

ASKIN & HOOKER, LLC

2018 ANNUAL P-8 SUPPLEMENTAL REMEDIAL
ACTION PERFORMANCE MONITORING REPORT
FORMER GENERAL INSTRUMENT CORPORATION
SHERBURNE, NEW YORK (#709010)

JANUARY 4, 2019





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1 INTRODUCTION

WSP USA Inc. (WSP), on behalf of Vishay GSI, Inc. (VGSI; the corporate successor of General Instrument Corporation [GIC]), has prepared this report detailing the results of annual groundwater performance monitoring program at the former GIC site in Sherburne, New York. The current monitoring is the remaining portion of a much larger sampling program initiated in the late 1990s to evaluate the performance of a permeable reactive barrier (PRB) designed to treat dissolved chlorinated volatile organic compounds (CVOCs) migrating westward from the site. The PRB performance monitoring used a monitoring well network positioned both upgradient and downgradient of the barrier. Concerns about the efficacy of the barrier in the mid-2000s led to an expanded monitoring well network, additional investigation, and eventually to a supplemental remedial action in 2009 to address CVOCs that remained upgradient of the PRB. That treatment was effective at addressing the affected groundwater in the treatment areas, except for one location upgradient of the barrier near monitoring well P-8. A follow up investigation was conducted and a second supplemental remedial action (the P-8 supplemental remedial action) was completed to address the recalcitrant CVOCs. The current sampling is designed primarily to demonstrate the efficacy of the P-8 supplemental remedial action.

The PRB performance monitoring program, which was performed in accordance with the Order on Consent (#A701578810), signed by GIC on August 1, 1989, and the Record of Decision (ROD), issued for the site in December 1994; and the 2009 supplemental remedial action performance monitoring (conducted concurrent with and using the same monitoring wells as the PRB program), has been modified. The changes¹ to the program, which were approved by the New York Department of Environmental Conservation (NYSDEC), are summarized in this report and are detailed in a letter from WSP to the Department, dated October 23, 2017. The changes included an end to the barrier-specific performance monitoring. WSP, based on the NYSDEC's approval, abandoned all but six wells associated with the PRB network in the spring of 2018. The details of the abandonment work are included in this report. The remaining six wells include three wells that will be used to demonstrate the efficacy of the 2014 P-8 supplemental remedial action and three additional wells to be used as part of the planned five year review of the site in 2020.

The results of the 2018 P-8 supplemental remedial action performance monitoring are presented below.

1.1 REPORT ORGANIZATION

This report is organized into five sections, including this introduction:

- Section 2 describes the site location and setting, the operational history, and provides background on the previous investigation and remedial measures implemented at the site; the section also includes a summary of the sampling program modifications, including well-abandonment activities;
- Section 3 outlines the scope of work for the P-8 performance monitoring activities;
- Section 4 discusses the analytical results findings; and
- Section 5 presents the conclusions and recommendations for modification (if any) to the sampling program.

It is important to note that this report details only the results of the modified sampling program. Specifically, the report includes gauging the remaining six wells and the sampling of the three wells designated in the NYSDEC's November 7, 2017, response (and approval) to WSP's October 2017 proposed program modifications. Historical data, including the sampling results from now abandoned wells or those used as part of the P-8 treatment evaluation are presented when necessary to provide context for the current analysis.

¹ Initial modifications to the groundwater sampling programs are discussed in the *Combined June 2015 Semiannual Groundwater Sampling Report and P-8 Supplemental Remedial Action Performance Monitoring Report and 12-Month Review*, dated January 5, 2016 (P-8 12-Month Review; WSP 2016).

2 BACKGROUND

The former GIC site is located at 1 Kenyon Press Drive in Sherburne, Chenango County, New York (Figure 1). Originally developed in 1947 for the Technical Appliance Corporation of America, the 5.5-acre site was purchased by Jerrold Electronic Corporation in 1962 and by GIC in 1969. General Instrument used the facility to produce aluminum television antennas, antenna controllers, and other small electronics from 1969 until manufacturing operations ceased in 1983. The facility was decommissioned and subsequently sold in 1989. The site is currently owned and occupied by Kenyon Press Inc., a commercial printing company.

The major features of the site include a 75,000-square-foot main building formerly used for manufacturing, warehousing, and administration, and a 4,900-square-foot plating building formerly used for plating, etching, and vapor degreasing (Sheet 1). The site also includes two other buildings, a 1,600-square-foot garage near the southeast corner of the main building that was formerly used as a maintenance shop, and a 2,800-square-foot wooden shed near the western property line that was formerly used to store machinery and materials.

The site is surrounded by a bulk petroleum storage facility and Quickway gasoline station to the north; light commercial property to the east and south; the Delaware Lackawanna & Western Railroad (DL&W) Railroad to the west; and further to the west by agricultural fields (Sheet 1). VGSI currently leases a portion of the agricultural fields west of the site to allow access for investigation and remedial activities.

2.1 PREVIOUS INVESTIGATION AND REMEDIATION

In 1983, GIC implemented a plan to close their manufacturing facilities at the site. An investigation conducted as part of the closure activities revealed organic and inorganic compounds in the soil surrounding the facility. In response, GIC excavated and removed the contaminated onsite soils and, in 1985, initiated a groundwater investigation that included the installation of nine groundwater monitoring wells and six piezometers. The results of the investigation indicated the presence of tetrachloroethene (PCE), trichloroethene (TCE) and several other CVOCs in groundwater along the western (downgradient) edge of the property.

The site was classified by the NYSDEC as a Class 2 inactive hazardous waste site in 1987 and GIC agreed to a consent agreement in 1989 to perform a remedial investigation/feasibility study (RI/FS). The RI/FS was conducted by Stearns and Wheler, LLC (S&W), of Cazenovia, New York, and was completed in 1993. The RI identified CVOCs in the soil beneath the plating building; free-phase petroleum product (fuel oil) floating on the groundwater near the northwest loading dock; and a CVOC-affected groundwater plume in the uppermost water-bearing unit extending west beneath a portion of the adjacent property.

A ROD was issued by the NYSDEC in December 1994 approving remedies S&W developed as part of a remedial design and remedial action plan (RD/RA) to address the issues identified in the RI/FS. The RD/RA included the installation of a soil vapor extraction system to treat the unsaturated soil beneath the plating building and a groundwater recovery and treatment system to address the free-phase petroleum. Both systems were installed, operated, and eventually decommissioned in the mid to late 1990s by S&W after the NYSDEC agreed that their respective cleanup targets had been achieved.

The remedial action developed by S&W for the dissolved CVOC groundwater plume was a passive *in situ* PRB, which was designed to reductively dechlorinate the affected groundwater. In 1997, based on their interpretation of a funnel-and-gate pilot test, S&W installed a full-scale, granular zero-valent iron (ZVI) PRB consisting of two parallel walls oriented roughly north-south and perpendicular to their interpretation of regional groundwater flow (Sheet 1). The longer of the two walls is approximately 410 feet long by 1 foot wide and was designed to cover the entire breadth of the CVOC-affected groundwater plume. A second, smaller (120-foot-long) wall was installed approximately 30 feet east of the main wall section to provide additional groundwater treatment where the highest CVOC concentrations were expected (i.e., along the core of the affected groundwater plume). Both walls are comprised of granular ZVI extending through the uppermost water-bearing unit from about 3 feet below ground surface (bgs) to approximately 21 feet bgs where they are keyed into a clay unit that underlies the aquifer. S&W installed a network of groundwater wells in and around the PRB and monitored the performance of the PRB on a quarterly basis for a period of approximately two years after the installation, and twice a year thereafter.

2.1.1 ADDITIONAL INVESTIGATION

In 2001, the NYSDEC expressed concerns regarding the performance of the PRB, including apparent shifts in the groundwater flow directions and changes in the CVOC distribution. To address these concerns, WSP (at the request of VGSI) completed a technical review and developed a conceptual site model using historical groundwater data (ESC Engineering, 2004a and 2004b). The results indicated a slight groundwater mound located east (upgradient) of the barrier, which appeared to be diverting a portion of the groundwater plume around the ends of the PRB along two flow lines designated as the northern and southern flow lines. Samples from additional wells installed by WSP in 2005 (MW-31 through MW-39) indicated some systematic decrease of CVOC concentrations along the northern and southern flow lines with the concentrations near the ends and further downgradient of the barrier one to two orders of magnitude below those in samples from the area around P-8 and MW-17 (i.e., upgradient of the PRB where the highest concentrations of CVOCs were consistently detected; ESC Engineering, 2006). The data suggested that, while the PRB was not performing exactly as designed, the bulk of the untreated CVOCs had not flowed around the ends of the barrier and instead remained upgradient of the treatment system.

In 2008, WSP conducted pre-design investigations at the site to refine the extent of the CVOCs and evaluate potential remedial alternatives for the CVOC-affected groundwater bypassing the PRB. The results revealed that the relatively high concentrations of CVOCs at MW-17 and P-8 were limited in extent and indicated that no significant concentrations of CVOCs were present in the former source area on the main site (WSP Engineering of New York, 2009a). The CVOCs that were detected in and around MW-17 and P-8 were dominated by dechlorination breakdown products, such as 1,2-dichloroethene (1,2-DCE) and vinyl chloride. Analysis of the carbon stable isotope ratios in the CVOCs further indicated that the compounds had biodegraded from TCE. Concurrent biological census data and geochemical data suggested that the intrinsic oxidation-reduction (redox) conditions and microbial population could be sufficiently enhanced through the addition of an electron donor to stimulate reductive dechlorination.

2.1.2 SUPPLEMENTAL REMEDIATION

WSP implemented a supplemental remedial action plan (SRAP) in October 2009 based on the results of the 2008 pre-design investigation. The SRAP was designed to augment the PRB's treatment of the CVOC-affected groundwater that remained upgradient of the barrier (WSP Engineering of New York, 2009b). The bioremediation amendment 3-D MicroEmulsion[®] (3DMe) was injected into the subsurface to adjust the redox conditions and spur microbial growth within the saturated zone through the introduction of an electron donor source. The 3DMe amendment selected was a low-viscosity formulation that allowed for treatment below surface barriers such as the DL&W Railroad at the site.

Two supplemental treatment areas, designated the northern and southern treatment areas, were identified based on the pre-design investigation data. The northern treatment area, centered on monitoring wells MW-17 and P-8, was treated with 108 injection points in a 10-foot by 10-foot grid covering approximately 11,800 square feet (ft²) near the northern terminus of the PRB (Sheet 1). The southern treatment area was treated with 30 injection points (covering approximately 3,000 ft²) positioned around wells MW-22, MW-31, and MW-32 in a pattern parallel to the southern flow line. Approximately 25,000 gallons (about 170 gallons per injection point) of the 3DMe amendment were injected into the subsurface using temporary direct-push injectors. Performance monitoring activities were conducted for two years after the October 2009 implementation of the SRAP to demonstrate the effectiveness of the injection program.

WSP completed a review of the SRAP performance monitoring data in May 2012 to assess whether the treatment goals had been achieved. As detailed in the *Combined October and December 2011 Semiannual Groundwater Sampling and Supplemental Remedial Action Review Report*, total CVOC concentrations in the northern treatment zone and areas directly downgradient had been reduced to trace concentrations and significant reductions had occurred in the southern treatment zone (WSP Engineering of New York, 2012a). Bio-assays and monitored natural attenuation (MNA) samples collected over the last two quarters of 2011 showed that the microbial populations had stabilized and that redox conditions remained sufficient to drive ongoing enhanced reductive dechlorination. WSP concluded that the SRAP had achieved its goals in all but one monitoring point, P-8.

Groundwater samples collected from monitoring well P-8 did not exhibit the same level of CVOC mass reduction observed in the samples collected from other northern treatment area wells. The concentration of TCE was consistently detected in post-SRAP performance monitoring samples at concentrations (8.3 to 386 micrograms per liter [µg/l]) above the evaluation

criteria (5 µg/l). Similarly, the concentration of *cis*-1,2-DCE (75 to 1,430 µg/l) remained above the evaluation criteria (5 µg/l) throughout the same period. The isotopic analyses of both compounds differed from the fractionation trends in the other wells in the surrounding treatment zone. These data indicated that the SRAP treatment did not have the intended effect in the area around the well.

WSP suspected that the recalcitrant CVOCs were related to lithologic differences near well P-8 and the hydraulic variations at the site. Comparatively fine-grained soils (e.g., silt and silty clay; the surrounding area is silty sand and gravel) were encountered near the water table interface when the well was installed. These finer soils likely contained relatively high concentrations of adsorbed CVOCs from contact with affected groundwater earlier in the history of the plume before the dissolved CVOCs decreased to their current levels. WSP had also observed a correlation between the CVOC concentrations and the seasonal rise and fall of the water table in the post-SRAP performance monitoring data and, after further investigation, in the historical PRB groundwater monitoring results. Increased concentrations of CVOCs were detected in the P-8 samples after these soils were wetted by the rising water table.

WSP hypothesized that the adsorbed CVOCs were being mobilized via contact with the now lower concentration groundwater (via a concentration gradient – also known as back diffusion) resulting in a persistent influx of CVOCs to the groundwater. WSP also theorized that the lower permeability of the soil surrounding the well had limited the distribution and effectiveness of the SRAP injections.

2.1.3 P-8 SUPPLEMENTAL REMEDIAL ACTION PRE-DESIGN

WSP conducted a membrane interface probe (MIP) investigation in November 2012, to delineate the extent of CVOC-affected media around P-8 (Sheet 1). The MIP was selected for its capability of providing a continuous, real-time assessment of the relative level of chlorinated compounds in both saturated and unsaturated soils. The work, which was conducted in accordance with WSP's *Pre-Design Work Plan*, dated September 11, 2012, included the installation of 14 MIP borings, and designated MP-1 through MP-14, in a loose grid around the well (see enlargement of P-8 area on Sheet 2). Additional borings were installed, as necessary (using the real-time data as a guide to steer the investigation), until the extent of CVOCs in both soil and groundwater were fully defined.

The results of the investigations not only revealed elevated MIP responses indicating an area of affected media near well P-8, but outlined a zone of coincident heterogeneous soil. The affected area, as defined² by the elevated MIP responses in borings MP-7, MP-9, MP-4 and MP-10, all contained a significantly higher fraction of fines (e.g., organic silts and clays) in the upper few feet of the soil profile as compared to the surrounding area (Sheet 2). Moreover, the highest concentrations of CVOCs were detected within these soils and, when compared to the groundwater monitoring data, appeared to be directly related with the fluctuations in the water table. The results from MIP boring MP-7, for example, showed elevated MIP responses corresponding to a stratigraphic sequence of silt and organic-rich clay in the shallow portion of the soil profile (straddling the water table surface) with the peak MIP responses correlated to the 8-year average groundwater elevation and the historical high stands (based on the PRB and post SRAP monitoring data for the site). The MIP responses decreased as the sediments coarsened to silty and sandy gravel with depth. Similar responses were noted in the other MIP borings outlining the heterogeneity. These data confirmed WSP's hypothesis indicating that the recalcitrant CVOCs observed in the samples from P-8 were related to the interaction between the water table and the heterogeneous soils within the smear zone of the affected area.

The findings of the investigation were presented, along with WSP's proposal for a focused, supplemental remedial action to address the recalcitrant CVOCs, in the *Combined Pre-Design Investigation Report and P-8 Area Supplemental Remediation Work Plan* (P-8 Work Plan), dated January 9, 2014. The NYSDEC approved the scope of work in a letter dated, January 29, 2014, and WSP conducted the supplemental remedial action in May 2014.

² The bounds of the heterogeneity were defined by the MIP borings, but are not depicted on Sheet 2 for clarity. See the *Combined Pre-Design Investigation Report and P-8 Supplement Remediation Work Plan*, dated January 9, 2014, for additional information.

2.1.4 P-8 SUPPLEMENTAL REMEDIAL ACTION AND 12-MONTH REVIEW

WSP implemented the approved P-8 supplemental remedial action in May 2014. The action included a focused injection program in and around the soil heterogeneity where the elevated CVOC concentrations were detected during the MIP investigation, and pre- and post-treatment performance monitoring of the groundwater within the injection zone to demonstrate the efficacy of the remedy. To maximize efficient delivery of amendment, WSP established a closely-spaced injection grid pattern and used SRS-Z®, a commercial formulation variant of the National Aeronautical and Space Administration's patented EZVI® amendment, manufactured by Terra Systems, Inc., of Claymont, Delaware. The amendment, an in-situ chemical reductant, contains two remedial technologies proven to be effective at the former GIC site: ZVI and a fermentable carbon food source to enhance anaerobic bioremediation. The SRS-Z® amendment is specifically designed for greater penetration into low-permeability soils than typical grout-style ZVI amendments. In addition, the emulsified ZVI, once injected, is relatively immobile within the subsurface. The iron can remain reactive, depending on the specific conditions, for three to five years allowing continued treatment of the CVOCs, as they diffuse from less permeable locations within the soil matrix.

The treatment zone consisted of 25 injection points within an area of approximately 1,225 ft², which encompassed the areal extent of the highest CVOC concentrations in groundwater and the interpreted soil heterogeneity delineated during the pre-design investigation (Sheet 2). The injection points, designated IN-139 through IN-163, were spaced approximately 7 feet apart within the grid. The amendment was introduced from the top of the anticipated water table during seasonal high stands (approximately 1,046 feet above mean sea level [amsl; 3 to 5 feet bgs]) to the base of the upper water-bearing zone at approximately 1,029 feet amsl (17 to 19 feet bgs). The treatment was timed to coincide with the relatively high groundwater elevations in the spring to maximize distribution of the amendment. Approximately 1,500 gallons (approximately 60 gallons per point) of pre-mixed SRS-Z® amendment was delivered to the treatment area using temporary injectors. The SRS-Z® application was immediately followed with an application of sodium bicarbonate-buffered potable water (i.e., chase water) to maximize delivery efficiency throughout the treatment zone. Approximately 1,536 gallons of sodium bicarbonate buffer solution containing 650 pounds of total sodium bicarbonate was injected immediately after the SRS-Z® application.

Baseline groundwater samples were collected from monitoring wells P-8 and MW-17 in May 2014 immediately before the injections began (Sheet 2). Performance monitoring of the P-8 Supplemental Remedial Action included four quarters of groundwater sampling at these two wells beginning in September 2014 and continuing through June 2016. The samples were analyzed for VOCs, general chemistry parameters indicative of dechlorinating conditions, microbial census, and compound-specific isotope analysis (CSIA) of carbon in site-related CVOCs.

In January 2016, WSP submitted the *Combined Semiannual SRAP Monitoring and P-8 12-Month Review*. The results of the P-8 quarterly performance monitoring showed that the SRS-Z® injection was having the intended effect on the recalcitrant VOCs around P-8, with substantive changes in the dissolved CVOC composition as compared to the May 2014 pre-injection baseline results. The 2014 and 2015 VOC sampling results indicated mass influx of CVOCs during periods of high groundwater elevations. These findings were expected as CVOCs in the source area become remobilized by the oscillation of the water table. Higher than expected concentrations of CVOCs were observed in nearby well MW-17 due to the migration of remobilized CVOCs from the treatment area.

These findings were supported by the geochemical data, which showed an increase in the dissolved organic carbon (DOC) leading to increasingly reducing conditions. Isotopic results reflected enrichment in the daughter products relative to the source material at various times; and the biological census results indicated dramatic increases in key microbes, functional genes and total microbial biomass.

The results of the quarterly monitoring demonstrated that the SRS-Z® injections induced the intended geochemical effects and microbial growth. Organic carbon and ferrous iron concentrations increased, oxidation-reduction potential decreased, and the abundances of dechlorinating microbes and genes that code for key enzymes needed for complete degradation of TCE to innocuous end products increased. Initial post-treatment groundwater sampling results indicated a rapid decline in the dissolved concentrations of total CVOCs within the treatment area.

Additionally, the CSIA results indicated isotopic enrichment of both the parent and daughter compounds, while vinyl chloride, ethane and ethene, all increased in concentration. These early results provided strong evidence that reductive dechlorination was occurring and that the pathway was complete through the vinyl chloride step.

Subsequent data indicated an anticipated rebound in the overall CVOC concentrations in samples from wells P-8 and MW-17 largely due to a demonstrated historical relationship between the seasonal fluctuations in the water table and periodic increases in CVOCs. Despite the rebound, the geochemical, biologic, and isotopic data continued to indicate that the amendment remained active. WSP concluded that the increases in total CVOC concentrations were transient fluctuations in an expected downward concentration trend as the CVOC mass in the vadose was treated by the *in-situ* SRS-Z®. Additional data, however, were necessary to clearly demonstrate the anticipated reductions in the CVOC mass.

A concurrent analysis of the long-term PRB and SRAP performance monitoring results was completed during the 12-Month review. At the time of the analysis, the long-term trend and distribution of CVOC concentrations were generally consistent with historical observations and interpretations, including those of the 2012 SRAP review. Groundwater elevation results consistently indicated that the PRB continued to influence the overall groundwater flow pattern by diverting a portion of the flow around both ends of the barrier, regardless of seasonal water table fluctuations. The post-SRAP CVOC concentrations in wells situated along flow lines both north and south of the PRB were consistently lower than at any time before the supplemental treatment. Because of these favorable geochemical conditions and observed declines in VOC concentrations, the monitoring programs were modified to discontinue sampling at a subset of the monitoring wells and the sampling frequency was reduced (see details of historical modifications to the performance monitoring programs in section 2.2 below).

2.1.5 2017 MODIFIED PERFORMANCE MONITORING PROGRAM

The results of the 2017 modified performance monitoring program were generally consistent with historical observations and interpretations, including those of the 2012 SRAP review. Substantive decreases in the dissolved CVOC concentrations around P-8 (following the rebound evident in winter 2014 and 2015) were supported by the isotopic results, which reflected periodic ¹³C enrichment in the daughter products relative to the parent material, as well as a long term progressive isotopic enrichment of *cis*-1,2-DCE and vinyl chloride through time. The biological census results indicated modest declines abundances of key microbes, functional genes and total microbial biomass at P-8, which were expected based on the observed reductions in VOC concentrations. Taken together, these data were interpreted as strong evidence that the SRS-Z® injection was having the intended effect and additional modifications to the performance monitoring programs were proposed at the end of 2017.

2.2 MODIFICATIONS TO THE PERFORMANCE MONITORING SCHEDULES

Based on the results and conclusions of the 12-month review, the NYSDEC approved modifications to the P-8 supplemental treatment performance monitoring and the associated PRB/SRAP performance monitoring program, as follows:

- The P-8 supplemental treatment performance monitoring program was extended through 2016 to allow WSP to collect the data necessary to confirm that the intended CVOC mass destruction had occurred. The sampling frequency was reduced from four times per year to three times per year (i.e. triannual), occurring in April, August, and December.
- The number of analyses requested during each event was streamlined to eliminate redox indicators that are no longer necessary. The remaining analysis focuses specifically on geochemical indicators of active reductive dechlorination and the end products of such reactions.
- The number of biological samples was reduced to focus on active dechlorinating microbes, the necessary functional genes, and indicators of overall microbial health.
- The frequency of the PRB and SRAP performance monitoring program was reduced from semiannual to annual, and the program was modified to exclude both wells upgradient of the PRB (e.g. MW-08, MW-18) and wells along the central portion of the barrier (e.g. MW-23, MW-26, MW-27, MW-29, MW-30, MW-35, MW-36, P-3 and P-10) where CVOCs had not been detected for nearly a decade.

At the completion of the 2016 sampling period, WSP and Vishay proposed additional modifications to the 2017 groundwater monitoring programs:

- The P-8 supplemental treatment performance monitoring program was extended through 2017 with continued sampling three times per year, occurring in April, August and December; and,

- Monitoring well MW-17 was removed from the P-8 triannual performance monitoring program; the concentration of CVOCs in samples collected from the well had attenuated to levels below the evaluation criteria, and the corresponding geochemical and biological data indicated that reductive dechlorination had significantly diminished (suggesting an absence of residual CVOCs in the aquifer matrix).

Prior to the 3rd triannual sampling event at the end of 2017, WSP submitted a request, subsequently approved by the NYSDEC, to further modify the performance monitoring activities:

- The PRB performance monitoring program was discontinued and most of the monitoring wells at the site were abandoned in February 2018 (a detailed description of the well abandonment is provided in Section 2.21 below);
- WSP commenced a modified P-8 area performance monitoring event in 2018 with sampling conducted on an annual basis in April³; three wells (MW-17, MW-31, and P-8) were sampled for CVOCs using the same methods as previous monitoring events (e.g. passive diffusion bag [PDB] sampling); monitoring wells MW-22, MW-32, and MW-34 have been maintained but are not sampled as part of the annual P-8 performance monitoring program; and,
- All six remaining wells (i.e., MW-17, MW-22, MW-31, MW-32, MW-34 and P-8) will be sampled for analysis of CVOCs in April 2020 as part of a 5-year review of the P-8 area supplemental treatment performance; the data will be presented in a 2020 annual report that will include analysis of the overall treatment performance and recommendations for additional monitoring or treatment, if necessary.

2.2.1 PERMEABLE REACTIVE BARRIER MONITORING WELL ABANDONMENT

WSP abandoned monitoring wells MW-2, MW-8, MW-14, MW-18, MW-20, MW-21, MW-24, MW-25, MW-28, MW-33, MW-35 through MW-39, P-3, P-10 and P-11 on February 20 and 21, 2018, in accordance with the 2017 NYSDEC-approved program modifications. The decommissioning activities were conducted (with WSP oversight) by Parrott Wolff, Inc., of Syracuse, New York, a licensed New York State driller using the procedures specified in the *Groundwater Monitoring Well Decommissioning Policy* CP-43. The wells were grouted in-place by filling each well casing with bentonite-cement grout using a tremie pipe to fill the well from the bottom to a level approximately 5 feet below ground surface. The top of each well, including the concrete pad and metal protective casing, was excavated and the upper 5 feet of the casing was cut and removed. Ferrous and fabric utility markers were embedded in the excavation near the top of the remaining casing to warn any future excavator of the position of the former well. The surface excavations were backfilled with material similar to the native soil and the asphalt surface at MW-14 was repaired to match the surrounding grade. Driller's well abandonment reports documenting the decommissioning activities are provided in Appendix A.

All solid waste material recovered from the decommissioning activities (e.g., concrete debris, steel protective covers, well casing, etc.) was placed in 55-gallon Department of Transportation-compliant (DOT-compliant) steel drums for offsite disposal in accordance with state and federal regulations.

³ April was chosen, in cooperation with the NYSDEC, as the monitoring period to provide the most conservative evaluation of the data (as indicated by the previous sampling results).

3 MODIFIED P-8 SUPPLEMENTAL REMEDIAL ACTION PERFORMANCE MONITORING

Annual groundwater performance monitoring samples were collected from wells P-8, MW-17, and MW-31, on April 17, 2018, as part of the modified P-8 SRAP performance monitoring. The samples were collected for analysis of VOCs⁴ using PDBs placed in the monitoring wells during the previous sampling event in December 2017. Monitoring wells MW-22, MW-32, and MW-34, which have been maintained as part of the overall modified well network, were gauged but not sampled as part of the performance monitoring. The methods for each activity are presented below and the results are summarized in Tables 1 through 4. For comparison, Tables 2 and 4 include elevation data and analytical results from the previous groundwater monitoring events.

3.1 GROUNDWATER ELEVATION MEASUREMENTS

Depth to groundwater measurements were collected on April 17, 2017, in advance of the PDB recovery. Measurements were made at all six of the remaining wells within the modified network (i.e., wells MW-17, MW-22, MW-31, MW-32, MW-34, and P-8). Each well was uncapped and allowed to stand for a minimum of 15 minutes (for equilibrium) and then gauged using an electronic water level indicator. Measurements were made to the nearest 0.01-foot with the results recorded in the field notebook. The depth to groundwater measurements are presented in Table 1, and were used to calculate groundwater elevations for each well. Historical groundwater elevations dating back to 2004 are included in Table 2 for comparison.

