LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUNDWATER AND
ENVIRONMENTAL ENGINEERING SERVICES

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October 8, 2014

Mr. Robert LaColla
Supervisor – Town of Fishkill
807 Route 52
Fishkill, NY 12524

RE: Quarterly Groundwater Sample Collection
August 2014
Snook Road Well Field
(T) Fishkill, New York

Dear Mr. LaColla:

The following is a summary of the results of the August 2014 quarterly groundwater sample collection event completed by Leggette, Brashears & Graham, Inc. (LBG) at the Snook Road Well Field located on Snook Road in the Town of Fishkill, New York (figure 1). A quarterly groundwater sampling program was previously conducted at the well field from June 2009 through July 2010 and was resumed in May 2012.

Groundwater samples were collected from four monitoring well clusters and the two production wells at the well field during the sampling event on August 8, 2014. The well locations are shown on Figure 2 and copies of the monitoring well diagrams are included in Appendix I.

Groundwater Sample Collection

Groundwater samples were collected from monitoring wells MW-1A, MW-1B, MW-2A, MW-2B, MW-3A, MW-3B, MW-4A and MW-4B on August 8, 2014. The monitoring well designations A and B signify shallow (crossing the water table) and deep (80 feet) screen settings, respectively.

Depth-to-water measurements collected from the monitoring wells on August 8 are shown on Table 1 along with associated groundwater elevations. Groundwater contour maps showing the direction of groundwater flow are shown on figures 2 and 3 for the shallow and deep wells, respectively. During this groundwater sampling event, the direction of groundwater

flow was northeast to southwest in the shallow aquifer and east to west in the deep aquifer at the well field.

Three standing well volumes were evacuated from each monitoring well prior to the collection of the groundwater samples. Samples from all of the monitoring wells collected on August 8 were analyzed for sodium and chloride. In addition, samples collected from MW-1A and MW-1B were analyzed for volatile organic compounds (VOCs). The samples were packed on ice after collection and sent to York Analytical Laboratory (York) located in Stratford, Connecticut for analysis. A copy of the York laboratory report for this sampling event is included in Appendix II.

Water-Quality Results

Table 2 contains a summary of the sodium and chloride sample results for the monitoring wells from all the quarterly sampling events completed to date at the well field. The sample results from August 2014 are also shown on Figure 4. Graphs depicting the change in sodium and chloride concentrations in the monitoring wells over time are included in Appendix III.

The sodium concentrations in the shallow monitoring wells in August 2014 ranged from 74.1 mg/l (milligrams per liter) to 108 mg/l and the sodium concentrations in the deep wells ranged from 103 mg/l to 110 mg/l during this sampling event. Chloride concentrations in the shallow wells ranged from 137 mg/l to 164 mg/l and the chloride concentrations in the deep wells ranged from 162 mg/l to 225 mg/l.

Production well T-1 has been sampled for sodium and chloride twice per month since January 2009 by the Town's water operators, CAMO Pollution Control. Bimonthly sodium and chloride sample collection for production well T-2 was started in January 2014. Graphs of the sodium and chloride concentrations reported in T-1 compared to monthly precipitation and pumping withdrawals from T-1 are included in Appendix IV. A graph of the sodium and chloride concentrations reported in T-2 compared to monthly precipitation is included in Appendix V.

Table 3 shows the sodium and chloride water-quality results from the production wells T-1 and T-2 (aka P-1). The sodium and chloride concentrations in Production Well T-1 from August 8 were 88.0 mg/l and 163 mg/l, respectively. The August 2014 chloride data in Production Well T-1 showed a decrease compared to the 2014 peak concentration of 190 mg/l which occurred in May 2014.

Overall, the chloride concentration in T-2 has shown an increase over the last several months. Since December 2013 the chloride concentration has risen from 138 mg/l to a high of 172 mg/l in July 2014. The chloride concentration in the well from the sample collected on August 8 was 162 mg/l.

Groundwater samples were also collected from MW-1A and MW1-B for analysis for aromatic VOCs in August 2014. Trace detections of methylene chloride were reported at concentrations of 0.4 ug/l (micrograms per liter) and 0.3 ug/l, respectively. Both of these detections were below the laboratory's method reporting limit of 0.5 ug/l and the analyte was also detected in the batch blank. This indicates that the detection was a result of laboratory contamination and not representative of groundwater quality at the well field. No other VOC detections were reported in the samples collected from MW-1A and MW-1B in August 2014 (table 4).

Discussion

The combination of abnormally high precipitation in 2011 and a very mild 2011/2012 winter season requiring limited road salt application contributed to a notable decrease in chloride concentrations at the Snook Road Well Field at that time. Because of the decrease in the chloride concentration in the production well, T-1 was placed on as the primary source of water for the Merritt Park Water District in April 2012, with the Village of Fishkill water as the back-up supply. In addition, the quarterly groundwater sampling program was resumed at the well field in May 2012 to monitor sodium and chloride concentrations in the groundwater.

Overall, the quarterly groundwater sampling program has shown an increase in the chloride concentrations in both the shallow and deep monitoring wells and the production wells at the well field since 2013. The graphs for MW-3A and MW-4B are clear examples of the increasing trend in concentration.

The changes in chloride concentrations in groundwater (increases and decreases) are dependent on the lag time between the application of the road salt, its infiltration into groundwater, and the travel time through the aquifer. For example, a significant rise in chloride concentration was reported in MW-1A in February 2014. The rise in concentration in this well occurred near the time of the actual application because the water table in this well is shallow (therefore quickly recharged by surface-water runoff infiltration) and the well is close to the roadway. The remaining monitoring wells and production wells which are located farther from

the roads and/or are screened in the deep aquifer show peak chloride concentrations later in the year.

The water-quality data from 2014 so far indicates that seasonal loading of chloride has started to occur at the well field. If compounding of chloride from seasonal loading continues, the chloride concentration in the production wells will continue to rise. Exceedance of the NYSDOH MCL for chloride (250 mg/l) in the production wells at some point in the future will likely occur unless there is a change in conditions (i.e., a significantly above average period of precipitation, a series of mild winters, or a significant reduction in road salt application).

The timeframe for the potential exceedance of the chloride MCL in the production wells cannot be estimated because of the dependence on two major varying factors: the amount of precipitation received and the number of winter storms requiring road salt application. As shown on table 5, since 2011 the annual precipitation totals for the region have been below average. This is likely contributing to the rise in chloride concentrations at the well field, compared to 2011 when significantly above average precipitation events occurred which resulted in a decrease in concentrations at the well field.

Conclusions

The combination of abnormally high precipitation in 2011 and a very mild 2011/2012 winter season requiring limited road salt application contributed to a notable decrease in chloride concentrations at the Snook Road Well Field at that time. Because of the decrease in the chloride concentration in the production well, T-1 was placed on as the primary source of water for the Merritt Park Water District in April 2012, with the Village of Fishkill water as the back-up supply.

Overall, the quarterly groundwater sampling program completed at the well field has shown an increase in the chloride concentrations in both the shallow and deep monitoring wells and the production wells since 2013. VOC samples collected from monitoring wells MW-1A and MW-1B as part of the ongoing quarterly groundwater sampling program have shown no significant detections of VOCs to date.

The water-quality data from 2014 so far indicates that seasonal loading of chloride has started to occur at the well field. If compounding of chloride from seasonal loading continues, the chloride concentration in the production wells will continue to rise. Exceedance of the NYSDOH MCL for chloride in the production wells at some point in the future will likely occur

unless there is a change in conditions (i.e. a significantly above average period of precipitation, a series of mild winters, or a significant reduction in road salt application).

The bi-monthly sample collection from production wells T-1 and T-2 by CAMO and quarterly sample collection from the monitoring wells by LBG will continue to assess the concentration changes in the wells over time. The information will be used to continue to monitor the effects of seasonal loading of chloride at the well field.

Should you have any questions, please contact me or Thomas Cusack at (203) 929-8555.

Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Stacy Stieber, CPG
Senior Hydrogeologist

Reviewed by:

Thomas P. Cusack, CPG
Principal

SS:etn
Enclosures
cc: J. Andrews
L. Felshin - Dutchess Co. DOH
M. Tremper - Camo Pollution
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TABLES

TABLE 1

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Depth-to-Water Measurements Collected

Well ID	Top of Casing Elevation	Sample Date	DTW (ft btoc)	Water Level Elevation
MW-1A	234.06	6/26/09	22.90	211.19
		9/10/09	26.40	207.69
		12/7/09	25.24	208.85
		3/22/10	17.83	216.26
		7/1/10	26.21	207.91
		5/4/12	25.53	208.56
		8/14/12	26.14	207.92
		11/6/12	24.74	209.32
		2/7/13	23.85	210.21
		5/7/13	24.88	209.18
		8/16/13	24.70	209.36
		11/11/13	28.28	205.78
		2/20/14	24.96	209.10
		5/15/14	22.02	212.04
		8/8/14	24.47	208.59
MW-1B	233.84	6/26/09	22.65	211.19
		9/10/09	26.35	207.49
		12/7/09	24.91	208.93
		3/22/10	17.46	216.38
		7/1/10	26.17	207.67
		5/4/12	25.47	208.37
		8/14/12	25.88	207.96
		11/6/12	24.52	209.32
		2/7/13	23.61	210.23
		5/7/13	24.61	209.23
		8/16/13	24.44	209.40
		11/11/13	28.07	205.77
		2/20/14	24.73	209.11
		5/15/14	21.77	212.07
		8/8/14	25.26	208.58
MW-2A	235.82	6/26/09	24.65	211.17
		9/10/09	24.76	211.06
		12/7/09	27.05	208.77
		3/22/10	19.57	216.25
		7/1/10	28.17	207.65
		5/4/12	27.42	208.40
		8/14/12	27.92	207.90
		11/6/12	26.60	209.22
		2/7/13	25.64	210.18
		5/7/13	26.66	209.16
		8/16/13	26.45	209.37
		11/11/13	30.00	205.82
		2/20/14	26.75	209.07
		5/15/14	23.77	212.05
		8/8/14	27.25	208.57

TABLE 1

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Depth-to-Water Measurements Collected

Well ID	Top of Casing Elevation	Sample Date	DTW (ft btoc)	Water Level Elevation
MW-2B	235.86	6/26/09	24.60	211.27
		9/10/09	24.55	211.32
		12/7/09	26.99	208.88
		3/22/10	19.44	216.43
		7/1/10	28.13	207.75
		5/4/12	27.42	208.45
		8/14/12	27.88	207.98
		11/6/12	26.54	209.32
		2/7/13	25.54	210.32
		5/7/13	26.67	209.19
		8/16/13	26.46	209.40
		11/11/13	30.16	205.70
		2/20/14	26.72	209.14
		5/15/14	23.67	212.19
		8/8/14	27.25	208.61
MW-3A	239.23	6/26/09	27.35	211.98
		9/10/09	29.55	209.73
		12/7/09	30.02	209.26
		3/22/10	21.57	217.71
		7/1/10	31.33	207.94
		5/4/12	30.71	208.57
		8/14/12	31.00	208.23
		11/6/12	29.58	209.65
		2/7/13	28.46	210.77
		5/7/13	29.88	209.35
		8/16/13	29.70	209.53
		11/11/13	33.38	205.85
		2/20/14	29.39	209.84
		5/15/14	26.46	212.77
		8/8/14	30.10	209.13
MW-3B	239.42	6/26/09	27.35	212.09
		9/10/09	29.87	209.57
		12/7/09	30.06	209.38
		3/22/10	21.69	217.75
		7/1/10	31.40	208.06
		5/4/12	30.66	208.78
		8/14/12	31.02	208.40
		11/6/12	29.45	209.97
		2/7/13	28.48	210.94
		5/7/13	29.93	209.49
		8/16/13	29.70	209.72
		11/11/13	33.54	205.88
		2/20/14	26.43	209.42
		5/15/14	26.46	212.96
		8/8/14	30.51	208.91

TABLE 1

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Depth-to-Water Measurements Collected

Well ID	Top of Casing Elevation	Sample Date	DTW (ft btoc)	Water Level Elevation
MW-4A	235.85	6/26/09	23.90	212.01
		9/10/09	26.20	209.71
		12/7/09	26.55	209.36
		3/22/10	18.40	217.51
		7/1/10	27.62	208.35
		5/4/12	27.19	208.72
		8/14/12	27.55	208.30
		11/6/12	25.99	209.86
		2/7/13	25.03	210.82
		5/7/13	26.39	209.46
		8/16/13	26.20	209.65
		11/11/13	29.94	205.91
		2/20/14	26.11	209.72
		5/15/14	23.07	212.78
		8/8/14	26.94	208.91
MW-4B	235.83	6/26/09	23.45	212.37
		9/10/09	25.96	209.95
		12/7/09	26.21	209.70
		3/22/10	17.60	218.22
		7/1/10	24.43	208.47
		5/4/12	27.18	208.73
		8/14/12	27.19	208.64
		11/6/12	25.56	210.27
		2/7/13	24.58	211.25
		5/7/13	26.04	209.79
		8/16/13	25.89	209.94
		11/11/13	NM	NM
		2/20/14	26.11	209.72
		5/15/14	22.52	213.31
		8/8/14	26.67	209.16

DTW depth to water
ft btoc feet below top of PVC casing
NM not measured

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TABLE 2

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results from Monitoring Wells

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
MW-1A	6/26/09	62.3	84.1
	9/10/09	59.4	88.8
	12/7/09	78.4	118
	3/22/10	85.8	214
	7/1/10	80.1	157
	5/4/12	120	130
	8/14/12	105	115
	11/6/12	122	134
	2/7/13	103	104
	5/7/13	123	163
	8/16/13	101	132
	11/11/13	110	134
	2/20/14	127	**336**
	5/15/14	71.1	88.1
	8/8/14	108	139
MW-1B	6/26/09	58.0	98.4
	9/10/09	126	**278**
	12/7/09	129	**283**
	3/22/10	202	**428**
	7/1/10	158	245
	5/4/12	127	175
	8/14/12	99.5	128
	11/6/12	107	145
	2/7/13	103	133
	5/7/13	103	134
	8/16/13	107	160
	11/11/13	100	158
	2/20/14	105	169
	5/15/14	116	198
	8/8/14	110	181
MW-2A	6/26/09	112	225
	9/10/09	104	221
	12/7/09	115	225
	3/22/10	102	180
	7/1/10	130	202
	5/4/12	99.2	114
	8/14/12	87.7	114
	11/6/12	92.2	106
	2/7/13	92.6	97.6
	5/7/13	96.9	101
	8/16/13	97.1	115
	11/11/13	98.1	113
	2/20/14	92.1	115
	5/15/14	90.4	122
	8/8/14	95.8	137
MW-2B	6/26/09	114	236
	9/10/09	112	242

TABLE 2
(continued)

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
MW-2B (continued)	12/7/09	121	**262**
	3/22/10	136	**301**
	7/1/10	149	237
	5/4/12	112	138
	8/14/12	104	133
	11/6/12	107	129
	2/7/13	97.1	106
	5/7/13	93.6	113
	8/16/13	96.7	124
	11/11/13	99.4	125
	2/20/14	93.6	128
	5/15/14	97.2	153
	8/8/14	103	162
MW-3A	6/26/09	102	153
	9/10/09	97.9	**386**
	12/7/09	122	**313**
	3/22/10	102	244
	7/1/10	127	211
	5/4/12	85.0	49.1
	8/14/12	69.3	56.6
	11/6/12	67.3	70.4
	2/7/13	56.0	73.7
	5/7/13	56.7	82.0
	8/16/13	67.7	152
	11/11/13	76.6	121
	2/20/14	105	133
	5/15/14	69.8	150
	8/8/14	74.1	137
MW-3B	6/26/09	125	243
	9/10/09	174	**447**
	12/7/09	195	**465**
	3/22/10	172	**370**
	7/1/10	192	**277**
	5/4/12	137	153
	8/14/12	126	152
	11/6/12	119	144
	2/7/13	118	146
	5/7/13	110	144
	8/16/13	112	183
	11/11/13	81.0	125
	2/20/14	101	133
	5/15/14	95.8	171
	8/8/14	106	218
MW-4A	6/26/09	111	151
	9/10/09	118	**331**
	12/7/09	159	**417**

TABLE 2
(continued)

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
MW-4A (continued)	3/22/10	122	202
	7/1/10	119	202
	5/4/12	109	111
	8/14/12	105	112
	11/6/12	110	109
	2/7/13	98.5	103
	5/7/13	96.9	103
	8/16/13	110	160
	11/11/13	118	180
	2/20/14	114	160
	5/15/14	80.0	143
	8/8/14	86.1	164
MW-4B	6/26/09	111	**223**
	9/10/09	151	**341**
	12/7/09	168	**427**
	3/22/10	151	**277**
	7/1/10	161	241
	5/4/12	107	130
	8/14/12	103	126
	11/6/12	105	111
	2/7/13	114	117
	5/7/13	122	119
	8/16/13	129	168
	11/11/13	126	172
	2/20/14	108	137
	5/15/14	101	164
	8/8/14	103	225
NYSDOH Drinking Water Standard		270*	250

