Hazardous Waste Section

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October 5, 2015

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Division of Waste Management
Hazardous Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Attn: Ms. Mary Siedlecki

Re: Groundwater Sampling Report August 2015
A.B. Carter, Inc.
Gastonia, North Carolina
H&H Job No. ABC-021

Dear Mary:

As you requested, enclosed is one hard copy of the above-referenced report, in addition to the electronic version that was emailed to you. Should you have any questions or need any additional information, please feel free to contact me.

Sincerely,

Hart & Hickman, PC

Leonard C. Moretz

Leonard Moretz, PG
Senior Consultant

Enclosures

Cc: Al Abedi – AB Carter
Lee Pennington – AB Carter

Annual Groundwater Sampling Report
August 2015

A.B. Carter, Inc.
Gastonia, North Carolina
EPA ID# NCD 003 154 010

H&H Job No. ABC-021
October 5, 2015

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Annual Groundwater Sampling Report
August 2015
A.B. Carter, Inc.
Gastonia, North Carolina
EPA ID# NCD 003 154 010
H&H Job No. ABC-021

1.0 Introduction

A.B. Carter, Inc. (A.B. Carter) is located one-half mile south of the City of Gastonia, North Carolina, on Highway 321 (Figure 1). The general site layout is presented in Figure 2.

In 1985, A.B. Carter completed the closure of a settling pond and two former sludge basins used for the treatment and storage of waste from electroplating and wire cleaning operations. Following the discovery of affected groundwater beneath and downgradient of these impoundments, A.B. Carter initiated remediation activities in 1989 involving the recovery and treatment of contaminated groundwater. The Post-Closure Care Permit (issued on September 26, 2007) required that groundwater samples be analyzed for nickel and sulfate on an annual basis. Additionally, the point of compliance wells were required to be analyzed for the constituents listed in 40 CFR 264 Appendix IX every five years.

Perchloroethylene (PCE) and 1,1-dichloroethylene (1,1-DCE) were measured in groundwater during the August 2007 Appendix IX sampling event. PCE was measured at 2.8 micrograms per liter (µg/L) and 1,1-DCE was measured at 29 µg/L. At the time, the 15A NCAC 2L Groundwater Quality Standards for each of these constituents was 0.7 µg/L and 7 µg/L, respectively. The 2L Groundwater Quality Standard for 1,1-DCE has since changed to 350 µg/L.

To verify the absence or presence of volatile organic compounds (VOCs) in groundwater at the facility, groundwater samples were collected from the full suite of monitoring wells in September 2008. Constituents detected in groundwater included 1,1,1-trichloroethane, 1,1-DCE, 1,1-dichloroethane, chloroform, methyl tert-butyl ether, and PCE. The only constituents to exceed the

15A NCAC 2L Groundwater Standards were 1,1-DCE and PCE, which was consistent with the August 2007 groundwater monitoring event.

Elevated concentrations of VOCs were detected in monitoring wells located both upgradient and downgradient of the groundwater remediation system installed in 1989 to address the nickel and sulfate contamination originating from the regulated units. Because the existing groundwater pump-and-treat remediation system was not designed to address the VOC groundwater plume, which extended beyond the limits of the remediation system capture zone, the Hazardous Waste Section approved a request to shut down the groundwater remediation system on November 20, 2009. The remediation system was shut down on November 30, 2009.

A conceptual site model was developed that showed natural attenuation and degradation of site COCs was a viable remedial strategy for site groundwater. A RCRA permit modification was developed with natural attenuation as the selected remedy and the modification was formally approved by the North Carolina Department of Environment and Natural Resources (NCDENR) on January 25, 2013. Note that NCDENR was recently renamed the Department of Environmental Quality (DEQ). This Annual Groundwater Sampling Report is the third report since the RCRA permit was modified. The groundwater sampling was performed in general accordance with the modified RCRA Part B Permit.

A.B. Carter is currently pursuing site closure through Risk-Based Remediation. An initial Remedial Action Plan (RAP) was submitted to the DEQ on August 3, 2015. Based upon comments provided by the DEQ, a revised Risk-Based RAP was submitted to the DEQ on September 24, 2015. It is anticipated the Risk-Based remedy will be approved and the site closed prior to August 2016 when the next sampling event is scheduled. However, A.B. Carter will continue with activities required by the Permit until the Risk-Based Remedy is formally approved and implemented.

2.0 Hydrologic Evaluation

Groundwater elevation data were collected to evaluate current groundwater flow direction and estimated flow rate. Groundwater elevations, measured on August 18, 2015, are summarized in Table 1. Water level elevation data from the sampling event were used to generate a potentiometric surface map, included as Figure 3. Groundwater flow beneath the site is generally east-southeasterly. This flow direction results primarily from the effects of site topography. The groundwater flow direction indicated on the map remains relatively unchanged from previous monitoring events.

The average horizontal hydraulic gradient across the site in August 2015 was approximately 0.0295 feet/foot. This measurement is based on the groundwater elevation difference between MW-11A and MW-24. The shallow lithologic zone has an average hydraulic conductivity of 0.001 cm/sec and an average porosity of 0.20. This is based upon work completed by others during the design of the recovery network. Using this data, the average groundwater flow velocity at the site is approximately 152 feet per year. However, it is believed that groundwater flow velocity slows dramatically in the floodplain east and downgradient of the impacted groundwater.

3.0 Groundwater Quality Evaluation

Groundwater monitoring activities were conducted on August 18-20, 2015. Groundwater sampling was conducted in general accordance with the Sampling and Analysis Plan (SAP) of the A.B. Carter RCRA Part B Post Closure Permit renewed in September 2007 and modified in January 2013. Tables from the 2013 Permit which outline the revised sampling program are included in Appendix A. Note that sampling for nickel and sulfate, two inorganic parameters which have historically been detected above 2L standards in a few wells, was not required in 2014 or 2015, per the Permit. However, these parameters are scheduled for analyses in the 2016 annual monitoring; if the site isn't closed via Risk-Based Remediation, prior to that time.

Groundwater samples were collected from wells PM-1, MW-8, MW-9, MW-16A, MW-18, MW-22, MW-23, MW-23A, MW-24, and MW-25. A duplicate sample was collected from MW-22. Groundwater samples from each monitoring well were collected for VOCs, including 1,4-dioxane (using the low detection SIM method) and select wells were also sampled for various monitored natural attenuation indicator (MNA) parameters as outlined in the approved SAP and shown in Appendix A. Samples were collected using low-flow (aka. low-stress) sampling procedures using a peristaltic pump with new dedicated polyethylene tubing. Measurements of temperature, pH, specific conductivity, oxidation-reduction potential, dissolved oxygen, flow-rate, and drawdown were recorded at approximately five minute intervals until stabilization of parameters occurred. The measurements were recorded on the field data sheets included in Appendix B. The laboratory analytical reports, chain of custody records and laboratory case narrative are included in Appendix C.

3.1 VOCs

Tetrachloroethene (PCE) was detected slightly above the 2L Standard of 0.7 µg/L in monitoring wells MW-16A, MW-22, MW-23 and MW-23A; 1,4-Dioxane was detected above its 2L Standard of 3.0 µg/L in monitoring wells MW-8, MW-16A, MW-18, MW-22, MW-23 and MW-23A; 1,2-Dichloroethane was detected slightly above its 2L Standard of 0.4 µg/L in monitoring well MW-23; and 1,1-Dichloroethane was detected slightly above it's 2L standard of 7 µg/L. No other VOCs were detected above 2L Standards. Figure 4 presents a summary of VOC concentration data above

2L Standards and illustrates the lateral spatial distribution of VOCs. Table 2 summarizes the groundwater analytical results and compares them to the current 2L standards. Appendix D presents concentration trend graphs over time for PCE and 1,4-dioxane, plus nickel and sulfate.

Overall, the concentrations of PCE and 1,4-dioxane decreased since the August 2014 sampling event. Importantly, no constituents were detected in wells MW-24 and MW-25 located near the property line at the tributary to Crowders Creek. This indicates natural attenuation processes are degrading the constituents and the plume is shrinking.

3.2 Indicators of Natural Attenuation

Biodegradation by reductive dechlorination is the primary degradation pathway for PCE, 1,1,1-TCA, and their daughter products under anaerobic conditions. However, 1,4-dioxane does not degrade in the same way – it degrades via exposure to ultraviolet light and therefore tends to remain in groundwater longer than chlorinated VOCs. Geochemical indicators of biodegradation via reductive dechlorination were measured in the field as part of the August 2015 sampling event to evaluate natural attenuation processes at the Site and included dissolved oxygen (DO), oxidation-reduction potential (ORP), and pH. In addition, groundwater samples collected from MW-23, MW-23A, MW-24, MW-25 and PM-1 were analyzed for nitrate, ferrous iron, total iron, total organic carbon, methane, ethane and ethene. The geochemical natural attenuation indicator parameter data are presented in Table 2.

<u>Dissolved Oxygen (DO)</u>

Reductive dechlorination of chlorinated ethenes, such as PCE, occurs under anaerobic, or low DO conditions. DO concentrations of less than 5 milligrams per liter (mg/L) may be acceptable, while concentrations less than 0.5 mg/L are ideal. DO concentrations in groundwater in the monitoring wells at the site ranges from 0.25 in MW-24 to 5.60 in MW-22. Wells with PCE above 2L standards had DO concentrations <5 mg/L, with the exception of MW-22. This data indicates the DO concentration in PCE-affected groundwater, while not ideal, is acceptable for reductive dechlorination.

Oxidation Reduction Potential (ORP)

The ORP of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. ORP of a groundwater system affects biodegradation rates. Reductive dechlorination is most efficient in the ORP range corresponding to sulfate reduction and methanogenesis (less than -100 millivolts [mV]), but reductive dechlorination also occurs in the ORP range associated with nitrate, manganese, and iron reduction (-50 mV to 740 mV).

The ORP values measured in groundwater sampled during the August 2015 monitoring event ranged from 94 to 360 mV. These ORP values are consistent with nitrate reduction as a primary anaerobic degradation process.

pH

The pH of groundwater affects the presence and activity of microbial populations. pH values ranging from 6 to 8 standard units (SU) are generally preferable for anaerobic biodegradation. The pH measured in groundwater during the August 2015 monitoring event ranged from 5.08 to 7.04 SU. These pH values are generally lower than necessary to support anaerobic biodegradation; however, they are close to the optimal range and other measured parameters indicate that anaerobic biodegradation is occurring at the site.

Nitrate

Nitrate may be used as an electron acceptor for anaerobic biodegradation via denitrification. In this process, nitrate is reduced and nitrite is produced. In general, nitrate concentrations in the plume less than background are considered indicative of anaerobic biodegradation. At concentrations greater than 1 mg/l, nitrate may compete with the reductive dechlorination process.

Nitrate concentrations ranged from 0.33 mg/L in MW-24 to 4.7 mg/L in PM-1. The presence of nitrate at these levels indicate that nitrate may be competing with the reductive dechlorination process.

Methane

Methane is produced during the reductive dechlorination process and if present at concentrations >0.5 mg/L is an indicator that reductive dechlorination is occurring. Samples collected during the August 2015 sampling event all had concentrations below the detection limit of 0.435 mg/L. However, this is not necessarily an indicator that natural degradation isn't occurring. The concentration of PCE and other chlorinated compounds in the groundwater is so low that their degradation wouldn't necessarily produce elevated concentrations of methane.

Ethene/Ethane

Hypothetically, the degradation of chlorinated ethene/ethane compounds, such as PCE and 1,1-DCA, will produce ethene and ethane. The August 2015 data for these constituents had no detectable ethene or ethane. It is likely the concentrations of chlorinated VOCs at the A.B. Carter site are so low that their degradation does not produce elevated concentrations of ethene or ethane.

4.0 Conclusions and Recommendations

Based upon the recent sampling event, the following conclusions may be drawn:

- PCE, 1,1-Dichloroethane and 1,4-Dioxane were the only CVOC's detected above 2L Standards. PCE was detected in above its standard in 4 wells at barely detectable µg/L concentrations, and 1,1-Dichloroethane was detected slightly above its standard in MW-23A;

- 1,4-Dioxane was present above its 2L Standard in six wells spread across the monitored area during the August 2015 sampling event; however, concentrations in all the wells were less than the August 2014 sampling event.

- No constituents were detected in wells MW-24 and MW-25 located near the property line at the tributary to Crowders Creek. This indicates natural attenuation processes are degrading the constituents and the plume is shrinking.

Recommendations:

- A.B. Carter will continue with post-closure care activities as outlined in the modified RCRA permit while pursuing Risk-Based Remediation through NC DEQ.

Table 1
Groundwater Elevation Data
August 18, 2015
A.B. Carter, Inc.
Gastonia, North Carolina
H&H Job No. ABC-021

Well No.	TOC ELEV	DTW	SWL ELEV
MW-8	717.37	29.59	687.78
MW-9	718.13	30.40	687.73
MW-11A	724.24	33.91	690.33
MW-12	726.95	34.44	692.51
MW-16A	706.37	25.79	680.58
MW-18	718.65	30.62	688.03
MW-22	706.38	20.42	685.96
MW-23	702.11	20.54	681.57
MW-23A	700.95	19.22	681.73
MW-24	681.30	8.67	672.63
MW-25	681.07	8.85	672.22
PM-1	721.38	33.32	688.06
PM-2	710.09	23.93	686.16

Groundwater and top of casing elevation measured relative to an assumed site datum.

TOC = Top of Casing

DTW = Depth to Water

SWL = Static Water Level

Table 2
Groundwater Analytical Results
August 2015
A.B. Carter, Inc.
Gastonia, North Carolina
H&H Job No. ABC-021

Well ID	MW-8	MW-9	MW-16A	MW-18	MW-22	MW-22 (DUPLICATE)	MW-23	MW-23A	MW-24	MW-25	PM-1	NCAC 2L GW Standard
Date Collected	**8/20/15**	**8/18/15**	**8/20/15**	**8/18/15**	**8/19/15**	**8/19/15**	**8/20/15**	**8/20/15**	**8/18/15**	**8/18/15**	**8/19/15**	
Geochemical Parameters												
Temperature (degrees C)	19.51	33.81	19.01	21.16	20.09	20.09	20.11	19.03	19.35	18.5	16.88	**NA**
pH (Std. Units)	5.52	7.04	5.54	6.19	5.90	5.90	5.54	5.74	5.98	5.40	5.08	**NA**
Dissolved Oxygen (mg/L)	3.44	2.78	3.57	3.61	5.60	5.60	4.38	4.71	0.25	3.69	6.06	**NA**
Specific Conductivity (mS/cm)	511	1,538	261	281	80	80	289	201	278	166	323	**NA**
Redox Potential (mV)	339.1	94.4	361.6	201.3	252.6	252.6	353.2	360.3	150	221.6	283.3	**NA**
Turbidity (NTU)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**NA**
Nitrate (mg/L)	NM	NM	NM	NM	NM	NM	2.8	2.7	0.33	2.0	4.7	**10**
Ferrous Iron (mg/L)	NM	NM	NM	NM	NM	NM	<0.20	<0.20	<0.20	<0.20	<0.20	**NA**
Total Iron (ug/L)	NM	NM	NM	NM	NM	NM	0.14	<0.10	1.2	0.47	0.40	**300**
Organic Carbon (mg/l)	NM	NM	NM	NM	NM	NM	<0.30	<0.30	<0.30	<0.30	<0.30	**NA**
Methane (ug/L)	NM	NM	NM	NM	NM	NM	<0.435	<0.435	<0.435	<0.435	<0.435	**NA**
Ethane (ug/L)	NM	NM	NM	NM	NM	NM	<0.110	<0.110	<0.110	<0.110	<0.110	**NA**
Ethene (ug/L)	NM	NM	NM	NM	NM	NM	<0.150	<0.150	<0.150	<0.150	<0.150	**NA**
Sulfate (mg/L)	NM	NM	NM	NM	NM	NM	85	30	48	29	53	**250**
VOCs (EPA Method 8260B)												
1,1,1-Trichloroethane	1.6	<0.50	5.6	1.6	3.9	3.7	4.4	4.5	<0.50	<0.50	<0.50	**200**
1,1-Dichloroethane	1.2	<0.50	4.1	4.2	3.6	3.6	2.3	7.3	1.1	<0.50	<0.50	**6**
1,1-Dichloroethene	12	<0.50	36	12	19	19	30	29	8	<0.50	3.5	**350**
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.53**	<0.50	<0.50	<0.50	<0.50	**0.4**
Chloroform	4	<0.50	0.83	3.2	0.54	0.54	8.8	2.9	<0.50	17	<0.50	**70**
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**50**
cis-1,2-Dichloroethene	<0.50	<0.50	0.53	<0.50	0.8	0.79	<0.50	<0.50	<0.50	<0.50	<0.50	**70**
1,4-Dioxane	**9.5**	<3.0	**23**	**9.6**	**7.7**	**6.9**	**18**	**17**	<3.0	<3.0	<3.0	**3**
Methyl-tert-butyl-ether (MTBE)	0.6	<0.50	0.55	1.9	<0.50	<0.50	3.8	3.7	<0.50	<0.50	<0.50	**20**
Tetrachloroethene	<0.50	<0.50	**0.86**	<0.50	**1.6**	**1.5**	**1.1**	**0.92**	<0.50	<0.50	<0.50	**0.7**
Toluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**600**
Trichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.54	<0.50	<0.50	<0.50	<0.50	**3**
Total CVOCs	**18.8**	**ND**	**47.9**	**21**	**28.9**	**28.59**	**47.67**	**44.62**	**9.1**	**17**	**3.5**	

Notes:
VOCs are reported in micrograms per liter (µg/L)
VOCs = Volatile Organic Compounds
ND = Non Detect
NM = Not Measured
Bold indicates exceeds NCAC 2L Ground Water Standard

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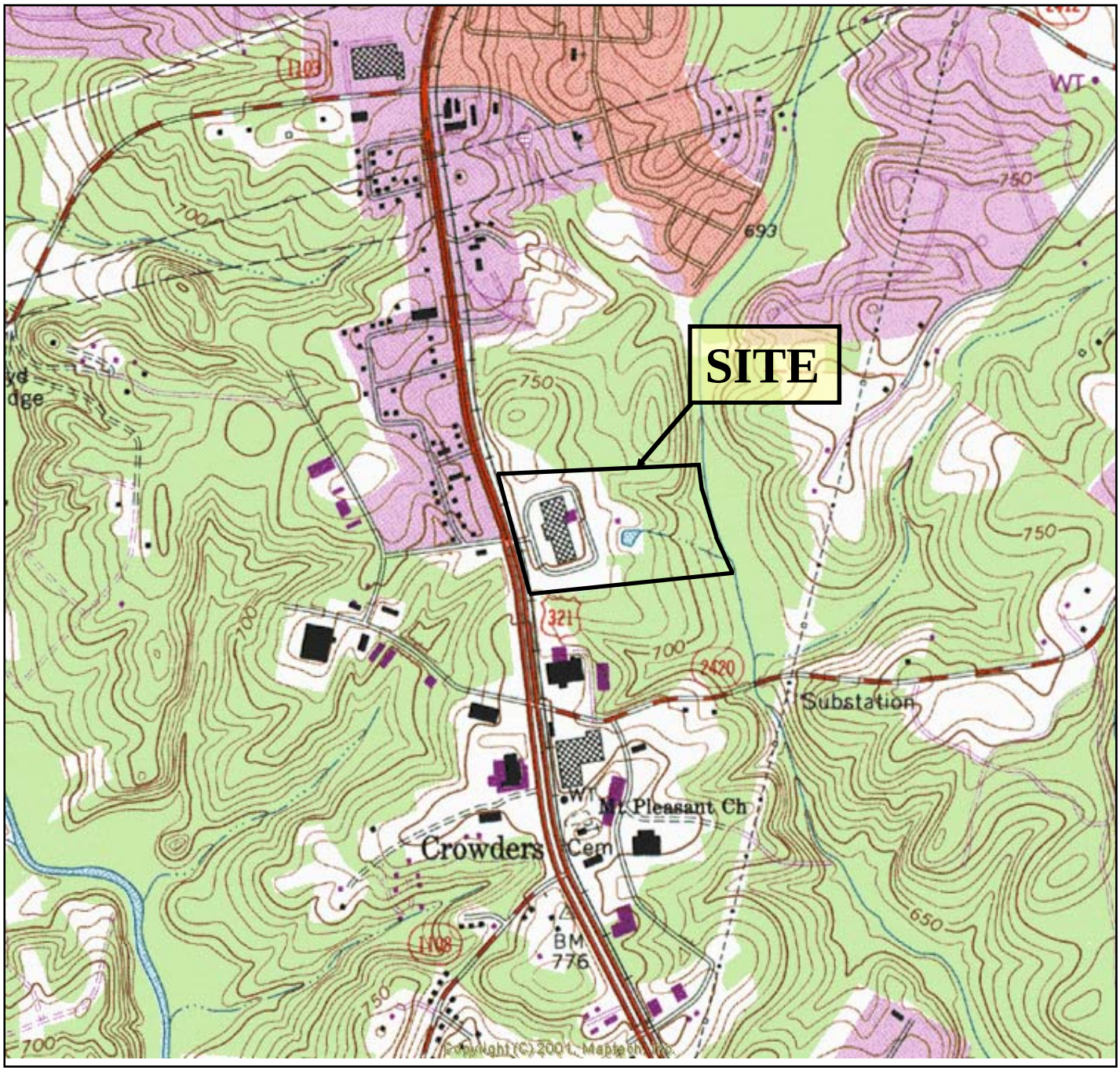
Table 3
Historic VOC Analytical Data
August 2015
A.B. Carter, Inc.
Gastonia, North Carolina
H&H Job No. ABC-021

Well ID	MW-8				MW-9				MW-16A				MW-18				MW-22				NCAC 2L GW Standard
Date Collected	8/20/15	8/19/14	8/08/13	8/21/12	8/18/15	8/21/14	8/07/13	8/21/12	8/20/15	8/19/14	8/07/13	8/20/12	8/18/15	8/19/14	8/07/13	8/21/12	8/19/15	8/19/14	8/07/13	8/20/12	
VOCs (EPA Method 8260B)																					
1,1,1-Trichloroethane	1.6	2.6	2.7	2.8	<0.50	<0.50	<0.50	<0.50	5.6	8.3	10	10	1.6	3.0	3.2	4.4	3.9	3.4	3.9	4.3	**200**
1,1-Dichloroethane	1.2	1.9	1.2	1.8	<0.50	<0.50	<0.50	<0.50	4.1	4.8	5.1	4.7	4.2	5.4	4.1	4.2	3.6	2.4	2.1	1.8	**6**
1,1-Dichloroethene	12	18	20	**13**	<0.50	<0.50	<0.50	<0.50	36	54	60	39	12	22	21	26	19	19	20	16	**350**
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.4**
Chloroform	4	3.0	3.9	2.6	<0.50	<0.50	<0.50	<0.50	0.83	0.82	0.87	0.66	3.2	3.2	3.2	3.7	0.54	<0.50	0.51	<0.50	**70**
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**50**
cis-1,2-Dichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.53	0.79	1.2	1.5	<0.50	<0.50	<0.50	<0.50	0.8	8.6	1.3	1.2	**70**
1,4-Dioxane	**9.5**	**18**	NS	**17**	<3.0	<3.0	NS	<3.0	**23**	**39**	NS	**23**	**9.6**	**13**	NS	**12**	**7.7**	**8.5**	NS	**4.2**	**3**
Methyl-tert-butyl-ether (MTBE)	0.6	0.95	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	0.55	0.65	0.52	<0.50	1.9	2.4	2.4	2.6	<0.50	<0.50	<0.50	<0.50	**20**
Tetrachloroethene	<0.50	0.59	<0.50	**1.0**	<0.50	<0.50	<0.50	<0.50	**0.86**	**1.6**	**3.2**	**3.8**	<0.50	0.57	**0.84**	**1.2**	**1.6**	**1.8**	**3.6**	**3.4**	**0.7**
Toluene	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**600**
Trichloroethene	<0.50	0.59	0.53	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	0.61	0.75	0.86	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3**
Total CVOCs	**18.8**	**27.78**	**28.33**	**21.80**	**ND**	**ND**	**ND**	**ND**	**47.9**	**72.62**	**81.12**	**60.52**	**21**	**34.17**	**32.34**	**39.5**	**28.9**	**35.2**	**31.4**	**26.7**	