3.2 GROUNDWATER ELEVATION RESULTS

Groundwater elevations in the six wells measured in April ranged from a low of 1,045.56 feet amsl at well MW-34 to a high of 1,045.99 feet amsl at well P-8 (Sheet 3; Table 1). The elevations were notably higher (an average of about 2.2 feet) than those measured in the wells during the previous site-wide gauging event in August 2017, but are within the typical range of elevations previously determined for these wells (Table 2). These findings are also consistent with the historical seasonal trends (as detailed in previous reports) where elevations are relatively high in the winter and spring with generally lower elevations in the summer and early fall.

The six remaining wells are in a transect roughly parallel to the PRB (i.e. perpendicular to the historical [westerly] groundwater flow direction). The well positions, while good for monitoring the water quality in the areas of interest, do not lend themselves to calculating the hydraulic gradient or generating a meaningful groundwater elevation contour map. No site gradient was calculated or elevation contour map prepared for this report.

3.3 PERFORMANCE MONITORING PROCEDURES

WSP collected groundwater quality samples from monitoring wells P-8, MW-17, and MW-31 to assess the performance of the P-8 supplemental treatment (Sheet 3). The groundwater was collected using PDB samplers obtained from ALS Environmental, an analytical laboratory in Hopewell Junction, New York, and deployed at the end of the previous sampling event. The PDBs were placed in the wells (and later sampled) in accordance with the methods outlined in a letter to the NYSDEC from WSP, dated November 16, 2006; the *User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to*

⁴ Samples for monitored natural attenuation, compounds-specific isotope analyses, and microbial ecology were not collected from well P-8 due to an oversight. These parameters will be collected as part of the 2019 sampling event.

Obtain Volatile Organic Compound Concentrations in Wells (Vroblesky 2001); and in accordance with WSP's SOP 11 (Appendix B).

The PDB samplers used at the site consisted of 24-inch long, 1.25-inch diameter, heat-sealed, low density polyethylene (LDPE) permeable membranes pre-filled with 220 milliliters of laboratory-grade analyte-free, de-ionized water. Each sampler was suspended in the well using dedicated Teflon[®]-coated steel suspension lines fitted with stainless-steel weights. The suspension lines were secured to the well caps with each sampler centered at the midpoint of the screened interval (to allow equilibration with the surrounding formation water). Upon retrieval, each sampler was sliced open at one end using decontaminated field scissors and the contents poured into the appropriate laboratory-supplied, pre-cleaned sample vials. The sampling included the collection of a blind duplicate and matrix-spike/matrix-spike duplicate samples for quality assurance/quality control (QA/QC) purposes, in accordance with WSP's SOP 4 (Appendix B).

The recovered samples were labeled, packed on ice, and shipped by overnight carrier to SGS Laboratories in Dayton, New Jersey, for analysis of VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. All samples were maintained and shipped in accordance with WSP's SOP 3 (Appendix B). Laboratory results for the VOC groundwater data are included in Appendix C. The data validation report is presented in Appendix D.

Investigation-derived wastes generated during the sampling activities (i.e., decontamination water, disposable gloves and LDPE membranes) were contained in DOT-compliant 55-gallon steel drums. The drums were labeled and staged onsite for later disposal in accordance with state and federal regulations.

4 ANALYTICAL RESULTS FOR SITE-RELATED COMPOUNDS

The results of the annual groundwater samples collected in April 2018 included two site-related CVOCs, *cis*-1,2-DCE (13.4 to 98.4 µg/l), and vinyl chloride (75.1 µg/l), at concentrations above their respective evaluation criteria⁵ (Table 3). The highest concentrations of the CVOCs were detected in the samples collected from monitoring well P-8, which contained both *cis*-1,2-DCE (98.3 to 98.4 µg/l) and vinyl chloride (75.0 to 75.1 µg/l), as well as trace concentrations of *trans*-1,2-DCE and TCE at levels below the evaluation criteria. The samples from the two remaining wells, MW-17 and MW-31, contained *cis*-1,2-DCE (25.5 and 13.4 µg/l, respectively) at concentrations above the evaluation criteria, although at levels lower than those in the sample from well P-8. No vinyl chloride or other site-related CVOCs were detected in samples from these two wells at concentrations above the evaluation criteria.

4.1 DISCUSSION

The results are generally comparable with previous data. Concentrations of CVOCs are relatively high in the samples from monitoring well P-8 (i.e., inside the treatment area), as anticipated, although the results show substantial changes in the amount of the individual CVOCs and the total concentrations are lower than previous findings (Table 4). The significance of the current P-8 results in the context of the overall treatment performance is presented in detail in Section 4.1.1 below. The detection of relatively low levels of *cis*-1,2-DCE in the samples from the two additional wells in the monitoring program is notable, but for different reasons.

The samples collected from monitoring well MW-17 (directly adjacent to P-8) exhibited an increase in *cis*-1,2-DCE, as compared to the 2017 results (Tables 3 and 4). This finding is similar to temporary increases noted in samples from the well after the 2014 SRS-Z[®] injections (this well was included in the original P-8 triannual performance monitoring program). Post-treatment samples collected from this well in the months following the 2014 treatment, for example, exhibited increases in the dissolved CVOCs *cis*-1,2-DCE and vinyl chloride. The increases were interpreted to be affected groundwater from the adjacent P-8 treatment area that was displaced as part of the injections. Geochemical and other data collected concurrent with those historical increases indicated that the conditions within the well remained suitable for reductive dechlorination (a residual condition resulting from the 2009 SRAP) and, as anticipated, the CVOCs were subsequently reduced to concentrations below the evaluation criteria. WSP has concluded that the current detection of the relatively low concentration of *cis*-1,2-DCE, which is not accompanied by substantial amounts of any of the other site-related CVOCs, is transient (possibly due to the high water stand in the nearby treatment area) and likely to be mineralized under the reducing conditions previously noted near well MW-17.

Monitoring well MW-31 is located near the southern end of the PRB outside of the expected radius of influence around the P-8 treatment area (i.e., these results are not directly associated with the P-8 treatment). The *cis*-1,2-DCE contained in samples from this well are consistent with the data from the past twelve years of sampling, although the concentration of 13.4 µg/l is substantially lower than the typical (about 30 to 120 µg/l) and approaching the historical low for the well (Table 4). WSP has concluded that this decrease is likely due to the ongoing dechlorination occurring in the water-bearing zone near this well resulting from the earlier 2009 SRAP rather than the current P-8 treatment.

⁵ New York State Ambient Water Quality Standards or Guidance for Class GA water provided in the New York State Department of Environmental Conservation Division of Water, Technical, and Operation Guidance Series (1.1.1), dated June 1998, and in the April 2000 Addendum.

4.1.1 P-8 SUPPLEMENTAL TREATMENT PERFORMANCE

The sampling results from well P-8, when viewed over time, demonstrate that the 2014 supplemental treatment is working as anticipated. This is best illustrated by viewing the current data in the context of the historical results for the well, as presented in Figures 2A and 2B. Figure 2A graphically depicts the concentrations of TCE, *cis*-1,2-DCE, and vinyl chloride in samples from well P-8 extending from June 2004 through the current monitoring period. The figure includes the water elevations and, using vertical lines to indicate the timing, the 3DME injections as part of the 2009 SRAP and the P-8 specific SRS-Z[®] injections in 2014. The portion of the figure before 2014 displays the persistence of TCE and *cis*-1,2-DCE (and its relationship to the water levels) even after the 2009 SRAP treatment. The recalcitrance of these compounds, which is detailed in previous reports, led to the investigation and eventual SRS-Z[®] treatment in 2014.

The results of the 2014 treatment are visible on both Figure 2A and, more clearly, on Figure 2B, which is an enlarged view of the concentrations plots for well P-8 (i.e., from just before the 2014 treatment to the current reporting period). The figure shows the concentrations of TCE and *cis*-1,2-DCE in samples from well P-8 decreased significantly immediately following the May 2014 SRS-Z[®] injections, as anticipated. While there was rebound in the levels of these two compounds observed in March 2015 (expected due to the seasonal water table fluctuation mobilizing previously sorbed CVOCs), the overall concentration trend has since been downward (Table 4). The TCE concentrations, for example, decreased from the pre-treatment level of 380 µg/l to trace levels below the evaluation criteria in April 2017 where it has remained. The *cis*-1,2-DCE levels, which are relatively high and more variable than the TCE, nevertheless follows the same overall trend decreasing from a post-treatment high of 1,810 µg/l in March 2015 to the current concentration of 98.4 µg/l. There was a corresponding increase in the detections of vinyl chloride over the same period, which may have been indicative of sequential dechlorination occurring within the system. The compound was detected at a high of 369 µg/l in December 2015 before declining to the current concentration of 75.1 µg/l.

The 2018 P-8 sampling data does not include results for dissolved gasses, microbial ecology, or CSIA. These data would have provided more insight into the mechanisms of the CVOC decline and definitive evidence of that the CVOCs are being sequentially degraded. Nonetheless, the VOC data alone provide strong evidence that the overall treatment goal of CVOC mass destruction is occurring. The CVOC concentrations appear to be in an overall decline since 2015 and have consistently decreased over the last five sampling events, despite the water level changes (i.e., the CVOC concentrations at P-8 no longer appear to be vary with the water level as they did before and for a time after the treatment). These data indicate that the SRS-Z[®] is treating the CVOCs as they are remobilized from the smear zone during high water stands. This remobilization initially caused an increase in the CVOC concentrations, which were subsequently degraded over time.

4.2 ANALYTICAL RESULTS FOR PETROLEUM-RELATED COMPOUNDS

No petroleum related VOCs were detected above the evaluation criteria in any of the samples. The petroleum-related compounds previously detected at the site are residual concentrations associated with the historical fuel oil release at the site and do not represent a widespread area of petroleum-affected groundwater.

5 CONCLUSIONS AND ADJUSTMENTS TO SAMPLING PROGRAM

The results of the April 2018 sampling event demonstrate that the P-8 supplemental treatment is having the intended effect on the recalcitrant CVOCs. Samples collected from well P-8 in the center of the treatment area exhibited substantive decreases in the dissolved CVOC concentrations continuing a downward trend observed during the last five sampling events. Equally important is the apparent decoupling of the seasonal groundwater high stands and the CVOC concentrations within samples from P-8. The post-high groundwater stand increases in CVOC concentrations noted before and in the year after the treatment (i.e., the rebound evident in December 2014 and March 2015; Table 4; Figures 2A and 2B) have decreased in amplitude and appear, with the last few sampling events, to have little (outside of the transient *cis*-1,2-DCE detected in samples from nearby well MW-17) or no effect on the CVOC concentrations. WSP has concluded, based on these findings, that SRS-Z[®] amendment used in the P-8 treatment is treating the CVOCs as they are remobilized from the capillary fringe during high water stands and providing long-term *in-situ* treatment of CVOCs in groundwater.

5.1 ADJUSTMENTS TO THE SAMPLING PROGRAM

WSP intends to sample the three wells (MW-17, MW-31, and P-8) in the modified P-8 area performance program in April 2019. The sampling will use PDBs for VOC analysis and follow the same procedures, except for monitoring well P-8. This well will be sampled using low flow techniques, rather than PDBs, and analyzed for those parameters detailed in the earlier triannual sampling events. Specifically, WSP will collect samples from well P-8 for analysis of VOCs by EPA Method 8260; the MNA indicators including dissolved gasses ethene, ethane, and methane by EPA Method AM20GAX; dissolved organic carbon by EPA Method number 9060; and CSIA by method number AM-24-DL-C. The quantitative polymerase chain reaction samples will be analyzed for the microbes *dehalobacter spp.* and *dehalococcoides spp.*; the dechlorination enzymes, tceA reductase, bvcA reductase, and vcrA reductase; methanogens, and total eubacteria. WSP believes these samples will provide further insight into the mechanisms of dechlorination and verify (via the CSIA) that the CVOCs are being reduced by the action of the amendment.

No other changes or adjustments to the sampling program are recommended.

ACRONYMS

µg/l	micrograms per liter
1,2-DCE	1,2-dichloroethene
3DME	3-D MicroEmulsion®
ALS	ALS Environmental
amsl	above mean sea level
bgs	below ground surface
CSIA	carbon stable isotope ratios
CVOCs	Chlorinated volatile organic compounds
DHB	<i>Dehalobacter spp.</i>
DHC	<i>Dehalococcoides spp.</i>
DO	dissolved oxygen
DOC	dissolved organic
EPA	Environmental Protection Agency
ft ²	square feet
GIC	General Instrument Corporation
LDPE	low density polyethylene
mg/l	milligrams per liter
MIP	Membrane Interface Probe
MNA	monitored natural attenuation
NTU	nephelometric turbidity unit
NYSDEC	New York State Department of Environmental Conservation
DL&W	Delaware Lackawanna & Western Railroad
ORP	oxidation-reduction potential
PCE	tetrachloroethene
PDB	passive diffusion bag

PRB	permeable reactive barrier
QA/QC	quality assurance/quality control
Redox	reduction-oxidation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
S&W	Stearns & Wheeler, LLC
SOPs	standard operating procedures
SRAP	Supplemental Remedial Action Plan
TCE	trichloroethene
VGSI	Vishay GSI, Inc.
VOCs	volatile organic compounds
ZVI	zero-valent iron

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FIGURES

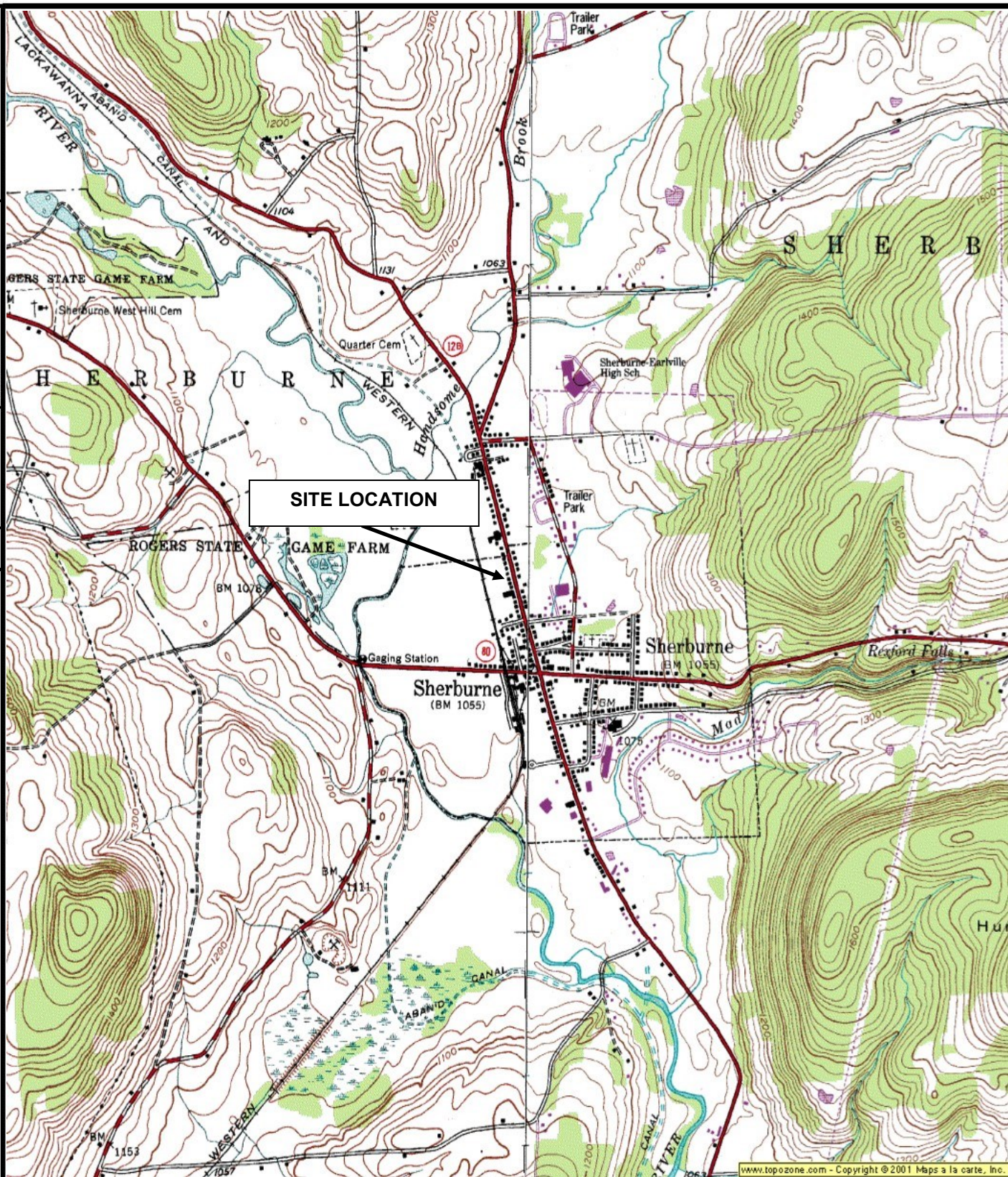


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Proj # 31401203

Checked:
Approved:

Drawn By:
RJD 3/23/18

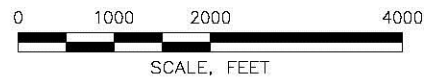
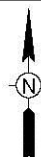
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QUADRANGLE LOCATION



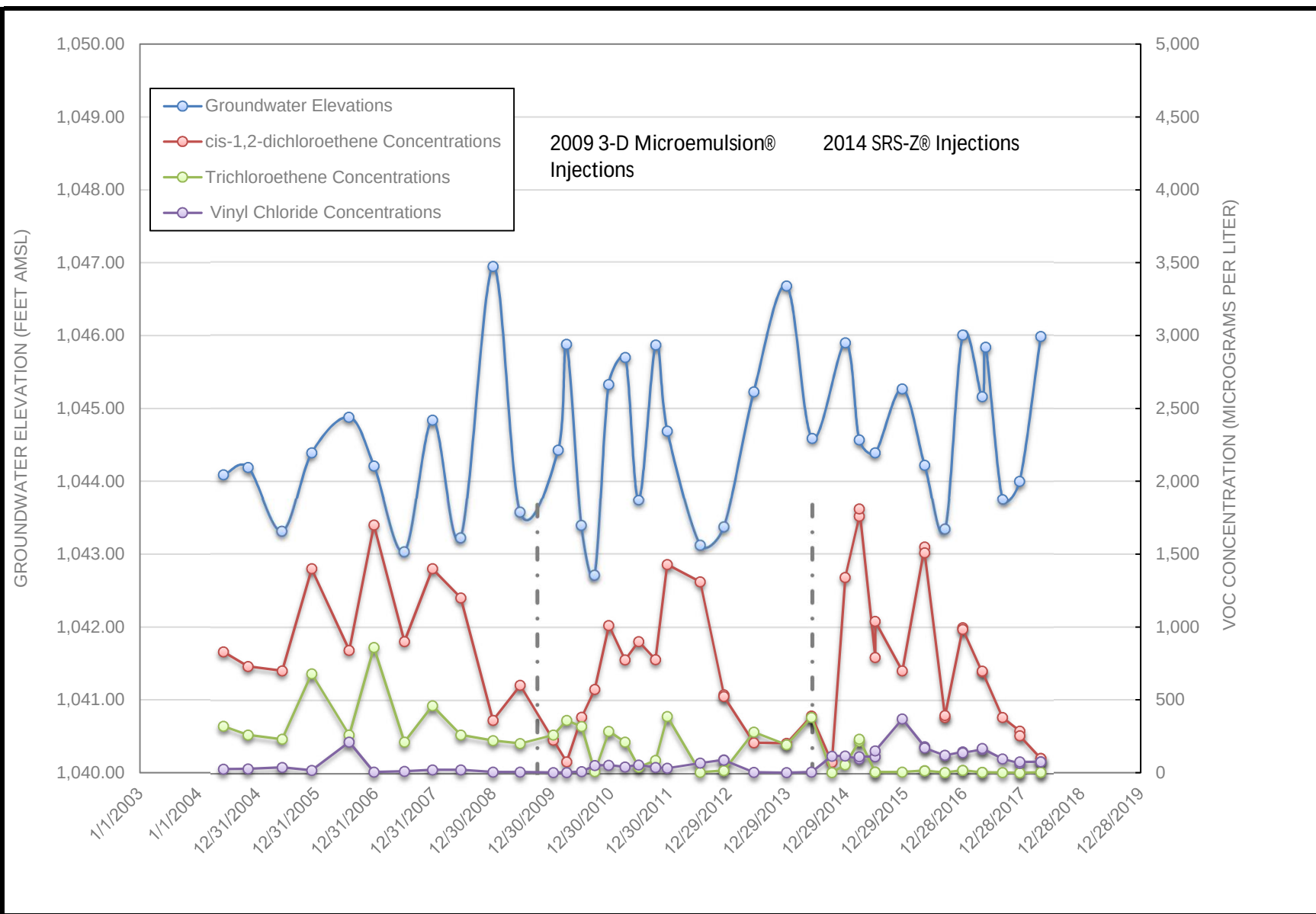
SCALE, FEET



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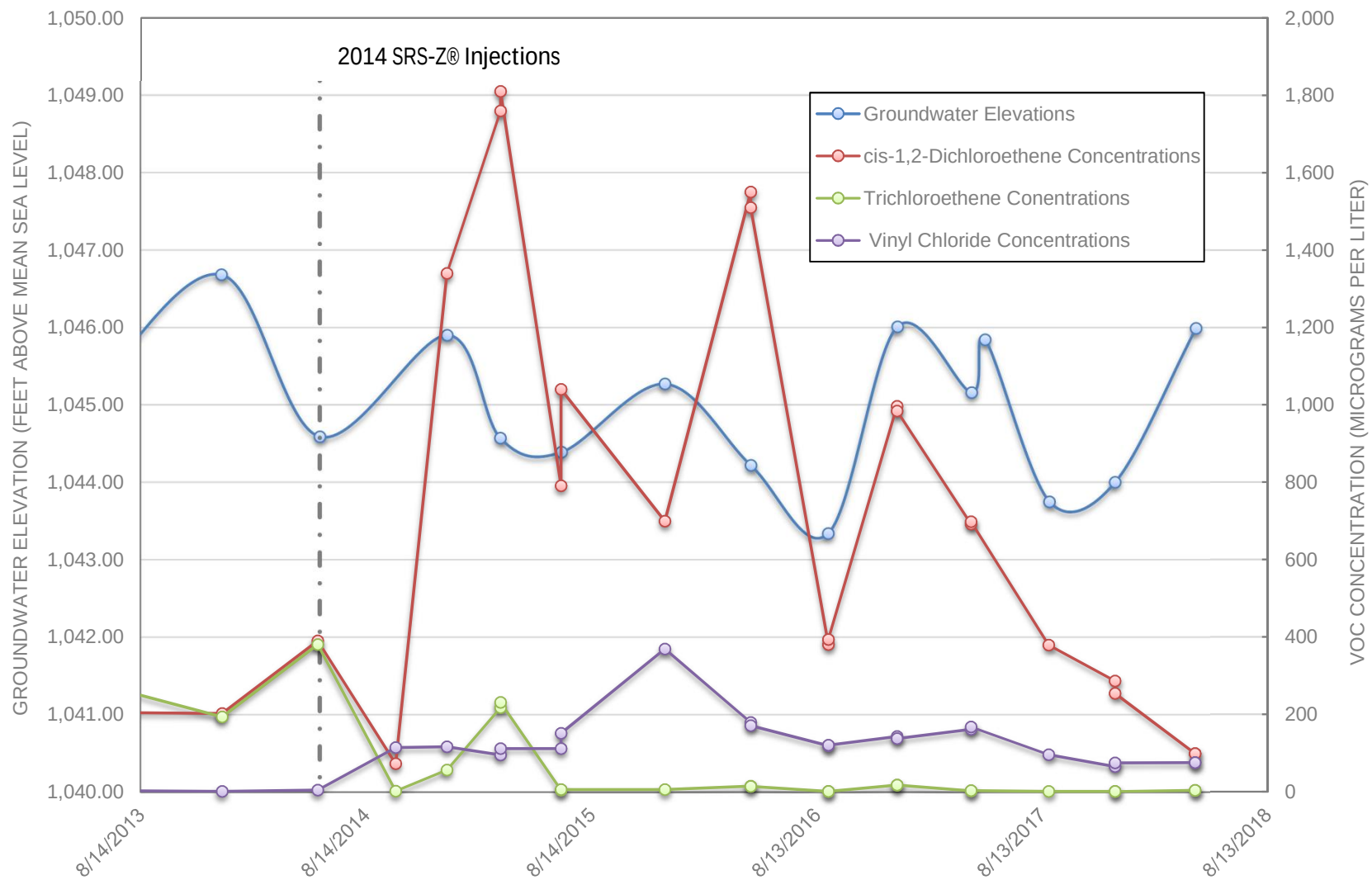
FIGURE 1
SITE LOCATION

FORMER GENERAL INSTRUMENT
CORPORATION SITE
SHERBURNE, NEW YORK
PREPARED FOR
LADDEY CLARK & RYAN, LLP
SPARTA TOWNSHIP, NEW JERSEY



WSP USA Inc.
 75 ARLINGTON STREET, 4TH FLOOR
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Figure 2A
Groundwater Elevation and Select CVOC Concentration Trends for
Monitoring Well P-8 (2004 to 2018)
Former General Instrument Corporation Site
Sherburne, New York



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Figure 2B
Groundwater Elevation and Select CVOC Concentration
Trends for Monitoring Well P-8 (2013 to 2018)
Former General Instruments Corporation Site
Sherburne, New York

SHEETS



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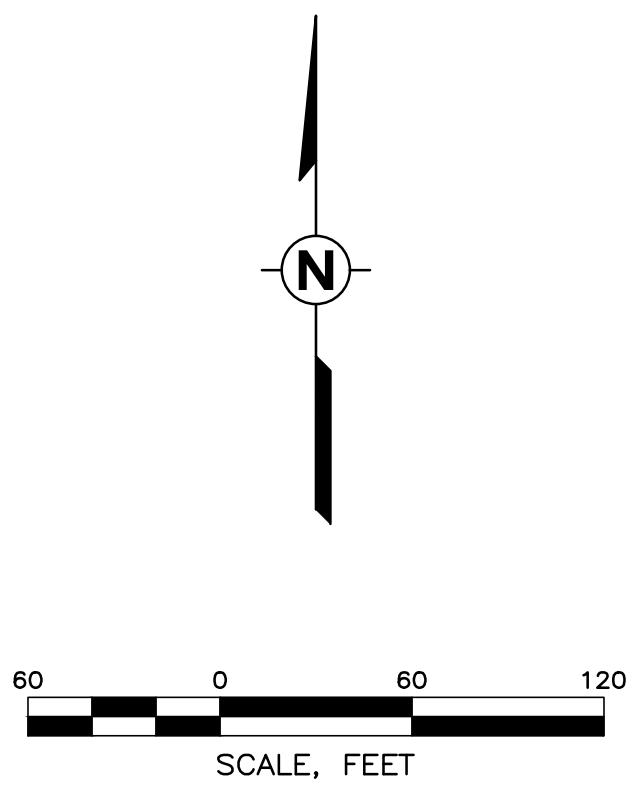
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LEGEND

