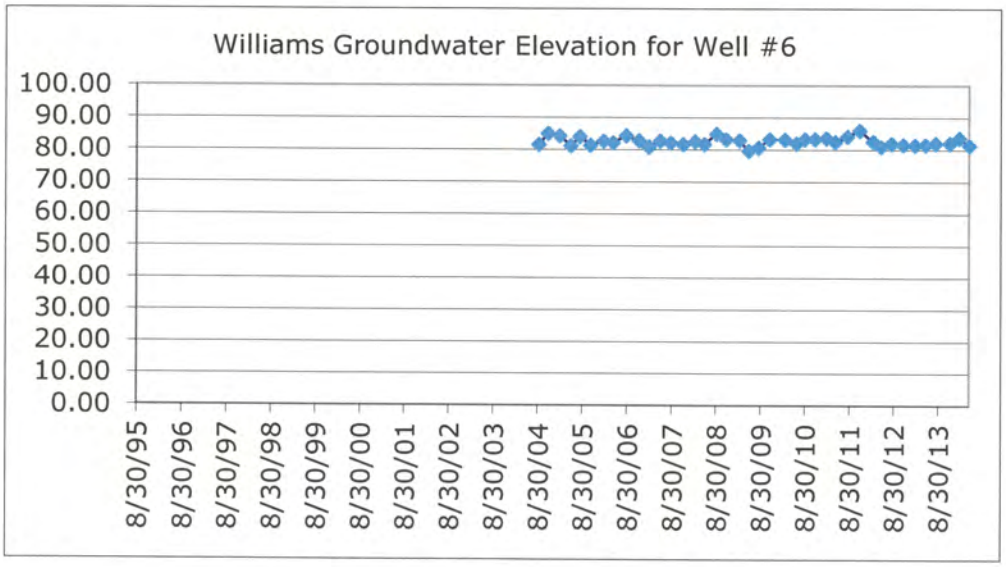
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #6
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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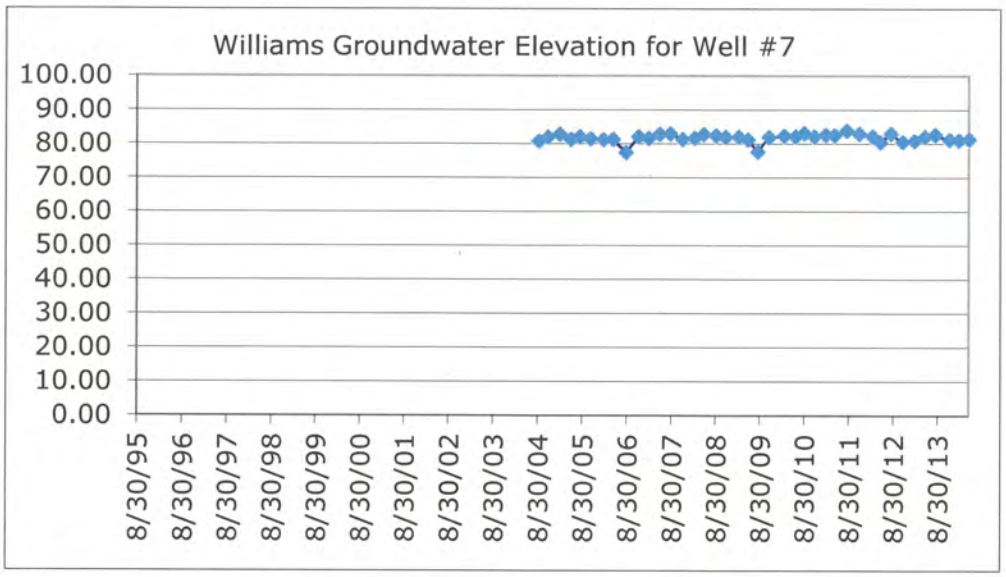
8/30/11
8/30/12
8/30/13


Williams Groundwater Elevation for Well #7
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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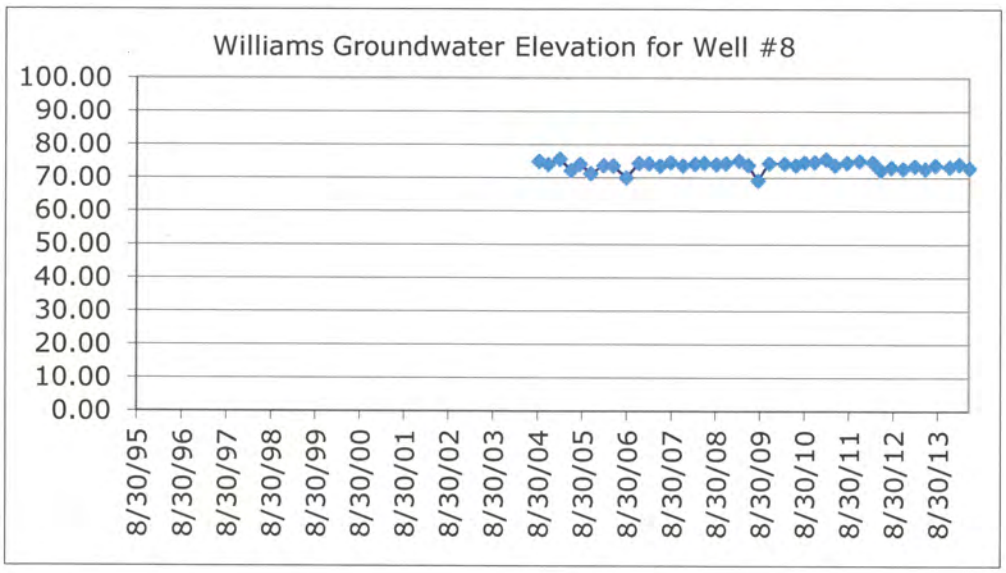
8/30/12
8/30/13


Williams Groundwater Elevation for Well #8
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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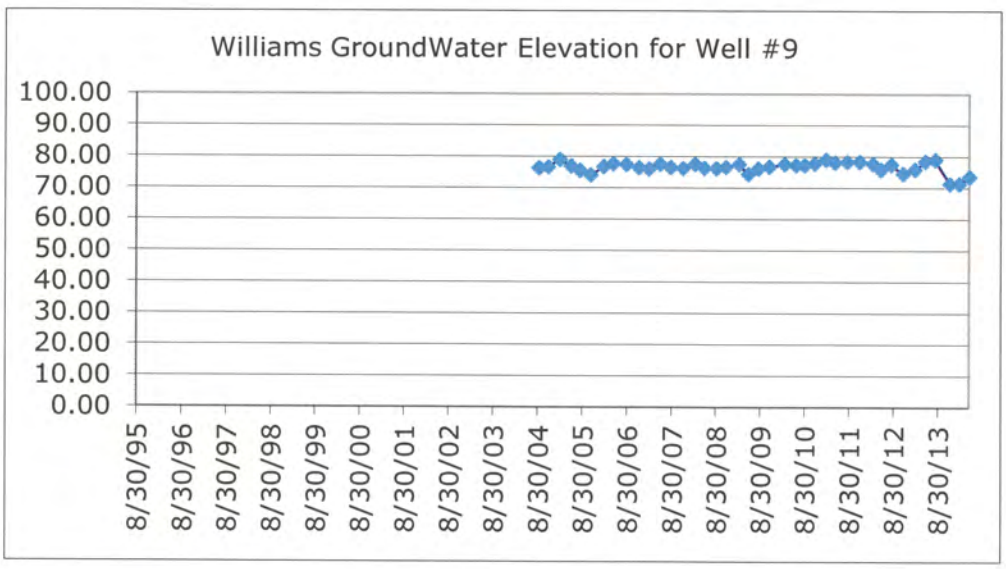
8/30/11
8/30/12
8/30/13


Williams GroundWater Elevation for Well #9
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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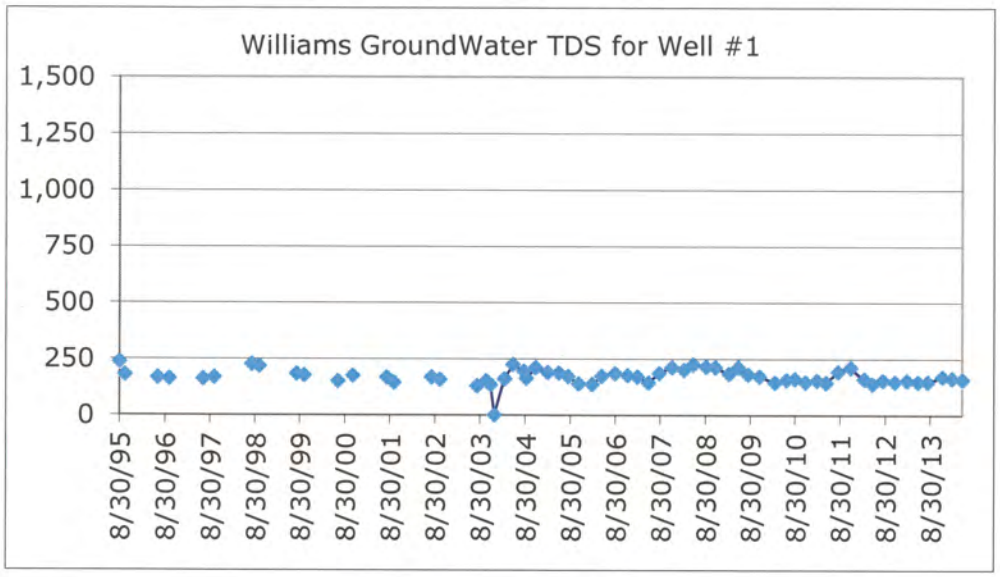
8/30/12
8/30/13


Williams GroundWater TDS for Well #1
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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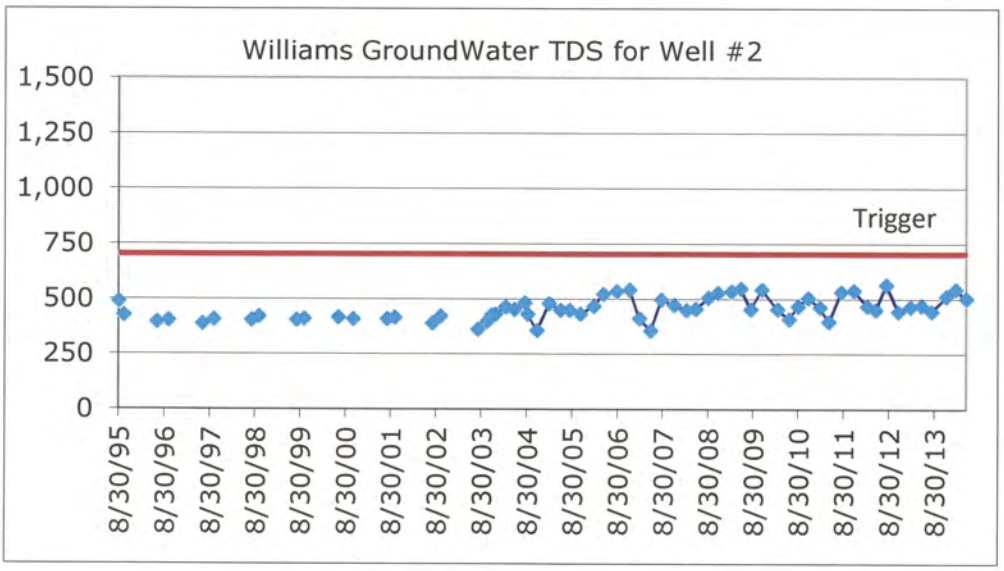
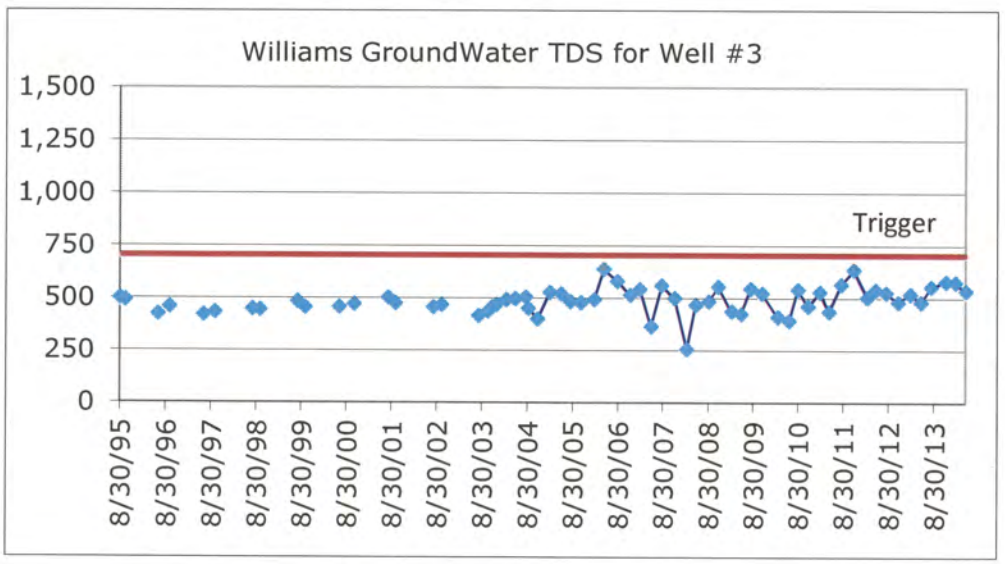
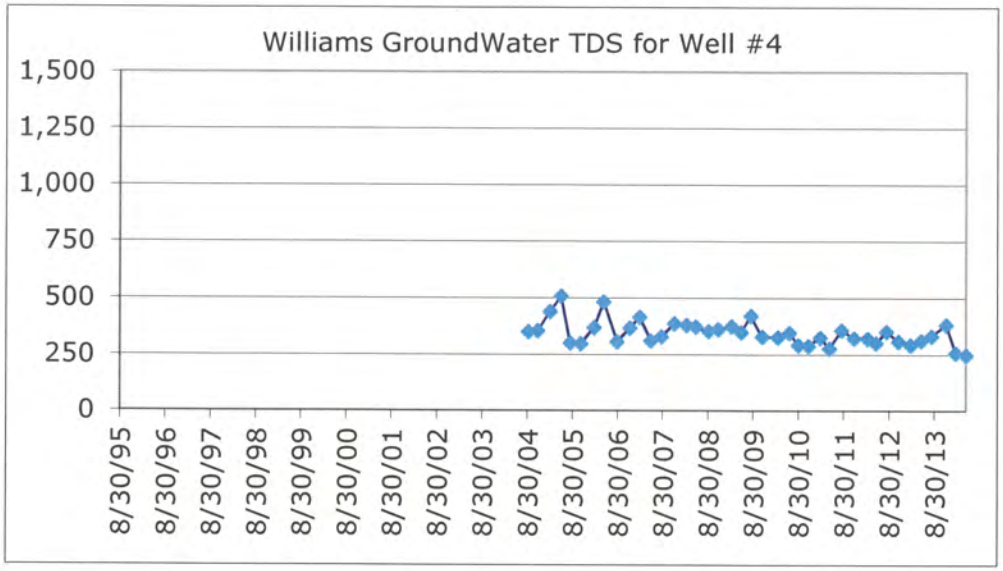
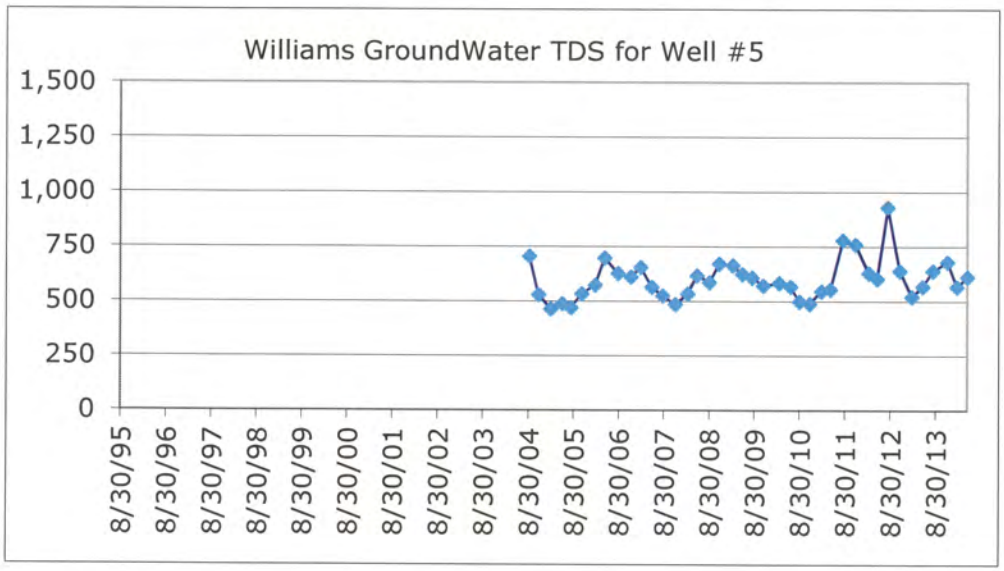
8/30/12
8/30/13