Note: Bold denotes drinking water standard exceedance.
* Recommended limit for sodium. NYSDOH does not currently have a drinking water standard.
mg/l milligrams per liter
NYSDOH New York State Department of Health
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TABLE 3

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results from Production Wells T-1 and T-2

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
T-1	1/9/2009	125	233
	1/19/2009	130	250
	1/21/2009	121	236
	2/4/2009	128	236
	3/24/2009	143	**296**
	4/1/2009	135	**308**
	4/23/2009	139	**293**
	4/29/2009	158	**318**
	5/13/2009	163	**293**
	6/3/2009	162	**327**
	6/26/2009	167	**390**
	6/30/2009	164	**316**
	7/24/2009	161	**294**
	7/30/2009	160	**312**
	8/12/2009	165	**330**
	9/2/2009	145	**303**
	9/10/2009	141	**295**
	9/16/2009	149	**257**
	9/30/2009	152	**266**
	10/14/2009	310	**292**
	10/28/2009	152	**323**
	11/11/2009	138	**267**
	11/24/2009	147	250
	12/7/2009	145	**292**
	12/29/2009	154	**265**
	1/6/2010	151	**269**
	1/20/2010	157	**255**
	2/3/2010	102	**257**
	2/17/2010	148	**264**
	3/3/2010	144	**262**
	3/17/2010	157	**288**
	3/22/2010	162	**318**
	4/7/2010	151	**285**
	4/21/2010	144	**301**
	5/19/2010	150	**346**
	6/8/2010	150	**343**
	6/23/2010	148	**346**
	7/1/2010	154	**246**
	7/7/2010	145	**352**
	7/28/2010	142	**345**
	8/11/2010	127	**342**
	8/17/2010	76.1	163
	9/1/2010	143	**312**

TABLE 3

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results from Production Wells T-1 and T-2

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
T-1 (continued)	9/15/2010	143	**328**
	9/28/2010	153	**330**
	10/13/2010	148	**318**
	10/27/2010	143	**290**
	11/10/2010	136	**274**
	11/23/2010	133	237
	12/8/2010	140	234
	12/20/2010	143	248
	1/5/2011	133	236
	1/19/2011	140	**258**
	2/9/2011	146	**255**
	3/2/2011	145	**269**
	3/16/2011	139	231
	3/30/2011	141	232
	4/13/2011	131	207
	4/29/2011	137	262
	5/13/2011	135	**266**
	5/25/2011	126	**263**
	6/21/2011	136	**254**
	7/6/2011	137	246
	7/27/2011	135	245
	8/10/2011	125	240
	8/31/2011	131	197
	9/28/2011	108	147
	10/11/2011	114	168
	10/26/2011	114	172
	11/9/2011	105	164
	11/30/2011	116	164
	12/7/2011	123	174
	12/19/2011	121	168
	1/11/2012	125	166
	2/8/2012	116	160
	2/22/2012	112	150
	3/7/2012	117	140
	3/21/2012	119	142
	4/11/2012	112	120
	4/25/2012	101	113
	5/4/2012	106	99.0
	5/9/2012	104	110
	5/23/2012	108	109
	6/6/2012	102	109
	6/20/2012	101	119
	7/11/2012	110	104

TABLE 3

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results from Production Wells T-1 and T-2

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
T-1 (continued)	7/25/2012	105	113
	8/8/2012	60	102
	8/14/2012	95.7	97.5
	8/22/2012	103	106
	9/5/2012	97.9	107
	9/19/2012	98.6	106
	10/10/2012	98.4	105
	10/24/2012	103	106
	11/6/2012	43.6	70.1
	11/6/2012	93.8	93.0
	12/5/2012	92.4	94
	12/19/2012	104	94
	1/9/2013	102	95.7
	1/23/2013	102	96
	2/7/2013	95.6	95.7
	2/20/2013	111	104
	3/6/2013	117	106
	3/20/2013	116	119
	4/3/2013	112	112
	4/18/2013	104	119
	5/7/2013	91.1	99.7
	5/15/2013	98.4	113
	5/29/2013	103	113
	6/12/2013	97.1	113
	6/26/2013	105	109
	7/3/2013	104	117
	7/17/2013	99.9	108
	8/6/2013	95.7	112
	8/16/2013	89.4	106
	9/4/2013	90.6	112
	9/16/2013	97.3	113
	10/2/2013	91.9	115
	10/16/2013	97	116
	10/30/2013	107	118
	11/13/2013	97.3	122
	12/18/2013	98.4	129
	1/8/2014	94.1	128
	1/22/2014	105	122
	2/12/2014	92	107
	2/20/14	86.9	112
	2/26/2014	95.6	112
	3/11/14	99.2	117
	3/25/14	100	132

TABLE 3

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Sodium and Chloride Water-Quality Results from Production Wells T-1 and T-2

Well ID	Sample Date	Sodium (mg/l)	Chloride (mg/l)
T-1 (continued)	4/9/14	107	155
	4/23/14	103	154
	5/7/14	101	171
	5/15/14	90.8	165
	5/21/14	96.4	190
	6/3/2014	96	181
	6/18/2014	101	184
	7/2/2014	97	179
	7/16/2014	95.5	169
	8/8/2014	88	163
	8/27/2014	91.6	166
T-2	12/14/06	110	190
	8/17/10	61.6	162
	11/6/12	100	116
	12/18/13	118	138
	1/8/14	108	151
	1/22/14	117	152
	2/12/14	109	154
	2/26/14	115	160
	3/11/14	119	160
	3/25/14	118	164
	4/9/14	116	153
	4/23/14	113	147
	5/7/14	114	146
	5/15/14	98.9	133
	5/21/14	106	149
	6/3/2014	116	157
	6/18/2014	119	164
	7/2/2014	116	172
	7/16/2014	118	166
	8/8/2014	104	162
	8/27/2014	113	169
NYSDOH Drinking Water Standard		270*	250

Note: Bold denotes drinking water standard exceedance.
* Recommended limit for sodium. NYSDOH does not currently have a drinking water standard.
mg/l milligrams per liter
NYSDOH New York State Department of Health
K:\Jobs\Town of Fishkill\Snook Road Well Field\2014\August 2014\Aug 2014 Table 3 WQ T1 summary.doc

TABLE 4

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Volatile Organic Compound Water-Quality Results from MW-1A and MW-1B

Well ID	Sample Date	Bromo-Dichloro-methane (ug/l)	Bromoform (ug/l)	Chloroform (ug/l)	Dibromo-chloromethane (ug/l)	Acetone (ug/l)	Toluene (ug/l)	Methylene Chloride (ug/l)	Naphthalene (ug/l)	1,2,3-Trichlorobenzene (ug/l)
MW-1A	6/26/09	ND<0.5	ND<0.5	0.5	ND<0.5	NR	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/10/09	ND<0.5	ND<0.5	0.9	ND<0.5	2.2[1]	ND<0.5	ND<2.0	ND<0.5	ND<0.5
	12/7/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	3/22/10	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<0.5	MD<0.5	ND<0.5
	7/1/10	ND<0.5	ND<0.5	0.4J	ND<0.5	NR	ND<0.5	0.9B	ND<0.5	ND<0.5
	5/4/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	0.9JB	0.4JB	0.2J
	8/14/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<0.5	0.3JB	ND<2.0
	11/6/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	2/7/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	5/7/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	0.1	ND<2.0	ND<2.0	ND<2.0
	5/30/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	8/16/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	11/11/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	2/20/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<2.0	ND<0.5
	5/15/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<2.0	ND<0.5
	8/8/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.4B	ND<2.0	ND<0.5
MW-1B	6/26/09	ND<0.5	0.6	ND<0.5	0.6	NR	0.7	ND<0.5	ND<0.5	ND<0.5
	9/10/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<0.5	ND<0.5
	12/7/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	3/22/10	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	7/1/10	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	0.8B	ND<0.5	ND<0.5
	5/4/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	0.9JB	0.2JB	ND<2.0
	8/14/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	0.6J	0.2JB	ND<2.0
	11/6/12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	2/7/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	5/7/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	5/30/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	0.1B	ND<2.0
	8/16/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	0.2B	ND<2.0
	11/11/13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NR	ND<0.5	ND<2.0	ND<2.0	ND<2.0
	2/20/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<2.0	ND<0.5
	5/15/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<2.0	ND<0.5
	8/8/14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.3B	ND<2.0	ND<0.5
NYSDOH Drinking Water Standard		5	5	5	5	5	5	5	5	5

ug/l micrograms per liter

1/ Compound detected in method blank.

NR not reported

J Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.

B Analyte is found in the associated batch blank.

NYSDOH New York State Department of Health

K:\Jobs\Town of Fishkill\Snook Road Well Field\2014\August 2014\Aug 2014 TABLE 4 VOC.doc

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 5

SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Monthly Precipitation Observed at
Poughkeepsie Weather Station

Year	Month	Precipitation in Inches	30-Year Mean Precipitation in Inches (1971-2000)
2009	January	2.09	3.19
	February	0.81	2.53
	March	1.86	3.59
	April	1.89	3.79
	May	6.31	4.73
	June	9.22	3.73
	July	6.38	4.72
	August	4.87	3.83
	September	1.64	3.69
	October	4.21	3.56
	November	1.45	3.53
	December	3.75	3.23
2009 Annual Precipitation		**44.48**	**44.12**
2010	January	2.04	3.19
	February	4.08	2.53
	March	4.56	3.59
	April	1.74	3.79
	May	1.77	4.73
	June	1.88	3.73
	July	1.40	4.72
	August	6.97	3.83
	September	3.61	3.69
	October	5.72	3.56
	November	2.43	3.53
	December	2.34	3.23
2010 Annual Precipitation		**38.53**	**44.12**
2011	January	1.78	3.19
	February	3.65	2.53
	March	5.17	3.59
	April	4.63	3.79
	May	5.16	4.73
	June	4.40	3.73
	July	2.24	4.72
	August	13.23	3.83
	September	7.50	3.69
	October	4.10	3.56
	November	2.94	3.53
	December	4.39	3.23
2011 Annual Precipitation		**59.19**	**44.12**
2012	January	2.14	3.19
	February	1.47	2.53

TABLE 5

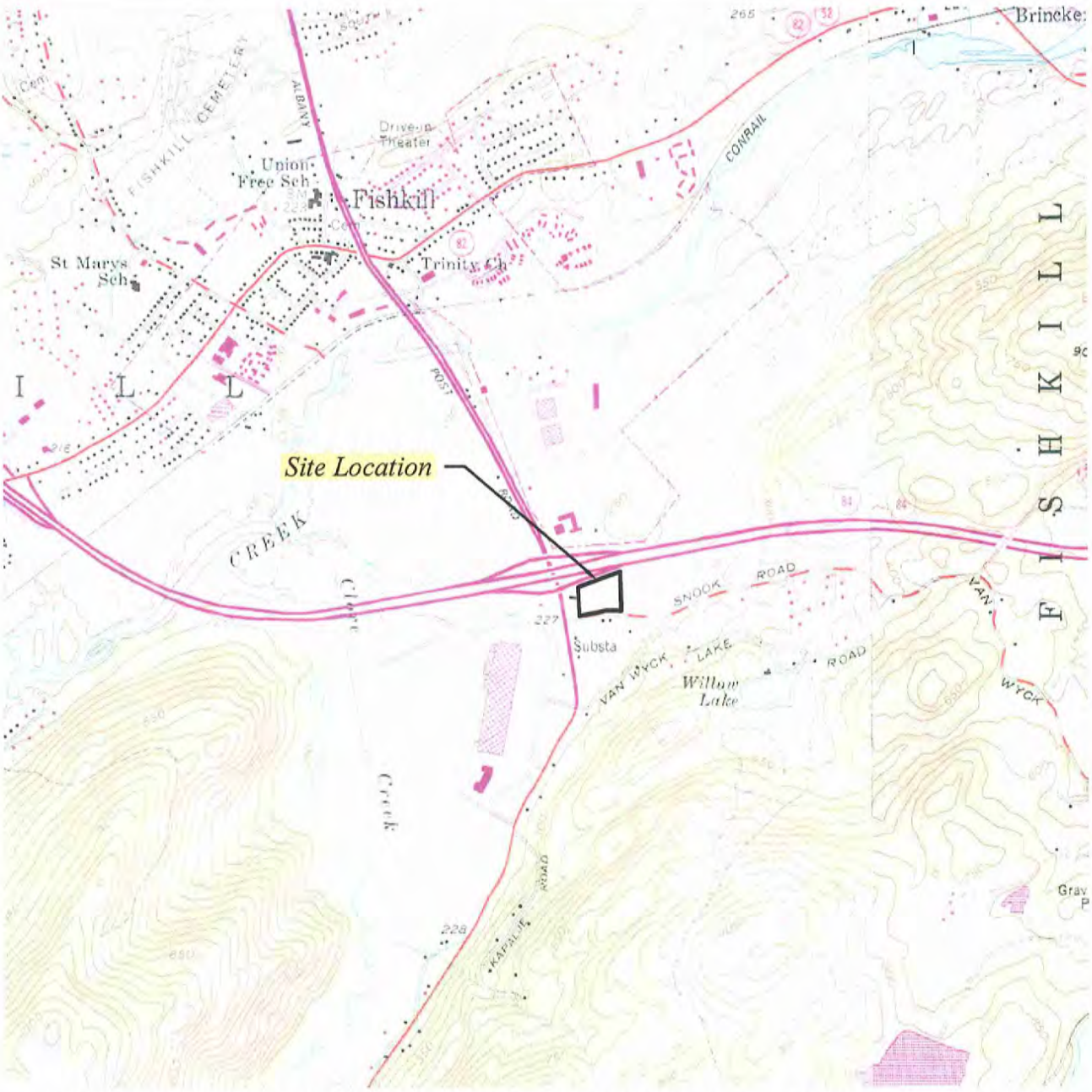
SNOOOK ROAD WELL FIELD
(T) FISHKILL, NEW YORK

Summary of Monthly Precipitation Observed at Poughkeepsie Weather Station

Year	Month	Precipitation in Inches	30-Year Mean Precipitation in Inches (1971-2000)
2012 (continued)	March	1.19	3.59
	April	2.06	3.79
	May	4.60	4.73
	June	4.01	3.73
	July	3.93	4.72
	August	3.23	3.83
	September	5.60	3.69
	October	3.79	3.56
	November	0.69	3.53
	December	4.22	3.23
2012 Annual Precipitation		**36.93**	**44.12**
2013	January	2.05	3.19
	February	1.61	2.53
	March	1.48	3.59
	April	1.32	3.79
	May	4.19	4.73
	June	9.82	3.73
	July	3.14	4.72
	August	6.61	3.83
	September	2.32	3.69
	October	1.61	3.56
	November	2.43	3.53
	December	3.33	3.23
2013 Annual Precipitation		**39.91**	**44.12**
2014	January	1.50	3.19
	February	2.78	2.53
	March	2.75	3.59
	April	4.43	3.79
	May	2.57	4.73
	June	2.29	3.73
	July	4.97	4.72
	August	3.38	3.83

K:\Jobs\Town of Fishkill\Snook Road Well Field\2014\August 2014\Aug 2014 Table 5 precip.doc

FIGURES



SOURCE: USGS TOPOGRAPHIC QUADRANGLES WAPPINGERS FALLS, NEW YORK (REVISED 1981) AND HOPEWELL JUNCTION, NEW YORK (REVISED 1981).

