Midler City Industrial Park

Site No. C734103

Sixth Annual Periodic Review Report

Prepared by

C&S Engineers, Inc.
499 Colonel Eileen Collins Blvd.
Syracuse, New York 13212

June 2014

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EXECUTIVE SUMMARY

Effectiveness of the Remedial Program

Data and discussion presented in this report indicate that chlorinated volatile organic compounds (CVOCs) in groundwater at the Midler City Industrial Park site (Site No. C734103) continue to decrease. Current concentrations are significantly less than those observed at the commencement of the Remedial Investigation and ensuing in-situ thermal treatment of significant source areas, and, except for MW-10D and MW-13D, have declined to levels consistent with Class GA Groundwater Standards since the end of the cool-down period (assumed to be December 2008). The decrease in contaminant levels in most wells, combined with the lines of evidence associated with reductive dechlorination, indicate that Monitored Natural Attenuation (MNA) continues to be an appropriate remedial technology for site groundwater.

At this point in the monitoring program for this site, several trends with respect to the presence and extent of CVOCs and MNA parameters in groundwater have been established:

- The original source contaminant, PCE, and the primary level reductive product, TCE, are no longer present at concentrations exceeding the 5 ug/l NYSDEC Class GA Groundwater Standard at any of the monitoring locations;
- The lower level degradation compounds (cis- and trans- DCE and vinyl chloride) exhibit marked variability in the short term; and
- Lines of evidence associated with reductive dechlorination indicate the dechlorination pathways remain viable.

Based on the past several monitoring rounds showing non-detect or below standards results, the October 2013 Fifth Annual PRR (covering the 2012 groundwater sampling events) recommended that, beginning in the first monitoring event in 2014, monitoring wells MW-14D and MW-16D be removed from the semi-annual monitoring for the site,. Starting in June 2014, the semi-annual monitoring will be continued for monitoring wells MW-9D, MW-10D, MW-13D and MW-15D and we will continue providing annual PRRs as scheduled.

Compliance

There are no areas of non-compliance regarding the major elements of the Site Management Plan that require corrective measures.

Recommendations

Relative to institutional controls and engineering controls (ICs/ECs) for the site, no changes are recommended.

SECTION 1 - INTRODUCTION AND HISTORICAL OVERVIEW

C&S Engineers, Inc., on behalf of our client Pioneer Midler Avenue, LLC, submits this sixth Annual Periodic Review Report (PRR) for the site known as Midler City Industrial Park - Site No. C734103.

The Midler City Industrial Park site encompasses approximately 22 acres and is located in the eastern portion of the City of Syracuse, as shown on Figure 1. Further detail concerning the property boundary is shown on Figure 2 (ASB-01 from the December 2007 *Final Engineering Report* for the site).

Developed as an industrial facility in the late nineteenth century and utilized as such through the mid-twentieth century, the Midler City Industrial Park is relatively flat and is bounded as follows:

- North by Interstate Route 690.
- East by undeveloped property owned by the City of Syracuse
- South by property owned by CSX Transportation.
- West by Midler Avenue.

The site was one of the last undeveloped accessible tracts of land adjacent to the highly urbanized Erie Boulevard corridor. Currently, a Lowe's home center and a branch of SEFCU occupy much of the site. Vacant outparcels remain available for development.

During the RI and demolition activities that occurred in 2004-2006, areas impacted by petroleum and chlorinated volatile organic compounds were discovered. The main CVOCs found at the site were tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC), cis-1,2-dichloroethene (cis-1,2-DCE), and trans-1,2-dichloroethene (trans-1,2-DCE). The occurrence of CVOCs was found within the marl and peat layers and extended to depths of approximately 26 feet below ground surface. The source of the CVOCs is attributed to past manufacturing and or waste management practices of the former Prosperity Laundry Equipment Company. No.6 fuel oil and other petroleum hydrocarbons were discovered during earthwork where several underground storage tanks were once present for the boiler house and beneath certain floor slabs of the manufacturing complex where equipment was once located. Those areas of petroleum contamination were excavated and disposed of off-site. Clean-up objectives for petroleum impacted media were consistent with NYSDEC TAGM 4046/STARS which were in effect at the time the work was completed.

An IRM was conducted from 2006-2007 to remove CVOCs from four source areas identified during the RI. The technology adopted to remove CVOCs was ISTD. The smallest of the four source areas ("B-5" Area) was excavated and the impacted materials were placed within the two largest areas ("B-1" and "B-3" Areas) for CVOC removal via ISTD. Based upon the high organic content of subsurface soils (10.8% average), a site specific soil clean-up objective of

31,200 µg/kg total CVOCs was established consistent with TAGM 4046 guidance which was in affect at the time of the IRM. As a result of the ISTD treatment, approximately 86,000 pounds of CVOCs were removed from the subsurface and treated on site via thermal oxidation. Further information regarding remedial efforts is presented in the December 2007 IRM report prepared by C&S.

Monitored Natural Attenuation (MNA), using protocol established by the United States Environmental Protection Agency (USEPA), was the final remedy selected for the site relative to groundwater, given:

- The significant source removal effort;
- Presence of soils with high organic content (10.8% average);
- Nature of CVOCs over 40 years of site inactivity;
- 40 years of site inactivity;
- Evidence of reductive dechlorination;
- Characteristics of groundwater including Oxidation-Reduction Potential (ORP), methane/ethane/ethene concentrations; and,
- The presence of *Dehalococcoides*, a genus of bacteria that obtains energy via the oxidation of hydrogen gas and subsequent reductive dehalogenation of halogenated organic compounds.

The groundwater MNA program commenced in 2008 and has been documented in a series of periodic data reports since that time. Evaluation of the data has been presented in reports to the NYSDEC entitled:

- *First Annual Site Monitoring Report* (February 2009),
- *Second Annual Periodic Review Report* (April 2010),
- *Third Annual Site Monitoring Report* (March 2011),
- *Fourth Annual Periodic Review Report* (April 2012), and
- *Fifth Annual Periodic Review Report (August 2013-Revised October 2013).*

Quarterly groundwater monitoring was conducted through the third quarter of 2010 with results transmitted to NYSDEC Region 7 on a regular basis. Based on the progress of CVOC attenuation observed, the New York State Department of Environmental Conservation (NYSDEC) Region 7 office, in a letter dated September 14, 2010 agreed to reduce the frequency of groundwater sampling and analysis to twice per year, with those events occurring in Spring and Fall.. That same letter also allowed the deletion of monitoring well MW-2D from the sampling program. A copy of that letter is provided in Appendix A. Implementation of the modified groundwater monitoring program began in 2011 with full annual reporting as specified in the December 2007 Remedial Work Plan, Site Management Plan and, as required by the Brownfield Cleanup Agreement for the site. This *Fifth Annual Periodic Review Report* constitutes the second report under the modified program.

Elevated groundwater temperatures recorded during the first year after the shutdown of the ISTD system were determined to be the result of the heating process which took place over a period of approximately 11 months. The *Remedial Work Plan* issued in December 2007 established that

the cool-down period would be considered complete when the range of groundwater temperatures recorded at the monitoring wells stabilized to within five degrees Fahrenheit (F) of each other.

The 2013 data indicate that, for the June 2013 sampling event, the groundwater temperatures for the six monitoring wells (9D, 10D, 13D, 14D, 15D, and 16D) ranged from 56.93 degrees F to 63.39 degrees F, a range of approximately 6.5 degrees F. For the December 2012 sampling event, the range was from 52.86 degrees F to 57.42 degrees F, a range of approximately 4.5 degrees F. These water temperature data suggest that since the cool down period has undoubtedly run its course, the range of groundwater temperatures observed appears to be indicative of a natural variability at the site.

SECTION 2 - EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

Natural Attenuation Parameters

Samples collected during 2013 were analyzed for a variety of parameters associated with MNA including inorganic parameters, microbial indicators, and CVOCs. The resultant data were examined for evidence indicating overall reduction of contaminant levels. In addition, degradation rate constants were calculated using USEPA protocol.

Groundwater quality data (relative to chlorinated compounds) for each of the wells are presented on tables shown in Appendix B-1. Data Usability Summary reports for the 2013 groundwater quality monitoring are provided in Appendix B-2. Analytical results for the MNA parameters are shown on the table that is Appendix B-3 of this report. Appendix B-4 presents the groundwater contour maps for each sampling event conducted in 2013.

Other parameters of interest during 2013 include:

- Oxidation-reduction Potential - The ORP measurements ranged from -228 to -292 mV for the warm weather (June) sampling event. For the cold weather (December) event ORP measurements ranged from -271 to -328 mV. Values more negative than -100 mV are indicative of an environment that is supportive of reductive dechlorination.
- Dissolved Oxygen - Other than limited instances, the presence of dissolved oxygen in each of the monitoring wells continues to be essentially non-existent and indicative of a reducing environment.
- Sulfate - In MW-9D and MW-10D concentrations exceeding 411 mg/l were recorded in 2013. Lower concentrations ranging from 30.8 mg/l to 202 mg/l were found in wells MW-13D, MW-14D, MW-15D, and MW-16D, which is a similar range to that recorded during past events. According to USEPA MNA guidance, sulfate in excess of 20 mg/l may cause competitive exclusion of dechlorination. However, in many plumes with high concentrations of sulfate, reductive dechlorination still occurs. Based on CVOC data

collected at the Midler Avenue site, it would appear that reductive dechlorination is occurring.

- Dehalococcoides (Dhc) - Concentrations exceeding 1 $x10^5$ gene copies per liter of this microbe were found during 2013 in MW-10D, MW-14D and MW-16D. There was notable decrease in the estimated percentage of Dhc within the overall microbial population at MW-13D. The previous three sample events were at 1 $x10^7$.
- Vinyl chloride reductase (vcrA) - vcrA concentrations have been observed to vary in proportion with Dhc concentrations in the site groundwater. Therefore, analysis for vcrA was dropped from the analytical protocol for the site following the June 2012 sampling.

Evaluation of Data Trends and Rate Constants

The February 2009 *First Annual Site Monitoring Report* developed rate constants from cool-down period data which were determined to be of minimal relevance with respect to long-term natural attenuation trends. The USEPA instructs that, to make a statistically valid projection of the rate of monitored natural attenuation, monitoring periods of at least three years should be considered. With data from sixteen sampling events since 2008 (which includes data from the cool down period) we offer the following observations and calculations regarding the apparent rate of CVOC reduction at each of the site monitoring wells during the 2,138 day (5.85 years) period extending from February12, 2008 through December 20, 2013.

CVOC Trendlines and Concentration Versus Time Rate Constants

The following discussion refers to recent trendlines and first order rate constants derived from a comparison of individual CVOC analytical results for each monitoring well. In this evaluation all of the data since 2008 were considered to see if a "best fit" linear relationship was evident. These data include the "cool down" data. By using all the data, there was much scatter and in some instances the resultant trend line suggested that concentrations of certain CVOCs were increasing. Nevertheless, groundwater quality has generally improved and at certain wells, detected CVOCs do not exceed Class GA Groundwater Standards. Appendix B-2 shows the total CVOCs vs Time for all the wells currently monitored.

The following is an evaluation of the recent trendlines including, when appropriate, rate constants; these will become more statistically valid as more data are generated and more time passes.

During past sampling events, non-detects at elevated detection limits has introduced an element of ambiguity to some of the trendlines and rate constant calculations. Therefore, the analytical laboratory was asked to provide lower detection limits, when possible, to document whether specific CVOCs are present at levels above their respective Class GA Groundwater Standard. In response to that request, in December 2012 Test America began to utilize USEPA Method OLC02.1 instead of Method OLM04.2 for project volatiles analyses.

MW-9D - Trans-1,2-DCE and cis-1,2-DCE have both been reported at concentrations less than the Class GA groundwater standard of 5 µg/l since October 2008. Given the data, further

evaluation of first order rate constants for these two CVOCs was not performed. For vinyl chloride, the small increase that was exhibited from May 2011 to December 2012 returned to the longer-term trend of decrease in 2013 when vinyl chloride was non-detect at 2 µg/l during the June sampling and detected at 1.7 µg/l in the December sampling.

MW-10D - The concentration of vinyl chloride declined from 320 µg/l in December 2012 to 90 µg/l in December 2013. Cis-1,2-DCE data exhibited a slight increase from 310 µg/l in December 2012 to 480 µg/l in December 2013. The trans-1,2-DCE concentration has remained generally stable throughout the monitoring period and was 19 µg/l in December 2013.

MW-13D – The vinyl chloride concentration has exhibited considerable variability since February 2008. When all the data are plotted, including the spike in the concentration of vinyl chloride seen in the March 2010 event (7,400 µg/l as compared to 400 µg/l in June 2013), this creates a declining slope although the level in December 2013 increased to 3,200 µg/l.

Cis-1,2-DCE concentrations declined from 430 µg/l to 260 µg/l during the February 2008 through October 2010 timeframe, but a spike in concentration occurred in March 2010, after which the concentrations have been varying with a general trend of decreasing. The 2013 data exhibited a marked decrease to 260 µg/l for the June sampling, followed by an increase to 1,900 µg/l for the December 2013sampling. Given that spikes of both cis-1,2-DCE and vinyl chloride were followed by general decreases in four consecutive sampling events, it would appear that long-term improvements to groundwater quality are continuing.

Trans-1,2-DCE concentrations have remained consistent throughout the sampling events. From June 2012 to June 2013 the concentrations were "non-detect", but at concentrations ranging from 20 µg/l to 200 µg/l. In December 2013 the concentrations were at 25 µg/l. With regard to PCE and TCE, neither of these compounds was detected in either of the 2012 sampling events for this location, thus no further evaluation of the data relative to prediction of "Time to Meet Standards" was performed.

MW-14D - Since March 2010 concentrations of both cis-1,2-DCE and trans-1,2-DCE, as well as PCE and TCE, have declined to less than the Class GA Groundwater Standard (5 µg/l) for these compounds. VC concentrations have declined from 12,000 µg/l to 3.6 µg/l during the period from February 2008 through the 2011 sampling events, resulting in a theoretical time of approximately three years to achieve the 2 µg/l Class GA Standard for that compound. No CVOCs were detected in groundwater samples from MW-14D during either of the 2012 sampling events, apparently confirming the earlier trend. In the June 2013 sampling event, the VC spiked up to 54 µg/l but decreased to 8.4 µg/l for the December 2013 sampling event.

MW-15D and MW-16D – No rate constants have been established for these wells since the CVOC concentrations have been generally less than their respective Class GA groundwater Standards. In December 2013, the concentration of cis-1,2-Dichloroethene at MW-15D exhibited a decline to 3.9 ug/l (from 5.1 ug/l in December 2012).

Charts of Total CVOC Concentrations vs. Time

To illustrate the changing site conditions with respect to CVOCs in groundwater over the approximately six years that conditions have been monitored, C&S prepared charts for each monitoring well that track concentration of total CVOCs versus time. Since the process of dechlorination entails reductions of higher level chlorinated compounds accompanied by increases in the lower level compounds, it is likely that the concentrations of total CVOCs may be the truest indicator of overall reductions (i.e., complete dechlorination of some fraction of the CVOCs). The charts for these data are presented in Appendix B-2. These charts indicate clear declining trends in total CVOCs at four of the six groundwater monitoring wells (MW-9D, MW-14D, MW-15D, and MW-16D. Only at monitoring wells MW-10D and MW-13D do the data sets indicate slightly upward trends over the monitoring period, due to data variability during the later portions of the monitoring period.

Conclusions

Data and discussion presented in the preceding text and accompanying data tables confirm that CVOCs in groundwater, while variable in the short term, continue to exhibit and overall trend of decrease. Current concentrations are consistently less than those observed at the commencement of the RI and ensuing in-situ thermal treatment of significant source areas, and with the exception of MW-10D and MW-13D, have declined significantly since the end of the cool-down period. The decrease in contaminant levels in most wells combined with the lines of evidence associated with reductive dechlorination, indicate that MNA continues to be the appropriate remedial technology for site groundwater.

SECTION 3 - IC/EC PLAN COMPLIANCE REPORT

Residual subsurface contamination remained after completion of the IRM performed under the BCP. Engineering Controls were incorporated into the site remedy to provide proper management of this contamination to ensure protection of public health and the environment. A site-specific Environmental Easement has been recorded with the Onondaga County Clerk that provides an enforceable means to ensure the continued and proper management of residual contamination and protection of public health and the environment. It requires strict adherence to ICs and ECs placed on this Site by NYSDEC by the grantor of the Environmental Easement and any and all successors and assigns of the grantor.

Site Specific Engineering Controls

As described in the December 2007 Site Management Plan (SMP), as approved by NYSDEC, the following site specific ECs have been implemented.

Sub-slab depressurization systems (SSDSs) - SSDSs have been installed and maintained on both the Lowe's home center and SEFCU branch building. A site plan showing the location of the monitoring points for each building is provided in Appendix C of this report. Inspection of the systems is performed on a regular basis by Pioneer Midler Avenue, LLC as documented on the

forms in Appendix C of this PRR. No operational problems occurred with the systems during calendar year 2013.

If in the future additional buildings are constructed on the site, similar type SSDS will be designed, installed, and maintained. The designs and system performance requirements will be in accordance with applicable regulations and/or guidance.

Public water supply - The site and surrounding properties receive their domestic water from municipal service connections supplied by the City of Syracuse. The source of the municipal water supply is surface water from Skaneateles Lake, Otisco Lake, and Lake Ontario. The Lowe's home center and SEFCU branch office are connected to and obtain potable water from the municipal water supply described above. Currently there are no other buildings or users of water on the site.

Paved and concrete surfaces -- To the extent reasonable, surfaces outside of the building footprints were paved or covered with conventional asphalt or concrete. Areas beneath the asphalt and/or concrete pavement received one foot of clean Type 1 or 2 crushed limestone from an approved quarry (i.e., T. H. Kinsella, Hansen). Areas beyond the footprint of the buildings and limits of paved areas received either a combination of clean crushed limestone fill, and/or clean topsoil to a depth of one foot. The clean crushed limestone fill and/or topsoil has been maintained to avoid direct contact with pre-existing urban fill material and native soils. As required by the Site Management Plan, Pioneer Midler Avenue, LLC performs a visual inspection of the site twice each year. Those inspections completed during 2013 are documented on the forms shown in Appendix D of this PRR.

Site-Specific Institutional Controls

As described in the December 2007 Site Management Plan (SMP) the following site specific ICs have been implemented.

Environmental Easement - Pioneer has granted the NYSDEC an environmental easement for the Site to ensure that use restrictions or engineering controls remain in place and will be binding to future owners and lessees, or until modified, extinguished, or amended by a written instrument executed by the Commissioner of the NYSDEC. No changes to the Environmental Easement occurred during 2013.

Groundwater Use Restriction - The use or discharge of untreated groundwater for any purpose will not be permitted at the Site. As stated above, each building is connected to City of Syracuse municipal water supply.

Soil Management Plan - A site-specific Soil Management Plan (SoMP) dated December 2007 was been approved by NYSDEC and has been implemented at this Site. The objective of the SoMP is to set guidelines for management of soil material during any future activities which

would breach the cover system at the site. No excavation, construction, or dewatering activities were conducted at the site during 2013.

Recommendations

Relative to the SoMP, no changes to the plan are recommended for 2014.

SECTION 4 - MONITORING PLAN COMPLIANCE REPORT

The December 2007 *Monitoring Plan* and the December 2007 *Remedial Work Plan* described the measures for evaluating the performance and effectiveness of Monitored Natural Attenuation. The elements of these plans, relative to groundwater monitoring, consisted of sampling and laboratory analysis for chlorinated volatile organic compounds via EPA Method 8260. Additionally, each sample was further evaluated for the following MNA parameters:

- ORP
- Temperature
- pH
- Dissolved oxygen
- Ferric iron
- Ferrous iron
- Total Iron
- Sulfate
- Sulfide
- Dissolved Organic Carbon
- Dissolved Inorganic Carbon
- Microbial analysis to determine presence and concentration of Dhc populations and gene analysis to determine presence/concentrations of Dhc capable of dechlorinating vinyl chloride to ethene

Groundwater data (quality and water levels) are tabulated and entered into the cumulative summary tables after each sampling event. That information, accompanied by a Data Usability Summary Report (DUSR) and groundwater contour map, is submitted to NYSDEC Region 7 following each monitoring event. The cumulative groundwater data summary tables (groundwater quality and MNA parameters) are shown in Appendix B-1 and Appendix B-4, respectively, of this PRR. The individual laboratory reports are also provided in Appendices B-1 and B-4. Data Usability Summary Reports for the 2012 groundwater quality samples are provided in Appendix B-3. Groundwater contour maps for each 2013 sampling event are shown in Appendix B-5.

SECTION 5 - OPERATION AND MAINTENANCE PLAN

The December 2007 *Operation and Maintenance Plan* for the site describes the measures necessary to operate and maintain mechanical components of the SSDS systems installed at each of the buildings. The *Operation & Maintenance Plan* also included a description of visual inspections to be conducted to document the condition of the exterior paved surfaces.

SSDS Operation and Maintenance

During 2013, verification of normal operating status was conducted on an approximately weekly basis. This verification, performed by Pioneer Midler Avenue, LLC, is by visual observation of the magnehelic gauge attached to each discharge stack. These observations are recorded and kept on file. Copies of the inspection forms for 2013 are presented in Appendix C of this PRR.

Routine maintenance is performed every 12 months and includes:

- Visual inspection of above grade components
- Verification that no building intakes have been added within ten feet of the SSDS ventilation stacks
- Verification that floor penetrations are not leaking and if leaks are detected appropriate repairs are to be completed.

As appropriate, preventative maintenance, repairs, and/or adjustments will be made to the system to ensure its continued effectiveness. If significant changes are made to the building, the system will be modified and/or expanded to ensure the system is functioning properly.

No operational problems or significant building modifications have occurred with the systems installed at the SEFCU branch and Lowe's home center during 2013.

Pavement and Concrete Surfaces

All paved and concreted surfaces are maintained such that extensive perforations or cracks are sealed or repaired on an on-going basis. The Property Manager performs a semiannual inspection of these surfaces. Documentation of the visual inspections performed in 2013 is presented in Appendix D of this PRR.

Conclusion

Based on the information gathered during 2013, it is our opinion that no changes in the Operation and Maintenance Plan should be implemented for calendar year 2014.

SECTION 6 - OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

Compliance with Site Management Plan

During calendar year 2013, all the requirements of the *Site Management Plan* prepared in 2007 and amended in September 2010 were satisfied and no changes or modifications are contemplated at this time.

Performance and Effectiveness of the Remedy

Data from site monitoring confirm that CVOCs in groundwater, while displaying some variability in the short term, continue to decrease. Current CVOC concentrations are greatly reduced compared to those observed at the commencement of the Remedial Investigation and ensuing in-situ thermal treatment, and, with the exception of MW-10D and MW-13D, have declined significantly since the end of the cool-down period. The decrease in CVOC levels (in most wells) combined with the lines of evidence associated with reductive dechlorination, indicate that MNA continues to be an appropriate remedial technology for site groundwater.

At this point in the monitoring program for this site, several trends with respect to the presence and extent of CVOCs and MNA parameters in groundwater have been established:

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Based on the past several monitoring rounds showing non-detect or below standards results, we requested in the Fifth Annual PRR (October 2013) that, beginning in the first monitoring event in 2014, monitoring wells MW-14D and MW-16D be removed from the semi-annual monitoring for the site. Starting in June 2014, the semi-annual monitoring will be continued for monitoring wells MW-9D, MW-10D, MW-13D and MW-15D and we will continue providing annual PRRs as scheduled.

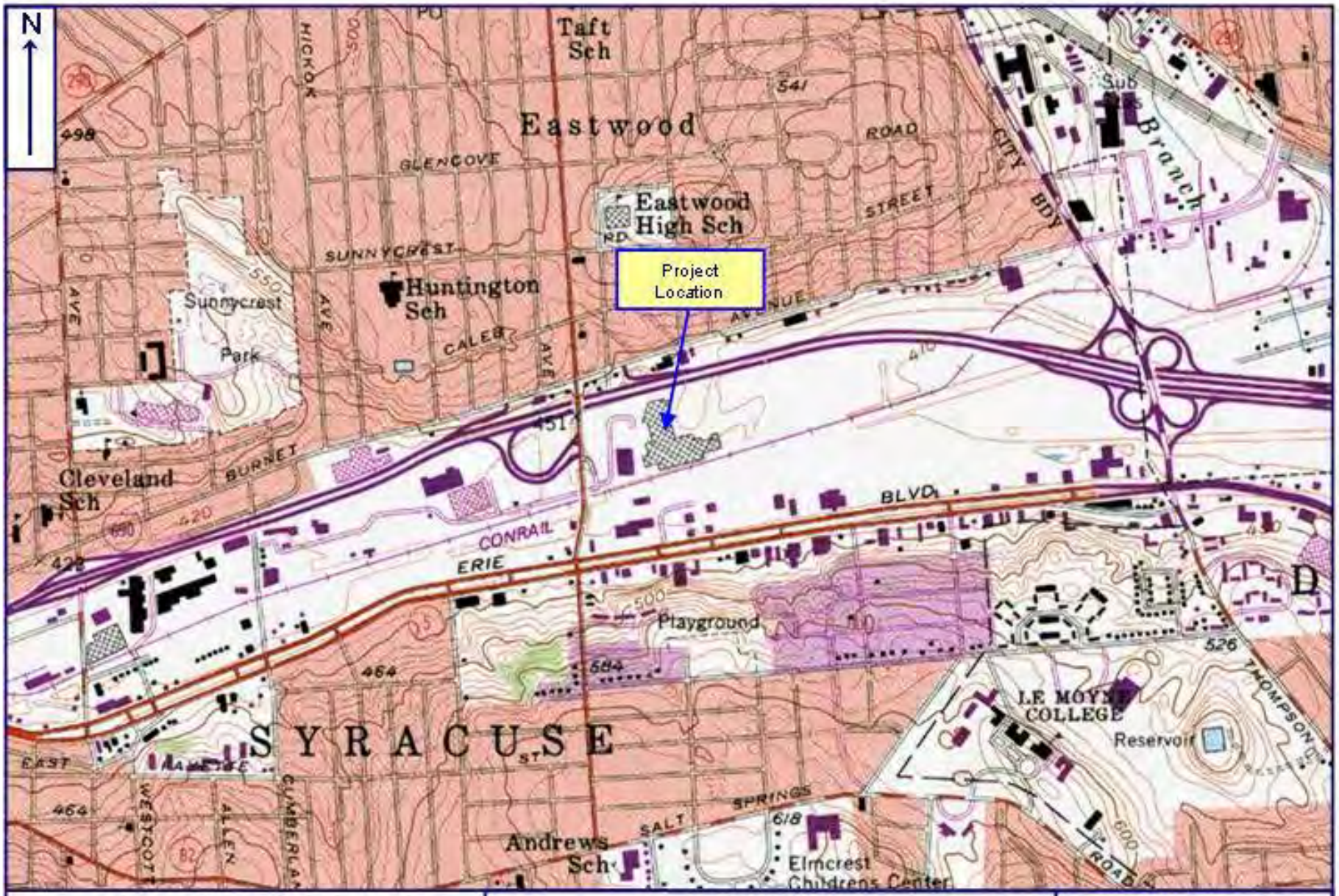
Future PRR Submittals

The PRR for calendar year 2014 will be issued during the second quarter of 2015.

F:\Project\C81 - Pioneer Development\C81006001Post IRM GW Monitoring\Calendar Year 2013 PRR\Calendar Year 2013 PRR.docx

FIGURE 1

SITE LOCATION MAP
SYRACUSE EAST USGS



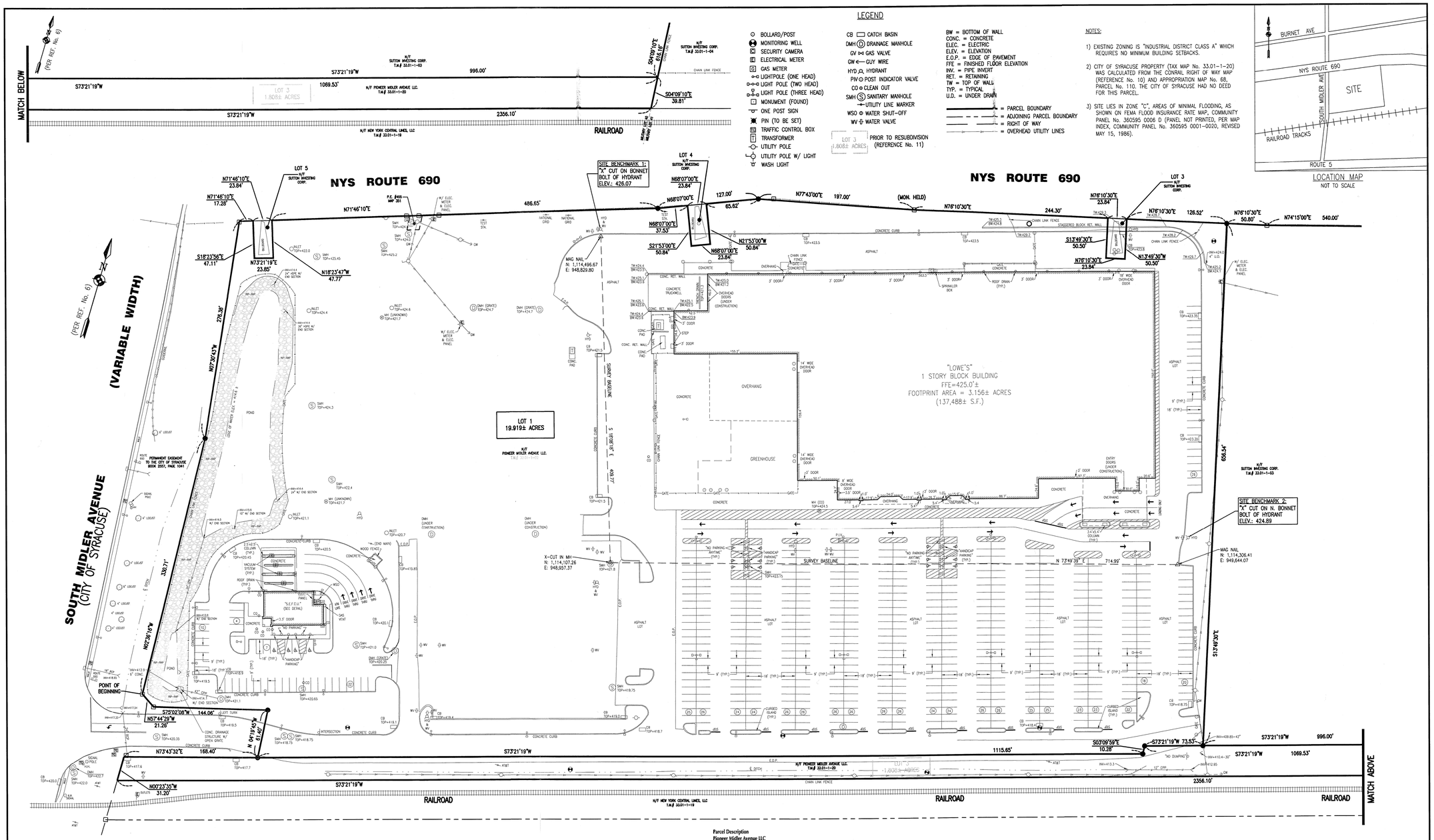
Source: USGS Topographic Maps (Terrain Navigator)
Syracuse East, NY

Figure 1
Site Location Map
Pioneer Milder LLC Brownfield Project
City of Syracuse, Onondaga County, New York

C&S COMPANIES
ENGINEERS
DESIGN BUILD
TECHNICAL RESOURCES
OPERATIONS

FIGURE 2

ASB-01 FROM DECEMBER 2007 FINAL ENGINEERING REPORT



S.E.F.C.U. BUILDING DETAIL
SCALE: 1" = 30'

ASBUILT PARKING CHART

TOTAL AREA SQ. FT.	REQUIRED RATIO	REQUIRED PARKING SPACES	PARKING SPACES PROVIDED
LOWE'S - 137,488	5.5/1,000 s.f.	759	537 (INC. 12 HANDICAP)
S.E.F.C.U. - 2,923	5.5/1,000 s.f.	16	43 (INC. 4 HANDICAP)

REFERENCES:

1) DEED FILED IN THE ONONDAGA COUNTY CLERKS OFFICE DATED JUNE 2, 1961. BOOK 2046, PAGE 402 OF DEEDS.

2) APPROPRIATION MAP No. 66, PARCEL No's 106, 107, 108, AND 118, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

3) APPROPRIATION MAP No. 68, PARCEL No. 110, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

4) APPROPRIATION MAP No. 71, PARCEL No's 115 AND 116, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

5) APPROPRIATION MAP No. 67, PARCEL No 109, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

6) APPROPRIATION MAP No. 354, PARCEL No's 448, 449, 450, AND 451, TITLED "INTERSTATE ROUTE 570-1-4.0, FORMAN AVENUE TO ERICKSON STREET, CITY OF SYRACUSE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

7) APPROPRIATION MAP No. 351, PARCEL No's 445 AND 455, TITLED "INTERSTATE ROUTE 570-1-4.0, FORMAN AVENUE TO ERICKSON STREET, CITY OF SYRACUSE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

8) APPROPRIATION MAP No. 529, PARCEL No 631, TITLED "INTERSTATE ROUTE CONNECTION No 570-1-4.1, ERICKSON STREET TO CITY LINE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

9) APPROPRIATION MAP No. 3-C, PARCEL No 664, TITLED "INTERSTATE ROUTE CONNECTION No 570-1-4.1, ERICKSON STREET TO CITY LINE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

10) CONRAIL RIGHT OF WAY MAP V73/6 (FORMERLY NEW YORK CENTRAL RAILROAD,) DATED 5/5/92.

11) "RESUBDIVISION OF THE PIONEER MIDLER AVENUE SUBDIVISION, KNOWN AS 101-153 SIMON DRIVE", PREPARED BY BERGMANN ASSOCIATES, LAST REVISED 11/22/06 AND FILED IN THE ONANDAGA COUNTY CLERK'S OFFICE AS MAP No. 10571.

Parcel Description
Pioneer Midler Avenue LLC
Syracuse, NY

All that tract or parcel of land situate in the City of Syracuse, Onondaga County, State of New York, being part of Military Lot Number 40 of the former Town of Dewitt, bounded and described as follows:

Beginning at a concrete monument on the easterly right of way line of South Midler Avenue as appropriated to the State of New York (Map No. 66, Parcel No. 106 & 107); thence, along the easterly line of said appropriated Parcel No. 106 the following two courses and distances:
North 02°-36'-16" West, a distance of 330.71 feet to a point; thence,
North 07°-30'-43" West, a distance of 276.38 feet to a concrete monument on the southerly right of way line of New York State Route 690 (as appropriated to the State of New York - Map No. 354, Parcel No. 450 & 451; and Map No. 351, Parcel No. 445); thence,
North 71°-46'-10" East, along the southerly right of way line of said Route 690, a distance of 17.28 feet to the northwest corner of Proposed Lot 5; thence, the following three courses and distances along said Lot 5:
South 18°-23'-50" East, a distance of 47.11 feet to a point; thence,
North 73°-21'-19" East, a distance of 23.85 feet to a point; thence,
North 18°-23'-47" West, a distance of 47.77 feet to a point on the southerly right of way line of said Route 690; thence,
North 71°-46'-10" East, along said southerly right of way line of Route 690, a distance of 486.65 feet to an angle point; thence,
North 68°-07'-00" East, continuing along said southerly right of way line of Route 690, a distance of 37.53 feet to the northwest corner of proposed Lot 4; thence, the following three courses and distances along said Lot 4:
South 21°-53'-00" East, a distance of 50.84 feet to a point; thence,
North 68°-07'-00" East, a distance of 23.84 feet to a point; thence,
North 21°-53'-00" West, a distance of 50.84 feet to a point on the southerly right of way line of said NYS Route 690; thence, continuing along said southerly right of way line of Route 690 the following three courses and distances:
North 68°-07'-00" East, a distance of 65.62 feet to an angle point; thence,
North 77°-43'-00" East, a distance of 197.00 feet to a concrete monument; thence,
North 76°-10'-30" East, a distance of 244.30 feet to the northwest corner of proposed Lot 3; thence, the following three courses and distances along said Lot 3:
South 13°-49'-30" East, a distance of 50.50 feet to a point; thence,
North 76°-10'-30" East, a distance of 23.84 feet to a point; thence,
North 13°-49'-30" West, a distance of 50.50 feet to a point on the southerly right of way line of said NYS Route 690; thence,
North 76°-10'-30" East, along said southerly right of way line of Route 690, a distance of 126.52 feet to a point; thence,
South 13°-49'-30" East, a distance of 656.54 feet to a point on the northerly line of lands now or formerly of the City of Syracuse (Tax Map No. 33.01-1-20); thence,
North 73°-21'-19" East, on said northerly line, a distance of 996.00 feet to a point on the easterly line of said property of the City of Syracuse; thence,
South 04°-09'-10" East, a distance of 39.81 feet to a point on the northerly line of lands now or formerly of New York Central Lines, LLC; thence,
South 73°-21'-19" West, on said northerly line, a distance of 2356.10 feet to a point on the easterly right of way line of South Midler Avenue; thence,
North 00°-23'-35" West, on said easterly right of way line, a distance of 31.20 feet to a concrete monument; thence,
North 73°-43'-32" East, a distance of 168.40 feet to a point; thence,
North 04°-19'-43" West, a distance of 61.40 feet to the northwest corner of aforesaid appropriation to the State of New York (Map No. 66, Parcel No. 107) ; thence, the following two (2) courses and distances on said appropriation:
South 75°-07'-08" West, a distance of 144.06 feet to a concrete monument; thence,
North 57°-44'-29" West, a distance of 21.26 feet to the Point of Beginning.

Said parcel containing 21.727 acres, more or less.

THE UNDERSIGNED HEREBY CERTIFIES TO

(1) PIONEER MIDLER AVENUE, LLC;

THAT THIS SURVEY WAS ACTUALLY MADE UPON THE GROUND; THAT IT AND THE INFORMATION, COURSES, ANGLES AND DISTANCES SHOWN THEREON ARE CORRECT; THAT THIS SURVEY CORRECTLY SHOWS THE LOCATION OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS ON THE PREMISES, INCLUDING, WITHOUT LIMITAION, ALL STREETS, EASEMENTS, RIGHTS-OF-WAY AND UTILITY LINES; AND THAT, EXCEPT AS SHOWN, THERE ARE NO (a) EASEMENTS RIGHTS-OF-WAY ACROSS THE PREMISES; (b) PARTY WALLS, (c) ENCROACHMENTS ON ADJOINING PREMISES, STREETS OR ALLEYS OF ANY OF SAID BUILDINGS, STRUCTURES OR IMPROVEMENTS, OR (d) OBSERVABLE ENCROACHMENTS UPON THE PREMISES BY ANY BUILDING, STRUCTURE OR OTHER IMPROVEMENTS SITUATED ON ANY ADJOINING PREMISES; PHYSICAL EVIDENCE OF BOUNDARY LINES ON ALL SIDES OF THE PREMISES IS AS STATED ON THE SURVEY; AND THAT THE IMPROVEMENTS DO NOT VIOLATE ANY SET-BACK OR OTHER BUILDING LINES.

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN MADE USING THE LATEST RECORDED PLAT OR DEED, THAT THERE ARE NO OBSERVABLE ENCROACHMENTS OTHER THAN THOSE SHOWN, AND THAT THE SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WE, BERGMANN ASSOCIATES, INC., DO HEREBY CERTIFY THAT THIS INSTRUMENT SURVEY MAP WAS MADE FROM THE NOTES OF AN INSTRUMENT SURVEY LAST DATED 12/06/07 AND FROM THE REFERENCES LISTED HEREON.

KEVIN M. SULLIVAN, L.S. No. 049963 — DATE 12/21/07

0 60 120 180
SCALE BAR
1" = 60'

PROPOSED RETAIL DEVELOPMENT

621 S. MIDLER AVENUE
SYRACUSE, NY

PIONEER MIDLER AVENUE LLC.
250 SOUTH CLINTON
SYRACUSE, NY 13202

PIONEER COMPANIES

PREPARED BY:

BERGMANN associates
Engineers / Architects / Surveyors

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D
1	12/21/07	ADD SURVEY BASELINE AND BENCHMARKS	CCW	KMS

NOTE:
Unauthorized alteration or addition to this drawing is a violation of the New York State Education Law Article 145, Section 7209.