Williams GroundWater TDS for Well #2
1,500
1,250
1,000
750
500
250
0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #3
1,500
1,250
1,000
750
500
250
0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #4
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #5
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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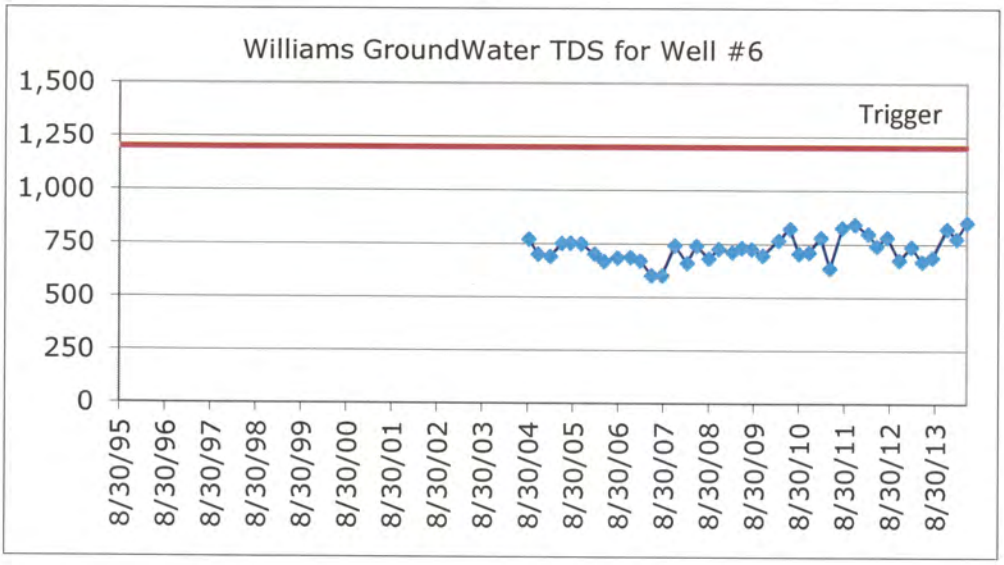
8/30/12
8/30/13


Williams GroundWater TDS for Well #6
Trigger
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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8/30/09
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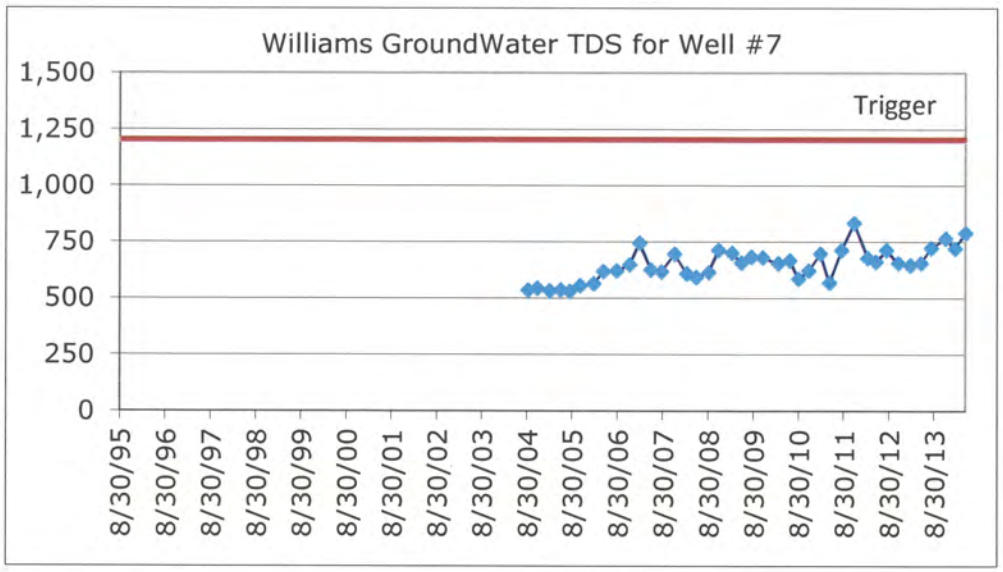
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #7
Trigger
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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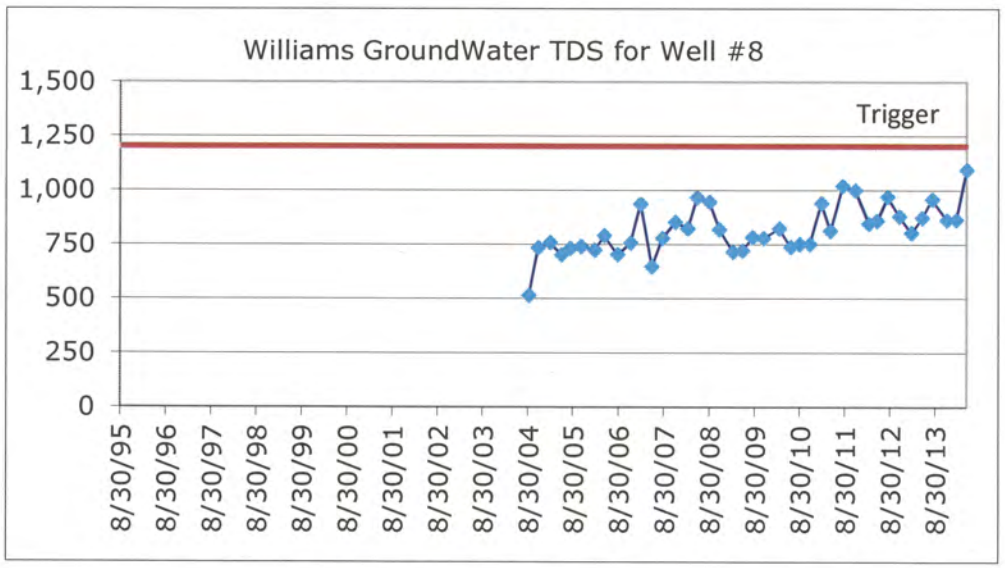
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #8
Trigger
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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8/30/08
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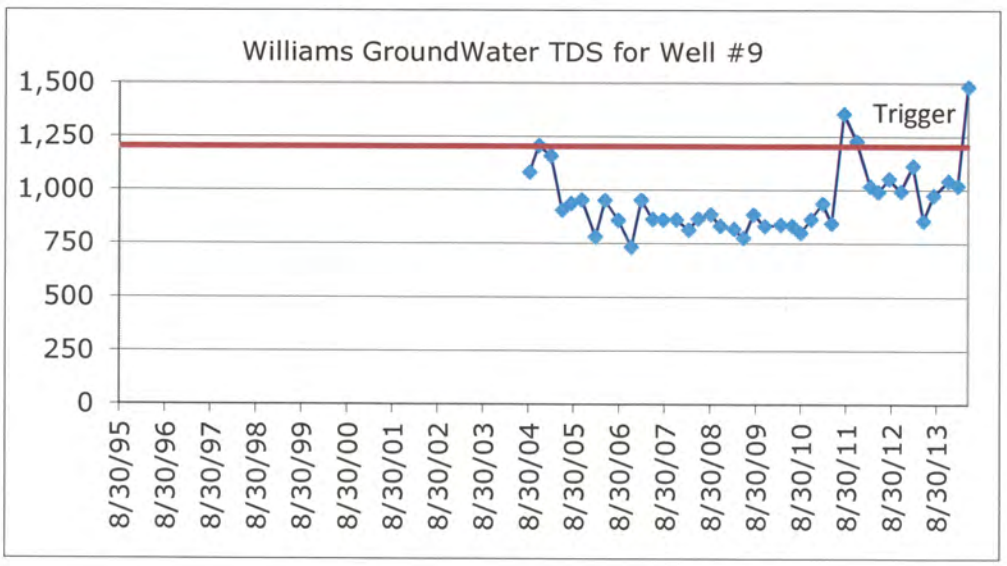
8/30/11
8/30/12
8/30/13


Williams GroundWater TDS for Well #9
Trigger
1,500
1,250
1,000
750
500
250
0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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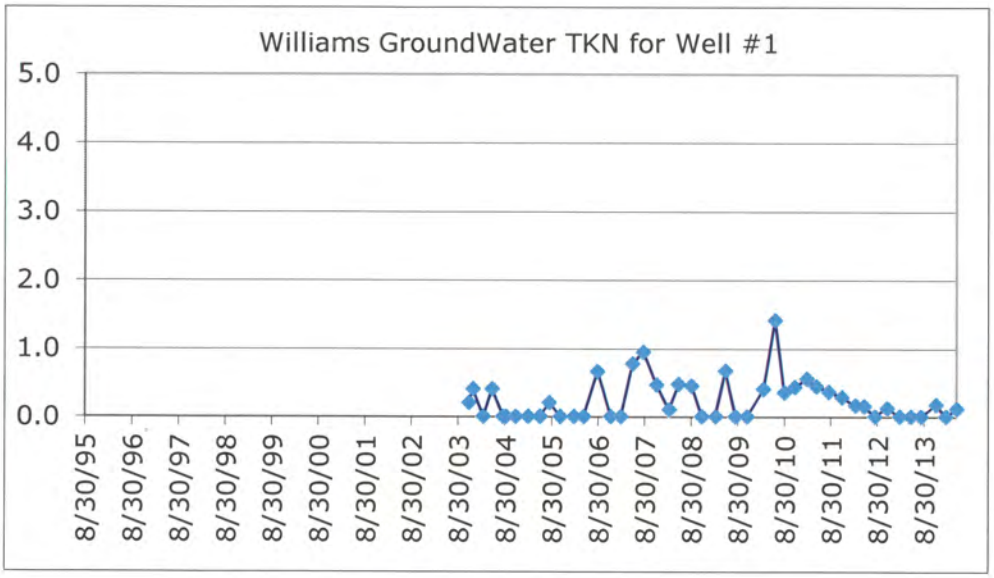
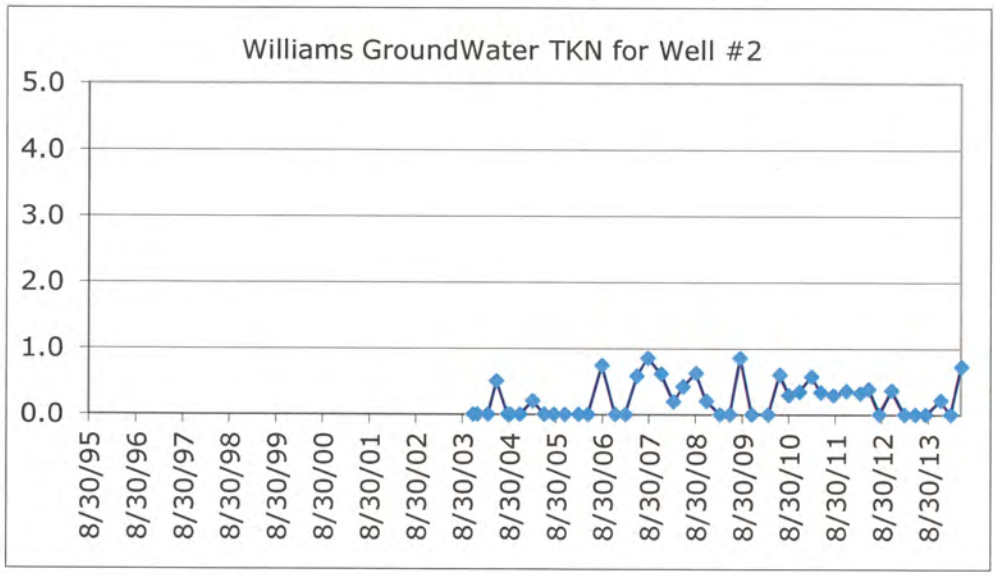
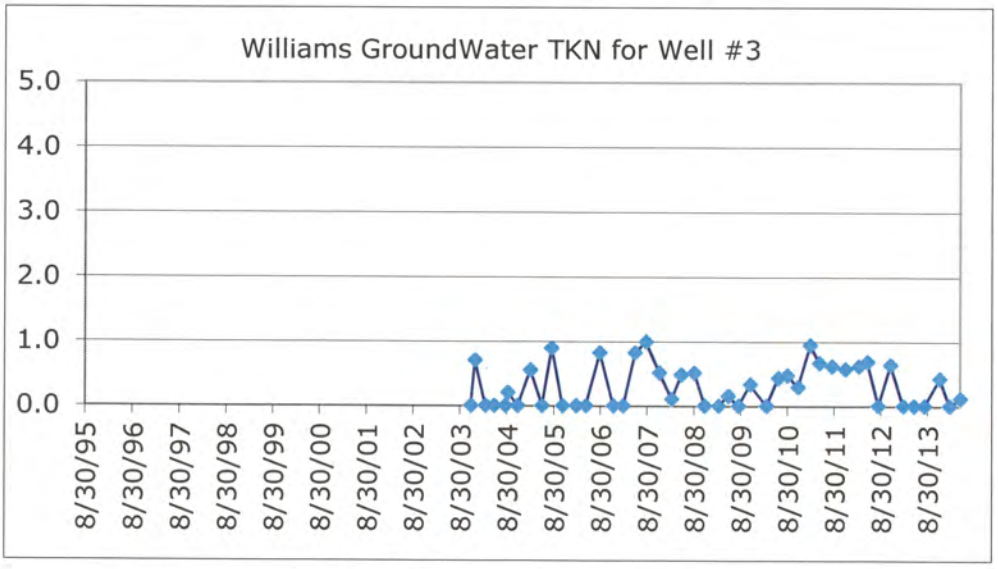
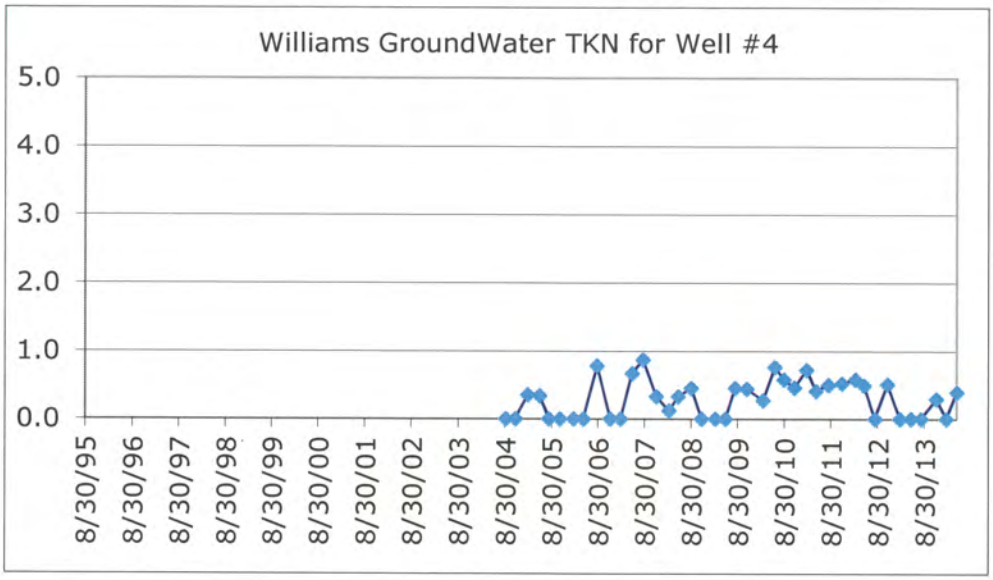
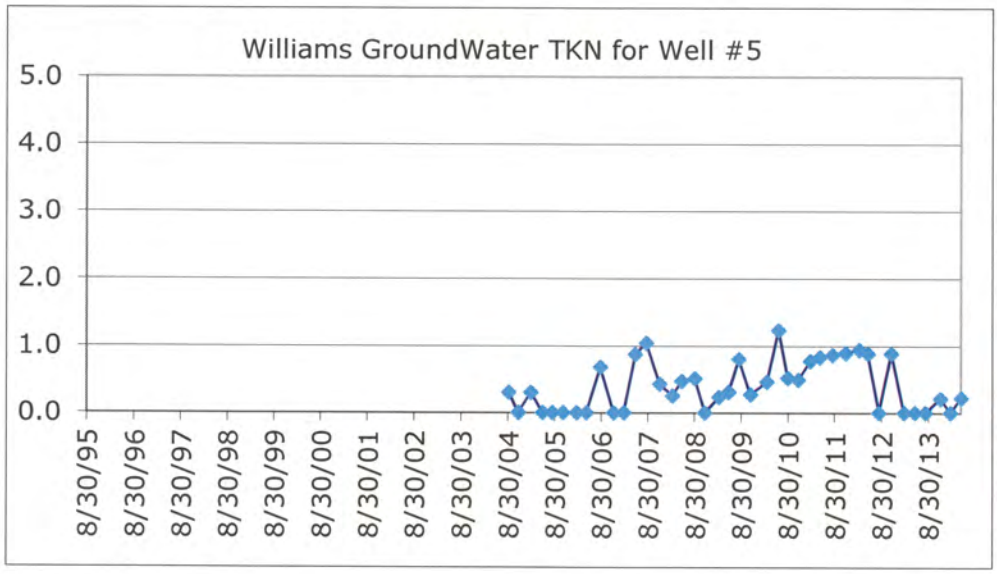
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