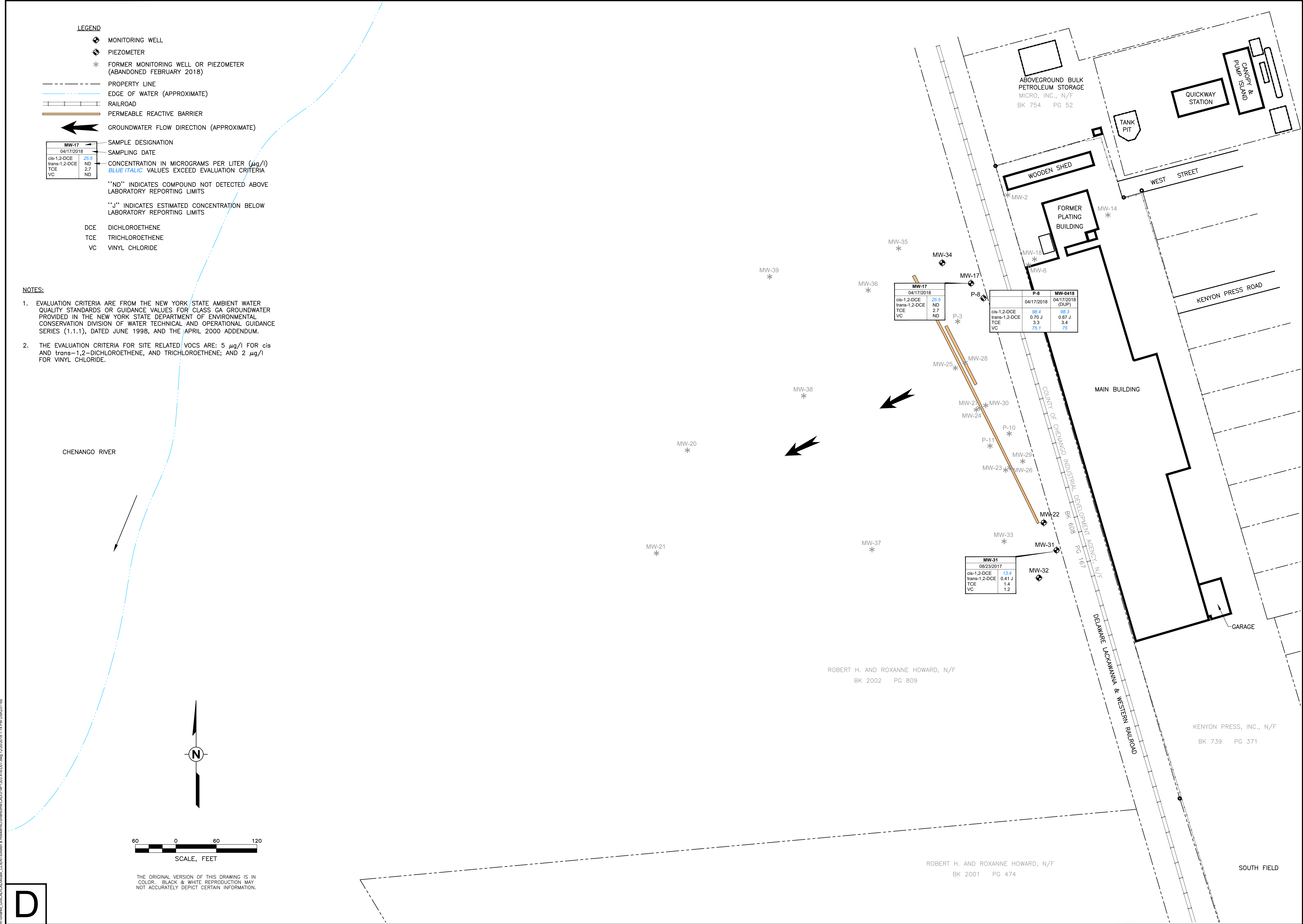
- MONITORING WELL
PIEZOMETER
FORMER MONITORING WELL OR PIEZOMETER (ABANDONED FEBRUARY 2018)
PROPERTY LINE
EDGE OF WATER (APPROXIMATE)
RAILROAD
PERMEABLE REACTIVE BARRIER
GROUNDWATER FLOW DIRECTION (APPROXIMATE)
- SAMPLE DESIGNATION
SAMPLING DATE
CONCENTRATION IN MICROGRAMS PER LITER ($\mu\text{g/l}$)
BLUE ITALIC VALUES EXCEED EVALUATION CRITERIA
- "ND" INDICATES COMPOUND NOT DETECTED ABOVE LABORATORY REPORTING LIMITS
"J" INDICATES ESTIMATED CONCENTRATION BELOW LABORATORY REPORTING LIMITS
- DCE DICHLOROETHENE
TCE TRICHLOROETHENE
VC VINYL CHLORIDE

NOTES:

1. EVALUATION CRITERIA ARE FROM THE NEW YORK STATE AMBIENT WATER QUALITY STANDARDS OR GUIDANCE VALUES FOR CLASS GA GROUNDWATER PROVIDED IN THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (1.1.1), DATED JUNE 1998, AND THE APRIL 2000 ADDENDUM.
2. THE EVALUATION CRITERIA FOR SITE RELATED VOCs ARE: 5 $\mu\text{g/l}$ FOR cis AND trans-1,2-DICHLOROETHENE, AND TRICHLOROETHENE; AND 2 $\mu\text{g/l}$ FOR VINYL CHLORIDE.



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REVISIONS		DESCRIPTION
REV	DATE	DESCRIPTION
1	04/17/2018	Initial
2	04/17/2018	Revised
3	04/17/2018	Revised
4	04/17/2018	Revised

SEAL	DRAWN BY	CHECKED	APPROVED
RA 12/20/18	RA 12/20/18	RA 12/20/18	RA 12/20/18

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PERFORMANCE MONITORING RESULTS
SITE-RELATED CHLORINATED VOCs (APRIL 2018)
FORMER GENERAL INSTRUMENT CORP. SITE
SHERBURNE, NEW YORK
PREPARED FOR
ASKIN & HOOKER, LLC
SPARTA, NEW JERSEY

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SHEET 3
Drawing Number
314P1203.418-D07

TABLES



Table 1

**Water Level Measurements
Former General Instrument Corporation Site
Sherburne, New York (a)**

Well ID	Ground Elevation (AMSL)	Reference Elevation (AMSL)	April 17, 2018		
			Depth To Water (ft)	Groundwater Elevation (AMSL)	Depth Below Ground Surface (ft)
MW-17	1,047.85	1,050.74	4.85	1,045.89	1.96
MW-22	1,048.09	1,051.24	5.39	1,045.85	2.24
MW-31	1,048.40	1,050.54	4.61	1,045.93	2.47
MW-32	1,047.42	1,048.92	3.08	1,045.84	1.58
MW-34	1,046.39	1,048.38	2.82	1,045.56	0.83
P-8	1,048.81	1,051.32	5.33	1,045.99	2.82

a/ All measurements in feet (ft); elevations are feet above Mean Sea Level (AMSL).

Table 2

Historical Groundwater Elevation Measurements - 2004 to Present
Former General Instrument Corporation Site
Sherburne, New York (a)

Well ID	<u>MW-2</u>	<u>MW-8</u>	<u>MW-14</u>	<u>MW-17</u>	<u>MW-18</u>	<u>MW-20</u>	<u>MW-21</u>	<u>MW-22</u>	<u>MW-23</u>	<u>MW-24</u>	<u>MW-25</u>	<u>MW-26</u>	<u>MW-27</u>	<u>MW-28</u>	<u>MW-29</u>	<u>MW-30</u>
Top of Casing Elevation	1050.07	1048.13	1049.67	1050.74	1047.84	1049.2	1049.97	1051.24	1050.84	1051.13	1051.16	1051.04	1051.07	1051.02	1049.37	1049.90
Date	(b)			(c)												
6/2/2004	1,044.09	1,044.26	-	1,044.07	1,044.15	1,043.34	1,043.13	1,044.13	1,043.75	1,043.72	1,043.76	1,043.75	1,043.73	1,044.06	1,044.23	1,044.16
11/2/2004	1,044.18	1,044.33	1,044.70	1,044.14	1,044.17	1,043.48	1,043.27	1,044.19	1,043.84	1,043.82	1,043.85	1,043.85	1,043.84	1,044.20	1,044.27	1,044.22
6/1/2005	1,043.30	1,043.38	1,043.91	1,043.28	1,043.31	1,042.47	1,042.27	1,043.40	1,042.96	1,042.89	1,042.96	1,042.96	1,042.96	1,043.29	1,043.48	1,043.40
12/1/2005	1,044.39	1,044.43	1,044.90	1,044.36	-	1,043.65	1,043.49	1,044.45	1,044.07	1,044.03	1,044.06	1,044.08	1,044.08	1,044.60	1,044.50	1,044.44
7/20/2006	1,044.89	1,044.95	1,045.37	1,044.85	1,044.96	1,044.19	1,044.09	1,044.88	1,044.60	1,044.54	1,044.58	1,044.60	1,044.66	1,044.86	1,044.97	1,044.94
12/22/2006	1,044.20	1,044.27	1,044.77	1,044.16	1,044.33	1,043.39	1,043.25	1,044.25	1,043.85	1,043.80	1,043.84	1,043.87	1,043.86	-	1,044.34	1,044.27
6/29/2007	1,043.02	1,043.10	1,043.54	1,043.02	1,043.16	1,042.25	1,041.99	1,043.09	1,042.65	1,042.61	1,042.67	1,042.67	1,042.68	1,043.05	1,043.18	1,043.11
12/20/2007	1,044.83	1,044.90	1,045.24	1,044.81	1,044.93	1,044.24	1,044.05	1,044.87	1,044.57	1,044.53	1,044.62	1,044.59	1,044.62	-	1,044.92	1,044.90
6/12/2008	1,043.21	1,043.28	1,043.70	1,043.18	1,043.34	1,042.44	1,042.17	1,043.31	1,042.86	1,042.78	1,042.85	1,042.86	1,042.86	-	1,043.39	1,043.30
12/29/2008	1,046.99	1,047.01	1,046.85	1,046.95	1,046.95	1,046.65	1,046.35	1,046.68	1,046.88	1,046.84	1,046.96	1,046.85	1,047.00	-	1,046.72	1,046.89
6/16/2009	1,043.54	1,043.64	1,044.27	1,043.53	1,043.68	1,042.77	1,042.56	1,043.66	1,043.22	1,043.14	1,043.22	1,043.22	1,043.22	-	1,043.74	1,043.66
2/6/2010	1,044.38	1,044.45	1,045.04	1,044.37	1,044.50	1,043.69	1,043.51	1,044.31	1,044.07	1,043.97	1,044.07	1,044.08	1,044.08	-	1,044.49	1,044.47
3/30/2010	1,045.83	1,045.86	1,046.32	1,045.94	1,045.90	1,045.35	1,045.17	1,045.79	1,045.80	1,045.55	1,045.67	1,045.78	1,045.86	-	1,045.91	1,045.91
6/30/2010	1,043.37	1,043.45	1,044.09	1,043.35	1,043.53	1,042.60	1,042.36	1,043.35	1,043.02	1,042.92	1,043.03	1,043.02	1,043.00	-	1,043.51	1,043.45
9/20/2010	1,042.69	1,042.75	1,043.34	1,042.69	1,042.81	1,042.00	1,041.78	1,042.67	1,042.39	1,042.30	1,042.39	1,042.40	1,042.39	-	1,042.83	1,042.78
12/16/2010	1,045.30	1,045.42	1,045.86	1,045.33	1,045.39	1,044.66	1,044.46	1,045.15	1,045.03	1,044.92	1,045.03	1,045.03	1,045.08	-	1,045.31	1,045.32
3/29/2011	1,045.69	1,045.72	1,046.07	1,045.76	1,045.67	1,045.22	1,044.98	1,045.54	1,045.49	1,045.38	1,045.49	1,045.50	1,045.59	-	1,045.70	1,045.72
6/20/2011	1,043.71	1,043.81	1,044.39	1,043.69	1,043.88	1,042.95	1,042.66	1,043.71	1,043.31	1,043.23	1,043.34	1,043.35	1,043.37	-	1,043.89	1,043.81
10/4/2011	1,045.83	1,045.90	NM	1,045.84	1,045.91	1,045.38	1,045.15	1,045.73	1,045.67	1,045.55	1,045.68	1,045.74	1,045.74	-	1,045.86	1,045.86
12/15/2011	1,044.69	1,044.82	1,045.29	1,044.68	1,044.81	1,044.08	1,043.79	1,044.64	1,044.39	1,044.27	1,044.38	1,044.39	1,044.36	-	1,044.83	1,044.76
7/6/2012	1,043.12	1,043.15	NM	1,043.08	1,043.27	1,042.37	1,042.05	1,043.10	1,042.76	1,042.63	1,042.76	1,042.75	1,042.84	-	1,043.26	1,043.20
11/29/2012	1,043.37	1,043.44	1,043.95	1,043.35	1,043.51	1,042.71	1,042.40	1,043.33	1,043.05	1,042.94	1,043.05	1,043.05	1,043.05	-	1,043.49	1,043.45
6/3/2013	1,045.19	1,045.29	1,045.53	1,044.21	1,045.33	1,044.47	1,044.24	1,045.11	1,044.99	1,044.85	1,044.98	1,045.01	1,045.03	-	1,045.27	1,045.27
12/23/2013	1,046.73	1,046.77	1,046.78	1,046.66	1,046.73	1,046.38	1,046.09	1,046.36	1,046.62	1,046.51	1,046.70	1,046.69	1,046.56	-	1,046.55	1,046.68
5/31/2014	1,044.32	1,044.41	NM	1,044.53	1,044.51	1,043.44	1,043.22	1,044.26	1,043.88	1,043.68	1,043.96	1,043.89	1,043.91	-	1,044.33	1,044.28
12/23/2014	1,044.91	1,045.07	1,045.44	1,044.85	1,045.01	1,044.21	1,044.02	1,044.91	1,044.72	1,044.52	1,044.74	1,044.70	1,044.73	-	1,045.06	1,045.42
3/19/2015	-	-	-	1,044.51	-	-	-	-	-	-	-	-	-	-	-	-
6/26/2015	1,044.36	1,044.46	1,044.84	1,044.30	1,044.50	1,043.46	1,043.30	1,044.33	1,043.96	1,043.75	1,043.97	1,043.97	1,043.96	-	1,044.48	1,044.42
12/10/2015	1,044.97	1,044.65	1,045.45	1,044.99	1,044.82	1,044.19	1,043.93	1,044.84	1,044.79	1,044.58	1,044.76	1,044.76	1,044.72	-	1,045.07	1,045.26
4/27/2016	1,044.19	1,044.31	1,045.13	1,044.12	1,044.33	1,043.29	1,043.12	1,044.15	1,043.81	1,043.59	1,043.81	1,043.81	1,043.80	-	1,044.31	1,044.26
8/30/2016	1,043.34	1,043.53	1,044.33	1,043.28	1,043.53	1,042.38	1,042.22	1,043.40	1,042.94	1,042.73	1,042.96	1,043.03	1,043.22	-	1,043.56	1,043.47
12/20/2016	1,045.97	1,046.15	1,046.54	1,045.99	1,046.06	1,044.35	1,045.24	1,045.89	1,045.85	1,044.62	1,045.82	1,045.91	1,045.95	-	1,045.65	1,045.68
4/19/2017	1,045.14	1,045.21	1,045.85	1,045.18	1,045.00	1,044.42	1,044.36	1,045.07	1,044.90	1,044.68	1,044.89	1,045.00	1,044.96	-	1,045.22	1,045.20
5/11/2017	1,045.83	1,045.90	-	1,045.90	1,045.91	1,045.21	1,045.10	1,045.68	1,045.63	1,045.39	1,045.63	1,045.67	1,045.72	-	1,045.81	1,045.85
8/23/2017	1,043.66	1,043.76	-	1,043.60	1,043.87	1,042.65	1,042.47	1,043.70	1,043.41	1,043.00	1,043.22	1,043.24	1,043.23	-	1,043.84	1,043.75
12/7/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/17/2018	-	-	-	1,045.89	-	-	-	1,045.85	-	-	-	-	-	-	-	-
Average Elevation	1,044.51	1,044.58	1,045.05	1,044.51	1,044.60	1,043.77	1,043.60	1,044.51	1,044.23	1,044.07	1,044.23	1,044.24	1,044.25	1,044.01	1,044.59	1,044.58

Table 2

Historical Groundwater Elevation Measurements - 2004 to Present
Former General Instrument Corporation Site
Sherburne, New York (a)

Well ID	MW-31	MW-32	MW-33	MW-34	MW-35	MW-36	MW-37	MW-38	MW-39	P-3	P-8	P-10	P-11
Top of Casing Elevation	1050.54	1048.92	1049.13	1048.38	1049.85	1048.06	1049.50	1049.61	1049.31	1050.25	1051.32	1049.64	1049.60
Date												(d)	
6/2/2004	-	-	-	-	-	-	-	-	-	1,044.09	1,044.09	1,044.22	1,043.75
11/2/2004	-	-	-	-	-	-	-	-	-	1,044.16	1,044.19	1,044.27	1,043.85
6/1/2005	-	-	-	-	-	-	-	-	-	1,043.30	1,043.31	1,043.47	1,042.96
12/1/2005	1,044.45	1,044.42	1,044.27	1,044.20	1,044.16	1,044.09	1,043.79	1,043.88	1,043.95	1,044.37	1,044.39	1,044.50	1,044.07
7/20/2006	1,044.89	1,044.87	1,044.66	1,044.62	1,044.67	1,044.51	1,044.36	1,044.44	1,044.34	1,044.88	1,044.88	1,044.96	1,044.61
12/22/2006	1,044.28	1,044.24	1,043.99	1,043.90	1,043.95	-	1,043.57	1,043.68	1,043.60	1,044.19	1,044.21	1,044.32	1,043.85
6/29/2007	1,043.12	1,043.10	1,042.83	1,042.70	1,042.77	1,042.53	1,042.35	1,042.49	1,042.35	1,043.01	1,043.03	1,043.15	1,042.66
12/20/2007	1,044.86	1,044.89	1,044.63	1,044.54	1,044.63	1,044.40	1,044.38	1,044.42	1,044.23	1,044.83	1,044.84	1,044.90	1,044.57
6/12/2008	1,043.34	1,043.02	1,043.03	1,042.84	1,042.97	1,042.60	1,042.54	1,042.67	1,042.46	1,043.21	1,043.22	1,043.36	1,042.85
12/29/2008	1,046.62	1,046.61	1,046.58	1,046.80	1,046.99	1,046.68	1,046.59	1,046.85	1,046.64	1,046.92	1,046.95	1,046.71	1,046.87
6/16/2009	1,043.69	1,043.64	1,043.38	1,043.17	1,043.31	1,042.74	1,042.92	1,043.04	1,042.66	1,043.57	1,043.57	1,043.71	1,043.22
2/6/2010	1,044.43	1,044.37	1,044.17	1,044.00	1,044.17	1,043.58	1,043.88	1,043.92	1,043.45	1,044.41	1,044.43	1,044.46	1,044.08
3/30/2010	1,045.86	1,045.92	1,045.81	1,045.60	1,045.76	1,045.20	1,046.03	1,045.55	1,045.04	1,045.85	1,045.88	1,045.88	1,045.70
6/30/2010	1,043.45	1,043.41	1,043.13	1,042.97	1,043.14	1,042.55	1,042.70	1,042.87	1,042.45	1,043.40	1,043.39	1,043.48	1,043.02
9/20/2010	1,042.79	1,042.75	1,042.48	1,042.34	1,042.49	1,041.91	1,042.12	1,042.25	1,041.83	1,042.72	1,042.71	1,042.80	1,042.40
12/16/2010	1,045.25	1,045.23	1,045.04	1,044.94	1,045.11	1,044.54	1,044.78	1,044.89	1,044.41	1,045.30	1,045.33	1,045.29	1,045.02
3/29/2011	1,045.64	1,045.62	1,045.46	1,045.36	1,045.52	1,044.94	1,045.27	1,045.34	1,044.77	1,045.69	1,045.70	1,045.67	1,045.47
6/20/2011	1,043.83	1,043.81	1,043.53	1,043.40	1,043.43	1,042.83	1,043.05	1,043.15	1,042.66	1,043.74	1,043.74	1,043.87	1,042.98
10/4/2011	1,045.82	1,045.82	1,045.65	1,045.53	1,045.71	1,045.14	-	1,045.51	-	1,045.86	1,045.87	1,045.83	1,045.66
12/15/2011	1,044.75	1,044.73	1,044.50	1,044.36	1,044.50	1,043.91	1,044.14	1,044.23	-	1,044.70	1,044.69	1,044.80	1,044.39
7/6/2012	1,043.19	1,043.19	1,042.93	1,042.73	1,042.87	1,042.21	1,042.43	1,042.57	-	1,043.12	1,043.12	1,043.24	1,042.75
11/29/2012	1,043.43	1,043.41	1,043.17	1,043.02	1,043.16	1,042.51	1,042.77	1,042.90	-	1,043.37	1,043.37	1,043.46	1,043.04
6/3/2013	1,045.21	1,045.18	1,045.03	1,044.68	1,044.85	1,044.17	1,044.75	1,044.64	-	1,045.20	1,045.23	1,045.24	1,044.98
12/23/2013	1,046.44	1,046.42	1,046.40	1,046.47	1,046.68	1,046.04	1,046.40	1,046.54	-	1,046.69	1,046.68	1,046.52	1,046.62
5/31/2014	1,044.33	1,044.14	1,043.98	1,043.86	1,044.07	1,043.10	1,043.54	1,043.79	-	1,044.37	1,044.59	1,044.26	1,043.88
12/23/2014	1,044.99	1,044.88	1,044.63	1,044.49	1,044.72	1,043.78	1,044.29	1,044.47	-	1,045.00	1,045.90	1,045.02	1,044.70
3/19/2015	-	-	-	-	-	-	-	-	-	-	1,044.57	-	-
6/26/2015	1,044.44	1,044.29	1,044.05	1,043.87	1,044.09	1,043.08	1,043.60	1,043.77	-	1,044.35	1,044.39	1,044.44	1,043.97
12/10/2015	1,045.06	1,044.92	1,044.48	1,044.36	1,044.75	1,043.75	1,044.30	1,044.49	-	1,045.04	1,045.27	1,045.13	1,044.82
4/27/2016	1,044.24	1,044.12	1,043.88	1,043.69	1,043.95	1,042.88	1,043.38	1,043.11	-	1,044.17	1,044.22	1,044.25	1,043.81
8/30/2016	1,043.50	1,043.58	1,043.10	1,042.83	1,043.08	1,042.01	1,042.54	1,042.76	-	1,043.34	1,043.34	1,043.49	1,042.93
12/20/2016	1,045.95	1,045.19	1,045.68	1,045.57	1,045.84	1,044.84	1,044.76	1,045.18	-	1,045.96	1,046.01	1,045.52	1,045.48
4/19/2017	1,045.16	1,045.06	1,044.86	1,044.66	1,044.95	1,043.90	1,044.57	1,044.76	-	1,045.14	1,045.16	1,045.16	1,044.89
5/11/2017	1,045.75	1,045.65	1,045.48	1,045.40	1,045.71	1,044.78	1,045.30	1,045.52	-	1,045.80	1,045.84	1,045.76	1,045.64
8/23/2017	1,043.81	1,043.66	1,043.39	1,043.11	1,043.38	1,042.23	1,042.80	1,043.09	-	1,043.65	1,043.75	1,043.79	1,043.24
12/7/2017	-	-	-	-	-	-	-	-	-	-	1,044.00	-	-
4/17/2018	1,045.93	1,045.84	-	1,045.56	-	-	-	-	-	-	1,045.99	-	-
Average Elevation	1,044.64	1,044.56	1,044.33	1,044.24	1,044.37	1,043.71	1,043.93	1,044.09	1,043.66	1,044.51	1,044.59	1,044.56	1,044.20

Table 2

Historical Groundwater Elevation Measurements - 2004 to Present
Former General Instrument Corporation Site
Sherburne, New York (a)

Notes:

- a/ All measurements are in feet above Mean Sea Level.
- b/ The well head at MW-8 was converted to a flush-mount pad on June 8, 2005. The original ground elevation before conversion was 1048.36 feet, and the original reference elevation was 1050.50.
- c/ Monitoring well MW-18 contained 0.11 feet of free-phase product in November 2004, 0.17 feet in June 2005, 0.05 feet in July 2006, an unmeasured thickness in December 2006, and 0.01 feet in June 2007. No measurable free-phase product was observed on December 20, 2007 or later.
- d/ The depth to water measurement and calculated groundwater elevation at P-8 in December 2014 are considered inaccurate due to the presence of SRS-Z® amendment in the well.
- e/ Abandoned in 2018

Table 3

**Annual Modified P-8 Performance Monitoring Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)**

Well ID:	Evaluation	MW-17	MW-31	P-8	
Sample ID:	Criteria	MW-17	MW-31	P-8	MW-0418
Date:	(b)	4/17/18	4/17/18	4/17/18	4/17/18 Blind Duplicate
VOCs (µg/l)					
Acetone	50	10.0 U	10 U	16.1	15.7
Benzene	1	0.5 U	0.5 U	0.26 J	0.25 J
<i>cis</i> -1,2-Dichloroethene	5	25.5	13.4	98.4	98.3
<i>trans</i> -1,2-Dichloroethene	5	1.0 U	0.41 J	0.7 J	0.67 J
Toluene	5	1.0 U	1.00 U	0.28 J	0.28 J
Trichloroethene	5	2.70	1.4	3.3	3.4
Vinyl chloride	2	1.0 U	1.2	75.1	75.0

a/ Concentrations highlighted in bold text and gray shading exceed evaluation criteria; ID = identification; VOCs = volatile organic compounds; µg/l = micrograms per liter; U = compound not detected at or above the reporting limit; UJ = the analyte was not detected above the laboratory reporting limit; J = estimated value below the laboratory reporting limit and above the method detection limit.

b/ Evaluation criteria are the New York State Ambient Water Quality Standards or Guidance Values for Class GA groundwater provided in the New York State Department of Environmental Conservation Division of Water Technical and Operational Guidance Series (1.1.1), dated June 1998, and the April 2000 Addendum.