Well ID	MW-23				MW-23A				MW-24				MW-25				PM-1				NCAC 2L GW Standard
Date Collected	8/20/15	8/21/14	8/09/13	8/20/12	8/20/15	8/21/14	8/09/13	8/20/12	8/18/15	8/20/14	8/09/13	8/21/12	8/18/15	8/20/14	8/09/13	8/21/12	8/19/15	8/20/14	8/08/13	8/21/12	
VOCs (EPA Method 8260B)																					
1,1,1-Trichloroethane	4.4	4.6	5.6	6.8	4.5	5.0	7.0	8.2	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	0.97	1.6	1.1	**200**
1,1-Dichloroethane	2.3	2.0	1.8	1.6	**7.3**	4.7	5.8	5.0	1.1	1.1	<0.50	NS	<0.50	<0.50	0.56	NS	<0.50	0.56	0.65	<0.50	**6**
1,1-Dichloroethene	30	34	38	30	29	32	48	37	8	7.4	<0.50	NS	<0.50	<0.50	4.1	NS	3.5	4.3	6.0	5.0	**350**
1,2-Dichloroethane	**0.53**	0.51	<0.50	0.53	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**0.4**
Chloroform	8.8	6.6	8.9	10.0	2.9	2.2	2.8	3.0	<0.50	<0.50	18.0	NS	17	16	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**70**
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	0.82	<0.50	<0.50	**50**
cis-1,2-Dichloroethene	<0.50	<0.50	<0.50	0.57	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**70**
1,4-Dioxane	**18**	**36**	NS	**17**	**17**	**32**	NS	**22**	<3.0	**6.3**	NS	NS	<3.0	**3.6**	NS	NS	<3.0	**8.5**	NS	<3.0	**3**
Methyl-tert-butyl-ether (MTBE)	3.8	3.7	3.6	3.2	3.7	4.0	4.4	3.7	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**20**
Tetrachloroethene	**1.1**	**1.1**	**1.8**	**1.8**	**0.92**	**0.8**	**1.6**	**1.4**	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**0.7**
Toluene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	0.7	<0.50	<0.50	**600**
Trichloroethene	0.54	0.6	0.76	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	**3**
Total CVOCs	**47.67**	**49.41**	**56.86**	**52.14**	**44.62**	**44.72**	**65.20**	**54.60**	**9.1**	**8.5**	**18**	**NS**	**17**	**16**	**4.66**	**NS**	**3.5**	**6.53**	**8.25**	**6.10**	

Notes:
VOCs are reported in micrograms per liter (µg/L)
VOCs = Volatile Organic Compounds
ND = Non Detect
NS = Not Sampled
Bold indicates exceeds NCAC 2L Ground Water Standard



N

APPROXIMATE

0 2000 4000

SCALE IN FEET

GASTONIA SOUTH, NORTH CAROLINA, 1993

U.S.G.S. QUADRANGLE MAP
7.5 MINUTE SERIES (TOPOGRAPHIC)

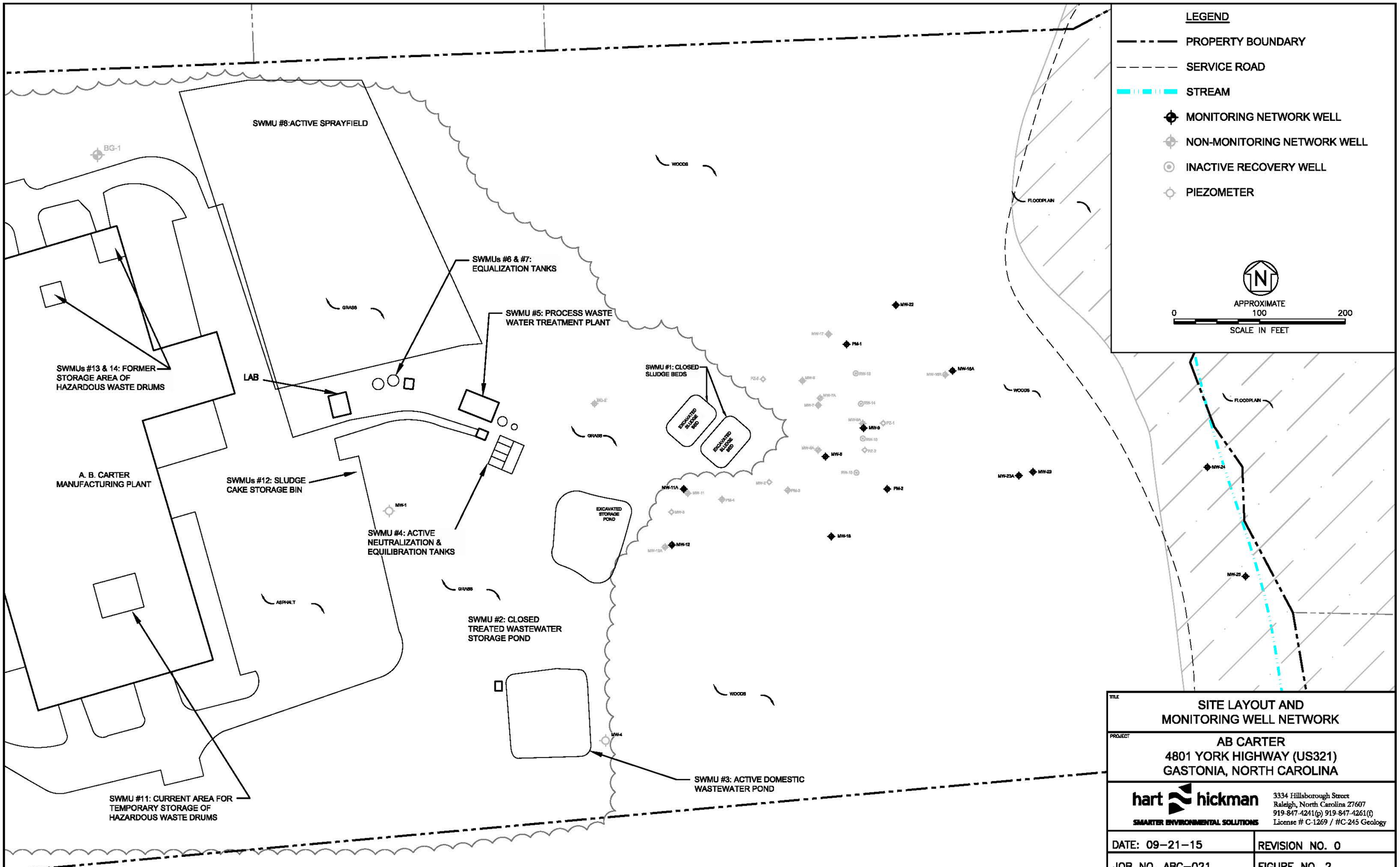
SITE LOCATION MAP

A.B. CARTER
GASTONIA, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

3334 Hillsborough Street
Raleigh, North Carolina 27607
(919) 847-4241 (Phone)

DATE:	09-21-15	REVISION NO:	0
JOB NO:	ABC-021	FIGURE NO:	1



TITLE

SITE LAYOUT AND
MONITORING WELL NETWORK

PROJECT

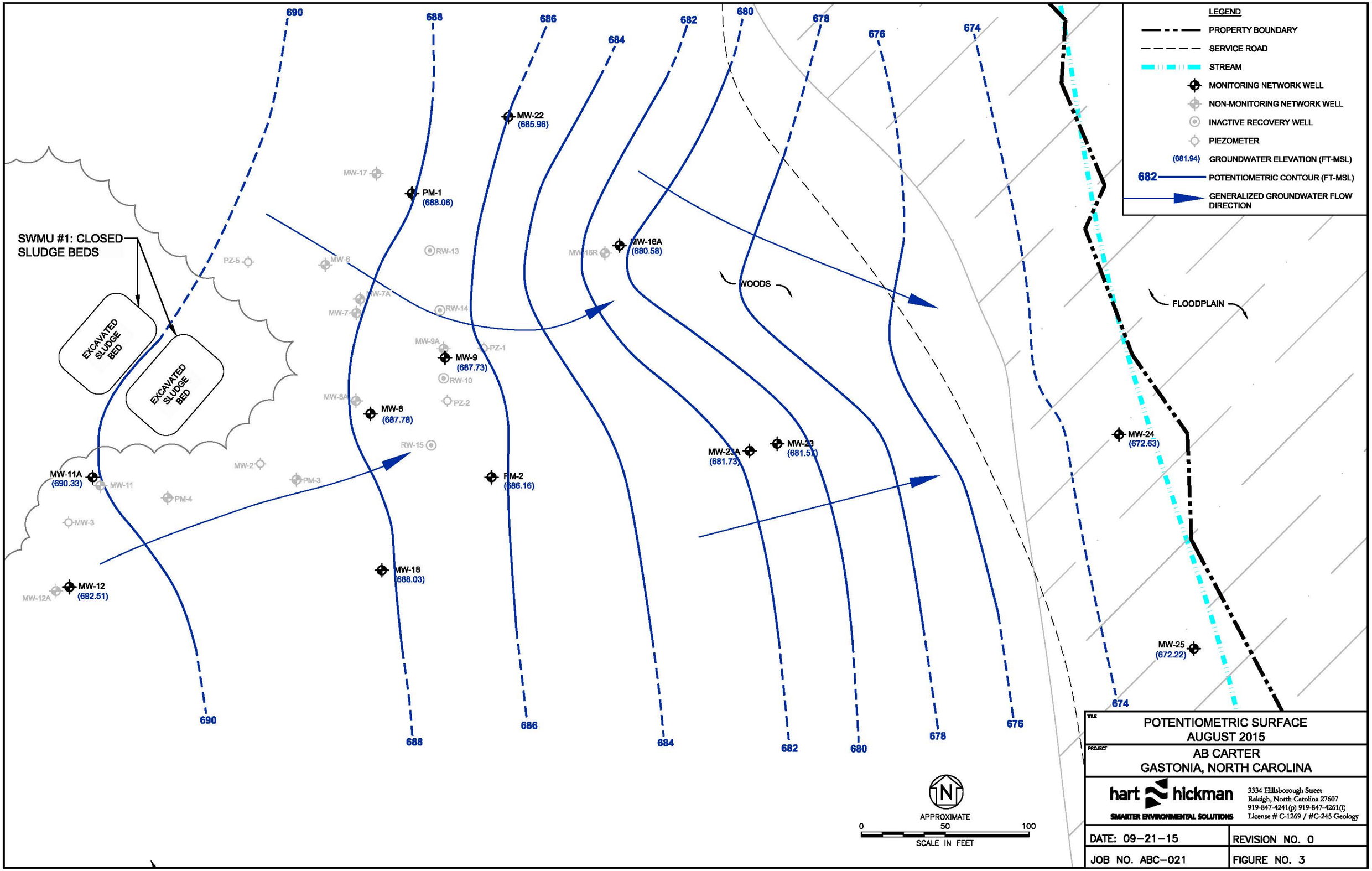
AB CARTER
4801 YORK HIGHWAY (US321)
GASTONIA, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

3334 Hillsborough Street
Raleigh, North Carolina 27607
919-847-4241(p) 919-847-4261(f)
License # C-1269 / #C-245 Geology

DATE: 09–21–15	REVISION NO. 0
JOB NO. ABC–021	FIGURE NO. 2

S:\AAAA-Master Projects\AB Carter - ABC\ABC-021 RCRA Sampling- Aug 2015\Figures\Figures_2-4.dwg, fig 2, 9/21/2015 9:56:41 AM, zbarlow



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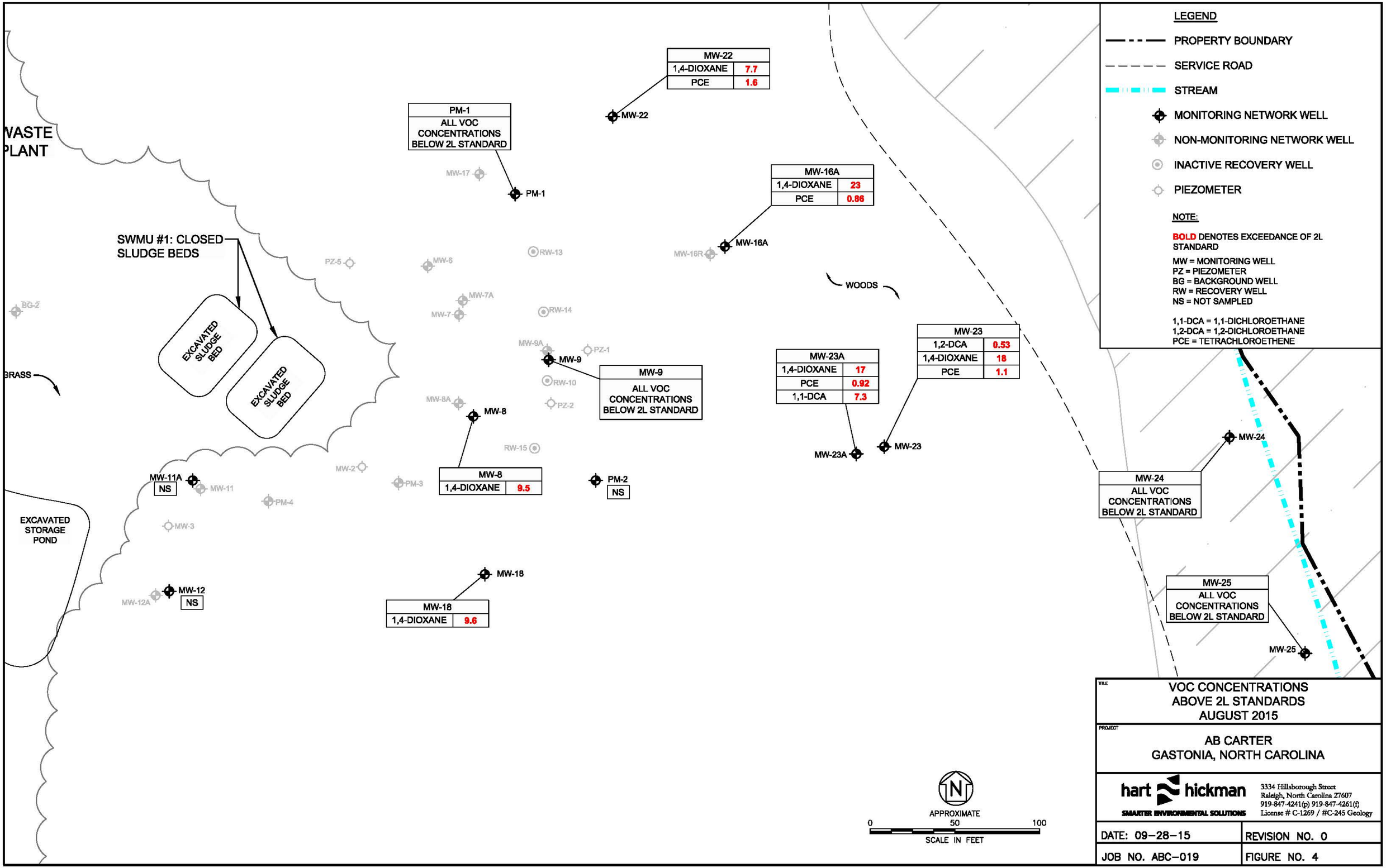

TITLE
VOC CONCENTRATIONS ABOVE 2L STANDARDS AUGUST 2015

PROJECT
AB CARTER
GASTONIA, NORTH CAROLINA

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Raleigh, North Carolina 27607
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License # C-1269 / #C-245 Geology

DATE: 09–28–15	REVISION NO. 0
JOB NO. ABC–019	FIGURE NO. 4

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Appendix A

Analytical Program Summary Tables

Summary of Sampling Protocol

Analytical Suite		Nickel & Sulfate (associated w/SWMUs #1 & #2)	VOCs (associated w/ AOC #1)	MNA Geochemical Parameters (as a part of VOC monitoring)	Appendix IX
Monitoring Frequency		Triennial for 2 Cycles	Annual for 6 Years	Annual for 6 Years	Every 6 Years
Well ID	Depth				
PM-1	40	POC	POC	X	
PM-2	55	EMW			
MW-8	67	POC	POC		POC
MW-9	46	POC	POC		
MW-11A	40	MW			
MW-12	73	POC			POC
MW-16A	50	EMW	MW		
MW-18	50		MW		
MW-22	42	EMW	MW		
MW-23	54	EMW	MW	X	
MW-23A	78	EMW	MW	X	
MW-24	TBD		EMW	X	
MW-25	TBD		EMW	X	
Field Duplicate		QA/QC	QA/QC		QA/QC
Equip. Blank		QA/QC	QA/QC		QA/QC
Trip Blank		QA/QC	QA/QC		QA/QC

Notes

POC = point of compliance monitoring well
EMW = effectiveness monitoring well
MW = monitoring well
TBD = to be determined based on future investigative results
MNA = monitored natural attenuation parameters (i.e., dissolved oxygen, oxidation reduction potential, pH, nitrate, ferrous iron, total iron, sulfate, organic carbon, methane, ethane, and ethene)
X = Sampled
QA/QC = quality assurance/quality control

Sampling Protocol by Well ID

Monitoring Well ID	2013	2014	2015	2016	2017	2018 [1]	2019[2,3]
PM-1	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics
PM-2	Inorganics			Inorganics			Inorganics
MW-8	Inorganics VOCs IX	VOCs	VOCs	Inorganics VOCs	VOCs	VOCs	Inorganics IX
MW-9	Inorganics VOCs	VOCs	VOCs	Inorganics VOCs	VOCs	VOCs	Inorganics
MW-11A	Inorganics			Inorganics			Inorganics
MW-12	Inorganics IX			Inorganics			Inorganics IX
MW-16A	Inorganics VOCs	VOCs	VOCs	Inorganics VOCs	VOCs	VOCs	Inorganics
MW-18	VOCs	VOCs	VOCs	VOCs	VOCs	VOCs	
MW-22	Inorganics VOCs	VOCs	VOCs	Inorganics VOCs	VOCs	VOCs	Inorganics
MW-23	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics
MW-23A	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics VOCs MNA	VOCs MNA	VOCs MNA	Inorganics
MW-24	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	
MW-25	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	VOCs MNA	

Notes

Inorganics = nickel and sulfate

VOCs = volatile organic compounds

MNA = monitored natural attenuation parameters

IX = Appendix IX constituents

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1 May request that sampling frequency for VOCs/MNA parameters be changed to every three years after the 2018 sampling event.

2 May request that sampling frequency for inorganics be transitioned from every three years to every six years after 2019.

3 Continue to collect groundwater for analysis of Appendix IX constituents every six years. The next sampling episode would be 2025.

Appendix B

Ground Water Sampling Records

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SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABL.021

Well ID: MW-8

Well Location: On Site

Facility Name: AB Carter Gastonia, NC

Date: 08/20/15

Top of Casing Elevation (ft msl): 717.37 Casing Material: Stainless Steel Volume of Water Per Well Volume: 5.99 gallons

Total Well Depth (ft): 67 Depth to Water (ft): 29.59 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 62 ft.

Weather Conditions: Cloudy 60's NOTES: Purging at 0840

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
0850	29.85		150 mL/min	3.70	19.70	509	5.53	325.1	–
0855	29.87		↓	3.73	19.50	510	5.52	333.6	–
0900	29.88		↓	3.52	19.54	510	5.47	339.3	–
0905	29.88		↓	3.44	19.51	511	5.52	339.1	–

Other Sample Parameters:

Sampled at: 0910 Parameters taken with: HI 98194

Sample Delivered to: Prism by KJW at 14:43 on 8/20/15.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2 x 40mL Non-Preserved, 2x40mL HCL

1,4-Dioxane = 3 x 40mL HCL Preserved VOA

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-9

Well Location: On Site

Facility Name: AB Carter Gastonia, NC

Date: 8/18/15

Top of Casing Elevation (ft msl): 718.13 Casing Material: PVC Volume of Water Per Well Volume: 2.50 gallons

Total Well Depth (ft): 46 Depth to Water (ft): 30.40 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 41 ft.

Weather Conditions: Mostly Sunny High 80's NOTES: Purging at 15:42

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
15:50	30.67		100 ml/min	4.51	32.60	1,224	7.17	101.9	—
15:55	30.72			3.51	31.32	1,338	6.92	104.5	—
16:00	30.74			3.03	31.15	1,408	6.87	99.7	—
16:05	30.77			2.90	33.07	1,454	6.94	92.7	—
16:10	30.80			2.78	33.81	1,538	7.04	94.4	—

Other Sample Parameters:

Sampled at: 16:15 Parameters taken with: HI 98194

Sample Delivered to: Prism by KJW at 8/20/15 @ 14:43.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2 x 40 mL VOA Non-preserved, 2 x 40 mL HCL VOA preserved.

1,4-Dioxane = 3 x 40 mL HCL VOA

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-16A

Well Location: On Site

Date: 08/20/15

Facility Name: AB Carter Gastonia, NC

Top of Casing Elevation (ft msl): 706.37 Casing Material: PVC Volume of Water Per Well Volume: 3.87 gallons

Total Well Depth (ft): 50 Depth to Water (ft): 25.79 Well Diameter: 2"

Sampling Personnel: KDW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 47 ft.

Weather Conditions: Cloudy 80's NOTES: Purging started at 0930

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
0935	25.81		125ml/min	3.63	19.51	264	5.85	323.8	–
0940	25.81			3.86	19.15	264	5.74	343.7	–
0945	25.81			3.64	19.12	263	5.68	353.9	–
0950	25.81			3.59	19.01	261	5.64	358.3	–
0955	25.81			3.57	19.01	261	5.54	361.6	–

Other Sample Parameters:

Sampled at: 1000 Parameters taken with: HI 98194

Sample Delivered to: Prism by KDW at 14:43 on 8/20/15

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2 x 40 mL unpreserved VOA & 2 x 40 mL HCL Preserved VOA

1,4-Dioxane = 3 x 40 mL HCL Preserved VOA.