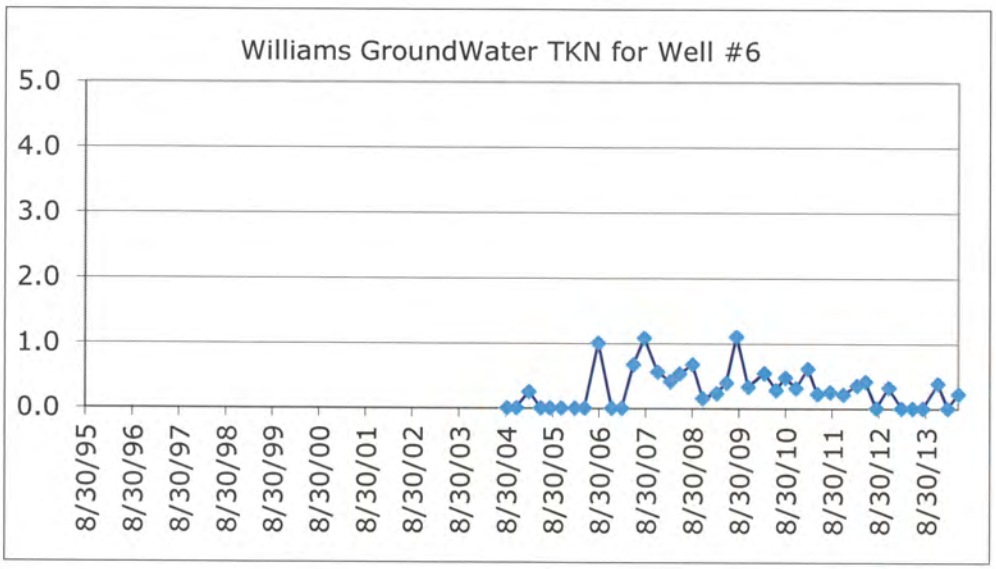

Williams GroundWater TKN for Well #1
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

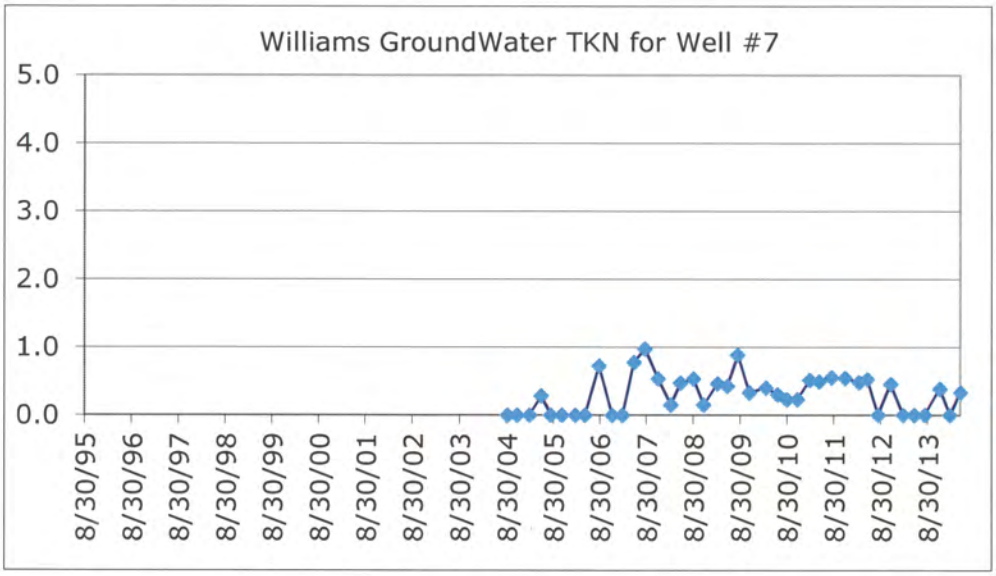

Williams GroundWater TKN for Well #2
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

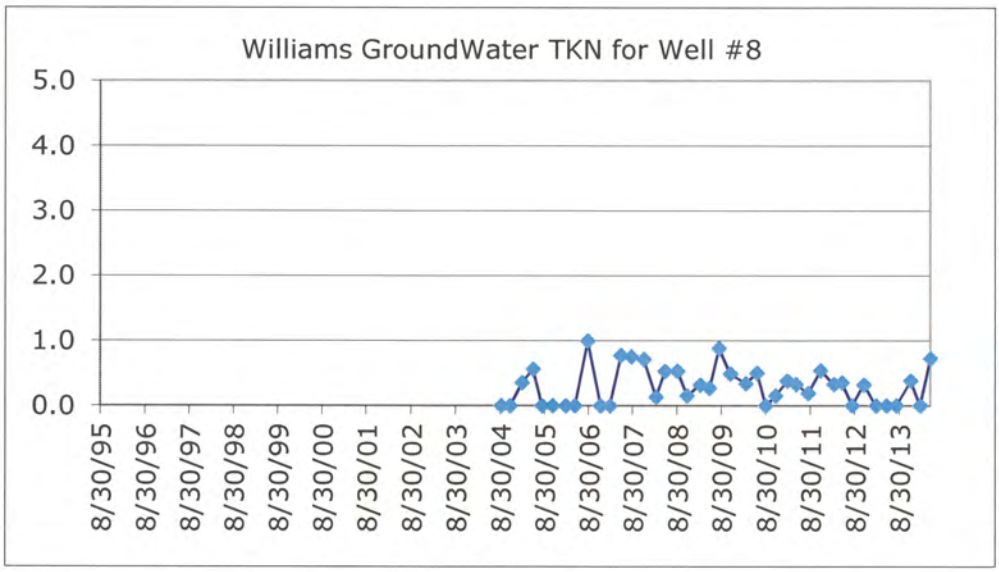

Williams GroundWater TKN for Well #3
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

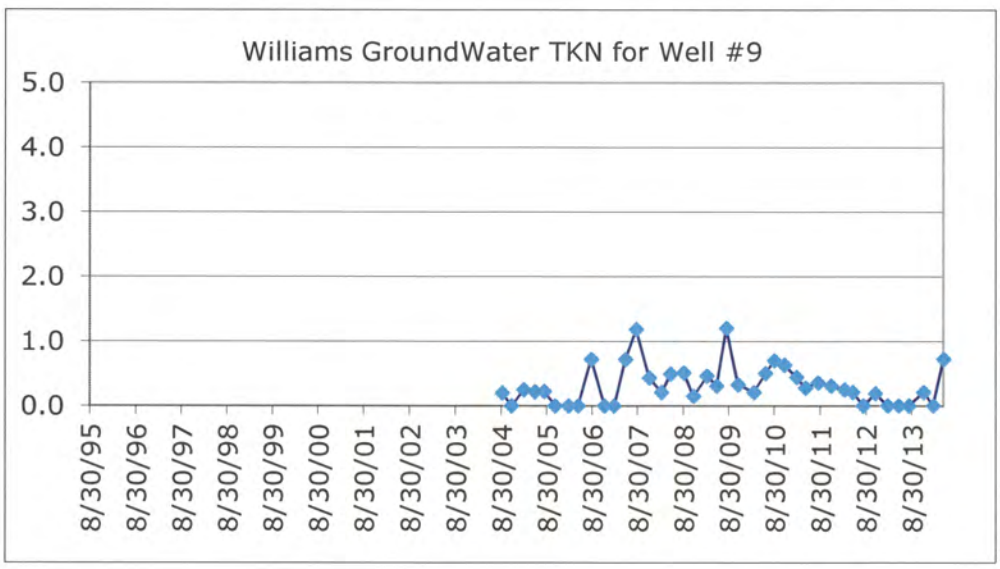

Williams GroundWater TKN for Well #4
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

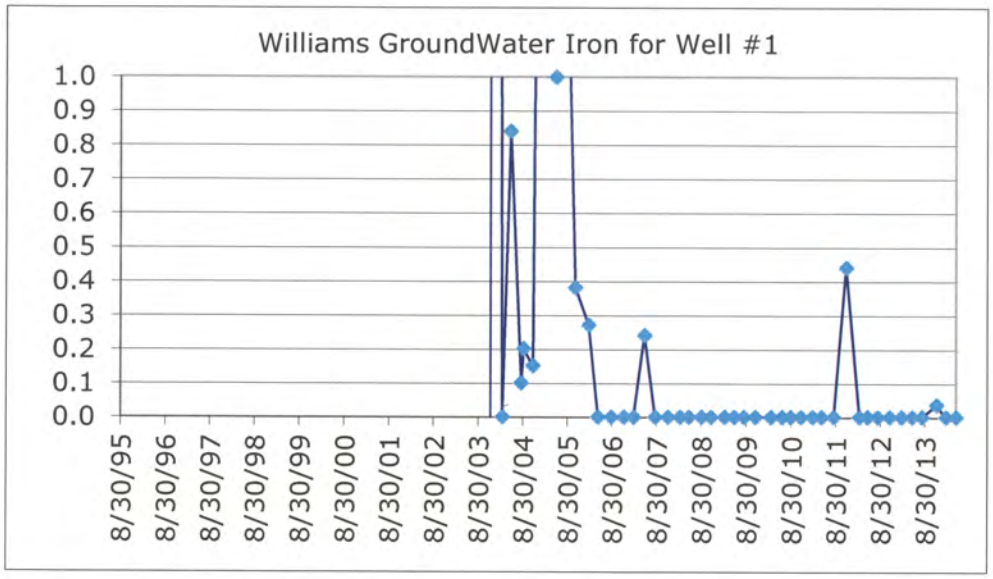

Williams GroundWater TKN for Well #5
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

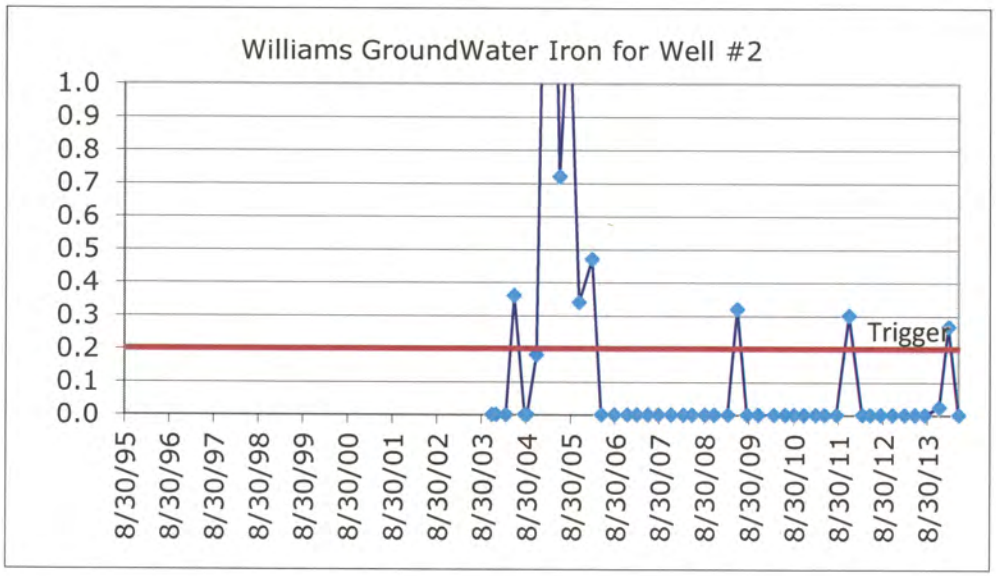

Williams GroundWater TKN for Well #6
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

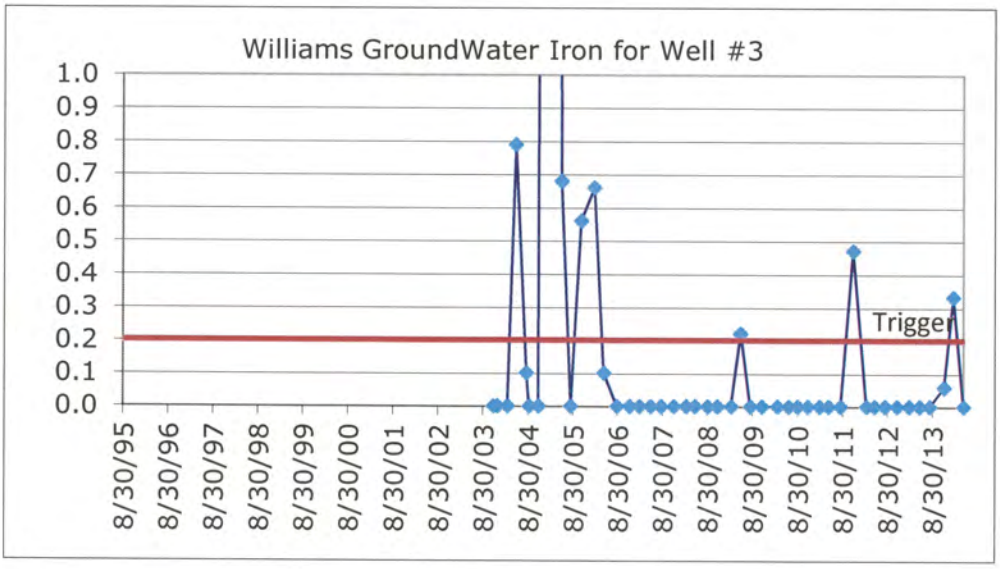

Williams GroundWater TKN for Well #7
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