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-2	06/02/04	60 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	3.9	1.6	1 U	0.24 J	0.76 J	1 U	1 U	1 U	1 U	1 U	1 U	2.8	1 U	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	3.2	1 U	3.6	1.9	1 U	1 U	0.40 J	1 U	9.8	1 U	1 U	1 U	1 U	0.58 J	1 U	3 U
DUP (e)	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	3.1	1 U	1.5	1 U	1 U	1 U	1 U	1 U	11	1 U	1 U	1 U	1 U	0.60 J	0.60 J	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1.5	1 U	3.2	1 U	U	1 U	1 U	1 U	3.2	1 U	1 U	1 U	1 U	1.5	1 U	3 U
	07/20/06	2.6 J	1 U	1 U	1 U	1 U	1 U	2.2	1 U	2.8	1.3	1 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1.2	1 U	3 U
	12/22/06	9.9 J	1 U	1 U	1 U	1 U	1 U	3 J	1 U	6.8 J	3.8 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 J	1 U	3 U
	06/29/07	26	1 U	1 U	1 U	1 U	1 U	5.4	1 U	3.1	1.9	1 U	1 U	1 U	1 U	0.57 J	1 U	1	1 U	1 U	1 U	0.72 J	1 U
	12/20/07	6.4 J	1 U	1 UJ	1 U	1 U	1 U	1.4	1 U	2.4	1 U	1 U	1 U	1 U	1 U	5.7	1 U	1 U	1 U	1 U	2.5	1 U	3 U
	06/11/08	5 U	1 U	1 U	1 U	1 U	1 U	2.4	1 U	2.9	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/29/08	21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.81 J	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	3.1	1 U	3 U
	12/29/08	21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.88 J	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	3.2	1 U	3 U
	06/16/09	4.5 J	1 U	1 U	1 U	1 U	1 U	2.4	1 U	3.4	0.58 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.5	1 U	2 U
DUP	06/16/09	4.5 J	1 U	1 U	1 U	1 U	1 U	2.4	1 U	3.3	0.59 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.9	1 U	2 U
DUP	01/07/10	10 UJ	1 UJ	3 U	1 U	1 U	10 U	1.2 J	1 U	1.9 J	1 UJ	1 UJ	1 UJ	10 U	1 UJ	1 U	2 U	1 UJ	1 UJ	1 UJ	6.9 J	1 U	3 UJ
	07/01/10	10.7	1 U	1 U	1 U	1 U	10 U	2.7	1 U	1.8	7.1	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	3.8	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4.4	1 U	3 U
	06/20/11	18.5	1 U	1 UR	1 U	1 U	10 UJ	1.8	1 U	3.1	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	5.4	1 U	3 U
	12/15/11	14.8	1 U	1 UJ	1 U	1 U	10 U	1.4	1 U	3.4	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	6.8	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	3	1 U	2.6	1	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.1	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	3.4	1 U	2.6	1.2	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.7	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	2.8	1 U	2	1 U	1 U	5 U	5 U	2 U	2.4	5 U	1 U	1 U	1 U	6.3	1 U	1 U
	06/04/13	6.9 J	0.50 U	2 U	2 U	2 U	5 U	1.4	1 U	1.8	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	8.6	1 U	1 U
	12/23/13	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1.6	1 U	2.7	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	5.7	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.67 J	1 U	2.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	5.6	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1.4	1 U	2.1	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	0.60 J	6.8	1 U	1 U
	06/25/15	10 UJ	0.50 U	2 UJ	2 UJ	2 U	5 U	1.1	1 U	2.1 J	1 U	1 U	5 U	5 U	2 U	1 UJ	NA	1 U	1 U	1 U	7.3	1 UJ	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	2.8	1 U	1.6	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1.4	7.2	1 UJ	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 UJ	2 UJ	5 U	1.3	1 U	2.7	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	0.79 J	11.1	1 UJ	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1.7	1 U	4.5	1.1	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	0.73 J	9.2	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-8	06/02/04	5 U	0.80 J	1 U	1 U	1 U	0.24 J	0.42 J	1 U	0.84 J	1 U	1 U	1 U	1 U	1 U	5.2	1 U	1 U	1 U	1 U	1.8	1 U	3 U
	11/02/04	5 U	0.44 J	1 U	1 U	1 U	1 U	0.52 J	1 U	0.80 J	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	2.6	1 U	3 U
	06/01/05	5 U	2.2	1 U	1 U	1 U	0.30 J	0.70 J	1 U	1.2	1 U	1 U	0.30 J	1 U	1 U	3	2.6	1 U	1 U	1 U	1	0.60 J	0.80 J
	12/01/05	5 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	0.92 J	1 U	1 U	1 U	1 U	1 U	1.8	0.53 J	1 U	1 U	1 U	1.9	1 U	3 U
	12/01/05	5 U	1.6	1 U	1 U	1 U	1 U	1 U	1 U	0.78 J	1 U	1 U	1 U	1 U	1 U	1.7	0.52 J	1 U	1 U	1 U	1.8	1 U	3 U
DUP	07/20/06	5 U	0.50 J	1 U	1 U	1 U	1 U	1 U	1 U	1.7	1 U	1 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U	1.6	1 U	3 U
	12/22/06	9.9	1 U	1 U	1 U	1 U	1 U	1.3	1 U	1.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.73 J	1 U	3 U
	06/29/07	14	2	1 U	1 U	1 U	1 U	1.5	1 U	2.2	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	0.51 J	1 U	3 U
	12/20/07	4.8 J	1 U	1 UJ	1 U	1 U	1 U	0.79 J	1 U	0.66 J	1 U	1 U	1 U	1 U	1 U	1 U	0.80 U	1 U	1 U	1 U	0.90 J	1 U	3 U
	12/20/07	4 J	1 U	1 UJ	1 U	1 U	1 U	0.80 J	1 U	0.69 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.84 J	1 U	3 U
DUP	06/12/08	3.6 J	5.2	1 U	1 U	1 U	1.3	0.84 J	1 U	1.1	1 U	1 U	1.2	0.72 J	1 U	1 U	3.2	1 U	1 U	1 U	1 U	1 U	3 U
	12/29/08	14	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.80 J	1 U	1 U	3 U
	06/16/09	3 J	1 U	1 U	1 U	1 U	1 U	3.2	1 U	4.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	0.85 J	2 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	3.1	1 U	4.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	0.57 J	2 U
	01/07/10	10 U	1 UJ	1 U	1 U	1 U	10 U	1.1 UJ	1 U	1 U	1 UJ	1 U	1 U	10 U	1 UJ	1 U	2 U	1 UJ	1 U	1 U	1 UJ	1 U	3 U
DUP	07/01/10	10 U	0.16	1 U	1 U	1 U	10 U	1 U	1 U	1.4	1 U	1 U	1 U	10 U	1 UJ	1 U	3.8	1 U	1 U	1 U	1 U	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	16.2	1 U	1 UR	1 U	1 U	10 UJ	1.3	1 U	3	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	1.3	1 U	3 U
	06/20/11	18.8 J	1 U	1 UR	1 U	1 U	10 UJ	1.2 J	1 U	3.4 J	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	1.1 J	1 U	3 U
	12/15/11	24.8	1 U	1 UJ	1 U	1 U	10 U	1	1 U	1.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1.4	1 U	3.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	3.2	1 U	6.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	2.4	1.1	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1.9	1 U	1.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U
	12/23/13	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1.1	1 U	1.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.49 J	1 U	1 U
	12/23/13	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1	1 U	1.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
DUP	05/27/04	10 U	0.50 U	2 U	2 U	2 U	5 U	0.85 J	1 U	3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	0.84 J	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.79 J	1 U	3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	0.90 J	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1.1	1 U	1.8	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.93 J	1 U	1 U
	06/25/15	10 UJ	0.50 U	2 UJ	2 UJ	2 U	5 U	1 U	1 U	2.2 J	1 U	1 U	5 U	5 U	2 U	1 UJ	NA	1 U	1 U	1 U	1 U	1 UJ	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.3 J	5 U	2	1 U	1.6	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1 U	0.88 J	1 UJ	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-14	07/21/06	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	NA	NA	7.1	1 U	NA	1 U	NA	NA	NA	3 U
MW-17	06/02/04	5 U	0.73 J	1 U	1 U	1 U	1 U	0.45 J	0.96 J	510 D	3.6	1 U	1 U	1 U	1 U	8.4	1 U	1 U	1 U	0.58 J	26	120 D	3 U
	11/02/04	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	420	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	26	98	60 U
	06/01/05	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	1,700 D	7.2 J	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 J	380	60 U
	12/01/05	20 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	400	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	15	61	12 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	0.58 J	1 U	140 D	1.1	1 U	1 U	1 U	1 U	2.2	1 U	1 U	1 U	0.62 J	18	36	3 U
	12/22/06	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	110	1 U	1 U	1 U	1 U	1.6 J	1 U	1 U	1 U	1 U	1 U	6	6.4	3 U
	06/29/07	14	1.1	1 U	1 U	1 U	1 U	3.6	1 U	4,500 D	11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.8	620 D	3 U
	12/20/07	6.2 J	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U	140	2 U	2 U	2 U	2 U	1.7 U	2 U	2 U	2 U	2 U	2 U	12	2 U	6 U
	06/12/08	100 U	20 U	20 U	20 U	20 U	20 U	20 U	100 U	1,700	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	12 J	160	60 U
	12/29/08	23	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	160	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	17	19	6 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1.1	1 U	0.87 J	1,000 D	3.8	1 U	1 U	5	1 U	1 U	0.62 J	1 U	1 U	1 U	9.8	120 D	2 U
	01/07/10	13.5	1 U	3 U	1 U	1 U	10 U	1 U	1 U	216	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	44.4	3 U
	03/31/10	12.8	1 U	7.6	1 U	1 U	10 U	1 U	1 U	86.2	1	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4.9	21.2	3 U
	07/01/10	31	1 U	1 U	1 U	1 U	10 U	1 U	1 U	4.8	7.4	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	9	3 U
	09/21/10	43.4	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	2.1	3 U
	12/16/10	13.3	1 U	1 U	1 U	1 U	10 U	1 U	1 U	17.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1.9	1 U	1.7	3.3	3 U
	03/28/11	16.3	1 U	1 U	1 U	1 U	10 U	1 U	1 U	6.7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	06/20/11	15.6 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	3.7 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	2.3 J	1 U	1 U	1 U	3 U
	10/03/11	12.5	1 U	1 U	1 U	1 U	10 U	1 U	1 U	6.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.1	1.1	3 U
	12/15/11	13	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	21	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.5	3.1	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.9	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	5.1 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1	1 U
	DUP 11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	0.98 J	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.83 J	1	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	9.8	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.9	2	1 U
	09/30/14	3 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.1	0.86 J	1 U	5 U	5 U	2 U	1 U	5 U	1 U	3.5	1 U	1 U	0.63 J	1 U
	DUP 09/30/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.1	0.84 J	1 U	5 U	5 U	2 U	1 U	5 U	1 U	3.4	1 U	1 U	0.68 J	1 U
	12/22/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	306	1.7	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	35.4	16.9	1 U
	03/19/15	10 UJ	0.50 U	2 UJ	2 U	2 UJ	5 U	1 U	1 UJ	5.4	0.67 J	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.38 J	3.2	1 U
	06/25/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	56.4	5.4 J	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	2	17.7	1 U
	DUP 06/25/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	61.8	6.7 J	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	2.3	20.6	1 U
	12/10/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.6	1 U
	04/27/16	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	15.8	1 U	1 U	5 U	5 UJ	2 U	1 U	5 U	1 U	1 U	1 U	1.4 J	1.8	1 U
	08/31/16	10.5 UJ	0.50 U	2 U	2 UJ	2 UJ	5 U	1 U	1 U	2.7	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1	1 U
	12/20/16	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	1.4	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	2.8	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.94 J	1 U	1 U
	DUP 08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	3.1	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.92 J	1 U	1 U
	04/17/18	10.0 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	25.5	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2.7	1.0 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-18 (d)	07/21/06	4 J	0.52 J	1 U	1 U	0.54 J	0.65 J	2.6	1 U	1.3	1.2	1.2	0.62 J	1.1	1 U	5.4	2	1 U	2	1 U	1.1	1.9	4.2
	12/22/06	12	1.8	1 U	4.7	1 U	1.2	6.2	1 U	1 U	1.2	5.8	0.90 J	1.6	1 U	1 U	12	1 U	12	1 U	1 U	10	18
	06/29/07	20	0.89 J	1 U	0.91 J	1 U	1.3	3.3	1 U	1 U	1.2	1.3	0.81 J	1.8	1 U	5	4.2 B	1 U	0.76 J	1 U	1 U	1 U	4.5
	12/20/07	4.2 J	2.9	1 UJ	1 U	5.4	2.4	8.4	1 U	1 U	1	6.6	1.5	2.5	1 U	0.56 J	3.6 B	1 U	9.6	1 U	1 U	30	18
	06/11/08	5 U	1.3	1 U	1 U	1.8	1.7	4.8	1 U	1 U	0.94 J	1.4	0.77 J	2	1 U	2.3	2.4	1 U	0.95 J	1 U	1 U	1 U	5.1
	12/29/08	19	0.79 J	1 U	1.2	1 U	1.2	3.5	1 U	1 U	1 U	0.84 J	1 U	1.4	1 U	1 U	1 U	1 U	2	1 U	1 U	47	1.6 J
	06/16/09	4.5 J	1.8	1 U	1 U	7.1	1.4	6.2	1 U	1 U	0.78 J	1 U	0.58 J	1.6	1 U	1 U	1 U	1 U	2.5	1 U	1 U	1.1	1.2 J
	01/07/10	10 U	1.9	3.2 U	1 U	1 U	10 U	6.3	1 U	1 U	1 UJ	1.8	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	46.1	3 U
	07/01/10	10 U	1.7	1 U	1 U	1 U	10 U	6.6	1 U	1 U	6.8	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	7.4	3 U
	12/17/10	10 U	1.8	1 U	3.6	1 U	10 U	6.6	1 U	1 U	1 U	1.2	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	16.4	3 U
	06/20/11	16.8 J	1.2 J	1 UR	2.8 J	1 U	10 UJ	4.7 J	1 U	1 U	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	2.9 J	1 U	1 U	1 U	3 U
	12/15/11	17.8	1.7	1 UJ	3.6	1 U	10 U	5.8	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	3.8	3 U
	DUP 12/15/11	18.4	1.7	1 UJ	4	1 U	10 U	6.4	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	4.4	3 U
	07/06/12	10 U	1.6	1 U	3	1 U	10 U	3.7	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	DUP 07/06/12	10 U	1.4	1 U	3.7	1 U	10 U	3.8	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	11.1 U	1.4	2 U	3.1	2 U	1.4 J	4.7	1 U	1 U	1 U	1 U	5 U	1.2 J	2 U	1 U	5 U	1 U	1 U	1 U	1 U	2	1 U
	06/03/13	10 U	1.3	2 U	2.1	2 U	5 U	3.3	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 UJ	0.50 U	2 U	0.97 J	2 U	5 U	1.5	1 U	1 U	1 U	1 U	5 U	0.93 J	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 UJ	0.92	2 U	2.2	2 U	5 U	2.4	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	1.3	2 U	2.9	2 U	1.6 J	2.5	1 U	1 U	1 U	1 U	5 U	1.5 J	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	DUP 12/23/14	10 U	1.4	2 U	3.3	2 U	2.1 J	2.7	1 U	1 U	1 U	0.38 J	5 U	1.6 J	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/25/15	10 UJ	1.2	2 UJ	2.4 J	2 U	5 U	2.2	1 U	1 UJ	1 U	1 U	5 U	5 U	2 U	1 UJ	NA	1 U	1 U	1 U	1 U	1 UJ	1 U
	12/10/15	10 UJ	1.4	2 U	4.4	1.1 J	1.2 J	2.8	1 U	1 U	1 U	0.44 J	5 U	1.5 J	2 U	1 U	10 U	1 U	1 U	1 U	1 U	1 UJ	1 U
DUP	12/10/15	10 UJ	1.4	2 U	4.6	1.4 J	1.1 J	2.9	1 U	1 U	1 U	0.43 J	5 U	1.5 J	2 U	1 U	10 U	1 U	1 U	1 U	1 U	1 UJ	0.25 J