ALTA/ACSM LAND TITLE ASBUILT SURVEY MAP

STATE OF NEW YORK — KEVIN M. SULLIVAN — 049963 — LICENSED LAND SURVEYOR — 12/21/07

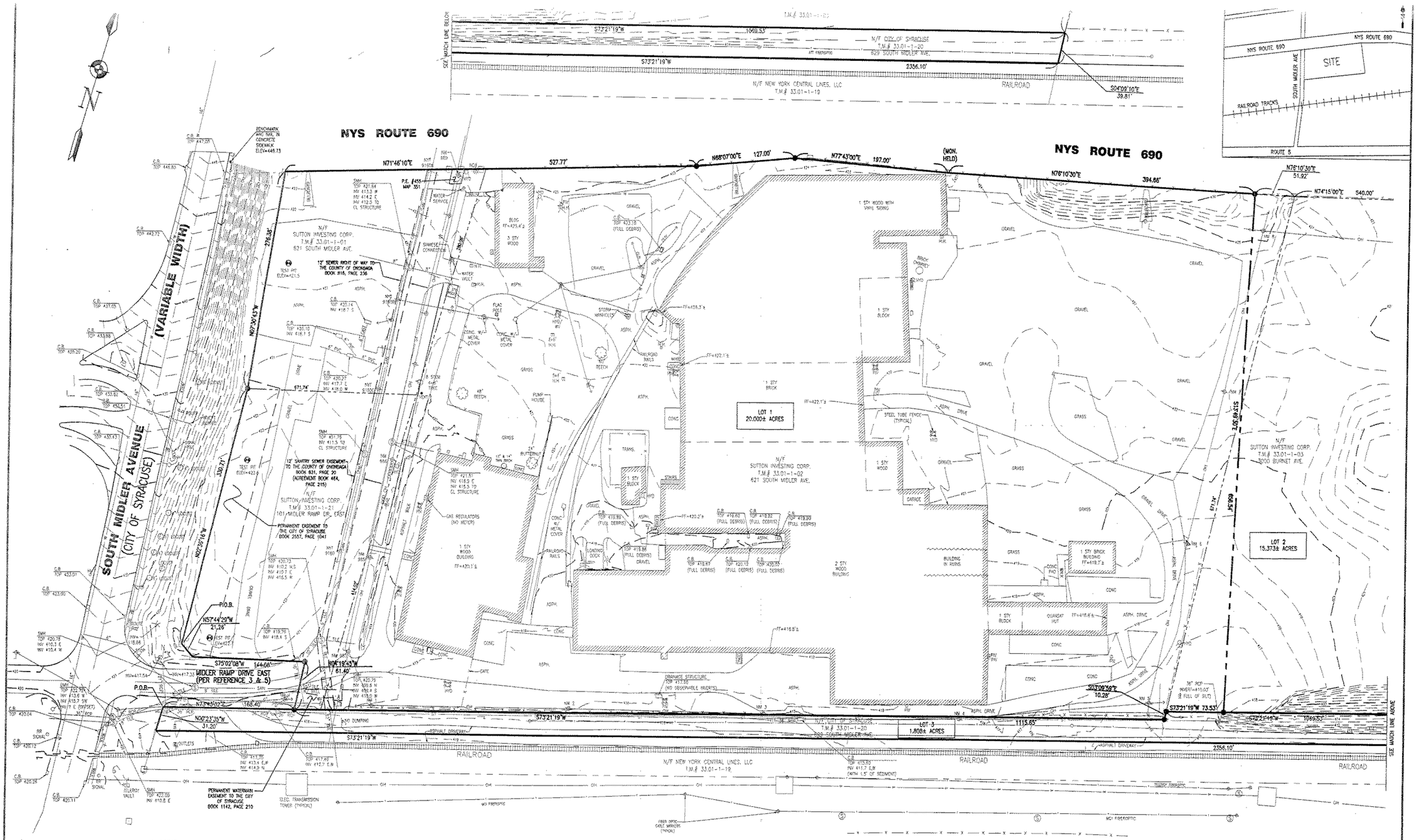
Project Manager: **K. Sullivan**
Designed by:
Drawn by: **C. Wood**
Checked by: **K. Sullivan**
Date Issued: **December 7, 2007**
Scale: **1" = 60'**
File Name: **I:\dev\pioneer\midler\6197asbuilt .dwg**

ASB-01

1 of 2

FIGURE 3

RE-SUBDIVISION MAP - 2006



LEGEND

	DECIDUOUS TREE
	ONE-POST SIGN
	TWO-POST SIGN
	REBAR FOUND
	IRON PIPE FOUND
	CONCRETE MONUMENT
●	CORNER TO BE SET
	WALKWAY LIGHT
T	ELECTRIC TRANSFORMER
	LIGHT POLE
	UTILITY POLE
	UTILITY POLE WITH LIGHT
	TRAFFIC CONTROL BOX
	TELEPHONE BOX
E	ELECTRIC METER
	GAS METER
	GAS MARKER
GV	GAS VALVE
	HANDHOLES
420.5	SPOT ELEVATION
---420---	EXISTING CONTOUR LINE
WV	WATER VALVE
HYD	HYDRANT
	CATCH BASIN
Ⓢ	SANITARY SEWER MANHOLE
Ⓓ	STORM SEWER MANHOLE
ⓧ	UNKNOWN MANHOLE
Ⓣ	TRAFFIC MANHOLE
⊙	BOLLARD/POST
	TEST PIT LOCATION
←	GUY WIRE
—SAN—	SANITARY SEWER
—ST—	STORM SEWER
—E—	ELECTRIC LINE
—FO—	FIBER OPTIC LINE
—T—	TELEPHONE LINE
—W—	WATER LINE
—G—	GAS LINE
—OH—	OVERHEAD ELECTRIC
—X—X—	FENCE LINE
—O—O—	GUIDE RAIL
	EDGE WOODS
— — —	EASEMENT LINE
━━━	PROPERTY LINE
	TAX PARCEL LINE
	RIGHT-OF-WAY LINE
	PROPOSED SUBDIVISION LINE

NOTES:

1) UTILITIES SHOWN WERE PLOTTED FROM RECORD INFORMATION AQUIRED FROM THE UTILITY PROVIDERS SERVICING THIS AREA. THEY ARE NOT CERTIFIED AS TO THE ACCURACY OF THEIR LOCATION OR THEIR COMPLETENESS.

2) EXISTING ZONING IS "INDUSTRIAL DISTRICT CLASS A" WHICH REQUIRES NO MINIMUM BUILDING SETBACKS.

3) CITY OF SYRACUSE PROPERTY (TAX MAP No. 33.01-1-20) WAS CALCULATED FROM THE CONRAIL RIGHT OF WAY MAP (REFERENCE No. 10) AND APPROPRIATION MAP No. 66, PARCEL No. 110. THE CITY OF SYRACUSE HAD NO DEED FOR THIS PARCEL.

4) SITE IS NOT WITHIN A FLOOD HAZARD ZONE PER COMMUNITY PANEL No. 3605950060

REFERENCES:

1) DEED FILED IN THE ONONDAGA COUNTY CLERKS OFFICE DATED JUNE 2, 1951. BOOK 2046, PAGE 402 OF DEEDS.

2) APPROPRIATION MAP No. 66, PARCEL No's 106, 107, 108, AND 118, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

3) APPROPRIATION MAP No. 68, PARCEL No. 110, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

4) APPROPRIATION MAP No. 71, PARCEL No's 115 AND 118, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

5) APPROPRIATION MAP No. 67, PARCEL No 109, TITLED "SOUTH MIDLER AVENUE BRIDGE REMOVAL, CITY OF SYRACUSE-B.I.N. 2208650," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

6) APPROPRIATION MAP No. 354, PARCEL No's 448, 449, 450, AND 451, TITLED "INTERSTATE ROUTE 570-1-4.0, FORMAN AVENUE TO ERICKSON STREET, CITY OF SYRACUSE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

7) APPROPRIATION MAP No. 351, PARCEL No's 445 AND 455, TITLED "INTERSTATE ROUTE 570-1-4.0, FORMAN AVENUE TO ERICKSON STREET, CITY OF SYRACUSE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

REFERENCES: CONTINUED

8) APPROPRIATION MAP No. 529, PARCEL No 631, TITLED "INTERSTATE ROUTE CONNECTION No 570-1-4.1, ERICKSON STREET TO CITY LINE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

9) APPROPRIATION MAP No. 3-C, PARCEL No 664, TITLED "INTERSTATE ROUTE CONNECTION No 570-1-4.1, ERICKSON STREET TO CITY LINE," TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, REGION 3, SYRACUSE, NY.

10) CONRAIL RIGHT OF WAY MAP V73/5 (FORMERLY NEW YORK CENTRAL RAILROAD.) DATED 5/5/92.

11) ABSTRACT OF TITLE PREPARED BY TICOR TITLE INSURANCE COMPANY, TITLE No. 530420350.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA, ACSM AND NSPS IN 1999, AND INCLUDES ITEMS 1-11 AND 13 OF TABLE A THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA, NSPS, AND ACSM AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT THE SURVEY MEASUREMENTS WERE MADE IN ACCORDANCE WITH THE "MINIMUM ANGLE, DISTANCE, AND CLOSURE REQUIREMENTS FOR SURVEY MEASUREMENTS WHICH CONTROL LAND BOUNDARIES FOR ALTA/ACSM LAND TITLE SURVEYS."

THE UNDERSIGNED HEREBY CERTIFIES TO
1) LOWE'S HOME CENTERS, INC
2) TICOR TITLE INSURANCE COMPANY
THAT THIS SURVEY WAS ACTUALLY MADE UPON THE GROUND; THAT IT AND THE INFORMATION, COURSES, ANGLES AND DISTANCES SHOWN THEREON ARE CORRECT; THAT THIS SURVEY CORRECTLY SHOWS THE LOCATION OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS ON THE PREMISES, INCLUDING, WITHOUT LIMITAION, ALL STREETS, EASEMENTS, RIGHTS-OF-WAY AND UTILITY LINES; AND THAT, EXCEPT AS SHOWN, THERE ARE NO (a) EASEMENTS RIGHTS-OF-WAY ACROSS THE PREMISES; (b) PARTY WALLS, (c) ENCROACHMENTS ON ADJOINING PREMISES, STREETS OR ALLEYS OF ANY OF SAID BUILDINGS, STRUCTURES OR IMPROVEMENTS, OR (d) OBSERVABLE ENCROACHMENTS UPON THE PREMISES BY ANY BUILDING, STRUCTURE OR OTHER IMPROVEMENTS SITUATED ON ANY ADJOINING PREMISES; PHYSICAL EVIDENCE OF BOUNDARY LINES ON ALL SIDES OF THE PREMISES IS AS STATED ON THE SURVEY; AND THAT THE IMPROVEMENTS DO NOT VIOLATE ANY SET-BACK OR OTHER BUILDING LINES.

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN MADE USING THE LATEST RECORDED PLAT OR DEED, THAT THERE ARE NO OBSERVABLE ENCROACHMENTS OTHER THAN THOSE SHOWN, AND THAT THE SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WE, BERGMANN ASSOCIATES, INC., DO HEREBY CERTIFY THAT THIS INSTRUMENT SURVEY MAP WAS MADE FROM THE NOTES OF AN INSTRUMENT SURVEY DATED 12/23/03 AND FROM THE REFERENCES LISTED HEREON.

Kevin M. Sullivan 8/16/04
KEVIN M. SULLIVAN, L.S. No. 049963 DATE

DEVELOPMENT
621 S. MIDLER AVENUE SYRACUSE, NY

PIONEER MIDLER AVENUE LLC.
250 SOUTH.CLINTON
SYRACUSE, NY 13202

PIONEER
COMPANIES

PREPARED BY:

BERGMANN
associates
Engineers / Architects / Surveyors

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

NOTE:
Unauthorized alteration or addition to this drawing is a violation of the New York State Education Law Article 145, Section 7209.

AUG 17 2004

0 60 120 180 FT
SCALE BAR

ALTA/ACSM LAND TITLE SURVEY

KEVIN M. SULLIVAN
049963

Project Manager:	K. Sullivan
Designed by:	
Drawn by:	C. Wood
Checked by:	K. Sullivan
Date Issued:	August 13, 2004
Scale:	1" = 60'
Project Number:	8197.00
File Name:	f:\dev\pioneer\midler\8197base.dwg
Drawing Number:	EX-1

1 of 1

FIGURE 4

ISTD LAYOUT PLAN

SPARGE POINT

AREA B3

SPARGE POINT

ISTD ELECTRICAL DISTRIBUTION GEAR

ISTD OFF GAS TREATMENT EQUIPMENT

AREA B1

B-1 SHEET PILE

SPARGE POINT

AREA MW-3D

MW3D-SHEET PILE

1 STY BRICK BUILDING

1 STY BLOCK

1 STY BLOCK

6' DIA CISTERN

EQUIPMENT SUMP

EQUIPMENT VAULTS TOP=419.3 ±

VAULT 1 TOP=418.7 ±

CONCRETE SLAB TOP=422 ± SLAB TOP=421.4 ± WALL TOP=425 ±

BURIED PIER

BURIED PIER

BURIED PIER

QUONSET HUT

671.74'

656.54'

APPROX. SCALE
0 30 60 90 FEET

LEGEND

- ISTD HEATER WELL (18 FT. TREATMENT DEPTH)
- ISTD HEATER WELL (20 FT. TREATMENT DEPTH)
- ISTD HEATER WELL (25 FT. TREATMENT DEPTH)
- ISTD HORIZONTAL VACUUM SCREENS
- ISTD MANIFOLD PIPE
- ISTD TREATMENT ZONE
- ISTD TEMPERATURE MONITORING POINT
- ISTD SURFACE COVER PERIMETER
- ISTD SURVEY POINTS (H-5S)
- SPARGE POINTS
- SHEET PILE

C&S ENGINEERS, INC.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone 315-455-2000
Fax 315-455-9667
www.cscos.com

DATE: APRIL 2006
SCALE: AS SHOWN
FILE NO. C81.002.001

Pioneer Midler Avenue LLC
Interim Remedial Measure Report
Heater Well Layout & ISTD Enhancements

Figure 2

Oct 15, 2007 - 2:30pm
F:\Project\C81 - Pioneer Development\Cadd IRM Reports\Figure 2.dwg

APPENDIX A

SEPTEMBER 14, 2010 LETTER CONCERNING REDUCTION OF GROUNDWATER SAMPLING FREQUENCY

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 7
615 Erie Boulevard West, Syracuse, New York 13204-2400
Phone: (315) 426-7551 • **Fax:** (315) 426-7499
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

September 14, 2010

Mr. Jed Schneider
Pioneer Midler Avenue, LLC
250 South Clinton Street, Suite 200
Syracuse, New York 13202-1258

Re: Midler City Industrial Park
Site No. C734103
Groundwater Sampling Frequency

Dear Mr. Schneider:

The New York State Department of Environmental Conservation (NYSDEC) has reviewed your August 3, 2010 letter requesting that the groundwater sampling frequency be reduced from quarterly to bi-annually (spring and fall). This request is hereby approved. In addition, based on the analytical data (i.e. non-detect levels of contaminants of concern since 2005), MW-2D can be removed from the list of wells sampled.

Respectfully,

Karen A. Cahill
Project Manager
Division of Environmental Remediation

cc: T. Barba/S. Vinci, C&S
R. Jones, DOH

ec: M. Peachey, DEC
G. Townsend, DEC

Appendix B-1

Groundwater Quality Summary through December 2013 and 2013 Laboratory Reports

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D
Sample Date		Std	Guid	01/31/05	5/2/2006	08/23/07	02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	5/3/2006	08/23/07	02/12/08	06/02/08	10/06/08	12/23/08
1,1,1-Trichloroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	11 U	10 U
1,2,4-Trichlorobenzene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	ug/l	3		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	ug/l	0.6		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	ug/l	1		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	ug/l	3		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	ug/l	3		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
2-Butanone (MEK)	ug/l		50	15	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/l		50	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/l		50	10 U	50 U	10 U	10 U	10 U	0.39 U	10 U	1 U	0.38 U	0.55 JB	0.41 JB	0.71 J B	2.6 JB	20 U	10 U	0.7 J	2 U	1 U	10 U
Benzene	ug/l	1		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	0.15 J	10 U
Bromodichloromethane	ug/l		50	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Bromoform	ug/l		50	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	ug/l	60		10 U	50 U	10 U	10 U	10 U	0.17 U	10 U	10 U	0.66 J	0.26 J	0.75 J	0.67 J	0.27 J	20 U	10 U	10 U	10 U	0.23 U	10 U
Carbon tetrachloride	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Chloroform	ug/l	7		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	0.48 J	20 U	10 U	10 U	10 U	0.1 J	10 U
cis-1,2-Dichloroethene	ug/l	5		10 U	50 U	2.0 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.2 J	0.52 J	9 J	6 J	5 J	5 J	4.3 J	4 J
cis-1,3-Dichloropropene	ug/l	0.4		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Methyl acetate	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Methyl tert butyl ether	ug/l	10		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	0.33 J	10 U
Methylcyclohexane	ug/l			10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	ug/l	5		10 U	50 U	10 U	10 U	10 U	0.19 U	10 U	10 U	0.13 U	0.28 JB	0.32 JB	0.24 J B	0.18 JB	20 U	10 U	10 U	10 U	0.19 U	10 U
Styrene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Toluene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	0.13 U	10 U	0.11 U	10 U	0.14 J	0.12 J	20 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	0.15 J	10 U	10 U	0.1 J	0.17 J	10 U	0.14 J	10 U	20 U	10 U	10 U	10 U	0.36 J	10 U
trans-1,3-Dichloropropene	ug/l	0.4		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	ug/l	2		10 U	50 U	10 U	10 U	10 U	0.15 J	10 U	0.19 J	0.19 J	0.15 J	0.28 J	0.55 J	1.1 J	6 J	6 J	4 J	5 J	4.4 J	4 J
Xylenes, Total	ug/l	5		10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U

Notes: - indicates value exceeds Class GA Standard or Guidance level.

Data Qualifiers:
ND - Not Detected, U-undetected,
J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-10D DL	MW-10D	MW-10D DL	MW-10D	MW-10D	MW-10D
Sample Date		Std	Guid	03/02/09	06/03/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13	01/31/05	05/02/06	05/02/06	08/23/07	02/12/08	06/02/08
1,1,1-Trichloroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,1,2,2-Tetrachloroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,1,2-Trichloroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
1,1-Dichloroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,1-Dichloroethene	ug/l	5		10 U	10 U	0.13 J	0.1 J	0.13 J	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	28	20 U	20 U
1,2,4-Trichlorobenzene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	NA	NA	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,2-Dibromoethane	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,2-Dichlorobenzene	ug/l	3		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,2-Dichloroethane	ug/l	0.6		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,2-Dichloropropane	ug/l	1		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 `	20 U	20 U
1,3-Dichlorobenzene	ug/l	3		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
1,4-Dichlorobenzene	ug/l	3		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
2-Butanone (MEK)	ug/l		50	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	10 U	10 U	10 U	80 U	10 U	40 U	20 U	20 U	20 U
2-Hexanone	ug/l		50	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	10 U	10 U	10 U	80 U	10 U	40 U	20 U	20 U	20 U
4-Methyl-2-pentanone (MIBK)	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	10 U	10 U	10 U	80 U	10 U	40 U	20 U	20 U	20 U
Acetone	ug/l		50	10 U	0.41 U	1.7 JB	0.6 JB	0.69 JB	3 JB	0.45 JB	0.91 J B	10 U	10 U	12	10 U	80 U	10 U	40 U	20 U	20 U	2 U
Benzene	ug/l	1		0.18 J	0.11 J	0.12 J	0.14 J	0.13 J	10 U	0.16 J	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Bromodichloromethane	ug/l		50	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Bromoform	ug/l		50	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Bromomethane	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Carbon disulfide	ug/l	60		10 U	10 U	0.31 J	1.3 J	0.41 J	0.38 J	1 U	0.48 J	10 U	1.2 J	0.55 J	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Carbon tetrachloride	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Chlorobenzene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Chloroethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Chloroform	ug/l	7		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Chloromethane	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
cis-1,2-Dichloroethene	ug/l	5		4.4 J	3.2 J	3.5 J	3.5 J	3.9	3.1 J	3.9	2.3	10 U	3.4		**1.9 J**	700 D	420	420 D	220	200	320
cis-1,3-Dichloropropene	ug/l	0.4		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Cyclohexane	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Dibromochloromethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Dichlorodifluoromethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Ethylbenzene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Isopropylbenzene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Methyl acetate	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	0.1 J	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Methyl tert butyl ether	ug/l	10		0.25 J	0.34 J	0.31 J	0.32 J	0.36 J	0.29 J	0.32 J	0.15 J	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Methylcyclohexane	ug/l			10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Methylene chloride	ug/l	5		10 U	0.15 U	0.28 U	0.31 JB	0.21 JB	0.14 JB	0.33 JB	0.28 J B	10 U	4 U	4 U	2 U	80 U	10 U	40 U	2 J	20 U	20 U
Styrene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Tetrachloroethene	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Toluene	ug/l	5		10 U	10 U	0.14 J	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2.6	2 U	80 U	10 U	40 U	20 U	20 U	20 U
trans-1,2-Dichloroethene	ug/l	5		0.35 J	0.32 J	0.38 J	0.36 J	0.32 J	0.41 J	0.28 J	0.18 J	10 U	2 U	2 U	2 U	46 DJ	25	22 DJ	25	16 J	19 J
trans-1,3-Dichloropropene	ug/l	0.4		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U
Trichloroethene	ug/l	5		10 U	10 U	10 U	10 U	0.1 J	10 U	0.17 J	1 U	10 U	2 U	2 U	2 U	80 U	2 J	40 U	20 U	1 J	2 J
Trichlorofluoromethane	ug/l	5		10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	10 U	NA	NA	NA	80 U	10 U	40 U	20 U	20 U	20 U
Vinyl chloride	ug/l	2		4.4 J	3.3 J	3.4 J	3.1 J	3.6	3.1 J	3.5	3	10 U	4.6	NA	**1.7 J**	32 DJ	60 J	58 D	78	96	82
Xylenes, Total	ug/l	5		10 U	10 U	10 U	10 U	3	10 U	3 U	3 U	10 U	2 U	2 U	2 U	80 U	10 U	40 U	20 U	20 U	20 U

Notes: - indicates value exceeds Class GA Standard or Guidance level.

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J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D DL	MW-10D	MW-10D	MW-10D DL	MW-10D	MW-10D	MW-13D DL	MW-13D RE	MW-13D	MW-13D
Sample Date		Std	Guid	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	12/17/12	06/20/13	12/20/13	05/03/06	05/03/06	04/11/07	07/20/07
1,1,1-Trichloroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,1,2,2-Tetrachloroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,1,2-Trichloroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	NA	NA	100 U	50 U	40 U	50 U
1,1-Dichloroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	0.67 J	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,1-Dichloroethene	ug/l	5		0.33 J	20 U	0.65 J	0.43 J	0.56 J	0.41 J	0.38 J	0.52 J	0.51 J	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	5.3 J
1,2,4-Trichlorobenzene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	NA	NA	NA	20 U	20 U	100 U	50 U	40 U	50 U
1,2-Dibromoethane	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,2-Dichlorobenzene	ug/l	3		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,2-Dichloroethane	ug/l	0.6		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,2-Dichloropropane	ug/l	1		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,3-Dichlorobenzene	ug/l	3		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
1,4-Dichlorobenzene	ug/l	3		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
2-Butanone (MEK)	ug/l		50	10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	20 U	100 U	100 U	100 U	100 U	50 U	1,300	50 U
2-Hexanone	ug/l		50	10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	20 U	100 U	100 U	100 U	100 U	50 U	200 U	50 U
4-Methyl-2-pentanone (MIBK)	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	20 U	100 U	100 U	100 U	100 U	50 U	170 J	23 J
Acetone	ug/l		50	0.74 U	20 U	0.68 U	1.8 U	1.5 JB	1.6 JB	1.9 J B	3.2 JB	1.7 JB	3.2 J B	20 U	20 U	100 U	100 U	100 U	100 U	50 U	5,000	24 J
Benzene	ug/l	1		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	37 J	16 J
Bromodichloromethane	ug/l		50	10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Bromoform	ug/l		50	10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Bromomethane	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	0.47 J	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Carbon disulfide	ug/l	60		0.49 U	20 U	10 U	0.72 U	0.61 J	3.5 J	0.37 J	0.51 J	2 U	1.1 J B	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	14 J
Carbon tetrachloride	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Chlorobenzene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Chloroethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Chloroform	ug/l	7		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Chloromethane	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
cis-1,2-Dichloroethene	ug/l	5		190	340	200	220	280	200	210	190	290	380	550	260 E	310	320	480	750 D	630	980	3,400 E
cis-1,3-Dichloropropene	ug/l	0.4		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Cyclohexane	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Dibromochloromethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Dichlorodifluoromethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Ethylbenzene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	0.86 J
Isopropylbenzene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Methyl acetate	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Methyl tert butyl ether	ug/l	10		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Methylcyclohexane	ug/l			10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Methylene chloride	ug/l	5		0.16 U	20 U	0.11 U	1 U	2.2 JB	0.86 JB	0.99 J B	1.5 JB	1.7 JB	6.1 B	20 U	8	40	40	40 U	100 U	50 U	32 B	2.6 JB
Styrene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Tetrachloroethene	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	36 B	50 U	40 U	160
Toluene	ug/l	5		10 U	20 U	0.14 U	20 U	0.21 J	0.22 J	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40	18 J
trans-1,2-Dichloroethene	ug/l	5		13	25	18	14 J	13 J	12 J	12	11 J	14	19	28	16	17 J	16 J	19 J	13 DJ	13 J	95	150
trans-1,3-Dichloropropene	ug/l	0.4		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	50 U
Trichloroethene	ug/l	5		1.1 J	1 J	0.69 J	0.41 J	0.53 J	0.59 J	0.59 J	0.52 J	0.88 J	4 U	20 U	4 U	20 U	20 U	20 U	100 U	50 U	40 U	91
Trichlorofluoromethane	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	2 U	20 U	2 U	4 U	20 U	NA	NA	NA	NA	100 U	50 U	40 U	50 U
Vinyl chloride	ug/l	2		160	76	170	160	180	170	150	170	140	93	28	270 E	320 E	81	90	900 D	720 J	2,000	9,500 E
Xylenes, Total	ug/l	5		10 U	20 U	10 U	20 U	20 U	20 U	6 U	20 U	6	12 U	20 U	4 4	20 U	20 U	20 U	U U	50 U	120 U	4.8 J

Notes: - indicates value exceeds Class GA Standard or Guidance level.

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J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-13D DL	MW-13D	MW-13D DL	MW-13D	MW-13D DL	MW-13D	MW-13D	MW-13D DL	MW-13D	MW-13D DL	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D DL	MW-13D DL	MW-13D DL
Sample Date		Std	Guid	07/20/07	08/23/07	08/23/07	10/11/07	10/11/07	02/12/08	06/02/08	06/02/08	10/06/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	03/02/10	06/07/10	10/26/10
1,1,1-Trichloroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,1,2,2-Tetrachloroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,1,2-Trichloroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,1-Dichloroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,1-Dichloroethene	ug/l	5		110 J	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5.1	6.5 J	1.6 J	0.57 J
1,2,4-Trichlorobenzene	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	0.83 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,2-Dibromoethane	ug/l			800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,2-Dichlorobenzene	ug/l	3		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,2-Dichloroethane	ug/l	0.6		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,2-Dichloropropane	ug/l	1		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,3-Dichlorobenzene	ug/l	3		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
1,4-Dichlorobenzene	ug/l	3		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
2-Butanone (MEK)	ug/l		50	800 U	100 U	1,000 U	10 U	2,000 U	200 U	2 J	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
2-Hexanone	ug/l		50	800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	49 J	100 U	5 U
4-Methyl-2-pentanone (MIBK)	ug/l			800 U	44 J	1,000 U	14	2,000	200 U	2 J	200 U	4.3 J	3.7 J	200 U	200 U	4.2 J	50 U	2.1 J	5 U	50 U	100 U	5 U
Acetone	ug/l		50	130 J	22 J	1,000 U	10 U	2,000 U	200 U	6 U	200 U	5.5 J	20 U	200 U	23 JB	12 U	7.5 JB	6.3 JB	7.6 B	29 J B	15 JB	2.7 JB
Benzene	ug/l	1		15 J	100 U	1,000 U	8 J	2,000 U	200 U	6 J	200 U	5.5 J	5.0 J	200 U	4.9 J	4 J	3.7 J	4.1 J	5.4	50 U	5.4 J	5.3
Bromodichloromethane	ug/l		50	800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Bromoform	ug/l		50	800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Bromomethane	ug/l			800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Carbon disulfide	ug/l	60		800 U	100 U	1,000 U	9 J	2,000 U	200 U	20 U	200 U	0.7 U	1.0 U	200 U	200 U	3.5 J	1.9 J	9.5 J	1.4 J	27 J	2.1 J	0.59 J
Carbon tetrachloride	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Chlorobenzene	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Chloroethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	3 J	200 U	10 U	20 U	200 U	15 J	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Chloroform	ug/l	7		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Chloromethane	ug/l			800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
cis-1,2-Dichloroethene	ug/l	5		3,200	1,600	1,700 D	10 D	2,000 D	430	39	39 DJ	38	36	50 J	86	81 J	61	120	2900 E	3200	970	260
cis-1,3-Dichloropropene	ug/l	0.4		800 U	100 U	1,000 U	10 U	560 J	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Cyclohexane	ug/l			800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Dibromochloromethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Dichlorodifluoromethane	ug/l	5		800 U	100 U	1,000 U	310 EJ	2,000 EJ	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Ethylbenzene	ug/l	5		800 U	100 U	1,000 U	1 J	2,000 U	200 U	20 U	200 U	0.49 J	0.42 J	200 U	0.88 J	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Isopropylbenzene	ug/l	5		800 U	100 U	1,000 U	0.23 JM	2,000 JM	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Methyl acetate	ug/l			800 U	100 U	1,000 U	5 J	2,000 J	200 U	20 U	200 U	3.3 J	1.7 J	200 U	200 U	100 U	50 U	50 U	5 U	50 U	30 J	5 U
Methyl tert butyl ether	ug/l	10		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Methylcyclohexane	ug/l			800 U	100 U	1,000 U	10 U	2,000 U	200 U	3 J	200 U	4.7 J	4 J	200 U	4.7 J	100 U	50 U	2.5 J	5 U	50 U	100 U	5 U
Methylene chloride	ug/l	5		800 U	14 J	1,000 U	10 U	49 U	13 J	20 U	200 U	0.2 U	1.2 U	200 U	4.3 U	17 U	8.8 JB	2.2 JB	3 J B	33 J B	9.8 JB	6.9 B
Styrene	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Tetrachloroethene	ug/l	5		160 J	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	1.3 U	100 U	50 U	50 U	46	50 U	2 J	5 U
Toluene	ug/l	5		16 J	17 J	1,000 U	10 U	2,000 U	10 J	6 J	200 U	9.2 J	9.2 J	200 U	12 J	13 J	7.9 J	5.8 J	7	8.5 J	7.1 J	5.8
trans-1,2-Dichloroethene	ug/l	5		93 J	93 J	1,000 U	60	2,000	36 J	9 J	200 U	10	9.9 J	200 U	6.8 J	7.2 J	8.2 J	11 J	28	36 J	11 J	8.3
trans-1,3-Dichloropropene	ug/l	0.4		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Trichloroethene	ug/l	5		98 J	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	0.17 J	20 U	200 U	200 U	100 U	50 U	50 U	67	78	2.1 J	5 U
Trichlorofluoromethane	ug/l	5		800 U	100 U	1,000 U	10 U	2,000 U	200 U	20 U	200 U	10 U	20 U	200 U	200 U	100 U	50 U	50 U	5 U	50 U	100 U	5 U
Vinyl chloride	ug/l	2		7,200	13,000 E	16,000 D	650 EJ	21,000	3100	450 E	380 D	290 J	270 J	150 J	570	1600	580	760	5800 E	7400	1500	510
Xylenes, Total	ug/l	5		800 U	100 U	1,000 U	7 J	2,000 J	200 U	20 U	200 U	2.6 J	2.3 J	200 U	2.6 U	1.5 J	1.3 J	2.3 J	3.9 J	150	100 U	1.8

Notes: - indicates value exceeds Class GA Standard or Guidance level.

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B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-13D DL		MW-13D DL		MW-13D		MW-13D DL		MW-13D DL		MW-13D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D		MW-14D	
Sample Date		Std	Guid	05/12/11		06/27/12		12/17/12		12/17/12		06/20/13		12/20/13		06/02/08		10/06/08		12/23/08		03/02/09		06/02/09		09/30/09		12/21/09		03/02/10		06/07/10		10/26/10		05/12/11		06/27/12		12/17/12		06/20/13		12/20/13	
1,1,1-Trichloroethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,1,2,2-Tetrachloroethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,1,2-Trichloroethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		10	U	50	U	NA		NA		NA		NA		1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	NA		NA		NA	
1,1-Dichloroethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,1-Dichloroethene	ug/l	5		3.3	J	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,2,4-Trichlorobenzene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	0.32	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,2-Dibromo-3-chloropropane	ug/l	0.04		10	U	NA		NA		NA		20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	NA		NA		20	U	20	U
1,2-Dibromoethane	ug/l			10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,2-Dichlorobenzene	ug/l	3		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,2-Dichloroethane	ug/l	0.6		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,2-Dichloropropane	ug/l	1		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,3-Dichlorobenzene	ug/l	3		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
1,4-Dichlorobenzene	ug/l	3		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	0.3	J	0.14	J	10	U	10	U	0.12	J	10	U	1	U	1	U	100	U	100	U	100	U	100	U
2-Butanone (MEK)	ug/l		50	10	U	50	U	50	U	1000	U	100	U	100	U	2100	J	290		56	J	2.5	J	10	U	10	U	0.72	J	1	U	10	U	1	U	1	U	100	U	100	U	100	U	100	U
2-Hexanone	ug/l		50	10	U	50	U	50	U	1000	U	100	U	100	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	100	U	100	U	100	U
4-Methyl-2-pentanone (MIBK)	ug/l			10	U	50	U	50	U	1000	U	100	U	100	U	1000	U	17	J	400	U	5.5	J	2.8	J	1.4	J	10	U	0.98	J	0.86	J	0.71	J	1	U	100	U	100	U	100	U	100	U
Acetone	ug/l		50	9	J B	50	U	50	U	1000	U	100	U	100	U	8000	J	840		170	J	7.8	JB	120	J	2.6	JB	2.4	JB	1.3	B	4	JB	1.5	B	1.2	B	100	U	20	U	20	U	20	U
Benzene	ug/l	1		3.6	J	50	U	3.9	J	200	U	20	U	20	U	1000	U	5.8	J	400	U	3	J	3.6	J	2.7	J	2.9	J	2.7		2.3	J	2.3		1.6		100	U	20	U	20	U	20	U
Bromodichloromethane	ug/l		50	10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Bromoform	ug/l		50	10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Bromomethane	ug/l			10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Carbon disulfide	ug/l	60		2.2	J	50	U	10	U	200	U	20	U	20	U	1000	U	2.7	U	400	U	10	U	10	U	19		2.6	J	1	U	0.68	J	0.53	J	1.4		100	U	20	U	20	U	20	U
Carbon tetrachloride	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Chlorobenzene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Chloroethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	3.7	J	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Chloroform	ug/l	7		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Chloromethane	ug/l			10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	0.47	J	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
cis-1,2-Dichloroethene	ug/l	5		670		170		1100	E	1200		260		1900		1000	U	50	U	400	U	10	U	0.12	J	0.18	J	0.29	J	0.8	J	0.77	J	0.43	J	0.23	J	100	U	20	U	8.4	J	20	U
cis-1,3-Dichloropropene	ug/l	0.4		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Cyclohexane	ug/l			10	U	50	U	NA		NA		20	U	20		1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	NA		NA		NA	
Dibromochloromethane	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Dichlorodifluoromethane	ug/l	5		10	U	50	U	NA		NA		20	U	20		1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	NA		NA		NA	
Ethylbenzene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	2.3	J	400	U	1.4	J	1.4	J	0.99	J	1.3	J	1.1		0.92	J	1		0.65	J	100	U	20	U	20	U	20	U
Isopropylbenzene	ug/l	5		10	U	50	U	NA		NA		NA		NA		1000	U	50	U	400	U	10	U	0.11	J	10	U	10	U	1	U	10	U	1	U	1	U	100	U	NA		NA		NA	
Methyl acetate	ug/l			10	U	50	U	NA		NA		NA		NA		1000	U	30	J	400	U	10	U	10	U	6.3	J	10	U	3.3		10	U	1	U	1	U	100	U	NA		NA		NA	
Methyl tert butyl ether	ug/l	10		10	U	50	U	NA		NA		NA		NA		1000	U	50	U	400	U	10	U	10	U	10	U	10	U	0.1	J	10	U	1	U	1	U	100	U	NA		NA		NA	
Methylcyclohexane	ug/l			10	U	50	U	NA		NA		NA		NA		1000	U	50	U	400	U	0.83	J	0.75	J	10	U	0.63	J	0.96	J	10	U	0.72	J	1	U	100	U	NA		NA		NA	
Methylene chloride	ug/l	5		19	B	50	U	20	U	400	U	40	U	40	U	1000	U	3.2	U	83	J	0.19	U	0.12	U	0.27	JB	0.35	JB	0.25	J B	0.18	JB	0.29	JB	0.3	J B	100	U	20	U	40	U	40	U
Styrene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Tetrachloroethene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	0.28	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Toluene	ug/l	5		4.3	J	50	U	28		200	U	20	U	20	U	1000	U	24	J	400	U	14		17		14		15		14		13		12		8.9		100	U	20	U	20	U	20	U
trans-1,2-Dichloroethene	ug/l	5		13		50	U	10	U	200	U	20	U	25		1200		270		150	J	21		13		6.9	J	4	J	3.4		3.1	J	2		2.4		100	U	20	U	20	U	20	U
trans-1,3-Dichloropropene	ug/l	0.4		10	U	50	U	10	U	200	U	20	U	20	U	1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	20	U	20	U	20	U
Trichloroethene	ug/l	5		10	U	50	U	10	U	200	U	20	U	20		1000	U	50	U	400	U	10	U	0.13	J	0.24	J	0.35	J	0.45	J	0.32	J	0.34	J	0.21	J	100	U	20	U	20	U	20	U
Trichlorofluoromethane	ug/l	5		10	U	50	U	NA		NA		NA		NA		1000	U	50	U	400	U	10	U	10	U	10	U	10	U	1	U	10	U	1	U	1	U	100	U	NA		NA		NA	
Vinyl chloride	ug/l	2		1000		320		2100	E	2100		400		3200		12000		530		400	U	4.5	J	5.4	J	3.7	J	3.1	J	5.3		4.3	J	3.6		3.6		100	U	20	U	54		8.4	J
Xylenes, Total	ug/l	5		30	U	50	U	10	U	200	U	20	U	20	U	1000	U	10	J	400	U	6.3	JB	6.9	J	4.9	J	6.2	J	5.2		4.6	J	4.8		3.1		100	U	20	U	20	U	20	U

Notes: ▭ - indicates value exceeds Class GA Standard or Guidance level.

Data Qualifiers:
ND - Not Detected, U-undetected,
J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D
Sample Date		Std	Guid	02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
1,1,1-Trichloroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,1,2,2-Tetrachloroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,1,2-Trichloroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
1,1-Dichloroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,1-Dichloroethene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,2,4-Trichlorobenzene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	NA	NA	4 U	4 U
1,2-Dibromoethane	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,2-Dichlorobenzene	ug/l	3		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,2-Dichloroethane	ug/l	0.6		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,2-Dichloropropane	ug/l	1		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,3-Dichlorobenzene	ug/l	3		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
1,4-Dichlorobenzene	ug/l	3		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
2-Butanone (MEK)	ug/l		50	40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	20 U	20 U	20 U
2-Hexanone	ug/l		50	40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	20 U	20 U	20 U
4-Methyl-2-pentanone (MIBK)	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	20 U	20 U	20 U
Acetone	ug/l		50	5 J	40 U	1 U	10 U	10 U	1.6 U	1.6 JB	0.72 JB	1.5 B	2.9 JB	0.6 JB	0.71 J B	20 U	20 U	20 U	20 U
Benzene	ug/l	1		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Bromodichloromethane	ug/l		50	40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Bromoform	ug/l		50	40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Bromomethane	ug/l			40 U	40 U	0.32 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Carbon disulfide	ug/l	60		40 U	40 U	0.35 U	10 U	10 U	1.1 J	3.8 J	1.3 J	0.71 J	0.45 J	0.14 J	0.87 J	20 U	4 U	1.3 J	4 U
Carbon tetrachloride	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Chlorobenzene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Chloroethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Chloroform	ug/l	7		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Chloromethane	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
cis-1,2-Dichloroethene	ug/l	5		6 J	4 J	4.1 J	10 U	4.9 J	4.4 J	4.4 J	4.4 J	4.5	5.3 J	3.6	4	20 U	5.1	3.7 J	3.9 J
cis-1,3-Dichloropropene	ug/l	0.4		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Cyclohexane	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Dibromochloromethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Dichlorodifluoromethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Ethylbenzene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Isopropylbenzene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Methyl acetate	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Methyl tert butyl ether	ug/l	10		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Methylcyclohexane	ug/l			40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Methylene chloride	ug/l	5		4 J	4 U	0.16 U	10 U	10 U	0.11 U	0.28 JB	0.34 JB	0.28 J B	0.18 JB	0.3 JB	0.28 J B	20 U	8 U	8 U	8 U
Styrene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Tetrachloroethene	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Toluene	ug/l	5		40 U	40 U	0.11 U	10 U	0.12 U	10 U	0.15 J	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
trans-1,2-Dichloroethene	ug/l	5		40 U	40 U	0.67 J	10 U	1.1 J	1.2 J	1.2 J	1.2 J	0.91 J	1.1 J	0.58 J	0.86 J	20 U	4 U	4 U	4 U
trans-1,3-Dichloropropene	ug/l	0.4		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	4 U	4 U	4 U
Trichloroethene	ug/l	5		40 U	40 U	10 U	10 U	0.25 J	0.21 J	0.2 J	0.23 J	0.27 J	10 U	1 U	0.16 J	20 U	4 U	4 U	4 U
Trichlorofluoromethane	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	20 U	NA	NA	NA
Vinyl chloride	ug/l	2		40 U	40 U	2.7 J	10 U	2.6 J	2.3 J	1.9 J	1.9 J	2.2	2.5 J	1.8	2	20 U	4 U	4 U	4 U
Xylenes, Total	ug/l	5		40 U	40 U	10 U	10 U	10 U	10 U	10 U	10 U	3 U	10 U	1 U	3 U	20 U	4 U	4 U	4 U

Notes: - indicates value exceeds Class GA Standard or Guidance level.

Data Qualifiers:
ND - Not Detected, U-undetected,
J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

Pioneer Midler Avenue LLC

Summary of Groundwater VOC Data

Parameter	Units	NYSDEC GA		MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D
Sample Date		Std	Guid	02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
1,1,1-Trichloroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	0.64 J	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,1,2-Tricloro-1,2,2,-triflouroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
1,1-Dichloroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	0.12 J	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	0.33 J	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	ug/l	0.04		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	NA	NA	5 U	5 U
1,2-Dibromoethane	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,2-Dichlorobenzene	ug/l	3		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/l	0.6		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/l	1		400 U	400 U	10 U	200 U	10 U	10 U	0.12 J	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
1,3-Dichlorobenzene	ug/l	3		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	0.14 J	25 U	5 U	5 U	5 U
1,4-Dichlorobenzene	ug/l	3		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
2-Butanone (MEK)	ug/l		50	400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	25 U	25 U	25 U
2-Hexanone	ug/l		50	400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone (MIBK)	ug/l			400 U	400 U	1.6 J	200 U	10 U	10 U	2.3 J	10 U	1 U	10 U	1 U	1 U	25 U	25 U	25 U	25 U
Acetone	ug/l		50	81 J	400 U	10 U	200 U	1 U	1.2 U	10 JB	1.6 JB	1.4 B	3.5 JB	1.3 B	0.95 J B	25 U	25 U	25 U	25 U
Benzene	ug/l	1		400 U	400 U	0.71 J	200 U	0.58 J	0.36 J	10 U	0.36 J	0.42 J	0.3 J	0.31 J	0.23 J	25 U	5 U	5 U	5 U
Bromodichloromethane	ug/l		50	400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Bromoform	ug/l		50	400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Bromomethane	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Carbon disulfide	ug/l	60		400 U	400 U	0.52 U	200 U	10 U	0.68 J	0.36 J	1.5 J	0.58 J B	0.2 J	0.26 J	1.4 B	25 U	5 U	5 U	5 U
Carbon tetrachloride	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	0.33 J	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Chlorobenzene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	0.2 J	0.2 J	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Chloroethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Chloroform	ug/l	7		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Chloromethane	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	1.9 J	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	ug/l	5		64 J	400 U	0.29 J	200 U	10 U	0.13 J	2.8 J	0.3 J	0.38 J	10 U	0.28 J	0.22 J	25 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/l	0.4		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Cyclohexane	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Dibromochloromethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Dichlorodifluoromethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Ethylbenzene	ug/l	5		400 U	400 U	0.35 J	200 U	0.37 J	0.22 J	10 U	0.2 J	0.24 J	10 U	1 U	0.12 J	25 U	5 U	5 U	5 U
Isopropylbenzene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Methyl acetate	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Methyl tert butyl ether	ug/l	10		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Methylcyclohexane	ug/l			400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Methylene chloride	ug/l	5		31 J	33 J	0.15 U	200 U	10 U	0.12 U	0.25 JB	0.3 JB	0.29 J B	0.2 JB	0.3 J B	0.27 J B	25 U	10 U	10 U	10 U
Styrene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Tetrachloroethene	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Toluene	ug/l	5		400 U	400 U	4.9 J	200 U	3.7 J	3 J	10 U	2 J	2	1.2 J	0.83 J	0.14 J	25 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	ug/l	5		30 J	400 U	1.6 J	200 U	2.5 J	2.7 J	10 U	2.9 J	2.5	2 J	2.2	2.2	25 U	2.5 J	5 U	5 U
trans-1,3-Dichloropropene	ug/l	0.4		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	5 U	5 U	5 U
Trichloroethene	ug/l	5		400 U	400 U	10 U	200 U	10 U	0.12 J	10 U	0.21 J	0.26 J	10 U	0.19 J	0.2 J	25 U	5 U	5 U	5 U
Trichlorofluoromethane	ug/l	5		400 U	400 U	10 U	200 U	10 U	10 U	10 U	10 U	1 U	10 U	1 U	1 U	25 U	NA	NA	NA
Vinyl chloride	ug/l	2		190 J	400 U	1.6 J	200 U	1.9 J	1.6 J	1.9 J	1.9 J	2.6	1.3 J	1.6	1 U	25 U	5 U	5 U	5 U
Xylenes, Total	ug/l	5		400 U	400 U	1.3 J	200 U	1 JB	0.9 J	0.31 J	0.59 J	0.82 J	0.3 J	0.53 J	3 U	25 U	5 U	5 U	5 U

Notes: [ ] - indicates value exceeds Class GA Standard or Guidance level.