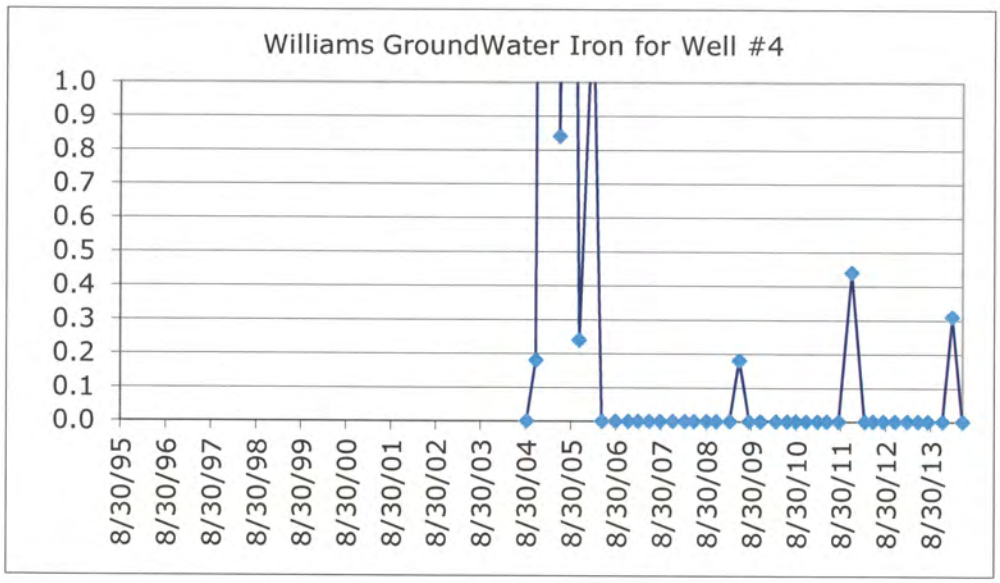

Williams GroundWater TKN for Well #8
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

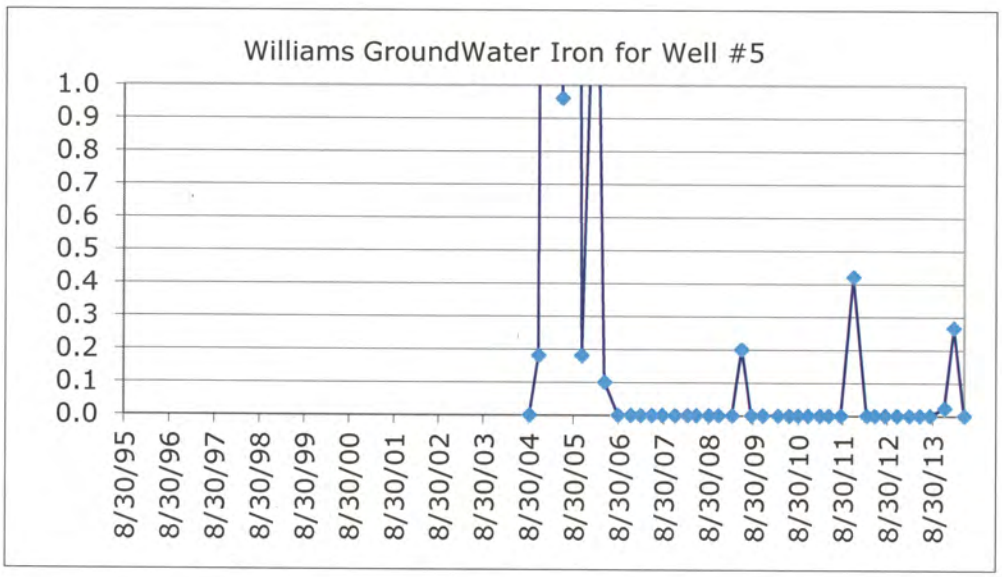

Williams GroundWater TKN for Well #9
5.0
4.0
3.0
2.0
1.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #2
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #3
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #4
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #5
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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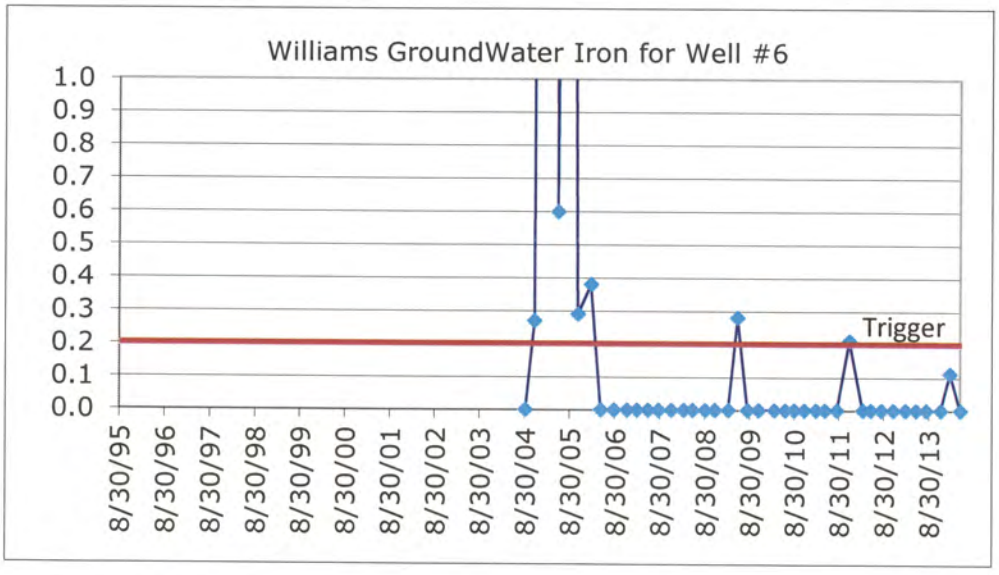
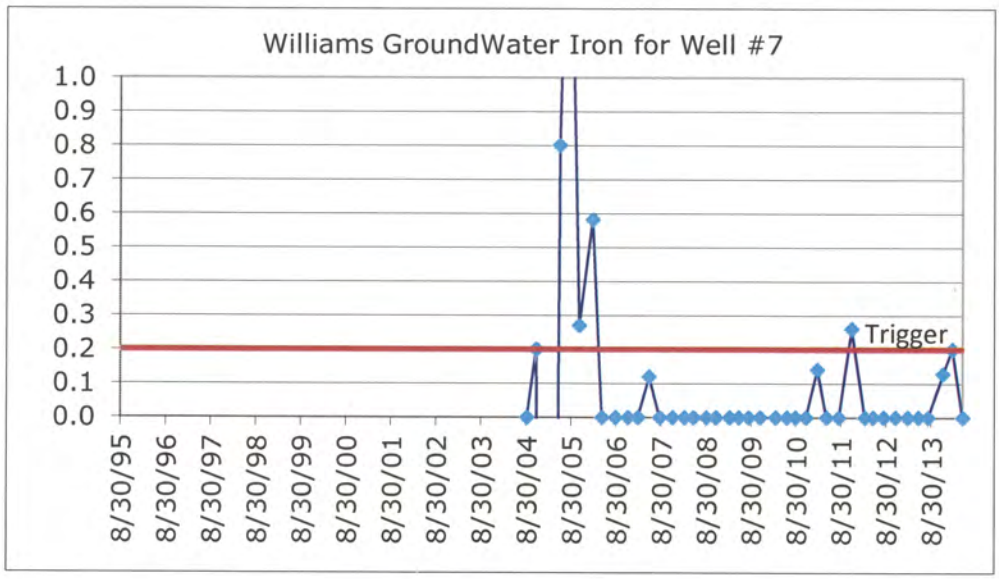
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #6
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #7
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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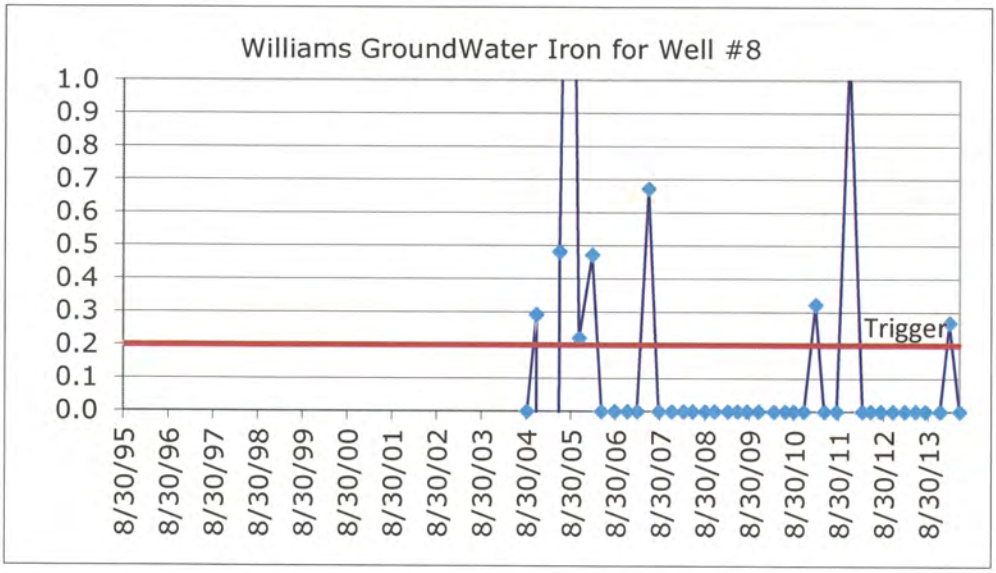
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #8
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
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8/30/08
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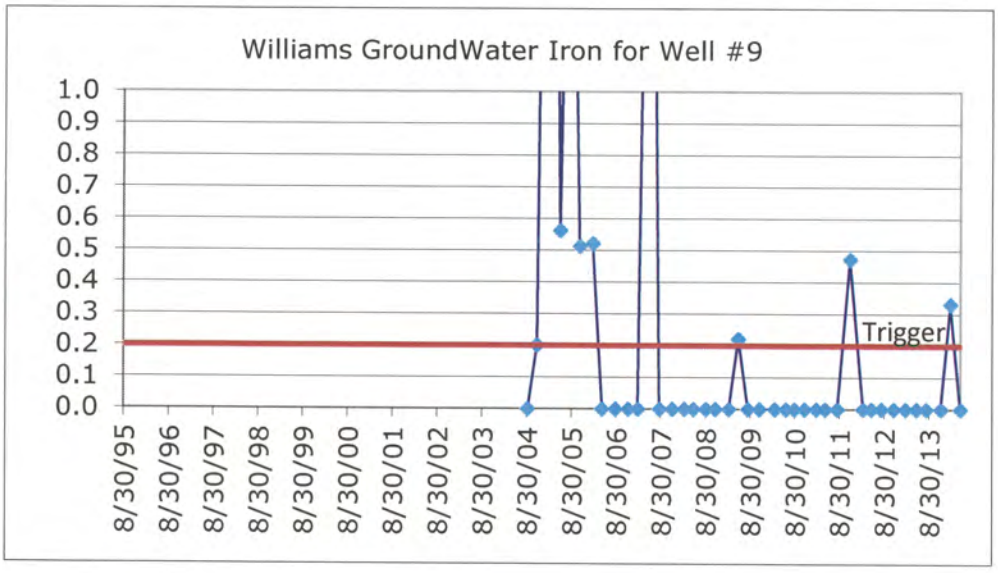
8/30/11
8/30/12
8/30/13