QUADRANGLE LOCATION

0 2000

SCALE IN FEET

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

SITE LOCATION MAP

DATE	REVISED

PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and Environmental Engineering Services
4 Research Drive
Suite 301
Shelton, Connecticut 06484
(203) 929-8555

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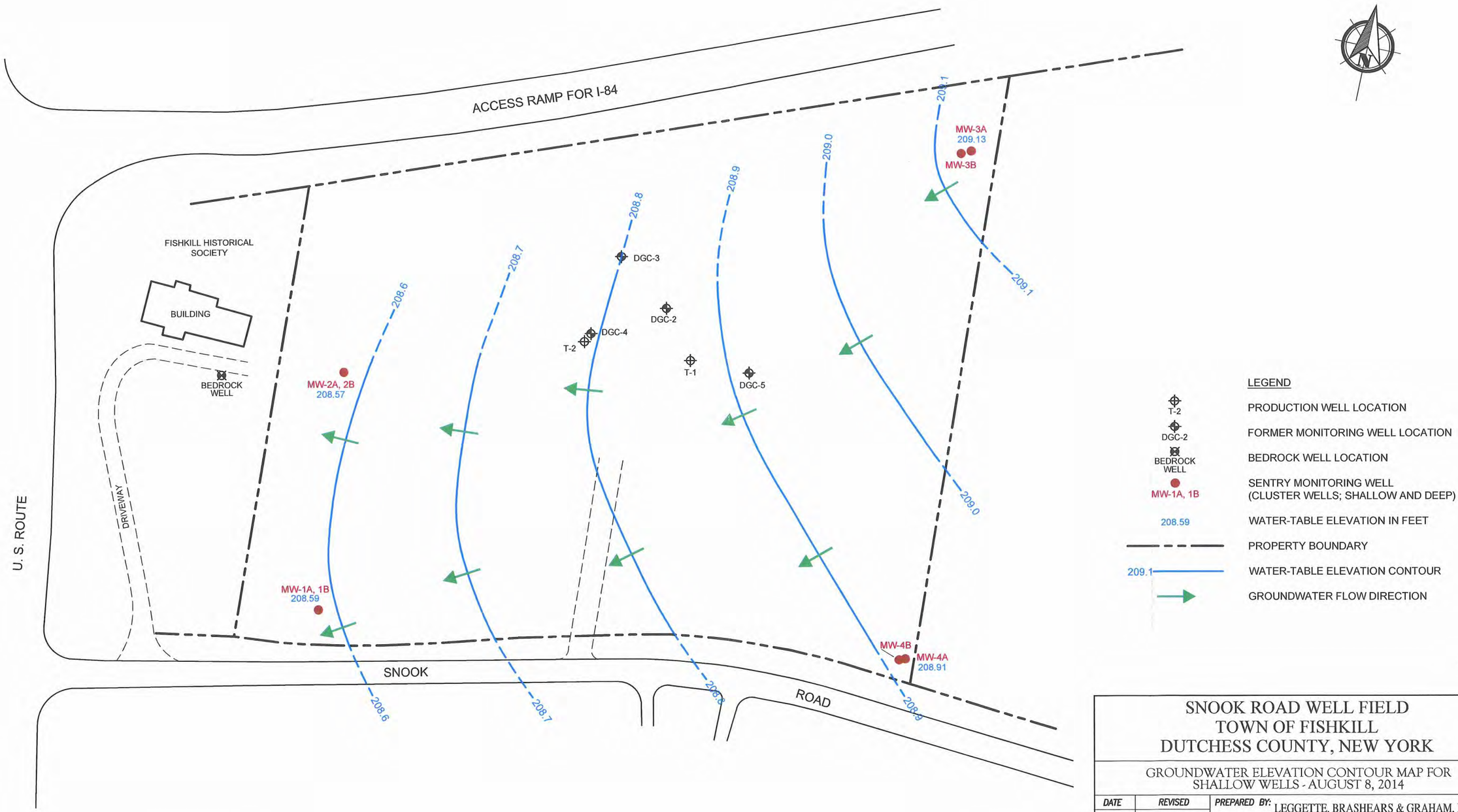

SOURCES:
- HYDROGEOLOGIC INVESTIGATION OF THE SNOOK ROAD SITE, DUNN 1990.
- SNOOK ROAD WATER IMPROVEMENT AREA "AS BUILT WELL PLAN" PREPARED BY ROHDE, SOYKA & ANDREWS CONSULTING ENGINEERS PC, DATED SEPTEMBER 1, 2009 SCALE 1"=60'.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

GROUNDWATER ELEVATION CONTOUR MAP FOR SHALLOW WELLS - AUGUST 8, 2014

DATE	REVISED

PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and Environmental Engineering Services
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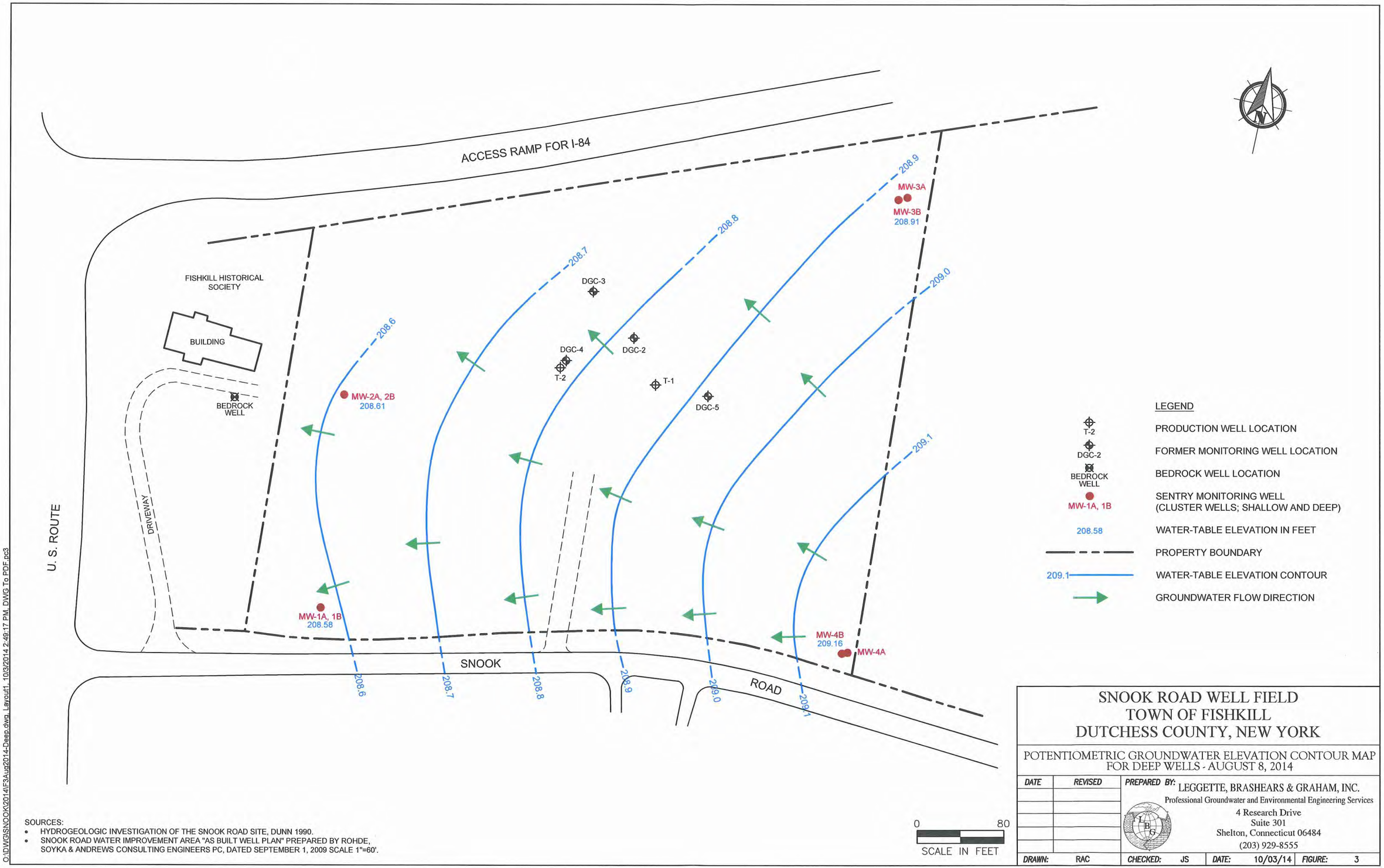

SOURCES:
- HYDROGEOLOGIC INVESTIGATION OF THE SNOOK ROAD SITE, DUNN 1990.
- SNOOK ROAD WATER IMPROVEMENT AREA "AS BUILT WELL PLAN" PREPARED BY ROHDE, SOYKA & ANDREWS CONSULTING ENGINEERS PC, DATED SEPTEMBER 1, 2009 SCALE 1"=60'.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP FOR DEEP WELLS - AUGUST 8, 2014

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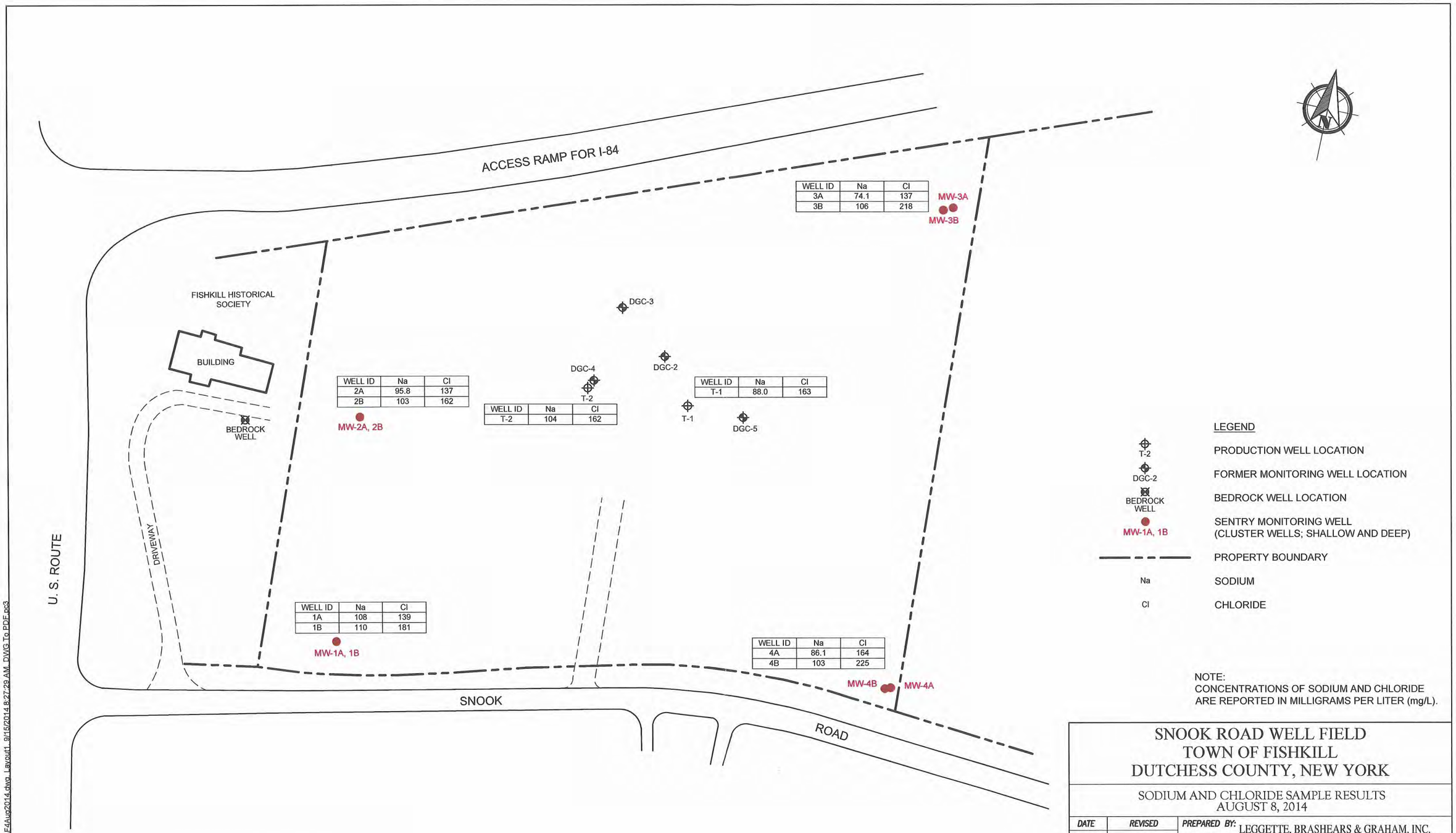

SOURCES:
- HYDROGEOLOGIC INVESTIGATION OF THE SNOOK ROAD SITE, DUNN 1990.
- SNOOK ROAD WATER IMPROVEMENT AREA "AS BUILT WELL PLAN" PREPARED BY ROHDE, SOYKA & ANDREWS CONSULTING ENGINEERS PC, DATED SEPTEMBER 1, 2009 SCALE 1"=60'.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

SODIUM AND CHLORIDE SAMPLE RESULTS
AUGUST 8, 2014

DATE	REVISED

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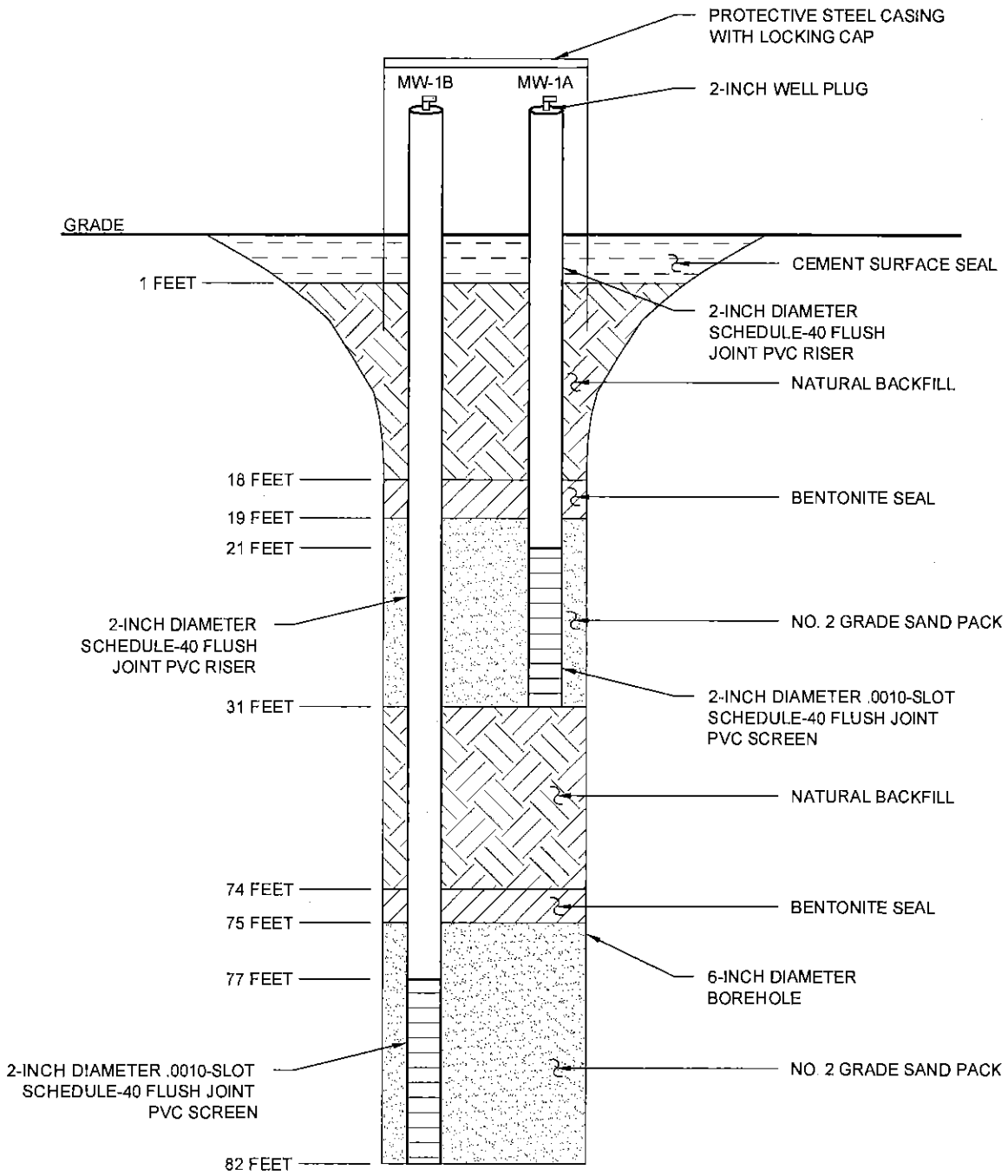
APPENDIX I



SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

WELL CONSTRUCTION DIAGRAM OF MW-1A AND MW-1B

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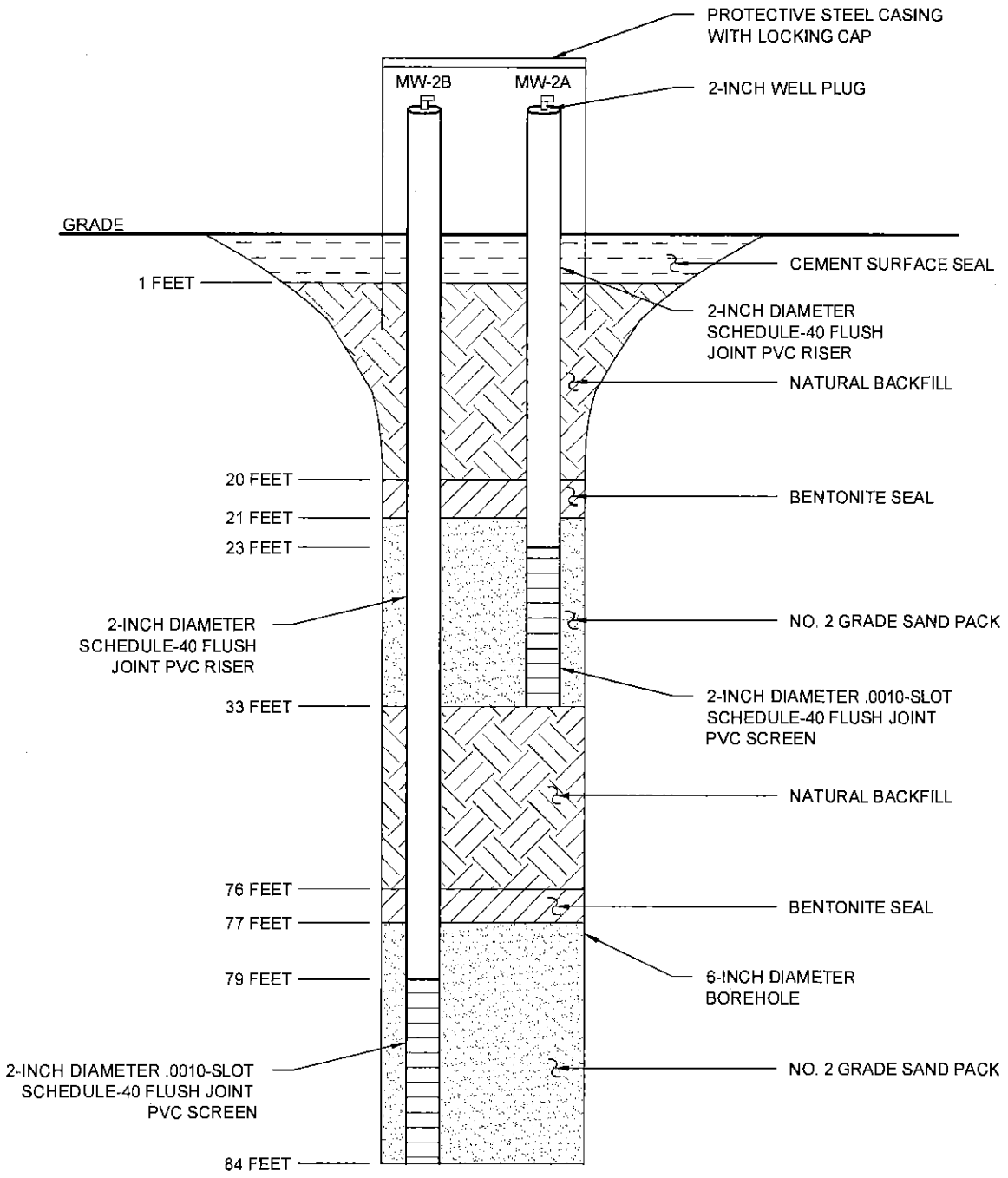

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

WELL CONSTRUCTION DIAGRAM OF MW-2A AND MW-2B

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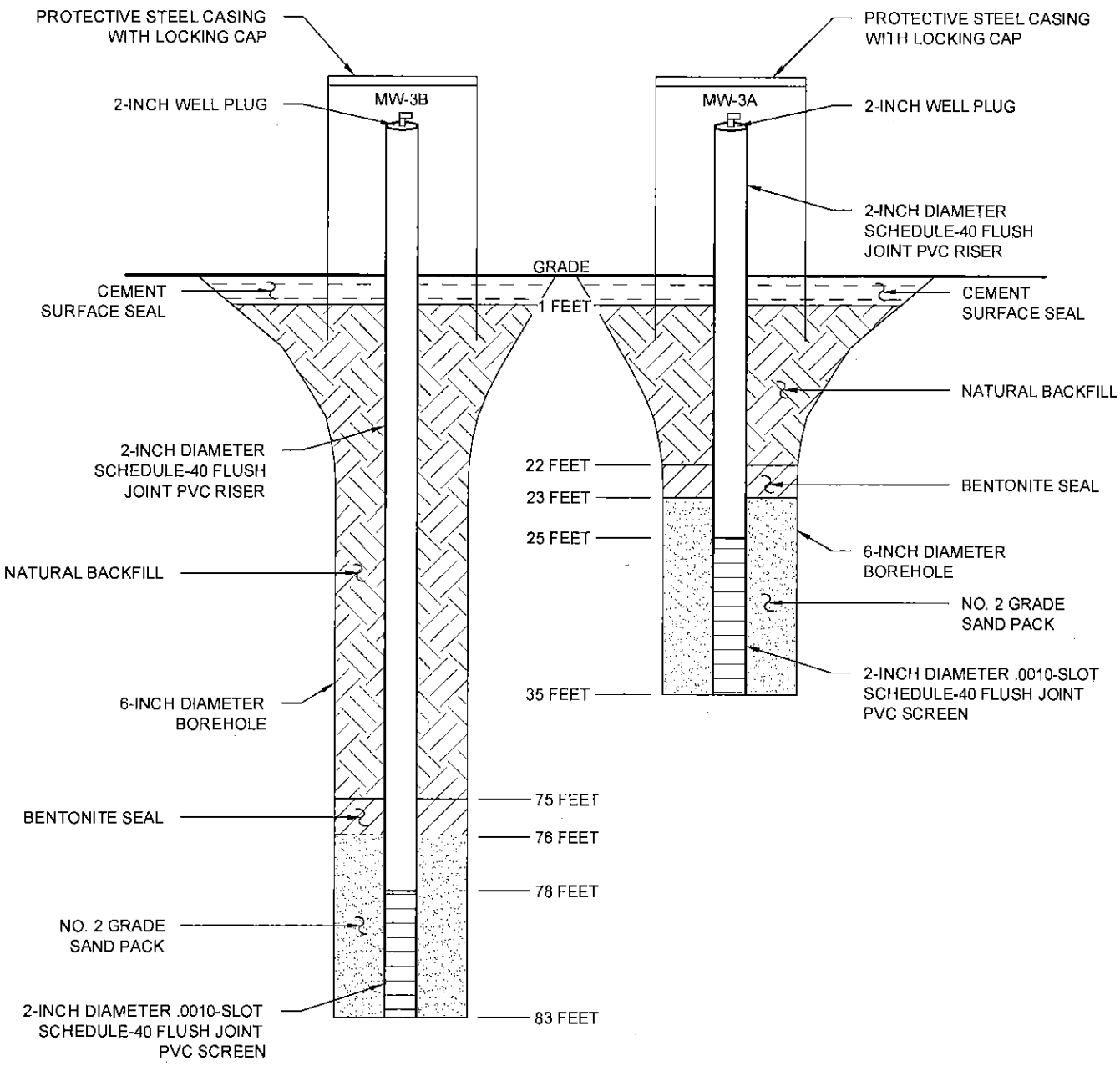

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

WELL CONSTRUCTION DIAGRAM OF MW-3A AND MW-3B

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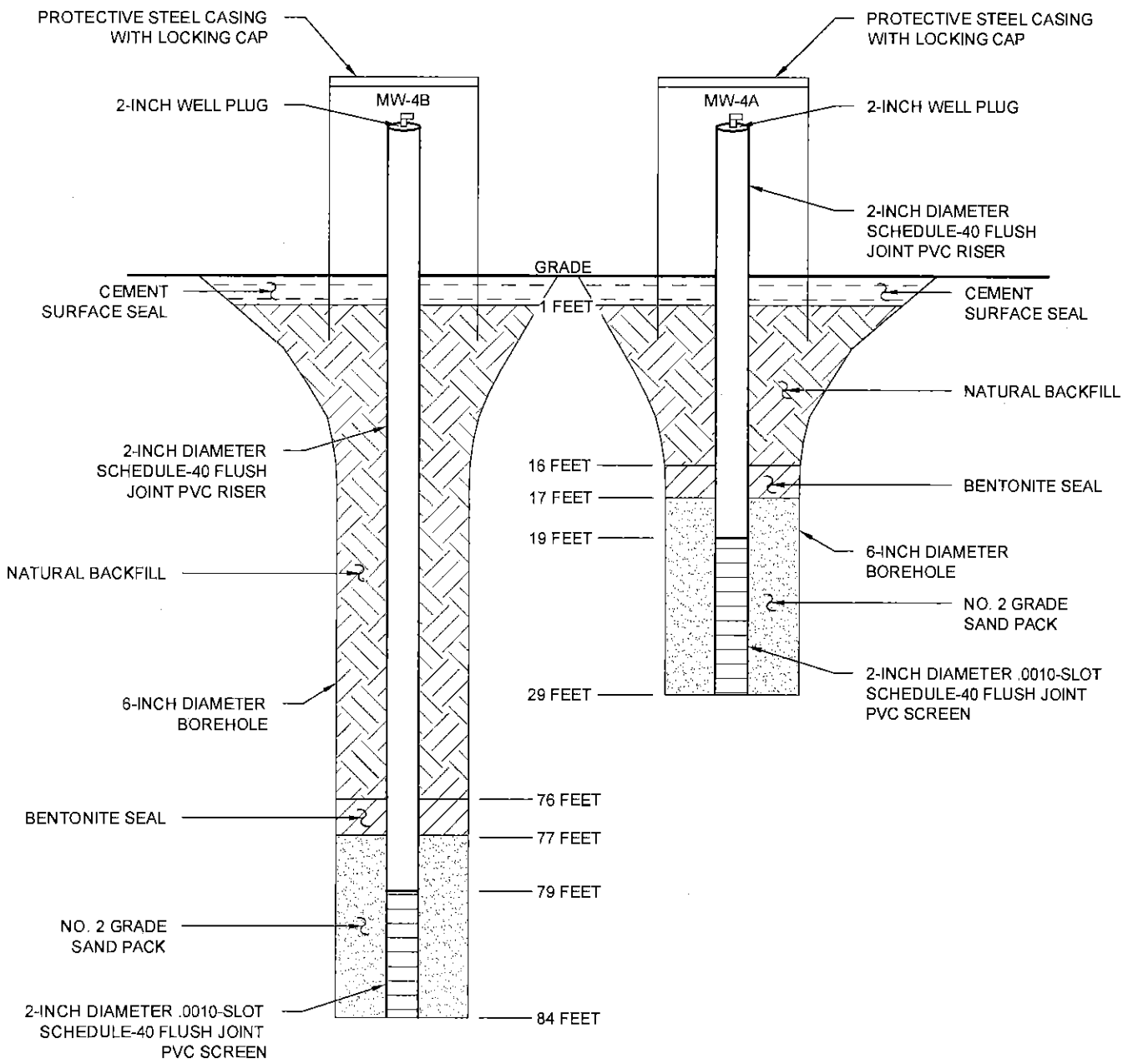

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL
DUTCHESS COUNTY, NEW YORK

WELL CONSTRUCTION DIAGRAM OF MW-4A AND MW-4B

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4 Research Drive
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Shelton, Connecticut 06484
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APPENDIX II

Technical Report

prepared for:

Leggette Brashears & Graham Shelton Office
4 Research Drive, Suite 301
Shelton CT, 06484
Attention: Stacy Stieber

Report Date: 08/15/2014
Client Project ID: Snook Road
York Project (SDG) No.: 14H0438

Report Date: 08/15/2014
Client Project ID: Snook Road
York Project (SDG) No.: 14H0438

Leggette Brashears & Graham Shelton Office
4 Research Drive, Suite 301
Shelton CT, 06484
Attention: Stacy Stieber

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on August 08, 2014 and listed below. The project was identified as your project: **Snook Road**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
14H0438-01	MW-1A	Water	08/08/2014	08/08/2014
14H0438-02	MW-1B	Water	08/08/2014	08/08/2014
14H0438-03	MW-2A	Water	08/08/2014	08/08/2014
14H0438-04	MW-2B	Water	08/08/2014	08/08/2014
14H0438-05	MW-3A	Water	08/08/2014	08/08/2014
14H0438-06	MW-3B	Water	08/08/2014	08/08/2014
14H0438-07	MW-4A	Water	08/08/2014	08/08/2014
14H0438-08	MW-4B	Water	08/08/2014	08/08/2014
14H0438-09	T-1	Water	08/08/2014	08/08/2014
14H0438-10	T-2	Water	08/08/2014	08/08/2014

General Notes for York Project (SDG) No.: 14H0438

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: **Date:** 08/15/2014

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: MW-1A

York Sample ID: 14H0438-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:55 pm	08/08/2014

Volatile Organics, 502.2 + MTBE List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-43-2	Benzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
108-86-1	Bromobenzene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
74-97-5	Bromochloromethane	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-27-4	Bromodichloromethane	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-25-2	Bromoform	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
74-83-9	Bromomethane	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
135-98-8	sec-Butylbenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
104-51-8	n-Butylbenzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
98-06-6	tert-Butylbenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
56-23-5	Carbon tetrachloride	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
108-90-7	Chlorobenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-00-3	Chloroethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
67-66-3	Chloroform	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
74-87-3	Chloromethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
106-43-4	4-Chlorotoluene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
95-49-8	2-Chlorotoluene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
96-12-8	* 1,2-Dibromo-3-chloropropane	ND		ug/L	0.6	2.0	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
124-48-1	Dibromochloromethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
106-93-4	* 1,2-Dibromoethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
74-95-3	Dibromomethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
594-20-7	2,2-Dichloropropane	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
142-28-9	1,3-Dichloropropane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	0.04	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
563-58-6	1,1-Dichloropropylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS

YORK
ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: MW-1A

York Sample ID: 14H0438-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:55 pm	08/08/2014

Volatile Organics, 502.2 + MTBE List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
100-41-4	Ethyl Benzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
87-68-3	Hexachlorobutadiene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
591-78-6	2-Hexanone	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
98-82-8	Isopropylbenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
99-87-6	p-Isopropyltoluene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-09-2	**Methylene chloride**	**0.4**	B	ug/L	0.2	2.0	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
91-20-3	Naphthalene	ND		ug/L	0.6	2.0	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
103-65-1	n-Propylbenzene	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
100-42-5	Styrene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
127-18-4	Tetrachloroethylene	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
108-88-3	Toluene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
79-01-6	Trichloroethylene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-69-4	Trichlorofluoromethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
75-01-4	Vinyl Chloride	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
95-47-6	* o-Xylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
179601-23-1	* p- & m- Xylenes	ND		ug/L	0.1	1.0	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS
1330-20-7	Xylenes, Total	ND		ug/L	1.5	1.5	1	EPA 524.2	08/13/2014 16:30	08/13/2014 23:57	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*104 %*	*79-133*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*94.1 %*	*65-133*
2037-26-5	*Surrogate: Toluene-d8*	*93.1 %*	*80-123*

Sample Information

Client Sample ID: MW-1A | **York Sample ID:** 14H0438-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:55 pm	08/08/2014

Sodium by EPA 6010

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**108**		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:35	MW

Chloride

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	**Chloride**	**139**		mg/L	0.690	5.00	10	EPA 300.0	08/14/2014 23:10	08/14/2014 23:10	AD

Sample Information

Client Sample ID: MW-1B | **York Sample ID:** 14H0438-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:52 pm	08/08/2014

Volatile Organics, 502.2 + MTBE List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-43-2	Benzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
108-86-1	Bromobenzene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
74-97-5	Bromochloromethane	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-27-4	Bromodichloromethane	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-25-2	Bromoform	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
74-83-9	Bromomethane	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
135-98-8	sec-Butylbenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
104-51-8	n-Butylbenzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
98-06-6	tert-Butylbenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
56-23-5	Carbon tetrachloride	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
108-90-7	Chlorobenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-00-3	Chloroethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
67-66-3	Chloroform	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
74-87-3	Chloromethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
106-43-4	4-Chlorotoluene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
95-49-8	2-Chlorotoluene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
96-12-8	* 1,2-Dibromo-3-chloropropane	ND		ug/L	0.6	2.0	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS

Sample Information

Client Sample ID: MW-1B

York Sample ID: 14H0438-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:52 pm	08/08/2014