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-20	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	2.9	1 U	7.5	0.38 J	1 U	1 U	1 U	1 U	1.9	1 U	1 U	1 U	2	3.3	1.6	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	3.3	1 U	6.9	0.46 J	1 U	1 U	1 U	1 U	9.8	1 U	1 U	1 U	1.8	4.2	1.8	3 U
DUP	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	3.2	1 U	6.9	0.45 J	1 U	1 U	1 U	1 U	9.5	1 U	1 U	1 U	1.9	4.5	1.8	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	2.7	1 U	8.4	0.40 J	1 U	1 U	1 U	1 U	5.6	1 U	1 U	1 U	2.7	6.9	2.4	3 U
DUP	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1.7	1 U	5.2	1 U	1 U	1 U	1 U	1 U	8.5	1 U	1 U	1 U	2.4	6.4	0.47 J	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	5.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	8.7	0.66 J	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1.7	1 U	8.5	1 U	1 U	1 U	1 U	1 U	0.99 J	1 U	1 U	1 U	4.2	13	1 U	3 U
	12/22/06	11	1 U	1 U	1 U	1 U	1 U	1.7	1 U	8.2	1 U	1 U	1 U	1 U	1 U	0.93 J	1 U	1 U	1 U	3.8	12	1 U	3 U
	06/29/07	17	1 U	1 U	1 U	1 U	1 U	1.1	1 U	3.9	1 U	1 U	1 U	1 U	1 U	2.4	1 U	1 U	1 U	2.8	9.9	1 U	3 U
	12/20/07	4.4 J	1 U	1 U	1 U	1 U	1 U	1.2	1 U	4.8	1 U	1 U	1 U	1 U	1 U	11	1 U	1 U	1 U	2.9	9.8	1 U	3 U
	06/11/08	5 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U	3.7	1 U	1 U	1 U	1 U	1 U	1.9	1 U	1 U	1 U	3.2	9.9	1 U	3 U
	12/29/08	35	1 U	1 U	1 U	1 U	1 U	1	1 U	2.4	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	2.3	7.8	1 U	3 U
	06/16/09	5.4	1 U	1 U	1 U	1 U	1 U	0.89 J	1 U	2.2	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	2.7	9.7	1 U	2 U
	01/07/10	10 U	1 U	2.8 U	1 U	1 U	10 U	1 U	1 U	2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.5	8.1	1 U	3 U
DUP	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.4	8.1	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.2	8.6	1 U	3 U
DUP	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.2	8.3	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.4	7.3	1 U	3 U
DUP	12/17/10	18	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.3	7.4	1 U	3 U
DUP	06/20/11	16.8 J	1 U	1 UR	1 U	1 U	10 U	1 U	1 U	1.4 J	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.7 J	6.6 J	1 U	3 U
	06/20/11	15.3 J	1 U	1 UR	1 U	1 U	10 U	1 U	1 U	1.1 J	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.8 J	7.2 J	1 U	3 U
	12/15/11	20.3	1 U	1 U	1 U	1 U	10 U	1	1 U	1.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.4	7.1	1 U	3 U
DUP	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2	7.8	1 U	3 U
	11/29/12	5.9 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	0.48 J	5 U	1 U	1 U	2.2	7.2	1 U	1 U	
	06/04/13	7 J	0.50 U	2 U	2 U	2 U	5 U	0.82 J	1 U	0.71 J	1 U	1 U	5 U	5 U	2 U	3.9	5 U	1 U	1 U	1.8	8.1	1 U	1 U
	06/04/13	5.3 J	0.50 U	2 U	2 U	2 U	5 U	0.81 J	1 U	0.69 J	1 U	1 U	5 U	5 U	2 U	3.9	5 U	1 U	1 U	1.9	8.5	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	0.70 J	1 U	0.60 J	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.3	6.4	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.74 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	2	7.5	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.68 J	1 U	0.68 J	1 U	1 U	5 U	5 U	2 U	0.67 J	5 U	1 U	1 U	1.6	6.4	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	0.58 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1.6	6.1	1 U	1 U
	12/10/15	10 U	0.50 U	2 U	2 U	2 U	5 U	0.71 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	10 U	1 U	1 U	2.2 J	6.6 J	1 U	1 U
	08/31/16	10 U	0.50 U	2 U	2 U	1.3 J	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.7	7.6	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	0.61 J	1 U	0.58 J	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	2.1	7.9	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-21	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	3.4	1 U	87 D	0.48 J	1 U	1 U	1 U	1 U	2.4	1 U	0.34 J	1 U	4.8	100 D	12	3 U
	11/02/04	20 U	4 U	4 U	4 U	4 U	4 U	3.4 J	4 U	83	4 U	4 U	4 U	4 U	4 U	7.8	4 U	4 U	4 U	4.3	88	4 U	12 U
	06/01/05	10 U	2 U	2 U	2 U	2 U	2 U	2.9	2 U	72	2 U	2 U	2 U	2 U	2 U	6	2 U	2 U	2 U	4.8	59 D	4.4	6 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	0.85 J	1 U	18	1 U	1 U	1 U	1 U	1 U	0.99 J	1 U	1 U	1 U	1.4	20	1 U	3 U
	07/20/06	5 U	1 U	1 U	1 U	0.80 J	1 U	1.6	1 U	26	1 U	1 U	1 U	1 U	1 U	4.6	1 U	1 U	1 U	2.8	43	0.56 J	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1.3	1 U	28	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5	56	1 U	3 U
	06/29/07	15	1 U	1 U	1 U	1 U	1 U	1.8	1 U	33	1 U	1 U	1 U	1 U	1 U	1.7	1 U	1 U	1 U	2.8	62	2.4	3 U
	12/20/07	5.1	1 U	1 UJ	1 U	1 U	1 U	0.92 J	1 U	17	1 U	1 U	1 U	1 U	1 U	5	1 U	1 U	1 U	1.7	26	1 U	3 U
	06/11/08	3.6 J	1 U	1 U	1 U	1 U	1 U	1.8	1 U	29	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	2.6	67	1	3 U
	12/29/08	35	1 U	1 U	1 U	1 U	1 U	1	1 U	13	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	2.2	29	1 U	3 U
	12/29/08	28	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	7.1	1 U	1 U	1 U	1 U	0.54 J	2	1 U	1 U	1 U	0.66 J	8.1	1 U	3 U
	06/16/09	8.1	1 U	1 U	1 U	1 U	1 U	1.2	1 U	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1	46	1 U	2 U
	01/07/10	10	1 U	2.4	1 U	1 U	10 U	1	1 U	15.4	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.9	38.3	1 U	3 U
	01/07/10	13.6	1 U	1 U	1 U	1 U	10 U	1 U	1 U	15.5	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1.8	37.3	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1.2	1 U	11.8	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	2	47	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	6	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.7	18.6	1 U	3 U
	06/20/11	16.4 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	3.4 J	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1.1 J	22.4 J	1 U	3 U
	12/15/11	14.3	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	6.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.1	40.6	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1.1	1 U	7.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1	57.9	1 U	3 U
DUP	11/29/12	5.7 U	0.50 U	2 U	2 U	2 U	5 U	0.68 J	1 U	2.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.3	20.2	1 U	1 U
	06/04/13	5.5 J	0.50 U	2 U	2 U	2 U	5 U	1	1 U	4.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	38.4	1 U	1 U
	06/04/13	5.8 J	0.50 U	2 U	2 U	2 U	5 U	1	1 U	4.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	38.9	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	0.77 J	1 U	5.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	48	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.71 J	1 U	3.4	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.1	33.9	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.72 J	1 U	2.3	1 U	1 U	5 U	5 U	2 U	0.41 J	5 UJ	1 U	1 U	1.1	18.8	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	0.75 J	1 UJ	4.2	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	0.88 J	26.7	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.5 J	5 U	0.77 J	1 U	2.2 J	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1.6 J	17.3 J	1 UJ	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.5 J	5 U	0.77 J	1 U	2.2 J	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1.6 J	17.3 J	1 UJ	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 UJ	5 UJ	0.68 J	1 U	1.8	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.1	16.5	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	0.68 J	1 U	4.8	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	0.96 J	22.7	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-22	06/02/04	20 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	90	5.6	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	25	4 U	12 U
	11/02/04	20 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	110	8.6	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	33	4 U	12 U
DUP	06/01/05	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	70	2.5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	19	2 U	6 U
	12/01/05	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	36	1.8 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	13	2 U	6 U
	07/19/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	41	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	12	1 U	3 U
	12/22/06	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	81	2.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	18	1 U	3 U
	06/29/07	11	1 U	0.54 J	1 U	1 U	1 U	1 U	1 U	72	2.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	15	1 U	3 U
	12/20/07	4.4 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	54	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	76	2.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	1 U	3 U
	12/29/08	17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.9	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	63	1.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	1 U	2 U
	01/07/10	10 U	1 U	2.9 U	1 U	1 U	10 U	1 U	1 U	11.3	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	8	3 U
	03/31/10	14.4	1 U	7.6	1 U	1 U	10 U	1 U	1 U	4.1	1 U	1 U	1 U	10 U	3.6	1 U	2 U	1 U	1 U	1 U	1 U	1.8	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	18.2	8.4	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	2.2	9.6	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	19.6	8.4	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	2.4	9.6	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	18.3	2.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.5	8.9	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	15.2	3.2	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.1	5.8	3 U
	03/28/11	13.2	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.4	1.2	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	20 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	5.6 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1.3 J	1.6 J	3 U
	10/03/11	20.2	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.5	1 U	3 U
	10/03/11	23.4	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.4	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.6	1 U	3 U
	12/15/11	14.4	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	6.3	1.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.4	2.6	3 U
DUP	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	10	1.3	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.6	4.4	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	21.2	2.3	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1	6.5	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	4.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.70 J	0.69 J	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	13.7	1.5	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	5.8	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	17.4	0.90 J	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	2.9	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	22.2	3.2 J	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	0.31 J	5.5	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	31.9	1.1	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	3.1	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 U	5 UJ	1 UJ	1 U	38.2	1.6	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	5.2	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	26.6	1.3	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.48 J	3.6	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-23	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	22	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.9	1.7	1 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	23	1.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.2	2.6	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	13	0.76 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.6	2	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.0	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.86 J	0.77 J	3 U
	07/19/06	4.6 J	1 U	1 U	1 U	0.70 J	1 U	1 U	1 U	3.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.62 J	1 U	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.91 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/29/07	14	1 U	0.80 BJ	1 U	1 U	1 U	1 U	1 U	3.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.1	1 U	3 U
	12/20/07	4.4 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U	3 U
	12/29/08	28	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.98 J	1 U	2 U
	01/07/10	10 U	1 U	3.1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	3.3	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	2.5	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	16.2 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	11.7	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	3.1	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.77 J	1 UJ	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	2	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.66 J	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-24	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.41 J	1 U	1 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	0.47 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.33 J	1.2	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.50 J	1 U	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.77 J	0.62 J	3 U
	07/18/06	5 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	0.67 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.69 J	1 U	3 U
	12/22/06	9.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/29/07	14	1 U	0.66 BJ	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	3 U
	12/20/07	3.9 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	3 U
	12/29/08	29	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.68 J	1 U	3 U
	06/16/09	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.8	2.9	2 U
	01/07/10	10 U	1 U	3.1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.1	2.6	3 U
	12/17/10	22.9	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	18.4 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	2.4 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	15.6	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	4.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1	1.3	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	7.2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.1	2.7 J	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	0.91 J	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.56 J	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1.2	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	8.4	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	3.5	1 U	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 UJ	5 UJ	1 U	1 U	21.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	31.4	2.5	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	10.5	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.78 J	1	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-25	06/02/04	5 U	0.35 J	1 U	1 U	1 U	2.3	1 U	1 U	7.6	0.44 J	1 U	6.1	3	1 U	1 U	1 U	1 U	1 U	1 U	1	3.6	7.8
	11/02/04	5 U	0.68 J	1 U	1 U	1 U	1.4	1 U	0.24 J	26	1.7	3.1	2.7	3.6	1 U	0.64 J	2.7	1 U	0.43 J	1 U	0.27 J	19	1.3 J
	06/01/05	5 U	0.40 J	1 U	1 U	1 U	1.5	1 U	0.20 J	26	0.86 J	3.8	2.8	2.9	1 U	1 U	5.4	1 U	1 U	1 U	0.70 J	15	2 J
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	29	0.98 J	0.50 J	0.64 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.58 J	14	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.7	3 U
	12/22/06	9.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.4	3 U
	06/29/07	14	1 U	0.63 BJ	1 U	1 U	1 U	1 U	1 U	41	0.94 J	1 U	0.76 J	0.57 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	26	3 U
	12/20/07	6.2	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	0.92 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.57 J	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	29	3 U
	12/29/08	38	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.68 J	100 D	1.3	1 U	1 U	0.95 J	1 U	1 U	1 U	1 U	1 U	1 U	5.5	45	2 U
	01/07/10	10 U	1 U	2.5 U	1 U	1 U	10 U	1 U	1 U	19.8	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	8.8	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	48.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	34.9	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.6	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	12.2 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	15.9 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	7.6 J	3 U
	12/15/11	10 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	7.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.9	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	51.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	27.5	3 U
	11/29/12	5.5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	65.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	37.4 J	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	15.2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.9	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.6	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	18.8	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.5	7.8	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.1	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	69.2	1.3 J	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	24	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	0.57 J	0.34 J	103	0.90 J	1 U	5 U	0.42 J	2 U	1 U	5 U	1 U	1 U	1 U	1 U	40.2	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 UJ	5 UJ	1 U	1 U	115	1.2	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	42.8	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	0.28 J	0.53 J	98.8	1.6	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.4	22.1	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-26	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1	1 U	49 D	4.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1.4	3 U
	11/02/04	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	60	5.6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.4 J	2	6 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	39 D	2.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.6	1.7	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	43	3.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.54 J	1	3 U
	07/19/06	3 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	37	3.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.50 J	1	3 U
	12/22/06	11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/29/07	15	1 U	0.63 BJ	1 U	1 U	1 U	1 U	1 U	0.83 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/20/07	4.6 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	3 U
	12/29/08	27	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.78 J	2 U
	01/07/10	10 U	1 U	3 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	12.9 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	15	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.57 J	1 UJ	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-27 DUP	06/01/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.3	3 U
	06/01/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9	3 U
	11/01/04	4.8 J	0.44 J	1 U	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.6	3 U
	06/01/05	5 U	0.30 J	1 U	1 U	1 U	1 U	1		9.7	0.40 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.8	12	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.59 J	1	3 U
	07/19/06	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	14	1 U	3 U
	12/22/06	9.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/29/07	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/20/07	8.1	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/29/08	29	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5.3	1 U	1 U	1 U	1 U	1 U	1 U		0.87 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.93 J	1 U	2 U
	01/07/10	10 U	1 U	2.8 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/17/10	12.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	16.4 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	12.7	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.5 J	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1.1	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.6	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-29	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.9	1 U	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.46 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4	1 U	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.70 J	1 U	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.90 J	1 U	3 U
	07/19/06	7.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.4	1 U	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.59 J	1 U	3 U
	06/29/07	14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.64 J	1 U	3 U
	12/20/07	4.9 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.79 J	1 U	3 U
	06/12/08	3.1 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.1	1 U	1 U	1 U	1 U	1 U	0.55 J	1 U	3 U
	06/16/09	2.5 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.57 J	1 U	2 U
	01/07/10	10 U	1 U	2.9 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/17/10	23.9	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	14.7 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	17.1	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.91 J	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.48 J	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 UJ	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	0.51 J	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.7	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-30	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.0	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	3.3	1 U	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.44 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.42 J	1 U	3 U
	07/18/06	5 U	1 U	1 U	1 U	0.61 J	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	1 U	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.61 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.56 J	1 U	3 U
	06/29/07	16	1 U	0.70 BJ	1 U	1 U	1 U	1 U	1 U	0.79 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.62 J	1 U	3 U
	12/20/07	6.3	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/29/08	33	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.68 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.50 J	1 U	2 U
	01/07/10	10.8	1 U	2.6 U	1 U	1 U	10 U	1 U	1 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	17.5 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1.9 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	13.6	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	11/29/12	7.1 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.94 J	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.85 J	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1 U	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.72 J	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-31	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	99	8.2	1 U	1 U	1 U	1 U	2.4	1 U	1 U	1 U	1 U	48	1 U	3 U
	07/19/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	96	7	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	34	1 U	3 U
	12/22/06	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	120 D	7.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	40	1 U	3 U
	06/29/07	9.8 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U	92	7.8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	32	2 U	6 U
	12/20/07	4.6 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	91	6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	33	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	93 D	5.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	28	1 U	3 U
	12/29/08	24	1 U	1 U	1 U	1 U	1 U	1 U	1 U	40	1.1	1 U	1 U	1 U	1 U	0.55 J	1 U	1 U	1 U	1 U	10	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	89	5.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	24	1 U	2 U
	01/07/10	10 U	1 U	2.7 U	1 U	1 U	10 U	1 U	1 U	104	1 UJ	1 U	1 U	10 U	1 U	1	2 U	1 U	1 U	1 U	18.7	1 U	3 U
	03/31/10	10.4	1 U	1 U	1 U	1 U	10 U	1 U	1 U	30	1.3	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	108	11.1	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	6.2	1 U	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	99.4	4.4	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4.6	1.2	3 U
	12/16/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	43.4	2	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.5	1 U	3 U
	03/28/11	14	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	18.6 J	2.5 J	1 UR	1 U	1 U	10 UJ	1 U	1 U	76.8 J	4 J	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	2.4 J	1.8 J	3 U
	10/03/11	17.2	1 U	1 U	1 U	1 U	10 U	1 U	1 U	40.3	2.1	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.9	2.2	3 U
	12/15/11	15.6	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	96.1	3.9	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.3	3.2	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	74.3	3.7	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4.5	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	0.48 J	88.6	3.8	1 U	5 U	5 U	2 U	2.4	5 U	0.49 J	1 U	1 U	2.5	2.2	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	81.2	2.7	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2.1	0.78 J	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	41.8	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	54.9	2.3	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.5	2.4	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	56.8	1.8	1 U	5 U	5 U	2 U	0.32 J	5 UJ	1 U	1 U	1 U	0.81 J	1.2	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	43.0	4.5 J	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	1.4	0.91 J	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	66.6	1.6	1 U	5 U	5 U	2 U	0.36 J	5 U	1 U	1 U	1 U	1	1.5	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 U	5 UJ	1 UJ	1 U	60.1	2.6	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	62.0	2.7	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2.3	0.86 J	1 U
	04/17/18	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	13.4	0.41 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.4	1.2	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-32	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	91	5.7	1 U	1 U	1 UJ	1 U	2.5	1 UJ	1 U	1 U	1 U	75	1 U	3 U
	07/20/06	5 U	1 U	1 U	1 U	0.93 J	1 U	1 U	1 U	91	6.7	1 U	1 U	1 U	1 U	0.98 J	1 U	1 U	1 U	1 U	80	1 U	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	86	6	1 U	1 U	1 U	1 U	0.90 J	1 U	1 U	1 U	1 U	74	1 U	3 U
	12/22/06	9.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	84	5.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	71	1 U	3 U
	06/29/07	14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	80	6.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	68	1 U	3 U
	12/20/07	6.3	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	7.9	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	1 U	1 U	1 U	11	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	89	5.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	65	1 U	3 U
	12/29/08	27	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5	1 U	1 U	1 UJ	1 U	1 U	0.36 J	1 U	1 U	1 U	1 U	3.5	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	69	4.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	57	1 U	2 U
	01/07/10	10 U	1 U	2.6 U	1 U	1 U	10 U	1 U	1 U	99	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	6.9	1.8	3 U
DUP	03/31/10	10.1	1 U	8.5	1 U	1 U	10 U	1 U	1 U	30.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.1	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	136	10.3	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	3.4	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	13.1	4	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	14	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	12.7	4.1	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	13.7	3 U
	12/17/10	10.3	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.8	1.9	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	2.4	3 U
	03/28/11	16.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	16.7 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	38.8 J	3.4 J	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	9.5 J	12.1 J	3 U
	10/03/11	19.8	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	10 U	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	46	3.3	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.6	13.7	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	79.9	3.4	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1	11.7	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	67.3	2.9	1 U	5 U	5 U	2 U	0.47 J	5 U	1 U	1 U	1 U	1 U	13.4	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	32.4	1.1	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	4.7	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	12	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.5	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	38.4	1.5	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.51 J	14.4	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	7.8	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	55.6	5.2 J	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	0.75 J	7.5	1 U
	12/10/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	82.8	1.6	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	8.9	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 U	5 UJ	1 UJ	1 U	79.3	2.1	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	7.1	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	67.7	1.6	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	5.6	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-33	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7	1 U	1 U	1 U	1 UJ	1 U	1 U	1 UJ	1 U	1 U	1 U	3.1	1 U	3 U
DUP	07/19/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	23	0.79 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10	1 U	3 U
	07/19/06	3.3 J	1 U	1 U	1 U	0.96 J	1 U	1 U	1 U	24	0.68 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10	1 U	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6	1 U	3 U
	06/29/07	14	1 U	0.51 J	1 U	1 U	1 U	1 U	1 U	18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.3	1 U	3 U
	12/20/07	5	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.5	1 U	3 U
	12/29/08	33	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.4	0.41 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.5	1 U	3 U
	06/16/09	4 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6	1 U	2 U
	01/07/10	10	1 U	2.7 U	1 U	1 U	10 U	1 U	1 U	19.5	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3	1 U	3 U
	03/31/10	11.5	1 U	7.3	1 U	1 U	10 U	1 U	1 U	2.5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	11.5	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	3.2	1 U	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	8.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.6	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.1	1 U	3 U
	03/28/11	13.3	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	22.5 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	2.5 J	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	1.8 J	1 U	3 U
	10/03/11	17.1	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	13.7	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.8	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.9	1 U	1 U
DUP	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 UJ	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
DUP	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.5	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.4	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.4	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.3	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1.5	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.1	1 UJ	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	1.6	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3.2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.5	1 U	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 UJ	5 UJ	1 U	1 U	4.4	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2.2	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	1.5	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.5	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-34	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	0.82 J	1 U	110 D	0.67 J	1 U	1 U	1 U	1 U	1.4	1 U	1 U	1 U	1.1	16	63	3 U
	07/20/06	6.9	1 U	1 U	1 U	1 U	1 U	1.4	1 U	51	1 U	1 U	1 U	1 U	1 U	4.7	1 U	1 U	1 U	1.2	12	16	3 U
DUP	12/22/06	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	84	0.70 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.70 J	8.3	40	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1	1 U	81	0.76 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.88 J	9.9	42	3 U
DUP	06/29/07	15	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	98	0.79 J	1 U	1 U	1 U	1 U	2.4	1 U	1 U	1 U	0.60 J	7.9	34	3 U
	06/29/07	17	1 U	1 U	1 U	1 U	1 U	0.78 J	1 U	98	0.72 J	1 U	1 U	1 U	1 U	2.3	1 U	1 U	1 U	0.61 J	7.5	32	3 U
DUP	12/20/07	6.1	1 U	1 UJ	1 U	1 U	1 U	0.55 J	1 U	100 D	0.59 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.74 J	7.8	55	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	140 D	0.97 J	1 U	1 U	1 U	1 U	0.83 J	1 U	1 U	1 U	0.60 J	7	78	3 U
DUP	06/12/08	2.7 J	1 U	1 U	1 U	1 U	1 U	0.55 J	1 U	160 D	0.96 J	1 U	1 U	1 U	1 U	0.83 J	1 U	1 U	1 U	0.58 J	6.5	69	3 U
	12/29/08	30	1 U	1 U	1 U	1 U	1 U	1 U	1 U	41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	8.8	3 U
DUP	06/16/09	3.1 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	100 D	0.70 J	1 U	1 U	1 U	1 U	0.41 J	1 U	1 U	1 U	0.42 J	7.3	52	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1.2	1 U	13.3	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	16.1	3 U
DUP	03/31/10	10.1	1 U	7.4	1 U	1 U	10 U	1 U	1 U	1.9	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.1	3 U
	03/31/10	11.2	1 U	7.1	1 U	1 U	10 U	1 U	1 U	1.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.2	3 U
DUP	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.1	7.2	1 U	1 U	10 U	1 U	1 U	2.4	1 U	1 U	1 U	1 U	1 U	3 U
	09/21/10	18.8	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	03/28/11	13.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	06/20/11	19.5 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	3.2 J	3 U
	10/03/11	26.8	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	12/15/11	17.9	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	19.2	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
DUP	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	2.6	3 U
	11/29/12	7.4 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
DUP	06/04/13	3.5 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.64 J	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	0.39 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
DUP	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	3.1	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
DUP	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1 U	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	0.64 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
DUP	12/10/15	10 U	0.50 U	2 U	2 U	2 U	5 U	0.59 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	08/31/16	10 UJ	0.50 U	2 U	2 UJ	2 UJ	5 U	1 U	1 U	0.52 J	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.3	1 U
DUP	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	0.39 J	1 U	1 U	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.98 J	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-35	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	4.4	1 U	5.7	1 U	1 U	1 U	1 UJ	1 U	28	1 UJ	1 U	1 U	2.4	5.7	2	1.1 BJ
DUP	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	4.3	1 U	5.9	1 U	1 U	1 U	1 UJ	1 U	28	1 UJ	1 U	1 U	2.3	5.6	1.7	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	2.9	1 U	2.2	1 U	1 U	1 U	1 U	1 U	12	1 U	1 U	1 U	1.4	4.3	1 U	3 U
	12/22/06	9.2	1 U	1 U	1 U	1 U	1 U	2.2	1 U	3.5	1 U	1 U	1 U	1 U	1 U	0.70 J	1 U	1 U	1 U	1.1	4.2	1	3 U
	06/29/07	16	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1.2	1 U	1 U	1 U	1 U	1 U	6.7	1 U	1 U	1 U	0.87 J	3.1	1 U	3 U
	12/20/07	5.2	1 U	1 UJ	1 U	1 U	1 U	3.6	1 U	3.2	1 U	1 U	1 U	1 U	1 U	9.4	1 U	1 U	1 U	1.1	3.8	0.63 J	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	2.7	1 U	3.9	1 U	1 U	1 U	1 U	1 U	5.2	1 U	1 U	1 U	0.82 J	3.4	0.66 J	3 U
	12/29/08	31	1 U	1 U	1 U	1 U	1 U	1.9	1 U	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.4	1 U	3 U
	06/16/09	4.6 J	1 U	1 U	1 U	1 U	1 U	1.7	1 U	1.8	1 U	1 U	1 U	1 U	1 U	0.75 J	1 U	1 U	1 U	0.64 J	3.4	1 U	2 U
	01/07/10	10 U	1 U	2.8 U	1 U	1 U	10 U	1.4	1 U	4.9	1 UJ	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3.5	1 U	3 U
	03/31/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.9	1 U	3 U
	07/01/10	12.8 J	1 U	1 U	1 U	1 U	10 U	1.3	1 U	3.9	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3.4	1 U	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3.8	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.5	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	03/28/11	17.9	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1	1 U	3 U
	06/20/11	21.5 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	3 J	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1 U	3.2 J	1 U	3 U
	10/03/11	19	1 U	1 U	1 U	1 U	10 U	1.2	1 U	1.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	12/15/11	20.6	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	2.7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	3	1 U	1 U
	06/04/13	10 U	0.50 U	2 U	2 U	2 U	5 U	0.54 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	2.3	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.65 J	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.4	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	0.47 J	2.1	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1 U	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	2.4	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.2 J	5 U	1 U	1 U	0.66 J	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1.2	3.4	1 UJ	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-36	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	3.2	1 U	6.6	1 U	1 U	1 U	1 UJ	1 U	26	1 UJ	0.45 J	1 U	5.3	13	1.8	3 U
	07/20/06	5 U	1 U	1	1 U	1 U	1 U	1.8	1 U	3.7	1 U	1 U	1 U	1 U	1 U	14	1 U	1 U	1 U	2.8	9.6	1 U	3 U
DUP	12/22/06	8.4	1 U	1 U	1 U	1 U	1 U	2.4	0.55 J	5.4	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	4.1	12	0.84 J	3 U
	06/29/07	15	1 U	1 U	1 U	1 U	1 U	1.7	1 U	3.2	1 U	1 U	1 U	1 U	1 U	6.6	1 U	1 U	1 U	2.7	9.2	0.94 J	3 U
	12/20/07	4.6 J	1 U	1 U	1 U	1 U	1 U	2.5	1 U	4.5	1 U	1 U	1 U	1 U	1 U	10	1 U	1 U	1 U	3.5	11	0.52 J	3 U
	12/20/07	6.7	1 U	1 UJ	1 U	1 U	1 U	2.4	1 U	4.5	1 U	1 U	1 U	1 U	1 U	11	1 U	1 U	1 U	3.7	11	0.60 J	3 U
	06/12/08	2.7 J	1 U	1 U	1 U	1 U	1 U	1.9	1 U	2.6	1 U	1 U	1 U	1 U	1 U	4.6	1 U	1 u	1 U	2.3	8.2	0.78 J	3 U
DUP	06/12/08	9.1	1 U	1 U	1 U	1 U	1 U	2.4	1 U	3.2	1 U	1 U	1 U	1 U	1 U	5.1	1 U	1 u	1 U	2.6	8.4	0.91 J	3 U
	12/29/08	41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.99 J	7.4	1 U	3 U
	06/16/09	3.4 J	1 U	1 U	1 U	1 U	1 U	1.5	1 U	2.7	1 U	1 U	1 U	1 U	1 U	0.65 J	1 U	1 U	1 U	2.2	9.4	0.88 J	2 U
	01/07/10	10.5	1 U	1 U	1 U	1 U	10 U	1.2	1 U	2.5	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	2.5	8.5	1 U	3 U
	03/31/10	10.5	1 U	7.1	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	24.2 J	1 U	1 U	1 U	1 U	10 U	1.1	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.7	7.1	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	03/28/11	17	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	18.1 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1.5 J	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	2.2 J	6.6 J	1 U	3 U
	10/03/11	21.2	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	25.7	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.4	2.9	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.7	7.4	1 U	3 U
	11/29/12	6.3 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.74 J	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	2.4	6.6	1 U	1 U
	06/04/13	6.6 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.2	1 U	1 U
	05/27/14	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1	4.1	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1 U	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.1 J	5 U	1 U	1 U	1 U	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 UJ	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-37	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	50	2.4	1 U	1 U	1 U	1 U	0.51 J	1 U	1 U	1 U	1 U	81	1 U	3 U
	07/20/06	5 U	1 U	2.9	1 U	1 U	1 U	1 U	1 U	74	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	200 D	1.4	3 U	
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	51	2.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	63	1 U	3 U	
	06/29/07	14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	43	1 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	160	1 U	3 U	
	06/29/07	15	2 U	2 U	2 U	2 U	2 U	2 U	2 U	45	1 J	2 U	2 U	1.4 J	2 U	2 U	2 U	2 U	2 U	160	2 U	6 U	
	12/20/07	5.2	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	47	2.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	59	1 U	3 U	
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	38	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	65	1 U	3 U	
	12/29/08	33	1 U	1 U	1 U	1 U	1 U	1 U	1 U	57	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	230 DJ	1 U	3 U	
	06/16/09	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	45	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	160 D	1 U	2 U	
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	46.5	1.8	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	38.9	1 U	3 U	
DUP	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	50.6	7.2	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	213	1 U	3 U	
	12/17/10	11.1	1 U	1 U	1 U	1 U	10 U	1 U	1 U	27.7	1.7	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	100	1 U	3 U	
	06/20/11	13.9 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	21.6 J	1 J	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	116 J	1 U	3 U	
	12/15/11	19.8	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	12.2	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	53.2	1 U	3 U	
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	7.6	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	40.7	1 U	3 U	
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	7	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	47.2	1 U	1 U	
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	9.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	29.1	1 U	1 U	
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	6.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	38.9	1 U	1 U	
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	8.6	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	43.6	1 U	1 U	
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	8.5	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	37.1	1 U	1 U	
DUP	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	8.4	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	37.5	1 U	1 U	
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	9.2	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	39.8	1 U	1 U	
	12/10/15	10 UJ	0.50 U	2 U	2 U	1.1 J	5 U	1 U	1 U	14.3	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	110	1 UJ	1 U	
	08/31/16	10 UJ	0.50 U	2 U	2 U	2 UJ	5 UJ	1 U	1 U	53.6	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	459	1 U	1 U	
DUP	05/11/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	21	0.43 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	67.5	1 U	1 U	
	05/11/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	20.6	0.44 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	68.1	1 U	1 U	
	08/23/17	22	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-38	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	0.54 J	1 U	1 U	1 U	1 U	1 U	35	1 U	1 U	1 U	6	19	1 U	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	0.54 J	1 U	1 U	1 U	1 U	1 U	8	1 U	0.61 J	1 U	5.4	20	1 U	3 U
	12/22/06	11	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4	1 U	0.52 J	1 U	4.6	15	1 U	3 U
	06/29/07	14	1 U	1 U	1 U	1 U	1 U	1	1 U	0.63 J	1 U	1 U	1 U	1 U	1 U	4	1 U	0.66 J	1 U	5.7	20	1 U	3 U
	12/20/07	5.8	1 U	1 UJ	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	19	1 U	0.66 J	1 U	4.9	16	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U	0.59 J	1 U	1 U	1 U	1 U	1 U	5.8	1 U	0.57 J	1 U	5.1	17	1 U	3 U
	12/29/08	34	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.2	1 U	1 U	1 U	2.2	4.4	1 U	3 U
	06/16/09	5.5	1 U	1 U	1 U	1 U	1 U	0.89 J	1 U	0.45 J	1 U	1 U	1 U	1 U	1 U	2.6	1 U	0.57 J	1 U	3.7	15	1 U	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	4	14	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	3.4	14.6	1 U	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	3.1	10.4	1 U	3 U
	06/20/11	14.3 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	3.1 J	11 J	1 U	3 U
	12/15/11	21.4	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.7	7.8	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.7	9.6	1 U	3 U
	11/29/12	5.1 U	0.50 U	2 U	2 U	2 U	5 U	0.66 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	0.61 J	5 U	0.53 J	1 U	4.1	12.6	1 U	1 U
	06/04/13	6.2 J	0.50 U	2 U	2 U	2 U	5 U	0.62 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	3.8	5 U	1 U	1 U	2.9	13.7	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1.5	7.2	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.54 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	2.6	7.7	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	0.35 J	1 U	1 U	1 U	1 U	5 U	5 U	2 U	0.41 J	5 UJ	1 U	1 U	2.3	4	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1 U	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	2	5.7	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	0.64 J	0.59 J	1 U	1 U	1 U	5 UJ	5 U	2 U	1 U	10 UJ	1 U	1 U	3.1 J	10.1 J	1 UJ	1 U
	08/31/16	38.1	0.50 U	2 U	2 U	1.2 J	5 UJ	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	2.1	7.9	1 U	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	0.47 J	1 U	0.64 J	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	2.3	6.6	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
MW-39	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	5.4	1 UJ	1 U	1 U	2.8	4	1 U	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.53 J	1 U	1 U	1 U	2.4	4.1	1 U	3 U
	12/22/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.3	3.6	1 U	3 U
	06/29/07	17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1	3.5	1 U	3 U
	12/20/07	4 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.8	1 U	1 U	1 U	2.1	3.5	1 U	3 U
	06/12/08	3.2 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	2	2.9	1 U	3 U
	12/29/08	34	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5	2.8	1 U	3 U
	06/16/09	4.4 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.9	3.3	1 U	2 U
	01/07/10	13.6	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1.9	3	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.6	3.1	1 U	3 U
	12/17/10	10.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1.9	3	1 U	3 U
	06/20/11	19 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 UJ	1 U	1 UJ	2 U	1 U	1 U	1.9 J	3 J	1 U	3 U
	12/15/11	15.8	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	2.3	2.8	1 U	3 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
P-3	06/02/04	5 U	0.34 J	1 U	1 U	1 U	1 U	1 U	1 U	13	0.32 J	1 U	1 U	1 U	1 U	0.60 J	1 U	1 U	1 U	1 U	8.5	2.2	3 U
	11/02/04	5 U	0.34 J	1 U	1 U	1 U	1 U	1 U	1 U	15	0.44 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	5	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.8	0.30 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7	2.9	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.8	3.2	3 U
	07/20/06	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.9	10	3 U
	12/22/06	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	3 U
	06/29/07	23	1 U	0.71 BJ	1 U	1 U	1 U	1 U	1 U	0.84 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U	3 U
	12/20/07	5.4	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U	3 U
	12/29/08	28	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 J	1 U	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	9.4 UJ	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	03/31/10	10 U	1 U	7	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.5	4.9	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1	3 U
	09/21/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.8	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	4.8	1.2	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	DUP 12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	03/28/11	17	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	DUP 03/28/11	15.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	17.7 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	10/03/11	12.3	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	12.4	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/13	9.1 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.86 J	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.72 J	1 U	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 UJ	1 UJ	1	1 UJ	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
P-8	06/02/04	120 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	830	25 U	25 U	25 U	25 U	25 U	25 U	1 U	1 U	1 U	1 U	320	25	75 U
	11/02/04	120 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	730	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	260	27	75 U
	06/01/05	120 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	700	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	230	37	75 U
	12/01/05	120 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	1,400	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	680	16 J	75 U
DUP	07/21/06	5 U	0.66 J	1 U	1 U	1	1 U	1 U	1 U	840 D	4.8	1 U	1 U	1 U	1 U	1.4	1 U	0.64 J	1 U	1 U	260 D	210 D	3 U
	12/22/06	50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1,700 D	10 U	10 U	10 U	10 U	8.1 J	10 U	10 U	10 U	10 U	10 U	860	5 J	30 U
	06/29/07	50 U	10 U	6.4 BJ	10 U	10 U	10 U	10 U	10 U	900	6.6 J	10 U	10 U	10 U	12 B	10 U	10 U	10 U	10 U	10 U	210	9.3 J	30 U
	12/20/07	100 U	20 U	20 UJ	20 U	20 U	20 U	20 U	20 U	1,400	20 U	20 U	20 U	20 U	32	20 U	20 U	20 U	20 U	20 U	460	20 U	60 U
DUP	06/12/08	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	1,200	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	260	20 U	60 U
	12/29/08	27	5 U	5 U	5 U	5 U	5 U	5 U	5 U	360	2.6 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	220	5 U	15 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	600 D	6.4	1 U	1 U	0.85 J	1 U	1 U	1 U	0.90 J	1 U	1 U	200 D	4.9	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	224	1.5	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	259	1.8	3 U
DUP	03/31/10	10 U	1 U	7.4	1 U	1 U	10 U	1 U	1 U	75	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	359	1.8	3 U
	07/01/10	12.2 J	1 U	1 U	1 U	1 U	10 U	1 U	1 U	381	7.3	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	318	8.2	3 U
	09/21/10	16.1	1 U	1 U	1 U	1 U	10 U	1 U	1 U	572	2.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	8.3	49.3	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1,010	3.9	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	284	50.9	3 U
DUP	03/28/11	13.5	1 U	1 U	1 U	1 U	10 U	1 U	1 U	774	2.6	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	211	40.4	3 U
	06/20/11	15.3 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	901 J	4 J	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	38.7 J	52.8 J	3 U
	10/03/11	12.9	1 U	1 U	1 U	1 U	10 U	1 U	1 U	776	3.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	84.6	37	3 U
	12/15/11	12.7	1 U	1 UJ	1 U	1 U	10 U	1 U	1.3	1,430	6.5	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	386	31.6	3 U
DUP	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1,310	5.2	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	3.4	66	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	536	1.2	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	15.4	87.8	1 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	524	1.1	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	15.1	87.6	1 U
	06/03/13	4.1 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	205	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	279	3.0	1 U
DUP	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	202	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	193	0.93 J	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	390	0.82 J	1 U	5 U	5 U	2 U	1 U	5 U	1.2 J	1 U	1 U	380	4.3	1 U
	09/30/14	9.3 J	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	72	2.7	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	114	1 U
	12/22/14	11.9	0.50 U	2 U	2 U	2 U	5 U	1 U	0.88 J	1,340	3.9	1 U	5 U	0.59 J	2 U	1 U	5 UJ	1 U	1 U	1 U	55.8	116	1 U
DUP	03/19/15	50 UJ	2.5 U	10 UJ	10 U	10 UJ	25 U	5 U	5 UJ	1,760	11.5	5 U	25 U	25 U	10 U	5 U	25 UJ	5 U	5 U	5 U	217	94.9	5 U
	03/19/15	10.3 J	0.50 U	2 UJ	2 U	2 UJ	5 U	1 U	1.4 J	1,810	3.1	1 U	5 U	1.8 J	2 U	1 U	5 UJ	1 U	1 U	1 U	231	111	1 U
	06/25/15	50 U	2.5 U	10 U	10 U	10 U	25 U	5 U	5 U	791 J	106 J	5 U	25 U	25 U	10 U	5 U	NA	5 U	5 U	5 U	4.2 J	111	5 U
	06/25/15	10 U	0.50 U	2 U	2 U	2 U	0.39 J	1 U	0.73 J	1,040 J	54 J	1 U	5 U	0.62 J	2 U	1 U	NA	1 U	0.39 J	1 U	5.2	151	1 U
DUP	12/10/15	10 U	0.29 J	2 U	2 U	2 U	5 U	1 U	1.5	699	4	1 U	5 U	0.33 J	2 U	1 U	5 U	1 U	1 U	1 U	5.5	369	1 U
	04/27/16	10 UJ	0.50 U	2 UJ	2 UJ	2 UJ	5 U	1 U	1.4	1,550	2.9	1 U	5 U	1 J	2 U	1 U	5 U	1 U	1 U	1 U	14.2	179	1 U
	04/27/16	10 UJ	0.50 U	2 UJ	2 UJ	2 UJ	5 U	1 U	1.3	1,510	2.9	1 U	5 U	0.93 J	2 U	1 U	5 U	1 U	1 U	1 U	13.5	171	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
P-8 (cont.)	08/31/16	10 UJ	0.52	2 U	2 UJ	2 UJ	5 U	1 U	1 U	380	1.3	1 U	5 U	5 U	2 U	1 U	5 U	1 U	0.60 J	1 U	0.76 J	119	1 U
DUP	08/31/16	10 UJ	0.51	2 U	2 UJ	2 UJ	5 U	1 U	1 U	393	1.5	1 U	5 U	5 U	2 U	1 U	5 U	1 U	0.57 J	1 U	0.86 J	120	1 U
	12/20/16	50 U	2.5 U	10 U	5 U	5 U	25 U	5 U	5 U	996	3 J	5 U	5 U	25 U	10 U	5 U	25 U	5 U	5 U	5 U	17.1	143	5 U
DUP	12/20/16	10 U	0.30 J	2 U	1 U	1 U	5 U	1 U	0.35 J	984	2.4	1 U	1 U	5 U	2 U	1 U	5 U	1 U	0.32 J	1 U	17.2	137	1 U
	04/19/17	50 U	2.5 U	10 U	5 U	5 U	25 U	5 U	5 U	692 J	5 U	5 U	5 U	25 U	10 U	5 U	25 U	5 U	5 U	5 U	2.3 J	161	5 U
DUP	04/19/17	50 U	2.5 U	10 U	5 U	5 U	25 U	5 U	5 U	698	5 U	5 U	5 U	25 U	10 U	5 U	25 U	5 UJ	5 U	5 U	2.4 J	167	5 U
	08/23/17	10 U	0.35 J	2 U	1 U	1 U	5 U	1 U	1 U	379	1.4	1 U	1 U	5 U	2 U	1 U	5 U	1 U	0.60 J	1 U	0.83 J	95.4 J	1 U
	12/08/17	10 U	0.26 J	2 U	1 U	1 U	5 U	1 U	1 U	286	0.90 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.56 J	64.8	1 U
DUP	12/08/17	10 UJ	0.32 J	2 U	1 U	1 U	5 U	1 U	1 U	254	0.91 J	1 U	1 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.44 J	74.3	1 U
	04/17/18	16.1	0.26 J	2 U	1 U	1 U	5 U	1 U	1 U	98.4	0.70 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	0.28 J	1 U	3.3	75.1	1 U
DUP	04/17/18	15.7	0.25 J	2 U	1 U	1 U	5 U	1 U	1 U	98.3	0.67 J	1 U	1 U	5 U	2 U	1 U	5 U	1 U	0.28 J	1 U	3.4	75.0	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
P-10	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.38 J	5.1	1 U	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	18	0.35 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.30 J	4.2	1 U	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.30 J	3.5	0.60 J	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.3	1 U	3 U
	07/19/06	2.5 J	1 U	1 U	1 U	0.71 J	1 U	1 U	1 U	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.5	1 U	3 U
	12/22/06	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 J	1 U	3 U
	06/29/07	25	1 U	0.52 BJ	1 U	1 U	1 U	1 U	1 U	8.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.1	1 U	3 U
	12/20/07	4.5 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	0.56 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.6	1 U	3 U
	12/29/08	29	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.53 J	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.7	1 U	3 U
	06/16/09	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.4	1 U	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.2	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	5.6	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	2.9	1 U	3 U
	12/17/10	11.7	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/20/11	15.3 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1.1 J	1 U	3 U
	12/15/11	12.9	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1.3	1 U	3 U
	11/29/12	5.1 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	5.9	1 U	1 U	5 U	5 U	2 U	1 U	5 U	0.69 J	1 U	1 U	1.5	1 U	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1.2	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1.3	1 U	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.54 J	1 U	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	0.64 J	1 U	1 U
	06/26/15	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	0.44 J	1 U	1 U	5 U	5 U	2 U	1 U	NA	1 U	1 U	1 U	0.75 J	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	4.4	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	0.94 J	1 U	1 U