Williams GroundWater Iron for Well #9
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Trigger
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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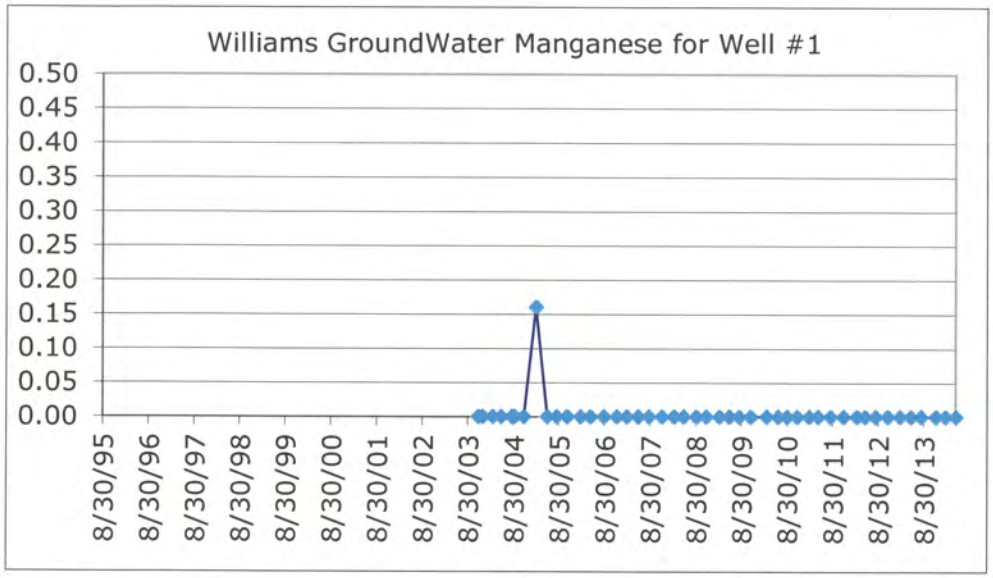
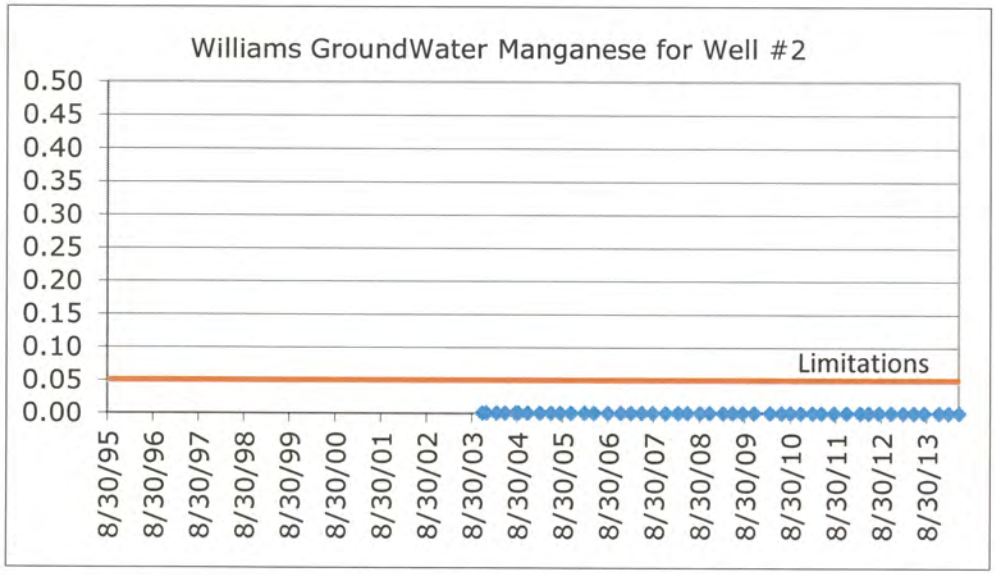
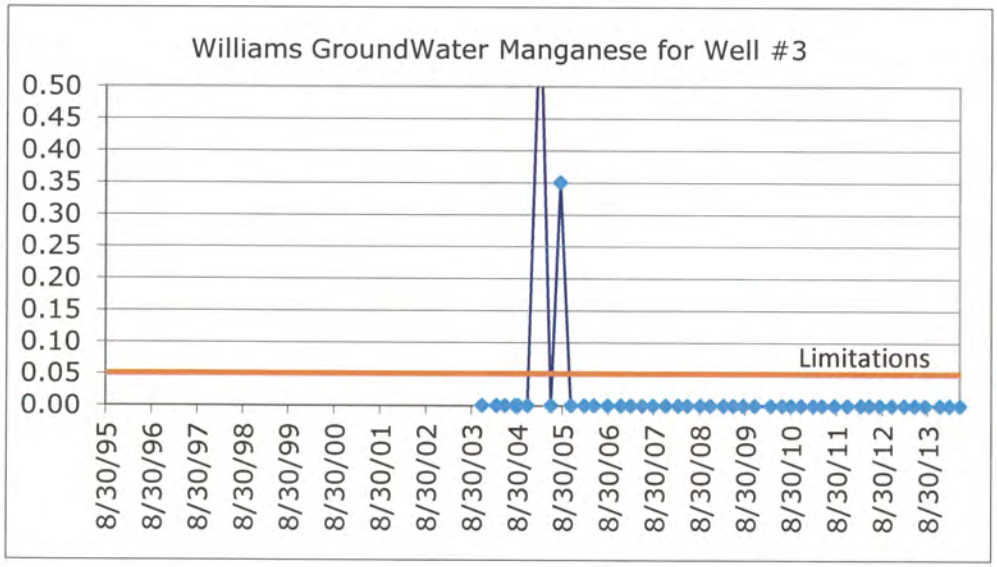
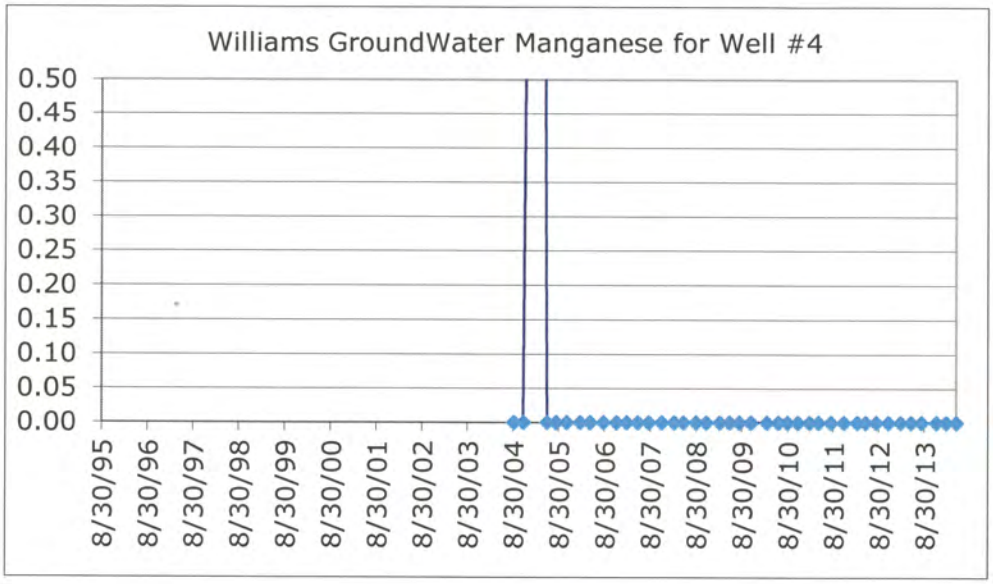
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #1
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #2
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #3
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #4
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
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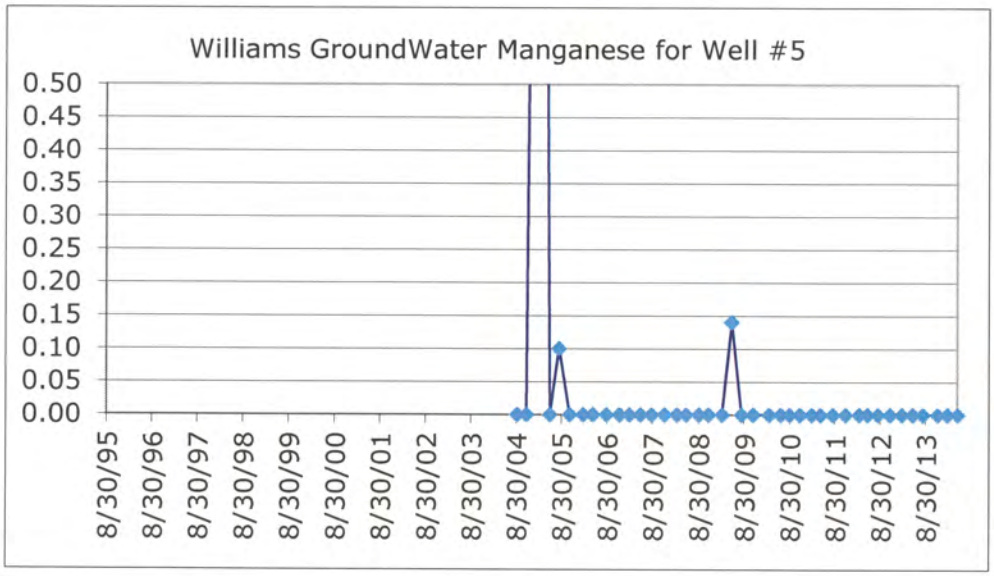
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #5
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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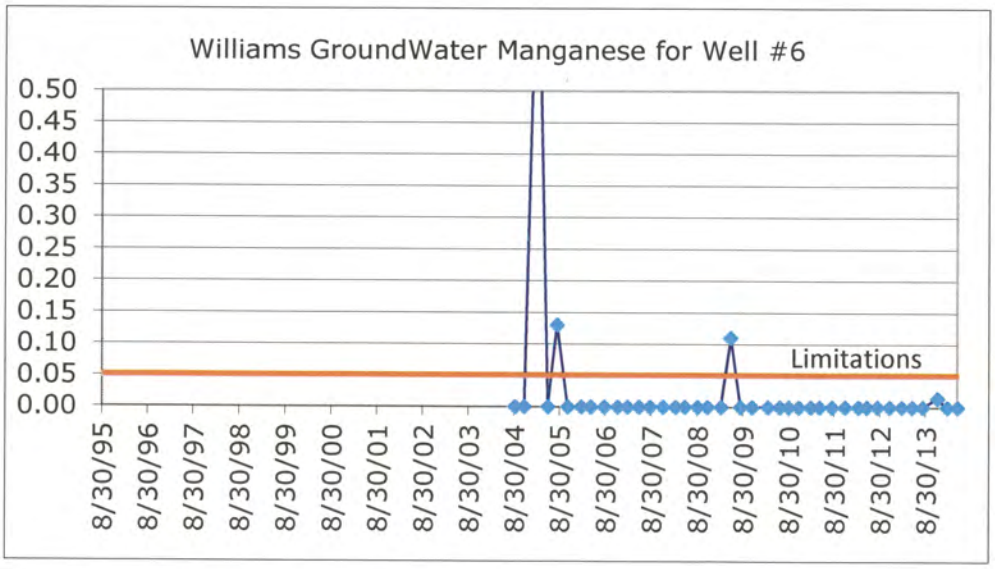
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #6
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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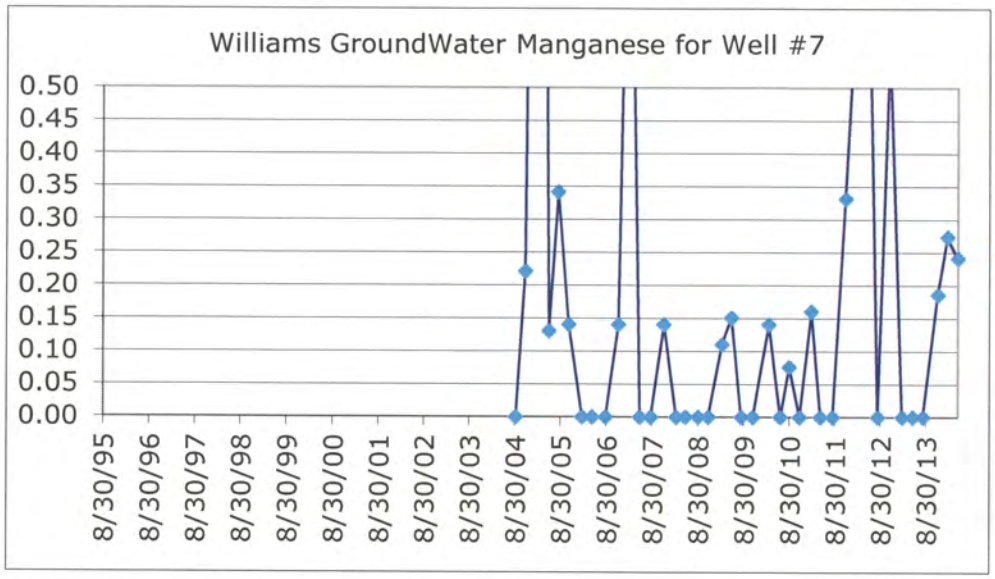
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #7
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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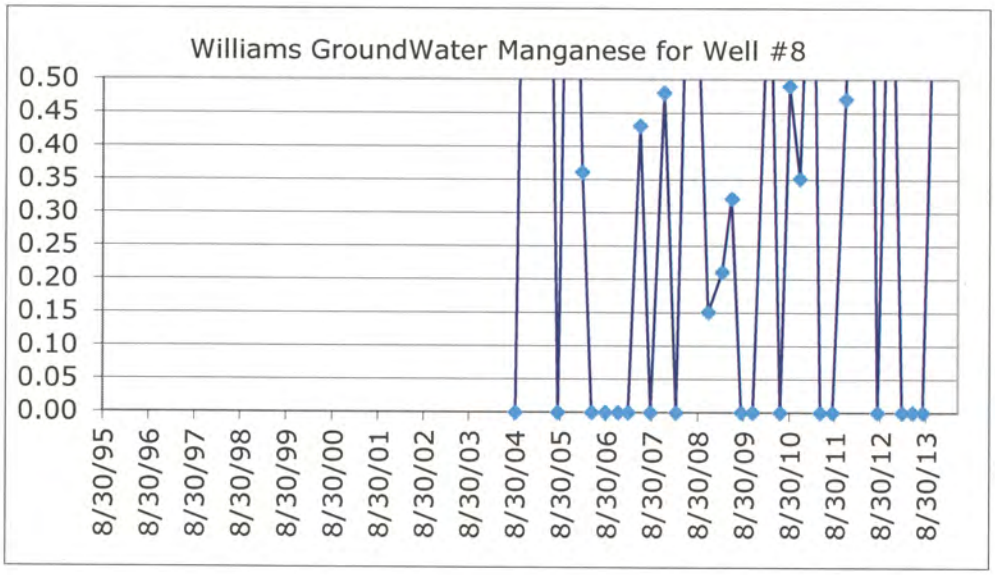
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #8
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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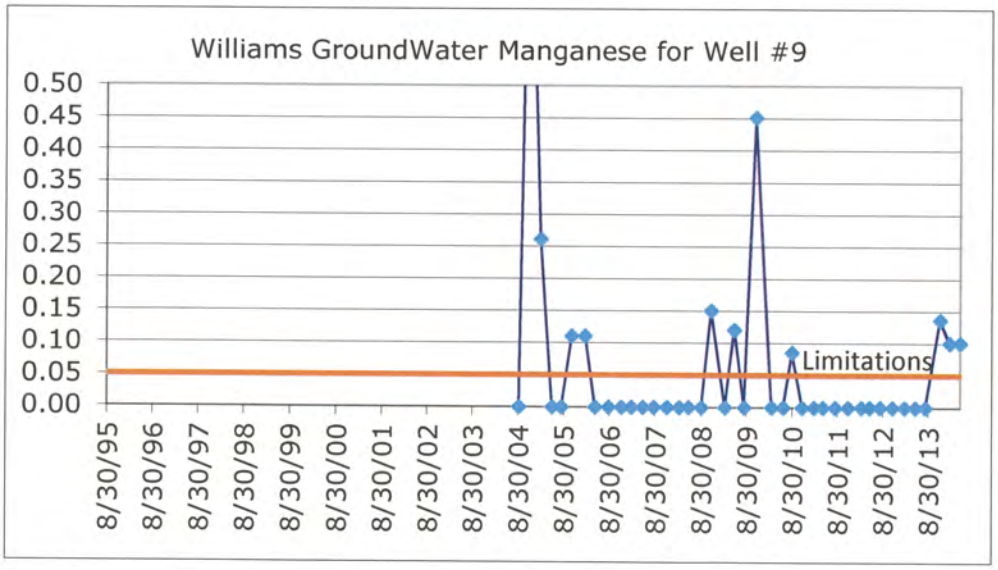
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater Manganese for Well #9
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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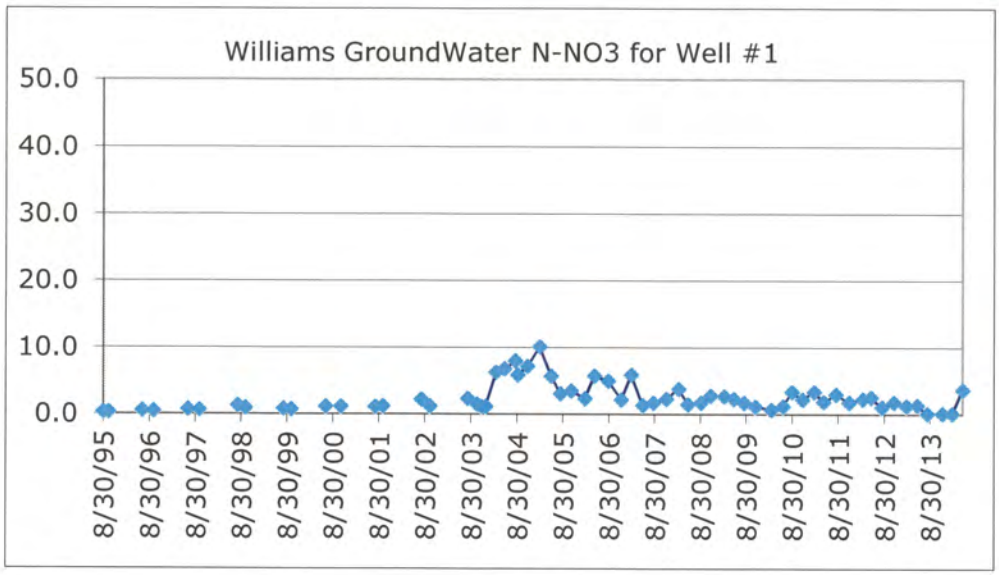
8/30/10
8/30/11
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #1
50.0
40.0
30.0
20.0
10.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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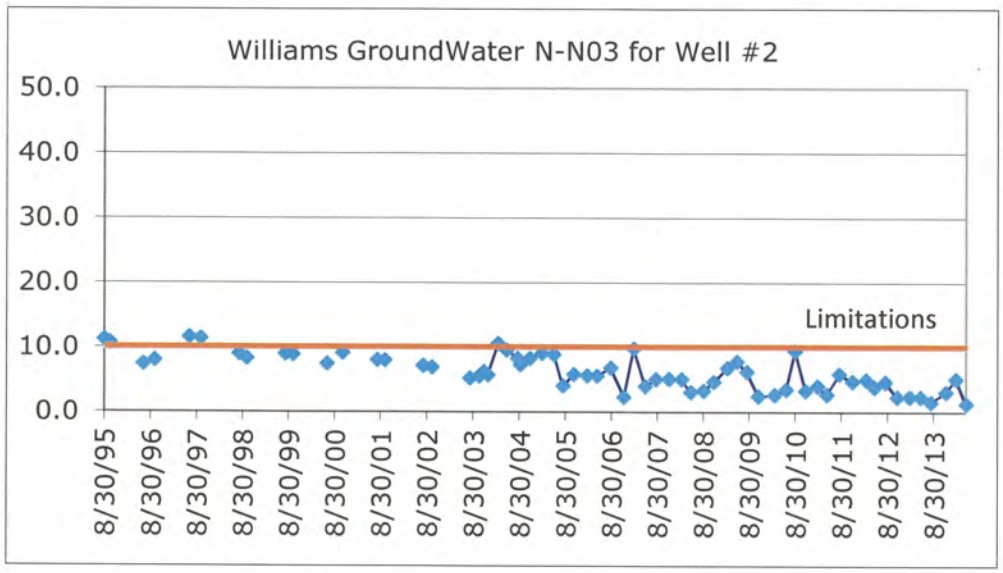
8/30/11
8/30/12
8/30/13