Volatile Organics, 502.2 + MTBE List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
124-48-1	Dibromochloromethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
106-93-4	* 1,2-Dibromoethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
74-95-3	Dibromomethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-34-3	1,1-Dichloroethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
107-06-2	1,2-Dichloroethane	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
594-20-7	2,2-Dichloropropane	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
142-28-9	1,3-Dichloropropane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
78-87-5	1,2-Dichloropropane	ND		ug/L	0.04	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
563-58-6	1,1-Dichloropropylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
100-41-4	Ethyl Benzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
87-68-3	Hexachlorobutadiene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
591-78-6	2-Hexanone	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
98-82-8	Isopropylbenzene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
99-87-6	p-Isopropyltoluene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-09-2	**Methylene chloride**	**0.3**	B	ug/L	0.2	2.0	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
91-20-3	Naphthalene	ND		ug/L	0.6	2.0	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
103-65-1	n-Propylbenzene	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
100-42-5	Styrene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.08	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
127-18-4	Tetrachloroethylene	ND		ug/L	0.09	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
108-88-3	Toluene	ND		ug/L	0.05	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
79-01-6	Trichloroethylene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS

Sample Information

Client Sample ID: MW-1B

York Sample ID: 14H0438-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:52 pm	08/08/2014

Volatile Organics, 502.2 + MTBE List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-69-4	Trichlorofluoromethane	ND		ug/L	0.2	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.06	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
75-01-4	Vinyl Chloride	ND		ug/L	0.1	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
95-47-6	* o-Xylene	ND		ug/L	0.07	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
179601-23-1	* p- & m- Xylenes	ND		ug/L	0.1	1.0	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.3	0.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS
1330-20-7	Xylenes, Total	ND		ug/L	1.5	1.5	1	EPA 524.2	08/13/2014 16:30	08/14/2014 00:29	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*96.1 %*	*79-133*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*96.0 %*	*65-133*
2037-26-5	*Surrogate: Toluene-d8*	*95.6 %*	*80-123*

Sodium by EPA 6010

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**110**		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:39	MW

Chloride

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	**Chloride**	**181**		mg/L	0.690	5.00	10	EPA 300.0	08/14/2014 23:28	08/14/2014 23:28	AD

Sample Information

Client Sample ID: MW-2A

York Sample ID: 14H0438-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:05 pm	08/08/2014

Sodium by EPA 6010

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: MW-2A

York Sample ID: 14H0438-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:05 pm	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	95.8		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:44	MW

Chloride

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	137		mg/L	0.690	5.00	10	EPA 300.0	08/14/2014 23:46	08/14/2014 23:46	AD

Sample Information

Client Sample ID: MW-2B

York Sample ID: 14H0438-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 12:07 pm	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	103		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:49	MW

Chloride

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	162		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 00:03	08/15/2014 00:03	AD

Sample Information

Client Sample ID: MW-3A

York Sample ID: 14H0438-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 10:07 am	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Information

Client Sample ID: MW-3A | **York Sample ID:** 14H0438-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 10:07 am	08/08/2014

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**74.1**		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:54	MW

Chloride

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	**Chloride**	**137**		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 00:21	08/15/2014 00:21	AD

Sample Information

Client Sample ID: MW-3B | **York Sample ID:** 14H0438-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 10:00 am	08/08/2014

Sodium by EPA 6010

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**106**		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 02:58	MW

Chloride

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	**Chloride**	**218**		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 00:39	08/15/2014 00:39	AD

Sample Information

Client Sample ID: MW-4A | **York Sample ID:** 14H0438-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 10:57 am	08/08/2014

Sodium by EPA 6010

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: MW-4A

York Sample ID: 14H0438-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 10:57 am	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	86.1		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 03:04	MW

Chloride

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	164		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 00:56	08/15/2014 00:56	AD

Sample Information

Client Sample ID: MW-4B

York Sample ID: 14H0438-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 11:00 am	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	103		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 03:09	MW

Chloride

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	225		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 01:14	08/15/2014 01:14	AD

Sample Information

Client Sample ID: T-1

York Sample ID: 14H0438-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 11:30 am	08/08/2014

Sodium by EPA 6010

Log-in Notes:

Sample Notes:

Sample Information

Client Sample ID: T-1 **York Sample ID:** 14H0438-09

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 11:30 am	08/08/2014

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	88.0		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 03:14	MW

Chloride **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	163		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 01:32	08/15/2014 01:32	AD

Sample Information

Client Sample ID: T-2 **York Sample ID:** 14H0438-10

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
14H0438	Snook Road	Water	August 8, 2014 11:32 am	08/08/2014

Sodium by EPA 6010 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	Sodium	104		mg/L	0.100	0.100	1	EPA 6010C	08/12/2014 13:56	08/13/2014 03:44	MW

Chloride **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 300

CAS No.	Parameter	Result	Flag	Units	LOD/MDL	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16887-00-6	Chloride	162		mg/L	0.690	5.00	10	EPA 300.0	08/15/2014 01:50	08/15/2014 01:50	AD

Analytical Batch Summary

Batch ID: BH40618 **Preparation Method:** EPA 3010A **Prepared By:** MW

YORK Sample ID	Client Sample ID	Preparation Date
14H0438-01	MW-1A	08/12/14
14H0438-02	MW-1B	08/12/14
14H0438-03	MW-2A	08/12/14
14H0438-04	MW-2B	08/12/14
14H0438-05	MW-3A	08/12/14
14H0438-06	MW-3B	08/12/14
14H0438-07	MW-4A	08/12/14
14H0438-08	MW-4B	08/12/14
14H0438-09	T-1	08/12/14
14H0438-10	T-2	08/12/14
BH40618-BLK1	Blank	08/12/14
BH40618-DUP1	Duplicate	08/12/14
BH40618-SRM2	Reference	08/12/14

Batch ID: BH40732 **Preparation Method:** EPA 5030B **Prepared By:** BGS

YORK Sample ID	Client Sample ID	Preparation Date
14H0438-01	MW-1A	08/13/14
14H0438-02	MW-1B	08/13/14
BH40732-BLK1	Blank	08/13/14
BH40732-BS1	LCS	08/13/14
BH40732-BSD1	LCS Dup	08/13/14

Batch ID: BH40885 **Preparation Method:** EPA 300 **Prepared By:** AD

YORK Sample ID	Client Sample ID	Preparation Date
14H0438-01	MW-1A	08/14/14
14H0438-02	MW-1B	08/14/14
14H0438-03	MW-2A	08/14/14
14H0438-04	MW-2B	08/15/14
14H0438-05	MW-3A	08/15/14
14H0438-06	MW-3B	08/15/14
14H0438-07	MW-4A	08/15/14
14H0438-08	MW-4B	08/15/14
14H0438-09	T-1	08/15/14
14H0438-10	T-2	08/15/14
BH40885-BLK1	Blank	08/14/14
BH40885-BS1	LCS	08/14/14
BH40885-SRM1	Reference	08/14/14

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40732 - EPA 5030B											
Blank (BH40732-BLK1)								Prepared & Analyzed: 08/13/2014			
Benzene	ND	0.5	ug/L								
Bromobenzene	ND	0.5	"								
Bromochloromethane	ND	0.5	"								
Bromodichloromethane	ND	0.5	"								
Bromoform	ND	0.5	"								
Bromomethane	ND	0.5	"								
sec-Butylbenzene	ND	0.5	"								
n-Butylbenzene	ND	0.5	"								
tert-Butylbenzene	ND	0.5	"								
Carbon tetrachloride	ND	0.5	"								
Chlorobenzene	ND	0.5	"								
Chloroethane	ND	0.5	"								
Chloroform	ND	0.5	"								
Chloromethane	ND	0.5	"								
4-Chlorotoluene	ND	0.5	"								
2-Chlorotoluene	ND	0.5	"								
1,2-Dibromo-3-chloropropane	ND	2.0	"								
Dibromochloromethane	ND	0.5	"								
1,2-Dibromoethane	ND	0.5	"								
Dibromomethane	ND	0.5	"								
1,4-Dichlorobenzene	ND	0.5	"								
1,2-Dichlorobenzene	ND	0.5	"								
1,3-Dichlorobenzene	ND	0.5	"								
Dichlorodifluoromethane	ND	0.5	"								
1,1-Dichloroethane	ND	0.5	"								
1,2-Dichloroethane	ND	0.5	"								
trans-1,2-Dichloroethylene	ND	0.5	"								
1,1-Dichloroethylene	ND	0.5	"								
cis-1,2-Dichloroethylene	ND	0.5	"								
2,2-Dichloropropane	ND	0.5	"								
1,3-Dichloropropane	ND	0.5	"								
1,2-Dichloropropane	ND	0.5	"								
cis-1,3-Dichloropropylene	ND	0.5	"								
1,1-Dichloropropylene	ND	0.5	"								
trans-1,3-Dichloropropylene	ND	0.5	"								
Ethyl Benzene	ND	0.5	"								
Hexachlorobutadiene	ND	0.5	"								
2-Hexanone	ND	0.5	"								
Isopropylbenzene	ND	0.5	"								
p-Isopropyltoluene	ND	0.5	"								
Methylene chloride	0.3	2.0	"								
Naphthalene	ND	2.0	"								
n-Propylbenzene	ND	0.5	"								
Styrene	ND	0.5	"								
1,1,1,2-Tetrachloroethane	ND	0.5	"								
1,1,2,2-Tetrachloroethane	ND	0.5	"								
Tetrachloroethylene	ND	0.5	"								
Toluene	ND	0.5	"								
1,2,3-Trichlorobenzene	ND	0.5	"								
1,2,4-Trichlorobenzene	ND	0.5	"								
1,1,1-Trichloroethane	ND	0.5	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40732 - EPA 5030B											
Blank (BH40732-BLK1)								Prepared & Analyzed: 08/13/2014			
1,1,2-Trichloroethane	ND	0.5	ug/L								
Trichloroethylene	ND	0.5	"								
Trichlorofluoromethane	ND	0.5	"								
1,2,3-Trichloropropane	ND	0.5	"								
1,3,5-Trimethylbenzene	ND	0.5	"								
1,2,4-Trimethylbenzene	ND	0.5	"								
Vinyl Chloride	ND	0.5	"								
o-Xylene	ND	0.5	"								
p- & m- Xylenes	ND	1.0	"								
Methyl tert-butyl ether (MTBE)	ND	0.5	"								
Xylenes, Total	ND	1.5	"								
Surrogate: 1,2-Dichloroethane-d4	*10*		"	*10.0*		*105*	*79-133*				
Surrogate: p-Bromofluorobenzene	*9.7*		"	*10.0*		*96.7*	*65-133*				
Surrogate: Toluene-d8	*9.6*		"	*10.0*		*95.9*	*80-123*				
LCS (BH40732-BS1)								Prepared & Analyzed: 08/13/2014			
Benzene	11		ug/L	10.0		114	77-122				
Bromobenzene	9.8		"	10.0		98.3	76-114				
Bromochloromethane	9.4		"	10.0		93.6	73-125				
Bromodichloromethane	10		"	10.0		102	83-120				
Bromoform	12		"	10.0		123	72-139				
Bromomethane	8.7		"	10.0		87.3	52-128				
sec-Butylbenzene	11		"	10.0		114	72-132				
n-Butylbenzene	10		"	10.0		104	69-127				
tert-Butylbenzene	12		"	10.0		118	75-129				
Carbon tetrachloride	13		"	10.0		128	66-152				
Chlorobenzene	10		"	10.0		105	85-113				
Chloroethane	8.7		"	10.0		86.9	60-124				
Chloroform	12		"	10.0		116	82-119				
Chloromethane	5.6		"	10.0		56.4	42-126				
4-Chlorotoluene	10		"	10.0		103	77-119				
2-Chlorotoluene	10		"	10.0		104	74-115				
1,2-Dibromo-3-chloropropane	8.1		"	10.0		81.4	73-129				
Dibromochloromethane	11		"	10.0		114	74-151				
1,2-Dibromoethane	11		"	10.0		106	73-139				
Dibromomethane	10		"	10.0		104	74-128				
1,4-Dichlorobenzene	11		"	10.0		109	83-110				
1,2-Dichlorobenzene	11		"	10.0		107	83-110				
1,3-Dichlorobenzene	11		"	10.0		110	82-112				
Dichlorodifluoromethane	8.0		"	10.0		80.5	10-146				
1,1-Dichloroethane	11		"	10.0		105	79-123				
1,2-Dichloroethane	11		"	10.0		113	81-120				
trans-1,2-Dichloroethylene	11		"	10.0		108	76-119				
1,1-Dichloroethylene	11		"	10.0		109	71-123				
cis-1,2-Dichloroethylene	11		"	10.0		109	79-116				
2,2-Dichloropropane	12		"	10.0		118	50-163				
1,3-Dichloropropane	9.6		"	10.0		95.7	77-122				
1,2-Dichloropropane	9.1		"	10.0		90.6	76-120				
cis-1,3-Dichloropropylene	10		"	10.0		104	85-134				
1,1-Dichloropropylene	12		"	10.0		119	73-117	High Bias			
trans-1,3-Dichloropropylene	10		"	10.0		103	80-137				
Ethyl Benzene	11		"	10.0		107	85-125				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40732 - EPA 5030B											
LCS (BH40732-BS1)							Prepared & Analyzed: 08/13/2014				
Hexachlorobutadiene	12		ug/L	10.0		121	69-131				
2-Hexanone	9.8		"	10.0		98.2	65-130				
Isopropylbenzene	12		"	10.0		118	71-128				
p-Isopropyltoluene	12		"	10.0		117	74-130				
Methylene chloride	8.8		"	10.0		88.2	76-122				
Naphthalene	12		"	10.0		119	72-127				
n-Propylbenzene	11		"	10.0		109	70-129				
Styrene	11		"	10.0		108	62-160				
1,1,1,2-Tetrachloroethane	11		"	10.0		111	84-127				
1,1,2,2-Tetrachloroethane	9.6		"	10.0		96.2	76-120				
Tetrachloroethylene	11		"	10.0		115	67-118				
Toluene	10		"	10.0		103	82-118				
1,2,3-Trichlorobenzene	12		"	10.0		117	78-117				
1,2,4-Trichlorobenzene	12		"	10.0		119	78-117	High Bias			
1,1,1-Trichloroethane	13		"	10.0		128	80-131				
1,1,2-Trichloroethane	10		"	10.0		101	73-124				
Trichloroethylene	11		"	10.0		106	71-122				
Trichlorofluoromethane	12		"	10.0		115	67-130				
1,2,3-Trichloropropane	10		"	10.0		105	68-119				
1,3,5-Trimethylbenzene	10		"	10.0		104	74-121				
1,2,4-Trimethylbenzene	11		"	10.0		111	68-134				
Vinyl Chloride	8.7		"	10.0		86.9	49-125				
o-Xylene	11		"	10.0		108	83-117				
p- & m- Xylenes	22		"	20.0		108	80-126				
Methyl tert-butyl ether (MTBE)	12		"	10.0		117	51-134				
Surrogate: 1,2-Dichloroethane-d4	*10*		*"*	*10.0*		*103*	*79-133*				
Surrogate: p-Bromofluorobenzene	*9.8*		*"*	*10.0*		*97.7*	*65-133*				
Surrogate: Toluene-d8	*9.7*		*"*	*10.0*		*96.7*	*80-123*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40732 - EPA 5030B											
LCS Dup (BH40732-BSD1)							Prepared & Analyzed: 08/13/2014				
Benzene	11		ug/L	10.0		106	77-122		7.02	30	
Bromobenzene	9.8		"	10.0		97.8	76-114		0.510	30	
Bromochloromethane	8.8		"	10.0		88.4	73-125		5.71	30	
Bromodichloromethane	10		"	10.0		104	83-120		2.33	30	
Bromoform	12		"	10.0		125	72-139		1.70	30	
Bromomethane	8.6		"	10.0		86.2	52-128		1.27	30	
sec-Butylbenzene	11		"	10.0		112	72-132		1.95	30	
n-Butylbenzene	10		"	10.0		102	69-127		1.17	30	
tert-Butylbenzene	12		"	10.0		116	75-129		1.54	30	
Carbon tetrachloride	12		"	10.0		122	66-152		4.64	30	
Chlorobenzene	11		"	10.0		107	85-113		1.99	30	
Chloroethane	8.3		"	10.0		83.4	60-124		4.11	30	
Chloroform	11		"	10.0		110	82-119		4.96	30	
Chloromethane	5.4		"	10.0		54.4	42-126		3.61	30	
4-Chlorotoluene	10		"	10.0		102	77-119		0.972	30	
2-Chlorotoluene	10		"	10.0		102	74-115		1.75	30	
1,2-Dibromo-3-chloropropane	9.1		"	10.0		90.7	73-129		10.8	30	
Dibromochloromethane	12		"	10.0		117	74-151		2.52	30	
1,2-Dibromoethane	11		"	10.0		110	73-139		3.61	30	
Dibromomethane	10		"	10.0		105	74-128		0.575	30	
1,4-Dichlorobenzene	11		"	10.0		107	83-110		1.95	30	
1,2-Dichlorobenzene	11		"	10.0		106	83-110		1.41	30	
1,3-Dichlorobenzene	11		"	10.0		108	82-112		1.93	30	
Dichlorodifluoromethane	7.4		"	10.0		74.2	10-146		8.14	30	
1,1-Dichloroethane	9.9		"	10.0		99.1	79-123		6.16	30	
1,2-Dichloroethane	11		"	10.0		105	81-120		6.80	30	
trans-1,2-Dichloroethylene	10		"	10.0		99.8	76-119		7.98	30	
1,1-Dichloroethylene	10		"	10.0		102	71-123		5.97	30	
cis-1,2-Dichloroethylene	10		"	10.0		103	79-116		5.28	30	
2,2-Dichloropropane	11		"	10.0		109	50-163		7.95	30	
1,3-Dichloropropane	9.9		"	10.0		98.8	77-122		3.19	30	
1,2-Dichloropropane	9.2		"	10.0		92.0	76-120		1.53	30	
cis-1,3-Dichloropropylene	11		"	10.0		107	85-134		2.37	30	
1,1-Dichloropropylene	11		"	10.0		112	73-117		5.99	30	
trans-1,3-Dichloropropylene	10		"	10.0		104	80-137		0.675	30	
Ethyl Benzene	11		"	10.0		108	85-125		0.466	30	
Hexachlorobutadiene	12		"	10.0		120	69-131		0.581	30	
2-Hexanone	10		"	10.0		103	65-130		4.58	30	
Isopropylbenzene	11		"	10.0		115	71-128		2.58	30	
p-Isopropyltoluene	11		"	10.0		115	74-130		1.81	30	
Methylene chloride	8.6		"	10.0		86.5	76-122		1.95	30	
Naphthalene	12		"	10.0		119	72-127		0.168	30	
n-Propylbenzene	11		"	10.0		107	70-129		1.67	30	
Styrene	11		"	10.0		109	62-160		0.827	30	
1,1,1,2-Tetrachloroethane	11		"	10.0		112	84-127		1.43	30	
1,1,2,2-Tetrachloroethane	9.8		"	10.0		97.8	76-120		1.65	30	
Tetrachloroethylene	12		"	10.0		116	67-118		1.47	30	
Toluene	10		"	10.0		104	82-118		1.16	30	
1,2,3-Trichlorobenzene	12		"	10.0		116	78-117		0.515	30	
1,2,4-Trichlorobenzene	12		"	10.0		117	78-117		1.86	30	
1,1,1-Trichloroethane	12		"	10.0		119	80-131		6.72	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40732 - EPA 5030B											
LCS Dup (BH40732-BSD1)							Prepared & Analyzed: 08/13/2014				
1,1,2-Trichloroethane	10		ug/L	10.0		102	73-124		1.48	30	
Trichloroethylene	11		"	10.0		106	71-122		0.565	30	
Trichlorofluoromethane	11		"	10.0		111	67-130		3.35	30	
1,2,3-Trichloropropane	11		"	10.0		107	68-119		1.89	30	
1,3,5-Trimethylbenzene	10		"	10.0		102	74-121		2.62	30	
1,2,4-Trimethylbenzene	11		"	10.0		110	68-134		1.45	30	
Vinyl Chloride	8.2		"	10.0		82.1	49-125		5.68	30	
o-Xylene	11		"	10.0		109	83-117		1.20	30	
p- & m- Xylenes	22		"	20.0		109	80-126		0.877	30	
Methyl tert-butyl ether (MTBE)	11		"	10.0		112	51-134		4.62	30	
Surrogate: 1,2-Dichloroethane-d4	*9.8*		*"*	*10.0*		*98.0*	*79-133*				
Surrogate: p-Bromofluorobenzene	*9.6*		*"*	*10.0*		*96.4*	*65-133*				
Surrogate: Toluene-d8	*9.7*		*"*	*10.0*		*97.3*	*80-123*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40618 - EPA 3010A											
Blank (BH40618-BLK1)								Prepared: 08/12/2014 Analyzed: 08/13/2014			
Sodium	ND	0.100	mg/L								
Duplicate (BH40618-DUP1)	*Source sample: 14H0438-09 (T-1)							Prepared: 08/12/2014 Analyzed: 08/13/2014			
Sodium	88.3	0.100	mg/L		88.0				0.354	20	
Reference (BH40618-SRM2)								Prepared: 08/12/2014 Analyzed: 08/13/2014			
Sodium	87.7	0.100	mg/L	85.1		103	85-115				