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-18

Well Location: On Site

Facility Name: AB Carter Gastonia, NC

Date: 8/18/15

Top of Casing Elevation (ft msl): 718.65 Casing Material: PVC Volume of Water Per Well Volume: 3.10 gallons

Total Well Depth (ft): 50 Depth to Water (ft): 30.62 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 45 ft.

Weather Conditions: Partly Sunny 80's NOTES: Begin Purging at 14:08

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
14:10	30.68		100ml/min	4.49	22.63	283	5.88	152.2	–
14:15	30.68			4.34	22.37	283	5.93	163.5	–
14:20	30.68			4.23	21.80	281	5.99	175.4	–
14:25	30.68			3.71	21.75	282	6.16	182.0	–
14:30	30.68			3.51	21.85	281	6.23	184.5	–
14:35	30.68			3.69	21.00	287	6.27	194.1	–
14:40	30.68			3.61	21.16	281	6.19	201.3	–

Other Sample Parameters: ~~NA~~

Sampled at: 14:45 Parameters taken with: Hanna #HI 98194 pH/EC/DO Mulit parameter

Sample Delivered to: Prism by KJW at 14:43 on 8/20/15.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2 x 40mL unpreserved VOAs, 2 x 40mL HCL preserved VOAs

1,4-Dioxane = 3 x 40mL HCL Preserved VOAs

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC-021

Well ID: MW-22

Well Location: On Site

Facility Name: AB Carter Gastonia, NC

Date: 8/19/15.

Top of Casing Elevation (ft msl): 706.37 Casing Material: PVC Volume of Water Per Well Volume: 3.45

Total Well Depth (ft): 42 Depth to Water (ft): 20.42 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 39 ft.

Weather Conditions: Sunny 90's NOTES: Duplicate sampled at this well

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1200	20.48		125 gallon	5.73	20.21	79	5.94	250.2	–
1205	20.53		↓	5.61	20.18	79	5.93	252.3	–
1210	20.55			5.50	20.19	80	5.91	255.4	–
1215	20.57			5.68	20.09	80	5.90	257.6	–

Other Sample Parameters:

Sampled at: 12:20 Parameters taken with: HI 98194

Sample Delivered to: Prism by KJW at 14:43 on 8/20/15.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs - 3 x 40 mL unpreserved VOAs, 2 x 40 mL HCl preserved VOAs.

1,4-Dioxane - 3 x 40 mL HCL preserved VOAs

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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Job No: ABC.021

Well ID: MW-24

Well Location: On Site

Date: 8/18/15

LOW-FLOW GROUNDWATER SAMPLING RECORD

Facility Name: AB Carter Gastonia, NC

Top of Casing Elevation (ft msl): 681.30 Casing Material: PVC Volume of Water Per Well Volume: 1.01 gallons

Total Well Depth (ft): 15 Depth to Water (ft): 8.67 Well Diameter: 2"

Sampling Personnel: KTW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 12.5 ft.

Weather Conditions: Cloudy 80's NOTES: Purging at 12:38

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
12:45	8.74		145ml/min	0.31	19.44	278	5.86	178.7	–
12:50	8.76			0.27	19.36	277	5.96	156.0	–
12:55	8.77			0.25	19.51	279	5.97	154.0	–
13:00	8.79			0.25	19.35	278	5.98	150.0	–

Other Sample Parameters:

Sampled at: 13:05 Parameters taken with: HI 98194

Sample Delivered to: Prism by KTW at 14:43 on 8/20/15.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2x40mL unpreserved vocs, 2x40mL HCL preserved vocs. 1,4-Dioxane = 3x40mL HCL preserved vocs, TOC = 3x40mL amber HCL preserved vocs, Iron = 250mL HNO3 preserved plastic, Fe^{2+} = 250mL unpreserved plastic, MEE = 3x40mL HCL preserved voa, sulfate - 250mL unpreserved plastic, nitrate - 250mL preserved plastic

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LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-23A

Well Location: Onsite

Facility Name: AB Carter Gastonia, NC

Date: 8/

Top of Casing Elevation (ft msl): 700.95 Casing Material: _____ Volume of Water Per Well Volume: 9.4 gallons

Total Well Depth (ft): 78 Depth to Water (ft): 19.22 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 73 ft.

Weather Conditions: Sunny 80's NOTES: Purging started at 10:25

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
10:30	19.28	–	100 ml/min	4.65	18.97	202	5.75	359.7	–
10:35	19.28	–	↓	4.72	18.86	201	5.74	360.2	–
10:40	19.28	–	↓	4.71	19.03	201	5.74	360.3	–

Other Sample Parameters: _____

Sampled at: 10:45 Parameters taken with: HI 98194

Sample Delivered to: Prism by KJW at 14:43 on 8/20/15.

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered: _____

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2x40 mL unpreserved VOCs, 2x40 mL HCL preserved VOCs, 1,4-Dioxane = 3x40 mL HCL preserved VOCs, TOC = 3x40 mL Amber HCL preserved VOCs, Iron = 250 mL HNO3 preserved plastic, Fe2 = 250 mL unpreserved plastic, MEE = 3x40 mL VOCs HCL preserved, Sulfate = 250 mL plastic unpreserved, Nitrate = 250 mL plastic unpreserved.

File: S:\AAA-Master Templates\Forms-Groundwater\Low Flow Groundwater Sampling Record
Date:12/15/2014

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LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-23

Well Location: On Site

Date: 08/20/15

Facility Name: AB Cutler Lexington NC

Top of Casing Elevation (ft msl): 702.11 Casing Material: PVC Volume of Water Per Well Volume: 5.33 gallons

Total Well Depth (ft): 53.89 Depth to Water (ft): 20.54 Well Diameter: 2"

Sampling Personnel: KTW

Type of Pump: Peri Tubing Material: Vinyl Pump/Tubing set at: 50 ft.

Weather Conditions: 80's Cloudy NOTES: Purging started at 11:17

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
11:25	20.63	-	125 ml/min	4.03	20.26	288	5.55	382.4	-
11:30	20.63			4.43	19.99	290	5.55	350.9	-
11:35	20.63			4.46	20.08	291	5.55	350.5	-
11:40	20.63			4.38	20.11	289	5.54	353.2	-

Other Sample Parameters:

Sampled at: 1145 Parameters taken with: HANNA HI 98194

Sample Delivered to: Prism by KTW at 14:43 on 8/20/15

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2x40mL unpreserved VOAs & 2x40mL HCL Preserved VOAs. 1,4-Dioxane = 3x40mL HCL Preserved VOAs, TOC = 3x40mL amber HCL preserved VOAs, Iron = 250mL HNO_3 preserved plastic, Fe^{2+} = 250mL plastic unpreserved, MEE = 3x40mL HCL Preserved VOA, Sulfate = 250mL unpreserved plastic, Nitrate = 250mL unpreserved plastic

hart hickman

SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: MW-25

Well Location: On Site

Facility Name: AB Carter Gastonia, NC

Date: 08/18/15

Top of Casing Elevation (ft msl): 681.07 Casing Material: PVC Volume of Water Per Well Volume: 0.98 gallons

Total Well Depth (ft): 15. Depth to Water (ft): 8.85 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Peris Tubing Material: Vinyl Pump/Tubing set at: 12.5 ft.

Weather Conditions: Cloudy, 80's NOTES: Purging at 11:35

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
11:40	8.89		150 ml/min	3.46	18.50	56	5.24	214.2	[illegible]
11:45	8.90			3.57	18.55	168	5.36	217.2	—
11:50	8.90			3.67	18.46	166	5.39	219.7	—
11:55	8.90			3.64	18.50	166	5.40	221.6	—

Other Sample Parameters:

Sampled at: 12:00 Parameters taken with: HI 98194 - Hanna

Sample Delivered to: Prism by KJW at ~~14:43~~ 8/20/15

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2x40mL unpreserved VOAs, 2x40mL HCL preserved VOAs 1,4-Dioxane - 3x40 mL HCL preserved VOAs, TOC = 3x40mL amber HCL preserved VOAs, Iron = 250mL HNO_3 preserved plastic, Fe^{2+} = 250 plastic unpreserved, MEE = 3x40mL VOAs HCL preserved, sulfate = 250mL nonpreserved plastic, nitrate = 250mL unpreserved plastic

hart hickman

SMARTER ENVIRONMENTAL SOLUTIONS

LOW-FLOW GROUNDWATER SAMPLING RECORD

Job No: ABC.021

Well ID: PM-1

Well Location: Onsite

Date: 8/19/15

Facility Name: AB Carter Gastonia, NC

Top of Casing Elevation (ft msl): 721.38 Casing Material: PVC Volume of Water Per Well Volume: 1.06 gallons

Total Well Depth (ft): 40 Depth to Water (ft): 33.35 Well Diameter: 2"

Sampling Personnel: KJW

Type of Pump: Monsoon Tubing Material: Poly Pump/Tubing set at: 47.5' ft.

Weather Conditions: Sunny 80's NOTES:

GROUNDWATER SAMPLING PARAMETERS

Time	Water Level	Volume Pumped	Pumping Rate	DO (mg/l)	Temp. (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
1113	33.41		400 ml/min	5.82	17.95	331	4.99	304.6	—
1118	33.46			5.86	17.33	317	4.94	303.1	—
1123	33.50			5.76	17.95	313	4.90	297.1	—
1128	33.53			5.89	17.15	304	4.86	294.1	—
1133	33.56			6.02	16.95	320	5.07	279.1	—
1138	33.58			6.06	16.88	323	5.08	283.3	—

Other Sample Parameters:

Sampled at: 11:40 Parameters taken with: HI 98194

Sample Delivered to: Prism Labs by KJW at 14:43 on 8/20/15

Field Filtration: ( ) Yes (X) No If yes, which sample parameters were field filtered:

Sample Parameter Containers (Types, Number of Containers, Preservatives): VOCs = 2x40 mL unpreserved voas, 2x40 mL HCL preserved voas 1,4-dioxane = 3x40 mL HCL preserved voas, TOC = 3x40 mL amber HCL preserved voas, Iron = 250 mL HNO3 preserved plastic, Fe^{2+} = 250 mL unpreserved plastic, MEE = 3x40 mL HCL preserved voa, sulfate = 250 mL unpreserved plastic, nitrate = 250 mL unpreserved plastic

Appendix C

Laboratory Analytical Reports

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NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735
VA Certification No. 460211
DoD ELAP: L-A-B Accredited Certificate No. L2307
ISO/IEC 17025: L-A-B Accredited Certificate No. L2307
NELAC Cert No. E87519

Case Narrative

09/04/2015

Hart & Hickman (Raleigh)
Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Lab Submittal Date: 08/20/2015
Prism Work Order: 5080380

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Narrative Notes:

Methane, Ethane, Ethene and TOC analysis subcontracted to GCAL. Laboratory report is attached.

The results in this report relate only to the samples as submitted to the laboratory and the test results meet all requirements of NELAC except for those instances indicated in the case narrative and/or test comments.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

Robbi A. Jones
President/Project Manager

Reviewed By Robbi A. Jones
President/Project Manager

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Data Qualifiers Key Reference:

H1	Analysis within hold time from preserved vial.
HT	Sample received and analyzed outside of the hold time.
L1	LCS recovery outside of the QC limits. LCSD recovery within the limits. No further action taken.
PH	pH is outside the method required range.
BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

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PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

Sample Receipt Summary

09/04/2015

Prism Work Order: 5080380

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
MW-25	5080380-01	Water	08/18/15	08/20/15
MW-24	5080380-02	Water	08/18/15	08/20/15
MW-18	5080380-03	Water	08/18/15	08/20/15
MW-9	5080380-04	Water	08/18/15	08/20/15
PM-1	5080380-05	Water	08/19/15	08/20/15
MW-22	5080380-06	Water	08/19/15	08/20/15
Duplicate	5080380-07	Water	08/19/15	08/20/15
MW-8	5080380-08	Water	08/20/15	08/20/15
MW-16A	5080380-09	Water	08/20/15	08/20/15
MW-23A	5080380-10	Water	08/20/15	08/20/15
MW-23	5080380-11	Water	08/20/15	08/20/15
Field Blank	5080380-12	Water	08/20/15	08/20/15
Equipment Blank	5080380-13	Water	08/20/15	08/20/15

Samples were received in good condition at 4.2 degrees C unless otherwise noted.

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Summary of Detections

09/04/2015

Prism Work Order: 5080380

Prism ID	Client ID	Parameter	Method	Result	Units
5080380-01	MW-25	Sulfate	*9056A	29	mg/L
5080380-01	MW-25	Nitrate as N	*SM4500-NO3 F	2.0	mg/L
5080380-01	MW-25	Nitrate/Nitrite as N	*SM4500-NO3 F	2.0	mg/L
5080380-01	MW-25	Iron	*6010C	0.47	mg/L
5080380-01	MW-25	Chloroform	*8260B	17	ug/L
5080380-02	MW-24	Sulfate	*9056A	48	mg/L
5080380-02	MW-24	Nitrate as N	*SM4500-NO3 F	0.33	mg/L
5080380-02	MW-24	Nitrate/Nitrite as N	*SM4500-NO3 F	0.33	mg/L
5080380-02	MW-24	Iron	*6010C	1.2	mg/L
5080380-02	MW-24	1,1-Dichloroethane	*8260B	1.1	ug/L
5080380-02	MW-24	1,1-Dichloroethylene	*8260B	8.0	ug/L
5080380-03	MW-18	1,1,1-Trichloroethane	*8260B	1.6	ug/L
5080380-03	MW-18	1,1-Dichloroethane	*8260B	4.2	ug/L
5080380-03	MW-18	1,1-Dichloroethylene	*8260B	12	ug/L
5080380-03	MW-18	Chloroform	*8260B	3.2	ug/L
5080380-03	MW-18	Methyl-tert-Butyl Ether	*8260B	1.9	ug/L
5080380-03	MW-18	1,4-Dioxane	*8260B SIM	9.6	ug/L
5080380-05	PM-1	Sulfate	*9056A	53	mg/L
5080380-05	PM-1	Nitrate as N	*SM4500-NO3 F	4.7	mg/L
5080380-05	PM-1	Nitrate/Nitrite as N	*SM4500-NO3 F	4.7	mg/L
5080380-05	PM-1	Iron	*6010C	0.40	mg/L
5080380-05	PM-1	1,1-Dichloroethylene	*8260B	3.5	ug/L
5080380-06	MW-22	1,1,1-Trichloroethane	*8260B	3.9	ug/L
5080380-06	MW-22	1,1-Dichloroethane	*8260B	3.6	ug/L
5080380-06	MW-22	1,1-Dichloroethylene	*8260B	19	ug/L
5080380-06	MW-22	Chloroform	*8260B	0.54	ug/L
5080380-06	MW-22	cis-1,2-Dichloroethylene	*8260B	0.80	ug/L
5080380-06	MW-22	Tetrachloroethylene	*8260B	1.6	ug/L
5080380-06	MW-22	1,4-Dioxane	*8260B SIM	7.7	ug/L
5080380-07	Duplicate	1,1,1-Trichloroethane	*8260B	3.7	ug/L
5080380-07	Duplicate	1,1-Dichloroethane	*8260B	3.6	ug/L
5080380-07	Duplicate	1,1-Dichloroethylene	*8260B	19	ug/L
5080380-07	Duplicate	Chloroform	*8260B	0.54	ug/L
5080380-07	Duplicate	cis-1,2-Dichloroethylene	*8260B	0.79	ug/L
5080380-07	Duplicate	Tetrachloroethylene	*8260B	1.5	ug/L
5080380-07	Duplicate	1,4-Dioxane	*8260B SIM	6.9	ug/L
5080380-08	MW-8	1,1,1-Trichloroethane	*8260B	1.6	ug/L
5080380-08	MW-8	1,1-Dichloroethane	*8260B	1.2	ug/L
5080380-08	MW-8	1,1-Dichloroethylene	*8260B	12	ug/L
5080380-08	MW-8	Chloroform	*8260B	4.0	ug/L
5080380-08	MW-8	Methyl-tert-Butyl Ether	*8260B	0.60	ug/L
5080380-08	MW-8	1,4-Dioxane	*8260B SIM	9.5	ug/L
5080380-09	MW-16A	1,1,1-Trichloroethane	*8260B	5.6	ug/L
5080380-09	MW-16A	1,1-Dichloroethane	*8260B	4.1	ug/L

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Summary of Detections

09/04/2015

Prism Work Order: 5080380

Prism ID	Client ID	Parameter	Method	Result	Units
5080380-09	MW-16A	1,1-Dichloroethylene	*8260B	36	ug/L
5080380-09	MW-16A	Chloroform	*8260B	0.83	ug/L
5080380-09	MW-16A	cis-1,2-Dichloroethylene	*8260B	0.53	ug/L
5080380-09	MW-16A	Methyl-tert-Butyl Ether	*8260B	0.55	ug/L
5080380-09	MW-16A	Tetrachloroethylene	*8260B	0.86	ug/L
5080380-09	MW-16A	1,4-Dioxane	*8260B SIM	23	ug/L
5080380-10	MW-23A	Sulfate	*9056A	30	mg/L
5080380-10	MW-23A	Nitrate as N	*SM4500-NO3 F	2.7	mg/L
5080380-10	MW-23A	Nitrate/Nitrite as N	*SM4500-NO3 F	2.7	mg/L
5080380-10	MW-23A	1,1,1-Trichloroethane	*8260B	4.5	ug/L
5080380-10	MW-23A	1,1-Dichloroethane	*8260B	7.3	ug/L
5080380-10	MW-23A	1,1-Dichloroethylene	*8260B	29	ug/L
5080380-10	MW-23A	Chloroform	*8260B	2.9	ug/L
5080380-10	MW-23A	Methyl-tert-Butyl Ether	*8260B	3.7	ug/L
5080380-10	MW-23A	Tetrachloroethylene	*8260B	0.92	ug/L
5080380-10	MW-23A	1,4-Dioxane	*8260B SIM	17	ug/L
5080380-11	MW-23	Sulfate	*9056A	85	mg/L
5080380-11	MW-23	Nitrate as N	*SM4500-NO3 F	2.8	mg/L
5080380-11	MW-23	Nitrate/Nitrite as N	*SM4500-NO3 F	2.8	mg/L
5080380-11	MW-23	Iron	*6010C	0.14	mg/L
5080380-11	MW-23	1,1,1-Trichloroethane	*8260B	4.4	ug/L
5080380-11	MW-23	1,1-Dichloroethane	*8260B	2.3	ug/L
5080380-11	MW-23	1,1-Dichloroethylene	*8260B	30	ug/L
5080380-11	MW-23	1,2-Dichloroethane	*8260B	0.53	ug/L
5080380-11	MW-23	Chloroform	*8260B	8.8	ug/L
5080380-11	MW-23	Methyl-tert-Butyl Ether	*8260B	3.8	ug/L
5080380-11	MW-23	Tetrachloroethylene	*8260B	1.1	ug/L
5080380-11	MW-23	Trichloroethylene	*8260B	0.54	ug/L
5080380-11	MW-23	1,4-Dioxane	*8260B SIM	18	ug/L
5080380-12	Field Blank	Methylene Chloride	*8260B	2.6	ug/L
5080380-13	Equipment Blank	Methylene Chloride	*8260B	2.8	ug/L
5080380-13	Equipment Blank	Styrene	*8260B	1.4	ug/L

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-25
Prism Sample ID: 5080380-01
Prism Work Order: 5080380
Time Collected: 08/18/15 12:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Sulfate	**29**	**mg/L**	**1.0**	**0.38**	**1**	***9056A**	**9/1/15 18:47**	**CDL**	**P5I0033**
General Chemistry Parameters									
Nitrate as N	**2.0**	**mg/L**	**0.11**	**0.0071**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CDL**	**[CALC]**
Ferrous Iron	BRL HT	mg/L	0.20	0.039	1	*SM3500-Fe D	8/21/15 15:30	CDL	P5H0366
Nitrate/Nitrite as N	**2.0**	**mg/L**	**0.10**	**0.0034**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CLB**	**P5H0425**
Nitrite as N	BRL HT	mg/L	0.010	0.0037	1	*SM4500-NO2 B	8/21/15 11:30	CDL	P5H0469
Total Metals									
Iron	**0.47**	**mg/L**	**0.10**	**0.011**	**1**	***6010C**	**8/25/15 17:40**	**MWW**	**P5H0414**
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1-Dichloroethane	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1-Dichloroethylene	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 17:04	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:04	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 17:04	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 17:04	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:04	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:04	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 17:04	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 17:04	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:04	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:04	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 17:04	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 17:04	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 17:04	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:04	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-25
Prism Sample ID: 5080380-01
Prism Work Order: 5080380
Time Collected: 08/18/15 12:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 17:04	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 17:04	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 17:04	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:04	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:04	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 17:04	CGP	P5H0521
Chloroform	**17**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 17:04**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:04	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 17:04	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:04	CGP	P5H0521
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 17:04	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 17:04	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 17:04	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 17:04	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 17:04	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:04	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:04	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 17:04	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 17:04	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 17:04	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 17:04	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 17:04	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 17:04	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 17:04	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 17:04	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 17:04	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:04	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:04	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 17:04	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 17:04	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 17:04	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:04	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 17:04	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 17:04	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 17:04	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:04	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 17:04	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 17:04	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*100 %*	*80-124*
Dibromofluoromethane	*103 %*	*75-129*
Toluene-d8	*99 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

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Laboratory Report

09/04/2015

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-25
Prism Sample ID: 5080380-01
Prism Work Order: 5080380
Time Collected: 08/18/15 12:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 19:08	CGP	P5H0527

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-24
Prism Sample ID: 5080380-02
Prism Work Order: 5080380
Time Collected: 08/18/15 13:05
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Sulfate	**48**	**mg/L**	**1.0**	**0.38**	**1**	***9056A**	**9/1/15 19:05**	**CDL**	**P5I0033**
General Chemistry Parameters									
Nitrate as N	**0.33**	**mg/L**	**0.11**	**0.0071**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CDL**	**[CALC]**
Ferrous Iron	BRL HT	mg/L	0.20	0.039	1	*SM3500-Fe D	8/21/15 15:30	CDL	P5H0366
Nitrate/Nitrite as N	**0.33**	**mg/L**	**0.10**	**0.0034**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CLB**	**P5H0425**
Nitrite as N	BRL HT	mg/L	0.010	0.0037	1	*SM4500-NO2 B	8/21/15 11:30	CDL	P5H0469
Total Metals									
Iron	**1.2**	**mg/L**	**0.10**	**0.011**	**1**	***6010C**	**8/25/15 18:04**	**MWW**	**P5H0414**
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,1-Dichloroethane	**1.1**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 17:31**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**8.0**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 17:31**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 17:31	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:31	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 17:31	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 17:31	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:31	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:31	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 17:31	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 17:31	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:31	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:31	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 17:31	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 17:31	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 17:31	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:31	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-24
Prism Sample ID: 5080380-02
Prism Work Order: 5080380
Time Collected: 08/18/15 13:05
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 17:31	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 17:31	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 17:31	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:31	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:31	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 17:31	CGP	P5H0521
Chloroform	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:31	CGP	P5H0521
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:31	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 17:31	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:31	CGP	P5H0521
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 17:31	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 17:31	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 17:31	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 17:31	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 17:31	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:31	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:31	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 17:31	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 17:31	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 17:31	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 17:31	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 17:31	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 17:31	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 17:31	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 17:31	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 17:31	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:31	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:31	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 17:31	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 17:31	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 17:31	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:31	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 17:31	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 17:31	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 17:31	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:31	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 17:31	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 17:31	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*80-124*
Dibromofluoromethane	*100 %*	*75-129*
Toluene-d8	*97 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