Williams GroundWater N-N03 for Well #2
50.0
40.0
30.0
20.0
10.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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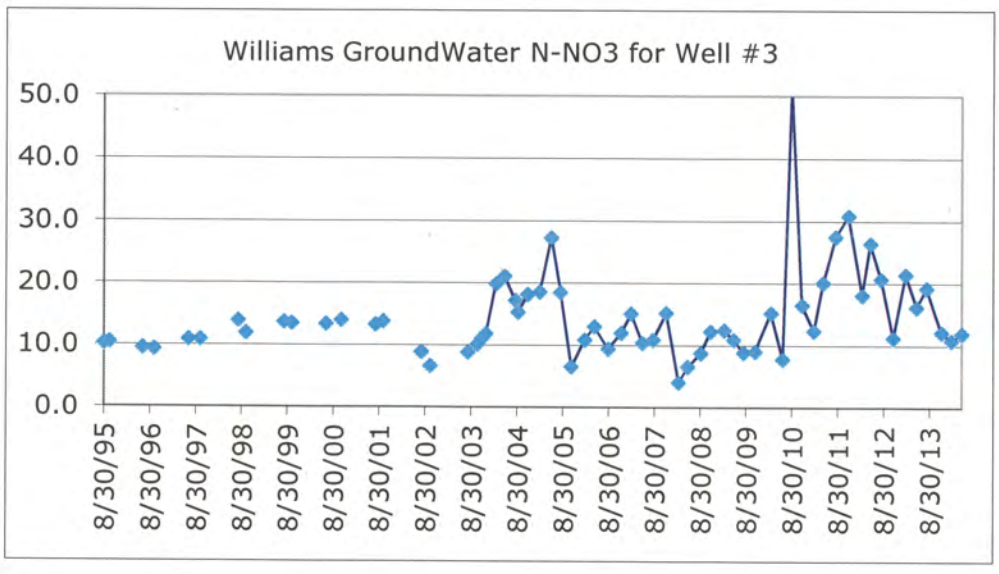
8/30/11
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #3
50.0
40.0
30.0
20.0
10.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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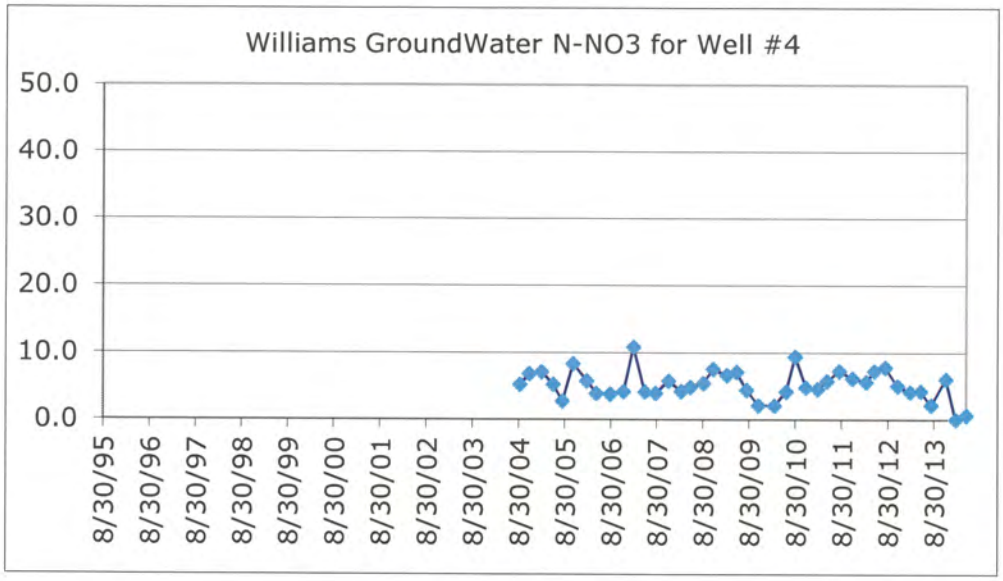
8/30/11
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #4
50.0
40.0
30.0
20.0
10.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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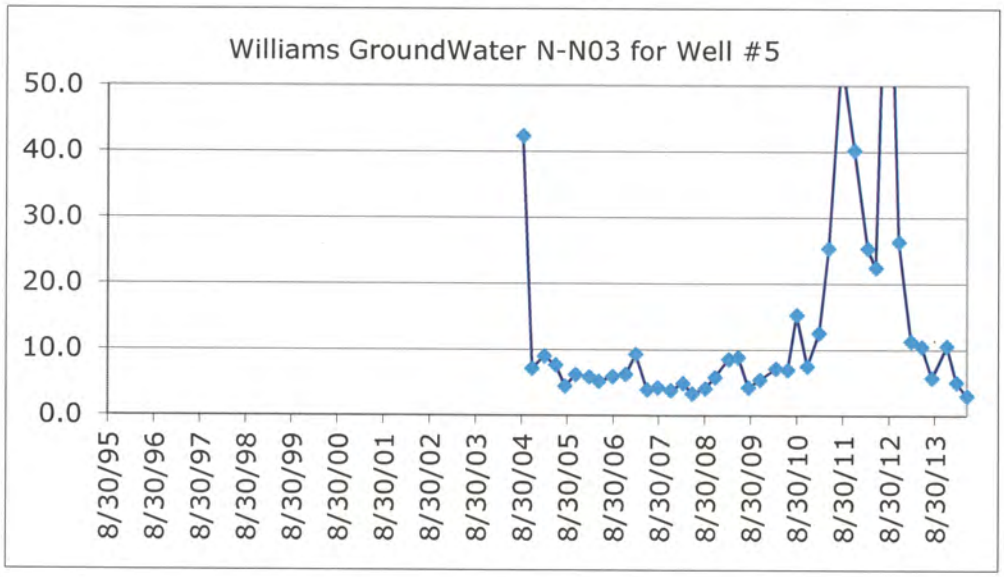
8/30/11
8/30/12
8/30/13


Williams GroundWater N-N03 for Well #5
50.0
40.0
30.0
20.0
10.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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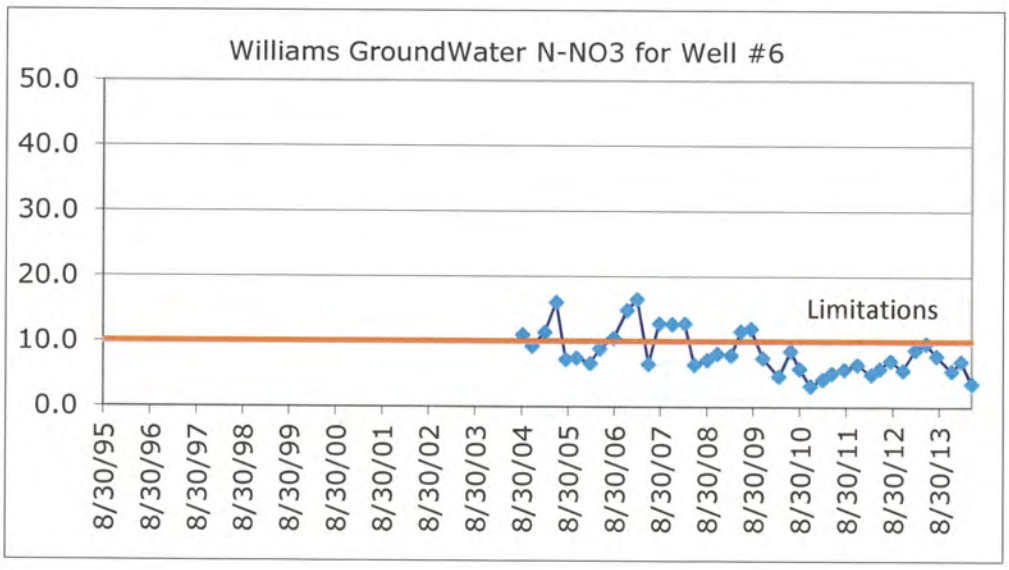
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #6
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40.0
30.0
20.0
10.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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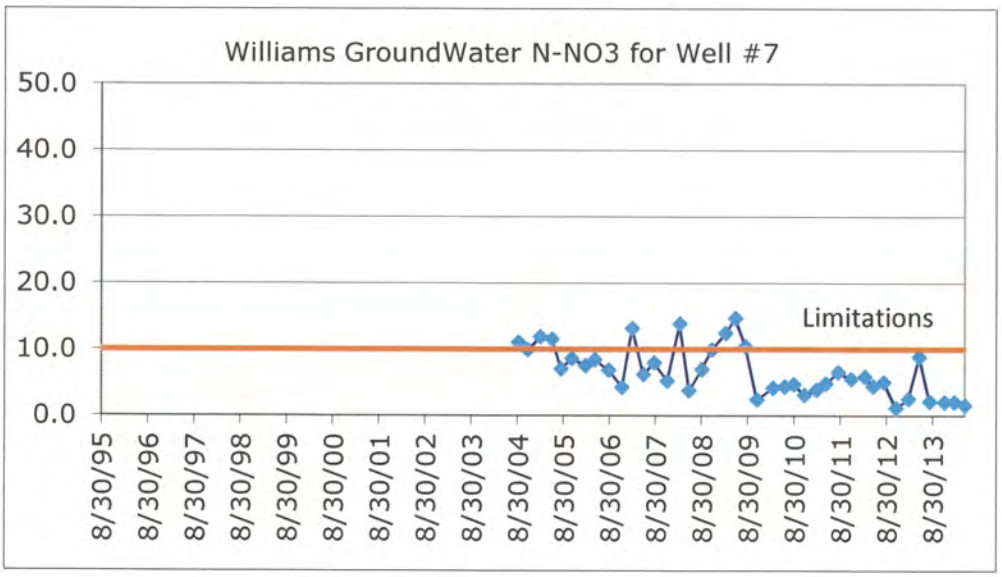
8/30/11
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #7
50.0
40.0
30.0
20.0
10.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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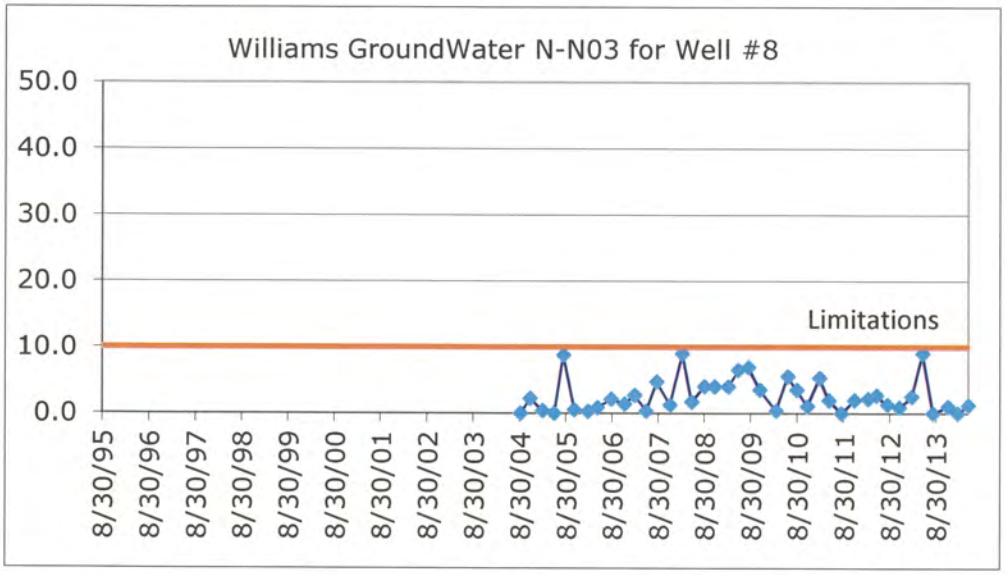
8/30/11
8/30/12
8/30/13


Williams GroundWater N-N03 for Well #8
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40.0
30.0
20.0
10.0
0.0
Limitations
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
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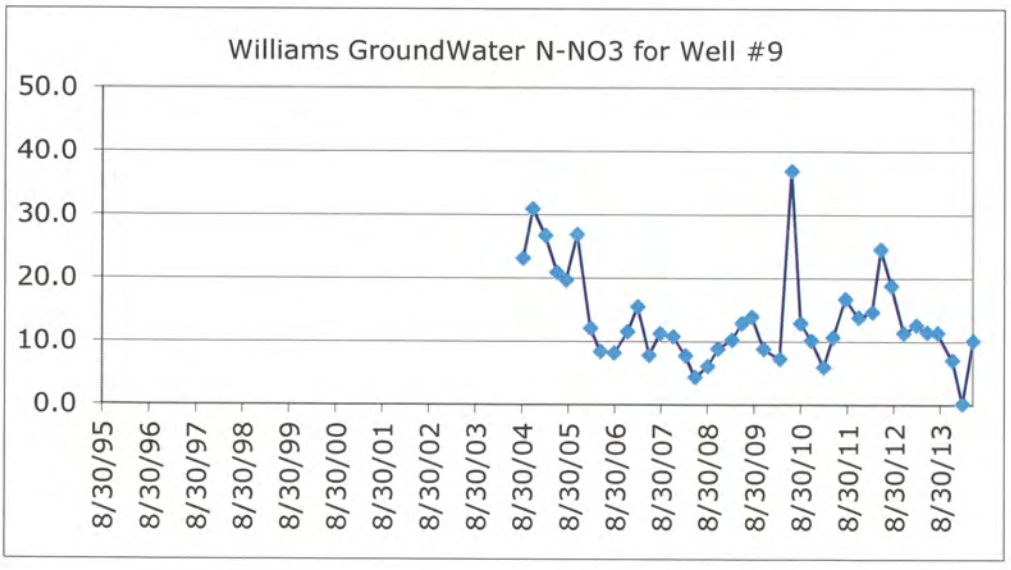
8/30/11
8/30/12
8/30/13


Williams GroundWater N-NO3 for Well #9
50.0
40.0
30.0
20.0
10.0
0.0
8/30/95
8/30/96
8/30/97
8/30/98
8/30/99
8/30/00
8/30/01
8/30/02
8/30/03
8/30/04
8/30/05
8/30/06
8/30/07
8/30/08
8/30/09
8/30/10
8/30/11
8/30/12
8/30/13

Nachtmann Analytical Laboratory, Inc.