Anions by Ion Chromatography - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BH40885 - EPA 300											
Blank (BH40885-BLK1)							Prepared & Analyzed: 08/14/2014				
Chloride	ND	0.500	mg/L								
LCS (BH40885-BS1)							Prepared & Analyzed: 08/14/2014				
Chloride	10.8	0.500	mg/L	10.0		108	85-115				
Reference (BH40885-SRM1)							Prepared & Analyzed: 08/14/2014				
Chloride	3.89		mg/L	3.99		97.6	90-110				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
14H0438-01	MW-1A	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
14H0438-02	MW-1B	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Notes and Definitions

QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
M-ACCB	Analyte in CCB. Run is bracketed by acceptable CCBs.
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

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*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and dipbenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

YORK ANALYTICAL LABORATORIES INC
YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

Page____ of ____

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. HH0438

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: LBG, Inc.	Company:	Company: Town of Fishkill	SNOOK RD	RUSH - Same Day ☐	Summary Report
Address: 4 Research Dr. #301 Shelton, CT 06511	Address: SAME	Address: 307 Rt. 52 Fishkill, NY 12524	Purchase Order No.	RUSH - Next Day ☐	Summary w/ QA Summary
Phone No. 203-929-8555	Phone No.	Phone No.		RUSH - Two Day ☐	CT RCP Package
Contact Person: Stacy Sticber	Attention:	Attention: Robert Lavolla		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
E-Mail Address: ssticber@lbgct.com	E-Mail Address:	E-Mail Address:	Samples from: CT___ NY X NJ___	RUSH - Four Day ☐	NY ASP A Package
				Standard(5-7 Days) X	NY ASP B Package
					NJDEP Red. Deliv.

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Jonathan Strickland
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded 5% Dissolved Solids	BTU lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Electronic Data Deliverables (EDD)
Simple Excel
NYSDEC EQuIS
EQuIS (std)
EZ-EDD (EQuIS)
NJDEP SRP HazSite EDD
GIS/KEY (std)
Other
York Regulatory Comparison
Excel Spreadsheet
Compare to the following Regs. (please fill in):

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
MW-1A	8/8/14 12:55	GW	Na, CL, 502.2, MTBE	3) VOA 2) 250ml HNO3 2) 250ml OP
MW-1B	12:52		, 502.2, MTBE	3) VOA 2) 250ml 2) 250ml
MW-2A	12:05			
MW-2B	12:07			
MW-3A	10:07			
MW-3B	10:00			
MW-4A	10:57			
MW-4B	11:00			
T-1	11:30			
T-2	11:32			

Comments

Preservation
Check those Applicable
4°C____ Frozen____ HCl____ MeOH____ HNO3____ H2SO4____ NaOH____
ZnAc Ascorbic Acid Other

Special Instructions
Field Filtered ☐
Lab to Filter ☐

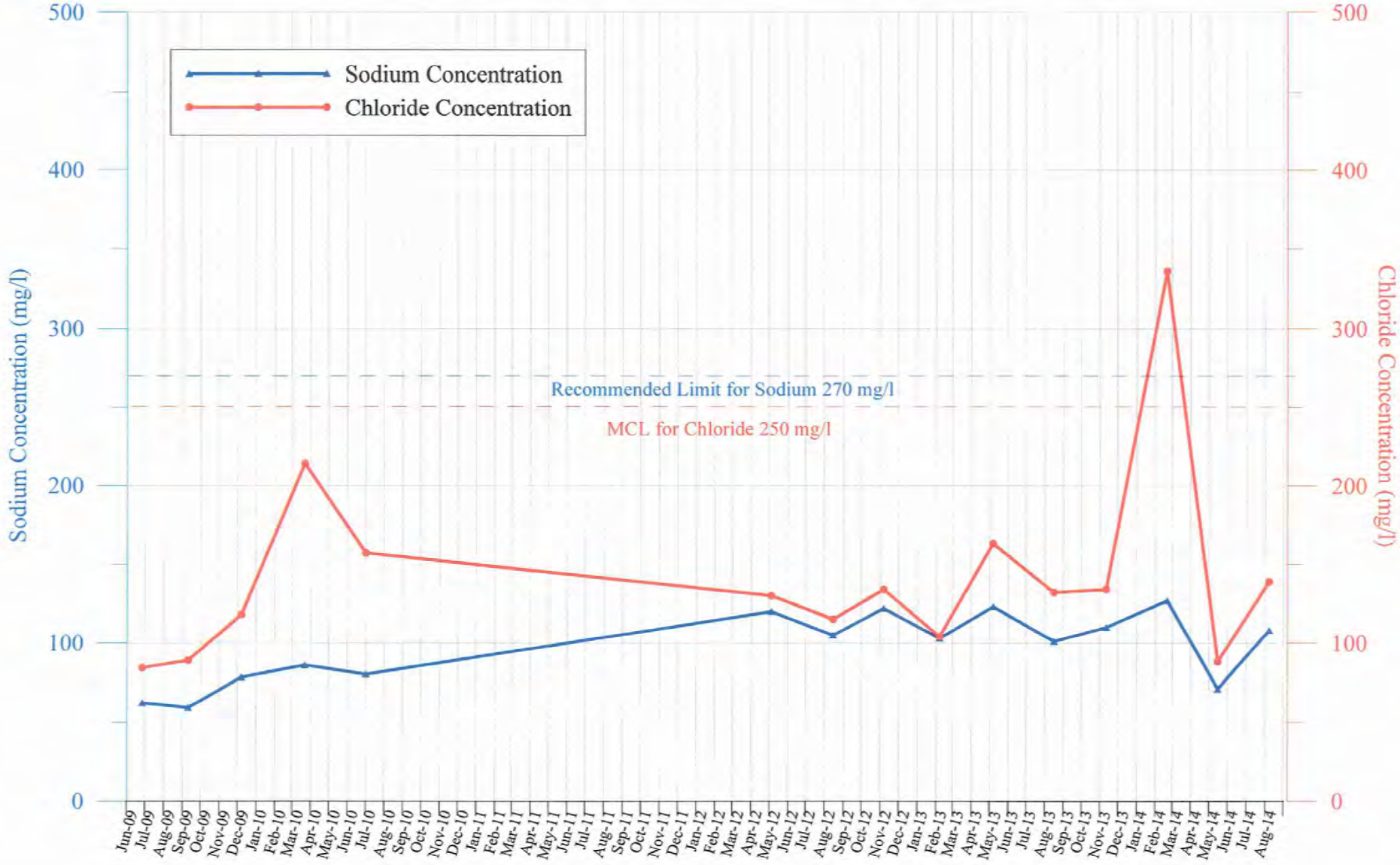
Samples Relinquished By	Date/Time	Samples Received By	Date/Time
	8/8/14 14:40	TC Mahl	8/8/14 1435
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time

Temperature on Receipt
3.9 °C

APPENDIX III

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-1A

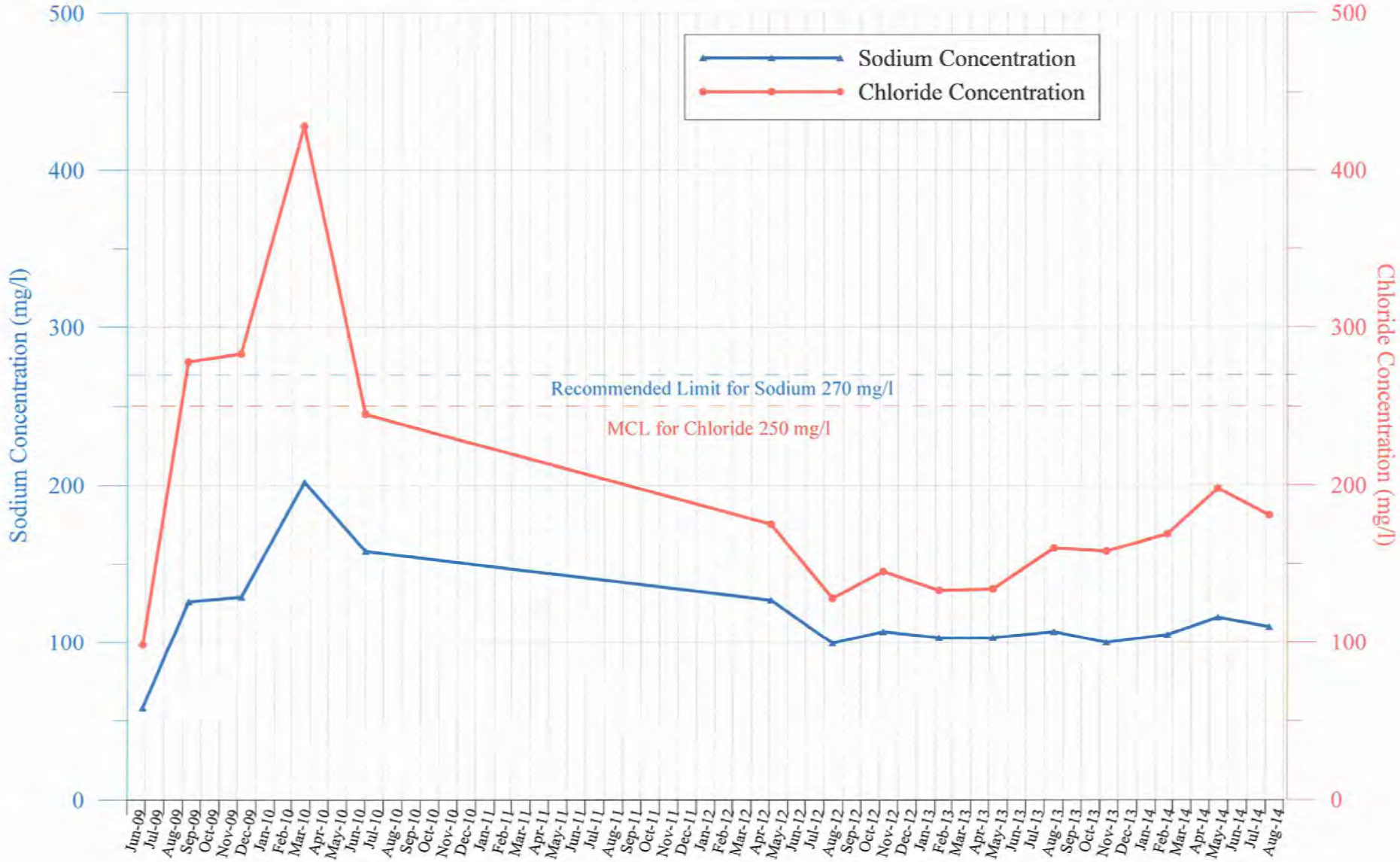


K:\Jobs\Town of Fishkill\Snook Road Well Field\2014\August 2014\MW-1A full graph.grf

LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-1B



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LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