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Laboratory Report

09/04/2015

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-24
Prism Sample ID: 5080380-02
Prism Work Order: 5080380
Time Collected: 08/18/15 13:05
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 19:40	CGP	P5H0527

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-18
Prism Sample ID: 5080380-03
Prism Work Order: 5080380
Time Collected: 08/18/15 14:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,1,1-Trichloroethane	**1.6**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 17:57**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,1-Dichloroethane	**4.2**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 17:57**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**12**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 17:57**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 17:57	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:57	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 17:57	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 17:57	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 17:57	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:57	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 17:57	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 17:57	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:57	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 17:57	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 17:57	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 17:57	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 17:57	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:57	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 17:57	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 17:57	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 17:57	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 17:57	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:57	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 17:57	CGP	P5H0521
Chloroform	**3.2**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 17:57**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:57	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 17:57	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 17:57	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-18
Prism Sample ID: 5080380-03
Prism Work Order: 5080380
Time Collected: 08/18/15 14:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 17:57	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 17:57	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 17:57	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 17:57	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 17:57	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 17:57	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 17:57	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 17:57	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 17:57	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 17:57	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 17:57	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 17:57	CGP	P5H0521
Methyl-tert-Butyl Ether	**1.9**	**ug/L**	**0.50**	**0.042**	**1**	***8260B**	**8/28/15 17:57**	**CGP**	**P5H0521**
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 17:57	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 17:57	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 17:57	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:57	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 17:57	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 17:57	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 17:57	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 17:57	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 17:57	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 17:57	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 17:57	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 17:57	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 17:57	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 17:57	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 17:57	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*105 %*	*80-124*
Dibromofluoromethane	*101 %*	*75-129*
Toluene-d8	*102 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	**9.6**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/27/15 20:12**	**CGP**	**P5H0527**

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 5080380-04
Prism Work Order: 5080380
Time Collected: 08/18/15 16:15
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1, PH
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1-Dichloroethane	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1-Dichloroethylene	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 18:23	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:23	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 18:23	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 18:23	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:23	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:23	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 18:23	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 18:23	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 18:23	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 18:23	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 18:23	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 18:23	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 18:23	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:23	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 18:23	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 18:23	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 18:23	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:23	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:23	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 18:23	CGP	P5H0521
Chloroform	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:23	CGP	P5H0521
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 18:23	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 18:23	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 18:23	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 5080380-04
Prism Work Order: 5080380
Time Collected: 08/18/15 16:15
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 18:23	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 18:23	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 18:23	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 18:23	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 18:23	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:23	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:23	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 18:23	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 18:23	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 18:23	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 18:23	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 18:23	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 18:23	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 18:23	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 18:23	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 18:23	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 18:23	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:23	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 18:23	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 18:23	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 18:23	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 18:23	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 18:23	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 18:23	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 18:23	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:23	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 18:23	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 18:23	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*100 %*	*80-124*
Dibromofluoromethane	*102 %*	*75-129*
Toluene-d8	*97 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 20:44	CGP	P5H0527

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: PM-1
Prism Sample ID: 5080380-05
Prism Work Order: 5080380
Time Collected: 08/19/15 11:40
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Sulfate	**53**	**mg/L**	**1.0**	**0.38**	**1**	***9056A**	**9/1/15 19:23**	**CDL**	**P5I0033**
General Chemistry Parameters									
Nitrate as N	**4.7**	**mg/L**	**0.11**	**0.0071**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CDL**	**[CALC]**
Ferrous Iron	BRL HT	mg/L	0.20	0.039	1	*SM3500-Fe D	8/21/15 15:30	CDL	P5H0366
Nitrate/Nitrite as N	**4.7**	**mg/L**	**0.10**	**0.0034**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CLB**	**P5H0425**
Nitrite as N	BRL	mg/L	0.010	0.0037	1	*SM4500-NO2 B	8/21/15 11:30	CDL	P5H0469
Total Metals									
Iron	**0.40**	**mg/L**	**0.10**	**0.011**	**1**	***6010C**	**8/25/15 18:11**	**MWW**	**P5H0414**
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,1-Dichloroethane	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,1-Dichloroethylene	**3.5**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 18:49**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 18:49	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:49	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 18:49	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 18:49	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 18:49	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:49	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 18:49	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 18:49	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 18:49	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 18:49	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 18:49	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 18:49	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 18:49	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:49	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: PM-1
Prism Sample ID: 5080380-05
Prism Work Order: 5080380
Time Collected: 08/19/15 11:40
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 18:49	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 18:49	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 18:49	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 18:49	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:49	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 18:49	CGP	P5H0521
Chloroform	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:49	CGP	P5H0521
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 18:49	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 18:49	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 18:49	CGP	P5H0521
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 18:49	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 18:49	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 18:49	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 18:49	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 18:49	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 18:49	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 18:49	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 18:49	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 18:49	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 18:49	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 18:49	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 18:49	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 18:49	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 18:49	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 18:49	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 18:49	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 18:49	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 18:49	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 18:49	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 18:49	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 18:49	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 18:49	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 18:49	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 18:49	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 18:49	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 18:49	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 18:49	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 18:49	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*101 %*	*80-124*
Dibromofluoromethane	*102 %*	*75-129*
Toluene-d8	*97 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

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Laboratory Report

09/04/2015

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: PM-1
Prism Sample ID: 5080380-05
Prism Work Order: 5080380
Time Collected: 08/19/15 11:40
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 21:16	CGP	P5H0527

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-22
Prism Sample ID: 5080380-06
Prism Work Order: 5080380
Time Collected: 08/19/15 12:20
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,1,1-Trichloroethane	**3.9**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,1-Dichloroethane	**3.6**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**19**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 19:16	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:16	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 19:16	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 19:16	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:16	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:16	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 19:16	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 19:16	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 19:16	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 19:16	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 19:16	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 19:16	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 19:16	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:16	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 19:16	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 19:16	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 19:16	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:16	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:16	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 19:16	CGP	P5H0521
Chloroform	**0.54**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 19:16	CGP	P5H0521
cis-1,2-Dichloroethylene	**0.80**	**ug/L**	**0.50**	**0.056**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 19:16	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-22
Prism Sample ID: 5080380-06
Prism Work Order: 5080380
Time Collected: 08/19/15 12:20
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 19:16	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 19:16	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 19:16	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 19:16	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 19:16	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:16	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:16	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 19:16	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 19:16	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 19:16	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 19:16	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 19:16	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 19:16	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 19:16	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 19:16	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 19:16	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 19:16	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:16	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 19:16	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 19:16	CGP	P5H0521
Tetrachloroethylene	**1.6**	**ug/L**	**0.50**	**0.098**	**1**	***8260B**	**8/28/15 19:16**	**CGP**	**P5H0521**
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 19:16	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 19:16	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 19:16	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 19:16	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:16	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 19:16	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 19:16	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*99 %*	*80-124*
Dibromofluoromethane	*101 %*	*75-129*
Toluene-d8	*99 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	**7.7**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/27/15 21:48**	**CGP**	**P5H0527**

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Duplicate
Prism Sample ID: 5080380-07
Prism Work Order: 5080380
Time Collected: 08/19/15 00:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,1,1-Trichloroethane	**3.7**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,1-Dichloroethane	**3.6**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**19**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 19:42	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:42	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 19:42	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 19:42	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 19:42	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:42	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 19:42	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 19:42	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 19:42	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 19:42	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 19:42	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 19:42	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 19:42	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:42	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 19:42	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 19:42	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 19:42	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 19:42	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:42	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 19:42	CGP	P5H0521
Chloroform	**0.54**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 19:42	CGP	P5H0521
cis-1,2-Dichloroethylene	**0.79**	**ug/L**	**0.50**	**0.056**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 19:42	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Duplicate
Prism Sample ID: 5080380-07
Prism Work Order: 5080380
Time Collected: 08/19/15 00:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 19:42	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 19:42	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 19:42	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 19:42	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 19:42	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 19:42	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 19:42	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 19:42	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 19:42	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 19:42	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 19:42	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 19:42	CGP	P5H0521
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 19:42	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 19:42	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 19:42	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 19:42	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 19:42	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 19:42	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 19:42	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 19:42	CGP	P5H0521
Tetrachloroethylene	**1.5**	**ug/L**	**0.50**	**0.098**	**1**	***8260B**	**8/28/15 19:42**	**CGP**	**P5H0521**
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 19:42	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 19:42	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 19:42	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 19:42	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 19:42	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 19:42	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 19:42	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*96 %*	*80-124*
Dibromofluoromethane	*103 %*	*75-129*
Toluene-d8	*99 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	**6.9**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/27/15 22:20**	**CGP**	**P5H0527**

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 5080380-08
Prism Work Order: 5080380
Time Collected: 08/20/15 09:10
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,1,1-Trichloroethane	**1.6**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 20:09**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,1-Dichloroethane	**1.2**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 20:09**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**12**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 20:09**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 20:09	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:09	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 20:09	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 20:09	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:09	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:09	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 20:09	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 20:09	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 20:09	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 20:09	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 20:09	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 20:09	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 20:09	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:09	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 20:09	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 20:09	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 20:09	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:09	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:09	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 20:09	CGP	P5H0521
Chloroform	**4.0**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 20:09**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 20:09	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 20:09	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 20:09	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 5080380-08
Prism Work Order: 5080380
Time Collected: 08/20/15 09:10
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 20:09	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 20:09	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 20:09	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 20:09	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 20:09	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:09	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:09	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 20:09	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 20:09	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 20:09	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 20:09	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 20:09	CGP	P5H0521
Methyl-tert-Butyl Ether	**0.60**	**ug/L**	**0.50**	**0.042**	**1**	***8260B**	**8/28/15 20:09**	**CGP**	**P5H0521**
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 20:09	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 20:09	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 20:09	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 20:09	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:09	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 20:09	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 20:09	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 20:09	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 20:09	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 20:09	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 20:09	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 20:09	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:09	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 20:09	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 20:09	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*106 %*	*80-124*
Dibromofluoromethane	*103 %*	*75-129*
Toluene-d8	*101 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	**9.5**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/27/15 22:52**	**CGP**	**P5H0527**

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-16A
Prism Sample ID: 5080380-09
Prism Work Order: 5080380
Time Collected: 08/20/15 10:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,1,1-Trichloroethane	**5.6**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,1-Dichloroethane	**4.1**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**36**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 20:35	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:35	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 20:35	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 20:35	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 20:35	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:35	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 20:35	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 20:35	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 20:35	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 20:35	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 20:35	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 20:35	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 20:35	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:35	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 20:35	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 20:35	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 20:35	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 20:35	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:35	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 20:35	CGP	P5H0521
Chloroform	**0.83**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 20:35	CGP	P5H0521
cis-1,2-Dichloroethylene	**0.53**	**ug/L**	**0.50**	**0.056**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 20:35	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-16A
Prism Sample ID: 5080380-09
Prism Work Order: 5080380
Time Collected: 08/20/15 10:00
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 20:35	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 20:35	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 20:35	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 20:35	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 20:35	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 20:35	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 20:35	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 20:35	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 20:35	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 20:35	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 20:35	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 20:35	CGP	P5H0521
Methyl-tert-Butyl Ether	**0.55**	**ug/L**	**0.50**	**0.042**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 20:35	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 20:35	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 20:35	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 20:35	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 20:35	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 20:35	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 20:35	CGP	P5H0521
Tetrachloroethylene	**0.86**	**ug/L**	**0.50**	**0.098**	**1**	***8260B**	**8/28/15 20:35**	**CGP**	**P5H0521**
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 20:35	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 20:35	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 20:35	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 20:35	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 20:35	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 20:35	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 20:35	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*80-124*
Dibromofluoromethane	*103 %*	*75-129*
Toluene-d8	*99 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	**23**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/28/15 1:01**	**CGP**	**P5H0527**

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23A
Prism Sample ID: 5080380-10
Prism Work Order: 5080380
Time Collected: 08/20/15 10:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Sulfate	**30**	**mg/L**	**1.0**	**0.38**	**1**	***9056A**	**9/1/15 19:41**	**CDL**	**P5I0033**
General Chemistry Parameters									
Nitrate as N	**2.7**	**mg/L**	**0.11**	**0.0071**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CDL**	**[CALC]**
Ferrous Iron	BRL	mg/L	0.20	0.039	1	*SM3500-Fe D	8/21/15 15:30	CDL	P5H0366
Nitrate/Nitrite as N	**2.7**	**mg/L**	**0.10**	**0.0034**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CLB**	**P5H0425**
Nitrite as N	BRL	mg/L	0.010	0.0037	1	*SM4500-NO2 B	8/21/15 11:30	CDL	P5H0469
Total Metals									
Iron	BRL	mg/L	0.10	0.011	1	*6010C	8/25/15 18:19	MWW	P5H0414
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,1,1-Trichloroethane	**4.5**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,1-Dichloroethane	**7.3**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**29**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 21:02	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:02	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 21:02	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 21:02	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:02	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:02	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 21:02	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 21:02	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:02	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:02	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 21:02	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 21:02	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 21:02	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:02	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23A
Prism Sample ID: 5080380-10
Prism Work Order: 5080380
Time Collected: 08/20/15 10:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 21:02	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 21:02	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 21:02	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:02	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:02	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 21:02	CGP	P5H0521
Chloroform	**2.9**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:02	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 21:02	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:02	CGP	P5H0521
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 21:02	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 21:02	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 21:02	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 21:02	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 21:02	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:02	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:02	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 21:02	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 21:02	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 21:02	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 21:02	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 21:02	CGP	P5H0521
Methyl-tert-Butyl Ether	**3.7**	**ug/L**	**0.50**	**0.042**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 21:02	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 21:02	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 21:02	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:02	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:02	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 21:02	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 21:02	CGP	P5H0521
Tetrachloroethylene	**0.92**	**ug/L**	**0.50**	**0.098**	**1**	***8260B**	**8/28/15 21:02**	**CGP**	**P5H0521**
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:02	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 21:02	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 21:02	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 21:02	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:02	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 21:02	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 21:02	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*101 %*	*80-124*
Dibromofluoromethane	*100 %*	*75-129*
Toluene-d8	*101 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

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Laboratory Report

09/04/2015

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23A
Prism Sample ID: 5080380-10
Prism Work Order: 5080380
Time Collected: 08/20/15 10:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,4-Dioxane	**17**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/28/15 1:33**	**CGP**	**P5H0527**

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23
Prism Sample ID: 5080380-11
Prism Work Order: 5080380
Time Collected: 08/20/15 11:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Sulfate	**85**	**mg/L**	**1.0**	**0.38**	**1**	***9056A**	**9/1/15 19:59**	**CDL**	**P5I0033**
General Chemistry Parameters									
Nitrate as N	**2.8**	**mg/L**	**0.11**	**0.0071**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CDL**	**[CALC]**
Ferrous Iron	BRL	mg/L	0.20	0.039	1	*SM3500-Fe D	8/21/15 15:30	CDL	P5H0366
Nitrate/Nitrite as N	**2.8**	**mg/L**	**0.10**	**0.0034**	**1**	***SM4500-NO3 F**	**8/25/15 8:44**	**CLB**	**P5H0425**
Nitrite as N	BRL	mg/L	0.010	0.0037	1	*SM4500-NO2 B	8/21/15 11:30	CDL	P5H0469
Total Metals									
Iron	**0.14**	**mg/L**	**0.10**	**0.011**	**1**	***6010C**	**8/25/15 18:27**	**MWW**	**P5H0414**
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,1,1-Trichloroethane	**4.4**	**ug/L**	**0.50**	**0.061**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,1-Dichloroethane	**2.3**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
1,1-Dichloroethylene	**30**	**ug/L**	**0.50**	**0.083**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,2-Dichloroethane	**0.53**	**ug/L**	**0.50**	**0.066**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 21:28	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:28	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 21:28	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 21:28	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:28	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:28	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 21:28	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 21:28	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:28	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:28	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 21:28	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 21:28	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 21:28	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:28	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23
Prism Sample ID: 5080380-11
Prism Work Order: 5080380
Time Collected: 08/20/15 11:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 21:28	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 21:28	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 21:28	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:28	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:28	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 21:28	CGP	P5H0521
Chloroform	**8.8**	**ug/L**	**0.50**	**0.076**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:28	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 21:28	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:28	CGP	P5H0521
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 21:28	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 21:28	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 21:28	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 21:28	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 21:28	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:28	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:28	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 21:28	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 21:28	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 21:28	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 21:28	CGP	P5H0521
Methylene Chloride	BRL	ug/L	1.0	0.083	1	*8260B	8/28/15 21:28	CGP	P5H0521
Methyl-tert-Butyl Ether	**3.8**	**ug/L**	**0.50**	**0.042**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 21:28	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 21:28	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 21:28	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:28	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:28	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 21:28	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 21:28	CGP	P5H0521
Tetrachloroethylene	**1.1**	**ug/L**	**0.50**	**0.098**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:28	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 21:28	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 21:28	CGP	P5H0521
Trichloroethylene	**0.54**	**ug/L**	**0.50**	**0.078**	**1**	***8260B**	**8/28/15 21:28**	**CGP**	**P5H0521**
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:28	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 21:28	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 21:28	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*80-124*
Dibromofluoromethane	*103 %*	*75-129*
Toluene-d8	*101 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: MW-23
Prism Sample ID: 5080380-11
Prism Work Order: 5080380
Time Collected: 08/20/15 11:45
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,4-Dioxane	**18**	**ug/L**	**3.0**	**0.52**	**1**	***8260B SIM**	**8/28/15 2:05**	**CGP**	**P5H0527**

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Field Blank
Prism Sample ID: 5080380-12
Prism Work Order: 5080380
Time Collected: 08/20/15 12:15
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1-Dichloroethane	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1-Dichloroethylene	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 21:55	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:55	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 21:55	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 21:55	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 21:55	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:55	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 21:55	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 21:55	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:55	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 21:55	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 21:55	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 21:55	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 21:55	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:55	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 21:55	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 21:55	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 21:55	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 21:55	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:55	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 21:55	CGP	P5H0521
Chloroform	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:55	CGP	P5H0521
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:55	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 21:55	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 21:55	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Field Blank
Prism Sample ID: 5080380-12
Prism Work Order: 5080380
Time Collected: 08/20/15 12:15
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 21:55	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 21:55	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 21:55	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 21:55	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 21:55	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 21:55	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 21:55	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 21:55	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 21:55	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 21:55	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 21:55	CGP	P5H0521
Methylene Chloride	**2.6**	**ug/L**	**1.0**	**0.083**	**1**	***8260B**	**8/28/15 21:55**	**CGP**	**P5H0521**
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 21:55	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 21:55	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 21:55	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 21:55	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:55	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 21:55	CGP	P5H0521
Styrene	BRL	ug/L	0.50	0.047	1	*8260B	8/28/15 21:55	CGP	P5H0521
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 21:55	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 21:55	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 21:55	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 21:55	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 21:55	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 21:55	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 21:55	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 21:55	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 21:55	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*105 %*	*80-124*
Dibromofluoromethane	*101 %*	*75-129*
Toluene-d8	*100 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 18:03	CGP	P5H0527

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Equipment Blank
Prism Sample ID: 5080380-13
Prism Work Order: 5080380
Time Collected: 08/20/15 12:30
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									H1
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.036	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1-Dichloroethane	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1-Dichloroethylene	BRL	ug/L	0.50	0.083	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,1-Dichloropropylene	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.40	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.14	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.13	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.17	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2-Dibromoethane	BRL	ug/L	0.50	0.051	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2-Dichloroethane	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,2-Dichloropropane	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,3-Dichloropropane	BRL	ug/L	0.50	0.043	1	*8260B	8/28/15 22:21	CGP	P5H0521
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 22:21	CGP	P5H0521
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	*8260B	8/28/15 22:21	CGP	P5H0521
2-Chloroethyl Vinyl Ether	BRL	ug/L	5.0	0.37	1	*8260B	8/28/15 22:21	CGP	P5H0521
2-Chlorotoluene	BRL	ug/L	0.50	0.066	1	*8260B	8/28/15 22:21	CGP	P5H0521
4-Chlorotoluene	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 22:21	CGP	P5H0521
4-Isopropyltoluene	BRL	ug/L	0.50	0.089	1	*8260B	8/28/15 22:21	CGP	P5H0521
Acetone	BRL	ug/L	5.0	0.31	1	*8260B	8/28/15 22:21	CGP	P5H0521
Acrolein	BRL	ug/L	20	0.20	1	*8260B	8/28/15 22:21	CGP	P5H0521
Acrylonitrile	BRL	ug/L	20	0.20	1	*8260B	8/28/15 22:21	CGP	P5H0521
Benzene	BRL	ug/L	0.50	0.048	1	*8260B	8/28/15 22:21	CGP	P5H0521
Bromobenzene	BRL	ug/L	0.50	0.057	1	*8260B	8/28/15 22:21	CGP	P5H0521
Bromochloromethane	BRL	ug/L	0.50	0.14	1	*8260B	8/28/15 22:21	CGP	P5H0521
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 22:21	CGP	P5H0521
Bromoform	BRL	ug/L	1.0	0.040	1	*8260B	8/28/15 22:21	CGP	P5H0521
Bromomethane	BRL	ug/L	1.0	0.18	1	*8260B	8/28/15 22:21	CGP	P5H0521
Carbon disulfide	BRL	ug/L	5.0	0.075	1	*8260B	8/28/15 22:21	CGP	P5H0521
Carbon Tetrachloride	BRL	ug/L	0.50	0.11	1	*8260B	8/28/15 22:21	CGP	P5H0521
Chlorobenzene	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 22:21	CGP	P5H0521
Chloroethane	BRL	ug/L	0.50	0.22	1	*8260B	8/28/15 22:21	CGP	P5H0521
Chloroform	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 22:21	CGP	P5H0521
Chloromethane	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 22:21	CGP	P5H0521
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.056	1	*8260B	8/28/15 22:21	CGP	P5H0521
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.079	1	*8260B	8/28/15 22:21	CGP	P5H0521

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Sample Matrix: Water

Client Sample ID: Equipment Blank
Prism Sample ID: 5080380-13
Prism Work Order: 5080380
Time Collected: 08/20/15 12:30
Time Submitted: 08/20/15 14:43