Data Qualifiers:
ND - Not Detected, U-undetected,
J or E - Estimated value,
RE - re-extraction, D-Diluted
B-Analyte found in associated blank as well as in the sample.
NA-Parameter Not Analyzed

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-40540-1
Client Project/Site: Midler Semi-Annual Groundwater

For:
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd
Syracuse, New York 13212

Attn: Mr. Wayne N Randall

Joseph V. Giacomazza

Authorized for release by:
6/28/2013 11:51:21 AM
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Designee for

Sally Hoffman, Project Manager II
sally.hoffman@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes
B	Compound was found in the blank and sample.
F	MS or MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-40540-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-40540-1

Receipt
The samples were received on 6/21/2013 2:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2º C.

GC/MS VOA
Method(s) OLC02.1: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-14D (480-40540-2), MW-15D (480-40540-6), MW-16D (480-40540-1), MW-16D (480-40540-1 MS), MW-16D (480-40540-1 MSD), MW-9D (480-40540-4). Elevated reporting limits (RLs) are provided.

Method(s) OLC02.1: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-10D (480-40540-5). Elevated reporting limits (RLs) are provided.

Method(s) OLC02.1: The following samples were diluted to bring the concentration of target analytes within the calibration range: (480-40540-3 MS), (480-40540-3 MSD), MW-13D (480-40540-3). Elevated reporting limits (RLs) are provided.

Method(s) OLC02.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 126040 were outside control limits for Vinyl Chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Ion Chromatography
Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-13D (480-40540-3), MW-14D (480-40540-2), MW-9D (480-40540-4). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-16D (480-40540-1). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-10D (480-40540-5), MW-15D (480-40540-6). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) SM 3500 FE D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample(s) has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-10D (480-40540-5), MW-13D (480-40540-3), MW-14D (480-40540-2), MW-15D (480-40540-6), MW-16D (480-40540-1), MW-9D (480-40540-4)

Method(s) SM 3500 FE D: The matrix spike (MS) recoveriy associated with batch 125363 was outside control limits: (480-40540-3 MS). Matrix interference is suspected. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) SM 4500 S2 F: Due to the matrix, the initial volume(s) used for the following sample(s) deviated from the standard procedure: MW-10D (480-40540-5), MW-13D (480-40540-3), MW-14D (480-40540-2), MW-15D (480-40540-6), MW-9D (480-40540-4). The reporting limits (RLs) have been adjusted proportionately.

Method(s) SM 5310C: Due to the high concentration of Total Inorganic Carbon (TIC), the matrix spike / matrix spike duplicate (MS/MSD) for

Job ID: 480-40540-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

batch 88563 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) SM 5310C: Due to the high concentration of dissolved inorganic carbon, the matrix spike / matrix spike duplicate (MS/MSD) for batch 88816 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) SM 5310C: The method blank for batch 88816 contained dissolved inorganic carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

Detection Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-16D — Lab Sample ID: 480-40540-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.23		0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	82.7		40.0	7.0	mg/L	20		300.0	Total/NA
Sulfide	13.6		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	195	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Organic Carbon	12.6		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-14D — Lab Sample ID: 480-40540-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	8.4	J	20	6.8	ug/L	20		OLC02.1	Total/NA
Vinyl chloride	54		20	5.4	ug/L	20		OLC02.1	Total/NA
Iron	0.096		0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	121		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	60.0		5.0	3.4	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	152	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Organic Carbon	63.2		10.0	4.3	mg/L	10		SM5310_D	Dissolved

Client Sample ID: MW-13D — Lab Sample ID: 480-40540-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	260		20	6.8	ug/L	20		OLC02.1	Total/NA
Vinyl chloride	400		20	5.4	ug/L	20		OLC02.1	Total/NA
Iron	0.060		0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	160		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	40.0		5.0	3.4	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	64.4	B	2.0	0.28	mg/L	2		SM 5310C	Dissolved
Dissolved Organic Carbon	21.2		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-9D — Lab Sample ID: 480-40540-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	12		10	2.9	ug/L	2		OLC02.1	Total/NA
Carbon disulfide	0.55	J	2.0	0.42	ug/L	2		OLC02.1	Total/NA
Toluene	2.6		2.0	0.61	ug/L	2		OLC02.1	Total/NA
Iron	0.38		0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	411		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	22.0		5.0	3.4	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	80.8	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Organic Carbon	5.7		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-10D — Lab Sample ID: 480-40540-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	320		20	6.8	ug/L	20		OLC02.1	Total/NA
trans-1,2-Dichloroethene	16	J	20	8.5	ug/L	20		OLC02.1	Total/NA
Vinyl chloride	81		20	5.4	ug/L	20		OLC02.1	Total/NA
Iron	0.024	J	0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	612		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	30.0		5.0	3.4	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	80.6	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-10D (Continued) — Lab Sample ID: 480-40540-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	4.4		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-15D — Lab Sample ID: 480-40540-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	1.3	J	4.0	0.84	ug/L	4		OLC02.1	Total/NA
cis-1,2-Dichloroethene	3.7	J	4.0	1.4	ug/L	4		OLC02.1	Total/NA
Iron	0.33		0.050	0.019	mg/L	1		6010B	Total/NA
Sulfate	612		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	44.0		5.0	3.4	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	114	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Organic Carbon	5.2		1.0	0.43	mg/L	1		SM5310_D	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-16D
Date Collected: 06/20/13 09:00
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-1
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	1.4	ug/L			06/26/13 00:06	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.0	ug/L			06/26/13 00:06	5
1,1,2-Trichloroethane	ND		5.0	1.0	ug/L			06/26/13 00:06	5
1,1-Dichloroethane	ND		5.0	1.6	ug/L			06/26/13 00:06	5
1,1-Dichloroethene	ND		5.0	1.3	ug/L			06/26/13 00:06	5
1,2,4-Trichlorobenzene	ND		5.0	1.4	ug/L			06/26/13 00:06	5
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/L			06/26/13 00:06	5
1,2-Dibromoethane	ND		5.0	1.2	ug/L			06/26/13 00:06	5
1,2-Dichlorobenzene	ND		5.0	0.75	ug/L			06/26/13 00:06	5
1,2-Dichloroethane	ND		5.0	0.80	ug/L			06/26/13 00:06	5
1,2-Dichloropropane	ND		5.0	0.85	ug/L			06/26/13 00:06	5
1,3-Dichlorobenzene	ND		5.0	1.5	ug/L			06/26/13 00:06	5
1,4-Dichlorobenzene	ND		5.0	1.3	ug/L			06/26/13 00:06	5
2-Butanone (MEK)	ND		25	9.1	ug/L			06/26/13 00:06	5
2-Hexanone	ND		25	2.8	ug/L			06/26/13 00:06	5
4-Methyl-2-pentanone (MIBK)	ND		25	5.8	ug/L			06/26/13 00:06	5
Acetone	ND		25	7.3	ug/L			06/26/13 00:06	5
Benzene	ND		5.0	0.90	ug/L			06/26/13 00:06	5
Bromodichloromethane	ND		5.0	1.3	ug/L			06/26/13 00:06	5
Bromoform	ND		5.0	1.5	ug/L			06/26/13 00:06	5
Bromomethane	ND		5.0	1.0	ug/L			06/26/13 00:06	5
Carbon disulfide	ND		5.0	1.1	ug/L			06/26/13 00:06	5
Carbon tetrachloride	ND		5.0	1.5	ug/L			06/26/13 00:06	5
Chlorobenzene	ND		5.0	1.4	ug/L			06/26/13 00:06	5
Dibromochloromethane	ND		5.0	0.75	ug/L			06/26/13 00:06	5
Chloroethane	ND		5.0	0.85	ug/L			06/26/13 00:06	5
Chloroform	ND		5.0	1.4	ug/L			06/26/13 00:06	5
Chloromethane	ND		5.0	1.1	ug/L			06/26/13 00:06	5
cis-1,2-Dichloroethene	ND		5.0	1.7	ug/L			06/26/13 00:06	5
cis-1,3-Dichloropropene	ND		5.0	1.1	ug/L			06/26/13 00:06	5
Ethylbenzene	ND		5.0	1.6	ug/L			06/26/13 00:06	5
Methylene Chloride	ND		10	2.3	ug/L			06/26/13 00:06	5
Styrene	ND		5.0	1.4	ug/L			06/26/13 00:06	5
Tetrachloroethene	ND		5.0	1.8	ug/L			06/26/13 00:06	5
Toluene	ND		5.0	1.5	ug/L			06/26/13 00:06	5
trans-1,2-Dichloroethene	ND		5.0	2.1	ug/L			06/26/13 00:06	5
trans-1,3-Dichloropropene	ND		5.0	1.5	ug/L			06/26/13 00:06	5
Trichloroethene	ND		5.0	1.3	ug/L			06/26/13 00:06	5
Vinyl chloride	ND		5.0	1.4	ug/L			06/26/13 00:06	5
Xylenes, Total	ND		5.0	2.1	ug/L			06/26/13 00:06	5
m-Xylene & p-Xylene	ND		5.0	2.1	ug/L			06/26/13 00:06	5
o-Xylene	ND		5.0	2.1	ug/L			06/26/13 00:06	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/26/13 00:06*	*5*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.23**		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 18:49	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-16D
Date Collected: 06/20/13 09:00
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**82.7**		40.0	7.0	mg/L			06/26/13 11:42	20
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:09	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	**13.6**		1.0	0.67	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**195**	**B**	10.0	1.4	mg/L			06/25/13 10:19	10
Dissolved Organic Carbon	**12.6**		1.0	0.43	mg/L			06/26/13 18:29	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-14D
Date Collected: 06/20/13 10:30
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-2
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			06/26/13 01:20	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			06/26/13 01:20	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			06/26/13 01:20	20
1,1-Dichloroethane	ND		20	6.3	ug/L			06/26/13 01:20	20
1,1-Dichloroethene	ND		20	5.2	ug/L			06/26/13 01:20	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			06/26/13 01:20	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			06/26/13 01:20	20
1,2-Dibromoethane	ND		20	4.9	ug/L			06/26/13 01:20	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			06/26/13 01:20	20
1,2-Dichloroethane	ND		20	3.2	ug/L			06/26/13 01:20	20
1,2-Dichloropropane	ND		20	3.4	ug/L			06/26/13 01:20	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			06/26/13 01:20	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			06/26/13 01:20	20
2-Butanone (MEK)	ND		100	36	ug/L			06/26/13 01:20	20
2-Hexanone	ND		100	11	ug/L			06/26/13 01:20	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			06/26/13 01:20	20
Acetone	ND		100	29	ug/L			06/26/13 01:20	20
Benzene	ND		20	3.6	ug/L			06/26/13 01:20	20
Bromodichloromethane	ND		20	5.1	ug/L			06/26/13 01:20	20
Bromoform	ND		20	6.0	ug/L			06/26/13 01:20	20
Bromomethane	ND		20	4.0	ug/L			06/26/13 01:20	20
Carbon disulfide	ND		20	4.2	ug/L			06/26/13 01:20	20
Carbon tetrachloride	ND		20	6.0	ug/L			06/26/13 01:20	20
Chlorobenzene	ND		20	5.7	ug/L			06/26/13 01:20	20
Dibromochloromethane	ND		20	3.0	ug/L			06/26/13 01:20	20
Chloroethane	ND		20	3.4	ug/L			06/26/13 01:20	20
Chloroform	ND		20	5.6	ug/L			06/26/13 01:20	20
Chloromethane	ND		20	4.4	ug/L			06/26/13 01:20	20
cis-1,2-Dichloroethene	**8.4**	**J**	20	6.8	ug/L			06/26/13 01:20	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			06/26/13 01:20	20
Ethylbenzene	ND		20	6.3	ug/L			06/26/13 01:20	20
Methylene Chloride	ND		40	9.2	ug/L			06/26/13 01:20	20
Styrene	ND		20	5.6	ug/L			06/26/13 01:20	20
Tetrachloroethene	ND		20	7.0	ug/L			06/26/13 01:20	20
Toluene	ND		20	6.1	ug/L			06/26/13 01:20	20
trans-1,2-Dichloroethene	ND		20	8.5	ug/L			06/26/13 01:20	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			06/26/13 01:20	20
Trichloroethene	ND		20	5.4	ug/L			06/26/13 01:20	20
Vinyl chloride	**54**		20	5.4	ug/L			06/26/13 01:20	20
Xylenes, Total	ND		20	8.4	ug/L			06/26/13 01:20	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			06/26/13 01:20	20
o-Xylene	ND		20	8.4	ug/L			06/26/13 01:20	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/26/13 01:20*	*20*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.096**		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 18:57	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-14D
Date Collected: 06/20/13 10:30
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**121**		20.0	3.5	mg/L			06/25/13 00:16	10
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:10	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	**60.0**		5.0	3.4	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**152**	**B**	10.0	1.4	mg/L			06/25/13 10:19	10
Dissolved Organic Carbon	**63.2**		10.0	4.3	mg/L			06/26/13 18:53	10

Client Sample ID: MW-13D
Date Collected: 06/20/13 09:45
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-3
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			06/26/13 16:21	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			06/26/13 16:21	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			06/26/13 16:21	20
1,1-Dichloroethane	ND		20	6.3	ug/L			06/26/13 16:21	20
1,1-Dichloroethene	ND		20	5.2	ug/L			06/26/13 16:21	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			06/26/13 16:21	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			06/26/13 16:21	20
1,2-Dibromoethane	ND		20	4.9	ug/L			06/26/13 16:21	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			06/26/13 16:21	20
1,2-Dichloroethane	ND		20	3.2	ug/L			06/26/13 16:21	20
1,2-Dichloropropane	ND		20	3.4	ug/L			06/26/13 16:21	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			06/26/13 16:21	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			06/26/13 16:21	20
2-Butanone (MEK)	ND		100	36	ug/L			06/26/13 16:21	20
2-Hexanone	ND		100	11	ug/L			06/26/13 16:21	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			06/26/13 16:21	20
Acetone	ND		100	29	ug/L			06/26/13 16:21	20
Benzene	ND		20	3.6	ug/L			06/26/13 16:21	20
Bromodichloromethane	ND		20	5.1	ug/L			06/26/13 16:21	20
Bromoform	ND		20	6.0	ug/L			06/26/13 16:21	20
Bromomethane	ND		20	4.0	ug/L			06/26/13 16:21	20
Carbon disulfide	ND		20	4.2	ug/L			06/26/13 16:21	20
Carbon tetrachloride	ND		20	6.0	ug/L			06/26/13 16:21	20
Chlorobenzene	ND		20	5.7	ug/L			06/26/13 16:21	20
Dibromochloromethane	ND		20	3.0	ug/L			06/26/13 16:21	20
Chloroethane	ND		20	3.4	ug/L			06/26/13 16:21	20
Chloroform	ND		20	5.6	ug/L			06/26/13 16:21	20
Chloromethane	ND		20	4.4	ug/L			06/26/13 16:21	20
cis-1,2-Dichloroethene	**260**		20	6.8	ug/L			06/26/13 16:21	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			06/26/13 16:21	20
Ethylbenzene	ND		20	6.3	ug/L			06/26/13 16:21	20
Methylene Chloride	ND		40	9.2	ug/L			06/26/13 16:21	20
Styrene	ND		20	5.6	ug/L			06/26/13 16:21	20
Tetrachloroethene	ND		20	7.0	ug/L			06/26/13 16:21	20
Toluene	ND		20	6.1	ug/L			06/26/13 16:21	20
trans-1,2-Dichloroethene	ND		20	8.5	ug/L			06/26/13 16:21	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			06/26/13 16:21	20
Trichloroethene	ND		20	5.4	ug/L			06/26/13 16:21	20
Vinyl chloride	**400**		20	5.4	ug/L			06/26/13 16:21	20
Xylenes, Total	ND		20	8.4	ug/L			06/26/13 16:21	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			06/26/13 16:21	20
o-Xylene	ND		20	8.4	ug/L			06/26/13 16:21	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*06/26/13 16:21*	*20*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.060**		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 18:59	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-13D
Date Collected: 06/20/13 09:45
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**160**		20.0	3.5	mg/L			06/25/13 00:26	10
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:11	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	**40.0**		5.0	3.4	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**64.4**	**B**	2.0	0.28	mg/L			06/25/13 10:19	2
Dissolved Organic Carbon	**21.2**		1.0	0.43	mg/L			06/26/13 19:01	1

Client Sample ID: MW-9D
Date Collected: 06/20/13 11:15
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-4
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.57	ug/L			06/26/13 02:10	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.78	ug/L			06/26/13 02:10	2
1,1,2-Trichloroethane	ND		2.0	0.40	ug/L			06/26/13 02:10	2
1,1-Dichloroethane	ND		2.0	0.63	ug/L			06/26/13 02:10	2
1,1-Dichloroethene	ND		2.0	0.52	ug/L			06/26/13 02:10	2
1,2,4-Trichlorobenzene	ND		2.0	0.54	ug/L			06/26/13 02:10	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.99	ug/L			06/26/13 02:10	2
1,2-Dibromoethane	ND		2.0	0.49	ug/L			06/26/13 02:10	2
1,2-Dichlorobenzene	ND		2.0	0.30	ug/L			06/26/13 02:10	2
1,2-Dichloroethane	ND		2.0	0.32	ug/L			06/26/13 02:10	2
1,2-Dichloropropane	ND		2.0	0.34	ug/L			06/26/13 02:10	2
1,3-Dichlorobenzene	ND		2.0	0.59	ug/L			06/26/13 02:10	2
1,4-Dichlorobenzene	ND		2.0	0.53	ug/L			06/26/13 02:10	2
2-Butanone (MEK)	ND		10	3.6	ug/L			06/26/13 02:10	2
2-Hexanone	ND		10	1.1	ug/L			06/26/13 02:10	2
4-Methyl-2-pentanone (MIBK)	ND		10	2.3	ug/L			06/26/13 02:10	2
Acetone	**12**		10	2.9	ug/L			06/26/13 02:10	2
Benzene	ND		2.0	0.36	ug/L			06/26/13 02:10	2
Bromodichloromethane	ND		2.0	0.51	ug/L			06/26/13 02:10	2
Bromoform	ND		2.0	0.60	ug/L			06/26/13 02:10	2
Bromomethane	ND		2.0	0.40	ug/L			06/26/13 02:10	2
Carbon disulfide	**0.55**	**J**	2.0	0.42	ug/L			06/26/13 02:10	2
Carbon tetrachloride	ND		2.0	0.60	ug/L			06/26/13 02:10	2
Chlorobenzene	ND		2.0	0.57	ug/L			06/26/13 02:10	2
Dibromochloromethane	ND		2.0	0.30	ug/L			06/26/13 02:10	2
Chloroethane	ND		2.0	0.34	ug/L			06/26/13 02:10	2
Chloroform	ND		2.0	0.56	ug/L			06/26/13 02:10	2
Chloromethane	ND		2.0	0.44	ug/L			06/26/13 02:10	2
cis-1,2-Dichloroethene	ND		2.0	0.68	ug/L			06/26/13 02:10	2
cis-1,3-Dichloropropene	ND		2.0	0.43	ug/L			06/26/13 02:10	2
Ethylbenzene	ND		2.0	0.63	ug/L			06/26/13 02:10	2
Methylene Chloride	ND		4.0	0.92	ug/L			06/26/13 02:10	2
Styrene	ND		2.0	0.56	ug/L			06/26/13 02:10	2
Tetrachloroethene	ND		2.0	0.70	ug/L			06/26/13 02:10	2
Toluene	**2.6**		2.0	0.61	ug/L			06/26/13 02:10	2
trans-1,2-Dichloroethene	ND		2.0	0.85	ug/L			06/26/13 02:10	2
trans-1,3-Dichloropropene	ND		2.0	0.59	ug/L			06/26/13 02:10	2
Trichloroethene	ND		2.0	0.54	ug/L			06/26/13 02:10	2
Vinyl chloride	ND		2.0	0.54	ug/L			06/26/13 02:10	2
Xylenes, Total	ND		2.0	0.84	ug/L			06/26/13 02:10	2
m-Xylene & p-Xylene	ND		2.0	0.84	ug/L			06/26/13 02:10	2
o-Xylene	ND		2.0	0.84	ug/L			06/26/13 02:10	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/26/13 02:10*	*2*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.38**		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 19:02	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-9D
Date Collected: 06/20/13 11:15
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	411		20.0	3.5	mg/L			06/25/13 00:36	10
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:12	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	22.0		5.0	3.4	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	80.8	B	5.0	0.70	mg/L			06/25/13 10:19	5
Dissolved Organic Carbon	5.7		1.0	0.43	mg/L			06/26/13 19:10	1

Client Sample ID: MW-10D
Date Collected: 06/20/13 13:45
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-5
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			06/26/13 02:35	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			06/26/13 02:35	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			06/26/13 02:35	20
1,1-Dichloroethane	ND		20	6.3	ug/L			06/26/13 02:35	20
1,1-Dichloroethene	ND		20	5.2	ug/L			06/26/13 02:35	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			06/26/13 02:35	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			06/26/13 02:35	20
1,2-Dibromoethane	ND		20	4.9	ug/L			06/26/13 02:35	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			06/26/13 02:35	20
1,2-Dichloroethane	ND		20	3.2	ug/L			06/26/13 02:35	20
1,2-Dichloropropane	ND		20	3.4	ug/L			06/26/13 02:35	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			06/26/13 02:35	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			06/26/13 02:35	20
2-Butanone (MEK)	ND		100	36	ug/L			06/26/13 02:35	20
2-Hexanone	ND		100	11	ug/L			06/26/13 02:35	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			06/26/13 02:35	20
Acetone	ND		100	29	ug/L			06/26/13 02:35	20
Benzene	ND		20	3.6	ug/L			06/26/13 02:35	20
Bromodichloromethane	ND		20	5.1	ug/L			06/26/13 02:35	20
Bromoform	ND		20	6.0	ug/L			06/26/13 02:35	20
Bromomethane	ND		20	4.0	ug/L			06/26/13 02:35	20
Carbon disulfide	ND		20	4.2	ug/L			06/26/13 02:35	20
Carbon tetrachloride	ND		20	6.0	ug/L			06/26/13 02:35	20
Chlorobenzene	ND		20	5.7	ug/L			06/26/13 02:35	20
Dibromochloromethane	ND		20	3.0	ug/L			06/26/13 02:35	20
Chloroethane	ND		20	3.4	ug/L			06/26/13 02:35	20
Chloroform	ND		20	5.6	ug/L			06/26/13 02:35	20
Chloromethane	ND		20	4.4	ug/L			06/26/13 02:35	20
cis-1,2-Dichloroethene	**320**		20	6.8	ug/L			06/26/13 02:35	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			06/26/13 02:35	20
Ethylbenzene	ND		20	6.3	ug/L			06/26/13 02:35	20
Methylene Chloride	ND		40	9.2	ug/L			06/26/13 02:35	20
Styrene	ND		20	5.6	ug/L			06/26/13 02:35	20
Tetrachloroethene	ND		20	7.0	ug/L			06/26/13 02:35	20
Toluene	ND		20	6.1	ug/L			06/26/13 02:35	20
trans-1,2-Dichloroethene	**16**	**J**	20	8.5	ug/L			06/26/13 02:35	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			06/26/13 02:35	20
Trichloroethene	ND		20	5.4	ug/L			06/26/13 02:35	20
Vinyl chloride	**81**		20	5.4	ug/L			06/26/13 02:35	20
Xylenes, Total	ND		20	8.4	ug/L			06/26/13 02:35	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			06/26/13 02:35	20
o-Xylene	ND		20	8.4	ug/L			06/26/13 02:35	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/26/13 02:35*	*20*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.024**	**J**	0.050	0.019	mg/L		06/21/13 10:50	06/23/13 19:05	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-10D
Date Collected: 06/20/13 13:45
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**612**		20.0	3.5	mg/L			06/27/13 10:40	10
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:14	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	**30.0**		5.0	3.4	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**80.6**	**B**	5.0	0.70	mg/L			06/25/13 10:19	5
Dissolved Organic Carbon	**4.4**		1.0	0.43	mg/L			06/26/13 19:18	1

Client Sample ID: MW-15D
Date Collected: 06/20/13 13:00
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-6
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	1.1	ug/L			06/26/13 03:00	4
1,1,2,2-Tetrachloroethane	ND		4.0	1.6	ug/L			06/26/13 03:00	4
1,1,2-Trichloroethane	ND		4.0	0.80	ug/L			06/26/13 03:00	4
1,1-Dichloroethane	ND		4.0	1.3	ug/L			06/26/13 03:00	4
1,1-Dichloroethene	ND		4.0	1.0	ug/L			06/26/13 03:00	4
1,2,4-Trichlorobenzene	ND		4.0	1.1	ug/L			06/26/13 03:00	4
1,2-Dibromo-3-Chloropropane	ND		4.0	2.0	ug/L			06/26/13 03:00	4
1,2-Dibromoethane	ND		4.0	0.98	ug/L			06/26/13 03:00	4
1,2-Dichlorobenzene	ND		4.0	0.60	ug/L			06/26/13 03:00	4
1,2-Dichloroethane	ND		4.0	0.64	ug/L			06/26/13 03:00	4
1,2-Dichloropropane	ND		4.0	0.68	ug/L			06/26/13 03:00	4
1,3-Dichlorobenzene	ND		4.0	1.2	ug/L			06/26/13 03:00	4
1,4-Dichlorobenzene	ND		4.0	1.1	ug/L			06/26/13 03:00	4
2-Butanone (MEK)	ND		20	7.2	ug/L			06/26/13 03:00	4
2-Hexanone	ND		20	2.2	ug/L			06/26/13 03:00	4
4-Methyl-2-pentanone (MIBK)	ND		20	4.6	ug/L			06/26/13 03:00	4
Acetone	ND		20	5.8	ug/L			06/26/13 03:00	4
Benzene	ND		4.0	0.72	ug/L			06/26/13 03:00	4
Bromodichloromethane	ND		4.0	1.0	ug/L			06/26/13 03:00	4
Bromoform	ND		4.0	1.2	ug/L			06/26/13 03:00	4
Bromomethane	ND		4.0	0.80	ug/L			06/26/13 03:00	4
Carbon disulfide	**1.3**	**J**	4.0	0.84	ug/L			06/26/13 03:00	4
Carbon tetrachloride	ND		4.0	1.2	ug/L			06/26/13 03:00	4
Chlorobenzene	ND		4.0	1.1	ug/L			06/26/13 03:00	4
Dibromochloromethane	ND		4.0	0.60	ug/L			06/26/13 03:00	4
Chloroethane	ND		4.0	0.68	ug/L			06/26/13 03:00	4
Chloroform	ND		4.0	1.1	ug/L			06/26/13 03:00	4
Chloromethane	ND		4.0	0.88	ug/L			06/26/13 03:00	4
cis-1,2-Dichloroethene	**3.7**	**J**	4.0	1.4	ug/L			06/26/13 03:00	4
cis-1,3-Dichloropropene	ND		4.0	0.86	ug/L			06/26/13 03:00	4
Ethylbenzene	ND		4.0	1.3	ug/L			06/26/13 03:00	4
Methylene Chloride	ND		8.0	1.8	ug/L			06/26/13 03:00	4
Styrene	ND		4.0	1.1	ug/L			06/26/13 03:00	4
Tetrachloroethene	ND		4.0	1.4	ug/L			06/26/13 03:00	4
Toluene	ND		4.0	1.2	ug/L			06/26/13 03:00	4
trans-1,2-Dichloroethene	ND		4.0	1.7	ug/L			06/26/13 03:00	4
trans-1,3-Dichloropropene	ND		4.0	1.2	ug/L			06/26/13 03:00	4
Trichloroethene	ND		4.0	1.1	ug/L			06/26/13 03:00	4
Vinyl chloride	ND		4.0	1.1	ug/L			06/26/13 03:00	4
Xylenes, Total	ND		4.0	1.7	ug/L			06/26/13 03:00	4
m-Xylene & p-Xylene	ND		4.0	1.7	ug/L			06/26/13 03:00	4
o-Xylene	ND		4.0	1.7	ug/L			06/26/13 03:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/26/13 03:00*	*4*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.33**		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 19:07	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-15D
Date Collected: 06/20/13 13:00
Date Received: 06/21/13 02:30

Lab Sample ID: 480-40540-6
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	612		20.0	3.5	mg/L			06/27/13 10:51	10
Nitrate as N	ND		0.050	0.020	mg/L			06/21/13 09:15	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			06/21/13 10:00	1
Sulfide	44.0		5.0	3.4	mg/L			06/21/13 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	114	B	10.0	1.4	mg/L			06/25/13 10:19	10
Dissolved Organic Carbon	5.2		1.0	0.43	mg/L			06/26/13 19:26	1

Surrogate Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB							
Lab Sample ID	Client Sample ID	(80-120)							
480-40540-1	MW-16D	99							
480-40540-1 MS	MW-16D	100							
480-40540-1 MSD	MW-16D	100							
480-40540-2	MW-14D	100							
480-40540-3	MW-13D	92							
480-40540-3 MS	MW-13D	97							
480-40540-3 MSD	MW-13D	102							
480-40540-4	MW-9D	99							
480-40540-5	MW-10D	99							
480-40540-6	MW-15D	101							
LCS 480-125913/3	Lab Control Sample	102							
LCS 480-126040/3	Lab Control Sample	99							
MB 480-125913/4	Method Blank	99							
MB 480-126040/4	Method Blank	95							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Lab Sample ID: MB 480-125913/4
Matrix: Water
Analysis Batch: 125913

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.28	ug/L			06/25/13 23:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.39	ug/L			06/25/13 23:24	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			06/25/13 23:24	1
1,1-Dichloroethane	ND		1.0	0.32	ug/L			06/25/13 23:24	1
1,1-Dichloroethene	ND		1.0	0.26	ug/L			06/25/13 23:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.27	ug/L			06/25/13 23:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/25/13 23:24	1
1,2-Dibromoethane	ND		1.0	0.25	ug/L			06/25/13 23:24	1
1,2-Dichlorobenzene	ND		1.0	0.15	ug/L			06/25/13 23:24	1
1,2-Dichloroethane	ND		1.0	0.16	ug/L			06/25/13 23:24	1
1,2-Dichloropropane	ND		1.0	0.17	ug/L			06/25/13 23:24	1
1,3-Dichlorobenzene	ND		1.0	0.29	ug/L			06/25/13 23:24	1
1,4-Dichlorobenzene	ND		1.0	0.27	ug/L			06/25/13 23:24	1
2-Butanone (MEK)	ND		5.0	1.8	ug/L			06/25/13 23:24	1
2-Hexanone	ND		5.0	0.55	ug/L			06/25/13 23:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	1.2	ug/L			06/25/13 23:24	1
Acetone	ND		5.0	1.5	ug/L			06/25/13 23:24	1
Benzene	ND		1.0	0.18	ug/L			06/25/13 23:24	1
Bromodichloromethane	ND		1.0	0.26	ug/L			06/25/13 23:24	1
Bromoform	ND		1.0	0.30	ug/L			06/25/13 23:24	1
Bromomethane	ND		1.0	0.20	ug/L			06/25/13 23:24	1
Carbon disulfide	ND		1.0	0.21	ug/L			06/25/13 23:24	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/25/13 23:24	1
Chlorobenzene	ND		1.0	0.29	ug/L			06/25/13 23:24	1
Dibromochloromethane	ND		1.0	0.15	ug/L			06/25/13 23:24	1
Chloroethane	ND		1.0	0.17	ug/L			06/25/13 23:24	1
Chloroform	ND		1.0	0.28	ug/L			06/25/13 23:24	1
Chloromethane	ND		1.0	0.22	ug/L			06/25/13 23:24	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/L			06/25/13 23:24	1
cis-1,3-Dichloropropene	ND		1.0	0.22	ug/L			06/25/13 23:24	1
Ethylbenzene	ND		1.0	0.32	ug/L			06/25/13 23:24	1
Methylene Chloride	ND		2.0	0.46	ug/L			06/25/13 23:24	1
Styrene	ND		1.0	0.28	ug/L			06/25/13 23:24	1
Tetrachloroethene	ND		1.0	0.35	ug/L			06/25/13 23:24	1
Toluene	ND		1.0	0.30	ug/L			06/25/13 23:24	1
trans-1,2-Dichloroethene	ND		1.0	0.43	ug/L			06/25/13 23:24	1
trans-1,3-Dichloropropene	ND		1.0	0.29	ug/L			06/25/13 23:24	1
Trichloroethene	ND		1.0	0.27	ug/L			06/25/13 23:24	1
Vinyl chloride	ND		1.0	0.27	ug/L			06/25/13 23:24	1
Xylenes, Total	ND		1.0	0.42	ug/L			06/25/13 23:24	1
m-Xylene & p-Xylene	ND		1.0	0.42	ug/L			06/25/13 23:24	1
o-Xylene	ND		1.0	0.42	ug/L			06/25/13 23:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/25/13 23:24*	*1*

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: LCS 480-125913/3
Matrix: Water
Analysis Batch: 125913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.00	4.44		ug/L		89	60 - 140
Benzene	5.00	5.18		ug/L		104	60 - 140
Chlorobenzene	5.00	5.09		ug/L		102	60 - 140
Toluene	5.00	5.27		ug/L		105	60 - 140
Trichloroethene	5.00	4.87		ug/L		97	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Lab Sample ID: 480-40540-1 MS
Matrix: Water
Analysis Batch: 125913

Client Sample ID: MW-16D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	ND		25.0	19.6		ug/L		79	60 - 140
Benzene	ND		25.0	23.7		ug/L		95	60 - 140
Chlorobenzene	ND		25.0	23.6		ug/L		94	60 - 140
Toluene	ND		25.0	23.9		ug/L		96	60 - 140
Trichloroethene	ND		25.0	22.7		ug/L		91	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Lab Sample ID: 480-40540-1 MSD
Matrix: Water
Analysis Batch: 125913

Client Sample ID: MW-16D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		25.0	20.8		ug/L		83	60 - 140	6	20
Benzene	ND		25.0	23.4		ug/L		94	60 - 140	1	20
Chlorobenzene	ND		25.0	23.5		ug/L		94	60 - 140	0	20
Toluene	ND		25.0	24.1		ug/L		97	60 - 140	1	20
Trichloroethene	ND		25.0	23.0		ug/L		92	60 - 140	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 480-126040/4
Matrix: Water
Analysis Batch: 126040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.28	ug/L			06/26/13 14:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.39	ug/L			06/26/13 14:15	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			06/26/13 14:15	1
1,1-Dichloroethane	ND		1.0	0.32	ug/L			06/26/13 14:15	1
1,1-Dichloroethene	ND		1.0	0.26	ug/L			06/26/13 14:15	1

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: MB 480-126040/4
Matrix: Water
Analysis Batch: 126040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.27	ug/L			06/26/13 14:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			06/26/13 14:15	1
1,2-Dibromoethane	ND		1.0	0.25	ug/L			06/26/13 14:15	1
1,2-Dichlorobenzene	ND		1.0	0.15	ug/L			06/26/13 14:15	1
1,2-Dichloroethane	ND		1.0	0.16	ug/L			06/26/13 14:15	1
1,2-Dichloropropane	ND		1.0	0.17	ug/L			06/26/13 14:15	1
1,3-Dichlorobenzene	ND		1.0	0.29	ug/L			06/26/13 14:15	1
1,4-Dichlorobenzene	ND		1.0	0.27	ug/L			06/26/13 14:15	1
2-Butanone (MEK)	ND		5.0	1.8	ug/L			06/26/13 14:15	1
2-Hexanone	ND		5.0	0.55	ug/L			06/26/13 14:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	1.2	ug/L			06/26/13 14:15	1
Acetone	ND		5.0	1.5	ug/L			06/26/13 14:15	1
Benzene	ND		1.0	0.18	ug/L			06/26/13 14:15	1
Bromodichloromethane	ND		1.0	0.26	ug/L			06/26/13 14:15	1
Bromoform	ND		1.0	0.30	ug/L			06/26/13 14:15	1
Bromomethane	ND		1.0	0.20	ug/L			06/26/13 14:15	1
Carbon disulfide	ND		1.0	0.21	ug/L			06/26/13 14:15	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			06/26/13 14:15	1
Chlorobenzene	ND		1.0	0.29	ug/L			06/26/13 14:15	1
Dibromochloromethane	ND		1.0	0.15	ug/L			06/26/13 14:15	1
Chloroethane	ND		1.0	0.17	ug/L			06/26/13 14:15	1
Chloroform	ND		1.0	0.28	ug/L			06/26/13 14:15	1
Chloromethane	ND		1.0	0.22	ug/L			06/26/13 14:15	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/L			06/26/13 14:15	1
cis-1,3-Dichloropropene	ND		1.0	0.22	ug/L			06/26/13 14:15	1
Ethylbenzene	ND		1.0	0.32	ug/L			06/26/13 14:15	1
Methylene Chloride	ND		2.0	0.46	ug/L			06/26/13 14:15	1
Styrene	ND		1.0	0.28	ug/L			06/26/13 14:15	1
Tetrachloroethene	ND		1.0	0.35	ug/L			06/26/13 14:15	1
Toluene	ND		1.0	0.30	ug/L			06/26/13 14:15	1
trans-1,2-Dichloroethene	ND		1.0	0.43	ug/L			06/26/13 14:15	1
trans-1,3-Dichloropropene	ND		1.0	0.29	ug/L			06/26/13 14:15	1
Trichloroethene	ND		1.0	0.27	ug/L			06/26/13 14:15	1
Vinyl chloride	ND		1.0	0.27	ug/L			06/26/13 14:15	1
Xylenes, Total	ND		1.0	0.42	ug/L			06/26/13 14:15	1
m-Xylene & p-Xylene	ND		1.0	0.42	ug/L			06/26/13 14:15	1
o-Xylene	ND		1.0	0.42	ug/L			06/26/13 14:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/26/13 14:15*	*1*

Lab Sample ID: LCS 480-126040/3
Matrix: Water
Analysis Batch: 126040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.00	3.80		ug/L		76	60 - 140
Benzene	5.00	4.75		ug/L		95	60 - 140

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: LCS 480-126040/3
Matrix: Water
Analysis Batch: 126040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	5.00	4.74		ug/L		95	60 - 140
Toluene	5.00	4.68		ug/L		94	60 - 140
Trichloroethene	5.00	4.50		ug/L		90	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: 480-40540-3 MS
Matrix: Water
Analysis Batch: 126040

Client Sample ID: MW-13D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	ND		100	85.9		ug/L		86	60 - 140
Benzene	ND		100	104		ug/L		104	60 - 140
Chlorobenzene	ND		100	99.0		ug/L		99	60 - 140
Toluene	ND		100	103		ug/L		103	60 - 140
Trichloroethene	ND		100	96.2		ug/L		96	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*

Lab Sample ID: 480-40540-3 MSD
Matrix: Water
Analysis Batch: 126040

Client Sample ID: MW-13D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		100	83.5		ug/L		84	60 - 140	3	20
Benzene	ND		100	102		ug/L		102	60 - 140	1	20
Chlorobenzene	ND		100	99.0		ug/L		99	60 - 140	0	20
Toluene	ND		100	102		ug/L		102	60 - 140	1	20
Trichloroethene	ND		100	93.2		ug/L		93	60 - 140	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-125253/1-A
Matrix: Water
Analysis Batch: 125492

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 125253

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		06/21/13 10:50	06/23/13 18:45	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-125253/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125492 — **Prep Batch: 125253**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.38		mg/L		104	80 - 120

Method: 300.0 - Sulfate

Lab Sample ID: MB 480-125545/76 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			06/25/13 00:05	1

Lab Sample ID: LCS 480-125545/75 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	21.19		mg/L		106	90 - 110

Lab Sample ID: MB 480-125849/76 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125849

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			06/26/13 09:14	1

Lab Sample ID: LCS 480-125849/75 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.13		mg/L		96	90 - 110

Lab Sample ID: MB 480-126279/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126279

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			06/27/13 10:30	1

Lab Sample ID: LCS 480-126279/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126279

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.76		mg/L		104	90 - 110

Method: SM 3500 FE D - Iron, Ferrous and Ferric

Lab Sample ID: MB 480-125363/3
Matrix: Water
Analysis Batch: 125363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.10	0.075	mg/L			06/21/13 10:00	1

Lab Sample ID: LCS 480-125363/4
Matrix: Water
Analysis Batch: 125363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	1.86		mg/L		93	90 - 110

Lab Sample ID: 480-40540-3 MS
Matrix: Water
Analysis Batch: 125363

Client Sample ID: MW-13D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	4.00	1.07	F	mg/L		27	90 - 110

Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 480-125369/3
Matrix: Water
Analysis Batch: 125369

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.67	mg/L			06/21/13 15:29	1

Lab Sample ID: LCS 480-125369/4
Matrix: Water
Analysis Batch: 125369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	10.0	9.60		mg/L		96	90 - 110

Method: SM 5310C - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 490-88816/3
Matrix: Water
Analysis Batch: 88816

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	0.154	J	1.0	0.14	mg/L			06/25/13 10:19	1

Lab Sample ID: LCS 490-88816/2
Matrix: Water
Analysis Batch: 88816

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Inorganic Carbon	10.1	10.05		mg/L		100	90 - 110

Method: SM5310_D - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 480-126512/3
Matrix: Water
Analysis Batch: 126512

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		1.0	0.43	mg/L			06/26/13 17:24	1

Lab Sample ID: LCS 480-126512/4
Matrix: Water
Analysis Batch: 126512

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon			60.0	59.17		mg/L		99	90 - 110		

GC/MS VOA

Analysis Batch: 125913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	OLC02.1	
480-40540-1 MS	MW-16D	Total/NA	Water	OLC02.1	
480-40540-1 MSD	MW-16D	Total/NA	Water	OLC02.1	
480-40540-2	MW-14D	Total/NA	Water	OLC02.1	
480-40540-4	MW-9D	Total/NA	Water	OLC02.1	
480-40540-5	MW-10D	Total/NA	Water	OLC02.1	
480-40540-6	MW-15D	Total/NA	Water	OLC02.1	
LCS 480-125913/3	Lab Control Sample	Total/NA	Water	OLC02.1	
MB 480-125913/4	Method Blank	Total/NA	Water	OLC02.1	