720 Olive Drive Davis, CA 95616 Tel: (530)758-5850 Fax: (530)758-5870
Mailing Address: P.O. Box 1025 Davis, CA 95617

Attachment B

Project Site: Morning Star

Field Report

Date: 02-17-2014

Site	Water Level	Well Depth	~~PH~~ EC std. Units	1st run Temp (°C)	Cond. µS	PH std. Units	2nd run Temp (°C)	Cond.	PH std. Units	3rd run Temp (°C)	Cond.	Approx. Vol purged
Well #5 9:01	5'-1"	20'-15"	1194	11.9	925	9.16	12.9	~~9.26~~ 1142	9.43	13.3	1178	45
Well #1 9:40	10'-4"	20'-14"	9.08	14.4	302	8.90	17.9	278	8.80	18.4	276	45
Well #4 10:11	10'-6"	20'-23"	8.77	21.9	380	8.89	25.2	437	9.17	228	453	45
Well #2 10:57	15'+1"	20'+17"	8.80	22.2	853	8.96	24.8	793	8.84	22.5	806	30
Well #3 11:39	5'+29"	20'-15"	8.74	24.6	774	8.71	20.1	885	8.75	19.9	863	45
Well #7 12:13	5'-6"	20'-22"	8.82	17.2	1146	8.95	18.8	1116	8.86	20.5	1084	45
Well #6 12:41	5'-25"	20'-17"	9.00	19.2	1270	8.93	21.2	1162	9.03	22.0	1185	45
Well #8 1:07	5'-16"	20'-19"	8.84	20.9	1399	9.00	18.8	1520	8.92	18.8	1475	45
Well #9 1:56	10'-16"	20'-24"	8.94	21.3	1953	9.09	21.2	1890	9.21	20.6	1835	45

Comments: _____

Date 2/17/14 Current Date

Calculation basis Head

Coordinates ft

I.D.	x-coordinate	y-coordinate	head ft
MW1	4217	1101	89.82
MW2	4729	2285	86.68
MW3	4281	2440	86.43
MW4	4380	1873	87.73
MW5	1391	3989	83.38
MW6	4041	4903	83.61
MW9	3251	8993	71.12
MW8	6038	7655	73.81
MW7	7223	3813	80.66

Number of Points Used in Calculation	9
Max. Difference Between Head Values	5.700
Gradient Magnitude (i)	0.002378
Flow direction as degrees from North (positive y axis)	12.29
Coefficient of Determination (R^2)	0.968

Attachment C

Date 5/12/14 Current Date

Calculation basis Head

Coordinates ft

I.D.	x-coordinate	y-coordinate	head ft
MW1	4217	1101	93.48
MW2	4729	2285	88.01
MW3	4281	2440	87.18
MW4	4380	1873	90.07
MW5	1391	3989	84.47
MW6	4041	4903	81.39
MW9	3251	8993	73.37
MW8	6038	7655	72.64
MW7	7223	3813	81

Number of Points Used in Calculation	9
Max. Difference Between Head Values	6.352
Gradient Magnitude (i)	0.002713
Flow direction as degrees from North (positive y axis)	17.35
Coefficient of Determination (R^2)	0.970

	A	B	C	D	E	F	G	H	I	J	K	L
1	Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 10:15:39 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Substantial Difference	0.000										
9	Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)										
10	Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median										
11												
12												
13	Sample 1 Data: MW9_Background											
14	Sample 2 Data: MW9 Recent											
15												
16	Raw Statistics											
17		Sample 1	Sample 2									
18	Number of Valid Observations	36	4									
19	Number of Distinct Observations	34	4									
20	Minimum	4.3	0.1									
21	Maximum	36.8	11.3									
22	Mean	14.22	7.125									
23	Median	11.75	8.55									
24	SD	7.516	5.022									
25	SE of Mean	1.253	2.511									
26												
27	Wilcoxon-Mann-Whitney (WMW) Test											
28												
29	H0: Mean/Median of Sample 1 = Mean/Median of Sample 2											
30												
31	Sample 1 Rank Sum W-Stat	781										
32	WMW U-Stat	115										
33	Standardized WMW U-Stat	1.939										
34	Mean (U)	72										
35	SD(U) - Adj ties	22.18										
36	ower Approximate U-Stat Critical Value (0.025)	-1.96										
37	pper Approximate U-Stat Critical Value (0.975)	1.96										
38	P-Value (Adjusted for Ties)	0.0525										
39												
40	Conclusion with Alpha = 0.05											
41	Do Not Reject H0, Conclude Sample 1 = Sample 2											
42												
43	P-Value >= alpha (0.05)											
44												

Attachment D

	A	B	C	D	E	F	G	H	I	J	K	L
1	Tarone-Ware Sample 1 vs Sa...ple 2 Comparison Hypothesis Test for Data Sets with ...on-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 10:32:14 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)										
9	Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median										
10												
11												
12	Sample 1 Data: MW8_Background											
13	Sample 2 Data: MW8 Current											
14												
15	Raw Statistics											
16		Sample 1	Sample 2									
17	Number of Valid Data	36	4									
18	Number of Non-Detects	16	1									
19	Number of Detects	20	3									
20	Minimum Non-Detect	0	0									
21	Maximum Non-Detect	0	0									
22	Percent Non-detects	44.44%	25.00%									
23	Minimum Detect	0.15	0.96									
24	Maximum Detect	1.9	1.18									
25	Mean of Detects	0.719	1.097									
26	Median of Detects	0.605	1.15									
27	SD of Detects	0.436	0.119									
28												
29	Sample 1 vs Sample 2 Tarone-Ware Test											
30												
31	H0: Mean/Median of Sample 1 = Mean/Median of Sample 2											
32												
33	TW Statistic	-1.711										
34	Lower TW Critical Value(0.025)	-1.96										
35	Upper TW Critical Value (0.975)	1.96										
36	P-Value	0.0871										
37												
38	Conclusion with Alpha = 0.05											
39	Do Not Reject H0, Conclude Sample 1 = Sample 2											
40	P-Value >= alpha (0.05)											
41												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation			8/8/2014 10:08:53 AM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Substantial Difference			0.000								
9	Selected Null Hypothesis			Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)								
10	Alternative Hypothesis			Sample 1 Mean/Median <> Sample 2 Mean/Median								
11												
12												
13	Sample 1 Data: MW3_Background											
14	Sample 2 Data: MW3 Recent											
15												
16	Raw Statistics											
17					Sample 1	Sample 2						
18	Number of Valid Observations				43	4						
19	Number of Distinct Observations				38	4						
20	Minimum				3.9	10.7						
21	Maximum				51.4	19.1						
22	Mean				15.47	13.4						
23	Median				12.9	11.9						
24	SD				8.302	3.843						
25	SE of Mean				1.266	1.921						
26												
27	Wilcoxon-Mann-Whitney (WMW) Test											
28												
29	H0: Mean/Median of Sample 1 = Mean/Median of Sample 2											
30												
31	Sample 1 Rank Sum W-Stat				1039							
32	WMW U-Stat				93							
33	Standardized WMW U-Stat				0.267							
34	Mean (U)				86							
35	SD(U) - Adj ties				26.23							
36	ower Approximate U-Stat Critical Value (0.025)				-1.96							
37	pper Approximate U-Stat Critical Value (0.975)				1.96							
38	P-Value (Adjusted for Ties)				0.79							
39												
40	Conclusion with Alpha = 0.05											
41	Do Not Reject H0, Conclude Sample 1 = Sample 2											
42												
43	P-Value >= alpha (0.05)											
44												

	A	B	C	D	E	F	G	H	I	J	K	L
1	One Sample t-Test for Uncensored Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 11:07:13 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Substantial Difference	0.000										
9	Action Level	10.000										
10	Selected Null Hypothesis	Mean <= Action Level (Form 1)										
11	Alternative Hypothesis	Mean > the Action Level										
12												
13	MW7 NO3 Current											
14												
15	One Sample t-Test											
16												
17	Raw Statistics											
18	Number of Valid Observations	4										
19	Number of Distinct Observations	3										
20	Minimum	1.5										
21	Maximum	2.1										
22	Mean	1.9										
23	Median	2										
24	SD	0.271										
25	SE of Mean	0.135										
26												
27	H0: Sample Mean <= 10 (Form 1)											
28												
29	Test Value	-59.82										
30	Degrees of Freedom	3										
31	Critical Value (0.05)	2.353										
32	P-Value	1										
33												
34	Conclusion with Alpha = 0.05											
35	Do Not Reject H0, Conclude Mean <= 10											
36	P-Value > Alpha (0.05)											
37												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 10:28:39 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (Two Sided Alternative)										
9	Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median										
10												
11												
12	Sample 1 Data: MW7_Background											
13	Sample 2 Data: MW7 Current											
14												
15	Raw Statistics											
16		Sample 1	Sample 2									
17	Number of Valid Data	36	4									
18	Number of Non-Detects	19	1									
19	Number of Detects	17	3									
20	Minimum Non-Detect	0	0									
21	Maximum Non-Detect	0	0									
22	Percent Non-detects	52.78%	25.00%									
23	Minimum Detect	0.08	0.19									
24	Maximum Detect	2.2	0.27									
25	Mean of Detects	0.432	0.233									
26	Median of Detects	0.16	0.24									
27	SD of Detects	0.533	0.0404									
28												
29	Sample 1 vs Sample 2 Tarone-Ware Test											
30												
31	H0: Mean/Median of Sample 1 = Mean/Median of Sample 2											
32												
33	TW Statistic	-1.3										
34	Lower TW Critical Value(0.025)	-1.96										
35	Upper TW Critical Value (0.975)	1.96										
36	P-Value	0.194										
37												
38	Conclusion with Alpha = 0.05											
39	Do Not Reject H0, Conclude Sample 1 = Sample 2											
40	P-Value >= alpha (0.05)											
41												

	A	B	C	D	E	F	G	H	I	J	K	L
1	One Sample t-Test for Uncensored Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation			8/8/2014 11:05:08 AM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Substantial Difference			0.000								
9	Action Level			10.000								
10	Selected Null Hypothesis			Mean <= Action Level (Form 1)								
11	Alternative Hypothesis			Mean > the Action Level								
12												
13	MW6 NO3 Current											
14												
15	One Sample t-Test											
16												
17	Raw Statistics											
18	Number of Valid Observations			4								
19	Number of Distinct Observations			4								
20	Minimum			3.5								
21	Maximum			7.8								
22	Mean			5.95								
23	Median			6.25								
24	SD			1.891								
25	SE of Mean			0.946								
26												
27	H0: Sample Mean <= 10 (Form 1)											
28												
29	Test Value			-4.283								
30	Degrees of Freedom			3								
31	Critical Value (0.05)			2.353								
32	P-Value			0.988								
33												
34	Conclusion with Alpha = 0.05											
35	Do Not Reject H0, Conclude Mean <= 10											
36	P-Value > Alpha (0.05)											
37												

	A	B	C	D	E	F	G	H	I	J	K	L
1	One Sample t-Test for Uncensored Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 11:02:50 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Substantial Difference	0.000										
9	Action Level	10.000										
10	Selected Null Hypothesis	Mean <= Action Level (Form 1)										
11	Alternative Hypothesis	Mean > the Action Level										
12												
13	MW2 NO3 Current											
14												
15	One Sample t-Test											
16												
17	Raw Statistics											
18	Number of Valid Observations	4										
19	Number of Distinct Observations	4										
20	Minimum	1.2										
21	Maximum	5										
22	Mean	2.65										
23	Median	2.2										
24	SD	1.762										
25	SE of Mean	0.881										
26												
27	H0: Sample Mean <= 10 (Form 1)											
28												
29	Test Value	-8.345										
30	Degrees of Freedom	3										
31	Critical Value (0.05)	2.353										
32	P-Value	0.998										
33												
34	Conclusion with Alpha = 0.05											
35	Do Not Reject H0, Conclude Mean <= 10											
36	P-Value > Alpha (0.05)											
37												

	A	B	C	D	E	F	G	H	I	J	K	L
1	One Sample Wilcoxon Signed Rank Test for Uncensored Full Data Sets without NDs											
2												
3	User Selected Options											
4	Date/Time of Computation	8/8/2014 11:13:06 AM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Substantial Difference	0.000										
9	Action Level	10.000										
10	Selected Null Hypothesis	Mean/Median <= Action Level (Form 1)										
11	Alternative Hypothesis	Mean/Median > the Action Level										
12												
13	MW8 NO3 Current											
14												
15	One Sample Wilcoxon Signed Rank Test											
16												
17	Raw Statistics											
18	Number of Valid Observations	4										
19	Number of Distinct Observations	3										
20	Minimum	0										
21	Maximum	1.2										
22	Mean	0.55										
23	Median	0.5										
24	SD	0.64										
25	SE of Mean	0.32										
26	Number Above Action Level	0										
27	Number Equal Action Level	0										
28	Number Below Action Level	4										
29	T-plus	0										
30	T-minus	10										
31												
32	H0: Sample Mean/Median <= 10 (Form 1)											
33												
34	Exact Test Statistic	0										
35	Critical Value (0.05)	11										
36	P-Value	N/A										
37												
38	Conclusion with Alpha = 0.05											
39	Do Not Reject H0, Conclude Mean/Median <= 10											
40	Do Not Reject H0, Conclude Mean/Median <= 10											

One Sample Wilcoxon Signed Rank Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	8/8/2014 12:22:53 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Action Level	0.050
Selected Null Hypothesis	Mean/Median <= Action Level (Form 1)
Alternative Hypothesis	Mean/Median > the Action Level

MW9 Mn Current

One Sample Wilcoxon Signed Rank Test

Raw Statistics

Number of Valid Data	4
Number of Missing Observations	34
Number of Distinct Data	3
Number of Non-Detects	1
Number of Detects	3
Percent Non-Detects	25.00%
Minimum Non-detect	0
Maximum Non-detect	0
Minimum Detect	0.1
Maximum Detect	0.14
Mean of Detects	0.113
Median of Detects	0.1
SD of Detects	0.0231
Median of Processed Data used in WSR	0.1
Number Above Action Level	3
Number Equal Action Level	0
Number Below Action Level	1
T-plus	8
T-minus	2

H0: Sample Median <= 0.05 (Form 1)