Table 4
Historical Groundwater Sampling Results
Former General Instrument Corporation Site
Sherburne, New York (a)

Volatile Organic Compounds (µg/l):		Acetone	Benzene	Bromomethane	Chloroethane	Chloromethane	Cyclohexane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Methylene chloride	Methyl tert butyl ether	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Xylene (total)
Evaluation Criteria (b):		50	1	5	5	5	(c)	5	5	5	5	5	5	(c)	5	10	10	5	5	5	5	2	5
Sample ID	Date																						
P-11	06/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	14	0.60 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.90 J	1.3	3 U
	11/02/04	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	1.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.29 J	3.5	3 U
DUP	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.30 J	5.6	3 U
	06/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.30 J	5.6	3 U
	12/01/05	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	12	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7.4	3 U
	07/19/06	2.8 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.5	1.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.1	3 U
	12/22/06	11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/29/07	14	1 U	0.78 J	1 U	1 U	1 U	1 U	1 U	1.6	0.73 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	3 U
	12/20/07	4.7 J	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
	06/12/08	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.4	0.83 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	3 U
	12/29/08	34	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	3 U
	06/16/09	5.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	2 U
	01/07/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	4.2	1 U	1 U	1 U	10 U	1 UJ	1 U	2 U	1 U	1 U	1 U	1 U	2.3	3 U
	07/01/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.7	7.0	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.9	3 U
	12/17/10	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	2.1	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.2	3 U
	06/20/11	14.5 J	1 U	1 UR	1 U	1 U	10 UJ	1 U	1 U	3.5 J	1 U	1 U	1 U	10 U	1 U	1 UJ	2 U	1 U	1 U	1 U	1 U	1 U	3 U
	12/15/11	12.5	1 U	1 UJ	1 U	1 U	10 U	1 U	1 U	1.7	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.7	3 U
	07/06/12	10 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1.3	1 U	1 U	1 U	10 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.4	3 U
	11/29/12	5 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.1	1 U
	06/03/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	2.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.2	1 U
	12/23/13	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1.3	1 U
	05/27/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	0.65 J	1 U
	12/23/14	10 U	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3	1 U	1 U	5 U	5 U	2 U	1 U	5 UJ	1 U	1 U	1 U	1 U	2.4	1 U
	06/26/15	10 U	0.50 UJ	2 U	2 U	2 U	5 U	1 U	1 UJ	1 U	1 U	1 U	5 U	5 U	2 UJ	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U
	12/10/15	10 UJ	0.50 U	2 U	2 U	2 U	5 U	1 U	1 U	3.1	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	3.1	1 U
	08/31/16	84.3	0.50 U	2 U	2 U	0.85 J	5 UJ	1 U	1 U	1.3	1 U	1 U	5 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	2.7	1 U
	08/23/17	10 U	0.50 U	2 U	1 U	1 U	5 U	1 U	1 U	1.3	1 U	1 U	1 U	5 U	2 U	1 U	5 U	1 U	1 U	1 U	1 U	1	1 U

a/ All results are reported in micrograms per liter (µg/l). Concentrations highlighted in Bold text and gray shading exceed evaluation criteria; U = compound not detected at or above the reporting limit; J = estimated value below the laboratory reporting limit and above the method detection limit; UJ = the analyte was not detected above the laboratory reporting limit; D = compound identified in analysis at the secondary dilution factor; B = blank contamination; NA = not analyzed.

b/ Evaluation criteria are the New York State Ambient Water Quality Standards or Guidance Values for Class GA groundwater provided in the New York State Department of Environmental Conservation Division of Water Technical and Operational Guidance Series (1.1.1), dated June 1998, and the April 2000 Addendum.

c/ No standard or guidance value for groundwater is available for this substance.

d/ MW-18 was not sampled due to the presence of free-phase product from June 2004 through December 2005. In July 2006 and June 2007, free-phase petroleum product was removed from the well with a bailer before sampling. In December 2006, and December 2007 through to the current reporting period, no measurable free-phase product slick was present.

e/ All duplicates were originally designated with unique sample identifications in the field for blind laboratory analysis.

APPENDIX

A WELL DECOMMISSIONING REPORTS

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-35
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*																			
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-36
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-39
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-20
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-38
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-21
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-37
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/19/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-33
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-23
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-26
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-29
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: P-11
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: P-10
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-24
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-27
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

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Quantity of cement used (lbs.)	376																																																
Cement type	Portland I/II																																																
Quantity of bentonite used (lbs.)	16																																																
Quantity of calcium chloride used (lbs.)	NA																																																
Volume of grout prepared (gal.)	40																																																
Volume of grout used (gal.)	12																																																
COMMENTS:																																																	

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-30
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td style="text-align: center;">cut & pull</td></tr> <tr><td>Casing retrieved (feet)</td><td style="text-align: center;">5'</td></tr> <tr><td>Casing type/dia. (in)</td><td style="text-align: center;">PVC / 2"</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td style="text-align: center;">NA</td></tr> <tr><td>Number of perforations/foot</td><td style="text-align: center;">NA</td></tr> <tr><td>Size of perforations</td><td style="text-align: center;">NA</td></tr> <tr><td>Interval perforated</td><td style="text-align: center;">NA</td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td style="text-align: center;">0 - 19.1</td></tr> <tr><td># of batches prepared</td><td style="text-align: center;">1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td style="text-align: center;">20</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="text-align: center;">235</td></tr> <tr><td>Cement type</td><td style="text-align: center;">Portland I/II</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="text-align: center;">10</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="text-align: center;">25</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="text-align: center;">10</td></tr> </table>	Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA	Method employed	cut & pull	Casing retrieved (feet)	5'	Casing type/dia. (in)	PVC / 2"	Equipment used	NA	Number of perforations/foot	NA	Size of perforations	NA	Interval perforated	NA	Interval grouted (FBLs)	0 - 19.1	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	20	Quantity of cement used (lbs.)	235	Cement type	Portland I/II	Quantity of bentonite used (lbs.)	10	Quantity of calcium chloride used (lbs.)	NA	Volume of grout prepared (gal.)	25	Volume of grout used (gal.)	10	19.1'
Interval Drilled	NA																																																
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Temporary Casing Installed? (y/n)	NA																																																
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COMMENTS:	* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.																																																

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-25
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td style="text-align: center;">cut & pull</td></tr> <tr><td>Casing retrieved (feet)</td><td style="text-align: center;">5'</td></tr> <tr><td>Casing type/dia. (in)</td><td style="text-align: center;">PVC / 2"</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td style="text-align: center;">NA</td></tr> <tr><td>Number of perforations/foot</td><td style="text-align: center;">NA</td></tr> <tr><td>Size of perforations</td><td style="text-align: center;">NA</td></tr> <tr><td>Interval perforated</td><td style="text-align: center;">NA</td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td style="text-align: center;">0 - 22.9</td></tr> <tr><td># of batches prepared</td><td style="text-align: center;">1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td style="text-align: center;">20</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="text-align: center;">235</td></tr> <tr><td>Cement type</td><td style="text-align: center;">Portland I/II</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="text-align: center;">10</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="text-align: center;">25</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="text-align: center;">12</td></tr> </table>	Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA	Method employed	cut & pull	Casing retrieved (feet)	5'	Casing type/dia. (in)	PVC / 2"	Equipment used	NA	Number of perforations/foot	NA	Size of perforations	NA	Interval perforated	NA	Interval grouted (FBLs)	0 - 22.9	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	20	Quantity of cement used (lbs.)	235	Cement type	Portland I/II	Quantity of bentonite used (lbs.)	10	Quantity of calcium chloride used (lbs.)	NA	Volume of grout prepared (gal.)	25	Volume of grout used (gal.)	12	22.9'
Interval Drilled	NA																																																
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* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-28
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td style="text-align: center;">cut & pull</td></tr> <tr><td>Casing retrieved (feet)</td><td style="text-align: center;">5'</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">PVC / 2"</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td style="text-align: center;">NA</td></tr> <tr><td>Number of perforations/foot</td><td style="text-align: center;">NA</td></tr> <tr><td>Size of perforations</td><td style="text-align: center;">NA</td></tr> <tr><td>Interval perforated</td><td style="text-align: center;">NA</td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td style="text-align: center;">0 - 22.8</td></tr> <tr><td># of batches prepared</td><td style="text-align: center;">1</td></tr> <tr><td colspan="2"><u>For each batch record:</u></td></tr> <tr><td>Quantity of water used (gal.)</td><td style="text-align: center;">20</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="text-align: center;">235</td></tr> <tr><td>Cement type</td><td style="text-align: center;">Portland I/II</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="text-align: center;">10</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="text-align: center;">25</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="text-align: center;">12</td></tr> </table>	Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA	Method employed	cut & pull	Casing retrieved (feet)	5'	Casing type/dia. (in.)	PVC / 2"	Equipment used	NA	Number of perforations/foot	NA	Size of perforations	NA	Interval perforated	NA	Interval grouted (FBLs)	0 - 22.8	# of batches prepared	1	<u>For each batch record:</u>		Quantity of water used (gal.)	20	Quantity of cement used (lbs.)	235	Cement type	Portland I/II	Quantity of bentonite used (lbs.)	10	Quantity of calcium chloride used (lbs.)	NA	Volume of grout prepared (gal.)	25	Volume of grout used (gal.)	12	The schematic shows a vertical well shaft. On the left, a depth scale is marked from 0 to 30 feet in increments of 5. On the right, the well shaft is depicted. At the surface (0 feet), an arrow points to the 'Protective Cover Removed'. At 5 feet, an arrow points to the '2-inch PVC cut & pulled' section. Between 5 and 10 feet, an arrow points to the '2-inch PVC grouted in place' section. At the bottom of the grouted section, an arrow points to the 'grout backfill'. The total depth of the grout backfill is indicated as 22.8'.
Interval Drilled	NA																																																
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* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: P-3
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/20/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td style="text-align: center;">cut & pull</td></tr> <tr><td>Casing retrieved (feet)</td><td style="text-align: center;">5'</td></tr> <tr><td>Casing type/dia. (in)</td><td style="text-align: center;">PVC / 2"</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td style="text-align: center;">NA</td></tr> <tr><td>Number of perforations/foot</td><td style="text-align: center;">NA</td></tr> <tr><td>Size of perforations</td><td style="text-align: center;">NA</td></tr> <tr><td>Interval perforated</td><td style="text-align: center;">NA</td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td style="text-align: center;">0 - 14.5</td></tr> <tr><td># of batches prepared</td><td style="text-align: center;">1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td style="text-align: center;">20</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="text-align: center;">235</td></tr> <tr><td>Cement type</td><td style="text-align: center;">Portland I/II</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="text-align: center;">10</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="text-align: center;">25</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="text-align: center;">5</td></tr> </table>	Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA	Method employed	cut & pull	Casing retrieved (feet)	5'	Casing type/dia. (in)	PVC / 2"	Equipment used	NA	Number of perforations/foot	NA	Size of perforations	NA	Interval perforated	NA	Interval grouted (FBLs)	0 - 14.5	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	20	Quantity of cement used (lbs.)	235	Cement type	Portland I/II	Quantity of bentonite used (lbs.)	10	Quantity of calcium chloride used (lbs.)	NA	Volume of grout prepared (gal.)	25	Volume of grout used (gal.)	5	14.5'
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* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-2
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/21/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td style="text-align: center;">cut & pull</td></tr> <tr><td>Casing retrieved (feet)</td><td style="text-align: center;">5'</td></tr> <tr><td>Casing type/dia. (in)</td><td style="text-align: center;">PVC / 2"</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td style="text-align: center;">NA</td></tr> <tr><td>Number of perforations/foot</td><td style="text-align: center;">NA</td></tr> <tr><td>Size of perforations</td><td style="text-align: center;">NA</td></tr> <tr><td>Interval perforated</td><td style="text-align: center;">NA</td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td style="text-align: center;">0 - 16.3</td></tr> <tr><td># of batches prepared</td><td style="text-align: center;">1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td style="text-align: center;">16</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="text-align: center;">188</td></tr> <tr><td>Cement type</td><td style="text-align: center;">Portland I/II</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="text-align: center;">8</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="text-align: center;">20</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="text-align: center;">5</td></tr> </table>	Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA	Method employed	cut & pull	Casing retrieved (feet)	5'	Casing type/dia. (in)	PVC / 2"	Equipment used	NA	Number of perforations/foot	NA	Size of perforations	NA	Interval perforated	NA	Interval grouted (FBLs)	0 - 16.3	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	16	Quantity of cement used (lbs.)	188	Cement type	Portland I/II	Quantity of bentonite used (lbs.)	8	Quantity of calcium chloride used (lbs.)	NA	Volume of grout prepared (gal.)	20	Volume of grout used (gal.)	5	WELL SCHEMATIC*
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-8
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/21/18

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*																			
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td style="text-align: center;">NA</td></tr> <tr><td>Drilling Method(s)</td><td style="text-align: center;">NA</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="text-align: center;">NA</td></tr> <tr><td>Depth temporary casing installed</td><td style="text-align: center;">NA</td></tr> <tr><td>Casing type/dia. (in.)</td><td style="text-align: center;">NA</td></tr> <tr><td>Method of installing</td><td style="text-align: center;">NA</td></tr> </table>		Interval Drilled	NA	Drilling Method(s)	NA	Borehole Dia. (in.)	NA	Temporary Casing Installed? (y/n)	NA	Depth temporary casing installed	NA	Casing type/dia. (in.)	NA	Method of installing	NA						
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-14
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/21/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: General Instrument	Well I.D.: MW-18
Site Location: Sherburne, New York	Driller: Glenn Lansing
Drilling Co.: Parratt-Wolff, Inc.	Inspector: Nate Winston
	Date: 2/21/18

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
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Drilling Contractor

Department Representative

APPENDIX

B STANDARD OPERATING PROCEDURES

FIELD STANDARD OPERATING PROCEDURE #3

SAMPLE PACKAGING AND SHIPMENT PROCEDURE

Shipping samples is a basic but important component of field work. The majority of field activities include the collection of environmental samples. Proper packing and preservation of those samples is critical to ensuring the integrity of our work product. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

3.1 ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
IATA	International Air Transport Association
HASP	Health and safety plan
PPE	Personal protective equipment
SOP	Standard operating procedure

3.2 MATERIALS

- Suitable shipping container (e.g., plastic cooler)
- Chain-of-custody forms
- Custody seals
- Sample container custody seals (as necessary)
- Mailing address labels (as necessary)
- Shipping form (with account number, as necessary)
- Tape (e.g., strapping, clear packing)
- Knife or scissors
- Permanent marker
- PPE
- Bubble wrap or other packing material

Temperature-preserved samples:

- Large plastic garbage bag
- Wet ice
- Heavy-duty zipper-style plastic bags
- Universal sorbent materials

Note: Some materials will be supplied by the laboratory, while others are must be supplied by the sampler. Confirm supplier of materials prior to mobilizing to the field.

3.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field

personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of company employees and will be revised periodically to reflect updates to company policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field standard operating procedures, and the Quality Management System.

This SOP is designed to provide the user with a general outline for shipping samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample collection and quality assurance procedures (SOP 4), and investigation derived waste management procedures (SOP 5).

Most environmental samples are classified non-hazardous materials due to unknown characteristics and hazardous classes, however environmental samples can meet the definition of DOT hazardous materials when shipped by air, ground, or rail from a project site to the laboratory (e.g., free product, samples preserved with a hazardous material [TerraCore® samplers]). As such, field staff must work with their assigned company compliance professional to determine whether the sample shipment is subject to any specific requirements (e.g., packaging, marking, labeling, and documentation) under the DOT hazardous materials regulations.

3.4 SAMPLE SHIPMENT PROCEDURES

The two major concerns in shipping samples are incidental breakage during shipment and complying with applicable DOT and courier requirements for hazardous materials shipments.

NOTE: Many couriers, including Federal Express and UPS, have requirements that the company register with them before shipping hazard materials. In most cases, it is the sampling location, not the company office address, which needs to be registered. Therefore, each project will likely have unique requirements. Please contact your company compliance professional to determine whether or not you will be required to register for your shipment.

Protecting the samples from incidental breakage can be achieved using "common sense." Pack all samples in a manner that will prevent them from moving freely about in the cooler or shipping container. Do not allow glass surfaces to contact each other. When possible, repack the sample containers in the same materials that they were originally received in from the laboratory. Cushion each sample container with plastic bubble wrap, styrofoam, or other nonreactive cushioning material. A more detailed procedure for packing environmental samples is presented below.

3.4.1 NON-HAZARDOUS MATERIAL ENVIRONMENTAL SAMPLES

The first step in preparing your samples for shipment is securing an appropriate shipping container. In most cases, the analytical laboratory will supply the appropriate container for bottle shipment, which can be used to return samples once they have been collected. Be sure that the container is large enough to contain the samples plus a sufficient amount of packing materials, and if applicable, enough wet ice to maintain the samples at the preservation temperature (usually 4 degrees Celsius). Use additional shipping containers as needed so that sample containers are protected from breakage due to overcrowding. Do not use lunch-box sized coolers or soft sided coolers, which do not offer sufficient insulation or protection from damage.

3.4.1.1 TEMPERATURE-PRESERVED SAMPLE CONTAINER PREPARATION

Temperature-preserved samples should be shipped to the laboratory in an insulated container (e.g., cooler). If using a plastic cooler with a drain, securely tape the inside of the drain plug with duct tape or other material to ensure that no water leaks from the cooler during shipment. Place universal sorbent materials (e.g., sorbent pads) in the bottom of the insulated container. The amount

of sorbent material must be sufficient to absorb any condensation from the wet ice and a reasonable volume of water from melted wet ice (if a bag were to rupture) or a damaged (aqueous) sample container.

The next step is to line the insulated container with a large, heavy-duty plastic garbage bag. If shipping breakable sample containers (e.g., glass), place bubble wrap or other packing materials on the bottom of the container. Place the samples on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between the sample containers. Place large or heavy sample containers on the bottom of the cooler with lighter samples placed on top to minimize the potential for breakage. Place all sample containers in the shipping container right-side up. Do not overfill the cooler with samples; room must be left for a sufficient volume of wet ice. Wet ice must be double-bagged in heavy-duty zipper-style plastic bags (1 gallon-sized, or less); properly seal both bags before placing in the insulated container. Place the bags of ice on top of or between the samples. Place as much ice as possible into the cooler to ensure the samples arrive at the lab at the required preservation temperature, even if the shipment is delayed. Fill any remaining space in the container with bubble wrap or other packing material to limit the airspace and minimize the shifting of the sample containers and in-transit melting of ice. Securely close the top of the heavy-duty plastic bag and seal with tape.

3.4.1.2 NON-TEMPERATURE-PRESERVED SAMPLE CONTAINER PREPARATION

Non-temperature-preserved samples should be shipped to the laboratory in a durable package (e.g., hard plastic container or cardboard box). If shipping breakable sample containers (e.g., glass), place bubble wrap or other packing materials on the bottom of the container. Place the samples on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between and on top of the sample containers. Place large or heavy sample containers on the bottom of the container with lighter samples placed on top to minimize the potential for breakage. Place all sample containers within the shipping container right-side up. Fill any remaining space in the container with bubble wrap or other packing material to limit the airspace and minimize the shifting of the sample containers and in-transit melting of ice.

3.4.1.3 CONTAINER SHIPMENT

Place the original, white, top copy of the chain-of-custody form (i.e., laboratory copy) into a heavy-duty zipper-style plastic bag, affix/tape the bag to the shipping container's inside lid, and then close the shipping container. Only one chain-of-custody form is required to accompany one of the shipping containers per sample shipment; the other coolers in the shipment do not need to include chain-of-custody forms. At this point, sample shipment preparations are complete if using a laboratory courier.

Once the shipping container is sealed, shake test the shipping container to make sure that there are no loose sample containers. If loose sample containers are detected, open the shipping container, repack the contents, and reseal the shipping container. If sending the sample shipment through a commercial shipping vendor, place two signed and dated chain-of-custody seals on alternate sides of the shipping container lid so that it cannot be opened without breaking the seals. Securely fasten the top of the shipping container shut with clear packing tape; carefully tape over the custody seals to prevent damage during shipping.

Using clear tape, affix a mailing label with the company's return address to the top of the shipping container. Ship environmental samples to the contracted analytical laboratory using an appropriate delivery schedule. If applicable, check the appropriate box on the airbill for Saturday delivery (you need to verify with the laboratory that someone will be at the laboratory on a Saturday to receive the sample shipment). Declare the value of samples on the shipping form for insurance purposes, if applicable, and be sure to include the project billable number on the shipping form's internal billing reference section. When shipping samples to a lab, identify a declared value equal to the carrier's default value (\$100); additional fees will be charged based on a higher value declared. Our preferred carrier, Federal Express, will only reimburse for the actual value of the cooler and its contents if a sample shipment is lost; they will not reimburse for the cost of having to re-collect the samples. [Please note: if you are shipping something other than samples, such as field equipment, declare the replacement value of the contents.]

Record the tracking numbers from the shipping company forms (i.e., the airbill number) in the field book and retain a copy of the shipping airbill. On the expected delivery date, confirm sample receipt by contacting the laboratory or tracking the package using the tracking number; provide this confirmation information to the project manager.

NOTE: Most shipping carriers adhere to transit schedules with final pickup times each day; these schedules are subject to change and vary by service location. If shipping containers are dropped off at a service location after the final pickup time, transit to the laboratory will not be initiated until the following day, and samples may not be properly preserved. Therefore, confirm transit schedules in advance of each sampling event, and ensure samples are dropped off before the final pickup time of the day.

3.4.2 HAZARDOUS MATERIALS SAMPLES

Employees rarely ship hazardous materials due to DOT shipping requirements. If you find that your samples could be considered a DOT hazardous material, first coordinate with the assigned company compliance professional and project manager to make a hazardous material classification and, if necessary, establish the necessary protocols and to receive the appropriate training/certification.

NOTE: Employees shipping samples regulated as hazardous materials or exempt hazardous materials by air must have International Air Transport Association (IATA) training. IATA training is a separate training required in addition to DOT hazardous materials training for such shipments. Most of our employees do not have IATA training and therefore, anyone who needs to ship by air MUST consult with a company IATA-trained compliance professional.

FIELD STANDARD OPERATING PROCEDURE #4

SAMPLE COLLECTION AND QUALITY ASSURANCE PROCEDURE

The purpose of this procedure is to assure that sample volumes and preservatives are sufficient for analytical services required under U.S. Environmental Protection Agency (EPA) or other agency approved protocols. This operating procedure describes sample identification procedures, sampling order for select analytes, quality control and quality assurance (QA/QC) sampling procedures, and custody documentation for environmental sampling. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

4.1 ACRONYMS AND ABBREVIATIONS

°C	Degrees Celsius
COC	Chain-of-custody [form]
DI	Deionized water
DOT	U.S. Department of Transportation
EDD	Electronic data deliverable
EPA	U.S. Environmental Protection Agency
HASP	Health and safety plan
ID	Identification [number]
MS/MSD	Matrix spike and matrix spike duplicate
MSA	Master Services Agreement
PPE	Personal protective equipment
QA	Quality assurance
QA/QC	Quality assurance/quality control
QAPP	Quality assurance project plan
SOP	Standard operating procedure
VOCs	Volatile organic compounds

4.2 MATERIALS

- Field book
- Indelible (waterproof) markers or pens
- PPE
- Sample containers
- Sample labels
- Clear tape
- Deionized (DI) water
- Cleaned or dedicated sampling equipment

4.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of employees and will be revised periodically to reflect updates to company policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company's SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field standard operating procedures, and the Quality Management System.

This SOP is designed to provide the user with a general outline for collecting environmental and quality assurance samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), investigation derived waste management procedures (SOP 5), and equipment decontamination (SOP 6). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a site-specific work plan or a dedicated quality assurance project plan (QAPP).

4.4 SAMPLE IDENTIFICATION PROCEDURES

Information on the sample container labels must include the site/project name, project/task number, unique alpha-numeric sample identification (ID) number, sample collection date, time of collection using the military or 24-hour clock system (i.e., 0000 to 2400 hours), analytical parameters, preservative, and the initials of the sampling personnel. Employees are advised to use pre-printed waterproof mailing labels (e.g., Avery® 5xxx-series Waterproof Address Labels) for all sample identification. Label templates are available.

The sample identification (ID) number must, unless otherwise approved by your project manager or specified in your site-specific work plan, follow the company's naming protocol. This protocol was developed to aid in determining the type of sample collected (e.g., soil, groundwater, vapor, etc.), the sample location, and, where appropriate, the sample depth. The protocol was also designed to ensure consistency across the company.

Construct sample IDs in the following format:

SB-10A (4-6)

Where, in this example:

- SB = the first two or three characters will define the sample type (see list of approved prefixes below); in this case, a soil boring
- 10A = the next two or three alpha-numeric digits (separated by a dash from the sample type identifier) indicate the location of the boring on the site; in this case, boring number 10A
- (4-6) = the depth the sample was collected, with the first number (including decimals, if necessary) indicating the top of the sample interval (in feet) and the second number indicating the bottom of the sample interval (in feet); not all sample types will include depth information.