Analysis Batch: 126040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-3	MW-13D	Total/NA	Water	OLC02.1	
480-40540-3 MS	MW-13D	Total/NA	Water	OLC02.1	
480-40540-3 MSD	MW-13D	Total/NA	Water	OLC02.1	
LCS 480-126040/3	Lab Control Sample	Total/NA	Water	OLC02.1	
MB 480-126040/4	Method Blank	Total/NA	Water	OLC02.1	

Metals

Prep Batch: 125253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	3005A	
480-40540-2	MW-14D	Total/NA	Water	3005A	
480-40540-3	MW-13D	Total/NA	Water	3005A	
480-40540-4	MW-9D	Total/NA	Water	3005A	
480-40540-5	MW-10D	Total/NA	Water	3005A	
480-40540-6	MW-15D	Total/NA	Water	3005A	
LCS 480-125253/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-125253/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 125492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	6010B	125253
480-40540-2	MW-14D	Total/NA	Water	6010B	125253
480-40540-3	MW-13D	Total/NA	Water	6010B	125253
480-40540-4	MW-9D	Total/NA	Water	6010B	125253
480-40540-5	MW-10D	Total/NA	Water	6010B	125253
480-40540-6	MW-15D	Total/NA	Water	6010B	125253
LCS 480-125253/2-A	Lab Control Sample	Total/NA	Water	6010B	125253
MB 480-125253/1-A	Method Blank	Total/NA	Water	6010B	125253

General Chemistry

Analysis Batch: 88816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Dissolved	Water	SM 5310C	
480-40540-2	MW-14D	Dissolved	Water	SM 5310C	
480-40540-3	MW-13D	Dissolved	Water	SM 5310C	
480-40540-4	MW-9D	Dissolved	Water	SM 5310C	

General Chemistry (Continued)

Analysis Batch: 88816 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-5	MW-10D	Dissolved	Water	SM 5310C	
480-40540-6	MW-15D	Dissolved	Water	SM 5310C	
LCS 490-88816/2	Lab Control Sample	Dissolved	Water	SM 5310C	
MB 490-88816/3	Method Blank	Dissolved	Water	SM 5310C	

Analysis Batch: 125273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	Nitrate by calc	
480-40540-2	MW-14D	Total/NA	Water	Nitrate by calc	
480-40540-3	MW-13D	Total/NA	Water	Nitrate by calc	
480-40540-4	MW-9D	Total/NA	Water	Nitrate by calc	
480-40540-5	MW-10D	Total/NA	Water	Nitrate by calc	
480-40540-6	MW-15D	Total/NA	Water	Nitrate by calc	

Analysis Batch: 125363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	SM 3500 FE D	
480-40540-2	MW-14D	Total/NA	Water	SM 3500 FE D	
480-40540-3	MW-13D	Total/NA	Water	SM 3500 FE D	
480-40540-3 MS	MW-13D	Total/NA	Water	SM 3500 FE D	
480-40540-4	MW-9D	Total/NA	Water	SM 3500 FE D	
480-40540-5	MW-10D	Total/NA	Water	SM 3500 FE D	
480-40540-6	MW-15D	Total/NA	Water	SM 3500 FE D	
LCS 480-125363/4	Lab Control Sample	Total/NA	Water	SM 3500 FE D	
MB 480-125363/3	Method Blank	Total/NA	Water	SM 3500 FE D	

Analysis Batch: 125369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	SM 4500 S2 F	
480-40540-2	MW-14D	Total/NA	Water	SM 4500 S2 F	
480-40540-3	MW-13D	Total/NA	Water	SM 4500 S2 F	
480-40540-4	MW-9D	Total/NA	Water	SM 4500 S2 F	
480-40540-5	MW-10D	Total/NA	Water	SM 4500 S2 F	
480-40540-6	MW-15D	Total/NA	Water	SM 4500 S2 F	
LCS 480-125369/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
MB 480-125369/3	Method Blank	Total/NA	Water	SM 4500 S2 F	

Analysis Batch: 125545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-2	MW-14D	Total/NA	Water	300.0	
480-40540-3	MW-13D	Total/NA	Water	300.0	
480-40540-4	MW-9D	Total/NA	Water	300.0	
LCS 480-125545/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-125545/76	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 125849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Total/NA	Water	300.0	
LCS 480-125849/75	Lab Control Sample	Total/NA	Water	300.0	
MB 480-125849/76	Method Blank	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 126279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-5	MW-10D	Total/NA	Water	300.0	
480-40540-6	MW-15D	Total/NA	Water	300.0	
LCS 480-126279/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-126279/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 126512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-40540-1	MW-16D	Dissolved	Water	SM5310_D	
480-40540-2	MW-14D	Dissolved	Water	SM5310_D	
480-40540-3	MW-13D	Dissolved	Water	SM5310_D	
480-40540-4	MW-9D	Dissolved	Water	SM5310_D	
480-40540-5	MW-10D	Dissolved	Water	SM5310_D	
480-40540-6	MW-15D	Dissolved	Water	SM5310_D	
LCS 480-126512/4	Lab Control Sample	Dissolved	Water	SM5310_D	
MB 480-126512/3	Method Blank	Dissolved	Water	SM5310_D	

Lab Chronicle

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-16D

Lab Sample ID: 480-40540-1

Date Collected: 06/20/13 09:00

Matrix: Water

Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		5	125913	06/26/13 00:06	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 18:49	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:09	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		20	125849	06/26/13 11:42	KAC	TAL BUF
Dissolved	Analysis	SM5310_D		1	126512	06/26/13 18:29	KC	TAL BUF
Dissolved	Analysis	SM 5310C		10	88816	06/25/13 10:19	JKF	TAL NSH

Client Sample ID: MW-14D

Lab Sample ID: 480-40540-2

Date Collected: 06/20/13 10:30

Matrix: Water

Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	125913	06/26/13 01:20	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 18:57	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:10	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		10	125545	06/25/13 00:16	KAC	TAL BUF
Dissolved	Analysis	SM5310_D		10	126512	06/26/13 18:53	KC	TAL BUF
Dissolved	Analysis	SM 5310C		10	88816	06/25/13 10:19	JKF	TAL NSH

Client Sample ID: MW-13D

Lab Sample ID: 480-40540-3

Date Collected: 06/20/13 09:45

Matrix: Water

Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	126040	06/26/13 16:21	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 18:59	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:11	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		10	125545	06/25/13 00:26	KAC	TAL BUF
Dissolved	Analysis	SM5310_D		1	126512	06/26/13 19:01	KC	TAL BUF
Dissolved	Analysis	SM 5310C		2	88816	06/25/13 10:19	JKF	TAL NSH

Lab Chronicle

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Client Sample ID: MW-9D

Lab Sample ID: 480-40540-4

Date Collected: 06/20/13 11:15
Matrix: Water
Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		2	125913	06/26/13 02:10	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 19:02	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:12	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		10	125545	06/25/13 00:36	KAC	TAL BUF
Dissolved	Analysis	SM5310_D		1	126512	06/26/13 19:10	KC	TAL BUF
Dissolved	Analysis	SM 5310C		5	88816	06/25/13 10:19	JKF	TAL NSH

Client Sample ID: MW-10D

Lab Sample ID: 480-40540-5

Date Collected: 06/20/13 13:45
Matrix: Water
Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	125913	06/26/13 02:35	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 19:05	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:14	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		10	126279	06/27/13 10:40	KC	TAL BUF
Dissolved	Analysis	SM5310_D		1	126512	06/26/13 19:18	KC	TAL BUF
Dissolved	Analysis	SM 5310C		5	88816	06/25/13 10:19	JKF	TAL NSH

Client Sample ID: MW-15D

Lab Sample ID: 480-40540-6

Date Collected: 06/20/13 13:00
Matrix: Water
Date Received: 06/21/13 02:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		4	125913	06/26/13 03:00	PJQ	TAL BUF
Total/NA	Prep	3005A			125253	06/21/13 10:50	SS	TAL BUF
Total/NA	Analysis	6010B		1	125492	06/23/13 19:07	LH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	125273	06/21/13 09:15	CT	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	125363	06/21/13 10:00	ML	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	125369	06/21/13 15:29	KS	TAL BUF
Total/NA	Analysis	300.0		10	126279	06/27/13 10:51	KC	TAL BUF
Dissolved	Analysis	SM5310_D		1	126512	06/26/13 19:26	KC	TAL BUF
Dissolved	Analysis	SM 5310C		10	88816	06/25/13 10:19	JKF	TAL NSH

Lab Chronicle

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13 *
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-13 *
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-13 *
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-13 *
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-13 *
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	ACIL		393	10-30-13
A2LA	ISO/IEC 17025		0453.07	12-31-13
Alaska (UST)	State Program	10	UST-087	07-24-13
Arizona	State Program	9	AZ0473	05-05-14 *
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-13
Connecticut	State Program	1	PH-0220	12-31-13
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-13
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-13

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Laboratory: TestAmerica Nashville (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Kentucky (UST)	State Program	4	19	09-15-13
Louisiana	NELAP	6	30613	06-30-13 *
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-13
Mississippi	State Program	4	N/A	06-30-13
Montana (UST)	State Program	8	NA	01-01-15
Nevada	State Program	9	TN00032	07-31-13
New Hampshire	NELAP	1	2963	10-10-13
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-13
North Dakota	State Program	8	R-146	06-30-13
Ohio VAP	State Program	5	CL0033	01-19-14
Oklahoma	State Program	6	9412	08-31-13
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-13
South Carolina	State Program	4	84009 (001)	02-28-14
South Carolina	State Program	4	84009 (002)	02-23-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-13
USDA	Federal		S-48469	11-02-13
Utah	NELAP	8	TAN	06-30-13
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-13
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-13
Wyoming (UST)	A2LA	8	453.07	12-31-13

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Method	Method Description	Protocol	Laboratory
OLC02.1	Volatile Organic Compounds, Low Concetration (GC/MS)	OCLP	TAL BUF
6010B	Metals (ICP)	SW846	TAL BUF
300.0	Sulfate	40CFR136A	TAL BUF
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL BUF
SM 3500 FE D	Iron, Ferrous and Ferric	SM	TAL BUF
SM 4500 S2 F	Sulfide, Total	SM	TAL BUF
SM 5310C	Organic Carbon, Dissolved (DOC)	SM	TAL NSH
SM5310_D	Organic Carbon, Dissolved (DOC)	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater ", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
OCLP = USEPA Contract Laboratory Program Statement Of Work For Inorganics Analysis, Multi-Media, Multi-Concentration.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-40540-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-40540-1	MW-16D	Water	06/20/13 09:00	06/21/13 02:30
480-40540-2	MW-14D	Water	06/20/13 10:30	06/21/13 02:30
480-40540-3	MW-13D	Water	06/20/13 09:45	06/21/13 02:30
480-40540-4	MW-9D	Water	06/20/13 11:15	06/21/13 02:30
480-40540-5	MW-10D	Water	06/20/13 13:45	06/21/13 02:30
480-40540-6	MW-15D	Water	06/20/13 13:00	06/21/13 02:30

Chain of Custody Record

TestAmerica

Client Information	Sampler	Lab PM	Carrier Tracking No(s):	COC No
		Hoffman, Sally		480-36772-2208.1
Client Contact: Mr. Wayne Randall	Phone:	E-Mail: sally.hoffman@testamericainc.com		Page: Page 1 of 1
Company: C&S Engineers, Inc.				Job #:

Address	Due Date Requested:
499 Col. Eileen Collins Blvd	
City: Syracuse	TAT Requested (days):
State, Zip: NY, 13212	
Phone: 315-455-2000(Tel) 315-455-9667(Fax)	PO #: Purchase Order not requir
Email: wrandall@cscos.com	WO #:
Project Name: Midler Quarterly Groundwater	Project #: 48002877
Site:	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300.0_28D - Sulfate	200.7, 6010B	8260B - (MOD) TCL list OLM04.2	SM5310_DOC_D - Dissolved Organic Carbon	SM4500_S2_F - Sulfide	SUBCONTRACT - Dissolved Inorganic Carbon	3500_FE_D, 353.2, 353.2_Nitrite, Nitrate_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	A	A	CB	N	N		
MW-16D				Water			1	1	3	2	1	2	3		
MW-16D (MS)				Water			✱	✱	3						
MW-16D (MSD)				Water			✱	✱	3						
MW-19D				Water			1	1	3	2	1	2	3		
MW-17D				Water			1	1	3	2	1	2	3		
MW-9D				Water			1	1	3	2	1	2	3		
MW-13D				Water			1	1	3	2	1	2	3		
MW-14D				Water			1	1	3	2	1	2	3		

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Date/Time	Company		Date/Time	Company
Relinquished by:	6/20/13 1331	C&S	Received by:	06-20-13, 1331	Syr.
Relinquished by:		Syr.	Received by:		
Relinquished by	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.2 ICE #1

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM


480-40540 Chain of Custody

Cooler Received/Opened On 6/22/2013 @ 0800

1. Tracking # 6478 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 94660220

2. Temperature of rep. sample or temp blank when opened: 2.3 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: (1) Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) MW

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) EA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) EA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) EA

I certify that I attached a label with the unique LIMS number to each container (intial) EA

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#_____

BIS = Broken in shipment

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/28/2013

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hoffman, Sally	Carrier Tracking No(s):	COC No: 480-10810.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sally.hoffman@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Analysis Requested		Job #: 480-40540-1
Address: 2960 Foster Creighton Drive, ,	Due Date Requested: 7/3/2013			Preservation Codes:
City: Nashville	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) Other:
State, Zip: TN, 37204				
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:			
Email:	WO #:			
Project Name: Midler Semi-Annual Groundwater	Project #: 48002877			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM5310_DOC_C/FIELD_FLTRD (MOD) Dissolved Inorganic Carbon (Averag	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-16D (480-40540-1)	6/20/13	09:00 Eastern		Water			X	2	
MW-14D (480-40540-2)	6/20/13	10:30 Eastern		Water			X	2	Loc: 480
MW-13D (480-40540-3)	6/20/13	09:45 Eastern		Water			X	2	40540
MW-9D (480-40540-4)	6/20/13	11:15 Eastern		Water			X	2	
MW-10D (480-40540-5)	6/20/13	13:45 Eastern		Water			X	2	
MW-15D (480-40540-6)	6/20/13	13:00 Eastern		Water			X	2	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6-21-13 1700	TA Buffalo	[signature]	6-22-13 8:00	TAW
2	[signature]					
3						

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.3

Login Sample Receipt Checklist

Client: C&S Engineers, Inc.

Job Number: 480-40540-1

Login Number: 40540

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	C&S
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: C&S Engineers, Inc.

Job Number: 480-40540-1

Login Number: 40540
List Number: 1
Creator: Abernathy, Eric

List Source: TestAmerica Nashville
List Creation: 06/22/13 03:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-52452-1
Client Project/Site: Midler Semi-Annual Groundwater

For:
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd
Syracuse, New York 13212

Attn: Mr. Wayne N Randall

Judy Stone

Authorized for release by:
1/10/2014 11:56:02 AM

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

Table of Contents

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-52452-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-52452-1

Receipt
The samples were received on 12/21/2013 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.6° C and 3.1° C.

GC/MS VOA
Method(s) OLC02.1: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-14D (480-52452-2), MW-16D (480-52452-1), MW-16D (480-52452-1 MS), MW-16D (480-52452-1 MSD), MW-15D (480-52452-6), MW-9D (480-52452-4). Elevated reporting limits (RLs) are provided.

Method(s) OLC02.1: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-13D (480-52452-3), (480-52452-3 MS), (480-52452-3 MSD), MW-10D (480-52452-5), MW-13D (480-52452-3). Elevated reporting limits (RLs) are provided.

Method(s) OLC02.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 159450 were outside control limits for Vinyl Chloride. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (480-52452-3 MS), (480-52452-3 MSD)

No other analytical or quality issues were noted.

IC
Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: (480-52452-4 MS), MW-13D (480-52452-3), MW-14D (480-52452-2), MW-15D (480-52452-6), MW-16D (480-52452-1), MW-9D (480-52452-4), MW-10D (480-52452-5). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike (MS) for batch 159278 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
Method(s) SM 3500 FE D: The matrix spike (MS) recovery for batch 158948 was outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (480-52452-6 MS)

Method(s) SM 3500 FE D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: MW-10D (480-52452-5), MW-13D (480-52452-3), MW-14D (480-52452-2), MW-15D (480-52452-6), MW-16D (480-52452-1), MW-9D (480-52452-4)

Method(s) SM 5310C: Due to the high concentration of dissolved inorganic carbon, the matrix spike / matrix spike duplicate (MS/MSD) for batch 133441 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) SM 5310C: The method blank for batch 133441 contained dissolved inorganic carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

Detection Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-16D — Lab Sample ID: 480-52452-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.15		0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	103		10.0	1.7	mg/L	5		300.0	Total/NA
Ferrous Iron	0.15	HF	0.10	0.075	mg/L	1		SM 3500 FE D	Total/NA
Sulfide	10.2		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	110	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	111	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	109	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Organic Carbon	13.6		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-14D — Lab Sample ID: 480-52452-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	8.4	J	20	5.4	ug/L	20		OLC02.1	Total/NA
Iron	0.055		0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	120		10.0	1.7	mg/L	5		300.0	Total/NA
Ferrous Iron	0.084	J HF	0.10	0.075	mg/L	1		SM 3500 FE D	Total/NA
Sulfide	52.4		2.0	1.3	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	178	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	180	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	175	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Organic Carbon	54.4		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-13D — Lab Sample ID: 480-52452-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	25		20	8.5	ug/L	20		OLC02.1	Total/NA
cis-1,2-Dichloroethene - DL	1900		200	68	ug/L	200		OLC02.1	Total/NA
Vinyl chloride - DL	3200		200	54	ug/L	200		OLC02.1	Total/NA
Iron	0.17		0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	202		10.0	1.7	mg/L	5		300.0	Total/NA
Ferric Iron	0.17		0.10	0.075	mg/L	1		SM 3500	Total/NA
Sulfide	18.8		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	65.1	B	2.0	0.28	mg/L	2		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	66.8	B	2.0	0.28	mg/L	2		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	63.3	B	2.0	0.28	mg/L	2		SM 5310C	Dissolved
Dissolved Organic Carbon	23.7		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-9D — Lab Sample ID: 480-52452-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.9	J	2.0	0.68	ug/L	2		OLC02.1	Total/NA
Vinyl chloride	1.7	J	2.0	0.54	ug/L	2		OLC02.1	Total/NA
Iron	0.15		0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	470		10.0	1.7	mg/L	5		300.0	Total/NA
Ferric Iron	0.15		0.10	0.075	mg/L	1		SM 3500	Total/NA
Sulfide	16.0		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	82.5	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	83.1	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	82.0	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Organic Carbon	6.9		1.0	0.43	mg/L	1		SM5310_D	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-10D — Lab Sample ID: 480-52452-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	480		20	6.8	ug/L	20		OLC02.1	Total/NA
trans-1,2-Dichloroethene	19	J	20	8.5	ug/L	20		OLC02.1	Total/NA
Vinyl chloride	90		20	5.4	ug/L	20		OLC02.1	Total/NA
Iron	0.027	J	0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	623		20.0	3.5	mg/L	10		300.0	Total/NA
Sulfide	26.6		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	85.9	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	85.8	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	86.1	B	5.0	0.70	mg/L	5		SM 5310C	Dissolved
Dissolved Organic Carbon	4.9		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: MW-15D — Lab Sample ID: 480-52452-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.9	J	4.0	1.4	ug/L	4		OLC02.1	Total/NA
Iron	0.19		0.050	0.019	mg/L	1		6010C	Total/NA
Sulfate	494		10.0	1.7	mg/L	5		300.0	Total/NA
Ferric Iron	0.19		0.10	0.075	mg/L	1		SM 3500	Total/NA
Sulfide	30.8		1.0	0.67	mg/L	1		SM 4500 S2 F	Total/NA
Dissolved Inorganic Carbon	137	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 1	136	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Inorganic Carbon Result 2	138	B	10.0	1.4	mg/L	10		SM 5310C	Dissolved
Dissolved Organic Carbon	9.8		1.0	0.43	mg/L	1		SM5310_D	Dissolved

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-52452-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-16D
Date Collected: 12/20/13 08:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-1
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	1.4	ug/L			12/24/13 14:23	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.0	ug/L			12/24/13 14:23	5
1,1,2-Trichloroethane	ND		5.0	1.0	ug/L			12/24/13 14:23	5
1,1-Dichloroethane	ND		5.0	1.6	ug/L			12/24/13 14:23	5
1,1-Dichloroethene	ND		5.0	1.3	ug/L			12/24/13 14:23	5
1,2,4-Trichlorobenzene	ND		5.0	1.4	ug/L			12/24/13 14:23	5
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/L			12/24/13 14:23	5
1,2-Dibromoethane	ND		5.0	1.2	ug/L			12/24/13 14:23	5
1,2-Dichlorobenzene	ND		5.0	0.75	ug/L			12/24/13 14:23	5
1,2-Dichloroethane	ND		5.0	0.80	ug/L			12/24/13 14:23	5
1,2-Dichloropropane	ND		5.0	0.85	ug/L			12/24/13 14:23	5
1,3-Dichlorobenzene	ND		5.0	1.5	ug/L			12/24/13 14:23	5
1,4-Dichlorobenzene	ND		5.0	1.3	ug/L			12/24/13 14:23	5
2-Butanone (MEK)	ND		25	9.1	ug/L			12/24/13 14:23	5
2-Hexanone	ND		25	2.8	ug/L			12/24/13 14:23	5
4-Methyl-2-pentanone (MIBK)	ND		25	5.8	ug/L			12/24/13 14:23	5
Acetone	ND		25	7.3	ug/L			12/24/13 14:23	5
Benzene	ND		5.0	0.90	ug/L			12/24/13 14:23	5
Bromodichloromethane	ND		5.0	1.3	ug/L			12/24/13 14:23	5
Bromoform	ND		5.0	1.5	ug/L			12/24/13 14:23	5
Bromomethane	ND		5.0	1.0	ug/L			12/24/13 14:23	5
Carbon disulfide	ND		5.0	1.1	ug/L			12/24/13 14:23	5
Carbon tetrachloride	ND		5.0	1.5	ug/L			12/24/13 14:23	5
Chlorobenzene	ND		5.0	1.4	ug/L			12/24/13 14:23	5
Dibromochloromethane	ND		5.0	0.75	ug/L			12/24/13 14:23	5
Chloroethane	ND		5.0	0.85	ug/L			12/24/13 14:23	5
Chloroform	ND		5.0	1.4	ug/L			12/24/13 14:23	5
Chloromethane	ND		5.0	1.1	ug/L			12/24/13 14:23	5
cis-1,2-Dichloroethene	ND		5.0	1.7	ug/L			12/24/13 14:23	5
cis-1,3-Dichloropropene	ND		5.0	1.1	ug/L			12/24/13 14:23	5
Ethylbenzene	ND		5.0	1.6	ug/L			12/24/13 14:23	5
Methylene Chloride	ND		10	2.3	ug/L			12/24/13 14:23	5
Styrene	ND		5.0	1.4	ug/L			12/24/13 14:23	5
Tetrachloroethene	ND		5.0	1.8	ug/L			12/24/13 14:23	5
Toluene	ND		5.0	1.5	ug/L			12/24/13 14:23	5
trans-1,2-Dichloroethene	ND		5.0	2.1	ug/L			12/24/13 14:23	5
trans-1,3-Dichloropropene	ND		5.0	1.5	ug/L			12/24/13 14:23	5
Trichloroethene	ND		5.0	1.3	ug/L			12/24/13 14:23	5
Vinyl chloride	ND		5.0	1.4	ug/L			12/24/13 14:23	5
Xylenes, Total	ND		5.0	2.1	ug/L			12/24/13 14:23	5
m-Xylene & p-Xylene	ND		5.0	2.1	ug/L			12/24/13 14:23	5
o-Xylene	ND		5.0	2.1	ug/L			12/24/13 14:23	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/24/13 14:23*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.15**		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:00	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-16D
Date Collected: 12/20/13 08:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**103**		10.0	1.7	mg/L			12/24/13 22:54	5
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:07	1
Ferric Iron	ND		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	**0.15**	**HF**	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	**10.2**		1.0	0.67	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**110**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Inorganic Carbon Result 1	**111**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Inorganic Carbon Result 2	**109**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Organic Carbon	**13.6**		1.0	0.43	mg/L			12/30/13 20:11	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-14D
Date Collected: 12/20/13 09:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-2
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			12/24/13 15:38	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			12/24/13 15:38	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			12/24/13 15:38	20
1,1-Dichloroethane	ND		20	6.3	ug/L			12/24/13 15:38	20
1,1-Dichloroethene	ND		20	5.2	ug/L			12/24/13 15:38	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			12/24/13 15:38	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			12/24/13 15:38	20
1,2-Dibromoethane	ND		20	4.9	ug/L			12/24/13 15:38	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			12/24/13 15:38	20
1,2-Dichloroethane	ND		20	3.2	ug/L			12/24/13 15:38	20
1,2-Dichloropropane	ND		20	3.4	ug/L			12/24/13 15:38	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			12/24/13 15:38	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			12/24/13 15:38	20
2-Butanone (MEK)	ND		100	36	ug/L			12/24/13 15:38	20
2-Hexanone	ND		100	11	ug/L			12/24/13 15:38	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			12/24/13 15:38	20
Acetone	ND		100	29	ug/L			12/24/13 15:38	20
Benzene	ND		20	3.6	ug/L			12/24/13 15:38	20
Bromodichloromethane	ND		20	5.1	ug/L			12/24/13 15:38	20
Bromoform	ND		20	6.0	ug/L			12/24/13 15:38	20
Bromomethane	ND		20	4.0	ug/L			12/24/13 15:38	20
Carbon disulfide	ND		20	4.2	ug/L			12/24/13 15:38	20
Carbon tetrachloride	ND		20	6.0	ug/L			12/24/13 15:38	20
Chlorobenzene	ND		20	5.7	ug/L			12/24/13 15:38	20
Dibromochloromethane	ND		20	3.0	ug/L			12/24/13 15:38	20
Chloroethane	ND		20	3.4	ug/L			12/24/13 15:38	20
Chloroform	ND		20	5.6	ug/L			12/24/13 15:38	20
Chloromethane	ND		20	4.4	ug/L			12/24/13 15:38	20
cis-1,2-Dichloroethene	ND		20	6.8	ug/L			12/24/13 15:38	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			12/24/13 15:38	20
Ethylbenzene	ND		20	6.3	ug/L			12/24/13 15:38	20
Methylene Chloride	ND		40	9.2	ug/L			12/24/13 15:38	20
Styrene	ND		20	5.6	ug/L			12/24/13 15:38	20
Tetrachloroethene	ND		20	7.0	ug/L			12/24/13 15:38	20
Toluene	ND		20	6.1	ug/L			12/24/13 15:38	20
trans-1,2-Dichloroethene	ND		20	8.5	ug/L			12/24/13 15:38	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			12/24/13 15:38	20
Trichloroethene	ND		20	5.4	ug/L			12/24/13 15:38	20
Vinyl chloride	**8.4**	**J**	20	5.4	ug/L			12/24/13 15:38	20
Xylenes, Total	ND		20	8.4	ug/L			12/24/13 15:38	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			12/24/13 15:38	20
o-Xylene	ND		20	8.4	ug/L			12/24/13 15:38	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*12/24/13 15:38*	*20*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.055**		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:03	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-14D
Date Collected: 12/20/13 09:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**120**		10.0	1.7	mg/L			12/24/13 23:04	5
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:09	1
Ferric Iron	ND		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	**0.084**	**J HF**	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	**52.4**		2.0	1.3	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**178**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Dissolved Inorganic Carbon	**180**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Result 1									
Dissolved Inorganic Carbon	**175**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Result 2									
Dissolved Organic Carbon	**54.4**		1.0	0.43	mg/L			12/30/13 21:24	1

Client Sample ID: MW-13D
Date Collected: 12/20/13 10:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-3
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			12/24/13 16:03	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			12/24/13 16:03	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			12/24/13 16:03	20
1,1-Dichloroethane	ND		20	6.3	ug/L			12/24/13 16:03	20
1,1-Dichloroethene	ND		20	5.2	ug/L			12/24/13 16:03	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			12/24/13 16:03	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			12/24/13 16:03	20
1,2-Dibromoethane	ND		20	4.9	ug/L			12/24/13 16:03	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			12/24/13 16:03	20
1,2-Dichloroethane	ND		20	3.2	ug/L			12/24/13 16:03	20
1,2-Dichloropropane	ND		20	3.4	ug/L			12/24/13 16:03	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			12/24/13 16:03	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			12/24/13 16:03	20
2-Butanone (MEK)	ND		100	36	ug/L			12/24/13 16:03	20
2-Hexanone	ND		100	11	ug/L			12/24/13 16:03	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			12/24/13 16:03	20
Acetone	ND		100	29	ug/L			12/24/13 16:03	20
Benzene	ND		20	3.6	ug/L			12/24/13 16:03	20
Bromodichloromethane	ND		20	5.1	ug/L			12/24/13 16:03	20
Bromoform	ND		20	6.0	ug/L			12/24/13 16:03	20
Bromomethane	ND		20	4.0	ug/L			12/24/13 16:03	20
Carbon disulfide	ND		20	4.2	ug/L			12/24/13 16:03	20
Carbon tetrachloride	ND		20	6.0	ug/L			12/24/13 16:03	20
Chlorobenzene	ND		20	5.7	ug/L			12/24/13 16:03	20
Dibromochloromethane	ND		20	3.0	ug/L			12/24/13 16:03	20
Chloroethane	ND		20	3.4	ug/L			12/24/13 16:03	20
Chloroform	ND		20	5.6	ug/L			12/24/13 16:03	20
Chloromethane	ND		20	4.4	ug/L			12/24/13 16:03	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			12/24/13 16:03	20
Ethylbenzene	ND		20	6.3	ug/L			12/24/13 16:03	20
Methylene Chloride	ND		40	9.2	ug/L			12/24/13 16:03	20
Styrene	ND		20	5.6	ug/L			12/24/13 16:03	20
Tetrachloroethene	ND		20	7.0	ug/L			12/24/13 16:03	20
Toluene	ND		20	6.1	ug/L			12/24/13 16:03	20
trans-1,2-Dichloroethene	**25**		20	8.5	ug/L			12/24/13 16:03	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			12/24/13 16:03	20
Trichloroethene	ND		20	5.4	ug/L			12/24/13 16:03	20
Xylenes, Total	ND		20	8.4	ug/L			12/24/13 16:03	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			12/24/13 16:03	20
o-Xylene	ND		20	8.4	ug/L			12/24/13 16:03	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/24/13 16:03*	*20*

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**1900**		200	68	ug/L			12/26/13 14:55	200
Vinyl chloride	**3200**		200	54	ug/L			12/26/13 14:55	200

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-13D
Date Collected: 12/20/13 10:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*12/26/13 14:55*	*200*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.17		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	202		10.0	1.7	mg/L			12/24/13 23:14	5
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:10	1
Ferric Iron	0.17		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	18.8		1.0	0.67	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	65.1	B	2.0	0.28	mg/L			01/04/14 15:07	2
Dissolved Inorganic Carbon Result 1	66.8	B	2.0	0.28	mg/L			01/04/14 15:07	2
Dissolved Inorganic Carbon Result 2	63.3	B	2.0	0.28	mg/L			01/04/14 15:07	2
Dissolved Organic Carbon	23.7		1.0	0.43	mg/L			12/30/13 21:39	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-9D
Date Collected: 12/20/13 11:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-4
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.57	ug/L			12/26/13 16:09	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.78	ug/L			12/26/13 16:09	2
1,1,2-Trichloroethane	ND		2.0	0.40	ug/L			12/26/13 16:09	2
1,1-Dichloroethane	ND		2.0	0.63	ug/L			12/26/13 16:09	2
1,1-Dichloroethene	ND		2.0	0.52	ug/L			12/26/13 16:09	2
1,2,4-Trichlorobenzene	ND		2.0	0.54	ug/L			12/26/13 16:09	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.99	ug/L			12/26/13 16:09	2
1,2-Dibromoethane	ND		2.0	0.49	ug/L			12/26/13 16:09	2
1,2-Dichlorobenzene	ND		2.0	0.30	ug/L			12/26/13 16:09	2
1,2-Dichloroethane	ND		2.0	0.32	ug/L			12/26/13 16:09	2
1,2-Dichloropropane	ND		2.0	0.34	ug/L			12/26/13 16:09	2
1,3-Dichlorobenzene	ND		2.0	0.59	ug/L			12/26/13 16:09	2
1,4-Dichlorobenzene	ND		2.0	0.53	ug/L			12/26/13 16:09	2
2-Butanone (MEK)	ND		10	3.6	ug/L			12/26/13 16:09	2
2-Hexanone	ND		10	1.1	ug/L			12/26/13 16:09	2
4-Methyl-2-pentanone (MIBK)	ND		10	2.3	ug/L			12/26/13 16:09	2
Acetone	ND		10	2.9	ug/L			12/26/13 16:09	2
Benzene	ND		2.0	0.36	ug/L			12/26/13 16:09	2
Bromodichloromethane	ND		2.0	0.51	ug/L			12/26/13 16:09	2
Bromoform	ND		2.0	0.60	ug/L			12/26/13 16:09	2
Bromomethane	ND		2.0	0.40	ug/L			12/26/13 16:09	2
Carbon disulfide	ND		2.0	0.42	ug/L			12/26/13 16:09	2
Carbon tetrachloride	ND		2.0	0.60	ug/L			12/26/13 16:09	2
Chlorobenzene	ND		2.0	0.57	ug/L			12/26/13 16:09	2
Dibromochloromethane	ND		2.0	0.30	ug/L			12/26/13 16:09	2
Chloroethane	ND		2.0	0.34	ug/L			12/26/13 16:09	2
Chloroform	ND		2.0	0.56	ug/L			12/26/13 16:09	2
Chloromethane	ND		2.0	0.44	ug/L			12/26/13 16:09	2
cis-1,2-Dichloroethene	**1.9**	**J**	2.0	0.68	ug/L			12/26/13 16:09	2
cis-1,3-Dichloropropene	ND		2.0	0.43	ug/L			12/26/13 16:09	2
Ethylbenzene	ND		2.0	0.63	ug/L			12/26/13 16:09	2
Methylene Chloride	ND		4.0	0.92	ug/L			12/26/13 16:09	2
Styrene	ND		2.0	0.56	ug/L			12/26/13 16:09	2
Tetrachloroethene	ND		2.0	0.70	ug/L			12/26/13 16:09	2
Toluene	ND		2.0	0.61	ug/L			12/26/13 16:09	2
trans-1,2-Dichloroethene	ND		2.0	0.85	ug/L			12/26/13 16:09	2
trans-1,3-Dichloropropene	ND		2.0	0.59	ug/L			12/26/13 16:09	2
Trichloroethene	ND		2.0	0.54	ug/L			12/26/13 16:09	2
Vinyl chloride	**1.7**	**J**	2.0	0.54	ug/L			12/26/13 16:09	2
Xylenes, Total	ND		2.0	0.84	ug/L			12/26/13 16:09	2
m-Xylene & p-Xylene	ND		2.0	0.84	ug/L			12/26/13 16:09	2
o-Xylene	ND		2.0	0.84	ug/L			12/26/13 16:09	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*12/26/13 16:09*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.15**		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:09	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-9D
Date Collected: 12/20/13 11:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**470**		10.0	1.7	mg/L			12/24/13 23:24	5
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:11	1
Ferric Iron	**0.15**		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	**16.0**		1.0	0.67	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**82.5**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Inorganic Carbon Result 1	**83.1**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Inorganic Carbon Result 2	**82.0**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Organic Carbon	**6.9**		1.0	0.43	mg/L			12/30/13 21:54	1

Client Sample ID: MW-10D
Date Collected: 12/20/13 12:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-5
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	5.7	ug/L			12/26/13 16:33	20
1,1,2,2-Tetrachloroethane	ND		20	7.8	ug/L			12/26/13 16:33	20
1,1,2-Trichloroethane	ND		20	4.0	ug/L			12/26/13 16:33	20
1,1-Dichloroethane	ND		20	6.3	ug/L			12/26/13 16:33	20
1,1-Dichloroethene	ND		20	5.2	ug/L			12/26/13 16:33	20
1,2,4-Trichlorobenzene	ND		20	5.4	ug/L			12/26/13 16:33	20
1,2-Dibromo-3-Chloropropane	ND		20	9.9	ug/L			12/26/13 16:33	20
1,2-Dibromoethane	ND		20	4.9	ug/L			12/26/13 16:33	20
1,2-Dichlorobenzene	ND		20	3.0	ug/L			12/26/13 16:33	20
1,2-Dichloroethane	ND		20	3.2	ug/L			12/26/13 16:33	20
1,2-Dichloropropane	ND		20	3.4	ug/L			12/26/13 16:33	20
1,3-Dichlorobenzene	ND		20	5.9	ug/L			12/26/13 16:33	20
1,4-Dichlorobenzene	ND		20	5.3	ug/L			12/26/13 16:33	20
2-Butanone (MEK)	ND		100	36	ug/L			12/26/13 16:33	20
2-Hexanone	ND		100	11	ug/L			12/26/13 16:33	20
4-Methyl-2-pentanone (MIBK)	ND		100	23	ug/L			12/26/13 16:33	20
Acetone	ND		100	29	ug/L			12/26/13 16:33	20
Benzene	ND		20	3.6	ug/L			12/26/13 16:33	20
Bromodichloromethane	ND		20	5.1	ug/L			12/26/13 16:33	20
Bromoform	ND		20	6.0	ug/L			12/26/13 16:33	20
Bromomethane	ND		20	4.0	ug/L			12/26/13 16:33	20
Carbon disulfide	ND		20	4.2	ug/L			12/26/13 16:33	20
Carbon tetrachloride	ND		20	6.0	ug/L			12/26/13 16:33	20
Chlorobenzene	ND		20	5.7	ug/L			12/26/13 16:33	20
Dibromochloromethane	ND		20	3.0	ug/L			12/26/13 16:33	20
Chloroethane	ND		20	3.4	ug/L			12/26/13 16:33	20
Chloroform	ND		20	5.6	ug/L			12/26/13 16:33	20
Chloromethane	ND		20	4.4	ug/L			12/26/13 16:33	20
cis-1,2-Dichloroethene	**480**		20	6.8	ug/L			12/26/13 16:33	20
cis-1,3-Dichloropropene	ND		20	4.3	ug/L			12/26/13 16:33	20
Ethylbenzene	ND		20	6.3	ug/L			12/26/13 16:33	20
Methylene Chloride	ND		40	9.2	ug/L			12/26/13 16:33	20
Styrene	ND		20	5.6	ug/L			12/26/13 16:33	20
Tetrachloroethene	ND		20	7.0	ug/L			12/26/13 16:33	20
Toluene	ND		20	6.1	ug/L			12/26/13 16:33	20
trans-1,2-Dichloroethene	**19**	**J**	20	8.5	ug/L			12/26/13 16:33	20
trans-1,3-Dichloropropene	ND		20	5.9	ug/L			12/26/13 16:33	20
Trichloroethene	ND		20	5.4	ug/L			12/26/13 16:33	20
Vinyl chloride	**90**		20	5.4	ug/L			12/26/13 16:33	20
Xylenes, Total	ND		20	8.4	ug/L			12/26/13 16:33	20
m-Xylene & p-Xylene	ND		20	8.4	ug/L			12/26/13 16:33	20
o-Xylene	ND		20	8.4	ug/L			12/26/13 16:33	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*12/26/13 16:33*	*20*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.027**	**J**	0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:20	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-10D
Date Collected: 12/20/13 12:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**623**		20.0	3.5	mg/L			12/28/13 01:30	10
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:12	1
Ferric Iron	ND		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	**26.6**		1.0	0.67	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**85.9**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Dissolved Inorganic Carbon	**85.8**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Result 1									
Dissolved Inorganic Carbon	**86.1**	**B**	5.0	0.70	mg/L			01/04/14 15:07	5
Result 2									
Dissolved Organic Carbon	**4.9**		1.0	0.43	mg/L			12/30/13 22:08	1

Client Sample ID: MW-15D
Date Collected: 12/20/13 13:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-6
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	1.1	ug/L			12/26/13 16:58	4
1,1,2,2-Tetrachloroethane	ND		4.0	1.6	ug/L			12/26/13 16:58	4
1,1,2-Trichloroethane	ND		4.0	0.80	ug/L			12/26/13 16:58	4
1,1-Dichloroethane	ND		4.0	1.3	ug/L			12/26/13 16:58	4
1,1-Dichloroethene	ND		4.0	1.0	ug/L			12/26/13 16:58	4
1,2,4-Trichlorobenzene	ND		4.0	1.1	ug/L			12/26/13 16:58	4
1,2-Dibromo-3-Chloropropane	ND		4.0	2.0	ug/L			12/26/13 16:58	4
1,2-Dibromoethane	ND		4.0	0.98	ug/L			12/26/13 16:58	4
1,2-Dichlorobenzene	ND		4.0	0.60	ug/L			12/26/13 16:58	4
1,2-Dichloroethane	ND		4.0	0.64	ug/L			12/26/13 16:58	4
1,2-Dichloropropane	ND		4.0	0.68	ug/L			12/26/13 16:58	4
1,3-Dichlorobenzene	ND		4.0	1.2	ug/L			12/26/13 16:58	4
1,4-Dichlorobenzene	ND		4.0	1.1	ug/L			12/26/13 16:58	4
2-Butanone (MEK)	ND		20	7.2	ug/L			12/26/13 16:58	4
2-Hexanone	ND		20	2.2	ug/L			12/26/13 16:58	4
4-Methyl-2-pentanone (MIBK)	ND		20	4.6	ug/L			12/26/13 16:58	4
Acetone	ND		20	5.8	ug/L			12/26/13 16:58	4
Benzene	ND		4.0	0.72	ug/L			12/26/13 16:58	4
Bromodichloromethane	ND		4.0	1.0	ug/L			12/26/13 16:58	4
Bromoform	ND		4.0	1.2	ug/L			12/26/13 16:58	4
Bromomethane	ND		4.0	0.80	ug/L			12/26/13 16:58	4
Carbon disulfide	ND		4.0	0.84	ug/L			12/26/13 16:58	4
Carbon tetrachloride	ND		4.0	1.2	ug/L			12/26/13 16:58	4
Chlorobenzene	ND		4.0	1.1	ug/L			12/26/13 16:58	4
Dibromochloromethane	ND		4.0	0.60	ug/L			12/26/13 16:58	4
Chloroethane	ND		4.0	0.68	ug/L			12/26/13 16:58	4
Chloroform	ND		4.0	1.1	ug/L			12/26/13 16:58	4
Chloromethane	ND		4.0	0.88	ug/L			12/26/13 16:58	4
cis-1,2-Dichloroethene	**3.9**	**J**	4.0	1.4	ug/L			12/26/13 16:58	4
cis-1,3-Dichloropropene	ND		4.0	0.86	ug/L			12/26/13 16:58	4
Ethylbenzene	ND		4.0	1.3	ug/L			12/26/13 16:58	4
Methylene Chloride	ND		8.0	1.8	ug/L			12/26/13 16:58	4
Styrene	ND		4.0	1.1	ug/L			12/26/13 16:58	4
Tetrachloroethene	ND		4.0	1.4	ug/L			12/26/13 16:58	4
Toluene	ND		4.0	1.2	ug/L			12/26/13 16:58	4
trans-1,2-Dichloroethene	ND		4.0	1.7	ug/L			12/26/13 16:58	4
trans-1,3-Dichloropropene	ND		4.0	1.2	ug/L			12/26/13 16:58	4
Trichloroethene	ND		4.0	1.1	ug/L			12/26/13 16:58	4
Vinyl chloride	ND		4.0	1.1	ug/L			12/26/13 16:58	4
Xylenes, Total	ND		4.0	1.7	ug/L			12/26/13 16:58	4
m-Xylene & p-Xylene	ND		4.0	1.7	ug/L			12/26/13 16:58	4
o-Xylene	ND		4.0	1.7	ug/L			12/26/13 16:58	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*12/26/13 16:58*	*4*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.19**		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 15:23	1