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.081	1	*8260B	8/28/15 22:21	CGP	P5H0521
Dibromomethane	BRL	ug/L	0.50	0.065	1	*8260B	8/28/15 22:21	CGP	P5H0521
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	*8260B	8/28/15 22:21	CGP	P5H0521
Ethylbenzene	BRL	ug/L	0.50	0.061	1	*8260B	8/28/15 22:21	CGP	P5H0521
Hexachlorobutadiene	BRL	ug/L	2.0	0.16	1	*8260B	8/28/15 22:21	CGP	P5H0521
Isopropyl Ether	BRL	ug/L	0.50	0.050	1	*8260B	8/28/15 22:21	CGP	P5H0521
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.054	1	*8260B	8/28/15 22:21	CGP	P5H0521
m,p-Xylenes	BRL	ug/L	1.0	0.12	1	*8260B	8/28/15 22:21	CGP	P5H0521
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.065	1	*8260B	8/28/15 22:21	CGP	P5H0521
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.24	1	*8260B	8/28/15 22:21	CGP	P5H0521
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.078	1	*8260B	8/28/15 22:21	CGP	P5H0521
Methylene Chloride	**2.8**	**ug/L**	**1.0**	**0.083**	**1**	***8260B**	**8/28/15 22:21**	**CGP**	**P5H0521**
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.042	1	*8260B	8/28/15 22:21	CGP	P5H0521
Naphthalene	BRL	ug/L	1.0	0.19	1	*8260B	8/28/15 22:21	CGP	P5H0521
n-Butylbenzene	BRL	ug/L	1.0	0.076	1	*8260B	8/28/15 22:21	CGP	P5H0521
n-Propylbenzene	BRL	ug/L	0.50	0.087	1	*8260B	8/28/15 22:21	CGP	P5H0521
o-Xylene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 22:21	CGP	P5H0521
sec-Butylbenzene	BRL	ug/L	0.50	0.076	1	*8260B	8/28/15 22:21	CGP	P5H0521
Styrene	**1.4**	**ug/L**	**0.50**	**0.047**	**1**	***8260B**	**8/28/15 22:21**	**CGP**	**P5H0521**
tert-Butylbenzene	BRL	ug/L	0.50	0.088	1	*8260B	8/28/15 22:21	CGP	P5H0521
Tetrachloroethylene	BRL	ug/L	0.50	0.098	1	*8260B	8/28/15 22:21	CGP	P5H0521
Toluene	BRL	ug/L	0.50	0.044	1	*8260B	8/28/15 22:21	CGP	P5H0521
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.094	1	*8260B	8/28/15 22:21	CGP	P5H0521
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.070	1	*8260B	8/28/15 22:21	CGP	P5H0521
Trichloroethylene	BRL	ug/L	0.50	0.078	1	*8260B	8/28/15 22:21	CGP	P5H0521
Trichlorofluoromethane	BRL	ug/L	0.50	0.062	1	*8260B	8/28/15 22:21	CGP	P5H0521
Vinyl acetate	BRL	ug/L	2.0	0.060	1	*8260B	8/28/15 22:21	CGP	P5H0521
Vinyl chloride	BRL	ug/L	0.50	0.097	1	*8260B	8/28/15 22:21	CGP	P5H0521

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*102 %*	*80-124*
Dibromofluoromethane	*106 %*	*75-129*
Toluene-d8	*100 %*	*77-123*

Volatile Organic Compounds by GC/MS SIM

1,4-Dioxane	BRL	ug/L	3.0	0.52	1	*8260B SIM	8/27/15 18:35	CGP	P5H0527

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
Blank (P5H0521-BLK1)				Prepared & Analyzed: 08/28/15						
1,1,1,2-Tetrachloroethane	BRL	0.50	ug/L							
1,1,1-Trichloroethane	BRL	0.50	ug/L							
1,1,2,2-Tetrachloroethane	BRL	0.50	ug/L							
1,1,2-Trichloroethane	BRL	0.50	ug/L							
1,1-Dichloroethane	BRL	0.50	ug/L							
1,1-Dichloroethylene	BRL	0.50	ug/L							
1,1-Dichloropropylene	BRL	0.50	ug/L							
1,2,3-Trichlorobenzene	BRL	2.0	ug/L							
1,2,3-Trichloropropane	BRL	1.0	ug/L							
1,2,4-Trichlorobenzene	BRL	1.0	ug/L							
1,2,4-Trimethylbenzene	BRL	0.50	ug/L							
1,2-Dibromo-3-chloropropane	BRL	2.0	ug/L							
1,2-Dibromoethane	BRL	0.50	ug/L							
1,2-Dichlorobenzene	BRL	0.50	ug/L							
1,2-Dichloroethane	BRL	0.50	ug/L							
1,2-Dichloropropane	BRL	0.50	ug/L							
1,3,5-Trimethylbenzene	BRL	0.50	ug/L							
1,3-Dichlorobenzene	BRL	0.50	ug/L							
1,3-Dichloropropane	BRL	0.50	ug/L							
1,4-Dichlorobenzene	BRL	0.50	ug/L							
2,2-Dichloropropane	BRL	2.0	ug/L							
2-Chloroethyl Vinyl Ether	BRL	5.0	ug/L							
2-Chlorotoluene	BRL	0.50	ug/L							
4-Chlorotoluene	BRL	0.50	ug/L							
4-Isopropyltoluene	BRL	0.50	ug/L							
Acetone	BRL	5.0	ug/L							
Acrolein	BRL	20	ug/L							
Acrylonitrile	BRL	20	ug/L							
Benzene	BRL	0.50	ug/L							
Bromobenzene	BRL	0.50	ug/L							
Bromochloromethane	BRL	0.50	ug/L							
Bromodichloromethane	BRL	0.50	ug/L							
Bromoform	BRL	1.0	ug/L							
Bromomethane	BRL	1.0	ug/L							
Carbon disulfide	BRL	5.0	ug/L							
Carbon Tetrachloride	BRL	0.50	ug/L							
Chlorobenzene	BRL	0.50	ug/L							
Chloroethane	BRL	0.50	ug/L							
Chloroform	BRL	0.50	ug/L							
Chloromethane	BRL	0.50	ug/L							
cis-1,2-Dichloroethylene	BRL	0.50	ug/L							
cis-1,3-Dichloropropylene	BRL	0.50	ug/L							
Dibromochloromethane	BRL	0.50	ug/L							
Dibromomethane	BRL	0.50	ug/L							
Dichlorodifluoromethane	BRL	1.0	ug/L							
Ethylbenzene	BRL	0.50	ug/L							

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3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
Blank (P5H0521-BLK1)				Prepared & Analyzed: 08/28/15						
Hexachlorobutadiene	BRL	2.0	ug/L							
Isopropyl Ether	BRL	0.50	ug/L							
Isopropylbenzene (Cumene)	BRL	0.50	ug/L							
m,p-Xylenes	BRL	1.0	ug/L							
Methyl Butyl Ketone (2-Hexanone)	BRL	5.0	ug/L							
Methyl Ethyl Ketone (2-Butanone)	BRL	5.0	ug/L							
Methyl Isobutyl Ketone	BRL	5.0	ug/L							
Methylene Chloride	BRL	1.0	ug/L							
Methyl-tert-Butyl Ether	BRL	0.50	ug/L							
Naphthalene	BRL	1.0	ug/L							
n-Butylbenzene	BRL	1.0	ug/L							
n-Propylbenzene	BRL	0.50	ug/L							
o-Xylene	BRL	0.50	ug/L							
sec-Butylbenzene	BRL	0.50	ug/L							
Styrene	BRL	0.50	ug/L							
tert-Butylbenzene	BRL	0.50	ug/L							
Tetrachloroethylene	BRL	0.50	ug/L							
Toluene	BRL	0.50	ug/L							
trans-1,2-Dichloroethylene	BRL	0.50	ug/L							
trans-1,3-Dichloropropylene	BRL	0.50	ug/L							
Trichloroethylene	BRL	0.50	ug/L							
Trichlorofluoromethane	BRL	0.50	ug/L							
Vinyl acetate	BRL	2.0	ug/L							
Vinyl chloride	BRL	0.50	ug/L							
Surrogate: 4-Bromofluorobenzene	*52.3*		*ug/L*	*50.00*		*105*	*80-124*			
Surrogate: Dibromofluoromethane	*50.9*		*ug/L*	*50.00*		*102*	*75-129*			
Surrogate: Toluene-d8	*48.5*		*ug/L*	*50.00*		*97*	*77-123*			

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
LCS (P5H0521-BS1)				Prepared & Analyzed: 08/28/15						
1,1,1,2-Tetrachloroethane	20.6	0.50	ug/L	20.00		103	79-134			
1,1,1-Trichloroethane	21.9	0.50	ug/L	20.00		109	75-136			
1,1,2,2-Tetrachloroethane	20.6	0.50	ug/L	20.00		103	62-127			
1,1,2-Trichloroethane	22.1	0.50	ug/L	20.00		110	70-140			
1,1-Dichloroethane	20.9	0.50	ug/L	20.00		105	78-130			
1,1-Dichloroethylene	18.3	0.50	ug/L	20.00		92	70-154			
1,1-Dichloropropylene	20.4	0.50	ug/L	20.00		102	71-136			
1,2,3-Trichlorobenzene	22.7	2.0	ug/L	20.00		113	58-144			
1,2,3-Trichloropropane	20.0	1.0	ug/L	20.00		100	71-127			
1,2,4-Trichlorobenzene	25.0	1.0	ug/L	20.00		125	66-139			
1,2,4-Trimethylbenzene	21.5	0.50	ug/L	20.00		108	75-133			
1,2-Dibromo-3-chloropropane	22.7	2.0	ug/L	20.00		114	63-134			
1,2-Dibromoethane	21.0	0.50	ug/L	20.00		105	77-135			
1,2-Dichlorobenzene	21.4	0.50	ug/L	20.00		107	78-128			
1,2-Dichloroethane	19.0	0.50	ug/L	20.00		95	68-131			
1,2-Dichloropropane	21.4	0.50	ug/L	20.00		107	77-130			
1,3,5-Trimethylbenzene	21.2	0.50	ug/L	20.00		106	75-131			
1,3-Dichlorobenzene	21.0	0.50	ug/L	20.00		105	77-125			
1,3-Dichloropropane	21.0	0.50	ug/L	20.00		105	76-132			
1,4-Dichlorobenzene	20.8	0.50	ug/L	20.00		104	75-126			
2,2-Dichloropropane	24.4	2.0	ug/L	20.00		122	29-149			
2-Chloroethyl Vinyl Ether	21.0	5.0	ug/L	20.00		105	34-144			
2-Chlorotoluene	20.9	0.50	ug/L	20.00		105	74-126			
4-Chlorotoluene	21.0	0.50	ug/L	20.00		105	78-129			
4-Isopropyltoluene	22.5	0.50	ug/L	20.00		112	69-132			
Acetone	37.4	5.0	ug/L	40.00		94	40-166			
Acrolein	27.2	20	ug/L	40.00		68	70-130			L1
Acrylonitrile	40.7	20	ug/L	40.00		102	81-127			
Benzene	21.4	0.50	ug/L	20.00		107	77-128			
Bromobenzene	21.2	0.50	ug/L	20.00		106	78-129			
Bromochloromethane	21.9	0.50	ug/L	20.00		110	78-135			
Bromodichloromethane	20.7	0.50	ug/L	20.00		104	76-138			
Bromoform	19.2	1.0	ug/L	20.00		96	71-135			
Bromomethane	18.5	1.0	ug/L	20.00		93	41-168			
Carbon disulfide	20.7	5.0	ug/L	20.00		104	59-135			
Carbon Tetrachloride	20.3	0.50	ug/L	20.00		102	72-142			
Chlorobenzene	21.0	0.50	ug/L	20.00		105	78-119			
Chloroethane	19.2	0.50	ug/L	20.00		96	57-142			
Chloroform	20.6	0.50	ug/L	20.00		103	77-130			
Chloromethane	21.3	0.50	ug/L	20.00		107	47-145			
cis-1,2-Dichloroethylene	20.6	0.50	ug/L	20.00		103	76-141			
cis-1,3-Dichloropropylene	21.5	0.50	ug/L	20.00		107	65-140			
Dibromochloromethane	20.8	0.50	ug/L	20.00		104	75-134			
Dibromomethane	22.1	0.50	ug/L	20.00		110	76-138			
Dichlorodifluoromethane	30.6	1.0	ug/L	20.00		153	28-163			
Ethylbenzene	21.1	0.50	ug/L	20.00		106	80-127			

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Hart & Hickman (Raleigh)
Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
LCS (P5H0521-BS1)				Prepared & Analyzed: 08/28/15						
Hexachlorobutadiene	24.7	2.0	ug/L	20.00		123	61-134			
Isopropyl Ether	21.2	0.50	ug/L	20.00		106	60-154			
Isopropylbenzene (Cumene)	22.6	0.50	ug/L	20.00		113	70-130			
m,p-Xylenes	41.3	1.0	ug/L	40.00		103	77-133			
Methyl Butyl Ketone (2-Hexanone)	19.6	5.0	ug/L	20.00		98	64-137			
Methyl Ethyl Ketone (2-Butanone)	21.2	5.0	ug/L	20.00		106	71-134			
Methyl Isobutyl Ketone	19.2	5.0	ug/L	20.00		96	69-134			
Methylene Chloride	19.4	1.0	ug/L	20.00		97	73-131			
Methyl-tert-Butyl Ether	20.7	0.50	ug/L	20.00		103	68-135			
Naphthalene	24.2	1.0	ug/L	20.00		121	64-136			
n-Butylbenzene	22.1	1.0	ug/L	20.00		110	68-134			
n-Propylbenzene	22.2	0.50	ug/L	20.00		111	72-132			
o-Xylene	20.9	0.50	ug/L	20.00		104	78-128			
sec-Butylbenzene	21.9	0.50	ug/L	20.00		109	71-131			
Styrene	18.9	0.50	ug/L	20.00		94	78-129			
tert-Butylbenzene	19.8	0.50	ug/L	20.00		99	70-132			
Tetrachloroethylene	21.6	0.50	ug/L	20.00		108	80-129			
Toluene	21.8	0.50	ug/L	20.00		109	76-131			
trans-1,2-Dichloroethylene	21.6	0.50	ug/L	20.00		108	76-135			
trans-1,3-Dichloropropylene	21.5	0.50	ug/L	20.00		108	67-140			
Trichloroethylene	22.3	0.50	ug/L	20.00		111	77-133			
Trichlorofluoromethane	18.2	0.50	ug/L	20.00		91	62-148			
Vinyl acetate	18.6	2.0	ug/L	20.00		93	34-167			
Vinyl chloride	21.6	0.50	ug/L	20.00		108	57-141			
Surrogate: 4-Bromofluorobenzene	*50.8*		*ug/L*	*50.00*		*102*	*80-124*			
Surrogate: Dibromofluoromethane	*49.3*		*ug/L*	*50.00*		*99*	*75-129*			
Surrogate: Toluene-d8	*48.3*		*ug/L*	*50.00*		*97*	*77-123*			

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Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
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Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
LCS Dup (P5H0521-BSD1)				Prepared & Analyzed: 08/28/15						
1,1,1,2-Tetrachloroethane	20.1	0.50	ug/L	20.00		101	79-134	2	20	
1,1,1-Trichloroethane	20.6	0.50	ug/L	20.00		103	75-136	6	20	
1,1,2,2-Tetrachloroethane	20.4	0.50	ug/L	20.00		102	62-127	0.9	20	
1,1,2-Trichloroethane	21.4	0.50	ug/L	20.00		107	70-140	3	20	
1,1-Dichloroethane	20.6	0.50	ug/L	20.00		103	78-130	1	20	
1,1-Dichloroethylene	17.7	0.50	ug/L	20.00		88	70-154	3	20	
1,1-Dichloropropylene	20.0	0.50	ug/L	20.00		100	71-136	2	20	
1,2,3-Trichlorobenzene	25.6	2.0	ug/L	20.00		128	58-144	12	20	
1,2,3-Trichloropropane	19.6	1.0	ug/L	20.00		98	71-127	2	20	
1,2,4-Trichlorobenzene	25.6	1.0	ug/L	20.00		128	66-139	2	20	
1,2,4-Trimethylbenzene	20.5	0.50	ug/L	20.00		103	75-133	5	20	
1,2-Dibromo-3-chloropropane	23.2	2.0	ug/L	20.00		116	63-134	2	20	
1,2-Dibromoethane	21.0	0.50	ug/L	20.00		105	77-135	0.05	20	
1,2-Dichlorobenzene	20.6	0.50	ug/L	20.00		103	78-128	4	20	
1,2-Dichloroethane	18.8	0.50	ug/L	20.00		94	68-131	1	20	
1,2-Dichloropropane	20.9	0.50	ug/L	20.00		105	77-130	2	20	
1,3,5-Trimethylbenzene	20.4	0.50	ug/L	20.00		102	75-131	4	20	
1,3-Dichlorobenzene	20.4	0.50	ug/L	20.00		102	77-125	3	20	
1,3-Dichloropropane	21.3	0.50	ug/L	20.00		106	76-132	1	20	
1,4-Dichlorobenzene	20.2	0.50	ug/L	20.00		101	75-126	3	20	
2,2-Dichloropropane	23.2	2.0	ug/L	20.00		116	29-149	5	20	
2-Chloroethyl Vinyl Ether	20.4	5.0	ug/L	20.00		102	34-144	3	20	
2-Chlorotoluene	20.0	0.50	ug/L	20.00		100	74-126	5	20	
4-Chlorotoluene	20.5	0.50	ug/L	20.00		102	78-129	3	20	
4-Isopropyltoluene	21.4	0.50	ug/L	20.00		107	69-132	5	20	
Acetone	39.8	5.0	ug/L	40.00		100	40-166	6	20	
Acrolein	28.1	20	ug/L	40.00		70	70-130	3	20	
Acrylonitrile	41.9	20	ug/L	40.00		105	81-127	3	20	
Benzene	21.2	0.50	ug/L	20.00		106	77-128	1	20	
Bromobenzene	20.1	0.50	ug/L	20.00		100	78-129	5	20	
Bromochloromethane	21.1	0.50	ug/L	20.00		105	78-135	4	20	
Bromodichloromethane	20.7	0.50	ug/L	20.00		104	76-138	0.1	20	
Bromoform	19.3	1.0	ug/L	20.00		97	71-135	0.6	20	
Bromomethane	18.6	1.0	ug/L	20.00		93	41-168	0.3	20	
Carbon disulfide	19.8	5.0	ug/L	20.00		99	59-135	5	20	
Carbon Tetrachloride	19.8	0.50	ug/L	20.00		99	72-142	2	20	
Chlorobenzene	20.4	0.50	ug/L	20.00		102	78-119	3	20	
Chloroethane	18.5	0.50	ug/L	20.00		92	57-142	4	20	
Chloroform	20.6	0.50	ug/L	20.00		103	77-130	0.2	20	
Chloromethane	20.5	0.50	ug/L	20.00		102	47-145	4	20	
cis-1,2-Dichloroethylene	20.2	0.50	ug/L	20.00		101	76-141	2	20	
cis-1,3-Dichloropropylene	21.5	0.50	ug/L	20.00		107	65-140	0	20	
Dibromochloromethane	21.0	0.50	ug/L	20.00		105	75-134	1	20	
Dibromomethane	21.2	0.50	ug/L	20.00		106	76-138	4	20	
Dichlorodifluoromethane	29.0	1.0	ug/L	20.00		145	28-163	6	20	
Ethylbenzene	20.8	0.50	ug/L	20.00		104	80-127	2	20	

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Hart & Hickman (Raleigh)
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3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0521 - 5030B										
LCS Dup (P5H0521-BSD1)				Prepared & Analyzed: 08/28/15						
Hexachlorobutadiene	24.7	2.0	ug/L	20.00		124	61-134	0.1	20	
Isopropyl Ether	21.2	0.50	ug/L	20.00		106	60-154	0.3	20	
Isopropylbenzene (Cumene)	21.3	0.50	ug/L	20.00		107	70-130	6	20	
m,p-Xylenes	40.6	1.0	ug/L	40.00		102	77-133	2	20	
Methyl Butyl Ketone (2-Hexanone)	20.6	5.0	ug/L	20.00		103	64-137	5	20	
Methyl Ethyl Ketone (2-Butanone)	19.7	5.0	ug/L	20.00		99	71-134	7	20	
Methyl Isobutyl Ketone	19.7	5.0	ug/L	20.00		98	69-134	3	20	
Methylene Chloride	19.0	1.0	ug/L	20.00		95	73-131	2	20	
Methyl-tert-Butyl Ether	20.5	0.50	ug/L	20.00		102	68-135	1	20	
Naphthalene	26.4	1.0	ug/L	20.00		132	64-136	9	20	
n-Butylbenzene	21.2	1.0	ug/L	20.00		106	68-134	4	20	
n-Propylbenzene	21.2	0.50	ug/L	20.00		106	72-132	4	20	
o-Xylene	20.9	0.50	ug/L	20.00		104	78-128	0.1	20	
sec-Butylbenzene	20.8	0.50	ug/L	20.00		104	71-131	5	20	
Styrene	18.9	0.50	ug/L	20.00		94	78-129	0	20	
tert-Butylbenzene	19.0	0.50	ug/L	20.00		95	70-132	4	20	
Tetrachloroethylene	21.1	0.50	ug/L	20.00		105	80-129	2	20	
Toluene	21.1	0.50	ug/L	20.00		105	76-131	3	20	
trans-1,2-Dichloroethylene	21.0	0.50	ug/L	20.00		105	76-135	3	20	
trans-1,3-Dichloropropylene	21.5	0.50	ug/L	20.00		107	67-140	0.2	20	
Trichloroethylene	21.8	0.50	ug/L	20.00		109	77-133	2	20	
Trichlorofluoromethane	17.5	0.50	ug/L	20.00		88	62-148	4	20	
Vinyl acetate	18.8	2.0	ug/L	20.00		94	34-167	0.7	20	
Vinyl chloride	20.7	0.50	ug/L	20.00		103	57-141	4	20	
Surrogate: 4-Bromofluorobenzene	*48.9*		*ug/L*	*50.00*		*98*	*80-124*			
Surrogate: Dibromofluoromethane	*49.0*		*ug/L*	*50.00*		*98*	*75-129*			
Surrogate: Toluene-d8	*49.1*		*ug/L*	*50.00*		*98*	*77-123*			

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Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
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Volatile Organic Compounds by GC/MS SIM - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0527 - 5030B										
Blank (P5H0527-BLK1)				Prepared & Analyzed: 08/27/15						
1,4-Dioxane	BRL	3.0	ug/L							
LCS (P5H0527-BS1)				Prepared & Analyzed: 08/27/15						
1,4-Dioxane	42.9	3.0	ug/L	50.00		86	55-145			
LCS Dup (P5H0527-BSD1)				Prepared & Analyzed: 08/27/15						
1,4-Dioxane	48.9	3.0	ug/L	50.00		98	55-145	13	30	
Matrix Spike (P5H0527-MS1)		**Source: 5080380-01**		Prepared: 08/27/15 Analyzed: 08/28/15						
1,4-Dioxane	47.6	3.0	ug/L	50.00	BRL	95	55-145			
Matrix Spike Dup (P5H0527-MSD1)		**Source: 5080380-01**		Prepared: 08/27/15 Analyzed: 08/28/15						
1,4-Dioxane	49.0	3.0	ug/L	50.00	BRL	98	55-145	3	30	

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Prism Work Order: 5080380
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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0414 - 3010A										
Blank (P5H0414-BLK1)				Prepared & Analyzed: 08/25/15						
Iron	BRL	0.10	mg/L							
LCS (P5H0414-BS1)				Prepared & Analyzed: 08/25/15						
Iron	5.01	0.10	mg/L	5.000		100	80-120			
Matrix Spike (P5H0414-MS1)		**Source: 5080380-01**		Prepared & Analyzed: 08/25/15						
Iron	5.54	0.10	mg/L	5.000	0.471	101	75-125			
Matrix Spike Dup (P5H0414-MSD1)		**Source: 5080380-01**		Prepared & Analyzed: 08/25/15						
Iron	5.71	0.10	mg/L	5.000	0.471	105	75-125	3	20	