Additional label information may be added after the last character of the sample ID number (e.g., sample date, underground storage tank number, area of concern number, "Area" number, client identifier, etc.). Separate any additional information from the required portion of the sample name by dash(es).

Sample Prefix	Permitted Use
AA	Ambient outdoor air sample

Sample Prefix	Permitted Use
CC	Concrete core/chip sample
CS	Confirmation/verification soil sample collected from an excavation
HA	Soil sample collected with a hand auger
IAB	Indoor air sample – basement
IAC	Indoor air sample – crawl space
IAF	Indoor air sample – first floor
MW	Soil sample collected from a monitoring well borehole or a groundwater sample collected from a monitoring well
PZ	Groundwater sample collected from a piezometer
SB	Soil sample collected from boreholes that will not be converted to monitoring wells
SED	Sediment sample
SG	Soil gas sample other than a sub-slab sample (e.g., sample collected from a temporary or permanent polyvinyl chloride sample point or stainless steel screen implant)
SL	Sludge sample
SS	Surface soil sample collected using hand tools (e.g., trowel, spoon, etc.) and typically at depths less than 2 feet below ground surface
SSV	Sub-slab vapor sample
SW	Surface water sample
TC	Tree core sample
TP	Soil sample collected from a test pit
WC	Waste characterization sample
WP	Wipe sample
WW	Wastewater

4.5 SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

The first step in sample collection is to verify that the analytical laboratory has provided the correct number and type of sample containers and each contains the appropriate preservatives for the proposed project (i.e., check against the sampling plan requirements outlined in the site-specific QAPP or, for those projects without a site-specific QAPP, the laboratory Task Order). Inspect all containers and lids for flaws (cracks, chips, etc.) before use. Do not use any container with visible defects or discoloration. Report any discrepancies, or non-receipt, of specific types of sample containers to the team leader or project manager immediately. Make arrangements with the laboratory to immediately ship missing or additional sampling containers.

Precautions must be taken to prevent cross-contamination and contamination of the environment when collecting samples. Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to sampling. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. Sample collection must follow all appropriate SOPs, state and federal regulations, or guidance, for the collection of environmental samples; the recommended order of sample collection is:

- Geochemical measurements (e.g., temperature, pH, specific conductance)
- Volatile organic compounds (VOCs)
- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Total metals
- Dissolved metals
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collected samples that require thermal preservation must be immediately (within 15 minutes) placed in a cooler with wet ice and maintained at a preservation temperature of 4° Celsius (°C).

4.6 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Field quality assurance/quality control (QA/QC) samples include equipment blanks, trip blanks, duplicates, and split samples. The project manager or QAPP must specify the type and frequency of QA/QC sample collection. The QA/QC sample identification number must, unless otherwise approved by your project manager or specified in your site-specific work plan, follow the company's naming protocol as discussed in the sections below. QA/QC samples must be clearly identified on our copy of the COC form and in the field book. Failure to properly collect and submit required QA/QC samples can result in invalidation of an entire sampling event.

Collect, preserve, transport and document split samples using the same protocols as the related samples.

4.6.1 EQUIPMENT BLANKS

Equipment blanks are used to document contamination attributable to using non-dedicated equipment (i.e., equipment that must be decontaminated after each use). Collect equipment blanks in the field at a rate of one per type of sampling equipment per day, unless otherwise specified. If the site-specific work plan or QAPP indicates that an equipment blank is to be collected from dedicated sampling equipment, collect the equipment blank in the field before sampling begins. If field decontamination of sampling equipment is required, prepare the equipment blanks after the equipment has been used and field-decontaminated at least once. Prepare equipment blanks by filling or rinsing the pre-cleaned equipment with laboratory-provided analyte-free water, deionized water (DI) and collecting the rinsate in the appropriate sample containers. The samples must be labeled, preserved, and filtered (if required) in the same manner as the environmental samples. Record the type of sampling equipment used to prepare the blank. Have the equipment blanks analyzed for all the analytes for which the environmental samples are being analyzed, unless otherwise specified. Decontamination of the equipment following equipment blank procurement is not required. If laboratory-grade DI water is unavailable, store-grade distilled water can be used to prepare these blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book. Designate equipment blanks using "EB", followed by the date, and in the order of equipment blanks collected that day. For example, the first equipment blank collected on July 4, 2015, would be designated EB070415-1.

4.6.2 TRIP BLANKS

Trip blanks are used to document VOC contamination attributable to shipping and field handling procedures. Trip blanks are only required when analyzing samples for VOCs. Trip blank(s) are prepared by the laboratory and sent to the facility along with sample containers. Never open trip blank sample bottles; label them in the field and return them to the laboratory in the same shipping container in which the trip blank sample bottles arrived at the site. Keep the trip blank sample bottles in the same shipping container used to ship and store VOC sample bottles during the sampling event. Unless more stringent project requirements are in place, submit one trip blank in each shipping container of VOC samples. To minimize the number of trip blanks needed per shipment, if possible, ship all of the VOC samples in the same shipping container with the trip blank. If laboratory-provided trip blanks are not available, DI water, or store-grade distilled water and clean, empty VOC sample bottles can be used to prepare additional trip blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book. Identify trip blanks using "TB", followed by the date. For example, the trip blank shipped with a cooler of samples on July 4, 2015, would be designated TB070415-1. If a second trip blank is needed on that same day, the designation would be TB070415-2.

4.6.3 TEMPERATURE BLANK

Temperature blanks are used to determine if proper sample thermal preservation has been maintained by measuring the temperature of the sample container upon arrival at the laboratory. A temperature blank should be included in each sample cooler

used to ship and store the sample bottles during the sampling event. If laboratory-provided temperature blanks are not available, fill a clean, unpreserved sample bottle with potable, DI, or store-grade distilled water and identify the bottle as a temperature blank.

4.6.4 DUPLICATES

Duplicates are useful for measuring the variability and documenting the precision of the sampling process. Unless more stringent project requirements are in place, collect duplicate samples at a rate of at least 1 per 20 samples collected. Under no circumstances can equipment or trip blanks be used as duplicates. Sample locations where sufficient sample volume is available and where expected contamination is present should be selected for sample duplication.

Collect each duplicate sample at the same time, from the same sample aliquot and in the same order as the corresponding field environmental sample. When collecting aqueous duplicate samples, alternately fill sample bottle sets (i.e., the actual sample bottle and the bottle to be used for the duplicate) with aqueous samples from the same sampling device. If the sampling device does not hold enough volume to fill the sample containers, fill the first container with equal portions of the sample, and pour the remaining sample into the next sample containers. Obtain additional sample volume and pour the first portion into the last sample container, and pour the remaining portions into the first containers. Continue with these steps until all containers have been filled.

Duplicate samples will be assigned arbitrary sample ID and a false collection time so that they are not identified as duplicates by the laboratory (i.e., submit the samples blind to the lab). The blind duplicate sample "location designation" will be left up to the project manager; however, in no case will "Dup" be allowed to appear in the sample name. Have the duplicate samples analyzed for the same analytes as the original sample. Be sure to record the duplicate sample ID, the false time, and the actual time of collection in the field notebook. The duplicate should also be indicated on our carbon copy of the chain-of-custody.

4.6.5 MATRIX SPIKE AND MATRIX SPIKE DUPLICATES

Matrix spike and matrix spike duplicate samples, known as MS/MSD samples, are used to determine the bias (accuracy) and precision of a method for a specific sample matrix. Many of the company's projects require the collection of MS/MSD samples; however, laboratory generated MS/MSD samples are sufficient for some projects. As required by your QAPP or site-specific work plan, collect MS/MSD samples at the required ratio; if the sampling ratio is not specified by your QAPP or site-specific work plan, collect MS/MSD samples at a rate of 1 for every 20 samples. Clearly convey the MS/MSD identity to the laboratory by adding "MS" or "MSD" after the sample name (e.g., MW 01MS) or in the comments section of the chain-of-custody. Under no circumstances can equipment or trip blanks be used as MS/MSD samples.

4.6.6 SPLIT SAMPLES

Split samples may be collected as a means of determining compliance or as an added measure of quality control. Unlike duplicate samples that measure the variability of both the sample collection and laboratory procedures, split samples measure only the variability between laboratories. Therefore, the laboratory samples must be subsamples of the same parent sample and every attempt must be made to ensure sample homogeneity. Collect aqueous split samples in the same manner as a duplicate sample.

Collecting split samples of soil, sediment, waste, and sludge is not recommended because the homogenization necessary for a true split sample in these matrices is not possible and the resulting laboratory results would not be comparable.

Split samples should have the same sample location designation (e.g., MW-01, SB-03 (4-6), but are differentiated from each other by inserting the laboratory analyzing or the agency/consultant collecting the sample after the sample location (e.g., MW-01-WSP and MW-01-EPA).

4.7 CUSTODY DOCUMENTATION

Sample custody protocols are used to demonstrate that the samples and sample containers were handled and transferred in such a manner as to prevent tampering. Legal chain of custody (COC) begins when the pre-cleaned sample containers are dispatched to the field from the laboratory and continues through sample analysis and eventual disposal of the sample and sample containers. Maintaining custody requires that samples must be in the actual possession or view of a person who is authorized to handle the samples (e.g., sample collector, laboratory technician), secured by the same person to prevent tampering, or stored in a designated secure area.

It is a good idea to limit, to the extent possible, the number of individuals who physically handle the samples. Samples must be placed in locked storage (e.g., locked vehicle, locked storeroom, etc.) at all times when not in the possession or view of authorized personnel. Do not leave samples in unoccupied motel or hotel rooms or other areas where access cannot be controlled by the person(s) responsible for custody without first securing samples and shipping or storage containers with tamper-indicating evidence tape or custody seals

The COC form is used to trace sample possession from the time of collection to receipt at the laboratory. Although laboratories commonly supply their own COC form, it is recommended that the company's COC be used to ensure that all necessary data are recorded. Unless more stringent project requirements are in place, submit one COC form per sample shipment. At a minimum, the COC needs to have a unique COC number, accompany all the samples, and include the following information:

- Project number, name, and location
- Sampler's printed name(s) and signature(s)
- Sample identification number
- Date and time (military time) of collection
- Sample matrix
- Total number of containers per sample
- Parameters requested for analysis including number of containers per analyte
- Remarks (e.g., irreducible headspace, field filtered sample, expected concentration range, specific turn-around time requested, etc.)
- Signatures of all persons involved in the chain of possession in chronological order
- Requested turn-around-time
- Name and location of analytical laboratory
- Custody seal numbers
- Shipping courier name and tracking information
- Internal temperature of shipping container upon shipment to laboratory, as needed
- Internal temperature of shipping container upon delivery to laboratory
- Employee contact information

Affix tamper-indicating evidence tape or seals to all storage and shipping container closures when transferring or shipping sample container kits or samples to an off-property party. Place the seal so that the closure cannot be opened without breaking the seal. Record the time, calendar date and signatures of responsible personnel affixing and breaking all seals for each sample container and shipping container. Affix new seals every time a seal is broken until continuation of evidentiary custody is no longer required.



FIELD STANDARD OPERATING PROCEDURE #11

GROUNDWATER SAMPLING PROCEDURE

Groundwater sampling procedures outlined in this Standard Operating Procedure (SOP) are designed to ensure that collected samples are representative of current site conditions. These procedures can be applied to permanently or temporarily-installed monitoring wells, direct-push sample points, water supply wells with installed plumbing, extraction wells for remedial groundwater treatment systems, and excavations where groundwater is present. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

11.1 ACRONYMS AND ABBREVIATIONS

ID	Inside diameter
DI	Deionized
DNAPL	Dense non-aqueous phase liquid
DO	Dissolved oxygen
DTW	Depth-to-water
HASP	Health and safety plan
IDW	Investigation-derived waste
L/min	Liters per minute
LNAPL	Light non-aqueous phase liquid
mg/l	Milligrams per liter
mV	Millivolts
NAPL	Non-aqueous phase liquid
NTU	Nephelometric turbidity unit
ORP	Oxygen reduction potential
PID	Photoionization detector
PPE	Personal protective equipment
QAPP	Quality assurance project plan
SOP	Standard operating procedure
SU	Standard units
TD	Total depth
TOC	Top-of-casing
VOCs	Volatile organic compounds

11.2 MATERIALS

- Materials
- Field book
- PPE
- Air quality monitoring equipment (e.g., photoionization detector [PID]), as needed
- Electronic water level indicator or interface probe
- Water quality meter(s) with calibration reagents and standards, as needed
- Field test kits, as needed
- Adjustable wrench or manhole wrench, as needed
- Well key(s), as needed
- Pocket knife or scissors
- Power supply, as needed
- Sample bottles, labels, indelible markers, and clear tape
- Distilled (DI) water
- Container(s) for water storage (e.g., bucket, drum)
- Pump or bailers, tubing, and associated lanyard materials
- Filters, as needed
- Decontamination supplies

11.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of company employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field standard operating procedures, and the Quality Management System.

This SOP is designed to provide the user with a general outline for conducting groundwater sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SOP 2), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), investigation derived waste (IDW) management procedures (SOP 5), equipment decontamination (SOP 6), and use and calibration of all sampling and monitoring equipment (SOPs 7 and 8). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Before groundwater sampling, be sure to review the project-specific work plan or quality assurance project plan (QAPP) and any applicable state and federal guidelines or sampling procedures. All sampling and monitoring references must be available for consultation in the field, including:

- Company SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan and HASP
- QAPP

11.4 GENERAL PROCEDURES

Although the techniques used to sample groundwater are varied, most sampling events can be broken down into a three-step sequence:

- 1 **Gauging:** The measurement of the water column height (i.e., total well depth less depth-to-water) within the well.
- 2 **Purging:** The removal of stagnant water from the well bore to ensure that samples collected are representative of groundwater conditions in the water-bearing zone surrounding the well.
- 3 **Sample Collection:** After purging, the collection of aliquots of groundwater in method-specific, preserved (as needed) containers.

The procedures and equipment that are used to accomplish these steps are project-specific and should be discussed by the project team before arriving onsite. All types of groundwater sampling, however, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable, decontaminated, or dedicated sampling equipment
- The use and rotation of the appropriate PPE
- Selection of a suitable sampling location and staging area

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the previous sample. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. **In no case should gloved hands be used as a sampling device: always use the appropriate sampler to move the sample from the sampling device to the laboratory-supplied containers.**

11.4.1 EQUIPMENT SELECTION

Collect all samples using either new, disposable equipment or properly decontaminated sampling equipment. Groundwater purging and sampling equipment should be selected based on the analytical requirements of the project and the project specific conditions (e.g., well diameter, depth to water, dissolved constituents, etc.) likely to be encountered. The equipment should be constructed of non-reactive, non-leachable materials (e.g., stainless steel, Teflon®, Teflon®-coated steel, polyethylene, polypropylene, etc.) which are compatible with the chemical constituents at the site. Note that project or regulatory guidance may limit the type of equipment for groundwater sampling. When choosing groundwater purging and sampling equipment, give consideration to:

- the diameter and depth of the well
- the depth to groundwater
- the volume of water to be withdrawn
- the sampling and purging technique
- the volume of sample required
- the analytes of interest

Select the decontamination procedures based on the types of sampling to be performed and media encountered; decontamination may require multiple steps or differing cleaning methods (see SOP 6 for decontamination procedures). In no case should disposable, single use materials be used to collect more than one sample.

11.4.2 PRE-SAMPLING CONSIDERATIONS

In preparing for sampling, you should perform the following activities (with all observations and measurements noted in the field book and on the project-specific groundwater monitoring log, if appropriate):

- Perform a quick reconnaissance of the site to identify sampling locations and evaluate the accessibility to the sampling location.
- Record the approximate ambient air temperature, precipitation, wind (direction and speed), tide, and other field conditions. In addition, any site-specific conditions or situations that could potentially affect the samples at the sample locations should be recorded.

- Record sampling locations with respect to approximate distance to and direction from at least one permanent feature.
- Survey the breathing zone around the sampling location with the appropriate air quality meter(s), as necessary (see HASP), to ensure that the level of PPE is appropriate.
- As appropriate, install the pump, tubing, or passive sampler to the depth prescribed in the project-specific work plan or QAPP.
- Containerize and/or manage purge water in accordance with the project-specific work plan.

When sampling groundwater, it is important to find a suitable sampling location away from any sources of cross-contamination that could compromise the integrity of the samples. Consider the following:

- Position the sample collection area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample. This is particularly important when screening samples in the field for volatile organic compounds with a PID, but should not be limited to the active sample collection.
- Establish a secure sample staging area in an uncontaminated area of the site.

11.5 GAUGING PROCEDURES

All wells should be opened to the atmosphere in advance of sampling to allow any pressure differentials, which could artificially raise or depress the water column in the well, to dissipate. The wells should be inspected to ensure that the protective casing is intact and has not been damaged. Remove the well covers and all standing water around the top of the well casing (for flush mounted-protective covers), as necessary, before opening the inner well cap or plug. Unlock and carefully remove well cap and allow the well to stand undisturbed for a minimum of 15 minutes before conducting any down-hole testing or measurements. If required by the HASP, survey the open well casing and the breathing zone around the wellhead with a PID to ensure that the level of PPE is appropriate.

11.5.1 GROUNDWATER LEVEL AND TOTAL DEPTH MEASUREMENT PROCEDURES

Depth to water (DTW) and total depth (TD) measurements are typically collected prior to sampling and are used to determine the volume water to be purged from the well (if using techniques other than no-purge or low flow sampling). The DTW measurements are also used after the sampling event is completed to establish the groundwater elevation, flow direction, and gradient. Unless otherwise directed, do not place any objects inside the casing of private water wells; accordingly, DTW and TD measurements should not be collected at private water wells. TD measurements are not required for low-flow and no-purge sampling applications and should not be measured before sampling the well.

Water level measurements must be collected within the shortest interval possible from all selected existing wells to be gauged during the event before beginning any purge and sampling procedures at the site. This will ensure a nearly instantaneous snapshot of the water levels before the formations are disturbed by pumping or acted upon by other outside influences, such as tides, precipitation, barometric pressure, river stage, or intermittent pumping of production, irrigation, or supply wells.

- Record the following observations and measurements in the field book:
- Measure the casing inside diameter (ID) and record in inches
- Measure the DTW with an electronic water level indicator (or an interface meter, if non-aqueous phase liquid [NAPL] is potentially present – see procedures below) from the top-of-casing (TOC) at the surveyor's mark, if present, and record the depth (to the nearest 0.01 foot) in feet below TOC
- If no mark is present, measure from the north side of the casing and mark the measuring point with a knife, metal file (if the inner casing is metal) or indelible marker for future reference
- Measure the TD from TOC at the surveyor's mark or north side of the casing, as appropriate.

Because of tape buoyancy and weight effects encountered in deep wells with long water columns, it may be difficult to determine the TD of the well with an electronic water level indicator; sediment in the bottom of the well can also make it difficult to determine TD. Care must be taken and proper equipment selection must be used in these situations to ensure accurate measurements. Multiple TD measurements in silt-laden wells can provide a more precise assessment of the bottom depth.

11.5.2 GAUGING WELLS WITH NON-AQUEOUS PHASE LIQUID

If NAPL is potentially present at the site, the DTW and NAPL thickness measurements are collected using an interface meter capable of distinguishing between the NAPL and the groundwater, or a weighted tape coated with the appropriate reactive indicator paste for the suspected NAPL. Measuring NAPL thicknesses must be done with care to avoid agitating the liquids and generating an emulsion. This is particularly the case for light NAPL (LNAPL; those having a density less than water), which are typically viscous oils that cling to the probe. Oil coating the probe can result in thickness measurements that are biased high (i.e., overestimate the thickness of the NAPL).

Conduct the following procedures to ensure an accurate measurement of the NAPL thickness:

- For LNAPL, slowly lower the electronic interface probe in the well casing until the electronic tone indicates the probe is at the top of the LNAPL layer; measure the depth below the TOC to the nearest 0.01 foot.
- To gauge the NAPL thickness, advance the probe slowly through the layer until the electronic tone indicates top of the water column and then slowly bring the probe back up to the bottom of the LNAPL. Repeat this process several times to ensure an accurate measurement of the bottom of the LNAPL layer (which can include bubbles and an emulsion layer).
- For dense NAPL (DNAPL), advance the probe through the water column until the tone indicates the top of the DNAPL layer; record the depth below TOC.
- To gauge the DNAPL thickness, advance the probe through the layer to the bottom of the well.

11.6 GROUNDWATER PURGING PROCEDURES

Purging is a process whereby potentially stagnant water is removed allowing the collection of samples that are representative of groundwater conditions in the water-bearing zone. The water in a well bore that has not been purged may be different than the surrounding formation due to a number of factors, such as exposure to ambient air. There are a number of purging methods and several no-purge methods that may be used, depending on specific conditions encountered (e.g., DTW, hydraulic conductivity of the formation, etc.) and the sampling requirements. Several purge/no purge options are described below.

- **Multiple Volume Purge:** Traditional well purging technique that relies on the withdrawal of the volume of the well bore and the surrounding filter pack (if present); typically three to five well volumes are removed using pumps or bailers. This methodology relies on equipment that is easy to obtain and use and is generally accepted in most states as an appropriate purging method.
- **Temporary Well Purge:** A variation of the multiple volume purge technique that typically uses inertia lift pumps, peristaltic pumps, or bailers to remove water from a temporary well or discrete groundwater sampler. This is a less stringent technique that is typically done to minimize the turbidity of the samples, which can be high due to the lack of a well filter pack.
- **Private Water Well or In-Place Plumbing Purge:** A variation on the multiple volume purge technique whereby a tap or faucet is opened on a fixed water supply pipe and is allowed to remain open until the potentially stagnant water within the well casing and other components of the system (e.g., fixed piping, pressure tanks, etc.) has been removed and groundwater representative of the water-bearing zone is discharged at the tap.
- **Low-Flow (Minimal Drawdown/Low Stress) Purge (and Sampling):** A modified purging technique that establishes an isolated, discrete, horizontal flow zone directly adjacent to the pump intake; this method requires the pump to be placed within a screened-interval or open borehole. Pumping rates are typically 0.1 to 0.5 liters per minute (L/min) or less to minimize the stress on the surrounding formation and reduce the geochemical alteration of the groundwater caused by pumping.
- **No-Purge/Passive Sampling Techniques:** These techniques use specialized equipment, such as permeable diffusion bags or trap samplers, to sample the undisturbed water column within a screened interval or open borehole. This methodology assumes that the water in the well is representative of the surrounding formation. Depending on the sampling device used, this approach is well suited for some VOCs, metals, and hydrophobic compounds.

11.6.1 CALCULATING ONE PURGE VOLUME

For multiple volume purging techniques, a **minimum** of three well volumes of water must be removed before sample collection. The actual amount of water removed may be greater than the three volumes, depending on geochemical parameter stabilization (the field measurement of these parameters is discussed below).

Calculate the volume of water in a well or boring using the following equation:

$$\text{Volume (gallons)} = (\text{TD} - \text{DTW}) \times \text{ID}^2 \times 0.041$$

Alternately, the volume of water in a well or boring may also be calculated by multiplying the water column height by the gallons per foot of water for the appropriate well or boring diameter:

ID	GALLONS PER FOOT OF WATER	GALLONS PER THREE WATER COLUMNS
1-inch	0.04	0.12
2-inch	0.16	0.48
3-inch	0.37	1.11
4-inch	0.65	1.98

Calculate the total volume of the pump, associated tubing and container for in situ measurements (flow-through cell), using the following equation:

$$\text{Volume (in gallons)} = P + ((0.0041) \times D^2 \times L) + fc$$

where:

P = volume of pump (gallons)

D = tubing diameter (inches)

L = length of tubing (feet)

fc = volume of flow-through cell (gallons)

11.6.2 MULTIPLE VOLUME PURGE PROCEDURES

Begin purging at a rate that will not cause excessive turbulence and drawdown in the well; commonly less than 1 gallon per minute for a typical 2-inch diameter monitoring well. The objective is to remove the stagnant water in the casing and surrounding filter pack or open borehole allowing water from the surrounding water-bearing zone to enter the well for sampling with as little disturbance as possible. Excessive pump rates or well dewatering can result in higher turbidity, potential volatilization, and/or geochemical alteration of dissolved parameters. If drawdown is observed on initiation of pumping, reduce the pump speed and attempt to match the drawdown of the well. Once drawdown is stabilized, measure the flow rate with a calibrated container and stopwatch.

Collect stabilization parameters at a minimum frequency of once for every well volume of water removed during the purge process. Record the measurements in the field book along with any other pertinent details, such as the visual quality of the water (e.g., color, odor, and presence of suspended particulates) and the measured withdrawal rate, as possible. After the minimum purge volume has been removed, review the geochemical measurements to ensure that readings have stabilized. Stabilization occurs when at least three consecutive measurements are within the following tolerances:

TRADITIONAL PURGE STABILIZATION PARAMETERS	
pH	± 0.1 standard units (SU)
Specific Conductance	± 3%
Temperature	± 3%
Dissolved Oxygen (DO)	± 0.2 milligrams per liter (mg/l) or 10% (flow-through cell only)
Turbidity	± 10% for values greater than 10 nephelometric turbidity units (NTU)
Oxygen Reduction Potential (ORP)	± 10 millivolts (mV; flow-through cell only)

If the parameters have not stabilized within five well volumes and your water meter is operating properly, consult your project manager to decide whether or not to collect a sample or to continue purging.

For wells with extremely slow recharge, purging may ultimately dewater the well before the minimum purge can be completed. If the well or borehole is purged dry before removing three well volumes, allow the well or boring to recharge to a level of approximately 90% of the static pre-purge water elevation and proceed immediately to sample collection. If recovery exceeds 2 hours, sample as soon as sufficient sample volume is available, in accordance with applicable regulations.

11.6.3 LOW-FLOW PURGE PROCEDURES

Low flow purging and sampling is used to obtain representative groundwater samples without removing all of the water within the well. The protocol uses low pumping rates (i.e., less than 0.5 L/min) to establish an isolated zone around the inlet of the pump where flow is horizontal (i.e., from the water bearing zone) rather than from the stagnant water in the well casing above and below the pump. Selection of an appropriate pump is critical to establishing the flow zone. A pump must be selected that is suited for low pumping rates and is appropriate for the analytical samples; bailers are not appropriate.

Slowly lower the pump and tubing into the water column to avoid agitating the water column; use of a lanyard is recommended. Once the specified sampling depth is reached, secure the pump and tubing at the wellhead; the depth must be noted in the field book. Avoid contacting the bottom of the well by using pre-cut tubing at the appropriate length or by lowering the pump simultaneously with an electronic water level indicator. Once the pump has been inserted and secured, allow the water levels to return to static conditions before initiating the purge.

The discharge tubing must be connected to an in-line flow-through cell equipped with a multi-parameter real-time water quality meter. The flow-through cell minimizes the exposure of the groundwater to ambient air which has a substantial effect on dissolved oxygen and ORP measurements.

Start the pump and maintain a steady flow rate that results in a stabilized water level (less than 0.3 feet of drawdown). If needed, reduce the pumping rate to the minimum capabilities of the pump. Record each adjustment made to the pumping rate and the water level measured immediately after each adjustment. Purging should not exceed 0.5 L/min.

During purging, monitor and record geochemical parameters at 30 seconds to 5 minute intervals (depending on the hydraulic conductivity of the aquifer, diameter of the well, and pumping rate). Stabilization occurs once the following criteria have been met over three successive measurements made at least three minutes apart:

LOW-FLOW PURGE STABILIZATION PARAMETERS	
Water Level Drawdown	<0.3 feet
pH	± 0.1 SU
Specific Conductance	± 3%
Temperature	± 3%
DO	± 0.2 mg/l or 10% (flow-through cell only)
Turbidity	± 10% for values greater than 10 NTU
ORP	± 10 mV (flow-through cell only)

Record any other notable observations in the field book (e.g., groundwater color).

11.6.4 NO-PURGE PASSIVE SAMPLING TECHNIQUES

A number of alternate sampling devices are available, including equilibrated grab samplers, passive diffusion samplers, and other in situ sampling devices. These devices may be particularly useful for sampling low permeability geologic materials, assuming the device is made of materials compatible with the analytical parameters, meets data quality objectives, and has been properly evaluated.