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-15D
Date Collected: 12/20/13 13:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-6
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**494**		10.0	1.7	mg/L			12/25/13 00:15	5
Nitrate as N	ND		0.050	0.020	mg/L			12/21/13 14:13	1
Ferric Iron	**0.19**		0.10	0.075	mg/L			01/09/14 15:49	1
Ferrous Iron	ND	HF	0.10	0.075	mg/L			12/21/13 08:05	1
Sulfide	**30.8**		1.0	0.67	mg/L			12/27/13 11:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	**137**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Dissolved Inorganic Carbon Result 1	**136**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Dissolved Inorganic Carbon Result 2	**138**	**B**	10.0	1.4	mg/L			01/04/14 15:07	10
Dissolved Organic Carbon	**9.8**		1.0	0.43	mg/L			12/30/13 22:23	1

Client Sample ID: TRIP BLANK
Date Collected: 12/20/13 00:00
Date Received: 12/21/13 02:00

Lab Sample ID: 480-52452-7
Matrix: Water

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.28	ug/L			12/26/13 14:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.39	ug/L			12/26/13 14:30	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			12/26/13 14:30	1
1,1-Dichloroethane	ND		1.0	0.32	ug/L			12/26/13 14:30	1
1,1-Dichloroethene	ND		1.0	0.26	ug/L			12/26/13 14:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.27	ug/L			12/26/13 14:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/26/13 14:30	1
1,2-Dibromoethane	ND		1.0	0.25	ug/L			12/26/13 14:30	1
1,2-Dichlorobenzene	ND		1.0	0.15	ug/L			12/26/13 14:30	1
1,2-Dichloroethane	ND		1.0	0.16	ug/L			12/26/13 14:30	1
1,2-Dichloropropane	ND		1.0	0.17	ug/L			12/26/13 14:30	1
1,3-Dichlorobenzene	ND		1.0	0.29	ug/L			12/26/13 14:30	1
1,4-Dichlorobenzene	ND		1.0	0.27	ug/L			12/26/13 14:30	1
2-Butanone (MEK)	ND		5.0	1.8	ug/L			12/26/13 14:30	1
2-Hexanone	ND		5.0	0.55	ug/L			12/26/13 14:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	1.2	ug/L			12/26/13 14:30	1
Acetone	ND		5.0	1.5	ug/L			12/26/13 14:30	1
Benzene	ND		1.0	0.18	ug/L			12/26/13 14:30	1
Bromodichloromethane	ND		1.0	0.26	ug/L			12/26/13 14:30	1
Bromoform	ND		1.0	0.30	ug/L			12/26/13 14:30	1
Bromomethane	ND		1.0	0.20	ug/L			12/26/13 14:30	1
Carbon disulfide	ND		1.0	0.21	ug/L			12/26/13 14:30	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/26/13 14:30	1
Chlorobenzene	ND		1.0	0.29	ug/L			12/26/13 14:30	1
Dibromochloromethane	ND		1.0	0.15	ug/L			12/26/13 14:30	1
Chloroethane	ND		1.0	0.17	ug/L			12/26/13 14:30	1
Chloroform	ND		1.0	0.28	ug/L			12/26/13 14:30	1
Chloromethane	ND		1.0	0.22	ug/L			12/26/13 14:30	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/L			12/26/13 14:30	1
cis-1,3-Dichloropropene	ND		1.0	0.22	ug/L			12/26/13 14:30	1
Ethylbenzene	ND		1.0	0.32	ug/L			12/26/13 14:30	1
Methylene Chloride	ND		2.0	0.46	ug/L			12/26/13 14:30	1
Styrene	ND		1.0	0.28	ug/L			12/26/13 14:30	1
Tetrachloroethene	ND		1.0	0.35	ug/L			12/26/13 14:30	1
Toluene	ND		1.0	0.30	ug/L			12/26/13 14:30	1
trans-1,2-Dichloroethene	ND		1.0	0.43	ug/L			12/26/13 14:30	1
trans-1,3-Dichloropropene	ND		1.0	0.29	ug/L			12/26/13 14:30	1
Trichloroethene	ND		1.0	0.27	ug/L			12/26/13 14:30	1
Vinyl chloride	ND		1.0	0.27	ug/L			12/26/13 14:30	1
Xylenes, Total	ND		1.0	0.42	ug/L			12/26/13 14:30	1
m-Xylene & p-Xylene	ND		1.0	0.42	ug/L			12/26/13 14:30	1
o-Xylene	ND		1.0	0.42	ug/L			12/26/13 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*12/26/13 14:30*	*1*

Surrogate Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB							
Lab Sample ID	Client Sample ID	(80-120)							
480-52452-1	MW-16D	90							
480-52452-1 MS	MW-16D	105							
480-52452-1 MSD	MW-16D	98							
480-52452-2	MW-14D	91							
480-52452-3	MW-13D	88							
480-52452-3 - DL	MW-13D	88							
480-52452-3 MS	MW-13D	111							
480-52452-3 MSD	MW-13D	103							
480-52452-4	MW-9D	91							
480-52452-5	MW-10D	93							
480-52452-6	MW-15D	92							
480-52452-7	TRIP BLANK	89							
LCS 480-159309/4	Lab Control Sample	99							
LCS 480-159450/4	Lab Control Sample	113							
MB 480-159309/5	Method Blank	87							
MB 480-159450/5	Method Blank	90							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS)

Lab Sample ID: MB 480-159309/5
Matrix: Water
Analysis Batch: 159309

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.28	ug/L			12/24/13 13:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.39	ug/L			12/24/13 13:43	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			12/24/13 13:43	1
1,1-Dichloroethane	ND		1.0	0.32	ug/L			12/24/13 13:43	1
1,1-Dichloroethene	ND		1.0	0.26	ug/L			12/24/13 13:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.27	ug/L			12/24/13 13:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/24/13 13:43	1
1,2-Dibromoethane	ND		1.0	0.25	ug/L			12/24/13 13:43	1
1,2-Dichlorobenzene	ND		1.0	0.15	ug/L			12/24/13 13:43	1
1,2-Dichloroethane	ND		1.0	0.16	ug/L			12/24/13 13:43	1
1,2-Dichloropropane	ND		1.0	0.17	ug/L			12/24/13 13:43	1
1,3-Dichlorobenzene	ND		1.0	0.29	ug/L			12/24/13 13:43	1
1,4-Dichlorobenzene	ND		1.0	0.27	ug/L			12/24/13 13:43	1
2-Butanone (MEK)	ND		5.0	1.8	ug/L			12/24/13 13:43	1
2-Hexanone	ND		5.0	0.55	ug/L			12/24/13 13:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	1.2	ug/L			12/24/13 13:43	1
Acetone	ND		5.0	1.5	ug/L			12/24/13 13:43	1
Benzene	ND		1.0	0.18	ug/L			12/24/13 13:43	1
Bromodichloromethane	ND		1.0	0.26	ug/L			12/24/13 13:43	1
Bromoform	ND		1.0	0.30	ug/L			12/24/13 13:43	1
Bromomethane	ND		1.0	0.20	ug/L			12/24/13 13:43	1
Carbon disulfide	ND		1.0	0.21	ug/L			12/24/13 13:43	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/24/13 13:43	1
Chlorobenzene	ND		1.0	0.29	ug/L			12/24/13 13:43	1
Dibromochloromethane	ND		1.0	0.15	ug/L			12/24/13 13:43	1
Chloroethane	ND		1.0	0.17	ug/L			12/24/13 13:43	1
Chloroform	ND		1.0	0.28	ug/L			12/24/13 13:43	1
Chloromethane	ND		1.0	0.22	ug/L			12/24/13 13:43	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/L			12/24/13 13:43	1
cis-1,3-Dichloropropene	ND		1.0	0.22	ug/L			12/24/13 13:43	1
Ethylbenzene	ND		1.0	0.32	ug/L			12/24/13 13:43	1
Methylene Chloride	ND		2.0	0.46	ug/L			12/24/13 13:43	1
Styrene	ND		1.0	0.28	ug/L			12/24/13 13:43	1
Tetrachloroethene	ND		1.0	0.35	ug/L			12/24/13 13:43	1
Toluene	ND		1.0	0.30	ug/L			12/24/13 13:43	1
trans-1,2-Dichloroethene	ND		1.0	0.43	ug/L			12/24/13 13:43	1
trans-1,3-Dichloropropene	ND		1.0	0.29	ug/L			12/24/13 13:43	1
Trichloroethene	ND		1.0	0.27	ug/L			12/24/13 13:43	1
Vinyl chloride	ND		1.0	0.27	ug/L			12/24/13 13:43	1
Xylenes, Total	ND		1.0	0.42	ug/L			12/24/13 13:43	1
m-Xylene & p-Xylene	ND		1.0	0.42	ug/L			12/24/13 13:43	1
o-Xylene	ND		1.0	0.42	ug/L			12/24/13 13:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*		*12/24/13 13:43*	*1*

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: LCS 480-159309/4
Matrix: Water
Analysis Batch: 159309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene			5.00	4.39		ug/L		88	60 - 140		
Benzene			5.00	5.01		ug/L		100	60 - 140		
Chlorobenzene			5.00	5.01		ug/L		100	60 - 140		
Toluene			5.00	4.99		ug/L		100	60 - 140		
Trichloroethene			5.00	5.08		ug/L		102	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*

Lab Sample ID: 480-52452-1 MS
Matrix: Water
Analysis Batch: 159309

Client Sample ID: MW-16D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene	ND		25.0	24.2		ug/L		97	60 - 140		
Benzene	ND		25.0	28.0		ug/L		112	60 - 140		
Chlorobenzene	ND		25.0	28.2		ug/L		113	60 - 140		
Toluene	ND		25.0	27.8		ug/L		111	60 - 140		
Trichloroethene	ND		25.0	28.0		ug/L		112	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*

Lab Sample ID: 480-52452-1 MSD
Matrix: Water
Analysis Batch: 159309

Client Sample ID: MW-16D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		25.0	24.4		ug/L		98	60 - 140	1	20
Benzene	ND		25.0	27.9		ug/L		112	60 - 140	0	20
Chlorobenzene	ND		25.0	27.5		ug/L		110	60 - 140	3	20
Toluene	ND		25.0	28.1		ug/L		112	60 - 140	1	20
Trichloroethene	ND		25.0	28.5		ug/L		114	60 - 140	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 480-159450/5
Matrix: Water
Analysis Batch: 159450

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.28	ug/L			12/26/13 13:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.39	ug/L			12/26/13 13:49	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			12/26/13 13:49	1
1,1-Dichloroethane	ND		1.0	0.32	ug/L			12/26/13 13:49	1
1,1-Dichloroethene	ND		1.0	0.26	ug/L			12/26/13 13:49	1

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: MB 480-159450/5
Matrix: Water
Analysis Batch: 159450

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.27	ug/L			12/26/13 13:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			12/26/13 13:49	1
1,2-Dibromoethane	ND		1.0	0.25	ug/L			12/26/13 13:49	1
1,2-Dichlorobenzene	ND		1.0	0.15	ug/L			12/26/13 13:49	1
1,2-Dichloroethane	ND		1.0	0.16	ug/L			12/26/13 13:49	1
1,2-Dichloropropane	ND		1.0	0.17	ug/L			12/26/13 13:49	1
1,3-Dichlorobenzene	ND		1.0	0.29	ug/L			12/26/13 13:49	1
1,4-Dichlorobenzene	ND		1.0	0.27	ug/L			12/26/13 13:49	1
2-Butanone (MEK)	ND		5.0	1.8	ug/L			12/26/13 13:49	1
2-Hexanone	ND		5.0	0.55	ug/L			12/26/13 13:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	1.2	ug/L			12/26/13 13:49	1
Acetone	ND		5.0	1.5	ug/L			12/26/13 13:49	1
Benzene	ND		1.0	0.18	ug/L			12/26/13 13:49	1
Bromodichloromethane	ND		1.0	0.26	ug/L			12/26/13 13:49	1
Bromoform	ND		1.0	0.30	ug/L			12/26/13 13:49	1
Bromomethane	ND		1.0	0.20	ug/L			12/26/13 13:49	1
Carbon disulfide	ND		1.0	0.21	ug/L			12/26/13 13:49	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/26/13 13:49	1
Chlorobenzene	ND		1.0	0.29	ug/L			12/26/13 13:49	1
Dibromochloromethane	ND		1.0	0.15	ug/L			12/26/13 13:49	1
Chloroethane	ND		1.0	0.17	ug/L			12/26/13 13:49	1
Chloroform	ND		1.0	0.28	ug/L			12/26/13 13:49	1
Chloromethane	ND		1.0	0.22	ug/L			12/26/13 13:49	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/L			12/26/13 13:49	1
cis-1,3-Dichloropropene	ND		1.0	0.22	ug/L			12/26/13 13:49	1
Ethylbenzene	ND		1.0	0.32	ug/L			12/26/13 13:49	1
Methylene Chloride	ND		2.0	0.46	ug/L			12/26/13 13:49	1
Styrene	ND		1.0	0.28	ug/L			12/26/13 13:49	1
Tetrachloroethene	ND		1.0	0.35	ug/L			12/26/13 13:49	1
Toluene	ND		1.0	0.30	ug/L			12/26/13 13:49	1
trans-1,2-Dichloroethene	ND		1.0	0.43	ug/L			12/26/13 13:49	1
trans-1,3-Dichloropropene	ND		1.0	0.29	ug/L			12/26/13 13:49	1
Trichloroethene	ND		1.0	0.27	ug/L			12/26/13 13:49	1
Vinyl chloride	ND		1.0	0.27	ug/L			12/26/13 13:49	1
Xylenes, Total	ND		1.0	0.42	ug/L			12/26/13 13:49	1
m-Xylene & p-Xylene	ND		1.0	0.42	ug/L			12/26/13 13:49	1
o-Xylene	ND		1.0	0.42	ug/L			12/26/13 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*12/26/13 13:49*	*1*

Lab Sample ID: LCS 480-159450/4
Matrix: Water
Analysis Batch: 159450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.00	4.41		ug/L		88	60 - 140
Benzene	5.00	5.60		ug/L		112	60 - 140

Method: OLC02.1 - Volatile Organic Compounds, Low Concetration (GC/MS) (Continued)

Lab Sample ID: LCS 480-159450/4
Matrix: Water
Analysis Batch: 159450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			5.00	5.40		ug/L		108	60 - 140		
Toluene			5.00	5.46		ug/L		109	60 - 140		
Trichloroethene			5.00	5.34		ug/L		107	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*

Lab Sample ID: 480-52452-3 MS
Matrix: Water
Analysis Batch: 159450

Client Sample ID: MW-13D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1-Dichloroethene	ND		1000	838		ug/L		84	60 - 140		
Benzene	ND		1000	1090		ug/L		109	60 - 140		
Chlorobenzene	ND		1000	1070		ug/L		107	60 - 140		
Toluene	ND		1000	1120		ug/L		112	60 - 140		
Trichloroethene	ND		1000	1070		ug/L		107	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*

Lab Sample ID: 480-52452-3 MSD
Matrix: Water
Analysis Batch: 159450

Client Sample ID: MW-13D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		1000	849		ug/L		85	60 - 140	1	20
Benzene	ND		1000	1080		ug/L		108	60 - 140	1	20
Chlorobenzene	ND		1000	1020		ug/L		102	60 - 140	5	20
Toluene	ND		1000	1060		ug/L		106	60 - 140	5	20
Trichloroethene	ND		1000	1050		ug/L		105	60 - 140	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-159019/1-A
Matrix: Water
Analysis Batch: 160334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 159019

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		12/23/13 13:10	01/02/14 14:21	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-159019/2-A
Matrix: Water
Analysis Batch: 160334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 159019

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.62		mg/L		106	80 - 120

Method: 300.0 - Sulfate

Lab Sample ID: MB 480-159278/52
Matrix: Water
Analysis Batch: 159278

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			12/24/13 22:13	1

Lab Sample ID: LCS 480-159278/51
Matrix: Water
Analysis Batch: 159278

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.26		mg/L		101	90 - 110

Lab Sample ID: 480-52452-4 MS
Matrix: Water
Analysis Batch: 159278

Client Sample ID: MW-9D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	470		125	583.5	E	mg/L		91	90 - 110

Lab Sample ID: MB 480-159678/52
Matrix: Water
Analysis Batch: 159678

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	0.35	mg/L			12/28/13 01:09	1

Lab Sample ID: LCS 480-159678/51
Matrix: Water
Analysis Batch: 159678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.70		mg/L		98	90 - 110

Method: SM 3500 FE D - Iron, Ferrous and Ferric

Lab Sample ID: MB 480-158948/3
Matrix: Water
Analysis Batch: 158948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.10	0.075	mg/L			12/21/13 08:05	1

Method: SM 3500 FE D - Iron, Ferrous and Ferric (Continued)

Lab Sample ID: LCS 480-158948/4
Matrix: Water
Analysis Batch: 158948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	2.03		mg/L		101	90 - 110

Lab Sample ID: 480-52452-6 MS
Matrix: Water
Analysis Batch: 158948

Client Sample ID: MW-15D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	1.00	1.28	F	mg/L		128	90 - 110

Lab Sample ID: 480-52452-5 DU
Matrix: Water
Analysis Batch: 158948

Client Sample ID: MW-10D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ferrous Iron	ND	HF	ND		mg/L		NC	20

Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 480-159672/3
Matrix: Water
Analysis Batch: 159672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.67	mg/L			12/27/13 11:45	1

Lab Sample ID: LCS 480-159672/4
Matrix: Water
Analysis Batch: 159672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	10.0	10.40		mg/L		104	90 - 110

Method: SM 5310C - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 490-133441/3
Matrix: Water
Analysis Batch: 133441

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Inorganic Carbon	0.263	J	1.0	0.14	mg/L			01/04/14 15:07	1
Dissolved Inorganic Carbon Result 1	0.265	J	1.0	0.14	mg/L			01/04/14 15:07	1
Dissolved Inorganic Carbon Result 2	0.260	J	1.0	0.14	mg/L			01/04/14 15:07	1

Lab Sample ID: LCS 490-133441/2
Matrix: Water
Analysis Batch: 133441

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Inorganic Carbon	10.0	10.18		mg/L		102	90 - 110

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Method: SM5310_D - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 480-160132/15
Matrix: Water
Analysis Batch: 160132

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		1.0	0.43	mg/L			12/30/13 20:55	1

Lab Sample ID: MB 480-160132/3
Matrix: Water
Analysis Batch: 160132

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		1.0	0.43	mg/L			12/30/13 18:00	1

Lab Sample ID: LCS 480-160132/16
Matrix: Water
Analysis Batch: 160132

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	60.0	58.03		mg/L		97	90 - 110

Lab Sample ID: LCS 480-160132/4
Matrix: Water
Analysis Batch: 160132

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	60.0	59.06		mg/L		98	90 - 110

GC/MS VOA

Analysis Batch: 159309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	OLC02.1	
480-52452-1 MS	MW-16D	Total/NA	Water	OLC02.1	
480-52452-1 MSD	MW-16D	Total/NA	Water	OLC02.1	
480-52452-2	MW-14D	Total/NA	Water	OLC02.1	
480-52452-3	MW-13D	Total/NA	Water	OLC02.1	
LCS 480-159309/4	Lab Control Sample	Total/NA	Water	OLC02.1	
MB 480-159309/5	Method Blank	Total/NA	Water	OLC02.1	

Analysis Batch: 159450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-3 - DL	MW-13D	Total/NA	Water	OLC02.1	
480-52452-3 MS	MW-13D	Total/NA	Water	OLC02.1	
480-52452-3 MSD	MW-13D	Total/NA	Water	OLC02.1	
480-52452-4	MW-9D	Total/NA	Water	OLC02.1	
480-52452-5	MW-10D	Total/NA	Water	OLC02.1	
480-52452-6	MW-15D	Total/NA	Water	OLC02.1	
480-52452-7	TRIP BLANK	Total/NA	Water	OLC02.1	
LCS 480-159450/4	Lab Control Sample	Total/NA	Water	OLC02.1	
MB 480-159450/5	Method Blank	Total/NA	Water	OLC02.1	

Metals

Prep Batch: 159019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	3005A	
480-52452-2	MW-14D	Total/NA	Water	3005A	
480-52452-3	MW-13D	Total/NA	Water	3005A	
480-52452-4	MW-9D	Total/NA	Water	3005A	
480-52452-5	MW-10D	Total/NA	Water	3005A	
480-52452-6	MW-15D	Total/NA	Water	3005A	
LCS 480-159019/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-159019/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 160334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	6010C	159019
480-52452-2	MW-14D	Total/NA	Water	6010C	159019
480-52452-3	MW-13D	Total/NA	Water	6010C	159019
480-52452-4	MW-9D	Total/NA	Water	6010C	159019
480-52452-5	MW-10D	Total/NA	Water	6010C	159019
480-52452-6	MW-15D	Total/NA	Water	6010C	159019
LCS 480-159019/2-A	Lab Control Sample	Total/NA	Water	6010C	159019
MB 480-159019/1-A	Method Blank	Total/NA	Water	6010C	159019

General Chemistry

Analysis Batch: 133441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Dissolved	Water	SM 5310C	
480-52452-2	MW-14D	Dissolved	Water	SM 5310C	

General Chemistry (Continued)

Analysis Batch: 133441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-3	MW-13D	Dissolved	Water	SM 5310C	
480-52452-4	MW-9D	Dissolved	Water	SM 5310C	
480-52452-5	MW-10D	Dissolved	Water	SM 5310C	
480-52452-6	MW-15D	Dissolved	Water	SM 5310C	
LCS 490-133441/2	Lab Control Sample	Dissolved	Water	SM 5310C	
MB 490-133441/3	Method Blank	Dissolved	Water	SM 5310C	

Analysis Batch: 158948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	SM 3500 FE D	
480-52452-2	MW-14D	Total/NA	Water	SM 3500 FE D	
480-52452-3	MW-13D	Total/NA	Water	SM 3500 FE D	
480-52452-4	MW-9D	Total/NA	Water	SM 3500 FE D	
480-52452-5	MW-10D	Total/NA	Water	SM 3500 FE D	
480-52452-5 DU	MW-10D	Total/NA	Water	SM 3500 FE D	
480-52452-6	MW-15D	Total/NA	Water	SM 3500 FE D	
480-52452-6 MS	MW-15D	Total/NA	Water	SM 3500 FE D	
LCS 480-158948/4	Lab Control Sample	Total/NA	Water	SM 3500 FE D	
MB 480-158948/3	Method Blank	Total/NA	Water	SM 3500 FE D	

Analysis Batch: 158994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	Nitrate by calc	
480-52452-2	MW-14D	Total/NA	Water	Nitrate by calc	
480-52452-3	MW-13D	Total/NA	Water	Nitrate by calc	
480-52452-4	MW-9D	Total/NA	Water	Nitrate by calc	
480-52452-5	MW-10D	Total/NA	Water	Nitrate by calc	
480-52452-6	MW-15D	Total/NA	Water	Nitrate by calc	

Analysis Batch: 159278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	300.0	
480-52452-2	MW-14D	Total/NA	Water	300.0	
480-52452-3	MW-13D	Total/NA	Water	300.0	
480-52452-4	MW-9D	Total/NA	Water	300.0	
480-52452-4 MS	MW-9D	Total/NA	Water	300.0	
480-52452-6	MW-15D	Total/NA	Water	300.0	
LCS 480-159278/51	Lab Control Sample	Total/NA	Water	300.0	
MB 480-159278/52	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 159672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	SM 4500 S2 F	
480-52452-2	MW-14D	Total/NA	Water	SM 4500 S2 F	
480-52452-3	MW-13D	Total/NA	Water	SM 4500 S2 F	
480-52452-4	MW-9D	Total/NA	Water	SM 4500 S2 F	
480-52452-5	MW-10D	Total/NA	Water	SM 4500 S2 F	
480-52452-6	MW-15D	Total/NA	Water	SM 4500 S2 F	
LCS 480-159672/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
MB 480-159672/3	Method Blank	Total/NA	Water	SM 4500 S2 F	

General Chemistry (Continued)

Analysis Batch: 159678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-5	MW-10D	Total/NA	Water	300.0	
LCS 480-159678/51	Lab Control Sample	Total/NA	Water	300.0	
MB 480-159678/52	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 160132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Dissolved	Water	SM5310_D	
480-52452-2	MW-14D	Dissolved	Water	SM5310_D	
480-52452-3	MW-13D	Dissolved	Water	SM5310_D	
480-52452-4	MW-9D	Dissolved	Water	SM5310_D	
480-52452-5	MW-10D	Dissolved	Water	SM5310_D	
480-52452-6	MW-15D	Dissolved	Water	SM5310_D	
LCS 480-160132/16	Lab Control Sample	Dissolved	Water	SM5310_D	
LCS 480-160132/4	Lab Control Sample	Dissolved	Water	SM5310_D	
MB 480-160132/15	Method Blank	Dissolved	Water	SM5310_D	
MB 480-160132/3	Method Blank	Dissolved	Water	SM5310_D	

Analysis Batch: 160970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-52452-1	MW-16D	Total/NA	Water	SM 3500	
480-52452-2	MW-14D	Total/NA	Water	SM 3500	
480-52452-3	MW-13D	Total/NA	Water	SM 3500	
480-52452-4	MW-9D	Total/NA	Water	SM 3500	
480-52452-5	MW-10D	Total/NA	Water	SM 3500	
480-52452-6	MW-15D	Total/NA	Water	SM 3500	

Client Sample ID: MW-16D

Lab Sample ID: 480-52452-1

Date Collected: 12/20/13 08:00

Matrix: Water

Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		5	159309	12/24/13 14:23	PJQ	TAL BUF
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:00	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:07	KMF	TAL BUF
Total/NA	Analysis	300.0		5	159278	12/24/13 22:54	KAC	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 20:11	KRC	TAL BUF
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		5	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: MW-14D

Lab Sample ID: 480-52452-2

Date Collected: 12/20/13 09:00

Matrix: Water

Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	159309	12/24/13 15:38	PJQ	TAL BUF
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:03	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:09	KMF	TAL BUF
Total/NA	Analysis	300.0		5	159278	12/24/13 23:04	KAC	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 21:24	KRC	TAL BUF
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		10	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: MW-13D

Lab Sample ID: 480-52452-3

Date Collected: 12/20/13 10:00

Matrix: Water

Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	159309	12/24/13 16:03	PJQ	TAL BUF
Total/NA	Analysis	OLC02.1	DL	200	159450	12/26/13 14:55	PJQ	TAL BUF
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:06	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:10	KMF	TAL BUF
Total/NA	Analysis	300.0		5	159278	12/24/13 23:14	KAC	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 21:39	KRC	TAL BUF

Lab Chronicle

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-13D

Lab Sample ID: 480-52452-3

Date Collected: 12/20/13 10:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		2	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: MW-9D

Lab Sample ID: 480-52452-4

Date Collected: 12/20/13 11:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		2	159450	12/26/13 16:09	PJQ	TAL BUF
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:09	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:11	KMF	TAL BUF
Total/NA	Analysis	300.0		5	159278	12/24/13 23:24	KAC	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 21:54	KRC	TAL BUF
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		5	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: MW-10D

Lab Sample ID: 480-52452-5

Date Collected: 12/20/13 12:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		20	159450	12/26/13 16:33	PJQ	TAL BUF
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:20	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:12	KMF	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Total/NA	Analysis	300.0		10	159678	12/28/13 01:30	KRC	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 22:08	KRC	TAL BUF
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		5	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: MW-15D

Lab Sample ID: 480-52452-6

Date Collected: 12/20/13 13:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		4	159450	12/26/13 16:58	PJQ	TAL BUF

Lab Chronicle

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Client Sample ID: MW-15D

Lab Sample ID: 480-52452-6

Date Collected: 12/20/13 13:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			159019	12/23/13 13:10	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	160334	01/02/14 15:23	SS1	TAL BUF
Total/NA	Analysis	SM 3500 FE D		1	158948	12/21/13 08:05	NCH	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	158994	12/21/13 14:13	KMF	TAL BUF
Total/NA	Analysis	300.0		5	159278	12/25/13 00:15	KAC	TAL BUF
Total/NA	Analysis	SM 4500 S2 F		1	159672	12/27/13 11:45	LAW	TAL BUF
Dissolved	Analysis	SM5310_D		1	160132	12/30/13 22:23	KRC	TAL BUF
Total/NA	Analysis	SM 3500		1	160970	01/09/14 15:49	SW1	TAL BUF
Dissolved	Analysis	SM 5310C		10	133441	01/04/14 15:07	CLJ	TAL NSH

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-52452-7

Date Collected: 12/20/13 00:00
Matrix: Water
Date Received: 12/21/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	OLC02.1		1	159450	12/26/13 14:30	PJQ	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-14
California	NELAP	9	1169CA	09-30-14
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Illinois	NELAP	5	200003	09-30-14
Iowa	State Program	7	374	03-01-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-14
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-14
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13 *
New Hampshire	NELAP	1	2337	11-17-14
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-14
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13 *
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-14
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	03-31-14
Wisconsin	State Program	5	998310390	08-31-14

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	07-24-14
Arizona	State Program	9	AZ0473	05-05-14
Arizona	State Program	9	AZ0473	05-05-14 *
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-14
Canadian Assoc Lab Accred (CALA)	Canada		3744	03-08-14
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-14
Kentucky (UST)	State Program	4	19	06-30-14
Louisiana	NELAP	6	30613	06-30-14

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Laboratory: TestAmerica Nashville (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-20
Nevada	State Program	9	TN00032	07-31-14
New Hampshire	NELAP	1	2963	10-10-14
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-14
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-14
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-14
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-14
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-14
Wyoming (UST)	A2LA	8	453.07	12-31-15

Method Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Method	Method Description	Protocol	Laboratory
OLC02.1	Volatile Organic Compounds, Low Concetration (GC/MS)	OCLP	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
300.0	Sulfate	40CFR136A	TAL BUF
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL BUF
SM 3500	Iron, Ferric	SM	TAL BUF
SM 3500 FE D	Iron, Ferrous and Ferric	SM	TAL BUF
SM 4500 S2 F	Sulfide, Total	SM	TAL BUF
SM 5310C	Organic Carbon, Dissolved (DOC)	SM	TAL NSH
SM5310_D	Organic Carbon, Dissolved (DOC)	SM	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
OCLP = USEPA Contract Laboratory Program Statement Of Work For Inorganics Analysis, Multi-Media, Multi-Concentration.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: C&S Engineers, Inc.
Project/Site: Midler Semi-Annual Groundwater

TestAmerica Job ID: 480-52452-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-52452-1	MW-16D	Water	12/20/13 08:00	12/21/13 02:00
480-52452-2	MW-14D	Water	12/20/13 09:00	12/21/13 02:00
480-52452-3	MW-13D	Water	12/20/13 10:00	12/21/13 02:00
480-52452-4	MW-9D	Water	12/20/13 11:00	12/21/13 02:00
480-52452-5	MW-10D	Water	12/20/13 12:00	12/21/13 02:00
480-52452-6	MW-15D	Water	12/20/13 13:00	12/21/13 02:00
480-52452-7	TRIP BLANK	Water	12/20/13 00:00	12/21/13 02:00

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Wayne Randall	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-42347-2208.1
Client Contact: Mr. Wayne Randall	Phone: 315 703 9110	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 1
Company: C&S Engineers, Inc.				Job #:
Address: 499 Col. Eileen Collins Blvd	Due Date Requested:			
City: Syracuse	TAT Requested (days): Standard			
State, Zip: NY, 13212				
Phone: 315-455-2000(Tel) 315-455-9667(Fax)	PO #: Purchase Order not requir			
Email: wrandall@cscos.com	WO #:			
Project Name: Midler Quarterly Groundwater	Project #: 48002877			
Site: Midler Semi Annual GW	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300.0_28D - Sulfate	200.7, 6010B	8260B - (MOD) TCL list OLM04.2	SM5310_DOC_D - Dissolved Organic Carbon	SM4500_S2_F - Sulfide	SUBCONTRACT - Dissolved Inorganic Carbon	3500_FE_D, 353.2, 353.2_Nitrite, Nitrate_Calc	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	A	A	CB	N	N		
MW-16D	12/20/13	800		Water											MS on MSD
MW-16D MS		800		Water											on VOAS only
MW-16D MSD		800		Water											
MW-14D		900		Water											DOC is field
MW-13D		1000		Water											filtered
MW-9D		1100		Water											
MW-10D		1200		Water											
MW-15D		1300		Water											

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: ASP 00 on VOAS

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Wayne Randall	12/20/13 12:40	C&S		12-20-13 12:40	
2		12-21-13 09:00			12.21.13 0200	TAL
3						

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.6, 3.1 #1

Page 38 of 40

1/10/2014

Login Sample Receipt Checklist

Client: C&S Engineers, Inc.

Job Number: 480-52452-1

Login Number: 52452

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert K

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	C&S
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: C&S Engineers, Inc.

Job Number: 480-52452-1

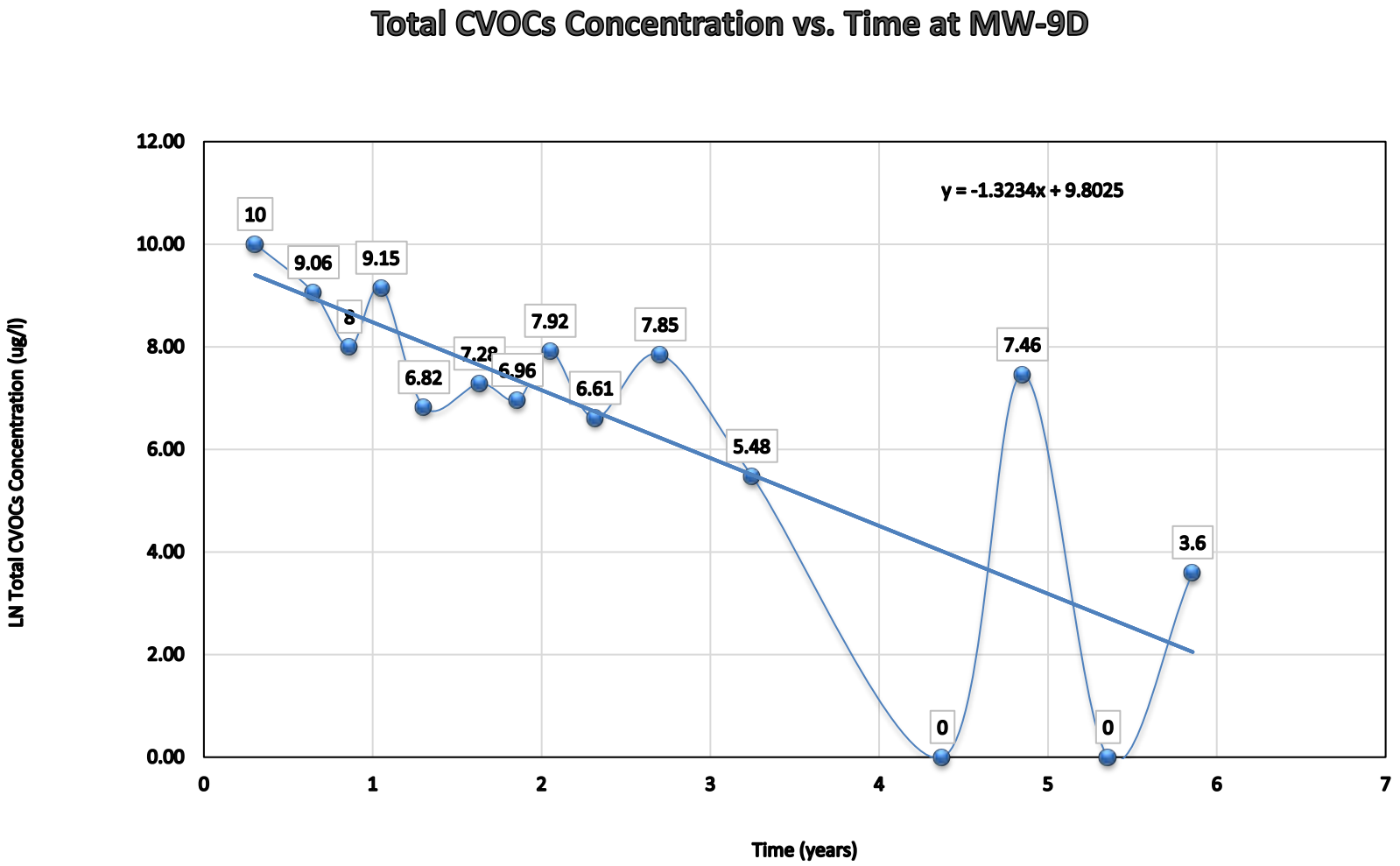
Login Number: 52452
List Number: 1
Creator: Ford, Easton

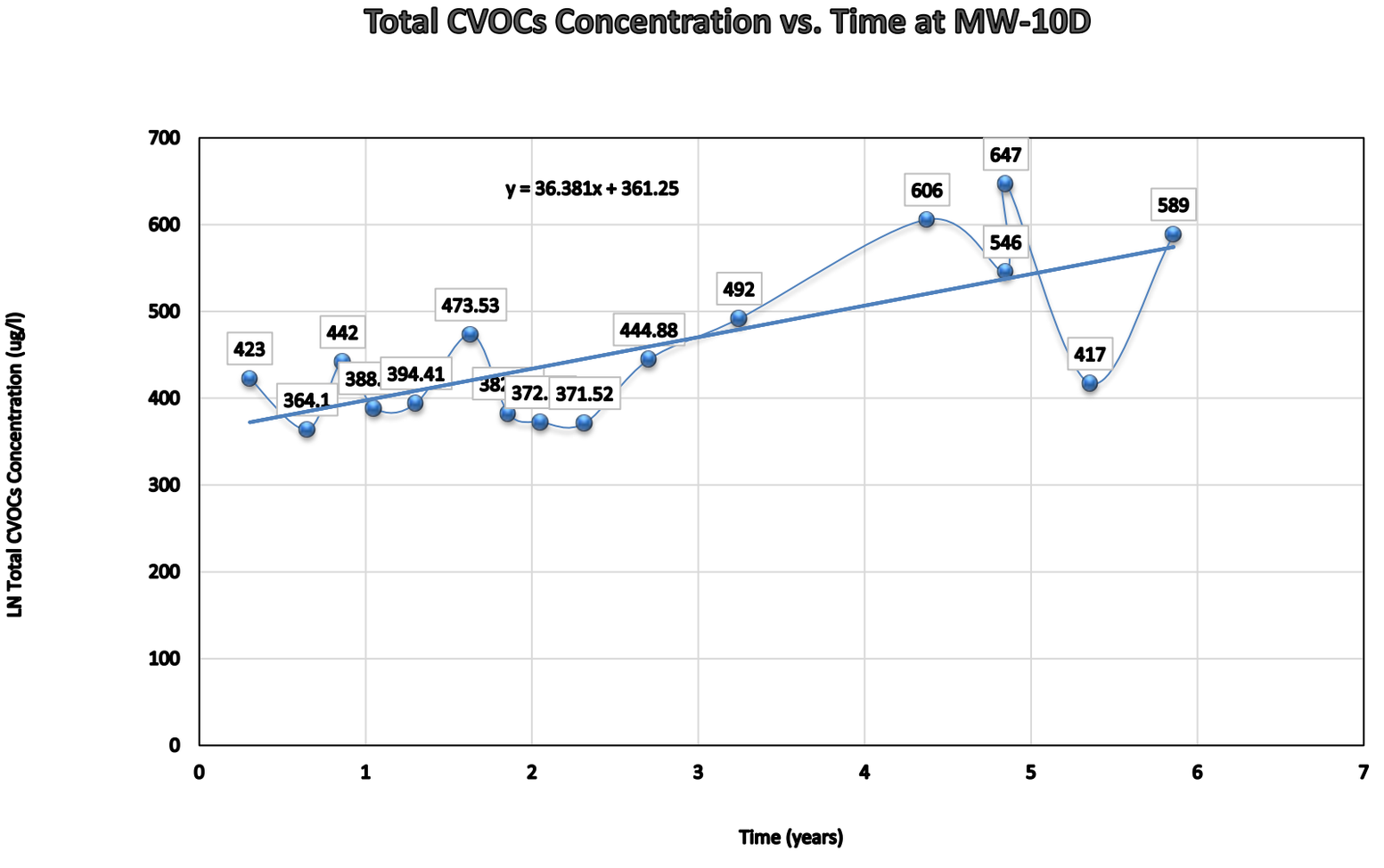
List Source: TestAmerica Nashville
List Creation: 12/24/13 03:32 PM

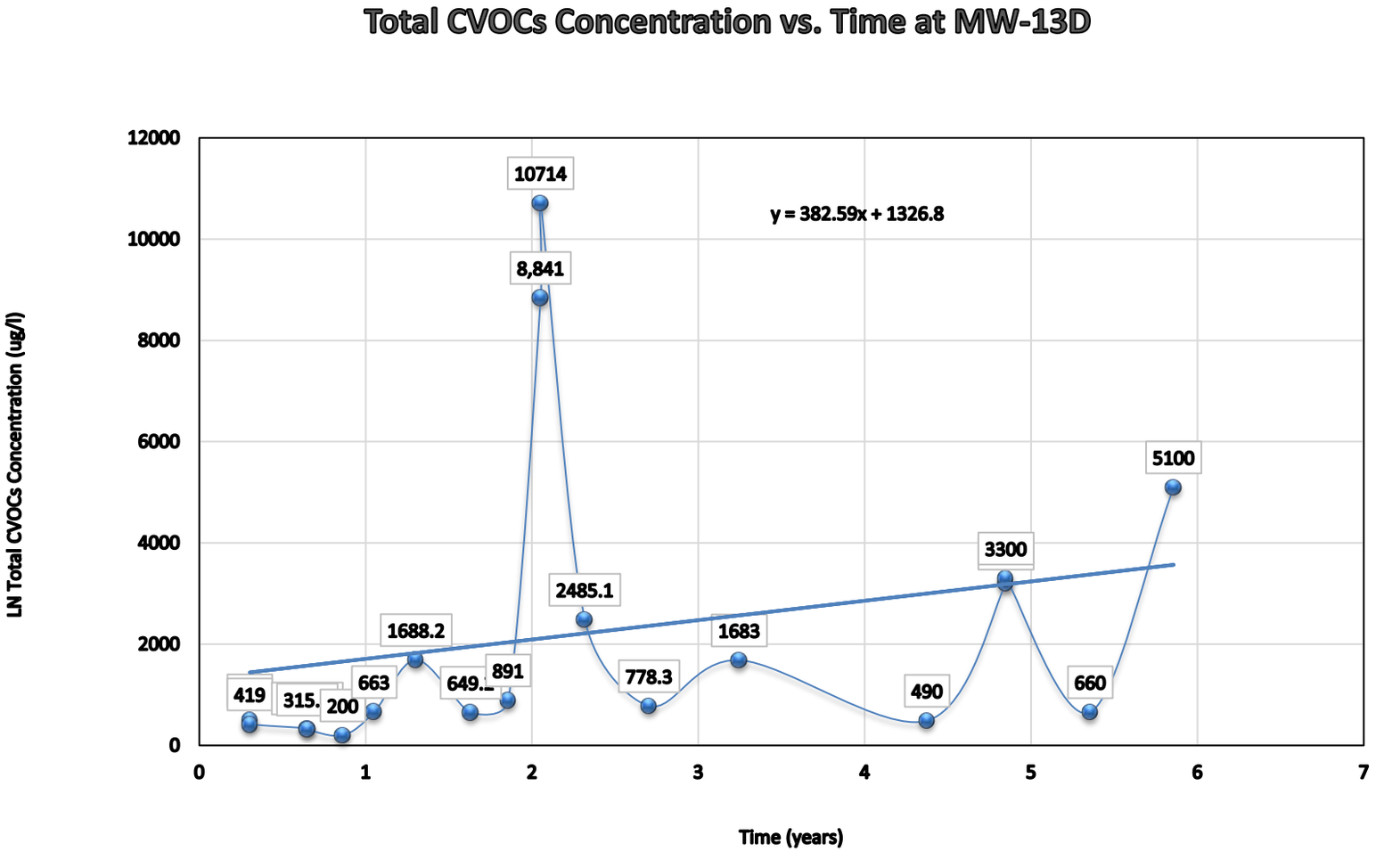
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