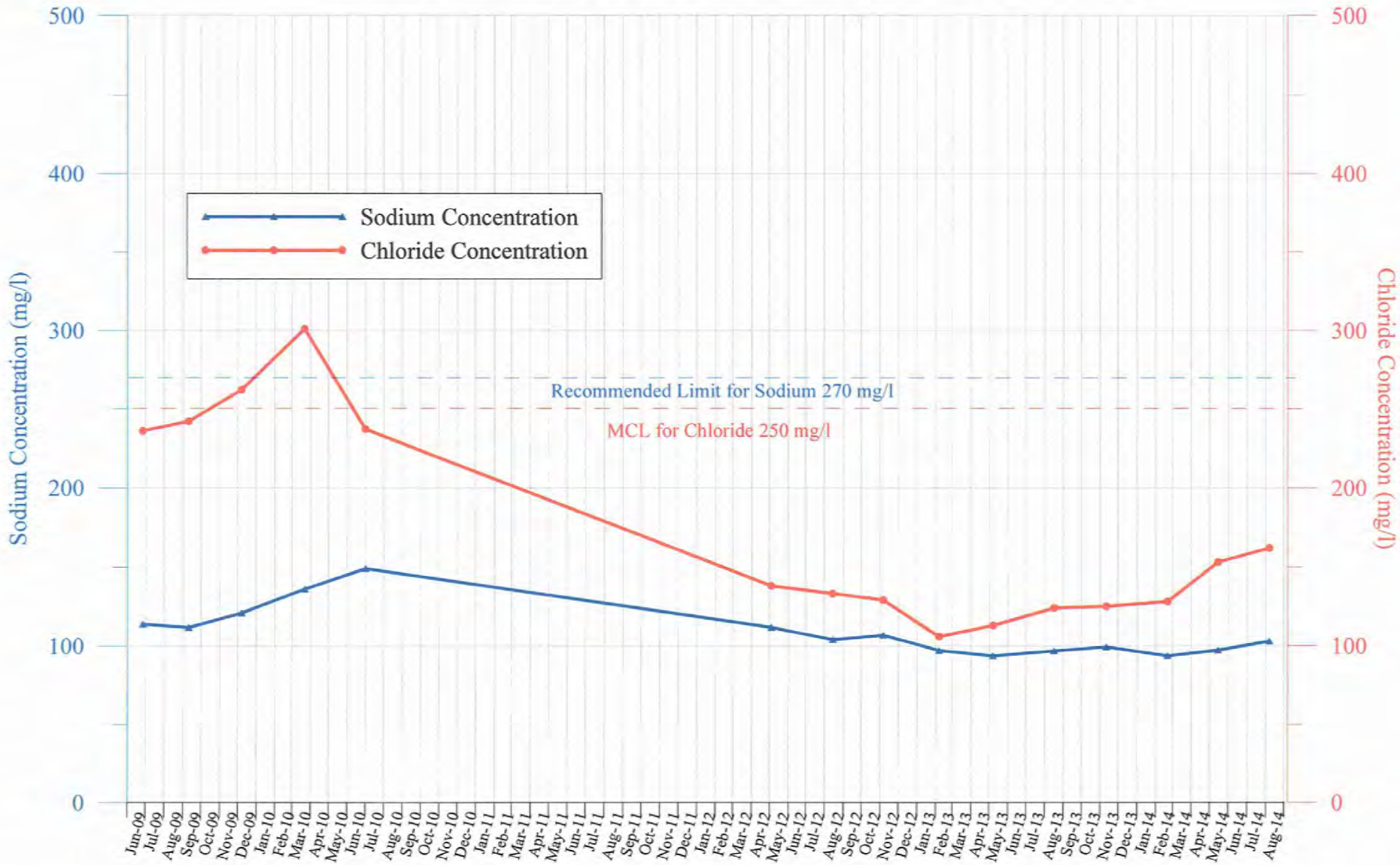
Summary of Sodium and Chloride Concentrations from Monitor Well MW-2A

K:\Jobs\Town of Fishkill\Snook Road Well Field\2014\August 2014\MW-2A full graph.grf

LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-2B



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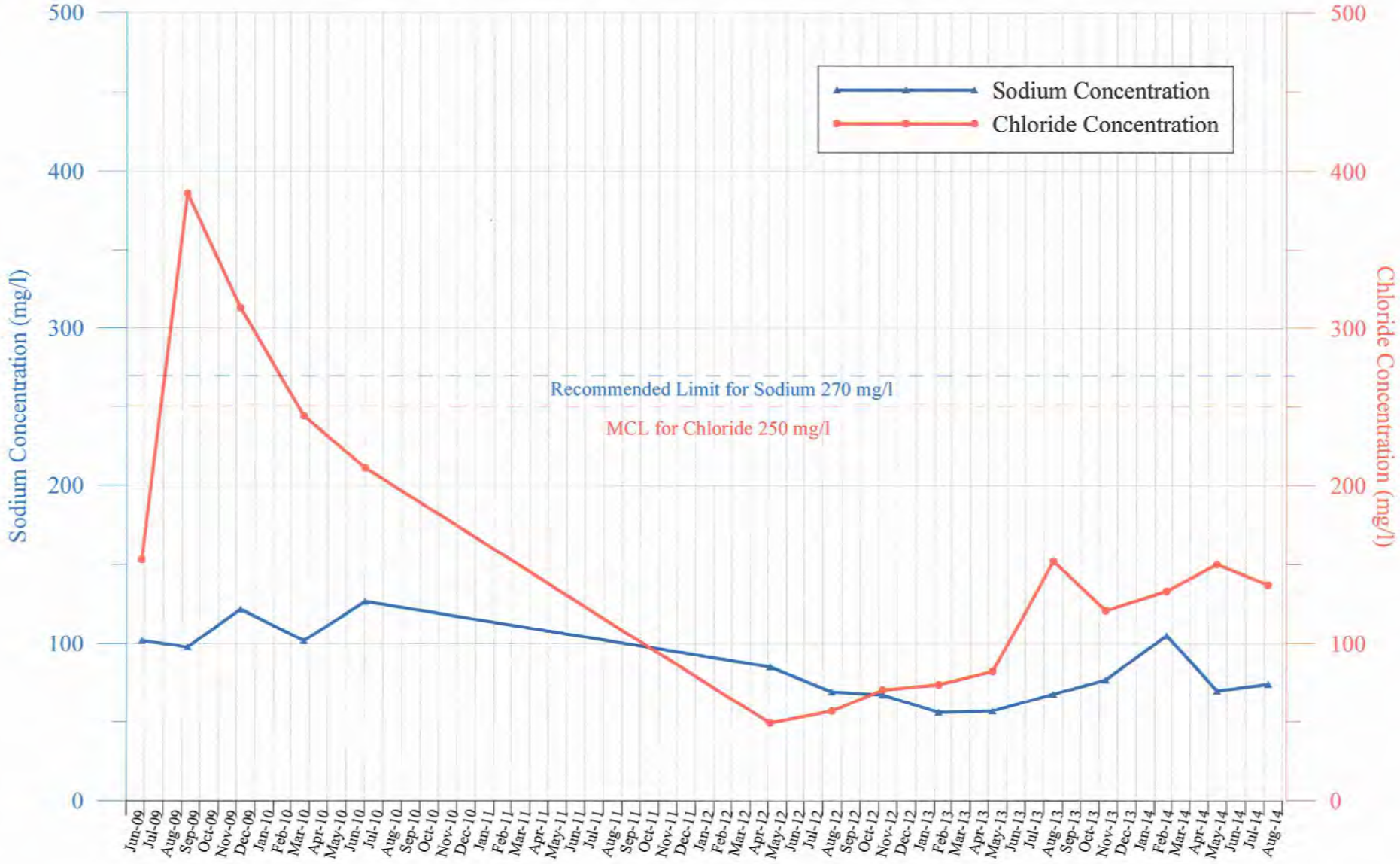
LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-3A



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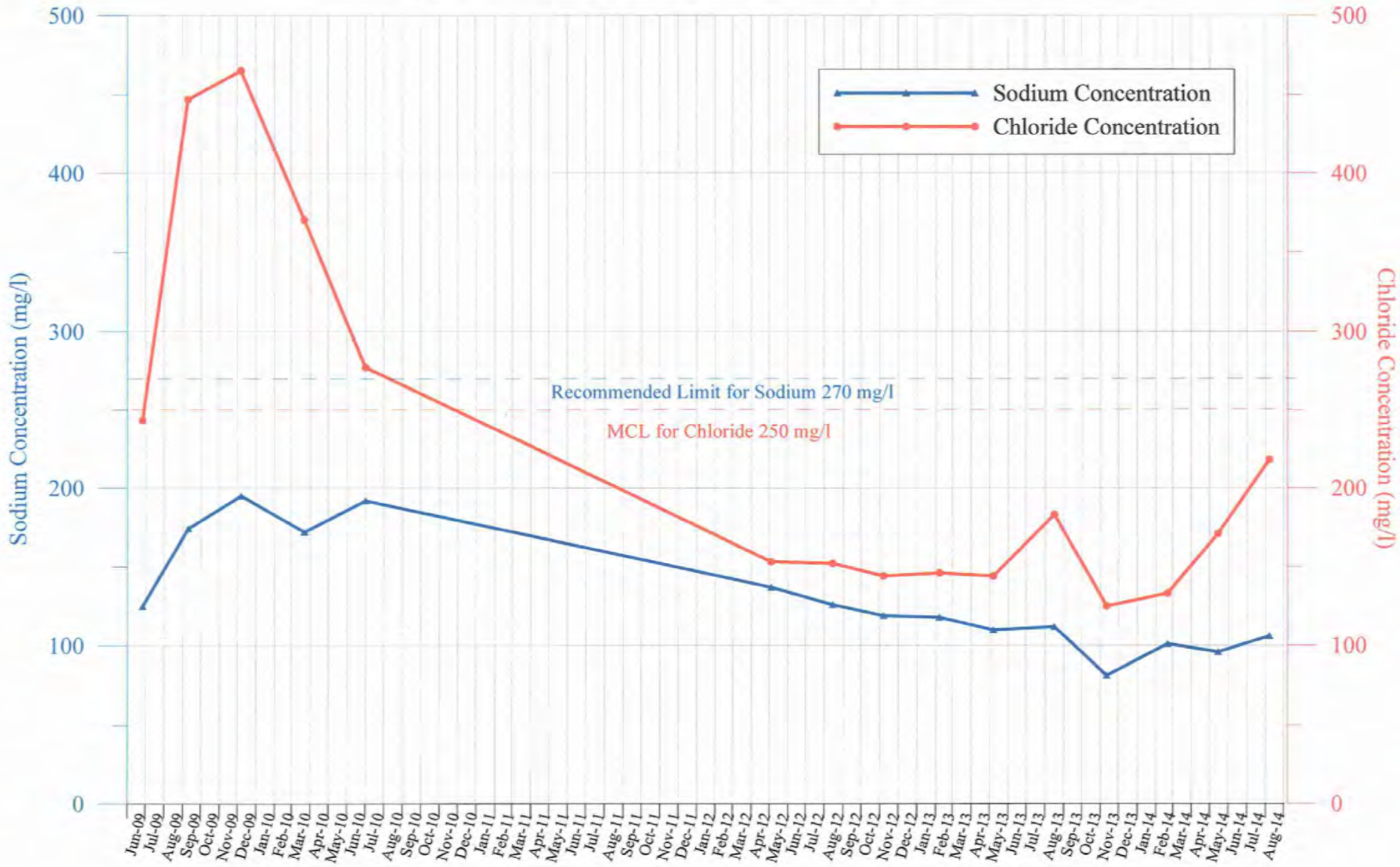
SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-3B



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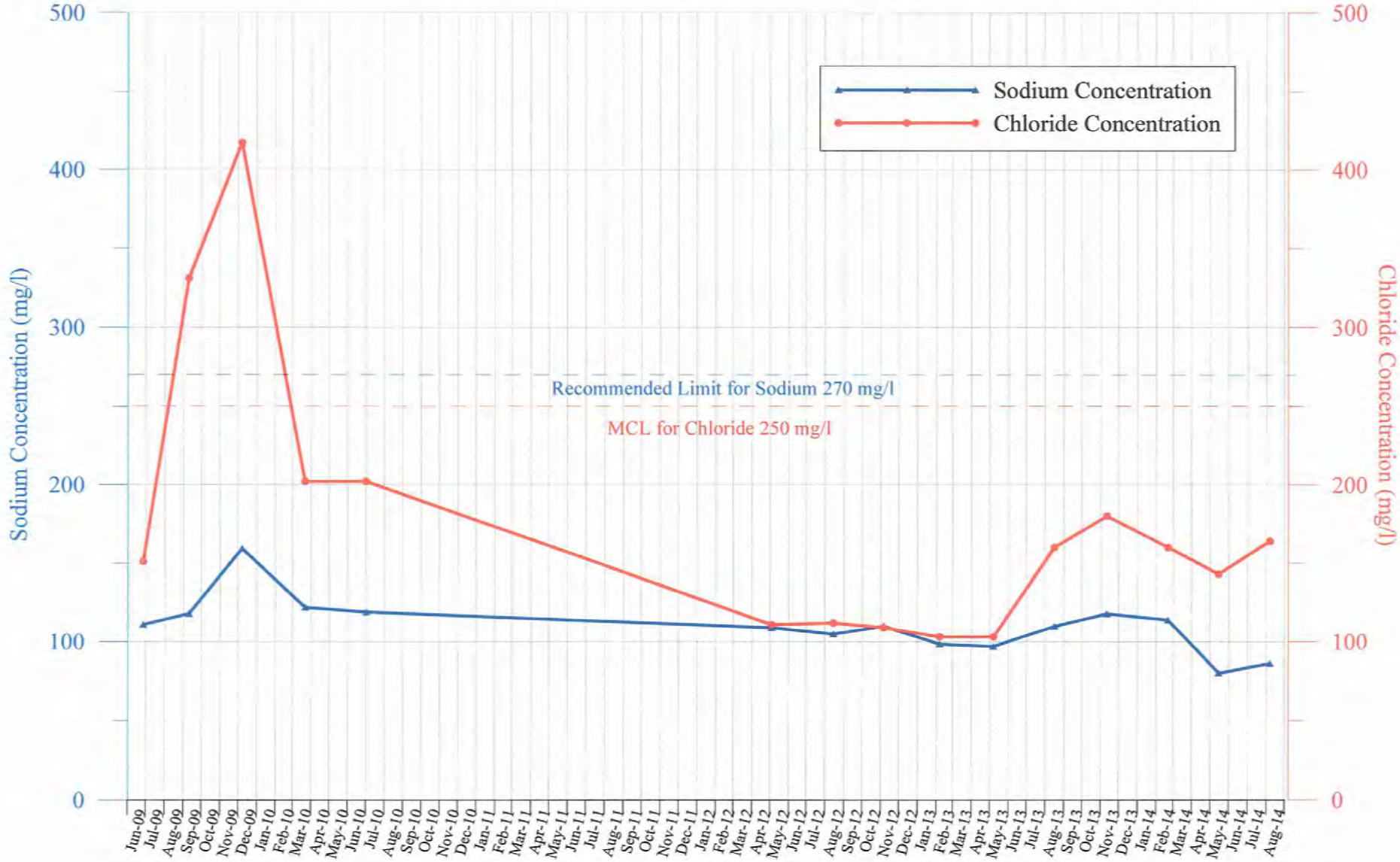
LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-4A



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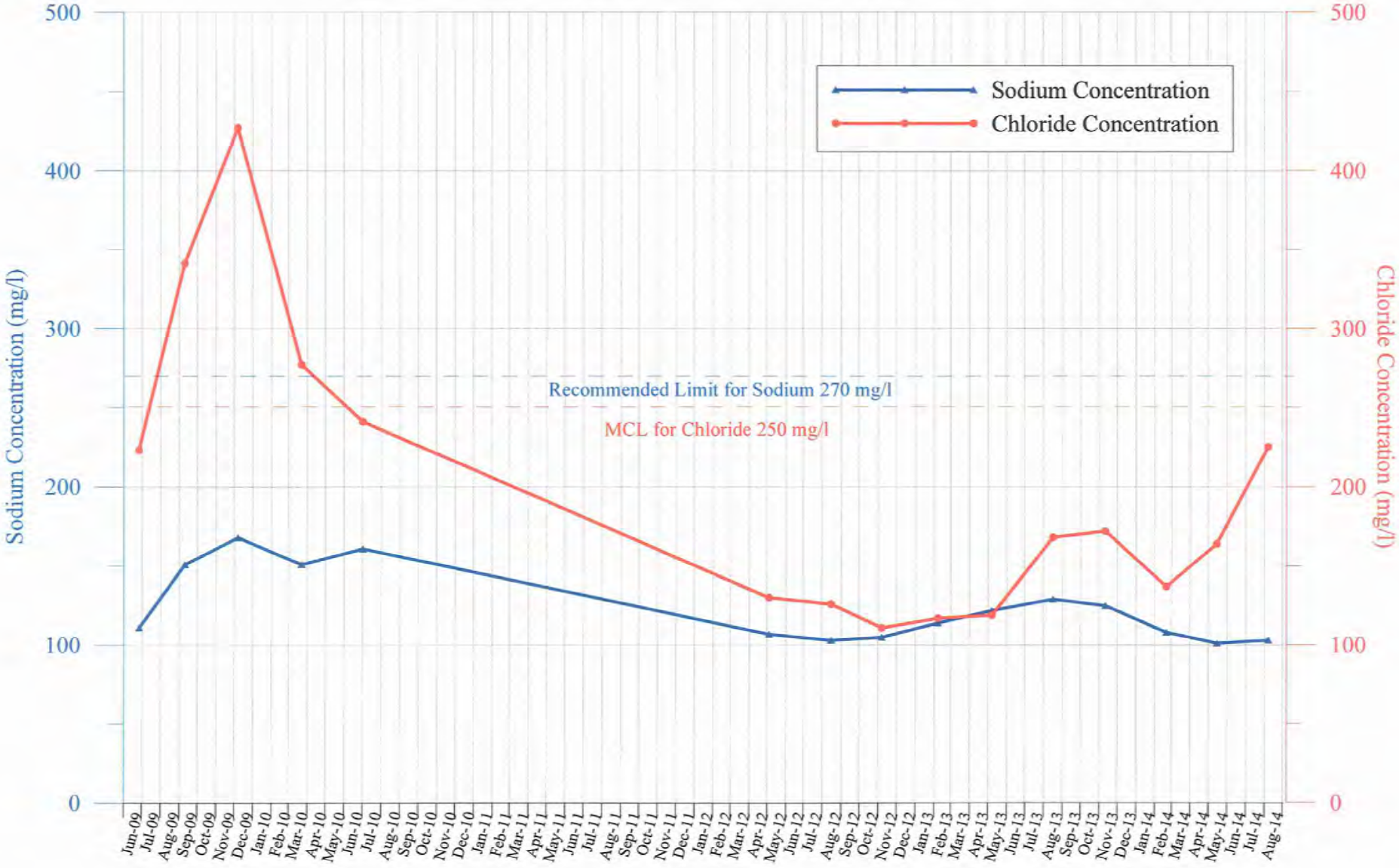
SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Monitor Well MW-4B