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Hart & Hickman (Raleigh)
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3334 Hillsborough St.
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Project: AB Carter ABC.021

Prism Work Order: 5080380
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Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5I0033 - NO PREP										
Blank (P5I0033-BLK1)				Prepared & Analyzed: 09/01/15						
Sulfate	BRL	1.0	mg/L							
LCS (P5I0033-BS1)				Prepared & Analyzed: 09/01/15						
Sulfate	39.6	1.0	mg/L	40.32		98	80-120			

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Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0366 - NO PREP										
Blank (P5H0366-BLK1)				Prepared & Analyzed: 08/21/15						
Ferrous Iron	BRL	0.20	mg/L							
LCS (P5H0366-BS1)				Prepared & Analyzed: 08/21/15						
Ferrous Iron	2.04	0.20	mg/L	2.000		102	90-110			
Matrix Spike (P5H0366-MS1)		**Source: 5080380-11**		Prepared & Analyzed: 08/21/15						
Ferrous Iron	1.70	0.20	mg/L	2.000	BRL	85	80-120			
Matrix Spike Dup (P5H0366-MSD1)		**Source: 5080380-11**		Prepared & Analyzed: 08/21/15						
Ferrous Iron	1.67	0.20	mg/L	2.000	BRL	84	80-120	2	20	
Batch P5H0425 - NO PREP										
Blank (P5H0425-BLK1)				Prepared & Analyzed: 08/25/15						
Nitrate/Nitrite as N	BRL	0.10	mg/L							
LCS (P5H0425-BS1)				Prepared & Analyzed: 08/25/15						
Nitrate/Nitrite as N	1.04	0.10	mg/L	1.000		104	90-110			
Batch P5H0469 - NO PREP										
Blank (P5H0469-BLK1)				Prepared & Analyzed: 08/21/15						
Nitrite as N	BRL	0.010	mg/L							
LCS (P5H0469-BS1)				Prepared & Analyzed: 08/21/15						
Nitrite as N	0.102	0.010	mg/L	0.1000		102	90-110			

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Attn: Leonard C. Moretz, L.G., RSM
3334 Hillsborough St.
Raleigh, NC 27607

Project: AB Carter ABC.021

Prism Work Order: 5080380
Time Submitted: 8/20/2015 2:43:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P5H0469 - NO PREP										
Matrix Spike (P5H0469-MS1)		**Source: 5080380-05**		Prepared & Analyzed: 08/21/15						
Nitrite as N	0.101	0.010	mg/L	0.1111	BRL	91	80-120			
Matrix Spike Dup (P5H0469-MSD1)		**Source: 5080380-05**		Prepared & Analyzed: 08/21/15						
Nitrite as N	0.100	0.010	mg/L	0.1111	BRL	90	80-120	0.3	20	

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Sample Extraction Data

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
5080380-01	P5H0414	50 mL	50 mL	08/25/15 8:15
5080380-02	P5H0414	50 mL	50 mL	08/25/15 8:15
5080380-05	P5H0414	50 mL	50 mL	08/25/15 8:15
5080380-10	P5H0414	50 mL	50 mL	08/25/15 8:15
5080380-11	P5H0414	50 mL	50 mL	08/25/15 8:15

Prep Method: 5030B

Lab Number	Batch	Initial	Final	Date/Time
5080380-01	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-02	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-03	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-04	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-05	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-06	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-07	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-08	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-09	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-10	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-11	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-12	P5H0521	10 mL	10 mL	08/28/15 15:38
5080380-13	P5H0521	10 mL	10 mL	08/28/15 15:38

Prep Method: 5030B

Lab Number	Batch	Initial	Final	Date/Time
5080380-01	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-02	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-03	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-04	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-05	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-06	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-07	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-08	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-09	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-10	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-11	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-12	P5H0527	10 mL	10 mL	08/27/15 17:29
5080380-13	P5H0527	10 mL	10 mL	08/27/15 17:29

Subcontracted Analyses

The following analyses were subcontracted to Gulf Coast Analytical Labs , Inc.

Lab Number	Analysis
5080380-01	RSK175 (Sub)
5080380-01	TOC (Sub)
5080380-02	RSK175 (Sub)
5080380-02	TOC (Sub)
5080380-05	RSK175 (Sub)
5080380-05	TOC (Sub)
5080380-10	RSK175 (Sub)
5080380-10	TOC (Sub)
5080380-11	RSK175 (Sub)
5080380-11	TOC (Sub)

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CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

Project Name: ABC.021
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: Cynthia Wells
Address: 2923 S Tryon Street Suite 100 Charlotte NC 28203
Purchase Order No./Billing Reference _____
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
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Client Company Name: Hart & Hickman, PC
Report To/Contact Name: Leo Moretz
Reporting Address: 3334 Hillsborough St Raleigh, NC 27607
Phone: 919.847.4241 Fax (Yes) (No): _____
Email Address: LMoretz@harthickman.com
EDD Type: PDF X Excel ___ Other _____
Site Location Name: AB Carter
Site Location Physical Address: Gastonia, NC

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	X		
Received ON WET ICE?	X		
PROPER PRESERVATIVES indicated?	X		
Received WITHIN HOLDING TIMES?	~~X~~ X		
CUSTODY SEALS INTACT?			X
VOLATILES rec'd W/OUT HEADSPACE?	X		
PROPER CONTAINERS used?	X		

TEMP: Therm ID: IR-1d Observed: 5.4 °C / Corr: 4.2 °C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC___ DoD___ FL___ NC X SC___ OTHER___ N/A___
Water Chlorinated: YES___ NO X
Sample Iced Upon Collection: YES X NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	8260	14-Dioxane SIM	TOC	Iron	Ferrous Iron	MEE	Sulfate Nitrate	REMARKS	PRISM LAB ID NO.
MW-25	8/18/15	12:00	WATER	VOA, P	15	Varies	Varies	X	X	X	X	X	X	X	*SIM- low detection Method	01
MW-24	↓	13:05	↓	↓	15	↓	↓	X	X	X	X	X	X	X		02
MW-18	↓	14:45	↓	VOA	7	↓	↓	X	X							03
MW-9	↓	16:15	↓	↓	7	↓	↓	X	X							04
PM-1	8/19/15	11:40	↓	VOA, P	15	↓	↓	X	X	X	X	X	X	X		05
MW-22	↓	12:20	↓	VOA	7	↓	↓	X	X							06
Duplicate	↓	X	↓	↓	7	↓	↓	X	X							07
MW-8	8/20/15	09:10	↓	↓	7	↓	↓	X	X							08
MW-16A	↓	10:00	↓	↓	7	↓	↓	X	X							09
MW-23A	↓	10:45	↓	VOA, P	15	↓	↓	X	X	X	X	X	X	X		10

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature [signature] Sampled By (Print Name) Kenneth Windsand Affiliation H&H

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature)	Received By: (Signature)	Date	Military/Hours
[signature]		8/20/15	14:43
Relinquished By: (Signature)	Received By: (Signature)	Date	
Relinquished By: (Signature)	Received For Prism Laboratories By: [signature]	Date 8-20-15	1443

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.
☐ Fed Ex ☐ UPS X Hand-delivered ☐ Prism Field Service ☐ Other _____
COC Group No. 5080380

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

DES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC	☐ NC ☐ SC	X NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
☐	☐	☐	☐	☐	☐	☐	☐	☐

CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • Charlotte, NC 28217
Phone 704/529-6364 • Fax: 704/525-0409

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2 QUOTE # TO ENSURE PROPER BILLING: _____

Client Company Name: Hart & Hickman PC
Report To/Contact Name: Leo Moretz
Reporting Address: 3334 Hillsborough St
Raleigh, NC 27607
Phone: 919.847.4241 Fax (Yes) (No): _____
Email Address: LMoretz@hart-hickman.com
EDD Type: PDF X Excel ___ Other _____
Site Location Name: AB Carter
Site Location Physical Address: Gastonia NC

Project Name: ABC021
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (NO)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To: Cynthia Wells → H&H
Address: 2923 S. Tryon St Suite 100
Charlotte NC 28203
Purchase Order No./Billing Reference _____
Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days (5 Days)
"Working Days" ☐ 6-9 Days ☐ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 14:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival?	X		
Received ON WET ICE?	X		
PROPER PRESERVATIVES indicated?	X		
Received WITHIN HOLDING TIMES?	X		
CUSTODY SEALS INTACT?			X
VOLATILES rec'd W/OUT HEADSPACE?	X		
PROPER CONTAINERS used?	X		

TEMP: Therm ID: DT-10 Observed: 5.4 °C / Corr: 4.6 °C

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
Certification: NELAC ___ DoD ___ FL ___ NC X
SC ___ OTHER ___ N/A ___
Water Chlorinated: YES ___ NO X
Sample Iced Upon Collection: YES X NO ___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	8260	1,4-dioxane SIM*	TOC	Iron	Ferrous Iron	M, Z, E	Sulfate Nitrate	REMARKS	PRISM LAB ID NO.
MW-23	8/20/15	11:45	WATER	8, VOA	15	Varies ~~40ml VOA~~	Varies	X	X	X	X	X	X	X	*SIM-Low Detection Method	11
Field Blank	↓	12:15	↓	VOA	7	↓	↓	X	X							12
Equipment Blank	↓	12:30	↓	↓	7	↓	↓	X	X							13

Sampler's Signature [signature] Sampled By (Print Name) Kenneth Windsand Affiliation H&H

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature)	Received By: (Signature)	Date	Military/Hours
[signature]		8/20/15	14:43
Relinquished By: (Signature)	Received By: (Signature)	Date	
uished By: (Signature)	Received For Prism Laboratories By: [signature]	Date 8-20-15	1443

d of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.
d Ex ☐ UPS X Hand-delivered ☐ Prism Field Service ☐ Other _____
COC Group No. 5080380

Additional Comments:

PRISM USE ONLY
Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

ES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
C ☐ SC	☐ NC ☐ SC	X NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC	☐ NC ☐ SC
	☐	☐	☐	☐	☐	☐	☐	☐

SEE REVERSE FOR TERMS & CONDITIONS

*CONTAINER TYPE CODES: A = Amber C = Clear G= Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

ORIGINAL

ACCESS
ANALYTICAL, INC.

ANALYTICAL REPORT

CLIENT
Prism Laboratories Inc.
PO BOX 240543
Charlotte, NC 28224

ATTENTION
Robbi Jones

PROJECT ID
5080380

LABORATORY REPORT NUMBER
215082509

DATE
09/01/2015

Primary Data Review By

Robyn Migues

Authorized Signature

Secondary Data Review By

Ashley B. Amick
Project Manager, Access Analytical, Inc.
aamick@accessanalyticalinc.com

PLEASE NOTE:

- **Unless otherwise noted, all analysis on this report performed at Gulf Coast Analytical Labs (GCAL), 7979 Innovation Park Dr., Baton Rouge, LA 70820.**
- **GCAL is SCDHEC certified laboratory # 73006, NCDENR certified lab # 618, GA certified lab # LA-01955, NELAP certified laboratory # 01955**
- Local support services for this project are provided by Access Analytical, Inc.. Access Analytical is a representative of GCAL serving clients in the SC/NC/GA areas. All questions regarding this report should be directed to your local Access Analytical representative at 803.781.4243 or toll free at 888.315.4243.

GCAL
ANALYTICAL LABORATORIES, LLC

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 09/01/2015

GCAL Report 215082509

Project 5080380

Deliver To Robbi Jones Prism Laboratories Inc. PO BOX 240543 Charlotte, NC 28224 706-529-6364

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Robyn Migues

Authorized Signature
GCAL Report 215082509

Case Narrative

Client: Access Analytical **Report:** 215082509

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found in the analyzed sample(s).

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21508250901	MW-25	Water	08/18/2015 12:00	08/25/2015 10:15
21508250902	MW-24	Water	08/18/2015 13:05	08/25/2015 10:15
21508250903	PM-1	Water	08/19/2015 11:40	08/25/2015 10:15
21508250904	MW-23A	Water	08/20/2015 10:45	08/25/2015 10:15
21508250905	MW-23	Water	08/20/2015 11:45	08/25/2015 10:15

Summary of Compounds Detected

No analytes were detected for analyses performed by GCAL.

Sample Results

MW-25	Collect Date	08/18/2015 12:00	GCAL ID	21508250901
	Receive Date	08/25/2015 10:15	Matrix	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/31/2015 09:36	BMR	566592

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	30	ug/L	74	40 - 143

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/27/2015 11:56	JEM	566358

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

MW-24	Collect Date	08/18/2015 13:05	GCAL ID	21508250902
	Receive Date	08/25/2015 10:15	Matrix	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/31/2015 09:43	BMR	566592

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.9	ug/L	71	40 - 143

Sample Results

MW-24

Collect Date	08/18/2015 13:05	**GCAL ID**	21508250902
Receive Date	08/25/2015 10:15	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/27/2015 13:17	JEM	566358

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

PM-1

Collect Date	08/19/2015 11:40	**GCAL ID**	21508250903
Receive Date	08/25/2015 10:15	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/31/2015 09:49	BMR	566592

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	32	ug/L	79	40 - 143

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/27/2015 13:45	JEM	566358

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

Sample Results

MW-23A	**Collect Date**	08/20/2015 10:45	**GCAL ID**	21508250904
	Receive Date	08/25/2015 10:15	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/31/2015 10:03	BMR	566592

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	33.2	ug/L	82	40 - 143

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/27/2015 14:19	JEM	566358

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

MW-23	**Collect Date**	08/20/2015 11:45	**GCAL ID**	21508250905
	Receive Date	08/25/2015 10:15	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/31/2015 10:10	BMR	566592

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	35.4	ug/L	87	40 - 143

Sample Results

MW-23				
	Collect Date	08/20/2015 11:45	**GCAL ID**	21508250905
	Receive Date	08/25/2015 10:15	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	08/27/2015 14:44	JEM	566358

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

GC Volatiles QC Summary

Analytical Batch 566592	Client ID	MB566592		LCS566592				LCSD566592				
	GCAL ID	1482033		1482034				1482035				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	08/31/2015 08:44		08/31/2015 08:53				08/31/2015 08:59				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Methane	74-82-8	0.435U	0.435	17.5	15.6	89	39 - 120	17.5	14.3	82	9	27
Ethene	74-85-1	0.150U	0.150	3.06	2.79	91	45 - 134	3.06	2.50	82	11	25
Ethane	74-84-0	0.110U	0.110	3.28	3.13	95	45 - 128	3.28	2.84	87	10	29
Surrogate												
Propene	115-07-1	31.9	79	40.5	27.2	67	40 - 143	40.5	24.8	61	9	NA

General Chemistry QC Summary

Analytical Batch 566358	Client ID	MB566358		LCS566358			
	GCAL ID	1480864		1480865			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	08/27/2015 11:32		08/27/2015 10:26			
	Matrix	Water		Water			
EPA 9060A		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	53.4	107	80 - 120

Analytical Batch 566358	Client ID	MW-25		1480019MS				1480019MSD				
	GCAL ID	21508250901		1480866				1480867				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	08/27/2015 11:56		08/27/2015 12:22				08/27/2015 12:52				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.00	0.30	50.0	54.9	110	75 - 125	50.0	56.0	112	2	25

Client ID: 4565 - Access Analytical

SDG: 215082509

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

SUBCONTRACT ORDER

Prism Laboratories, Inc.

5080380

Certification: NELAC___ USACE___
NC ✓ SC___ Other___
N/A___

SENDING LABORATORY:

Prism Laboratories, Inc.
P. O. Box 240543
Charlotte, NC 28224-0543
Phone: 800-529-6364
Fax: 704-525-0409
Project Manager: Robbi A. Jones

RECEIVING LABORATORY:

Gulf Coast Analytical Labs, Inc.
7979 GSRI Avenue
Baton Rouge, LA 70820
Phone :(225) 769-4900
Fax: (225) 767-5717

Please report on 9/1

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 5080380-01	Water	Sampled:08/18/15 12:00	MW-25	-1
TOC (Sub)		09/15/15 12:00		REPORT METHOD 9060
RSK175 (Sub)		09/01/15 12:00		
Containers Supplied:				
Sample ID: 5080380-02	Water	Sampled:08/18/15 13:05	MW-24	-2
TOC (Sub)		09/15/15 13:05		REPORT METHOD 9060
RSK175 (Sub)		09/01/15 13:05		
Containers Supplied:				
Sample ID: 5080380-05	Water	Sampled:08/19/15 11:40	PM-1	-3
TOC (Sub)		09/16/15 11:40		REPORT METHOD 9060
RSK175 (Sub)		09/02/15 11:40		
Containers Supplied:				
Sample ID: 5080380-10	Water	Sampled:08/20/15 10:45	MW-23A	-4
TOC (Sub)		09/17/15 10:45		REPORT METHOD 9060
RSK175 (Sub)		09/03/15 10:45		
Containers Supplied:				

Released By	Date	Received By	Date
[signature]	8/24/15	Ed G	8/24/15
Ed G	8/25/15	Natie Tolton / GCAL	8-25-15 10:15

SUBCONTRACT ORDER

Prism Laboratories, Inc.

5080380

Certification: NELAC___ USACE___
NC ✓ SC___ Other _____
N/A_____

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 5080380-11	Water	Sampled:08/20/15 11:45	MW-23	-5
TOC (Sub)		09/17/15 11:45		REPORT METHOD 9060
RSK175 (Sub)		09/03/15 11:45		

Containers Supplied:

7743 5253 0475 1.0 E26

Released By	Date	Received By	Date
[signature]	8/24/15	Fed Ex	8/24/15
Fed Ex	8/25/15	Natti Jalton GCAL	8-25-15 10:15

Page 2 of 2

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215082509

SAMPLE DELIVERY GROUP 215082509

Client PM SAK 4565 - Access Analytical	**Transport Method** FEDEX
Profile Number 80255	**Received By** Lofton, Katie E.
Line Item(s) 7 - RSK/TOC/9060	**Receive Date(s)** 08/25/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☐	☑	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑	☐	☐