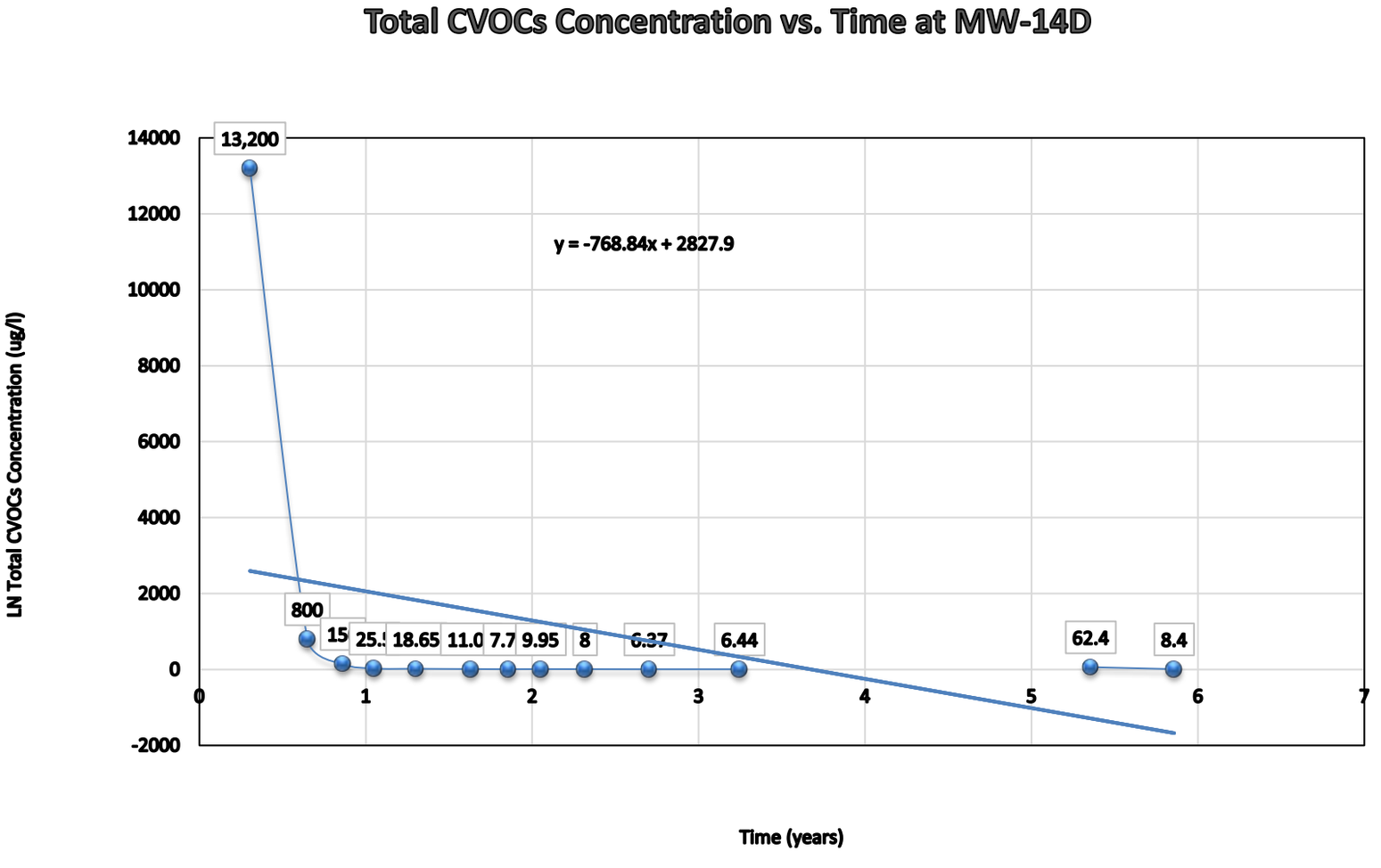
Appendix B-2

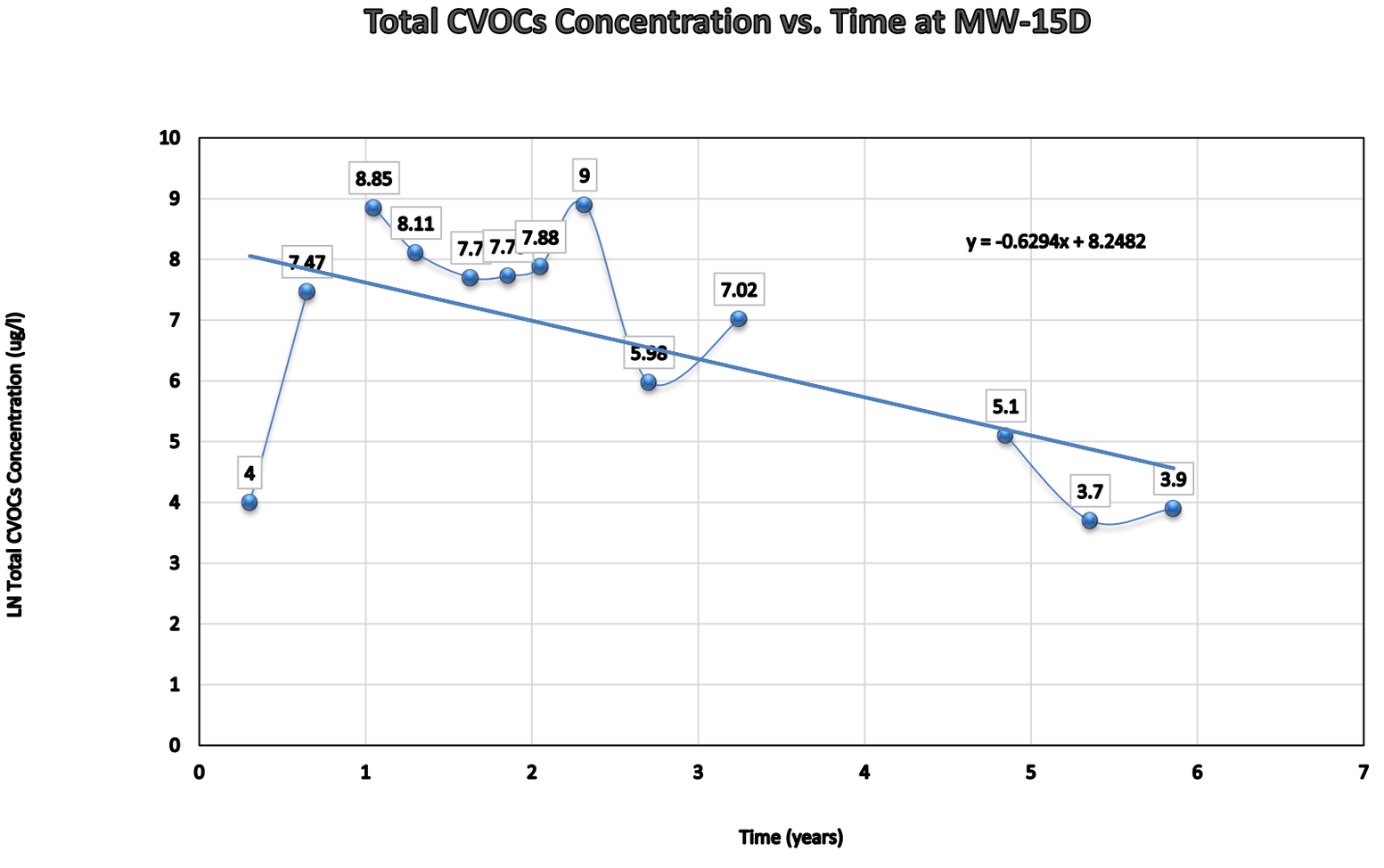
Total CVOCs vs. Time Charts

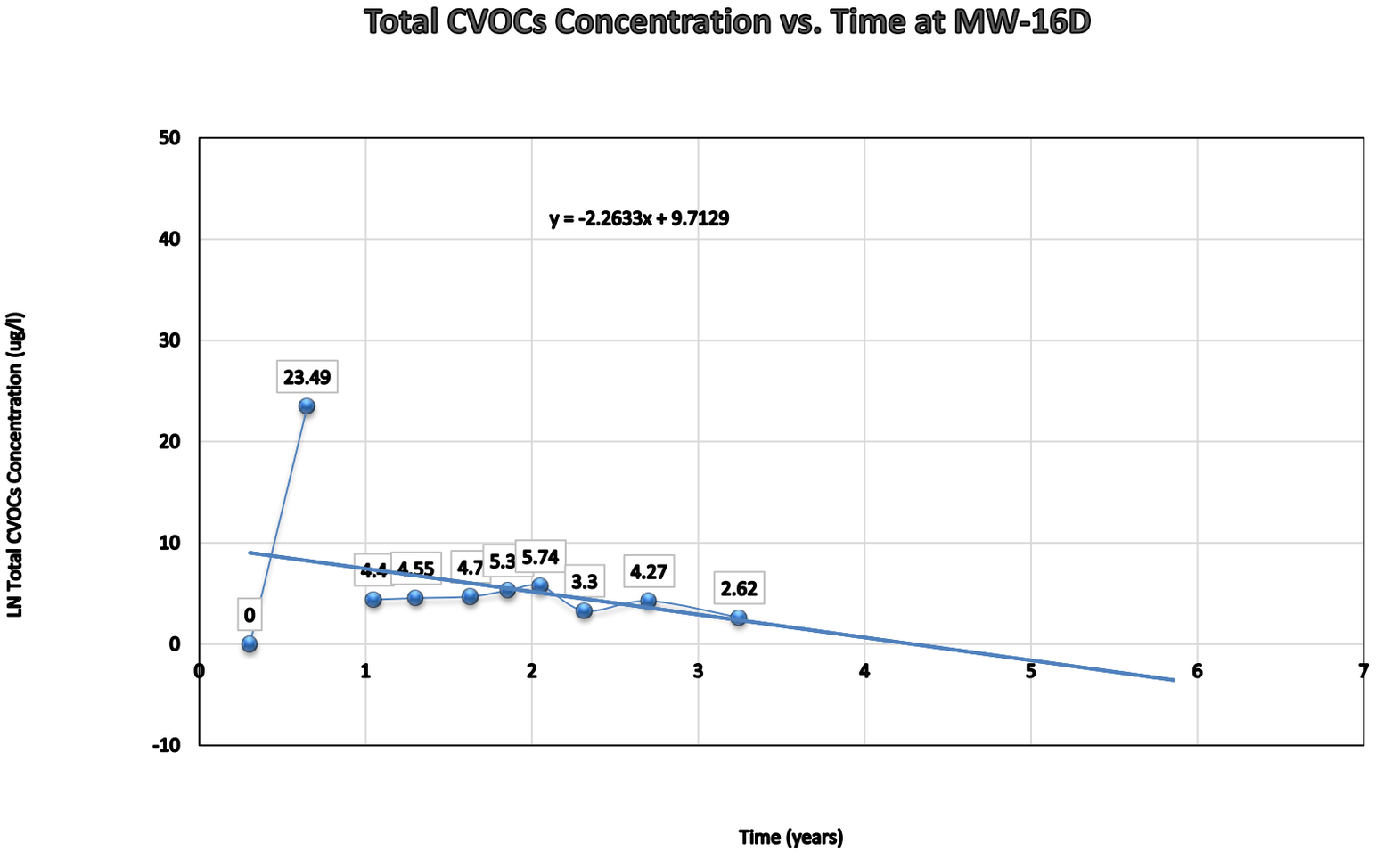

Total CVOCs Concentration vs. Time at MW-9D
y = -1.3234x + 9.8025
LN Total CVOCs Concentration (ug/l)
Time (years)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
0
1
2
3
4
5
6
7
10
9.06
9.15
6.82
7.92
6.96
6.61
7.85
5.48
0
7.46
0
3.6


Total CVOCs Concentration vs. Time at MW-10D
y = 36.381x + 361.25
LN Total CVOCs Concentration (ug/l)
Time (years)
0
100
200
300
400
500
600
700
0
1
2
3
4
5
6
7
423
364.1
442
388.
394.41
473.53
372.
371.52
444.88
492
606
647
546
417
589


Total CVOCs Concentration vs. Time at MW-13D
LN Total CVOCs Concentration (ug/l)
Time (years)
y = 382.59x + 1326.8
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
10714
8,841
2485.1
1688.2
1683
3300
5100
891
663
778.3
660
490
419
315.
200
649.


Total CVOCs Concentration vs. Time at MW-14D
LN Total CVOCs Concentration (ug/l)
Time (years)
y = -768.84x + 2827.9
14000
12000
10000
8000
6000
4000
2000
0
-2000
0
1
2
3
4
5
6
7
13,200
800
15
25.5
18.65
11.0
7.7
9.95
8
6.37
6.44
62.4
8.4


Total CVOCs Concentration vs. Time at MW-15D
LN Total CVOCs Concentration (ug/l)
Time (years)
y = -0.6294x + 8.2482
4
7.47
8.85
8.11
7.7
7.7
7.88
9
5.98
7.02
5.1
3.7
3.9
0
1
2
3
4
5
6
7
8
9
10


Total CVOCs Concentration vs. Time at MW-16D
y = -2.2633x + 9.7129
LN Total CVOCs Concentration (ug/l)
Time (years)
50
40
30
20
10
0
-10
0
1
2
3
4
5
6
7
23.49
0
4.4
4.55
4.7
5.3
5.74
3.3
4.27
2.62

Appendix B-3

Data Usability Summary Reports for 2013
Groundwater Quality Samples

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Water Supply

May 28, 2014

Mr. Wayne N. Randall
C&S Companies
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212

Re: DUSR and Data Validation Report
Midler Ave. Project
June & December 2013 Ground Water Sampling Events

Dear Mr. Randall:

The data usability summary reports (DUSRs) and data validation QA/QC reviews for the June and December 2013 ground water sampling events are enclosed with this letter. The data were acceptable for TestAmerica Buffalo job numbers 480-40540-1 and 480-52452-1 with minor issues outlined in the QA/QC reviews. There were no data that were flagged as unusable (R) in these data packs.

A list of data validation acronyms and qualifiers is attached to assist you in interpreting the data validation reviews. If you have any questions concerning the work performed, please contact me at (518) 348-6995. Thank you for the opportunity to assist C&S Companies.

Sincerely,
Alpha Geoscience

Donald Anné

Donald Anné
Senior Chemist

DCA:dca
enclosures

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Data Validation Acronyms

AA	Atomic absorption, flame technique
BHC	Hexachlorocyclohexane
BFB	Bromofluorobenzene
CCB	Continuing calibration blank
CCC	Calibration check compound
CCV	Continuing calibration verification
CN	Cyanide
CRDL	Contract required detection limit
CRQL	Contract required quantitation limit
CVAA	Atomic adsorption, cold vapor technique
DCAA	2,4-Dichlophenylacetic acid
DCB	Decachlorobiphenyl
DFTPP	Decafluorotriphenyl phosphine
ECD	Electron capture detector
FAA	Atomic absorption, furnace technique
FID	Flame ionization detector
FNP	1-Fluoronaphthalene
GC	Gas chromatography
GC/MS	Gas chromatography/mass spectrometry
GPC	Gel permeation chromatography
ICB	Initial calibration blank
ICP	Inductively coupled plasma-atomic emission spectrometer
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standard
LCS	Laboratory control sample
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate
MSA	Method of standard additions
MS/MSD	Matrix spike/matrix spike duplicate
PID	Photo ionization detector
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
QA	Quality assurance
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
RRF(number)	Relative response factor at concentration of the number following
RT	Retention time
RRT	Relative retention time
SDG	Sample delivery group
SPCC	System performance check compound
TCX	Tetrachloro-m-xylene
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation

Data Validation Qualifiers Used in the QA/QC Reviews for USEPA Region II

U = Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.

R = Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data or information is necessary to confirm the result.

N = Tentative identification. Analyte is considered present. Special methods may be needed to confirm its presence or absence during future sampling efforts.

J = Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

Note: These qualifiers are used for data validation purposes. The data validation qualifiers may differ from the qualifiers that the laboratory assigns to the data. Refer to the laboratory analytical report for the definitions of the laboratory qualifiers.

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Data Usability Summary Report for
TestAmerica Buffalo, Job No. 480-40540-1

6 Ground Water Samples
Collected June 20, 2013

Prepared by: Donald Anné
May 28, 2014

The data packages contain the documentation required by NYSDEC ASP. The proper chain of custody procedures were followed by the samplers. All information appeared legible and complete. The data packs contained the results for 6 ground water samples analyzed for volatiles.

The overall performances of the analyses are acceptable. TestAmerica Buffalo did fulfill the requirements of the analytical method.

The data are acceptable with some minor issues that are identified in the accompanying data validation review. There were no data flagged as either estimated (J) or unusable (R); therefore, all data are considered usable. Detailed information on data quality is included in the data validation review.

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QA/QC Review of Method OLC02.1 Volatiles Data
for TestAmerica Buffalo, Job No. 480-40540-1

6 Ground Water Samples
Collected June 20, 2013

Prepared by: Donald Anné
May 28, 2014

Holding Times: Samples were analyzed within NYSDEC ASP holding times.

GC/MS Tuning and Mass Calibration: The BFB tuning criteria were within control limits.

Initial Calibration: The compounds with ASP criteria for minimum average RRFs and maximum %RSDs met those requirements.

The average RRFs for target compounds were above the allowable minimum (0.010) and the %RSDs were below the allowable maximum (30%), as required.

Continuing Calibration: The compounds with ASP criteria for minimum RRFs and maximum %Ds met those requirements.

The RRFs for target compounds were above the allowable minimum (0.010) and the %Ds were below the allowable maximum (25%), as required.

Blanks: The analyses of method blanks reported target compounds as not detected.

Internal Standard Area Summary: The internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries were within control limits for the ground water samples.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences for spiked compounds were below the allowable maximums and the percent recoveries were within QC limits for aqueous MS/MSD samples MW-16D and MW-13D.

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Laboratory Control Sample: The percent recoveries for spiked compounds were within QC limits for aqueous samples LCS 480-125913/3 and LCS 480-126040/3.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. The mass spectra for detected compounds contained the primary and secondary ions, as outlined in SW846.

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Data Usability Summary Report for
TestAmerica Buffalo, Job No. 480-52452-1

6 Ground Water Samples and 1 Trip Blank
Collected December 20, 2013

Prepared by: Donald Anné
May 28, 2014

The data packages contain the documentation required by NYSDEC ASP. The proper chain of custody procedures were followed by the samplers. All information appeared legible and complete. The data packs contained the results for 6 ground water samples and 1 trip blank analyzed for volatiles.

The overall performances of the analyses are acceptable. TestAmerica Buffalo did fulfill the requirements of the analytical method.

The data are acceptable with some minor issues that are identified in the accompanying data validation review. The following data were flagged:

- The volatile results for vinyl chloride and cis-1,2-dichloroethene in sample MW-13D were quantitated using data that were extrapolated beyond the highest calibration standard and flagged "E" by the laboratory. The results for vinyl chloride and cis-1,2-dichloroethene marked "E" in the sample MW-13D were qualified as estimated (J).

All data are considered usable, with estimated (J) data associated with a higher level of quantitative uncertainty. Detailed information on data quality is included in the data validation review.

Z:\projects\2007\07600 - 07620\07618-midler ave\2014\480-52452-1.dus.wpd

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Geology
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QA/QC Review of Method OLC02.1 Volatiles Data for TestAmerica Buffalo, Job No. 480-52452-1

6 Ground Water Samples and 1 Trip Blank Collected December 20, 2013

Prepared by: Donald Anné
May 28, 2014

Holding Times: Samples were analyzed within NYSDEC ASP holding times.

GC/MS Tuning and Mass Calibration: The BFB tuning criteria were within control limits.

Initial Calibration: The compounds with ASP criteria for minimum average RRFs and maximum %RSDs met those requirements.

The average RRFs for target compounds were above the allowable minimum (0.010) and the %RSDs were below the allowable maximum (30%), as required.

Continuing Calibration: The compounds with ASP criteria for minimum RRFs and maximum %Ds met those requirements.

The RRFs for target compounds were above the allowable minimum (0.010) and the %Ds were below the allowable maximum (25%), as required.

Blanks: The analyses of method and trip blanks reported target compounds as not detected.

Internal Standard Area Summary: The internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries were within control limits for the ground water samples and trip blank.

Matrix Spike/Matrix Spike Duplicate: The relative percent differences for spiked compounds were below the allowable maximums and the percent recoveries were within QC limits for aqueous MS/MSD samples MW-16D and MW-13D.

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www.alphageoscience.com

Laboratory Control Sample: The percent recoveries for spiked compounds were within QC limits for aqueous samples LCS 480-159309/4 and LCS 480-159450/4.

Compound ID: Checked compounds were within GC/MS quantitation and qualitation limits. The mass spectra for detected compounds contained the primary and secondary ions, as outlined in SW846.

The result for vinyl chloride and cis-1,2-dichloroethene in sample MW-13D were quantitated by extrapolating data above the highest calibration standard and marked 'E' by the laboratory. The sample was diluted by the laboratory and re-analyzed; therefore, the results that are flagged as 'E' in the undiluted sample should be considered estimated (J). The use of the diluted results for vinyl chloride and cis-1,2-dichloroethene are recommended for sample MW-13D DL. It is recommended that the undiluted results be used for all other compounds.

Appendix B-4

Monitored Natural Attenuation Parameters
Through December 2013
And
2013 Laboratory Reports

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10
Field Parameters											
pH		6.62	7.01	7.00	7.06	7.20	7.42	6.66	7.12	7.06	6.92
Conductivity	S/m	3.25	3.49	3.19	3.40	3.50	5.38	3.15	3.51	3.53	3.77
Temperature	°F	51.08	55.31	57.81	53.82	49.82	55.96	57.38	53.61	51.64	54.86
Oxidation/Reduction Potential (ORP)	mV	-325	-268	-273	-249	-286	-245	-192	-318	-300	-272
Dissolved Oxygen	mg/L	0.0	0.0	0.66	0.0	0.0	0.0	0.0	7.7	0.0	0.0
Laboratory Analytical Parameters											
Dissolved Inorganic Carbon	mg/L	110	69	92	81	77	81	47.7	49.8	88.23	67.3
Dissolved Organic Carbon	mg/L	11	3.10	1.60	2.40	1.10	1.50	4.22	2.90	4.00	3.80
Iron (total)	mg/L	0.128	0.094	0.233	0.339	0.32	0.501	0.023	0.176	0.742	0.171
Ferric Iron	mg/L	<0.10	<0.10	<0.10	<0.10	-0.036	0.293	<0.10	<0.10	0.408	<0.10
Ferrous Iron	mg/L	0.19	0.12	0.19	0.31	0.36	0.208	<0.10	<0.10	0.334	0.367
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L	NS	NS	NS	NS	<0.1	NS	<0.05	<0.05	<0.05	<0.10
Sulfate	mg/L	441	435	549	530	630	580	496	589	542	546
Sulfide	mg/L	1.60	2.40	1.60	1.20	0.80	0.80	17.20	0.80	2.80	2.00
Methane	mg/L	1.80	0.35	0.53	0.27	0.33	0.29	0.50	0.37	0.50	0.55
Ethene	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02
Ethane	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02
Dehalococcoides (Dhc) Enumeration	per liter	ND[(2)]	1×10^7	ND[(2)]	$7 \times 10^{2(1,2)}$	ND[(2,3)]	ND[(2,3)]	1×10^3	1×10^4	2×10^3	1×10^4
% Dhc		NA	0.3 - 0.8	NA	.00007 - .0002	NA	NA	.0003 - .0009	0.003 - 0.008	0.0002 - 0.0006	0.002 - 0.006
Vinyl Chloride Reductase (vcrA)	per liter	NA	2×10^4	NA	Inconclusive	NA	NA	ND[(4)]	8×10^3	Inconclusive	1×10^4
% vcrA		NA	0.003 - 0.008	NA	NA	NA	NA	NA	0.002 - 0.005	NA	0.002 - 0.006

[(1)] = Correction factor applied to correct for non-specific PCR amplification products.

[(2)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(3)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(4)] = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND [(1)] = Not Detected. The quantitation limit is 7×10^3/liter

ND [(2)]= Not Detected. The quantitation limit is 4×10^3/liter

ND [(3)]= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D	MW-9D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																	
pH		6.53	6.72	6.86	6.96	7.05	6.99	6.69	6.77	6.87	7.75	7.01	7.3	7.39	7.81	7.45	7.39
Conductivity	S/m	2.63	2.61	2.11	2.70	2.67	4.29	2.66	3.11	3.38	2.58	2.73	2.29	2.18	2	2.55	2.3
Temperature	°F	47.48	54.16	60.46	52.81	46.27	52.25	57.97	53.96	49.86	54.32	60.93	59.13	64.47	54.896	61.358	53.924
Oxidation/Reduction Potential (ORP)	mV	-356	-325	-352	-338	-349	-327	-377	-380	-350	-346	-343	-374	-340	-291	-250	-302
Dissolved Oxygen	mg/L	0.0	0.0	0.74	4.56	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Laboratory Analytical Parameters																	
Dissolved Inorganic Carbon	mg/L	130	89	110	110	120	110	74	57	116	88	92	76	81.7	78.6	80.8	82
Dissolved Organic Carbon	mg/L	8	6.20	1.60	5.60	3.20	3.50	4.49	6.10	8.70	7.4	6.5	<1.0	5.7	6.4	5.7	6.9
Iron (total)	mg/L	0.123	<0.05	<0.05	0.68	0.06	0.029	21	0.095	<0.05	0.147	0.074	0.207	0.033	0.049	0.38	0.15
Ferric Iron	mg/L	0.12	<0.10	<0.10	0.68	0.00008	NR	<0.10	0.0946	<0.10	0.147	<0.100	<0.5	NS	NS	NS	0.15
Ferrous Iron	mg/L	<0.10	<0.10	0.19	<0.10	0.062	<.015	<0.10	<0.10	<0.10	<0.10	<0.100	0.18	<0.075	<0.075	<0.01	<0.1
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L	NS	NS	NS	NS	<0.1	NS	<0.05	<0.05	<0.05	0.026	0.032	0.18	<0.011	<0.011	<0.05	<0.05
Sulfate	mg/L	368	340	549	391	430	380	425	377	328	320	461	380	466	590	411	470
Sulfide	mg/L	13.20	12.40	1.60	13.60	22.00	17.20	18.40	14.00	18.40	13.6	29.6	22.4	20.4	24.4	22	16
Methane	mg/L	3.80	2.80	4.10	3.00	3.40	3.20	3.20	2.50	2.90	2.4	3	2.9	2.6	NS	NS	NS
Ethene	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	NS	NS	NS
Ethane	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	ND[(2)]	Inconclusive	ND[(2)]	9×10^{2}[(1,3)]	ND[(1,3)]	4×10^{3}	NA	3×10^{4}	1×10^{3}	7×10^{3}	7×10^{2}	4×10^{4}	3×10^{3}[(1)]	3×10^{3}	6×10^{3}[(4)]	6×10^{3}
% Dhc		NA	NA	NA	.00006 - .0002	NA	0.001 - 0.003	NA	0.004 - 0.01	0.0002 - 0.0005	0.0006 - 0.002	0.00002 - 0.00005	0.003 - 0.008	NA	NA	NA	0.0003 - 0.0008
Vinyl Chloride Reductase (vcrA)	per liter	NA	Inconclusive	NA	4×10^{3}[(1)]	NA	NA	NA	4×10^{4}	5×10^{3}	3×10^{4}	ND	NA	NA	NS	NS	NS
% vcrA		NA	NA	NA	0.003 - 0.001	NA	ND[(2)]	NA	0.005 - 0.01	0.0007 - 0.002	0.002 - 0.007	NA	4×10^{3} U	NA	NS	NS	NS

[(1)] = Correction factor applied to correct for non-specific PCR amplification products.

[(2)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^{3}/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(3)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^{3}/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(4)] = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND [(1)] = Not Detected. The quantitation limit is 7×10^{3}/liter

ND [(2)]= Not Detected. The quantitation limit is 4×10^{3}/liter

ND [(3)]= Sample inhibited testing; this increases the probability that test result is a false negative.

ND [(4)]= Not Detected. The quantitation limit is 6×10^{3}/liter

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4×10^{3}/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																	
pH		6.36	6.93	6.90	7.03	6.96	7.10	6.67	6.85	6.97	7.87	7.11	7.49	7.54	7.73	7.22	11.59
Conductivity	S/m	2.07	2.05	2.12	2.20	2.23	3.27	2.16	2.43	2.53	2.42	2.11	1.83	1.53	1.47	2.16	1.95
Temperature	°F	47.12	54.75	59.14	50.58	48.02	53.55	58.71	49.12	49.57	55.4	62	63.86	71.6	54.28	56.93	52.86
Oxidation/Reduction Potential (ORP)	mV	-297	-338	-342	-329	-341	-309	-346	-374	-349	-350	-313	-347	-324	-280	-260	-294
Dissolved Oxygen	mg/L	0.0	0.0	0.69	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.09	0.00	0.00	0.00
Laboratory Analytical Parameters																	
Dissolved Inorganic Carbon	mg/L	120	76	91	85	120	110	71.6	54.7	103	77.5	89	84.8	72.5	70.4	80.6	86.1
Dissolved Organic Carbon	mg/L	7.50	2.60	3.20	4.70	5.40	3.20	1.82	4.90	5.9	7.1	5	0.47	4.5	5.5	4.4	4.9
Iron (total)	mg/L	0.0641	<0.05	<0.05	0.0504	0.084	<0.019	0.11	0.07	0.065	<0.050	<0.050	0.0332	0.019	0.052	0.024	0.027
Ferric Iron	mg/L	<0.10	<0.10	<0.10	<0.10	-0.013	NR	0.109	<0.10	<0.10	<0.10	<0.100	<0.50	NS	NS	NS	<0.100
Ferrous Iron	mg/L	<0.10	<0.10	<0.10	<0.10	0.096	<0.015	<0.10	<0.10	<0.10	<0.10	<0.100	0.17	<0.075	<0.075	<0.1	<0.100
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L	NS	NS	NS	NS	<0.1	NS	<0.05	<0.05	<0.05	<0.10	<0.050	<0.10	<0.011	<0.011	<0.05	<0.05
Sulfate	mg/L	572	609	621	594	430	640	545	684	614	565	557	506	497	541	612	623
Sulfide	mg/L	8.80	26.80	24.80	25.2	12	19.60	0.80	14.00	18.8	19.2	25.6	24	28	16.8	30	26.6
Methane	mg/L	2.60	0.82	1.10	1.30	6.50	3.30	3.80	1.30	2.5	2.2	1.1	2.2	1.6	NS	NS	NS
Ethene	mg/L	0.06	0.02	0.05	<0.02	<0.10	0.05	0.04	0.03	0.03	0.03	<0.01	0.01	<0.01	NS	NS	NS
Ethane	mg/L	<0.02	<0.02	<0.02	<0.02	<0.10	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	6×10^6	9×10^5	6×10^5	8×10^5	4×10^6	1×10^6	3×10^6	2×10^7	6×10^6	1×10^7	7×10^6	2×10^6	6×10^5	1×10^6	8×10^5	1×10^6
% Dhc		0.5 - 1.0	0.06 - 0.2	0.03 - 0.1	.08 - 0.2	0.7 - 2	0.2 - 0.7	0.5 - 1	2 - 5	0.7 - 2	0.8 - 2	0.8 - 2	0.3 - 0.8	0.08 - 0.2	0.1 - 0.3	0.2 - 0.6	0.3 - 1
Vinyl Chloride Reductase (vcrA)	per liter	2×10^7	7×10^6	1×10^6	2×10^6	4×10^6	8×10^5	4×10^6	7×10^7	2×10^7	3×10^7	2×10^7	7×10^6	1×10^6	NS	NS	NS
% vcrA		1 - 4	0.5 - 1	0.05 - 0.2	0.1 -0.4	0.6 - 2	0.2 - 0.6	0.6 - 2	6 - 17	2 - 6	2 - 6	2 - 7	1 - 3	0.3 - 1	NS	NS	NS

(1) = Correction factor applied to correct for non-specific PCR amplification products.

(2) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(3) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(4) = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND (1) = Not Detected. The quantitation limit is 7×10^3/liter

ND (2)= Not Detected. The quantitation limit is 4×10^3/liter

ND (3)= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D
Sample Date		10/11/07	02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																		
pH		7.23	6.80	7.01	7.18	7.21	7.37	7.03	7.22	6.82	7.19	7.71	7.38	7.34	7.41	8	7.13	7.17
Conductivity	S/m	2.83	2.78	2.42	3.07	2.71	3.09	4.4	3.12	2.61	2.97	2.58	2.65	2.35	1.99	1.7	2.41	2
Temperature	°F	85.6	64.58	70.99	72.14	61.16	55.71	61.48	64.94	59.68	53.91	59.54	69.91	62.6	64.6	58.28	59.09	57.42
Oxidation/Reduction Potential (ORP)	mV	-324	-400	-334	-369	-350	-408	-377	-403	-409	-371	-347	-364	-374	-335	-301	-255	-328
Dissolved Oxygen	mg/L	0.0	0.0	0.0	0.69	0.0	0.0	0.0	1.5	5.6	0.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Laboratory Analytical Parameters																		
Dissolved Inorganic Carbon	mg/L	110	120	75	96	91	130	100	97	20	43.4	34.4	63	66.8	47.4	54.5	64.4	63.3
Dissolved Organic Carbon	mg/L	41.00	42.90	36.00	29.40	41.90	35	42.50	48.90	32.70	39.6	32.6	24.9	1.1	12.4	11.5	21.2	23.7
Iron (total)	mg/L	1.15	4.26	0.162	0.421	1.26	1.80	5.94	5.89	5.24	8.84	1.43	0.347	0.966	0.051	0.23	0.06	0.17
Ferric Iron	mg/L	1.20	4.3	<0.10	<0.10	1.3	1.80	5.95	5.82	4.98	8.84	1.43	0.347	0.04	NS	NS	NS	0.17
Ferrous Iron	mg/L	<0.05	<0.10	0.13	0.36	<0.10	<0.10	<0.075	0.08	0.26	<0.10	<0.1	<0.100	0.93	0.075	0.094	<0.1	<0.1
Nitrite-Nitrate as Nitrogen	mg/L	<0.05	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L	NS	NS	NS	NS	NS	<0.1	NS	<0.05	<0.05	<0.05	<0.014	<0.050	<0.1	0.048	<0.01	<0.050	<0.050
Sulfate	mg/L	<25.0	61.7	60.1	128	129	86	99	53	128	156	104	62.6	122	184	159	160	202
Sulfide	mg/L	0.80	8	27.2	14.4	14.4	13	13.60	9.60	9.60	20.4	27.2	4.4	37.7	27.2	24	40	18.8
Methane	mg/L	13	13	9.90	14	12	18	16	11	11	19	13	16	12	8.2	NS	NS	NS
Ethene	mg/L	6.00	9.10	3.90	7.00	3.00	5.30	9.10	4.90	5.50	3.2	0.59	0.53	1.4	0.76	NS	NS	NS
Ethane	mg/L	4.60	1.10	0.99	1.90	2.20	3.3	3.1	2.4	2.4	3.8	1.6	2.1	0.8	0.57	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	2×10^8	8×10^8	7×10^6	3×10^7	9×10^6	6×10^7	5×10^7	2×10^8	3×10^8	5×10^7	5×10^8	4×10^8	2×10^8	5×10^7	6×10^7	5×10^7	6×10^3
% Dhc		100	13 - 34	0.2 - 0.6	0.5 - 1.0	0.2 - 0.7	5 - 15	3 - 9	8 - 22	7 - 20	2 - 7	22 - 52	9 - 25	10 - 28	1 - 4	3 - 8	3 - 8	4 - 12
Vinyl Chloride Reductase (vcrA)	per liter	6×10^7	2×10^9	8×10^7	4×10^7	2×10^6	4×10^7	5×10^7	8×10^7	4×10^8	1×10^8	5×10^8	4×10^8	2×10^8	4×10^7	NS	NS	NS
% vcrA		>93	36 - 75	2 - 6	0.7 - 2	0.1 - 0.4	3 - 10	3 - 9	3 - 10	9 - 24	4 - 13	23 - 54	8 - 23	12 - 30	3 - 7	NS	NS	NS

(1) = Correction factor applied to correct for non-specific PCR amplification products.

(2) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(3) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(4) = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND (1) = Not Detected. The quantitation limit is 7×10^3/liter

ND (2)= Not Detected. The quantitation limit is 4×10^3/liter

ND (3)= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D	MW-14D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																	
pH		6.08	6.33	6.35	6.56	6.66	6.58	6.55	6.27	6.46	7.39	6.57	7.00	6.67	7.36	6.82	6.68
Conductivity	S/m	7.10	5.57	5.10	4.22	4.36	6.87	4.53	4.90	5.17	4.89	4.66	4.31	3.99	3.3	4.6	4.32
Temperature	°F	46.94	59.28	61.88	59.66	57.00	59.94	61.52	60.28	59.18	59.36	64.31	63.7	64.05	61.448	63.392	56.77
Oxidation/Reduction Potential (ORP)	mV	-367	-333	-342	-338	-345	-344	-366	-397	-359	-365	-342	-379	-348	-297	-277	-326
Dissolved Oxygen	mg/L	2.18	0.0	0.98	0.0	0.0	0.0	1.6	2.8	0.26	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Laboratory Analytical Parameters																	
Dissolved Inorganic Carbon	mg/L	240	220	260	260	290	270	209	206	250	172	210	169	202	167	152	175
Dissolved Organic Carbon	mg/L	570	900	179	181	190	124	95	123	118	89.8	79	28.1	64.1	52.4	63.2	54.4
Iron (total)	mg/L	1.34	0.152	0.107	0.209	0.14	0.093	0.076	0.048	0.058	0.133	0.051	0.0995	0.076	0.056	0.096	0.055
Ferric Iron	mg/L	1.30	0.15	0.11	0.21	0.14	NR	0.076	<0.10	<0.10	0.133	<0.100	<0.50	NS	NS	NS	NS
Ferrous Iron	mg/L	<0.10	<0.10	<0.10	<0.50	<0.10	<0.015	<0.10	<0.10	<0.10	<0.10	<0.100	0.39	0.16	0.082	<0.10	0.084
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L-N	NS	NS	NS	NS	0.14	NS	<0.50	<0.50	<0.50	<0.10	<0.050	<0.01	<0.011	<0.01	<0.05	<0.05
Sulfate	mg/L	10.50	<2.0	<20.0	<4.0	<100	3.2	8.92	17.8	12	34.2	32.5	60.6	99	62.6	121	120
Sulfide	mg/L	62.40	65.60	74.40	69.60	66	73.20	70.80	58.40	69.2	62.8	69.2	48	48	56.4	60	52.4
Methane	mg/L	11	11	22	25	25	29	28	27	29	20	24	20	16	NS	NS	NS
Ethene	mg/L	0.48	0.63	2.70	1.9	1.7	2	1.9	1.9	1.7	1.2	0.88	0.18	0.13	NS	NS	NS
Ethane	mg/L	<0.10	<0.10	<0.02	<0.10	<0.10	<0.01	<0.10	<0.10	<0.02	<0.1	0.03	0.06	<0.01	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	1×10^9	9×10^8	3×10^8	7×10^7	1×10^8	2×10^7	2×10^7	3×10^7	4×10^6	2×10^7	2×10^7	5×10^6	8×10^5	4×10^5	2×10^5	3×10^5
% Dhc		17 - 43	27 - 62	7 - 18	3 - 9	6 - 16	1 - 4	1 - 4	2 - 5	0.5 - 1	0.8 - 2	2 - 5	0.5 - 1	0.05 - 0.2	0.04 - 0.1	0.02 - 0.07	0.08 - 0.2
Vinyl Chloride Reductase (vcrA)	per liter	2×10^7	3×10^7	2×10^8	3×10^7	2×10^7	2×10^6	3×10^6	1×10^7	1×10^6	9×10^6	9×10^6	4×10^6	3×10^5	NS	NS	NS
% vcrA		0.5 - 2	0.9 - 3	4 - 11	1 - 4	1 - 3	0.2 -0.5	0.2 -0.7	0.7 - 2	0.2 -0.5	0.3 -0.9	0.6 - 2	0.3 - 1	0.05 - 0.1	NS	NS	NS

(1) = Correction factor applied to correct for non-specific PCR amplification products.