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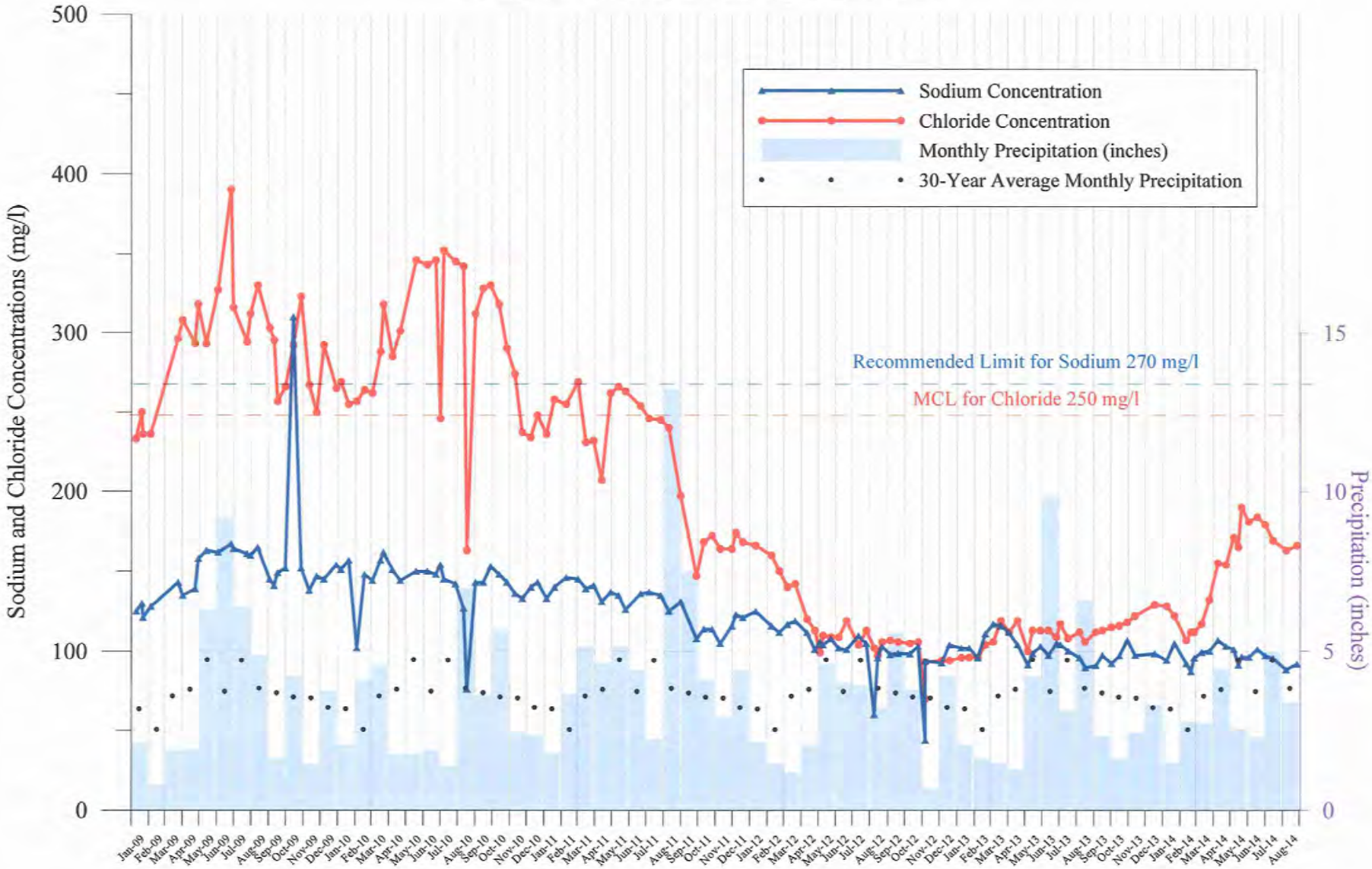
APPENDIX IV

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Production Well T-1
Compared with Monthly Precipitation Totals



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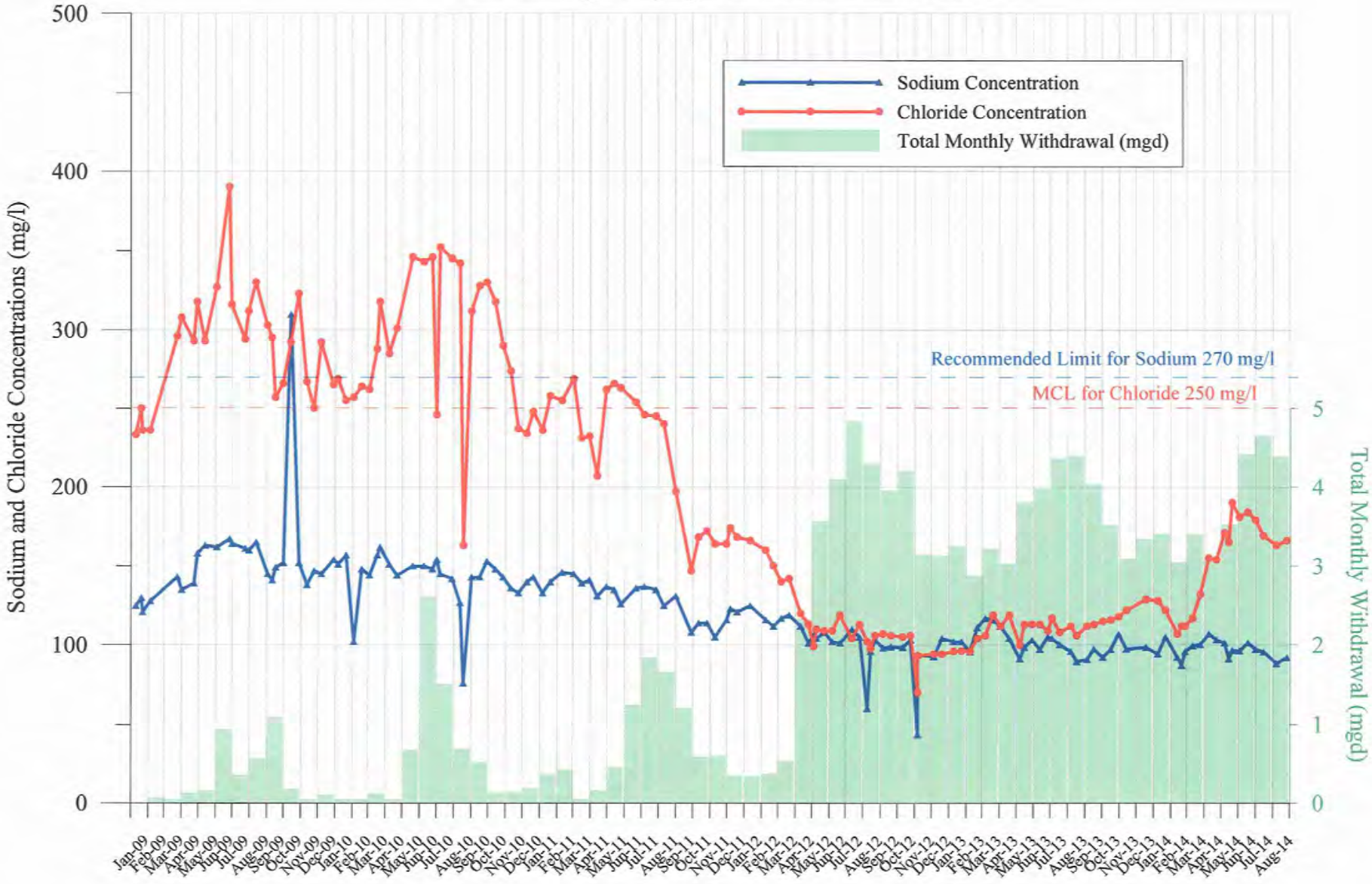
LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Production Well T-1 Compared with Monthly Pumping Withdrawal at the Well Field



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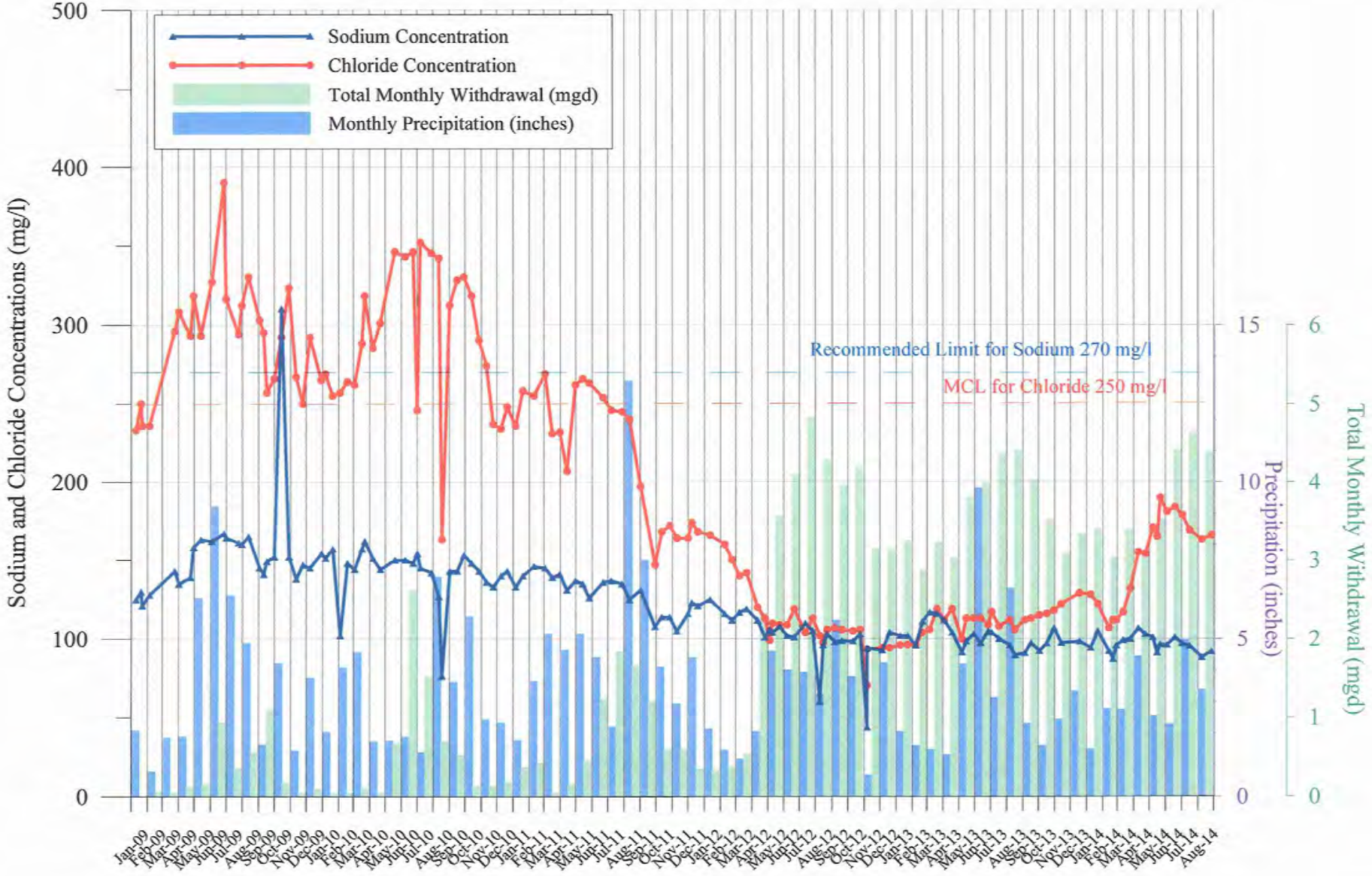
LEGGETTE, BRASHEARS & GRAHAM, INC.

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Production Well T-1 Compared with Monthly Precipitation and Pumping Withdrawal at the Well Field



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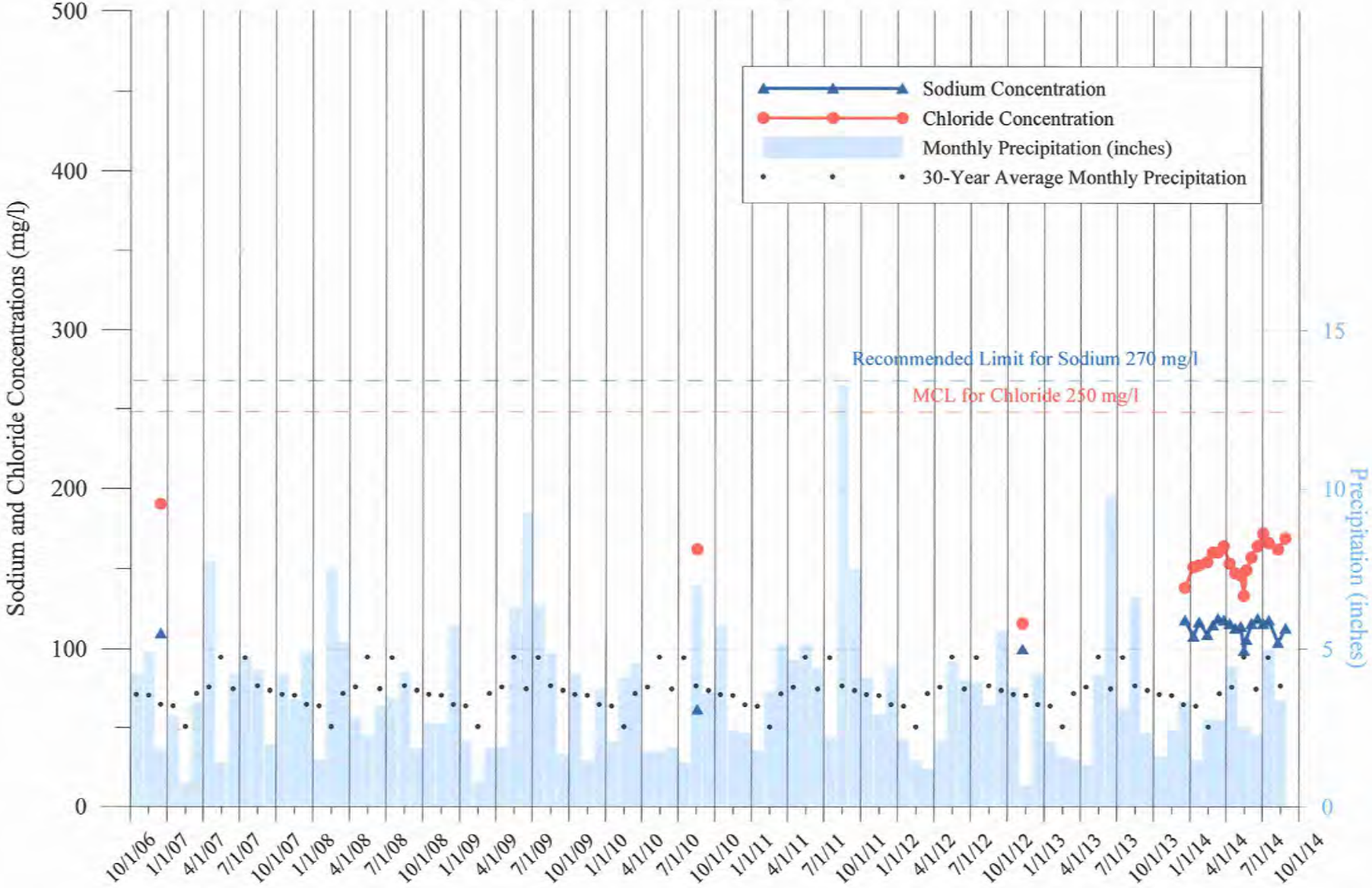
LEGGETTE, BRASHEARS & GRAHAM, INC.

APPENDIX V

SNOOK ROAD WELL FIELD
TOWN OF FISHKILL, NEW YORK

Summary of Sodium and Chloride Concentrations from Production Well T-2
Compared with Monthly Precipitation Totals



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