Exact Test Statistic	8
Critical Value (0.05)	11
P-Value	N/A

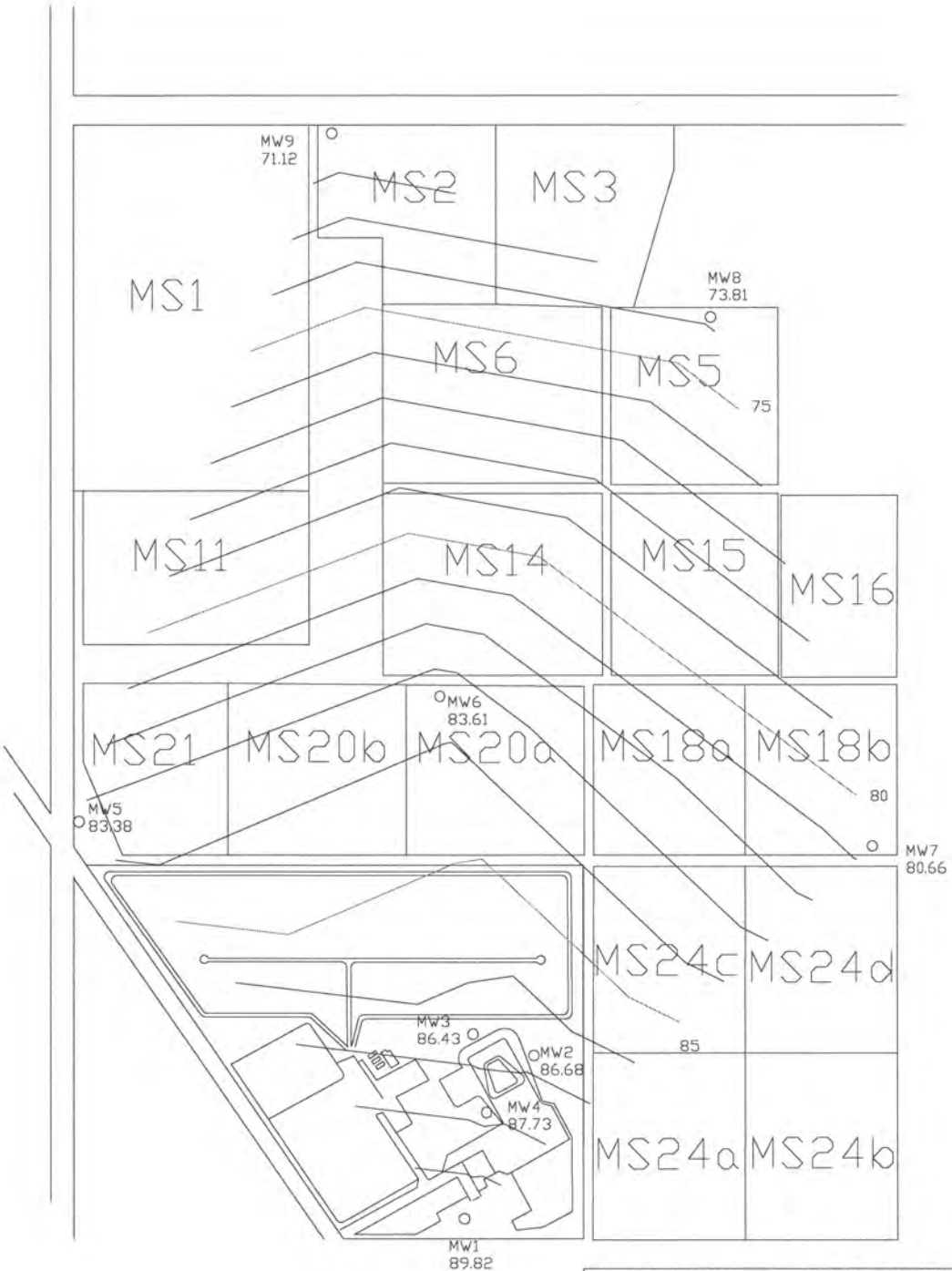
Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Mean/Median <= 0.05

Do Not Reject H0, Conclude Mean/Median <= 0.05

All NDs are replaced by their respective DL/2

When a group has fewer than 4 detects. Hypothesis test results may not be relaible. Supplement your results with graphical displays.



	Quarterly Groundwater Monitoring Morning Star Packing Williams Facility Colusa County					SCALE 1"=1200'
						DRAWN BY HAR
						REVISED USER_REVISED
	FIRST QUARTER, 2014 GROUNDWATER ELEVATION MAP					
	DESIGN ENGINEER HILARY A. REINHARD DATE 8/7/14 C.E. LICENSE NO. 64379					SHEET 1 OF
Job No. 1000.01	Date Revised					1 SHEETS
Dwg. No. 1040	Approval					

Attachment E

Nachtmann Analytical Laboratory, Inc.

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E mail: Nachtmannlab@yahoo.com

Analytical Laboratory Report

State DHS Cert. # 1419

Client:
The Morning Star Packing Company
2211 Old HWY 99
Williams, CA. 95987
Attn: Ross Oliveira

CC:
Liberty Packing Co.
12945 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Marke Oliveira

Sample ID # : MW # 1
Sample Lab. # : 02172014-1
Sample Location : Williams, CA.
Sampling Date : 2/17/2014
Sampled By : Lab. chemist

Date Reporting: 3/5/2014

Volume Purged 3 Times :45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	262.
PH	SM 4500-H B	1-14	7.80
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	160.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	152.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	ND
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	ND
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	ND
Fe (dissolved)	SM 3111B	0.010 mg/l	ND
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	6.49
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
9.66	18.83	8.92	285.	16.9

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

Attachment F

Nachtmann Analytical Laboratory, Inc.

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Attn: Ross Oliveira

CC:
Liberty Packing Co.
12045 S. Ingmar Grade RD.
Loa Banos, CA. 93635
Attn : Mark Oliveira

Sample ID # : MW # 2
Sample Lab. # : 02172014-2
Sample Location : Williams, CA.
Sampling Date : 2/17/2014
Sampled By : Lab. chemist
Volume Purged 3 Times :30. L (Approx)

Date Reporting: 3/5/2014

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	812.
PH	SM 4500-H B	1-14	8.01
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	540.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	488.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	5.00
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	22.10
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	51.8
Fe (dissolved)	SM 3111B	0.010 mg/l	0.266
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	44.9
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
15.08	21.41	8.86	817.	23.3

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

Nachtmann Analytical Laboratory, Inc.

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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn: Mark Oliveira

Date Reporting: 3/5/2014

Sample ID #	: MW # 3
Sample Lab. #	: 02172014-3
Sample Location	: Williams, CA.
Sampling Date	: 2/17/2014
Sampled By	: Lab. chemist
Volume Purged 3 Times	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	864.
PH	SM 4500-H B	1-14	7.64
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	570.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	525.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	10.7
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	47.3
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	62.9
Fe (dissolved)	SM 3111B	0.010 mg/l	0.33
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	50.0
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
7.41	18.75	8.73	877.	21.5

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 93635
Attn: Mark Oliveira

Date Reporting: 3/5/2014

Sample ID #	: MW # 4
Sample Lab. #	: 02172014-4
Sample Location	: Williams, CA.
Sampling Date	: 2/17/2014
Sampled By	: Lab. chemist
Volume Purged 3 Times	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	474.
PH	SM 4500-H B	1-14	7.73
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	255.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	255.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	ND
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	ND
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	21.0
Fe (dissolved)	SM 3111B	0.010 mg/l	0.31
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	12.5
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
9.50	18.08	8.94	423.	23.3

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 3/5/2014

Sample ID #	: MW # 5
Sample Lab. #	: 02172014-5
Sample Location	: Williams, CA.
Sampling Date	: 2/17/2014
Sampled By	: Lab. chemist
Volume Purged 3 Times	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	974.
PH	SM 4500-H B	1-14	7.95
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	565.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	545.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	5.00
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	22.10
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	166.
Fe (dissolved)	SM 3111B	0.010 mg/l	0.266
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	57.4
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
4.92	18.75	9.28	1171.	12.5

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 903635
Attn : Mark Oliveira

Sample ID # : MW # 6
Sample Lab. # : 02172014-6
Sample Location : Williams, CA.
Sampling Date : 2/17/2014
Sampled By : Lab. chemist
Volume Purged 3 Times :45. L (Approx)

Date Reporting: 3/5/2014

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1255.
PH	SM 4500-H B	1-14	7.65
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	775.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	723.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	7.00
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	30.9
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	75.7
Fe (dissolved)	SM 3111B	0.010 mg/l	0.111
Mn (dissolved)	SM 3111B	0.010 mg/l	ND
Cl	SM 4500-Cl C	1.0 mg/l	54.9
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
2.91	18.58	8.94	1205.	20.8

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Analytical Laboratory Report

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Attn: Ross Oliveira

CC:
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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Sample ID # : MW # 7
Sample Lab. # : 02172014-7
Sample Location : Williams, CA.
Sampling Date : 2/17/2014
Sampled By : Lab. chemist
Volume Purged 3 Times :45. L (Approx)

Date Reporting: 3/5/2014

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1092.
PH	SM 4500-H B	1-14	7.89
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	718.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	705.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	2.00
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	8.80
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	88.5
Fe (dissolved)	SM 3111B	0.010 mg/l	0.200
Mn (dissolved)	SM 3111B	0.010 mg/l	0.272
Cl	SM 4500-Cl C	1.0 mg/l	89.0
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
4.50	18.16	8.87	1115.	18.8

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

Nachtmann Analytical Laboratory, Inc.

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Analytical Laboratory Report

State DHS Cert. # 1419

Client:
The Morning Star Packing Company
2211 Old HWY 99
Williams, CA. 95987
Attn: Ross Oliveira

CC:
Liberty Packing Co.
12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Sample ID # : MW # 8
Sample Lab. # : 02172014-8
Sample Location : Williams, CA.
Sampling Date : 2/17/2014
Sampled By : Lab. chemist
Volume Purged 3 Times :45. L (Approx)

Date Reporting: 3/5/2014

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1593.
PH	SM 4500-H B	1-14	7.47
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	860.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	835.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	ND
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	ND
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	102.
Fe (dissolved)	SM 3111B	0.010 mg/l	0.266
Mn (dissolved)	SM 3111B	0.010 mg/l	1.18
Cl	SM 4500-Cl C	1.0 mg/l	157..
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
3.66	18.41	8.88	1465.	19.5

Field Note:

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Analytical Laboratory Report
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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 3/5/2014

Sample ID #	: MW # 9
Sample Lab. #	: 02172014-9
Sample Location	: Williams, CA.
Sampling Date	: 2/17/2014
Sampled By	: Lab. chemist
Volume Purged 3 Times	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1868.
PH	SM 4500-H B	1-14	7.84
TDS (total dissolved solid)	SM 2540 C	5.0 mg/l	1017.
FDS (fixed dissolved solid)	SM 2540 E	5.0 mg/l	985.
TKN (total k nitrogen)	SM 4500-N C	0.1 mg/l	ND
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	0.14
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	23.0
Sulfate (SO4)	SM 4500-SO4 D	5. 0 mg/l	101.6
Fe (dissolved)	SM 3111B	0.010 mg/l	0.33
Mn (dissolved)	SM 3111B	0.010 mg/l	0.10
Cl	SM 4500-Cl C	1.0 mg/l	179.
Coliform (total)	SM 9221 B	2. MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
8.58	18.00	9.27	1892.	18.5

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
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E mail: Nachtmannlab@yahoo.com

Morning Star Packing Company
2211 Old HWY 99
Williams, CA. 95988
Attn: Ross Oliveira

CC:
Mike Oliveira
Liberty Packing Co.
12045 South Ingomar Grade Rd.
Los Bonos, CA. 93635

5/21/2014

Dear Mr. Oliveira,

Enclosed to this note you will find the analytical laboratory reports for 9 well water samples we sampled on May 12, 2014.
If you would please review these data and call us if you have any questions or comments.
The unused portion of these samples will be discarded 30 days after date of this reports unless we receive further instruction

Sincerely yours,

Ahmed Modabber
Lab. director

Nachtmann Analytical Laboratory, Inc.

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Analytical Laboratory Report

State DHS Cert. # 1419

Client:
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2211 Old HWY 99
Williams, CA. 95987
Attn: Ross Oliveira

CC:
Liberty Packing Co.
12945 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 1
Sample Lab. #	: 05122014-1
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	272.5
PH	SM 4500-H B	1.00-14.00	7.47
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	155.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	142.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.11
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	3.54
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	15.64
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	4.115
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	5.05
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
6.00	18.00	8.01	243.	20.27

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
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Analytical Laboratory Report

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2211 Old HWY 99
Williams, CA. 95987
Attn: Ross Oliveira

CC:
Liberty Packing Co.
12045 S. Ingmar Grade RD.
Loa Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 2
Sample Lab. #	: 05122014-2
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:30. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	826.
PH	SM 4500-H B	1.00-14.00	7.05
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	498.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	477.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.72
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	1.18
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	5.21
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	30.86
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	48.7
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
13.75	19.75	8.76	830.	22.3

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Analytical Laboratory Report

State DHS Cert. # 1419

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Williams, CA. 95987
Attn: Ross Oliveira

CC:
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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn: Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 3
Sample Lab. #	: 05122014-3
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	884.
PH	SM 4500-H B	1.00-14.00	7.39
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	530.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	510.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.11
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	11.8
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	52.15
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	40.32
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	56.2
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
6.66	18.16	8.69	744.	20.23

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 93635
Attn: Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 4
Sample Lab. #	: 05122014-4
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	432.2
PH	SM 4500-H B	1.00-14.00	7.63
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	245.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	230.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.389
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	0.59
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	2.6
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	15.22
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	31.2
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
7.16	17.	8.33	449	20.43

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 5
Sample Lab. #	: 05122014-5
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1016.
PH	SM 4500-H B	1.00-14.00	7.63
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	610.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	588.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.22
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	2.95
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	13.03
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	92.58
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	53.7
Coliform (total)	SM 9221 B	2.00 MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
3.83	18.41	9.04	955.	20.63

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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Los Banos, CA. 903635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 6
Sample Lab. #	: 05122014-6
Sample Location	: Williams, CA.
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1312.
PH	SM 4500-H B	1.00-14.00	7.27
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	850.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	833.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.22
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	3.54
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	15.64
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	73.65
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	ND
Cl	SM 4500-Cl C	1.00 mg/l	66.2
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
5.16	18.	8.81	1227.	22.37

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 7
Sample Lab. #	: 05122014-7
Sample Location	: Williams, CA.
Sampling Date	: 2/17/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1201.
PH	SM 4500-H B	1.00-14.00	7.26
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	786.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	740.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.33
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	1.53
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	6.78
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	64.6
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	0.24
Cl	SM 4500-Cl C	1.00 mg/l	88.7
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
4.16	17.91	8.99	1117.	22.97

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber

Nachtmann Analytical Laboratory, Inc.

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12045 S. Ingmar Grade Rd.
Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID #	: MW # 8
Sample Lab. #	: 05122014-8
Sample Location	: Williams,CA
Sampling Date	: 5/12/2014
Sampled By	: Lab. chemist
Volume Purged	:45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	1682.
PH	SM 4500-H B	1.00-14.00	7.06
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	1090
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	1044.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.72
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	1.18
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	5.21
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	115.22
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	1.15
Cl	SM 4500-Cl C	1.00 mg/l	167.
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
4.83	18.	8.8	1493.	21.8

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
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Los Banos, CA. 93635
Attn : Mark Oliveira

Date Reporting: 5/21/2014

Sample ID # : MW # 9
Sample Lab. # : 05122014-9
Sample Location :Williams,Ca
Sampling Date : 2/17/2014
Sampled By Lab.Chemist
Volume Purged :45. L (Approx)

Analyte	Method #	RL(mg/l)	Conc. (mg/l)
EC (umhos/cm)	SM 2510 B	1. umhos/cm	2122..
PH	SM 4500-H B	1.00-14.00	7.37
TDS (total dissolved solid)	SM 2540 C	5.00 mg/l	1480.
FDS (fixed dissolved solid)	SM 2540 E	5.00 mg/l	1450.
TKN (total k nitrogen)	SM 4500-N C	0.10 mg/l	0.72
Nitrogen in nitrate form (N-NO3)	SM 4500-NO3 E	0.05 mg/l	10.06
Nitrate (NO3)	SM 4500-NO3 E	0.20 mg/l	44.5
Sulfate (SO4)	SM 4500-SO4 D	5.00 mg/l	158.42
Fe (dissolved)	SM 3111B	0.01 mg/l	ND
Mn (dissolved)	SM 3111B	0.01 mg/l	0.10
Cl	SM 4500-Cl C	1.00 mg/l	278.
Coliform (total)	SM 9221 B	2.00MPN/100 ml	< 2 MPN/100 ml

Field Data

Water level(ft)	Well Depth(ft)	PH	EC (umhos/cm)	Temp. (C)
6.33	17.66	8.93	1992.	22.73

Field Note:

Reference : Std. Methods for Examination for Water & Wastewater, 20th Ed. 1998
RL : Reporting Limit

Lab. director : Ahmed Modabber