(2) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(3) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(4) = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND (1) = Not Detected. The quantitation limit is 7×10^3/liter

ND (2)= Not Detected. The quantitation limit is 4×10^3/liter

ND (3)= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D	MW-15D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/09	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																	
pH		6.42	6.73	6.72	6.97	6.96	6.93	6.61	6.53	6.78	7.91	7.04	7.30	7.43	7.95	7.33	7.4
Conductivity	S/m	1.53	2.00	2.12	2.37	1.90	2.96	2.20	2.41	2.26	2.42	2.42	1.85	2.22	1.72	2.42	1.95
Temperature	°F	46.76	55.11	58.73	53.31	46.2	54.82	57.65	50.92	49.55	54.68	60.46	61.18	61.16	55.94	58.748	55.83
Oxidation/Reduction Potential (ORP)	mV	-218	-319	-347	-323	-340	-324	-373	-380	-344	-350	-291	-375	-301	-292	-292	-271
Dissolved Oxygen	mg/L	4.39	0.0	0.69	0.0	0.0	0.0	0.0	0.0	0.0	3.23	0.0	0.0	0.0	0.0	0.0	0.0
Laboratory Analytical Parameters																	
Dissolved Inorganic Carbon	mg/L	190	150	130	130	160	160	97.3	104	159	106	130	118	101	114	114	138
Dissolved Organic Carbon	mg/L	17	11.90	6.30	8.10	5.80	7.20	7.76	10.60	11.6	150	8.1	2.4	7.4	7.7	5.2	9.8
Iron (total)	mg/L	1.27	0.094	0.135	0.624	0.450	0.11	0.398	0.055	0.097	0.05	0.105	0.174	0.087	0.36	0.33	0.19
Ferric Iron	mg/L	1.10	<0.10	<0.10	0.62	0.37	0.11	0.398	<0.10	<0.10	<0.10	0.105	0.18	NS	NS	NS	NS
Ferrous Iron	mg/L	0.14	0.55	0.22	<0.10	0.084	<0.0150	<0.10	<0.10	<0.10	<0.10	<0.100	<0.5	0.075	0.076	<0.05	<0.05
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L-N	NS	NS	NS	NS	<0.10	NS	<0.05	<0.05	<0.05	<0.10	<0.050	<0.100	<0.011	<0.011	<0.10	<0.10
Sulfate	mg/L	126	309	637	623	420	380	479	441	440	559	786	519	612	569	612	494
Sulfide	mg/L	4	16.80	17.20	22.40	14	0.80	20.00	16.40	18.4	26.4	32.4	36	32.8	37.2	44	30.8
Methane	mg/L	4.10	8.20	11	6.50	15	16	13	17	18	13	9.1	12	9.3	NS	NS	NS
Ethene	mg/L	<0.02	<0.10	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.04	<0.01	NS	NS	NS
Ethane	mg/L	<0.02	<0.10	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.04	<0.01	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	ND [(1)]	7×10^6	ND[(2)]	NA	ND[(1,3)]	1×10^5	Inconclusive	1×10^4	NA	Inconclusive	1×10^3	4×10^3	$3 \times 10^{3(1)}$	3×10^3	$3 \times 10^{3(1)}$	4×10^3
% Dhc		NA	0.2 - 0.6	NA	Inconclusive	NA	0.2 - 0.05	NA	0.0008 - 0.002	ND[(3)]	NA	0.00001 - 0.00004	0.0009 - 0.003	NA	NA	NA	0.0005 - 0.001
Vinyl Chloride Reductase (vcrA)	per liter	NA	Inconclusive	NA	ND[(2)]	NA	1×10^4	Inconclusive	4×10^4	NA	ND[(2)]	ND	4×10^3 U	NA	NS	NS	NS
% vcrA		NA	NA	ND[(2)]	NA	NA	0.001 - 0.004	NA	0.003 - 0.008	NA	NA	NA	NA	NA	NS	NS	NS

[(1)] = Correction factor applied to correct for non-specific PCR amplification products.

[(2)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(3)] = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

[(4)] = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND [(1)] = Not Detected. The quantitation limit is 7×10^3/liter

ND [(2)]= Not Detected. The quantitation limit is 4×10^3/liter

ND [(3)]= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

Pioneer Midler Avenue LLC
Monitoring Natural Attenuation
Water Quality Parameters

Parameter	Units	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D	MW-16D
Sample Date		02/12/08	06/02/08	10/06/08	12/23/08	03/02/09	06/02/09	09/30/09	12/21/10	03/02/10	06/07/10	10/26/10	05/12/11	06/27/12	12/17/12	06/20/13	12/20/13
Field Parameters																	
pH		6.35	6.68	6.61	6.77	6.89	6.73	6.89	6.56	6.66	6.77	6.80	7.02	7.00	7.54	7.03	7.53
Conductivity	S/m	3.75	3.46	4.62	4.34	4.29	6.78	4.79	5.55	5.54	5.64	5.62	4.92	5.15	4.22	5.09	1.95
Temperature	°F	56.12	61.32	64.18	59.22	56.64	60.22	62.96	60.51	56.32	60.98	66.42	60.33	65.37	62.204	62.708	52.862
Oxidation/Reduction Potential (ORP)	mV	-375	-336	-342	-336	-340	-324	-366	-364	-324	-336	-337	-347	-259	-253	-228	-294
Dissolved Oxygen	mg/L	0.79	0.0	0.84	1.51	0.0	0.0	1.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Laboratory Analytical Parameters																	
Dissolved Inorganic Carbon	mg/L	240	160	150	160	170	140	129	117	150	113	130	123	129	115	195	111
Dissolved Organic Carbon	mg/L	194.00	105.00	45.70	35.00	19.00	16.80	18.10	27.20	26.20	19.00	20.40	4.90	13.40	16.60	12.60	13.60
Iron (total)	mg/L	0.338	0.076	0.512	0.094	0.18	0.106	0.031	0.138	0.163	0.118	0.039	0.181	0.18	0.11	0.23	0.15
Ferric Iron	mg/L	0.34	<0.10	0.51	<0.10	0.18	0.106	<0.10	0.138	0.163	<0.10	<0.100	<0.5	NS	NS	NS	<0.10
Ferrous Iron	mg/L	<0.10	<0.20	<0.10	<0.10	<0.10	<0.0150	<0.10	<0.10	<0.10	0.184	<0.10	0.21	<0.10	0.1	<0.10	0.15
Nitrite-Nitrate as Nitrogen	mg/L	NS	NS	<0.060	<0.060	NS	<0.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate as Nitrogen	mg/L-N	NS	NS	NS	NS	<0.1	NS	<0.05	<0.05	<0.05	<0.1	<0.050	<0.1	<0.011	<0.01	<0.05	<0.05
Sulfate	mg/L	10.40	<2.0	<20.0	13.4	24	44	63.4	155	91.6	147	83.6	98.8	91.3	69.2	82.7	103
Sulfide	mg/L	21.60	26.00	36.00	37.20	38.00	33.60	28.40	17.20	19.60	14.80	20.40	17.20	11.00	16.0	13.6	10.2
Methane	mg/L	22	19	27	23	24	27	29	24	24	12	22	21	13	NS	NS	NS
Ethene	mg/L	0.29	<0.10	0.06	<0.10	<0.10	0.1	0.11	<0.10	0.06	<0.1	0.01	<0.04	<0.1	NS	NS	NS
Ethane	mg/L	<0.10	0.18	0.18	0.12	<0.10	<0.10	<0.10	<0.10	<0.02	<0.1	0.02	<0.04	<0.1	NS	NS	NS
Dehalococcoides (Dhc) Enumeration	per liter	2×10^8	1×10^7	1×10^7	3×10^7	3×10^6	1×10^6	1×10^6	2×10^7	2×10^6	2×10^6	2×10^6	8×10^5	2×10^5	2×10^5	1×10^5	3×10^5
% Dhc		5 - 14	0.3 - 0.8	0.2 - 0.6	3 - 9	0.5 - 2	0.2 - 0.7	0.3 - 0.9	3 - 9	0.3 - 1	0.3 - 0.8	0.2 - 0.6	0.1 - 0.3	0.03 - 0.09	0.02 - 0.06	0.009 - 0.03	0.08 - 0.2
Vinyl Chloride Reductase (vcrA)	per liter	2×10^8	3×10^7	6×10^6	2×10^6	9×10^5	5×10^5	3×10^5	3×10^6	2×10^6	2×10^6	1×10^6	9×10^5	3×10^5	NS	NS	NS
% vcrA		5 - 14	0.8 - 2	0.1 -0.4	0.1 - 0.4	0.1 - 0.4	0.08 - 0.3	0.06 - 0.2	0.4 - 1	0.2 - 0.6	0.2 - 0.6	0.2 - 0.5	0.1 - 0.4	0.1 - 0.3	NS	NS	NS

(1) = Correction factor applied to correct for non-specific PCR amplification products.

(2) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 4×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(3) = Dehalococcoides DNA detected but below sample specific quantitation limit. The sample specific quantitation limit is 5×10^3/liter. Additional explanation provided in: Interpretation of Quantitative Gene-Trac Dehalococcoides Test Results.

(4) = vcrA DNA detected but below sample specific quantitation limit.

NS = Not Sampled.

NA = Not applicable as Dehalococcoides or vcrA DNA not detected.

ND (1) = Not Detected. The quantitation limit is 7×10^3/liter

ND (2)= Not Detected. The quantitation limit is 4×10^3/liter

ND (3)= Sample inhibited testing; this increases the probability that test result is a false negative.

NR = Any inclusion of NR indicates that the project specific requirements do not require reporting estimated values below the laboratory reporting limit.

Inconclusive = Inconclusive results may indicate extremely low concentrations of *Dehalococcoides* DNA or *vcrA* DNA at or below the sample specific quantitation limit (4 x 103/liter), however, test results were insufficient to assign a conclusive positive result for this sample.

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Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Wayne Randall, C & S Engineers Inc.

Project: Midler

Customer Reference: C81

SiREM Reference: S-2882

Report Date: 10-Jul-13

Data Files: MyiQ-DHC-QPCR-1024
MyiQ-DB-DHC-QPCR-0390
DHC-UP-0755

Table 1: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	*Dehalococcoides* Enumeration/Liter **
MW-16D	DHC-9481	20-Jun-13	Groundwater	0.009 - 0.03 %	1×10^5
MW-13D	DHC-9482	20-Jun-13	Groundwater	3 - 8 %	5×10^7
MW-14D	DHC-9483	20-Jun-13	Groundwater	0.02 - 0.07 %	2×10^5
MW-9D	DHC-9484	20-Jun-13	Groundwater	NA	6×10^3 U, I
MW-15D	DHC-9485	20-Jun-13	Groundwater	NA	3×10^3 U, I
MW-10D	DHC-9486	20-Jun-13	Groundwater	0.2 - 0.6 %	8×10^5

Notes:

* Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

** Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantification limit.
B Analyte was also detected in the method blank.
NA Not applicable as *Dehalococcoides* not detected and/or quantifiable DNA not extracted from the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
E Extracted genomic DNA was not detected in sample.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-2882

Customer Sample ID	MW-16D	MW-13D	MW-14D	MW-9D	MW-15D	MW-10D
SiREM Dhc Sample ID	DHC-9481	DHC-9482	DHC-9483	DHC-9484	DHC-9485	DHC-9486
Date Received	24-Jun-13	24-Jun-13	24-Jun-13	24-Jun-13	24-Jun-13	24-Jun-13
Sample Temperature	11 ºC	11 ºC	11 ºC	11 ºC	11 ºC	11 ºC
Filtration Date	27-Jun-13	27-Jun-13	27-Jun-13	27-Jun-13	27-Jun-13	27-Jun-13
Volume Used for DNA Extraction	600 mL	600 mL	500 mL	200 mL	500 mL	500 mL
DNA Extraction Date	3-Jul-13	3-Jul-13	3-Jul-13	3-Jul-13	3-Jul-13	3-Jul-13
DNA Concentration in Sample (extractable)	3119 ng/L	3704 ng/L	1874 ng/L	5730 ng/L	1541 ng/L	759 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	ND	ND	Detected
Dhc qPCR Date Analyzed	9-Jul-13	9-Jul-13	9-Jul-13	9-Jul-13	9-Jul-13	9-Jul-13
Laboratory Controls (see Table 3)	Passed	Passed	Passed	Passed	Passed	Passed
Comments	- -	- -	- -	- -	- -	- -

Notes:

Refer to Table 3 for detailed results of controls.
ND = not detected
°C = degrees Celsius
PCR = polymerase chain reaction
qPCR = quantitative PCR
Dhc = *Dehalococcoides*
ng/L = nanograms per liter
mL = milliliters
DNA = Deoxyribonucleic acid

Table 3: Gene-Trac Dhc Control Results, Test Reference S-2882

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	9-Jul-13	qPCR with KB1 genomic DNA (CSLD-0662)	8.4×10^4	5.6×10^4	--
Positive Control High Concentration	9-Jul-13	qPCR with KB1 genomic DNA (CSHD-0662)	1.2×10^7	7.8×10^6	--
DNA Extraction Blank	3-Jul-13	DNA extraction sterile water (FB-1976)	0	2.6×10^3 U	--
Negative Control	9-Jul-13	Tris Reagent Blank (TBD-0621)	0	2.6×10^3 U	--

Notes:

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantification limit.

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Page 1 of 1

Lab # S-2882

Project Name	Midler
Project #	C81
Project Manager	Wayne Randall
Email Address	wrandall@cscos.com
Company	C&S Engineers, Inc.
Address	499 Col. Eileen Collins Blvd
Phone #	315 455 2000
Fax #	315 455 9667
Sampler's Signature	
Sampler's Printed Name	Wayne Randall

Analysis

Preservative: 0

Preservative Key: 0. None; 1. HCl; 2. Other ____; 3. Other ____

Customer Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Gene-Trac Dhc	Gene-Trac VC	Gene-Trac Dhb	Other Information
MW-16D	6/20/13	900	H2O	1	X			B-00302
MW-13D		945			X			B-00303
MW-14D		1030			X			B-00308
MW-9D		1115			X			B-00304
MW-15D		1300			X			B-00305
MW-10D		1345			X			B-00307

Sample Receipt

Cooler Condition: Good

Cooler Temperature: 11°C

Custody Seals: Yes ☐ No ☒

Billing Information

P.O. #

Bill To:

Turnaround Time Requested

Normal ☐

Rush ☒

For Lab Use Only

Proposal #: ____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature J. Wilkinson	Signature	Signature	Signature	Signature
Printed Name Wayne Randall	Printed Name J. Wilkinson	Printed Name	Printed Name	Printed Name	Printed Name
Firm C&S	Firm SiREM	Firm	Firm	Firm	Firm
Date/Time 6/20/13 14:36	Date/Time 6/24/13 1625	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator: Yellow - Lab Copy: Pink - Retained by Client

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SiREM Technical Note 1.5:

Guidelines for Interpretation of Gene-Trac® Test Results

This document provides technical background information and guidelines for interpreting the results for the following Gene-Trac® assays:

(1) Gene-Trac® Dhc
(2) Gene-Trac® VC
(3) Gene-Trac® Dhb

SiREM Technical Note 1.4 - *Quantitative Gene-Trac® Assay Test Procedure and Reporting Overview* provides detailed information on Gene-Trac® test procedures and reporting. Explanation of data qualifiers and commonly used notes is provided as Appendix A. Table 1 provides a brief interpretation for some common scenarios, more detailed interpretation information is provided in the following sections.

Table 1: Common Gene-Trac® Test Result Scenarios and Interpretation

Gene-Trac® Dhc (*Dehalococcoides*)	**Gene-Trac® VC (*vcrA*)**	**Gene-Trac® Dhb (*Dehalobacter*)**	**Interpretation**
>1 x10^7/L	**>1 x10^7/L**	Not Analyzed	Complete dechlorination to ethene likely as Dhc high and *vcrA* high
1 x10^7/L	**Not Detected**	Not Analyzed	VC accumulation possible as *vcrA* negative
Not Detected	**Not Detected**	Not Analyzed	Dhc negative/ lack of dechlorination or *cis*-DCE accumulation likely
Not Analyzed	Not Analyzed	**1 x10^6/L**	Dhb positive,potential for biodegradation of 1,1,1-TCA, 1,2-DCA, carbon tetrachloride and chloroform, PCE and TCE to *cis*-DCE
Not Analyzed	Not Analyzed	**Not Detected**	Biodegradation of 1,1,1-TCA, carbon tetrachloride and chloroform not expected as Dhb negative

Gene-Trac® Dhc -Total *Dehalococcoides* Test

Background:

Gene-Trac® Dhc is a quantitative PCR (qPCR) test for total *Dehalococcoides* (Dhc) microbes that targets Dhc specific sequences of the 16S ribosomal ribonucleic acid (rRNA) gene, a gene commonly used to indentify microbes. Dhc are the only known microorganisms capable of complete dechlorination of chloroethenes (i.e., tetrachloroethene, trichloroethene, cis-1,2-dichloroethene [cis-DCE] and vinyl chloride) to non-toxic ethene. Gene-Trac® Dhc may also be used to assess the in situ growth of Dhc containing bioaugmentation cultures such as KB-1®.

Negative Gene-Trac® Dhc Test Results (U qualified)

A non-detect in the Gene-Trac® Dhc assay (e.g., 4,000U) indicates that Dhc were not detected in the sample. The absence of Dhc is frequently associated with a lack of complete dechlorination or incomplete dechlorination of chlorinated ethenes. Where Dhc are absent the accumulation of cis-DCE is commonly observed, particularly after addition of electron donors. Bioaugmentation with Dhc containing cultures, such as KB-1®, is commonly used to improve bioremediation performance at sites that lack an indigenous Dhc population.

Positive Gene-Trac® Dhc Test Results

The detection of Dhc has been correlated with the complete biological dechlorination of chlorinated ethenes to ethene at contaminated sites (Hendrickson et al., 2002). A positive Gene-Trac® Dhc test indicates that Dhc DNA was detected in the sample and is encouraging for dechlorination of chlorinated ethenes to ethene. Note not all Dhc are capable of conversion of vinyl chloride to ethene; this capability can be determined by the Gene-Trac® VC test (see Section 2) which is commonly performed as a follow-on analysis after positive Gene-Trac® Dhc tests. In most cases Dhc must be present at sufficient concentrations in order for significant dechlorination to be observed, guidelines for expected impacts at various Dhc concentrations are indicated below.

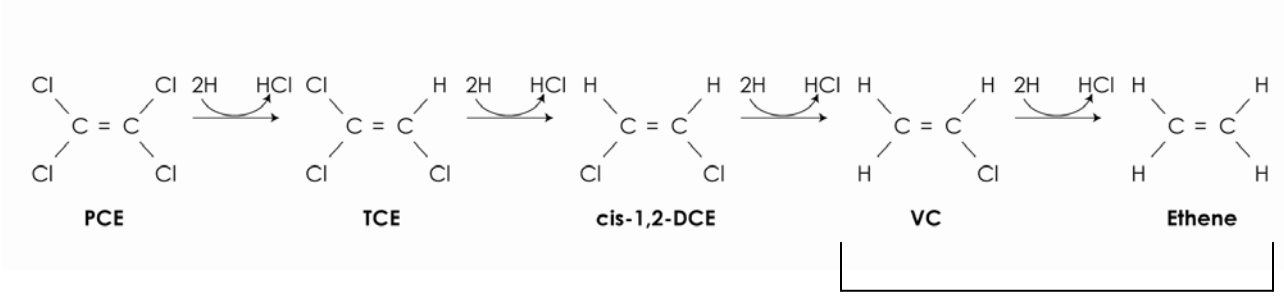
> **Values of 10^4 Dhc gene copies per liter (or lower):** indicates that the sample contains low concentrations of Dhc which may indicate that site conditions are suboptimal for high rates of dechlorination. Increases in Dhc concentrations at the site may be possible if conditions are optimized (e.g., electron donor addition).
>
> **Values of 10^5-10^6 Dhc gene copies per liter:** indicates the sample contains moderate concentrations of Dhc which may, or may not, be associated with observable dechlorination activity (i.e., detectable ethene).
>
> **Values at or above 10^7 Dhc gene copies per liter:** indicates that the sample contains high concentrations of Dhc that are often associated with high rates of dechlorination (Lu et al., 2006) and the production of ethene.
>
> **Values of 10^9 Dhc gene copies per liter** are generally the highest observed for groundwater samples with rare exceptions.

Gene-Trac® VC- Vinyl Chloride Reductase (*vcrA*) Test

Background

Gene-Trac® VC is a qPCR test for the vinyl chloride reductase (*vcrA*) gene that codes for a Dhc enzyme that converts (VC) to ethene, a critical step in reductive dechlorination of chlorinated ethenes. Gene-Trac® VC is commonly used where Gene-Trac® Dhc test results are positive to confirm that the Dhc detected are capable of complete dechlorination to ethene.#

The vinyl chloride reductase gene (*vcrA)* (Müller et al., 2004) produces an enzyme that is found in many (but not all) Dhc and is reported to be the most common identified VC reductase in the environment (van der Zaan et al., 2010).



Key activity of vinyl chloride reductase vcrA gene/enzyme

Interpretation of Gene-Trac® VC Results

Detect in Gene-Trac® VC Test

A detect in the Gene-Trac® VC test indicates that a Dhc population has the *vcrA* gene and the prospects for complete dechlorination to ethene are good. As a minimal requirement, *vcrA* copies exceeding 10^5/L combined with observed increases over time (i.e., cell growth) are required for robust VC dechlorination (van der Zaan et al., 2010). Also the guidelines for detection of ethene provided under Gene-Trac® Dhc are conservative for interpretation of Gene-Trac® VC (i.e., > 1 x10^7 gene copies/L indicate a high likelihood of detection of ethene). In one study, more than 90% of samples where *vcrA* enumeration exceeded 1 x10^7 gene copies/L had detectable ethene (Dennis, 2009). In cases where *vcrA* gene copies are lower the likelihood of detectable ethene decreases.

Non-Detect in Gene-Trac® VC Test (U qualified)

A non-detect in the Gene-Trac® VC test indicates that *vcrA* gene sequences in the sample are below the detection limit of the assay (typically 4 x 10^3 *vcrA* gene copies/L). This indicates VC accumulation (VC stall) is possible. Note negative Gene-Trac® VC test results do not indicate with 100% certainty that a VC-stall will occur as there are other vinyl chloride reductase genes, such as *bvcA* (van der Zaan et al., 2010) that also convert VC to ethene.

Comparing Gene-Trac® VC and Gene-Trac® Dhc Test Results

Sites may contain different types of Dhc populations. At some sites the Dhc population is homogenous while other sites have Dhc populations that are mixtures of different types of Dhc. This can lead to differing results for Gene-Trac® Dhc and Gene-Trac® VC.

In many cases, the numerical results of Gene-Trac® VC test are identical to those obtained in the Gene-Trac® Dhc test, indicating that the entire Dhc population contains the *vcrA* gene. In other cases, Gene-Trac® VC results may differ significantly (i.e., more than an order or magnitude) from the total Dhc for a number of reasons.

Table 3 provides some common scenarios for Gene-Trac® VC and Gene-Trac® Dhc test results. In general, where Gene-Trac® VC results are non-detect, or significantly lower than Gene-Trac® Dhc, accumulation of VC is more likely.

Table 2: Interpretation of Gene-Trac® VC in Relation to Gene-Trac® Dhc

Gene-Trac® Dhc (16S rRNA gene copies/ L)	Gene-Trac® VC (*vcr*A gene copies/L)	Results Summary	Interpretation	Potential Site Implications
2×10^8 /L	3×10^8/L	Total Dhc and *vcrA* are ~the same (within 3-fold)	Entire Dhc population has *vcrA* gene	Potential for complete dechlorination high. VC stall unlikely-sites with *vcr*A above 1×10^7/L typically have detectable ethene
1×10^8/L	Non-detect	Total Dhc high; *vcrA* non-detect	High concentration of Dhc and entire population lacks the *vcrA* gene	Likelihood for VC accumulation high as *vcrA* non-detect
1×10^8/L	1×10^6 /L	Total Dhc is significantly higher (100 fold) than *vcrA*	*Dhc* population consists of different types, some with the *vcrA* gene (~1%) and some without (~99%)	VC-accumulation possible; Dhc/*vcrA* proportions may change over course of remediation
1×10^6/L	1×10^8/L	*vcrA* orders of magnitude higher than Dhc	Significantly higher *vcrA* may indicate the presence of populations of non-Dhc microorganisms with *vcrA* like genes	Potential for VC-stall likely low

Gene-Trac® Dhb-Total *Dehalobacter* Test

Gene-Trac® Dhb is a qPCR test targeting the 16S rRNA gene sequences unique to *Dehalobacter* (Dhb). Dhb are implicated in the biodegradation of 1,1,1-trichloroethane (to chloroethane), 1,1,2-trichloroethane and 1,2-dichloroethane to ethene (Grostern and Edwards, 2006) and chloroform (to dichloromethane) (Grostern et al., 2010) as well as incomplete dechlorination of PCE and TCE to cis-DCE (Holliger et al.,1998). Gene-Trac® Dhb may also be used as a tool to assess the impact of bioaugmentation with the KB-1® Plus cultures which contain high concentrations of Dhb.

Positive Gene-Trac® Dhb Test Results (Detects)

A positive Gene-Trac® Dhb indicates that a member of the *Dehalobacter* (Dhb) genus was detected in the sample. The detection of Dhb indicates that some or all of the dechlorination activities attributed to Dhb may be present at the subject site. Increasing concentrations of Dhb are indicative of increased potential to degrade some or all of these compounds.

Note: the Gene-Trac® Dhb test will not differentiate the type of Dhb*;* therefore, observations of the specific biodegradation pathways and end products based on chemical analytical methods in conjunction with Gene-Trac® Dhb will increase the interpretability of Gene-Trac® Dhb results.

Note: Dhb have been reported to contain multiple copies (up to 4 per cell) of the 16S rRNA gene (Grostern and Edwards, 2008). This means that, unlike Dhc, there is not a 1:1 ratio between the 16S rRNA gene copy and the number of Dhb cells in a sample. Calculating the number of Dhb cells requires dividing the Gene-Trac® Dhb test result by the 16S rRNA gene copy number (often 3-4 copies/cell).

Non-detect Gene-Trac® Dhb Results (U qualified)

In cases where Gene-Trac® Dhb is not detected (e.g., 4,000U) this indicates that *Dehalobacter* species were not identified in the sample and that anaerobic reductive dechlorination of 1,1,1-TCA, 1,1,2-TCA, 1,2-DCA or chloroform, which are dechlorinated by *Dehalobacter*, may not be observed. This activity can be introduced at sites through the addition of bioaugmentation cultures containing *Dehalobacter* such as KB-1® Plus.

Key Elements of Gene-Trac® Data

Gene-Trac® test results include two key values (a) Target Gene Enumeration, an enumeration of target gene sequence by quantitative PCR (e.g. "Dhc Enumeration" "Dhb 16S Gene Copies" or "*vcrA* gene copies") and (b) Target gene percent (e.g. "Percent Dhc"), an estimated percentage of the microbial population comprised by microbes harboring the target gene and other microbes present in sample. Further explanation of these values is provided below.

a) Target Gene Enumeration

This value is the concentration of Dhc or Dhb 16S rRNA or *vcrA* gene copies detected in the sample. Results may be reported as either gene copies per liter (for groundwater) or per gram (for soil). In general, the greater the number of gene copies in a sample the greater the likelihood of related dechlorination activity. Dhc 16S gene copies are typically equivalent to the number of Dhc as they have 1 gene copy per cell this is not necessarily true for Dhb or *vcrA* which have the potential be present in multiple gene copies per cell. Guidelines for relating target gene presence and concentration to observable dechlorination activity for groundwater samples are provided below in previous sections.

b) Target Gene Percent (%Dhc, %Dhb, %*vcrA*)

This value estimates the percentage of the target gene (e.g., %Dhc) relative to other microorganisms in the sample based on the formulas/assumptions presented below. For example, %Dhc is a measure of the predominance of Dhc and, in general, the higher this percentage the better.

$$\%Dhc = \frac{Number\ Dhc}{Number\ Dhc + Number\ other\ Bacteria}$$

Where:

$$Number\ other\ Bacteria = \frac{Total\ DNA\ in\ sample\ (ng) - DNA\ attributed\ to\ Dhc\ (ng)}{*4.0 \times 10^{-6}\ ng\ DNA\ per\ bacterial\ cell}$$

*Paul and Clark, (1996).

Percent Dhc (and % *vcrA*) values can range from very low fractions of percentages, in samples with low numbers of Dhc and a high number of other bacteria (incompletely colonized by Dhc), to greater than 50% in Dhc enriched locations (highly colonized by Dhc).

In addition to determining the predominance of the target gene target gene percent is also useful for interpretation of Dhc counts from different sampling locations, or the same location over time. For example, the %Dhc value can be used to correct Dhc counts where samples are biased due to non-representative sampling. Example 1 illustrates a hypothetical scenario where the %Dhc value improved data interpretation.

Example 1, use of %Dhc to interpret enumeration data

Table 2 presents results from MW-1 sampled in April, May and June. Based on the Dhc enumeration alone one would conclude that the concentration of Dhc held steady between April and May; however, the %Dhc indicates the proportion of Dhc actually increased from April to May and the unchanged count in May could be a case of low biomass recovery during sampling or other losses such as sample degradation in transit. The higher raw count and the higher percentage of Dhc in June confirm the trend of increasing Dhc concentrations over time.

Table 3: Use of % Dhc* Value to Diagnose Sampling Bias

Sample	Dhc Enumeration	%Dhc	Interpretation Based on %Dhc
MW-1, April	1.0 x 10^5/Liter	0.1%	Dhc is a low proportion of total microbial population
MW-1, May	1.0 x 10^5/Liter	1%	Dhc proportion increased 10-fold from April. Dhc enumeration was unchanged possibly due to low biomass recovery from monitoring well, non-biased sample would be [(1.0/0.1) x 1.0 x10^5] = 1.0 x 10^6/Liter
MW-1, June	1.0 x 10^7/Liter	10%	Dhc has increased 100-fold from April and confirms May sample was likely low biased

**Note: the above approach is also applicable to the "%vcrA" and "%Dhb" values provided on their respective test certificates*

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Appendix A: Data Qualifiers

Data Qualification

Data qualifiers and notes are used to clarify Gene-Trac® test results. Additional explanation beyond that provided on the test certificate is provided below.

"**U" Not detected, associated value is the quantitation limit.** Indicates that the target gene (microbe) was not detected in the sample above the quantitation limit of the assay. Note the quantitation limit value can change between samples as the volume filtered can vary; thus, a sample in which 100 ml was tested would have a 5–fold higher quantification limit compared with a sample in which 500 ml was tested.

"J" The associated value is an estimated quantity between the method detection limit and quantitation limit. Indicates that the target gene was conclusively detected but the concentration is below the quantitation limit where it cannot be accurately quantified.

"I" Sample inhibited the test reaction. This means universal primers were incapable of amplifying DNA from this sample. The inability to amplify with universal primers suggests that the sample may be imparting matrix interference. Matrix interference is commonly attributed to humic compounds, polyphenols and metals. Non-detects with an "I" qualifier are more likely to be false negative.

"B" Analyte was also detected in the method blank. Indicates that DNA was detected in a method blank or negative control; detectable contamination of the blanks with microbes or DNA containing the gene of interest is not uncommon as the test reaction is extremely sensitive. In most cases, blank contamination is at a very low level relative to test results (often orders of magnitude lower). In these cases, blank contamination is not relevant to interpretation of test results. The potential of test samples being contaminated (i.e. false positives) should be considered in cases where blank results are within 1 order of magnitude of test results.

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Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Wayne Randall, C&S Engineers Inc.

Project: Midler GW

Customer Reference: C81.006.001

SiREM Reference: S-3069

Report Date: 10-Jan-14

Data Files: MyiQ-DHC-QPCR-1075
MyiQ-DB-DHC-QPCR-0437

Table 1: Test Results

Customer Sample ID	SiREM Sample ID	Sample Collection Date	Sample Matrix	Percent Dhc *	*Dehalococcoides* Enumeration/Liter **
MW-16D	DHC-9976	20-Dec-13	Groundwater	0.04 - 0.1 %	3×10^5
MW-14D	DHC-9977	20-Dec-13	Groundwater	0.08 - 0.2 %	3×10^5
MW-13D	DHC-9978	20-Dec-13	Groundwater	4 - 12 %	1×10^8
MW-9D	DHC-9979	20-Dec-13	Groundwater	0.0003 - 0.0008 %	6×10^3
MW-10D	DHC-9980	20-Dec-13	Groundwater	0.3 - 1 %	1×10^6
MW-15D	DHC-9981	20-Dec-13	Groundwater	0.0005 - 0.001 %	4×10^3

Notes:

* Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

** Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantification limit.
B Analyte was also detected in the method blank.
NA Not applicable as *Dehalococcoides* not detected and/or quantifiable DNA not extracted from the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
E Extracted genomic DNA was not detected in sample.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Coordinator

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-3069

Customer Sample ID	MW-16D	MW-14D	MW-13D	MW-9D	MW-10D	MW-15D
SiREM Dhc Sample ID	DHC-9976	DHC-9977	DHC-9978	DHC-9979	DHC-9980	DHC-9981
Date Received	27-Dec-13	27-Dec-13	27-Dec-13	27-Dec-13	27-Dec-13	27-Dec-13
Sample Temperature	12 ºC	12 ºC	12 ºC	12 ºC	12 ºC	12 ºC
Filtration Date	30-Dec-13	30-Dec-13	30-Dec-13	30-Dec-13	30-Dec-13	30-Dec-13
Volume Used for DNA Extraction	500 mL	500 mL	400 mL	400 mL	500 mL	500 mL
DNA Extraction Date	31-Dec-13	31-Dec-13	31-Dec-13	31-Dec-13	31-Dec-13	31-Dec-13
DNA Concentration in Sample (extractable)	1520 ng/L	863 ng/L	4781 ng/L	3968 ng/L	711 ng/L	1680 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	Detected	Detected	Detected
Dhc qPCR Date Analyzed	9-Jan-14	9-Jan-14	9-Jan-14	9-Jan-14	9-Jan-14	9-Jan-14
Laboratory Controls (see Table 3)	Passed	Passed	Passed	Passed	Passed	Passed
Comments	- -	- -	- -	- -	- -	- -

Notes:

Refer to Table 3 for detailed results of controls.
°C = degrees Celsius
DNA = Deoxyribonucleic acid
PCR = polymerase chain reaction
qPCR = quantitative PCR
Dhc = *Dehalococcoides*
ng/L = nanograms per liter
mL = milliliters

Table 3: Gene-Trac Dhc Control Results, Test Reference S-3069

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	9-Jan-14	qPCR with KB1 genomic DNA (CSLD-0713)	1.4×10^5	1.5×10^5	--
Positive Control High Concentration	9-Jan-14	qPCR with KB1 genomic DNA (CSHD-0713)	1.5×10^7	1.2×10^7	--
DNA Extraction Blank	9-Jan-14	DNA extraction sterile water (FB-2097)	0	2.6×10^3 U	--
Negative Control	9-Jan-14	Tris Reagent Blank (TBD-0672)	0	2.6×10^3 U	--

Notes:

Dhc = *Dehalococcoides*

DNA = Deoxyribonucleic acid

qPCR = quantitative PCR

16S rRNA = 16S ribosomal ribonucleic acid

U Not detected, associated value is the quantification limit.

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Page 1 of 1

Lab # S-3069

Project Name	Midler GW	Project #	C81.006.001
Project Manager	Wayne Randall		
Email Address	wrandall@cscos.com		
Company	C&S Engineers, Inc.		
Address	499 Col. Eileen Collins Blvd.		
Phone #	315 455 2000	Fax #	315 455 9667
Sampler's Signature		Sampler's Printed Name	Wayne Randall

Analysis

Preservative: 0

Preservative Key: 0. None; 1. HCl; 2. Other ____; 3. Other ____

Customer Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Gene-Trac Dhc	Gene-Trac VC	Gene-Trac Dhb	Other Information
MW-16D	12/20/13	8:00	H_2O	1	X			B-00532
MW-14D		9:00			X			B-00531
MW-13D		10:00			X			B-00530
MW-9D		11:00			X			B-00529
MW-10D		12:00			X			B-00534
MW-15D		13:00			X			B-00528

Sample Receipt
Cooler Condition: Good
Cooler Temperature: 12°C
Custody Seals: Yes ☐ No ☒

Billing Information
P.O. # C81.006.001
Bill To: Wayne Randall, C&S Engineers,
wrandall@cscos.com

Turnaround Time Requested
Normal ☒
Rush ☐

For Lab Use Only
Proposal #: ____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Wayne Randall	Printed Name: J. Ieropoli	Printed Name	Printed Name	Printed Name	Printed Name
Firm: C&S	Firm: SiREM	Firm	Firm	Firm	Firm
Date/Time: 12/23/13	Date/Time: 12/27/13 11:45	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator: Yellow - Lab Copy: Pink - Retained by Client

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SiREM Technical Note 1.5:

Guidelines for Interpretation of Gene-Trac® Test Results

This document provides technical background information and guidelines for interpreting the results for the following Gene-Trac® assays:

(1) Gene-Trac® Dhc
(2) Gene-Trac® VC
(3) Gene-Trac® Dhb

SiREM Technical Note 1.4 - *Quantitative Gene-Trac® Assay Test Procedure and Reporting Overview* provides detailed information on Gene-Trac® test procedures and reporting. Explanation of data qualifiers and commonly used notes is provided as Appendix A. Table 1 provides a brief interpretation for some common scenarios, more detailed interpretation information is provided in the following sections.

Table 1: Common Gene-Trac® Test Result Scenarios and Interpretation

Gene-Trac® Dhc (*Dehalococcoides*)	**Gene-Trac® VC (*vcrA*)**	**Gene-Trac® Dhb (*Dehalobacter*)**	**Interpretation**
>1 x10^7/L	**>1 x10^7/L**	Not Analyzed	Complete dechlorination to ethene likely as Dhc high and *vcrA* high
1 x10^7/L	**Not Detected**	Not Analyzed	VC accumulation possible as *vcrA* negative
Not Detected	**Not Detected**	Not Analyzed	Dhc negative/ lack of dechlorination or *cis*-DCE accumulation likely
Not Analyzed	Not Analyzed	**1 x10^6/L**	Dhb positive,potential for biodegradation of 1,1,1-TCA, 1,2-DCA, carbon tetrachloride and chloroform, PCE and TCE to *cis*-DCE
Not Analyzed	Not Analyzed	**Not Detected**	Biodegradation of 1,1,1-TCA, carbon tetrachloride and chloroform not expected as Dhb negative

Gene-Trac® Dhc -Total *Dehalococcoides* Test

Background:

Gene-Trac® Dhc is a quantitative PCR (qPCR) test for total *Dehalococcoides* (Dhc) microbes that targets Dhc specific sequences of the 16S ribosomal ribonucleic acid (rRNA) gene, a gene commonly used to indentify microbes. Dhc are the only known microorganisms capable of complete dechlorination of chloroethenes (i.e., tetrachloroethene, trichloroethene, cis-1,2-dichloroethene [cis-DCE] and vinyl chloride) to non-toxic ethene. Gene-Trac® Dhc may also be used to assess the in situ growth of Dhc containing bioaugmentation cultures such as KB-1®.

Negative Gene-Trac® Dhc Test Results (U qualified)

A non-detect in the Gene-Trac® Dhc assay (e.g., 4,000U) indicates that Dhc were not detected in the sample. The absence of Dhc is frequently associated with a lack of complete dechlorination or incomplete dechlorination of chlorinated ethenes. Where Dhc are absent the accumulation of cis-DCE is commonly observed, particularly after addition of electron donors. Bioaugmentation with Dhc containing cultures, such as KB-1®, is commonly used to improve bioremediation performance at sites that lack an indigenous Dhc population.

Positive Gene-Trac® Dhc Test Results

The detection of Dhc has been correlated with the complete biological dechlorination of chlorinated ethenes to ethene at contaminated sites (Hendrickson et al., 2002). A positive Gene-Trac® Dhc test indicates that Dhc DNA was detected in the sample and is encouraging for dechlorination of chlorinated ethenes to ethene. Note not all Dhc are capable of conversion of vinyl chloride to ethene; this capability can be determined by the Gene-Trac® VC test (see Section 2) which is commonly performed as a follow-on analysis after positive Gene-Trac® Dhc tests. In most cases Dhc must be present at sufficient concentrations in order for significant dechlorination to be observed, guidelines for expected impacts at various Dhc concentrations are indicated below.

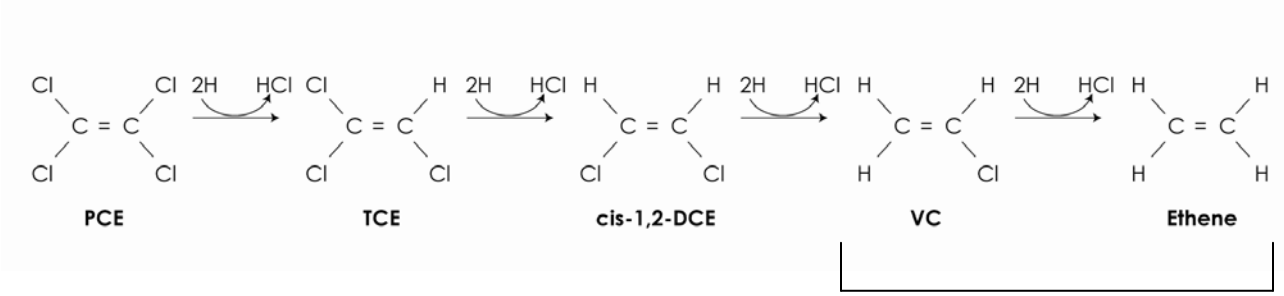
> **Values of 10^4 Dhc gene copies per liter (or lower):** indicates that the sample contains low concentrations of Dhc which may indicate that site conditions are suboptimal for high rates of dechlorination. Increases in Dhc concentrations at the site may be possible if conditions are optimized (e.g., electron donor addition).
>
> **Values of 10^5-10^6 Dhc gene copies per liter:** indicates the sample contains moderate concentrations of Dhc which may, or may not, be associated with observable dechlorination activity (i.e., detectable ethene).
>
> **Values at or above 10^7 Dhc gene copies per liter:** indicates that the sample contains high concentrations of Dhc that are often associated with high rates of dechlorination (Lu et al., 2006) and the production of ethene.
>
> **Values of 10^9 Dhc gene copies per liter** are generally the highest observed for groundwater samples with rare exceptions.

Gene-Trac® VC- Vinyl Chloride Reductase (*vcrA*) Test

Background

Gene-Trac® VC is a qPCR test for the vinyl chloride reductase (*vcrA*) gene that codes for a Dhc enzyme that converts (VC) to ethene, a critical step in reductive dechlorination of chlorinated ethenes. Gene-Trac® VC is commonly used where Gene-Trac® Dhc test results are positive to confirm that the Dhc detected are capable of complete dechlorination to ethene.#

The vinyl chloride reductase gene (*vcrA)* (Müller et al., 2004) produces an enzyme that is found in many (but not all) Dhc and is reported to be the most common identified VC reductase in the environment (van der Zaan et al., 2010).



Key activity of vinyl chloride reductase vcrA gene/enzyme

Interpretation of Gene-Trac® VC Results

Detect in Gene-Trac® VC Test

A detect in the Gene-Trac® VC test indicates that a Dhc population has the *vcrA* gene and the prospects for complete dechlorination to ethene are good. As a minimal requirement, *vcrA* copies exceeding 10^5/L combined with observed increases over time (i.e., cell growth) are required for robust VC dechlorination (van der Zaan et al., 2010). Also the guidelines for detection of ethene provided under Gene-Trac® Dhc are conservative for interpretation of Gene-Trac® VC (i.e., > 1 x10^7 gene copies/L indicate a high likelihood of detection of ethene). In one study, more than 90% of samples where *vcrA* enumeration exceeded 1 x10^7 gene copies/L had detectable ethene (Dennis, 2009). In cases where *vcrA* gene copies are lower the likelihood of detectable ethene decreases.

Non-Detect in Gene-Trac® VC Test (U qualified)

A non-detect in the Gene-Trac® VC test indicates that *vcrA* gene sequences in the sample are below the detection limit of the assay (typically 4 x 10^3 *vcrA* gene copies/L). This indicates VC accumulation (VC stall) is possible. Note negative Gene-Trac® VC test results do not indicate with 100% certainty that a VC-stall will occur as there are other vinyl chloride reductase genes, such as *bvcA* (van der Zaan et al., 2010) that also convert VC to ethene.