COOLERS

Airbill	Thermometer ID: E26	Temp(°C)
7743 5253 0475		1.0

DISCREPANCIES

None

LAB PRESERVATIONS

None

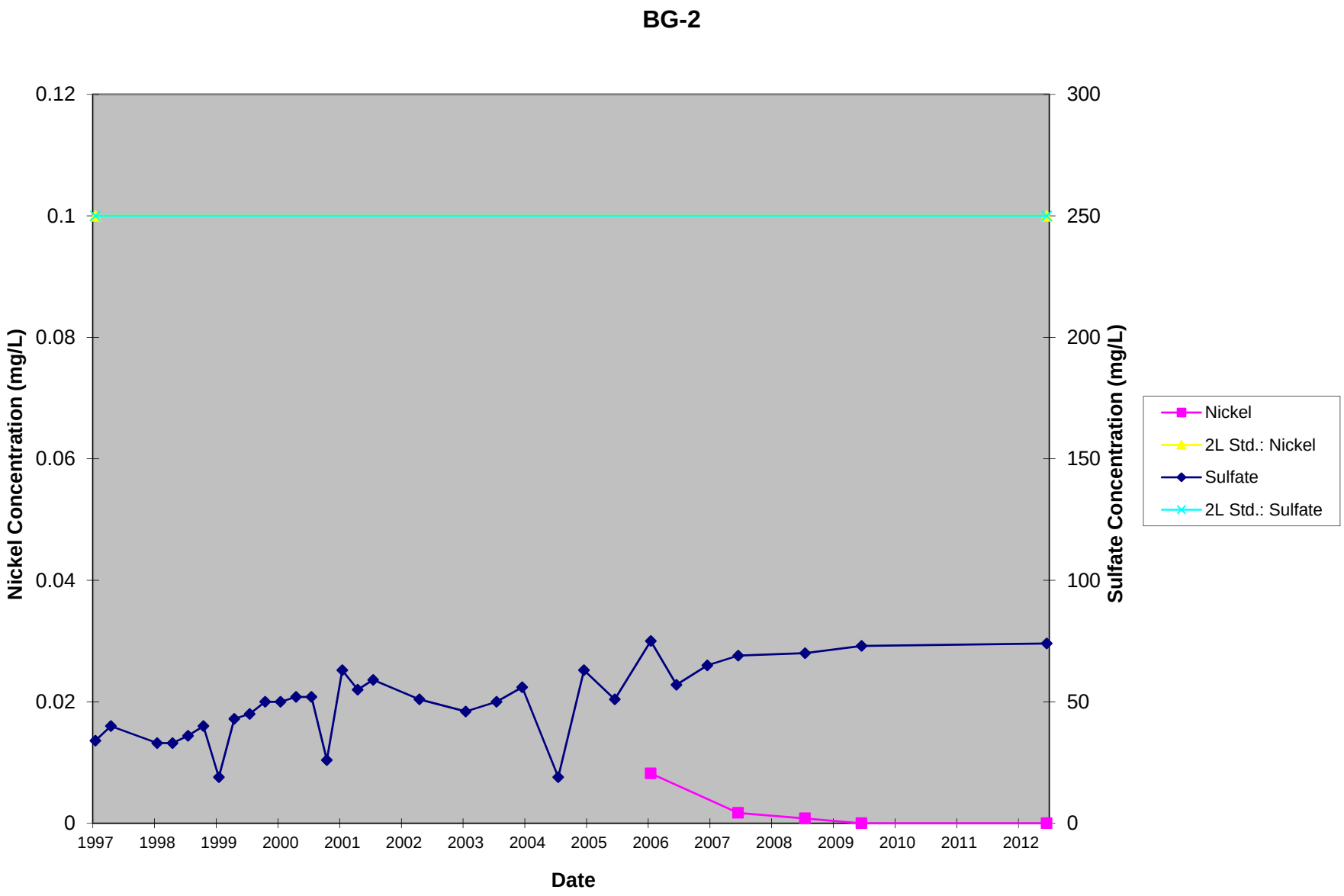
NOTES

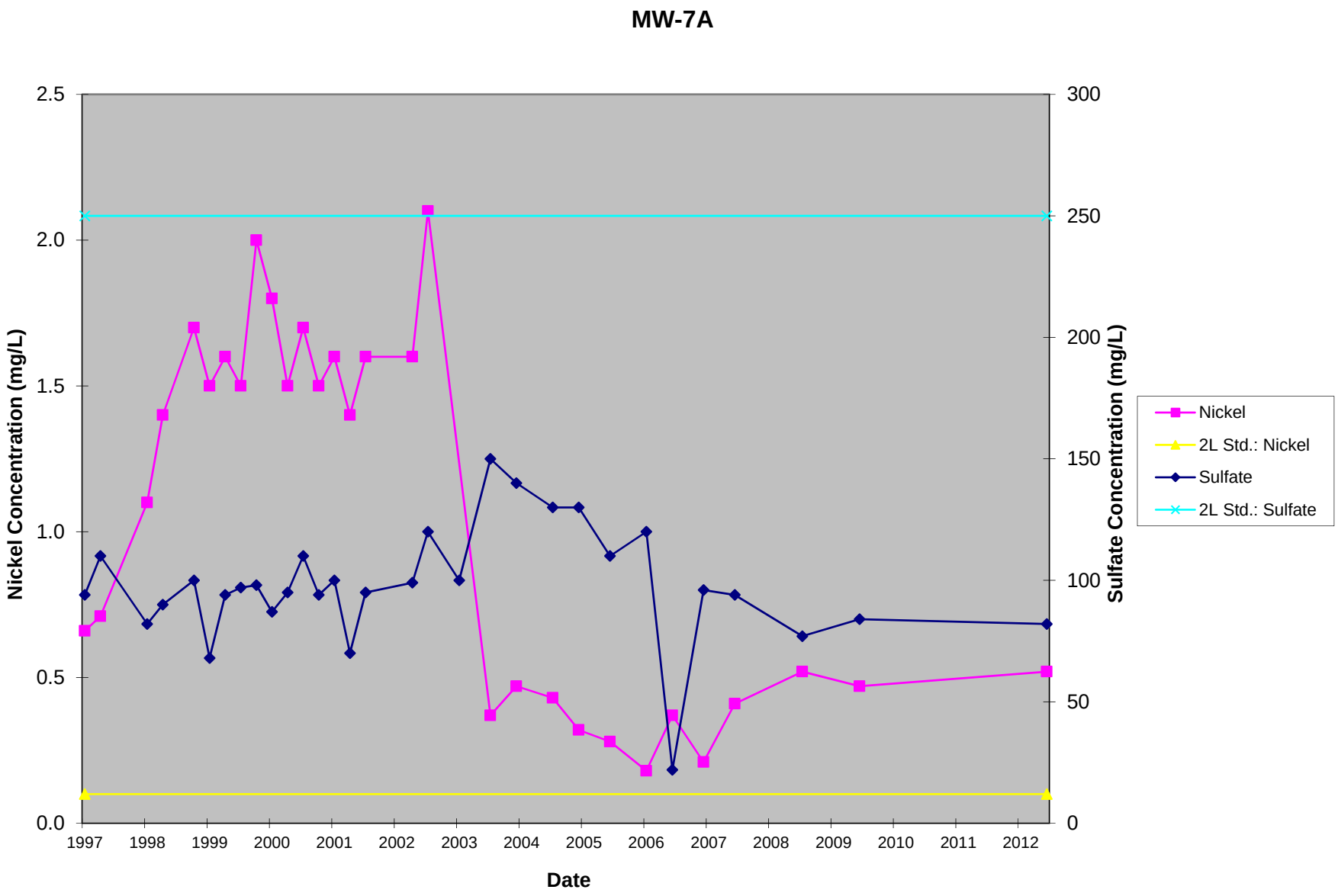
Revision 1.4

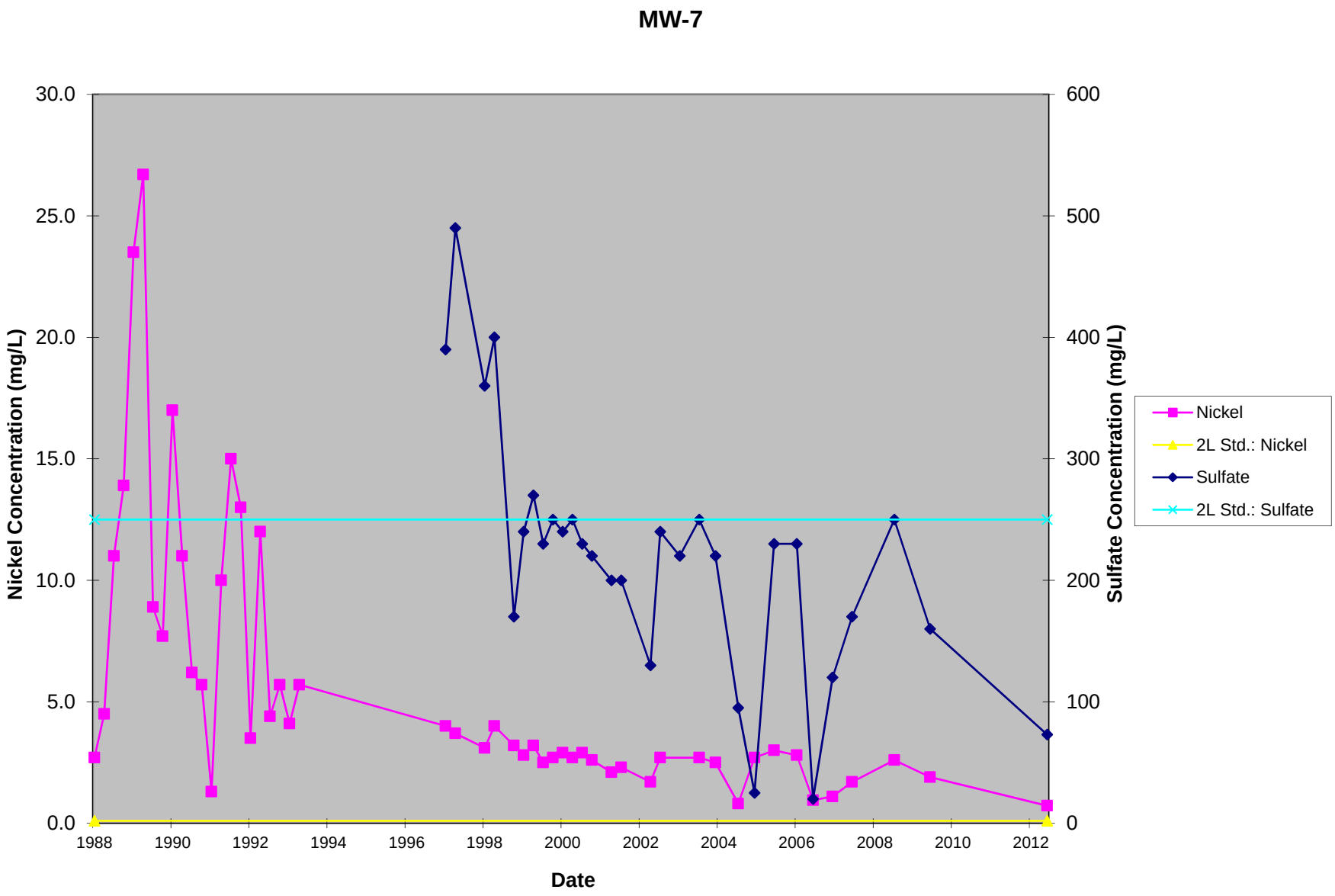
Page 1 of 1

Appendix D

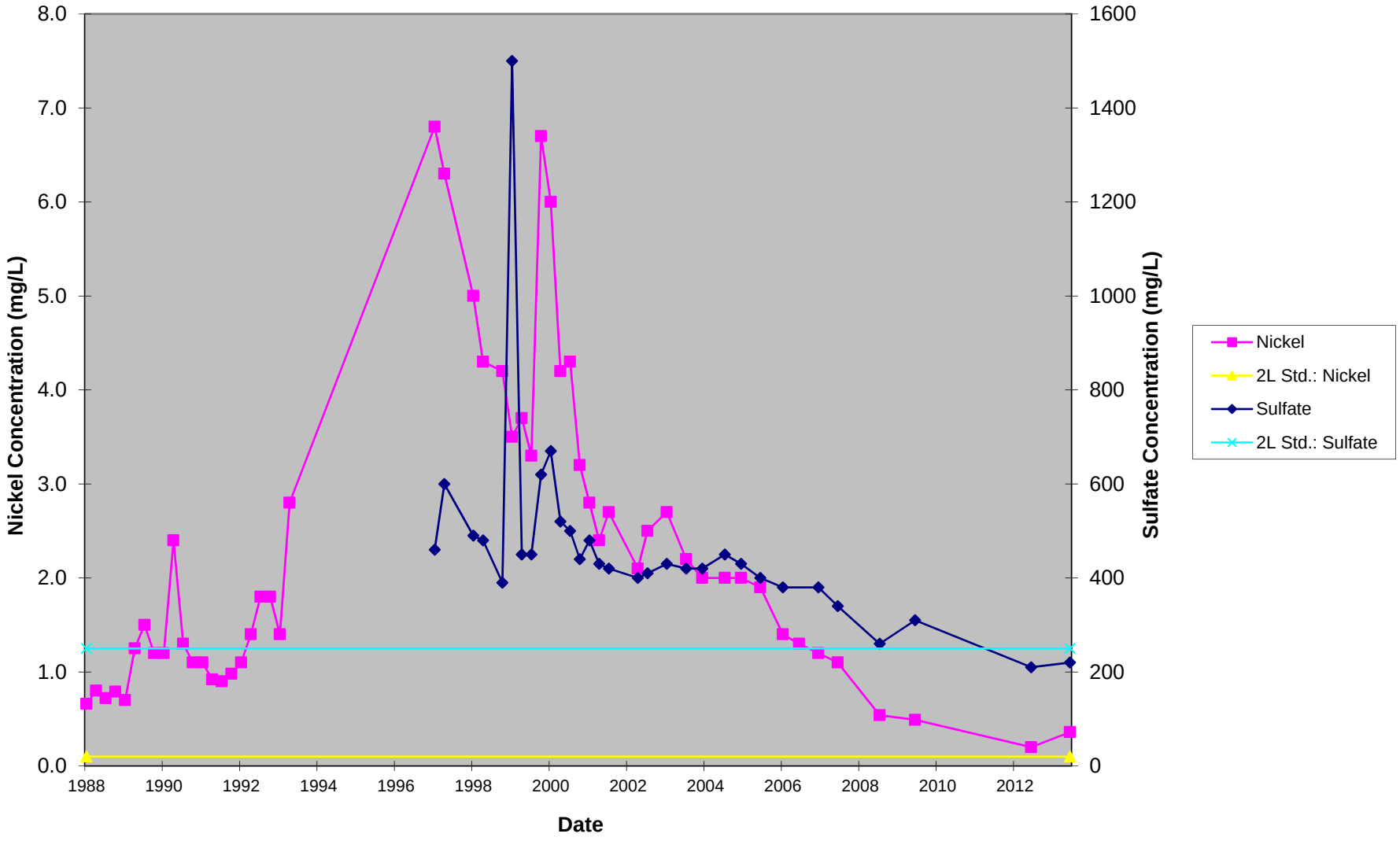
Contaminant Concentration Trend Graphs

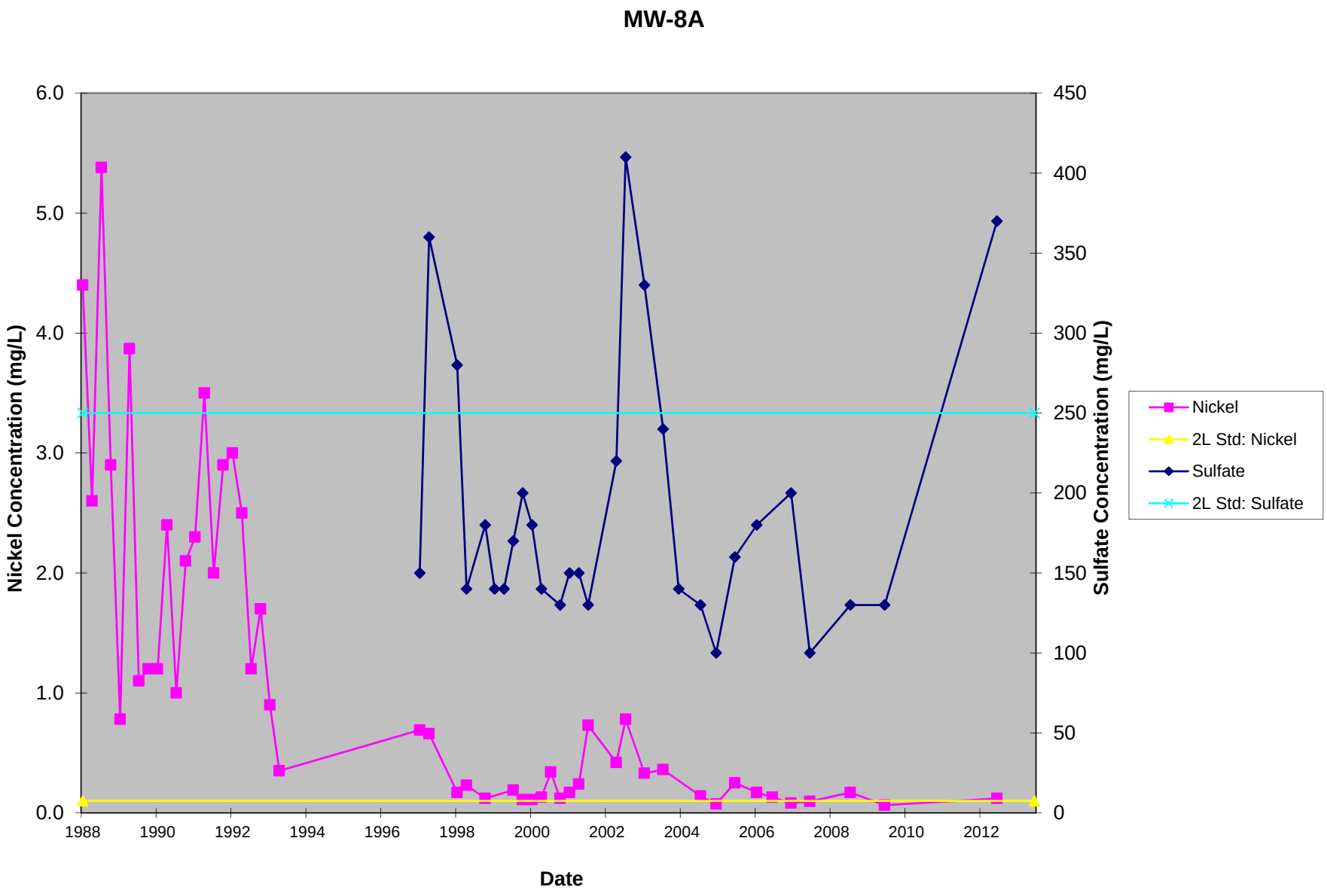

BG-2
0.12
0.1
0.08
0.06
0.04
0.02
0
Nickel Concentration (mg/L)
300
250
200
150
100
50
0
Sulfate Concentration (mg/L)
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Date
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

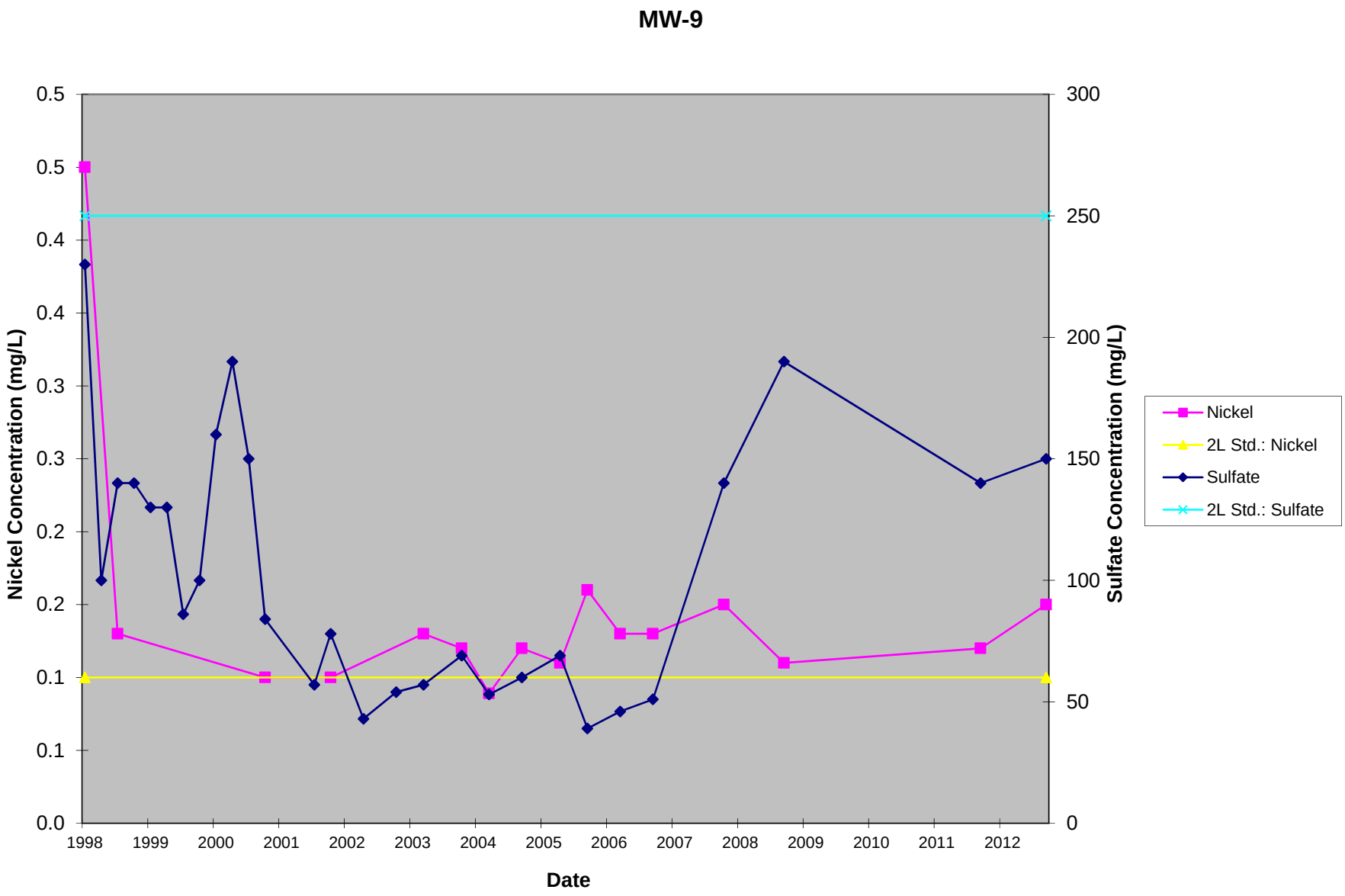

MW-7A
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
2.5
2.0
1.5
1.0
0.5
0.0
300
250
200
150
100
50
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

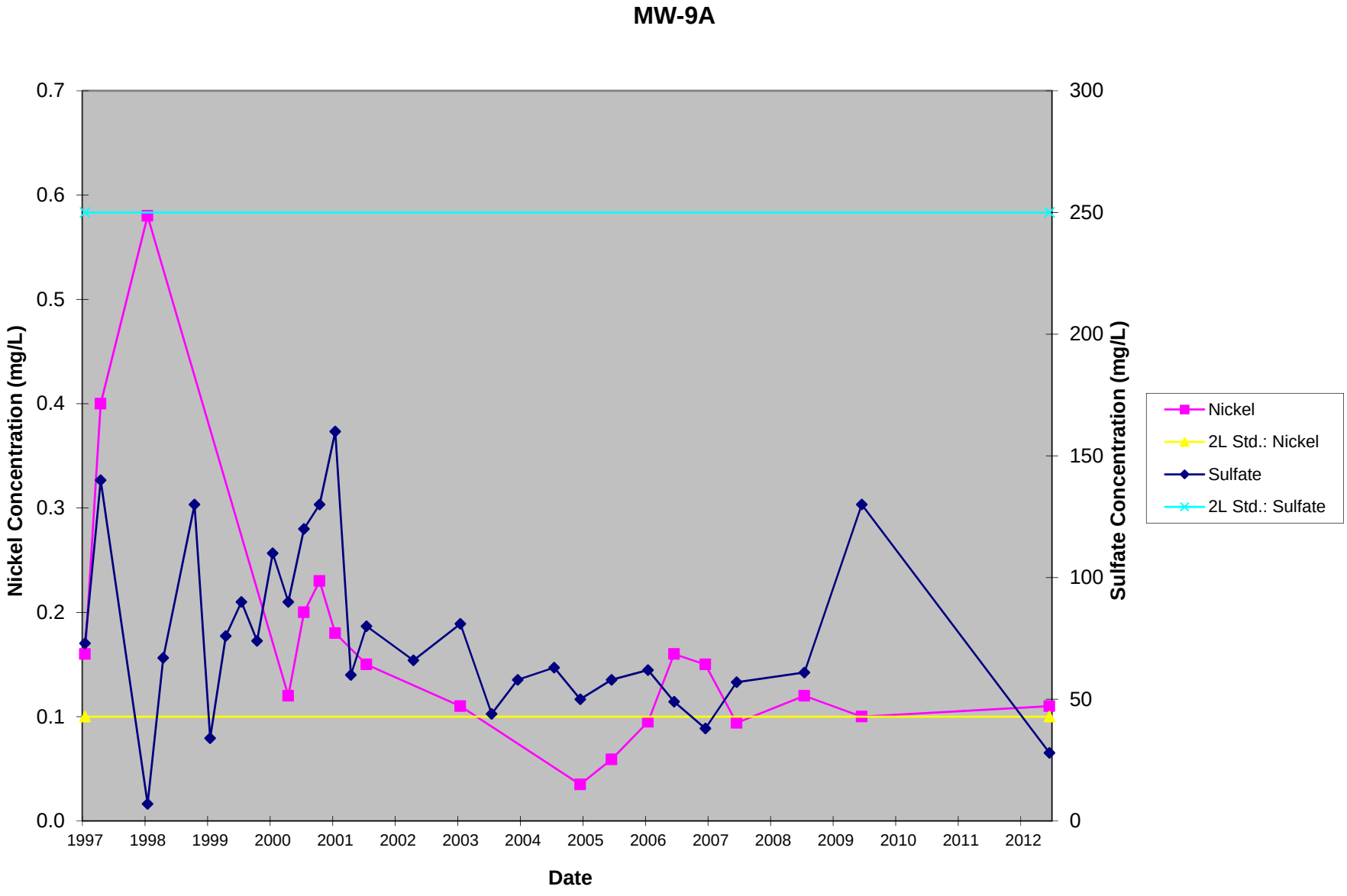

MW-7
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
30.0
25.0
20.0
15.0
10.0
5.0
0.0
600
500
400
300
200
100
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