Comparing Gene-Trac® VC and Gene-Trac® Dhc Test Results

Sites may contain different types of Dhc populations. At some sites the Dhc population is homogenous while other sites have Dhc populations that are mixtures of different types of Dhc. This can lead to differing results for Gene-Trac® Dhc and Gene-Trac® VC.

In many cases, the numerical results of Gene-Trac® VC test are identical to those obtained in the Gene-Trac® Dhc test, indicating that the entire Dhc population contains the *vcrA* gene. In other cases, Gene-Trac® VC results may differ significantly (i.e., more than an order or magnitude) from the total Dhc for a number of reasons.

Table 3 provides some common scenarios for Gene-Trac® VC and Gene-Trac® Dhc test results. In general, where Gene-Trac® VC results are non-detect, or significantly lower than Gene-Trac® Dhc, accumulation of VC is more likely.

Table 2: Interpretation of Gene-Trac® VC in Relation to Gene-Trac® Dhc

Gene-Trac® Dhc (16S rRNA gene copies/ L)	Gene-Trac® VC (*vcr*A gene copies/L)	Results Summary	Interpretation	Potential Site Implications
2×10^8 /L	3×10^8/L	Total Dhc and *vcrA* are ~the same (within 3-fold)	Entire Dhc population has *vcrA* gene	Potential for complete dechlorination high. VC stall unlikely-sites with *vcr*A above 1×10^7/L typically have detectable ethene
1×10^8/L	Non-detect	Total Dhc high; *vcrA* non-detect	High concentration of Dhc and entire population lacks the *vcrA* gene	Likelihood for VC accumulation high as *vcrA* non-detect
1×10^8/L	1×10^6 /L	Total Dhc is significantly higher (100 fold) than *vcrA*	*Dhc* population consists of different types, some with the *vcrA* gene (~1%) and some without (~99%)	VC-accumulation possible; Dhc/*vcrA* proportions may change over course of remediation
1×10^6/L	1×10^8/L	*vcrA* orders of magnitude higher than Dhc	Significantly higher *vcrA* may indicate the presence of populations of non-Dhc microorganisms with *vcrA* like genes	Potential for VC-stall likely low

Gene-Trac® Dhb-Total *Dehalobacter* Test

Gene-Trac® Dhb is a qPCR test targeting the 16S rRNA gene sequences unique to *Dehalobacter* (Dhb). Dhb are implicated in the biodegradation of 1,1,1-trichloroethane (to chloroethane), 1,1,2-trichloroethane and 1,2-dichloroethane to ethene (Grostern and Edwards, 2006) and chloroform (to dichloromethane) (Grostern et al., 2010) as well as incomplete dechlorination of PCE and TCE to cis-DCE (Holliger et al.,1998). Gene-Trac® Dhb may also be used as a tool to assess the impact of bioaugmentation with the KB-1® Plus cultures which contain high concentrations of Dhb.

Positive Gene-Trac® Dhb Test Results (Detects)

A positive Gene-Trac® Dhb indicates that a member of the *Dehalobacter* (Dhb) genus was detected in the sample. The detection of Dhb indicates that some or all of the dechlorination activities attributed to Dhb may be present at the subject site. Increasing concentrations of Dhb are indicative of increased potential to degrade some or all of these compounds.

Note: the Gene-Trac® Dhb test will not differentiate the type of Dhb*;* therefore, observations of the specific biodegradation pathways and end products based on chemical analytical methods in conjunction with Gene-Trac® Dhb will increase the interpretability of Gene-Trac® Dhb results.

Note: Dhb have been reported to contain multiple copies (up to 4 per cell) of the 16S rRNA gene (Grostern and Edwards, 2008). This means that, unlike Dhc, there is not a 1:1 ratio between the 16S rRNA gene copy and the number of Dhb cells in a sample. Calculating the number of Dhb cells requires dividing the Gene-Trac® Dhb test result by the 16S rRNA gene copy number (often 3-4 copies/cell).

Non-detect Gene-Trac® Dhb Results (U qualified)

In cases where Gene-Trac® Dhb is not detected (e.g., 4,000U) this indicates that *Dehalobacter* species were not identified in the sample and that anaerobic reductive dechlorination of 1,1,1-TCA, 1,1,2-TCA, 1,2-DCA or chloroform, which are dechlorinated by *Dehalobacter*, may not be observed. This activity can be introduced at sites through the addition of bioaugmentation cultures containing *Dehalobacter* such as KB-1® Plus.

Key Elements of Gene-Trac® Data

Gene-Trac® test results include two key values (a) Target Gene Enumeration, an enumeration of target gene sequence by quantitative PCR (e.g. "Dhc Enumeration" "Dhb 16S Gene Copies" or "*vcrA* gene copies") and (b) Target gene percent (e.g. "Percent Dhc"), an estimated percentage of the microbial population comprised by microbes harboring the target gene and other microbes present in sample. Further explanation of these values is provided below.

a) Target Gene Enumeration

This value is the concentration of Dhc or Dhb 16S rRNA or *vcrA* gene copies detected in the sample. Results may be reported as either gene copies per liter (for groundwater) or per gram (for soil). In general, the greater the number of gene copies in a sample the greater the likelihood of related dechlorination activity. Dhc 16S gene copies are typically equivalent to the number of Dhc as they have 1 gene copy per cell this is not necessarily true for Dhb or *vcrA* which have the potential be present in multiple gene copies per cell. Guidelines for relating target gene presence and concentration to observable dechlorination activity for groundwater samples are provided below in previous sections.

b) Target Gene Percent (%Dhc, %Dhb, %*vcrA*)

This value estimates the percentage of the target gene (e.g., %Dhc) relative to other microorganisms in the sample based on the formulas/assumptions presented below. For example, %Dhc is a measure of the predominance of Dhc and, in general, the higher this percentage the better.

$$\%Dhc = \frac{Number\ Dhc}{Number\ Dhc + Number\ other\ Bacteria}$$

Where:

$$Number\ other\ Bacteria = \frac{Total\ DNA\ in\ sample\ (ng) - DNA\ attributed\ to\ Dhc\ (ng)}{*4.0 \times 10^{-6}\ ng\ DNA\ per\ bacterial\ cell}$$

*Paul and Clark, (1996).

Percent Dhc (and % *vcrA*) values can range from very low fractions of percentages, in samples with low numbers of Dhc and a high number of other bacteria (incompletely colonized by Dhc), to greater than 50% in Dhc enriched locations (highly colonized by Dhc).

In addition to determining the predominance of the target gene target gene percent is also useful for interpretation of Dhc counts from different sampling locations, or the same location over time. For example, the %Dhc value can be used to correct Dhc counts where samples are biased due to non-representative sampling. Example 1 illustrates a hypothetical scenario where the %Dhc value improved data interpretation.

Example 1, use of %Dhc to interpret enumeration data

Table 2 presents results from MW-1 sampled in April, May and June. Based on the Dhc enumeration alone one would conclude that the concentration of Dhc held steady between April and May; however, the %Dhc indicates the proportion of Dhc actually increased from April to May and the unchanged count in May could be a case of low biomass recovery during sampling or other losses such as sample degradation in transit. The higher raw count and the higher percentage of Dhc in June confirm the trend of increasing Dhc concentrations over time.

Table 3: Use of % Dhc* Value to Diagnose Sampling Bias

Sample	Dhc Enumeration	%Dhc	Interpretation Based on %Dhc
MW-1, April	1.0 x 10^5/Liter	0.1%	Dhc is a low proportion of total microbial population
MW-1, May	1.0 x 10^5/Liter	1%	Dhc proportion increased 10-fold from April. Dhc enumeration was unchanged possibly due to low biomass recovery from monitoring well, non-biased sample would be [(1.0/0.1) x 1.0 x10^5] = 1.0 x 10^6/Liter
MW-1, June	1.0 x 10^7/Liter	10%	Dhc has increased 100-fold from April and confirms May sample was likely low biased

**Note: the above approach is also applicable to the "%vcrA" and "%Dhb" values provided on their respective test certificates*

References

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Appendix A: Data Qualifiers

Data Qualification

Data qualifiers and notes are used to clarify Gene-Trac® test results. Additional explanation beyond that provided on the test certificate is provided below.

"**U" Not detected, associated value is the quantitation limit.** Indicates that the target gene (microbe) was not detected in the sample above the quantitation limit of the assay. Note the quantitation limit value can change between samples as the volume filtered can vary; thus, a sample in which 100 ml was tested would have a 5–fold higher quantification limit compared with a sample in which 500 ml was tested.

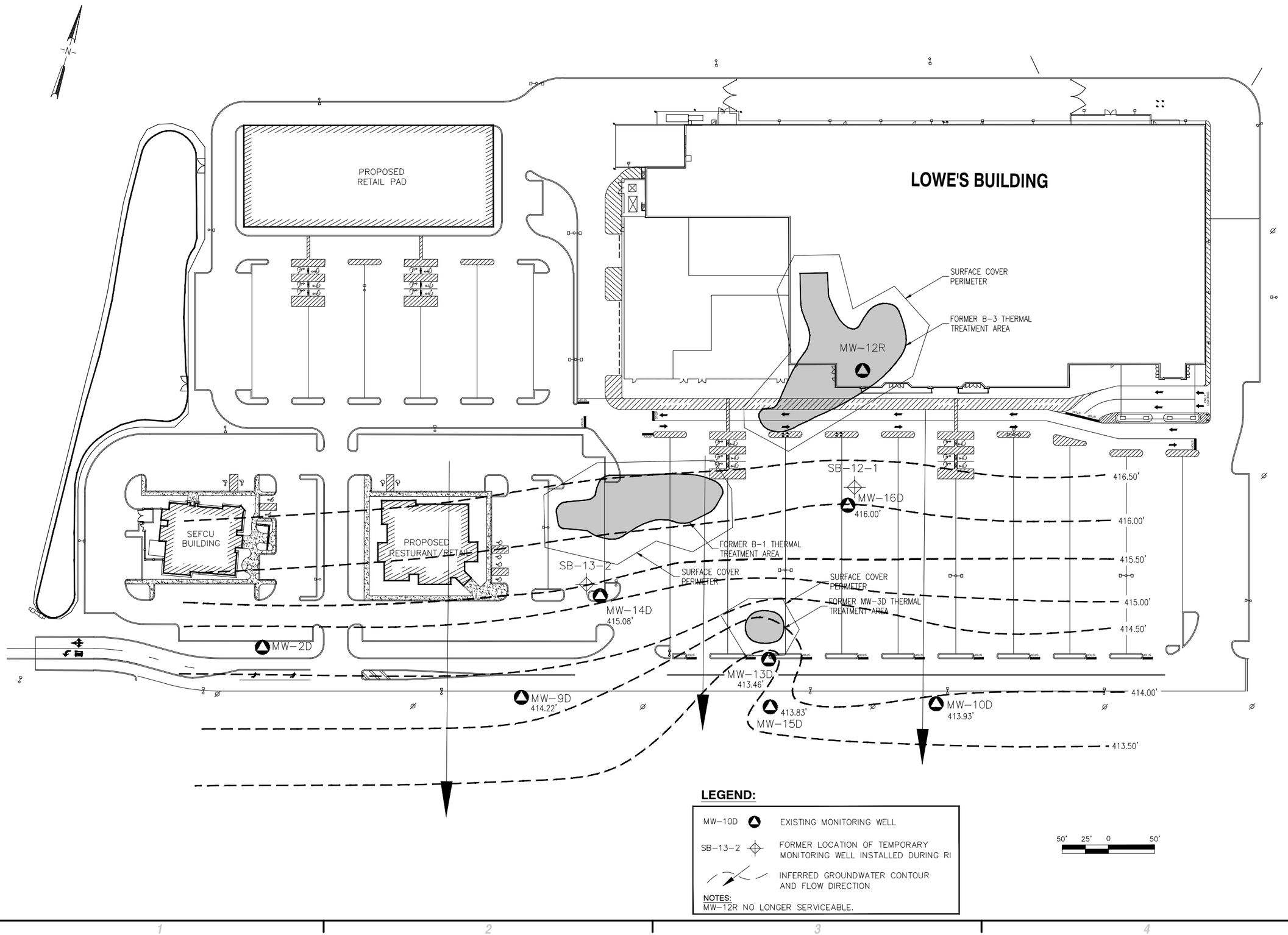
"J" The associated value is an estimated quantity between the method detection limit and quantitation limit. Indicates that the target gene was conclusively detected but the concentration is below the quantitation limit where it cannot be accurately quantified.

"I" Sample inhibited the test reaction. This means universal primers were incapable of amplifying DNA from this sample. The inability to amplify with universal primers suggests that the sample may be imparting matrix interference. Matrix interference is commonly attributed to humic compounds, polyphenols and metals. Non-detects with an "I" qualifier are more likely to be false negative.

"B" Analyte was also detected in the method blank. Indicates that DNA was detected in a method blank or negative control; detectable contamination of the blanks with microbes or DNA containing the gene of interest is not uncommon as the test reaction is extremely sensitive. In most cases, blank contamination is at a very low level relative to test results (often orders of magnitude lower). In these cases, blank contamination is not relevant to interpretation of test results. The potential of test samples being contaminated (i.e. false positives) should be considered in cases where blank results are within 1 order of magnitude of test results.

Appendix B-5

Groundwater Contour Maps for 2013



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PIONEER MIDLER AVENUE, LLC
POST IRM MONITORING
MIDLER CITY
INDUSTRIAL PARK
BROWNFIELD CLEANUP
SYRACUSE, NY
NYSDEC BROWNFIELD SITE No. C734103

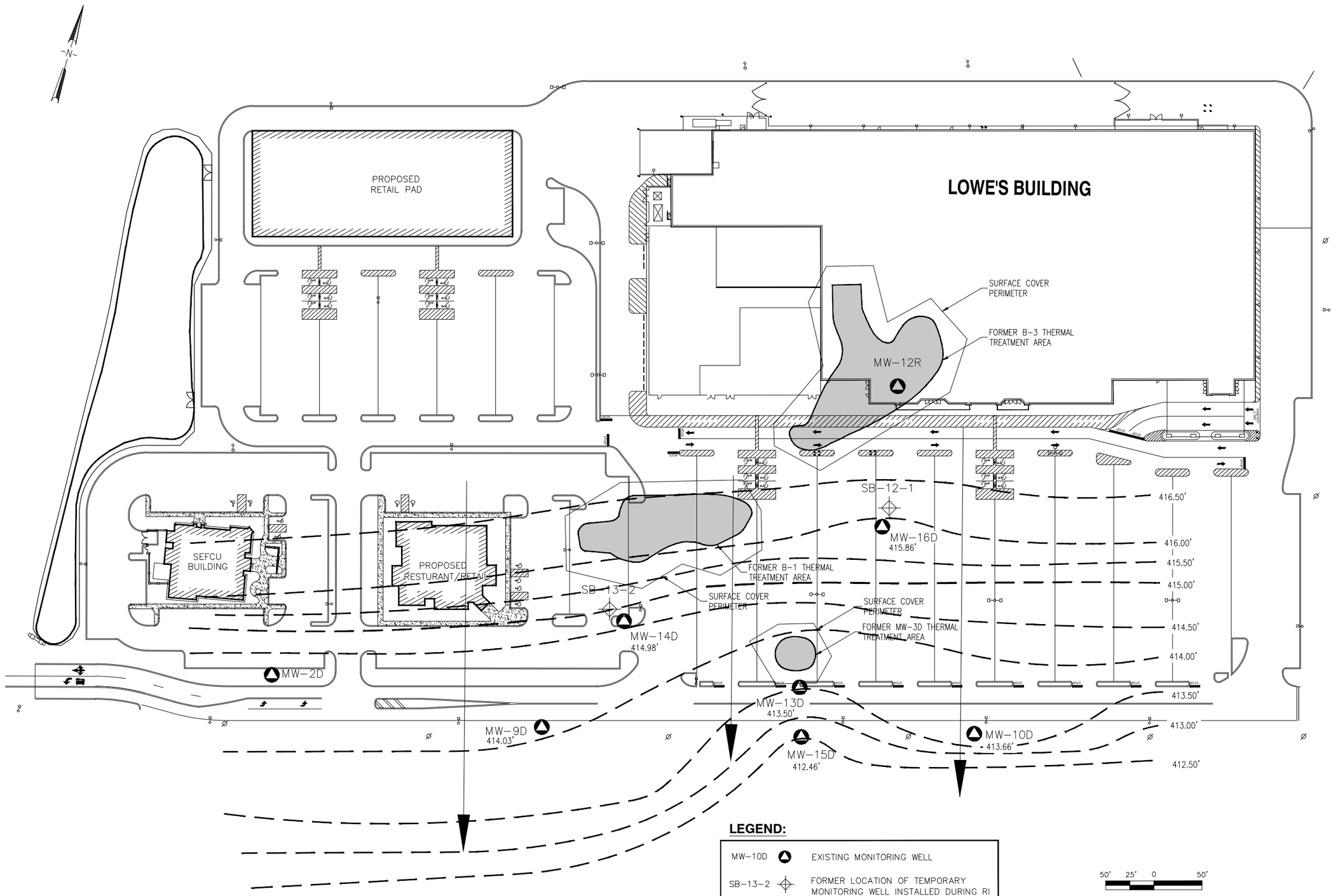
MARK	DATE	DESCRIPTION
		REVISIONS

PROJECT NO:	
DATE:	JUNE 2013
SCALE:	AS SHOWN
DRAWN BY:	M. BUCKINGHAM
DESIGNED BY:	
CHECKED BY:	

JUNE, 2013
GROUNDWATER
CONTOUR MAP

FIGURE 1

Jul 10, 2013 - 9:46am F:\Project\C81 - Pioneer Development\C81006001Post IRM GW Monitoring\2013 Groundwater Sampling\June 2013\CAD\FIGURE 1 10JUNE13.dwg



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INDUSTRIAL PARK
BROWNFIELD CLEANUP
SYRACUSE, NY
NYSDEC BROWNFIELD SITE No. C734103

MARK	DATE	DESCRIPTION
		REVISIONS

PROJECT NO:	
DATE:	DECEMBER 2013
SCALE:	AS SHOWN
DRAWN BY:	B. BUCKINGHAM
DESIGNED BY:	
CHECKED BY:	

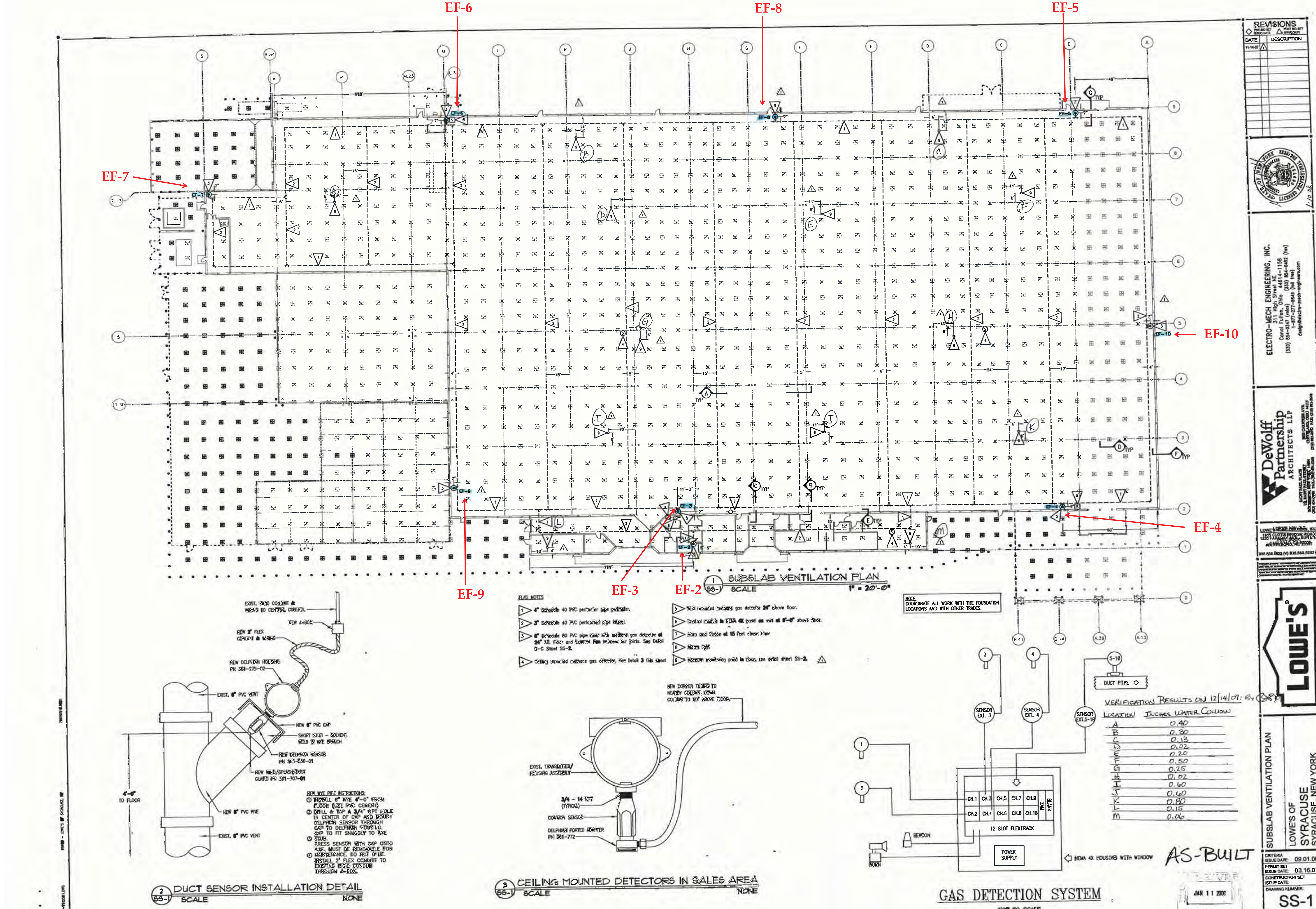
DECEMBER, 2013 GROUNDWATER CONTOUR MAP

FIGURE 1

Apr 07, 2014 - 1:30pm F:\Project\C81 - Pioneer Development\C81006001\Post IRM GW Monitoring\2013 Groundwater Sampling\December 2013\CAD\FIGURE 1 DEC2013.dwg

Appendix C

SSDS Layout and Inspection/Operational Documentation



EF-6
EF-8
EF-5
EF-7
EF-10
EF-4
EF-9
EF-3
EF-2
SUBSLAB VENTILATION PLAN
1" = 20'-0"
FLAG NOTES
1 4" Schedule 40 PVC perimeter pipe perimeter.
2 3" Schedule 40 PVC perforated pipe lateral.
3 6" Schedule 80 PVC pipe riser with methane gas detector at 24" AB. Floor and Exhaust Fan between bar joists. See Detail G-C Sheet SS-2.
4 Ceiling mounted methane gas detector. See Detail 3 this sheet
5 Wall mounted methane gas detector 24" above floor.
6 Control module in NEMA 4X panel on wall at 6'-0" above floor.
7 Horn and Strobe at 15 feet above floor
8 Alarm light
9 Vacuum monitoring point in floor, see detail sheet SS-2.
NOTE: COORDINATE ALL WORK WITH THE FOUNDATION LOCATIONS AND WITH OTHER TRADES.
DUCT SENSOR INSTALLATION DETAIL
SCALE NONE
CEILING MOUNTED DETECTORS IN SALES AREA
SCALE NONE
GAS DETECTION SYSTEM
NOT TO SCALE
VERIFICATION RESULTS ON 12/14/07
LOCATION INCHES WATER COLUMN
A 0.40
B 0.30
C 0.13
D 0.02
E 0.20
F 0.50
G 0.25
H 0.02
I 0.60
J 0.60
K 0.80
L 0.15
M 0.06
AS-BUILT
12 SLOT FLEXIRACK
POWER SUPPLY
BEACON
HORN
NEMA 4X HOUSING WITH WINDOW
ELECTRO-MECH ENGINEERING, INC.
DeWolff Partnership ARCHITECTS LLP
LOWE'S
SUBSLAB VENTILATION PLAN
LOWE'S OF SYRACUSE
SYRACUSE, NEW YORK
ISSUE DATE: 09.01.06
ISSUE DATE: 03.16.07
SS-1
REVISIONS

DATE: 1/4/13 10:19 AM

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S 10:35 AM	SEFCU
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-1.0	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

David F. O'Bryan
(Signature)

DATE: 1-11-13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1015	SEFCU @ 1029
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David O'Bryan
(Print Name)

(Signature)

DATE: 1-18-13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 10:52 Am	SEFCU @ 10:38 Am
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-1.0	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David O'Bryan
(Print Name)

(Signature)

DATE: 1/25/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 11:57	SEFCU @ 11:29
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David O'Bryan
(Print Name)

(Signature)

DATE: 2/1/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S	SEFCU
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

DAVID O'BRYAN
(Print Name)

(Signature)

DATE: 2/8/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S	SEFCU
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 2/15/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0747	SEFCU @ 1347
2	-1.0	
3	1.0	
4	1.0	
5	0.85	
6	1.0	
7	0.9	
8	1.0	
9	1.0	
10	1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 2/22/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @1300	SEFCU @1319
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-1.0	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

David F. O'Bryan
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 3/1/13

EXHAUST FAN #	LOWE'S @ 1001		SEFCU @ 1019
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.8		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 3-8-13

EXHAUST FAN #	LOWE'S @ 0805		SEFCU @ 0836
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 3/15/13

EXHAUST FAN #	LOWE'S @ 1227		SEFCU @ 1240
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

DAVID F. O'BRYAN
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 3/22/13

EXHAUST FAN #	LOWE'S @ 1112		SEFCU @ 1105
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 3/29/13

EXHAUST FAN #	LOWE'S @ 1135		SEFCU @ 1141
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 4/5/13

EXHAUST FAN #	LOWE'S @ 0719		SEFCU @ 1045
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

David F. O'Bryan
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 4/13/13

EXHAUST FAN #	LOWE'S @ 1542		SEFCU @ 1535
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 4/19/13

EXHAUST FAN #	LOWE'S @ 0937		SEFCU @ 0939
2	-1.0	1	-1.9
3	-1.0		
4	-1.0		
5	-1.0		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

DAVID F. O'BRYAN
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 4/26/13

EXHAUST FAN #	LOWE'S @ 0634		SEFCU @ 0831
2	-1.0	1	-1,0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1,0		
10	-1,0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 5-3-13

EXHAUST FAN #	LOWE'S @ 1229		SEFCU @ 1243
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.8		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 5-10-13

EXHAUST FAN #	LOWE'S @ 0620		SEFCU @ 1132
2	-1.0	1	-1.0
3	-1.3		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 5-17-13

EXHAUST FAN #	LOWE'S @ 1122		SEFCU @ 1108
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

David O'Brien
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 8/29/13

EXHAUST FAN #	LOWE'S @ 0851		SEFCU @ 0910
2	-1.0	1	
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-1.0		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

David F. O'Bryan
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 5/31/13

EXHAUST FAN #	LOWE'S @ 0600		SEFCU @
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

David F O'Bryan
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 6-7-13

EXHAUST FAN #	LOWE'S @ 0930		SEFCU @ 0913
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 6/14/13

EXHAUST FAN #	LOWE'S @ 1120		SEFCU @ 1133
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David O'Bryan
(Print Name)

David O'Bryan
(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 6.21.13

EXHAUST FAN #	LOWE'S @ 0950		SEFCU @ 1015
2	-1.8	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.8		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 6-28-13

EXHAUST FAN #	LOWE'S @ 1135		SEFCU @ 1150
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 7/5/13

EXHAUST FAN #	LOWE'S @ 1052		SEFCU @ 1048
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

DAVID F. O'BRYAN
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 07-12-13

EXHAUST FAN #	LOWE'S @ 1018		SEFCU @ 1022
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 07/18/13

EXHAUST FAN #	LOWE'S @ 0815		SEFCU @ 0830
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.9		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 07/26/13

EXHAUST FAN #	LOWE'S @ 0830		SEFCU @
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.9		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 08-02-13

EXHAUST FAN #	LOWE'S @ 0847		SEFCU @
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.85		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 08/09/13

EXHAUST FAN #	LOWE'S @ 1038		SEFCU @ 1057
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-0.8		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NY

DATE: 08/16/13

EXHAUST FAN #	LOWE'S @ 10:15		SEFCU @ 10:35
2	-1.0	1	-1.0
3	-1.0		
4	-1.0		
5	-0.85		
6	-1.0		
7	-1.0		
8	-1.0		
9	-1.0		
10	-1.0		

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

DATE: 8/23/2013

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0750	SEFCU @ 0830
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic guages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

David F. O'Brien
(Signature)

DATE: 8/30/2013

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @	SEFCU @
2	-1.0	
3	-1.10	
4	-1.0	
5	-0.8	
6	-1.0	
7	-1.0	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic guages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 09/06/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0900	SEFCU @ 0850
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David R. O'Bryan
(Print Name)

(Signature)

DATE: 09/13/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0951	SEFCU @ 0935
2	- 1.0	
3	- 1.0	
4	- 1.0	
5	- 0.9	
6	- 1.0	
7	- 0.8	
8	- 1.0	
9	- 1.0	
10	- 1.0	
1		- 1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

DATE: 09/20/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1034	SEFCU @ 1055
2	- 1.0	1 - 1.0
3	- 1.0	
4	- 1.0	
5	- 0.85	
6	- 1.0	
7	- 0.8	
8	- 1.0	
9	- 1.0	
10	- 1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David E. O'Bryan
(Print Name)

(Signature)

DATE: 09/27/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0757	SEFCU @ 1122
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 10/04/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1112	SEFCU @ 1130
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.85	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

DATE: 10/11/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0905	SEFCU @ 0901
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.85	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

David F Boyer
(Signature)

DATE: 10/18/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0900	SEFCU @ 0914
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

David F O'Brien
(Signature)

DATE: 10/25/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0940	SEFCU @ 0921
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:
Replaced #4 FAN on 10/22/13

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

JOHNSTONE SUPPLY

828 BURNET AVE
SYRACUSE, NY 13203
Phone:315-479-8800
Fax:315-479-8600
Web:
WWW.JOHNSTONESUPPLY.COM/141

Branch Locations

ROCHESTER	SYRACUSE
95 HALSTEAD ST	828 BURNET AVE
ROCHESTER NY	SYRACUSE NY 13203
14610-1923	315-479-8800
585-482-8000	

For All Account/Billing Inquiries Please Call 585-482-8000

SOLD TO:
PIONEER COMPANIES
333 WEST WASHINGTON ST
SUITE 600
SYRACUSE NY 13202-6103

SHIP TO:
PIONEER MANAGEMENT SVC
250 S CLINTON ST
SYRACUSE NY 13202-1263
315-471-2181

Invoice Date	Invoice #
10/25/13	279192
Total Amount Due	**PG#**
386.64	1

Remit To:
JOHNSTONE SUPPLY OF CNY
95 HALSTEAD STREET
ROCHESTER, NY 14610-1923

14:58:30 25 Oct 2013

***** CREDIT CARD *****

Order Date	Customer Number	Customer P.O.	Sales Person
10/24/13	4716523	WA	Paul Bisson
Order Number	**Shipped VIA**	**Ordered By**	**TERMS**
02-279192-001	WILL CALL	GREG HENSON 439-9780	CASH

Item	Johnstone Product Number	Quantity ORD	SHIP	B/O	Item Description	Each Price	Unit Price	Amount
1	X81-999	2	2	0	FG6 DUCT FAN 6" 303CFM	179.00	179.00	358.00T

CERTIFICATION #######

Tax Rate	Taxable Amt	Total Tax	Core Total	MISC Charges	Merchandise Total
8.000%	$358.00	$28.64	$0.00		$358.00
Tax Number		**Units Shipped**	**Freight/Fuel Surcharge**	**MDSE DISCOUNT**	**TOTAL AMOUNT DUE**
		2		$0.00	**$386.64**

Signed By:GREG HENSON 439-9780 14:58:31 25 Oct 2013
**********3991
R3269Z

Cash: $386.64
Check #: M/C
Change: _____.__

Remit To:
JOHNSTONE SUPPLY OF CNY
95 HALSTEAD STREET
ROCHESTER, NY 14610-1923

PLEASE NOTE: ALL RETURNED MERCHANDISE IS SUBJECT TO A RESTOCKING CHARGE. NO RETURN ON SPECIAL ORDERED OR INSTALLED PARTS. NO GOODS ACCEPTED FOR RETURN AFTER 30 DAYS. RETURNS MUST HAVE INVOICE

Power-Comm Electric Co., Inc.

Invoice

PO Box 5435
Syracuse, NY 13220
ph: 315-963-0671 fax: 315-963-0681
Fed Id #16-1614225
pce@twcny.rr.com
powercommelectric.com

1650
1621

Date	Invoice #
11/7/2013	7928

Bill To

PIONEER COMPANIES
C/O PIONEER MGMT. GROUP
333 WEST WASHINGTON ST
SUITE 600
SYRACUSE, NY 13202-5254

RECEIVED
NOV - 8 2013
BY:

P.O. No.	Terms	Project
LOWES	Net 30	13210 LOWES REPL F...

Quantity	Description	Rate	Amount
	WORK COMPLETED AT THE LOWES, MIDLER AVE LOCATION TO REPLACE FAN AS DIRECTED. WORK DONE ON 10/23/13.		
2	LABOR REG HOURS	82.00	164.00T
	Sales Tax	0.00%	0.00
			tax 13.12
			pay 177.12

We are now accepting all major credit cards. Please contact our office to make your payment today.

Total ~~$164.00~~

DATE: 12/11/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1115	SEFCU @ 1104
1		-1.0
2		
3	-1.0	
4	-1.0	
5	-0.9	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Brien
(Print Name)

(Signature)

DATE: 11-8-13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1014	SEFCU @ 1026
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

DAVID F. O'BRYAN
(Print Name)

(Signature)

DATE: 11/15/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S	SEFCU @ 1022
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

#4 exhaust pipe near roof leak
#8 " " " " "
(Spoke w/ Mike Parks, houses Facility Maintenance person - He has notified corporate

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 11/22/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1055	SEFCU @ 1048
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 11/22/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0812	SEFCU @ 0546
2	-1.1	1 -1.0
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-0.8	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

DAVID F. O'BOYLE
(Print Name)

(Signature)

DATE: 12/16/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1343	SEFCU @ 1237
2	-1.0	
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 12/13/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1330	SEFCU @ 1347
2	-1.6	
3	-1.0	
4	-1.0	
5	-0.8	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	
1		-1.0

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

DAVID F. O'BRIAN
(Print Name)

(Signature)

DATE: 12/20/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 0959	SEFCU @ 0954
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

DATE: 12/22/13

SUBSLAB DEPRESSURIZATION SYSTEMS
MIDLER CROSSING
SYRACUSE, NEW YORK

EXHAUST FAN #	LOWE'S @ 1157	SEFCU @ 1151
2	-1.0	1 -1.0
3	-1.0	
4	-1.0	
5	-0.85	
6	-1.0	
7	-0.9	
8	-1.0	
9	-1.0	
10	-1.0	

*The above measurements are in "inches of water" taken from Dwyer Series 2000, Magnehelic gages.

COMMENTS:

INSPECTED BY:

David F. O'Bryan
(Print Name)

(Signature)

Appendix D

Property Inspection Forms

SHOPPING CENTER
PROPERTY INSPECTION

PROPERTY NAME Midlen Crossing

PROPERTY NO. 1650

Inspected By Greg Henson Property Manager

Date 4/2/13

Approved _____

I. Exterior: Site ~~& Building~~ LOT CONDITION ONLY

* A. Parking Lot Asphalt (holes, fractures, low spots, liability hazards, oil & stone, shim).

No Pot Holes or tripping Hazards observed at time of Inspection.

B. Storm Water Drainage (catch basins, swails, ditches, culverts: clean & operating, pumps operating and PM program in force, hour meters working; clean out catch basins). Weekly

all required maintenance completed as of Inspection date.

C. Fire Hydrants (protected, painted, visibility, access, shown on drawing).

All Hydrants visible at time of inspection

D. Fire Lanes and Handicapped Parking (properly marked & signed).

All fire lanes & Handicapped parking properly marked

* E. Snow removal (stock pile areas established, delineator posts needed, drainage problems, damaged areas).

N/A

* F. Parking Lot Lighting (operation, test to verify operation, lens/lamp replacement, paint, photocell, timeclocks, manual override switch, anchor bolts & base secure, base cover secure).

N/A

G. Water/Gas Shutoffs, Sewer Cleanouts (properly covered, locations known and shown on drawing, test shutoffs).

N/A

*Monthly Inspection

* H. Buffer Areas (properly cut, debris removed).

All areas in good shape at time of inspection

* I. Sidewalks & Curbs (maintenance, drainage, handicap ramps, re-caulk, refuse containers, tripping hazards).

All areas in good shape at time of inspection

J. Striping (condition of paint, areas to be relined, skip next year).

Completed

* K. Traffic Control Devices (traffic signal operation, speed limit/vehicle signage - faded/additions needed).

N/A

L. Paint (exterior walls, trim, service doors, trash areas, compactors, canopies).

N/A

M. Caulking (type of failures & extent).

N/A

* N. Landscaping (cleanliness, maintenance program, drainage, add plantings, weed killer at curbs, cracks, etc.).

Spring clean up underway at time of inspection

* O. Pylon & other signs (paint, rusting, fading, lighting, time clock control, reader board letter inventory).

N/A

* P. Other Items (compactor locked off, propane tank safety, water silcocks, loading areas; Put tenant info on tenant sheets).

N/A

*Monthly Inspection

SHOPPING CENTER
PROPERTY INSPECTION

PROPERTY NAME Midtex Crossing
PROPERTY NO. 650

Inspected By Greg Hanson Property Manager
Date 9/23/13
Approved _____

I. Exterior: ~~Site & Building~~ LOT CONDITION ONLY

* A. Parking Lot Asphalt (holes, fractures, low spots, liability hazards, oil & stone, shim).
No Pot holes or trip Hazards Observed

B. Storm Water Drainage (catch basins, swails, ditches, culverts: clean & operating, pumps operating and PM program in force, hour meters working; clean out catch basins).
All areas in good condition

C. Fire Hydrants (protected, painted, visibility, access, shown on drawing).
All hydrants visible

D. Fire Lanes and Handicapped Parking (properly marked & signed).
All fire lanes & handicapped parking properly marked at time of inspection

* E. Snow removal (stock pile areas established, delineator posts needed, drainage problems, damaged areas).
N/A

* F. Parking Lot Lighting (operation, test to verify operation, lens/lamp replacement, paint, photocell, timeclocks, manual override switch, anchor bolts & base secure, base cover secure).
All Parking lot lights operational at time of inspection

G. Water/Gas Shutoffs, Sewer Cleanouts (properly covered, locations known and shown on drawing, test shutoffs).
N/A

*Monthly Inspection

* H. Buffer Areas (properly cut, debris removed).

All Gutter areas well groomed at time of inspection

* I. Sidewalks & Curbs (maintenance, drainage, handicap ramps, re-caulk, refuse containers, tripping hazards).

All areas in good shape

J. Striping (condition of paint, areas to be relined, skip next year).

Completed

* K. Traffic Control Devices (traffic signal operation, speed limit/vehicle signage - faded/additions needed).

N/A

L. Paint (exterior walls, trim, service doors, trash areas, compactors, canopies).

N/A

M. Caulking (type of failures & extent).

N/A

* N. Landscaping (cleanliness, maintenance program, drainage, add plantings, weed killer at curbs, cracks, etc.).

All Landscaped areas are well kept & clean at time of Inspection

* O. Pylon & other signs (paint, rusting, fading, lighting, time clock control, reader board letter inventory).

N/A

* P. Other Items (compactor locked off, propane tank safety, water silcocks, loading areas; Put tenant info on tenant sheets).

N/A

* Monthly Inspection

Appendix E

Institutional and Engineering Controls

Certification Form

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C734103

Site Name Midler City Industrial Park

Site Address: 621 S. Midler Ave. (aka 701 Nichols Ave.) Zip Code: 13206
City/Town: Syracuse
County: Onondaga
Site Acreage: 21.7

Reporting Period: March 01, 2013 to March 01, 2014

	YES	NO
1. Is the information above correct?	■	□
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	□	■
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	□	■
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	□	■
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	□	■

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	■	□
7. Are all ICs/ECs in place and functioning as designed?	■	□

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative _____ Date _____

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	●
If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.		
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	●	☐
If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.		

SITE NO. C734103

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
033.1-01-01.3	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-01.4	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-01.5	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-01.6	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-01.7	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-02.4	Lowe's Home Centers, Inc.	
		Ground Water Use Restriction Site Management Plan Soil Management Plan
033.1-01-20.0	Pioneer Midler Avenue, LLC	
		Ground Water Use Restriction Site Management Plan Soil Management Plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
033.1-01-01.3	
	Cover System Vapor Mitigation
033.1-01-01.4	
	Cover System Vapor Mitigation
033.1-01-01.5	
	Cover System Vapor Mitigation
033.1-01-01.6	
	Cover System Vapor Mitigation
033.1-01-01.7	
	Cover System Vapor Mitigation

Parcel	Engineering Control
033.1-01-02.4	Cover System Vapor Mitigation
033.1-01-20.0	Cover System Vapor Mitigation

Engineering Control Details for Site No. C734103

Parcel: 033.1-01-01.3

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Parcel: 033.1-01-01.4

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Engineering Control Details for Site No. C734103

Parcel: 033.1-01-01.5

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Parcel: 033.1-01-01.6

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Engineering Control Details for Site No. C734103

Parcel: 033.1-01-01.7

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Parcel: 033.1-01-02.4

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Engineering Control Details for Site No. C734103

Parcel: 033.1-01-20.0

The Controlled Property may be used for commercial use as long as the following long-term engineering controls are employed:

(i) compliance with the Department-approved Site Management Plan ("SMP") for the implemented remedy until the remedial goals for the Controlled Property are attained or deemed complete by the Department;

(ii) maintenance at a minimum of a one foot cover system or a six inch pavement system or buildings over the Site and any disturbance of or excavation from the Site cover system at depths greater than the one foot shall be done in accordance of the requirements of the SMP;

(iii) the groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the Department and the pumping and discharge of groundwater to the waters of the State shall not be allowed without appropriate treatment and approval of the governing State, County or Municipal authority;

(iv) continued groundwater monitoring in accordance with the SMP until the Department determines that such monitoring is unnecessary;

(v) installation and maintenance in accordance with the standards and procedures specified in the SMP of subslab depressurization ("SSD") systems for all buildings and building additions to be constructed on the Site and the continued operation and maintenance in accordance with the SMP of those SSD systems already installed on the Site;

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
●	□

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
●	□

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C734103

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Edward A. Marshall at 333 West Washington St. Syracuse N.Y. 13202
print name print business address

am certifying as Agent of Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Pioneer Mangmt Group Edward A Marshall as agent 6/6/2014
Signature of Owner, Remedial Party, or Designated Representative Date
Rendering Certification

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Rory Woodmansee (print name) at C&S Engineers, Inc. Syracuse NY (print business address)

am certifying as a Qualified Environmental Professional for the Pioneer Miller LLC (Owner or Remedial Party)

Rory Woodmansee
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

June 6, 2014
Date