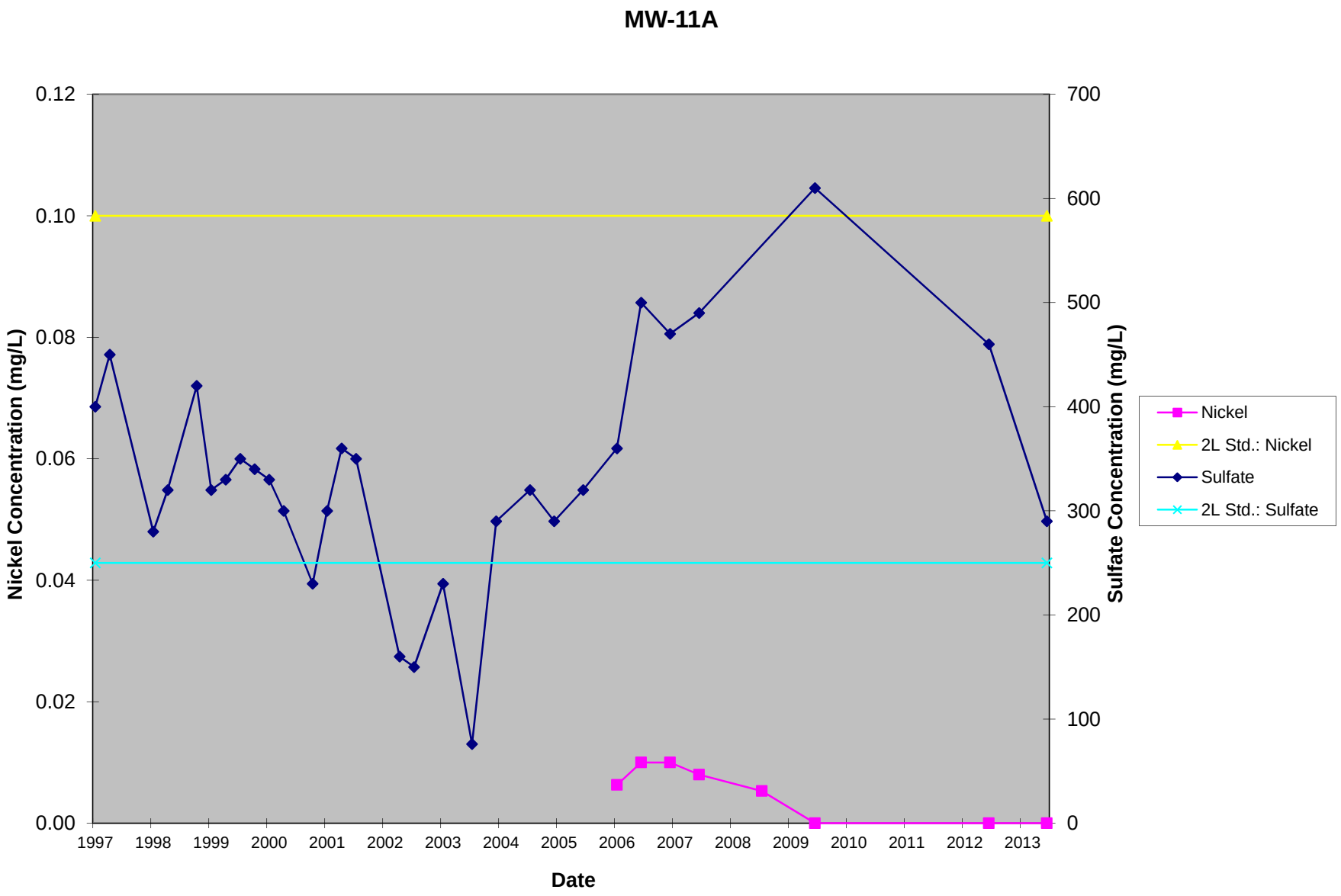
MW-8

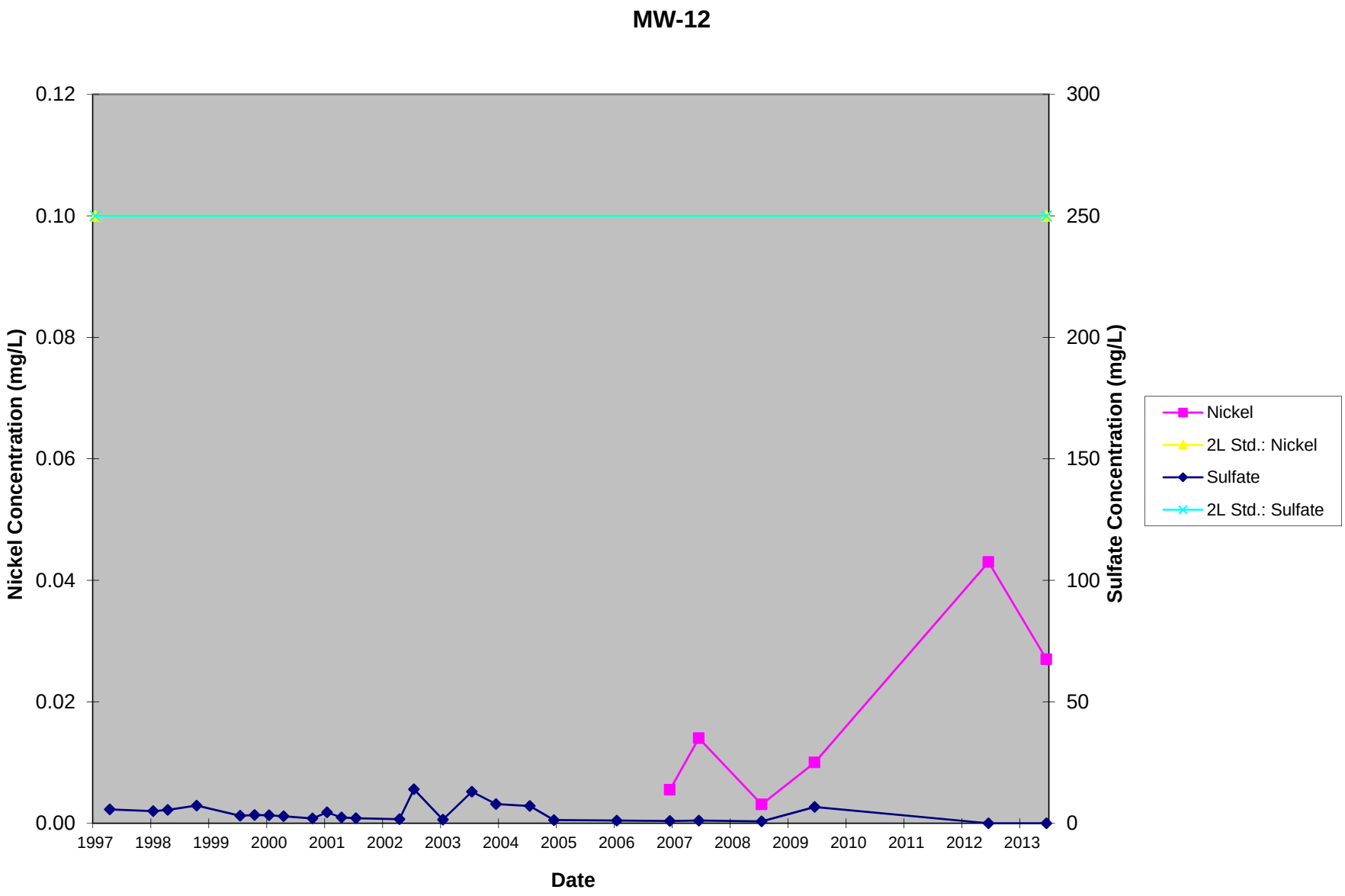

8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Nickel Concentration (mg/L)
1600
1400
1200
1000
800
600
400
200
0
Sulfate Concentration (mg/L)
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
Date
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

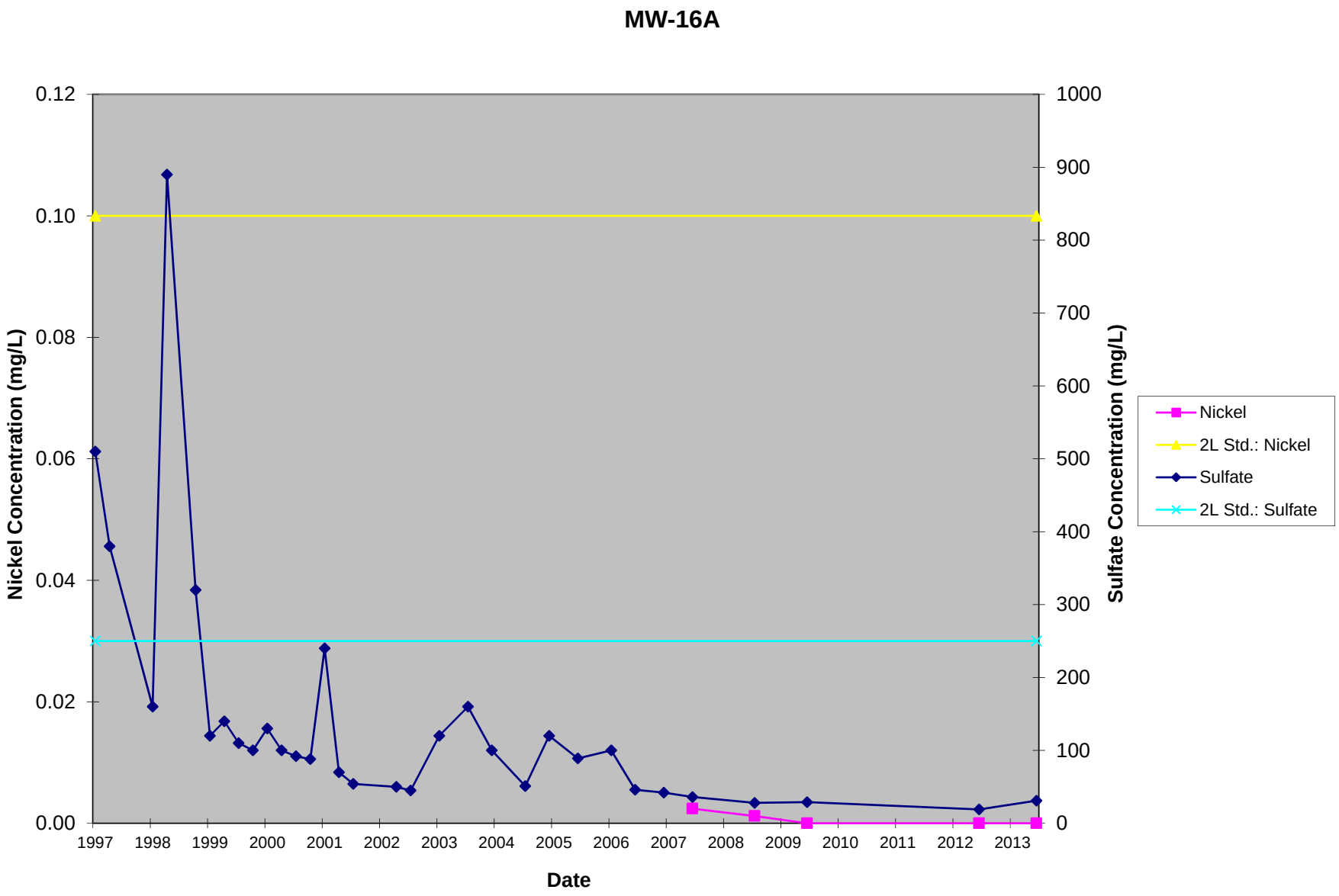

MW-8A
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
6.0
5.0
4.0
3.0
2.0
1.0
0.0
450
400
350
300
250
200
150
100
50
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
Nickel
2L Std: Nickel
Sulfate
2L Std: Sulfate

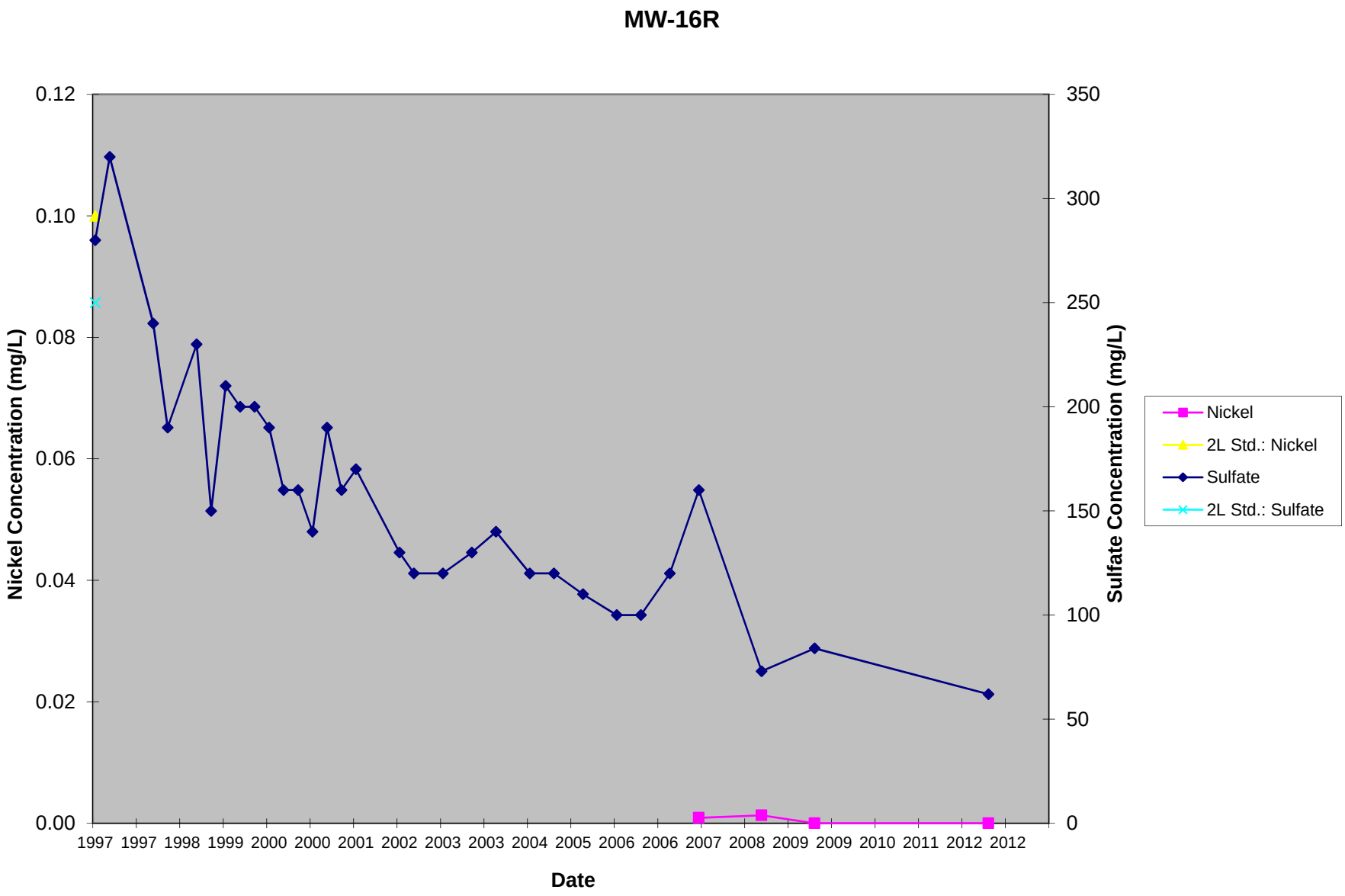

MW-9
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.5
0.5
0.4
0.4
0.3
0.3
0.2
0.2
0.1
0.1
0.0
300
250
200
150
100
50
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

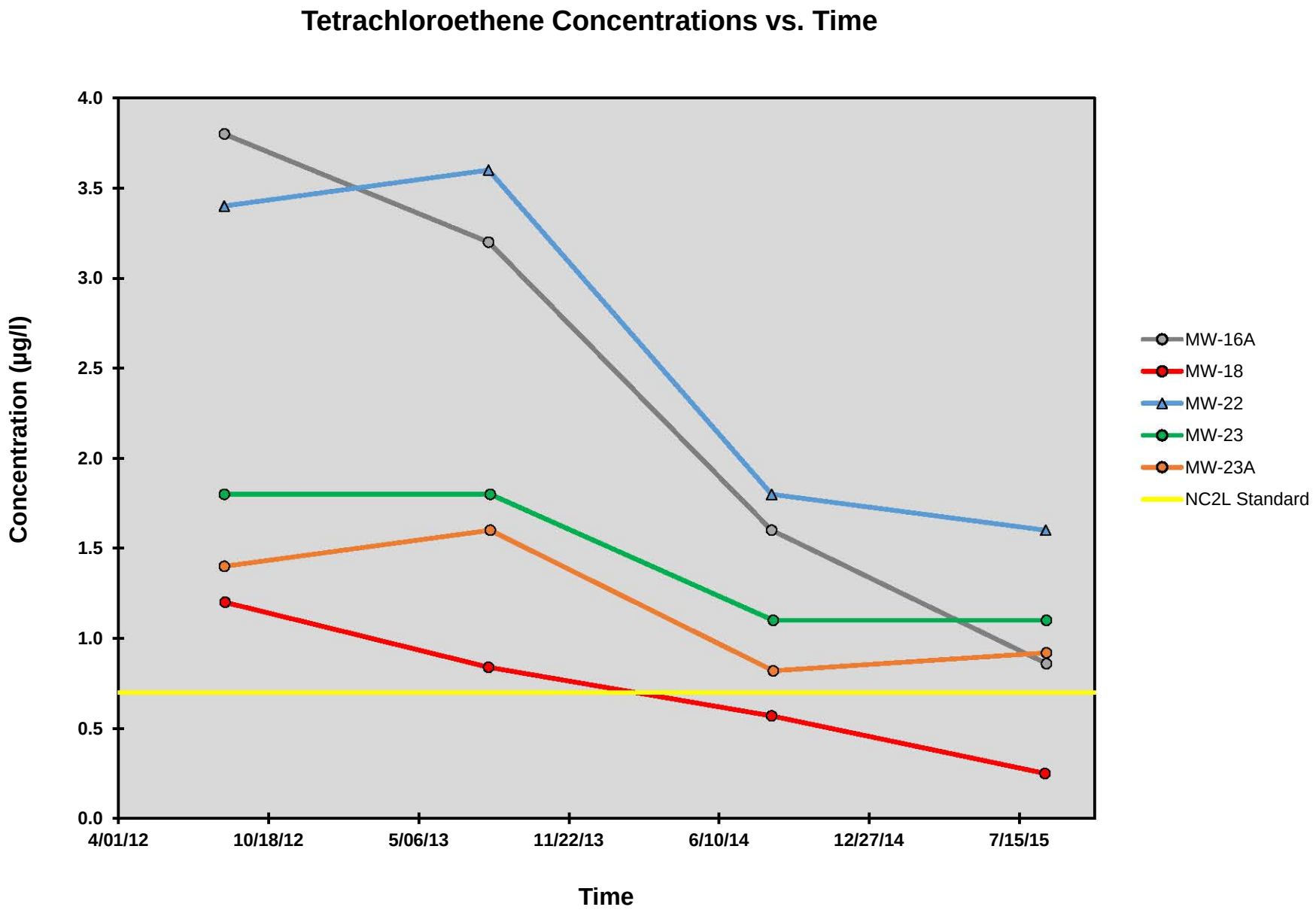

MW-9A
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0
50
100
150
200
250
300
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate


MW-11A
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.12
0.10
0.08
0.06
0.04
0.02
0.00
700
600
500
400
300
200
100
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate

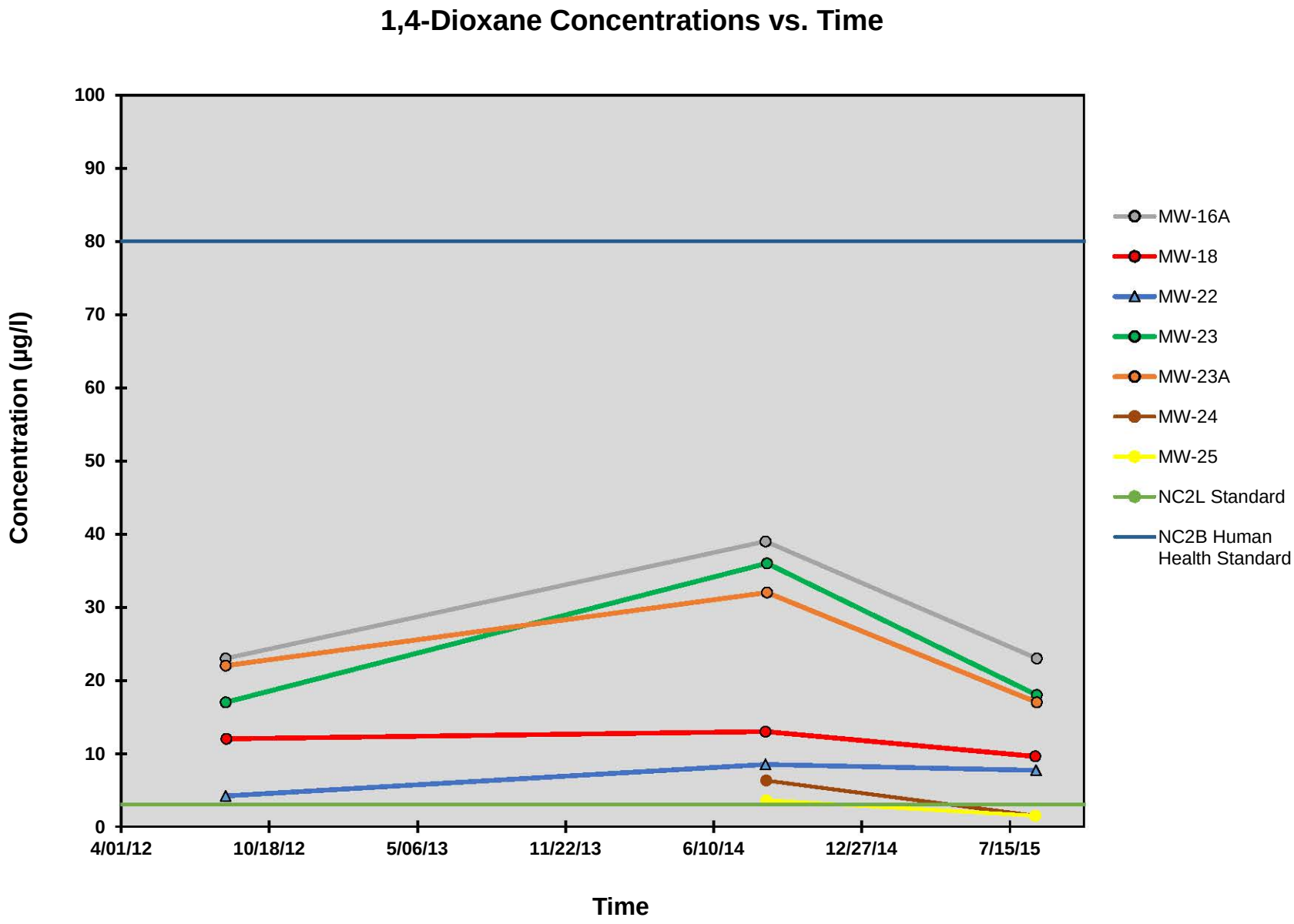

MW-12
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.12
0.10
0.08
0.06
0.04
0.02
0.00
300
250
200
150
100
50
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate


MW-16A
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1000
900
800
700
600
500
400
300
200
100
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate


MW-16R
Nickel Concentration (mg/L)
Sulfate Concentration (mg/L)
Date
0.12
0.10
0.08
0.06
0.04
0.02
0.00
350
300
250
200
150
100
50
0
1997 1997 1998 1999 2000 2000 2001 2002 2003 2003 2004 2005 2006 2006 2007 2008 2009 2009 2010 2011 2012 2012
Nickel
2L Std.: Nickel
Sulfate
2L Std.: Sulfate



Note: Laboraotry reporting limit is 0.25 µg/l. Half the laboratory reporting limit (0.25 µg/l) used for graphing purposes when detected below the reporting limit.



Note: Laboraotry reporting limit is 3.0 µg/l. Half the laboratory reporting limit (1.5 µg/l) used for graphing purposes when detected below the reporting limit.