No-purge grab or trap samplers are placed in the well before sampling and typically remain closed (i.e., no water is allowed into the sampler during insertion) until the sampler is activated. This allows the sampler device to equilibrate with the surrounding groundwater (to prevent adsorption to the sampler materials) and for the groundwater to recover and re-establish the natural flow after the disturbance caused by the sampler insertion into the well. Typical equilibration times depend on the well recovery rates and the type of sampler used. Samples are either transferred to containers at the well head or the sampler itself is shipped to the laboratory for analysis. Examples of equilibrated grab samplers include Hydrosleeve®, Snap Sampler™, and Kemmerer Sampler.

Equilibration time for diffusion samplers are generally dictated by the diffusion rate through the permeable membrane and, thus, are less sensitive to changes induced within the well during deployment. Most diffusion bag samplers have a minimum equilibration time of 14 days prior to sample collection. The samplers may be deployed for an extended period (e.g., three months or longer), although the continuous exchange between the sampler and the well water means that the sampler will likely reflect only the conditions in the few days preceding the sample collection.

11.6.5 TEMPORARY WELL PURGE PROCEDURES

Procedures used to purge temporary groundwater monitoring wells differ from permanent wells because temporary wells are installed for immediate sample acquisition. Wells of this type may include open bedrock boreholes, standard polyvinyl chloride well screen and riser placed in open boreholes, or drilling rod-based sampling devices (e.g., Wellpoint®, Geoprobe® Screen Point or Hydropunch® samplers). Purging temporary wells of this type may not be necessary because stagnant water is typically not present. However, if water is used in the drilling process, purging would be necessary. Purging can minimize the turbidity in the sample, which can be significant due to the disturbance caused by the sampler installation and to rinse the sampling system with groundwater. The exception is for groundwater profiling applications (e.g., using a Waterloo Profiler®) where a more rigorous purge is used (using the multiple volume purge techniques described above) to limit the potential for cross contamination between sample intervals.

11.6.6 PRIVATE WATER WELL OR IN-PLACE PLUMBING PURGE PROCEDURES

The configuration and construction of private water wells varies widely, and access points for obtaining groundwater samples may be limited. WSP personnel should coordinate with the property owner/representative to access functioning ports and valves to avoid causing any inadvertent damage.

Collect the groundwater sample as close to the well as possible (e.g., from a sample port at the well head) to ensure the sample is representative. Ideally, the sample should be collected upstream of the piping and treatment equipment (e.g., particulate filter, water softener, carbon filters, ultra-violet lights), heating unit, or storage tanks. The following potential sampling locations are presented in order of preference:

- Sampling port or spigot near the well head or piping system prior to entry into the storage tank
- Sampling port or spigot at storage tank
- Sampling port or spigot downstream of the pressure tank or holding tank but upstream of any water treatment equipment
- Tap or faucet

If purging from a tap or faucet, try to remove any aerators, filters, or other devices from the tap before purging and work with the property owner/representative to bypass any water treatment systems. Document where the sample was collected and any steps that were taken to minimize the potential alteration of the water sample in the field book.

Purge the system by opening the tap or spigot and allowing the water to run for several minutes. Observe and record the purge rate for the system. The minimum purge volume must be more than the combined volume of the pump, tanks, piping, etc. After the minimum purge volume has been removed, review the geochemical measurements to ensure that readings have stabilized using the same procedures as those used for the multiple volume purge detailed above. If the minimum volume is unknown, purge the system for a minimum of 15 minutes, until the parameter readings have stabilized, and no suspended particles (e.g., iron or rust) are visible. Record the final purge volume in the field book and any water quality observations.

11.7 GROUNDWATER SAMPLE COLLECTION PROCEDURES

Collect groundwater samples as soon as possible after the geochemical parameters indicate representative groundwater is present. As practically possible, reduce the pump flow rate, but maintain a flow rate high enough to deliver a smooth stream of water without splashing or undue agitation. Collect samples directly from the tubing as it exits the well bore; do not sample on the downstream side of flow through cells or any other instrumentation. If using a bailer for sample collection, lower and raise the bailer slowly and smoothly to minimize the disturbance to the water within the well.

Collect groundwater samples in order of volatilization sensitivity with organic compounds sampled first followed by inorganic compounds:

- VOCs
- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Total metals
- Dissolved metals (see filtering procedures below)
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collect quality assurance/quality control samples in accordance with SOP 4 and the project-specific work plan or QAPP.

As necessary, conduct field tests or screening in accordance with the project-specific work plan and manufacturer's specifications for field testing equipment. Field samples must be directly transferred from the sampling equipment to the container that has been specifically prepared for that given parameter; intermediate containers should be avoided.

Record the depth interval, if applicable, which the sample was collected in the field book. Note the volume, phases, and color of the groundwater in the field book.

11.7.1 GROUNDWATER FILTRATION PROCEDURES

Filtered groundwater samples are sometimes used for field kit analyses and should only be collected for laboratory analysis after approval from the appropriate regulatory agency and/or project manager. If groundwater sample filtration is necessary, the following procedures should be followed:

- Use a variable speed peristaltic pump with the in-line filter fitted on the outlet end; pressurized bailers can also be used
- Insert the pump inlet tubing into the intermediate container holding the surface water sample
- Turn on the pump and reduce the flow rate, but maintain a flow rate high enough to deliver a smooth stream of water without splashing or undue agitation, hold the filter upright with the inlet and outlet in the vertical position and pump groundwater through the filter until all atmospheric oxygen has been removed and the minimum volume of water has been flushed through the filter, in accordance with the manufacturer's specifications
- Collect the filtered samples directly into the sample container from the pump-filter assembly
- If sediment is visible in the sample container after filtration, filter break-through has occurred and the sampling and filtering process should be repeated
- Discard the tubing and filter appropriately
- If a submersible pump is used to collect the groundwater sample, attached the in-line filter to the outlet end and follow the last four steps described above

11.7.2 NON-AQUEOUS PHASE LIQUID SAMPLING PROCEDURES

Non-aqueous phase liquid is typically sampled to identify the compound, usually through an analytical "fingerprint" analysis. The usefulness of this type of sampling is limited as many NAPLs weather in the subsurface making definitive identification problematic. If samples are to be collected, the sampling options and techniques should be discussed with the assigned WSP compliance professional and project manager to ensure that the NAPL is not considered to be a hazardous material for the purpose of shipping to the laboratory (SOP 3). Samples of NAPL should be collected using the same procedures as above and placed in the appropriate laboratory-supplied containers, packed on ice, and shipped to the analytical laboratory using procedures outlined in SOP 3.

11.7.3 SAMPLE LABELING AND PREPARATION FOR SHIPMENT

Once collected, prepare the groundwater samples for offsite laboratory analysis:

- 1 Clean the outside of the sample container, if necessary
- 2 Affix a sample tag or label to each sample container and complete all required information (sample number, date, time, sampler's initials, analysis, preservatives, place of collection)
- 3 Place clear tape over the tag or label (if non-waterproof labels are used)
- 4 Preserve samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celsius
- 5 Record the sample designation, date, time, and the sampler's initials in the field book and on a sample tracking form, if appropriate
- 6 Complete the chain-of-custody forms with appropriate sampling information, including:
 - location
 - sample name
 - sample collection date and time
 - number of sample containers
 - analytical method
- 7 Secure the sample packing and shipping in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a WSP compliance professional.



11.8 CLOSING NOTES

Once sampling is completed, secure, restore and/or mark all sample locations with spray paint, stakes, or other appropriate marker for future reference or survey in accordance with the project-specific project work plan. Decontaminate all equipment prior to departure and properly manage all PPE and IDW in conformance with applicable regulations.

APPENDIX

C LABORATORY ANALYTICAL REPORT

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP Environment & Energy

Former General Instrument Site (GIC), Sherburne, NY

31401203.418

SGS Job Number: JC64558

Sampling Date: 04/17/18

Report to:

WSP Environment & Energy
5 Sullivan Street
Cazenovia, NY 13035
Erik.Reinert@WSPGroup.com

ATTN: Erik Reinert

Total number of pages in report: **144**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy F. Cole

Nancy Cole
Laboratory Director

Client Service contact: Rocus Peters 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

WSP Environment & Energy

Job No: JC64558

Former General Instrument Site (GIC), Sherburne, NY
Project No: 31401203.418

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC64558-1	04/17/18	11:45	NW	04/19/18	AQ Ground Water	P-8
JC64558-2	04/17/18	11:00	NW	04/19/18	AQ Ground Water	MW-0418
JC64558-3	04/17/18	11:55	NW	04/19/18	AQ Ground Water	MW-17
JC64558-4	04/17/18	12:10	NW	04/19/18	AQ Ground Water	MW-31
JC64558-4D	04/17/18	12:10	NW	04/19/18	AQ Water Dup/MSD	MW-31-MSD
JC64558-4S	04/17/18	12:10	NW	04/19/18	AQ Water Matrix Spike	MW-31-MS
JC64558-5	04/17/18	12:10	NW	04/19/18	AQ Trip Blank Water	TRIP BLANK

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: WSP Environment & Energy

Job No JC64558

Site: Former General Instrument Site (GIC), Sherburne, NY

Report Date 4/25/2018 11:23:00 A

On 04/19/2018, 4 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC64558 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260C

Matrix: AQ

Batch ID: V1A7678

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC64558-4MS, JC64558-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 1,1,2,2-Tetrachloroethane are outside control limits. High percent recoveries and no associated positive reported in the QC batch.
- Matrix Spike Recovery(s) for 1,1,2,2-Tetrachloroethane are outside control limits. Outside in house control limits.
- Matrix Spike Duplicate Recovery(s) for 1,1,2,2-Tetrachloroethane are outside control limits. Outside in house control limits.
- RPD(s) for MSD for Bromomethane are outside control limits for sample JC64558-4MSD. Outside control limits due to matrix interference.
- JC64558-4 for 1,1,2,2-Tetrachloroethane: This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.
- JC64558-3 for 1,1,2,2-Tetrachloroethane: This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.
- JC64558-1 for 1,1,2,2-Tetrachloroethane: Associated CCV outside of control limits high, sample was ND.
- JC64558-2 for 1,1,2,2-Tetrachloroethane: Associated CCV outside of control limits high, sample was ND.
- JC64558-5 for 1,1,2,2-Tetrachloroethane: This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Wednesday, April 25, 2018

Page 1 of 1

Summary of Hits

Page 1 of 1

Job Number: JC64558

Account: WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Collected: 04/17/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC64558-1 P-8

Acetone	16.1	10	5.0	ug/l	SW846 8260C
Benzene	0.26 J	0.50	0.17	ug/l	SW846 8260C
cis-1,2-Dichloroethene	98.4	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene	0.70 J	1.0	0.40	ug/l	SW846 8260C
Toluene	0.28 J	1.0	0.25	ug/l	SW846 8260C
Trichloroethene	3.3	1.0	0.27	ug/l	SW846 8260C
Vinyl chloride	75.1	1.0	0.62	ug/l	SW846 8260C

JC64558-2 MW-0418

Acetone	15.7	10	5.0	ug/l	SW846 8260C
Benzene	0.25 J	0.50	0.17	ug/l	SW846 8260C
cis-1,2-Dichloroethene	98.3	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene	0.67 J	1.0	0.40	ug/l	SW846 8260C
Toluene	0.28 J	1.0	0.25	ug/l	SW846 8260C
Trichloroethene	3.4	1.0	0.27	ug/l	SW846 8260C
Vinyl chloride	75.0	1.0	0.62	ug/l	SW846 8260C

JC64558-3 MW-17

cis-1,2-Dichloroethene	25.5	1.0	0.50	ug/l	SW846 8260C
Trichloroethene	2.7	1.0	0.27	ug/l	SW846 8260C

JC64558-4 MW-31

cis-1,2-Dichloroethene	13.4	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene	0.41 J	1.0	0.40	ug/l	SW846 8260C
Trichloroethene	1.4	1.0	0.27	ug/l	SW846 8260C
Vinyl chloride	1.2	1.0	0.62	ug/l	SW846 8260C

JC64558-5 TRIP BLANK

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 2

Client Sample ID:	P-8	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-1	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A180397.D	1	04/21/18 13:25	VP	n/a	n/a	V1A7678
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	16.1	10	5.0	ug/l	
71-43-2	Benzene	0.26	0.50	0.17	ug/l	J
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	98.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.70	1.0	0.40	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P-8	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-1	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane ^a	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.28	1.0	0.25	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	3.3	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	75.1	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

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Client Sample ID:	MW-0418	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-2	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A180398.D	1	04/21/18 13:50	VP	n/a	n/a	V1A7678
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	15.7	10	5.0	ug/l	
71-43-2	Benzene	0.25	0.50	0.17	ug/l	J
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	98.3	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.67	1.0	0.40	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-0418	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-2	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane ^a	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.28	1.0	0.25	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	3.4	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	75.0	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

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Client Sample ID:	MW-17	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-3	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A180396.D	1	04/21/18 13:00	VP	n/a	n/a	V1A7678
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	25.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-3	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane ^a	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	2.7	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

(a) This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

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Client Sample ID:	MW-31	
Lab Sample ID:	JC64558-4	Date Sampled: 04/17/18
Matrix:	AQ - Ground Water	Date Received: 04/19/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	Former General Instrument Site (GIC), Sherburne, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A180395.D	1	04/21/18 12:35	VP	n/a	n/a	V1A7678
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	13.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.41	1.0	0.40	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-31	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-4	Date Received:	04/19/18
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane ^a	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	1.4	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	1.2	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

(a) This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

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Client Sample ID:	TRIP BLANK	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-5	Date Received:	04/19/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A180407.D	1	04/21/18 17:33	VP	n/a	n/a	V1A7678
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	04/17/18
Lab Sample ID:	JC64558-5	Date Received:	04/19/18
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Former General Instrument Site (GIC), Sherburne, NY		

VOA TCL List (OLM4.2)

CAS No.	Compound	Result	RL	MDL	Units	Q
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane ^a	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

(a) This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

WSP Parsons Brinckerhoff Office Address						Requested Analyses & Preservatives													
5 SULLIVAN ST. CAZENOVIA NY 13035 Project Name FOMEREN 6IL Project Location SHERBOURNE, NY Project Number & Task 31401203-414 Sampler(s) Name(s) NATE WINSTON						WSP Parsons Brinckerhoff Contact Name EAIK REINERT WSP Parsons Brinckerhoff Contact E-mail EAIK.REINERT @wspgroup.com WSP Parsons Brinckerhoff Contact Phone 315-655-3900 Sampler(s) Signature(s) 													No. 004326 WSP PARSONS BRINCKERHOFF
												Laboratory Name & Location 565 ACUTEST, NJ							
												Laboratory Project Manager AOCUS PETERIS.							
												Requested Turn-Around-Time ☒ Standard ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ _____ HR							
												Sample Comments							
Sample Identification		Matrix	Collection Start*		Collection Stop*	Number of Containers													
		Date	Time	Date	Time														
MW-P-8		AQ	---	4/17/18	1145		3	X					VZ36						
MW-0418		I	=		1100		2	X											
MW-17		I	=		1155		3	X											
MW-31-M5/M5D		I	---		1210	5	X					RUN M5/M5O							
TRIP BLANK *		*																	
& TB ADDED TO CO @ 4/17/18																			
INITIAL ASSESSMENT <u>QA Done</u>																			
LABEL VERIFICATION _____																			
Relinquished By (Signature)		Date	Time	Received By (Signature)		Date	Time	Shipment Method	Tracking Number(s)										
		4/18/18	1100	FX				Fedex											
Relinquished By (Signature)		Date	Time	Received By (Signature)		Date	Time	Number of Packages	Custody Seal Number(s)										
FX		4/19/18	9:30			4/19/18	930	1											

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples.
Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Waste, B = Bulk, O = Other (detail in comments)

SGS Sample Receipt Summary

Job Number: JC64558

Client: WSP ENVIRONMENT & ENERGY

Project: FORMER GENERAL INSTRUMENT SITE (GIC),

Date / Time Received: 4/19/2018 9:30:00 AM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.5);

Cooler Security
Y or N
Y or N

- | | |
|--|---|
| 1. Custody Seals Present: ☒ Y ☐ N | 3. COC Present: ☒ Y ☐ N |
| 2. Custody Seals Intact: ☒ Y ☐ N | 4. Smpl Dates/Time OK: ☒ Y ☐ N |

Cooler Temperature
Y or N

- | | |
|---|-----------|
| 1. Temp criteria achieved: ☒ Y ☐ N | IR Gun |
| 2. Cooler temp verification: | |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers: | 1 |

Quality Control Preservation
Y or N
N/A

- | | |
|---|--|
| 1. Trip Blank present / cooler: ☒ Y ☐ N ☐ N/A | |
| 2. Trip Blank listed on COC: ☒ Y ☐ N ☐ N/A | |
| 3. Samples preserved properly: ☒ Y ☐ N ☐ N/A | |
| 4. VOCs headspace free: ☒ Y ☐ N ☐ N/A | |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: ☒ Y ☐ N | |
| 2. Container labeling complete: ☒ Y ☐ N | |
| 3. Sample container label / COC agree: ☒ Y ☐ N | |

Sample Integrity - Condition
Y or N

- | | |
|---|--------|
| 1. Sample recvd within HT: ☒ Y ☐ N | |
| 2. All containers accounted for: ☒ Y ☐ N | |
| 3. Condition of sample: | Intact |

Sample Integrity - Instructions
Y or N
N/A

- | | |
|--|--|
| 1. Analysis requested is clear: ☒ Y ☐ N | |
| 2. Bottles received for unspecified tests: ☐ Y ☒ N | |
| 3. Sufficient volume recvd for analysis: ☒ Y ☐ N | |
| 4. Compositing instructions clear: ☐ Y ☐ N ☒ N/A | |
| 5. Filtering instructions clear: ☐ Y ☐ N ☒ N/A | |

Test Strip Lot #s:	pH 1-12: 216017	pH 12+: 208717	Other: (Specify) _____
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Comments

SM089-03
Rev. Date 12/7/17

JC64558: Chain of Custody

Page 2 of 2

Internal Sample Tracking Chronicle

WSP Environment & Energy

Job No: JC64558

Former General Instrument Site (GIC), Sherburne, NY
Project No: 31401203.418

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC64558-1 P-8	Collected: 17-APR-18 11:45	By: NW	Received: 19-APR-18	By: AS		
JC64558-1	SW846 8260C	21-APR-18 13:25	VP			V8260TCL42
JC64558-2 MW-0418	Collected: 17-APR-18 11:00	By: NW	Received: 19-APR-18	By: AS		
JC64558-2	SW846 8260C	21-APR-18 13:50	VP			V8260TCL42
JC64558-3 MW-17	Collected: 17-APR-18 11:55	By: NW	Received: 19-APR-18	By: AS		
JC64558-3	SW846 8260C	21-APR-18 13:00	VP			V8260TCL42
JC64558-4 MW-31	Collected: 17-APR-18 12:10	By: NW	Received: 19-APR-18	By: AS		
JC64558-4	SW846 8260C	21-APR-18 12:35	VP			V8260TCL42
JC64558-5 TRIP BLANK	Collected: 17-APR-18 12:10	By: NW	Received: 19-APR-18	By: AS		
JC64558-5	SW846 8260C	21-APR-18 17:33	VP			V8260TCL42

SGS Internal Chain of Custody

Page 1 of 1

Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY
Received: 04/19/18

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC64558-1.2	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-1.2	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-1.2	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-1.2	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-2.1	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-2.1	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-2.1	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-2.1	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-3.2	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-3.2	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-3.2	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-3.2	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-4.3	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-4.3	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-4.3	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-4.3	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-4.4	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-4.4	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-4.4	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-4.4	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-4.5	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-4.5	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-4.5	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-4.5	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage
JC64558-5.2	Secured Storage	Payal Rana	04/21/18 12:23	Retrieve from Storage
JC64558-5.2	Payal Rana	GCMS1A	04/21/18 12:23	Load on Instrument
JC64558-5.2	GCMS1A	Vidish Pandya	04/23/18 09:09	Unload from Instrument
JC64558-5.2	Vidish Pandya	Secured Storage	04/23/18 09:09	Return to Storage

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Page 1 of 2

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A7678-MB	1A180394.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:

Method: SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	0.50	0.17	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.4	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	1.0	0.59	ug/l	
67-66-3	Chloroform	ND	1.0	0.29	ug/l	
74-87-3	Chloromethane	ND	1.0	0.53	ug/l	
110-82-7	Cyclohexane	ND	5.0	0.63	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.16	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.21	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.9	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.47	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.40	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.24	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.22	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
76-13-1	Freon 113	ND	5.0	1.2	ug/l	
591-78-6	2-Hexanone	ND	5.0	3.3	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.25	ug/l	
79-20-9	Methyl Acetate	ND	5.0	3.1	ug/l	
108-87-2	Methylcyclohexane	ND	5.0	1.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	3.0	ug/l	

Method Blank Summary

Page 2 of 2

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A7678-MB	1A180394.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:

Method: SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	Result	RL	MDL	Units	Q
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.1	ug/l	
100-42-5	Styrene	ND	1.0	0.24	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.17	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.24	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.27	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.60	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.62	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	80-120%
17060-07-0	1,2-Dichloroethane-D4	98%	81-124%
2037-26-5	Toluene-D8	98%	80-120%
460-00-4	4-Bromofluorobenzene	100%	80-120%

CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Page 1 of 2

Job Number: JC64558**Account:** WSPENYC WSP Environment & Energy**Project:** Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A7678-BS	1A180392.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	200	189	95	42-150
71-43-2	Benzene	50	52.5	105	80-120
75-27-4	Bromodichloromethane	50	52.0	104	83-120
75-25-2	Bromoform	50	53.3	107	76-129
74-83-9	Bromomethane	50	55.4	111	57-138
78-93-3	2-Butanone (MEK)	200	236	118	64-137
75-15-0	Carbon disulfide	50	43.3	87	64-137
56-23-5	Carbon tetrachloride	50	46.2	92	75-135
108-90-7	Chlorobenzene	50	52.2	104	84-117
75-00-3	Chloroethane	50	58.9	118	63-132
67-66-3	Chloroform	50	50.6	101	80-119
74-87-3	Chloromethane	50	59.7	119	46-136
110-82-7	Cyclohexane	50	40.3	81	64-137
96-12-8	1,2-Dibromo-3-chloropropane	50	58.5	117	72-127
124-48-1	Dibromochloromethane	50	52.7	105	80-123
106-93-4	1,2-Dibromoethane	50	55.2	110	84-117
95-50-1	1,2-Dichlorobenzene	50	52.6	105	84-119
541-73-1	1,3-Dichlorobenzene	50	51.6	103	81-117
106-46-7	1,4-Dichlorobenzene	50	51.7	103	82-117
75-71-8	Dichlorodifluoromethane	50	45.8	92	36-149
75-34-3	1,1-Dichloroethane	50	51.7	103	79-120
107-06-2	1,2-Dichloroethane	50	52.3	105	78-126
75-35-4	1,1-Dichloroethene	50	47.5	95	69-126
156-59-2	cis-1,2-Dichloroethene	50	51.9	104	80-120
156-60-5	trans-1,2-Dichloroethene	50	50.4	101	76-120
78-87-5	1,2-Dichloropropane	50	54.9	110	82-121
10061-01-5	cis-1,3-Dichloropropene	50	51.6	103	83-120
10061-02-6	trans-1,3-Dichloropropene	50	53.2	106	82-121
100-41-4	Ethylbenzene	50	50.0	100	80-120
76-13-1	Freon 113	50	44.4	89	62-182
591-78-6	2-Hexanone	200	241	121	65-132
98-82-8	Isopropylbenzene	50	47.0	94	83-120
79-20-9	Methyl Acetate	50	58.6	117	67-129
108-87-2	Methylcyclohexane	50	43.4	87	71-134
1634-04-4	Methyl Tert Butyl Ether	50	50.8	102	80-119
108-10-1	4-Methyl-2-pentanone(MIBK)	200	228	114	71-131

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A7678-BS	1A180392.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:

Method: SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-09-2	Methylene chloride	50	52.6	105	77-120
91-20-3	Naphthalene	50	54.5	109	73-131
100-42-5	Styrene	50	50.2	100	82-122
79-34-5	1,1,2,2-Tetrachloroethane	50	66.8	134* a	76-119
127-18-4	Tetrachloroethene	50	50.5	101	70-131
108-88-3	Toluene	50	52.7	105	80-120
120-82-1	1,2,4-Trichlorobenzene	50	54.9	110	79-132
71-55-6	1,1,1-Trichloroethane	50	48.1	96	81-128
79-00-5	1,1,2-Trichloroethane	50	55.2	110	83-118
79-01-6	Trichloroethene	50	49.4	99	80-120
75-69-4	Trichlorofluoromethane	50	46.9	94	64-136
75-01-4	Vinyl chloride	50	58.1	116	51-135
1330-20-7	Xylene (total)	150	148	99	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	93%	80-120%
17060-07-0	1,2-Dichloroethane-D4	95%	81-124%
2037-26-5	Toluene-D8	97%	80-120%
460-00-4	4-Bromofluorobenzene	99%	80-120%

(a) High percent recoveries and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC64558-4MS	1A180402.D	1	04/21/18	VP	n/a	n/a	V1A7678
JC64558-4MSD	1A180403.D	1	04/21/18	VP	n/a	n/a	V1A7678
JC64558-4	1A180395.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:

Method: SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	JC64558-4		Spike	MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l	%		
67-64-1	Acetone	ND		200	179	90	200	183	92	2	34-149/17
71-43-2	Benzene	ND		50	52.5	105	50	53.6	107	2	54-136/10
75-27-4	Bromodichloromethane	ND		50	50.4	101	50	53.9	108	7	79-124/11
75-25-2	Bromoform	ND		50	48.2	96	50	51.0	102	6	71-130/11
74-83-9	Bromomethane	ND		50	37.9	76	50	52.6	105	32* a	53-142/14
78-93-3	2-Butanone (MEK)	ND		200	221	111	200	234	117	6	54-142/15
75-15-0	Carbon disulfide	ND		50	43.4	87	50	43.4	87	0	59-145/17
56-23-5	Carbon tetrachloride	ND		50	49.3	99	50	49.9	100	1	70-143/12
108-90-7	Chlorobenzene	ND		50	51.5	103	50	54.0	108	5	78-123/10
75-00-3	Chloroethane	ND		50	61.4	123	50	61.5	123	0	57-141/14
67-66-3	Chloroform	ND		50	51.1	102	50	52.4	105	3	76-123/11
74-87-3	Chloromethane	ND		50	59.4	119	50	60.2	120	1	43-141/16
110-82-7	Cyclohexane	ND		50	44.5	89	50	45.6	91	2	51-155/16
96-12-8	1,2-Dibromo-3-chloropropane	ND		50	55.5	111	50	59.3	119	7	66-130/13
124-48-1	Dibromochloromethane	ND		50	50.3	101	50	53.1	106	5	76-125/11
106-93-4	1,2-Dibromoethane	ND		50	53.0	106	50	55.9	112	5	78-119/11
95-50-1	1,2-Dichlorobenzene	ND		50	51.6	103	50	54.9	110	6	77-123/11
541-73-1	1,3-Dichlorobenzene	ND		50	50.4	101	50	55.0	110	9	76-122/11
106-46-7	1,4-Dichlorobenzene	ND		50	50.2	100	50	54.9	110	9	76-122/11
75-71-8	Dichlorodifluoromethane	ND		50	60.6	121	50	61.5	123	1	31-159/16
75-34-3	1,1-Dichloroethane	ND		50	52.5	105	50	53.0	106	1	73-126/11
107-06-2	1,2-Dichloroethane	ND		50	51.7	103	50	53.8	108	4	72-131/11
75-35-4	1,1-Dichloroethene	ND		50	50.7	101	50	50.3	101	1	63-136/14
156-59-2	cis-1,2-Dichloroethene	13.4		50	65.6	104	50	66.2	106	1	60-136/11
156-60-5	trans-1,2-Dichloroethene	0.41	J	50	52.2	104	50	51.2	102	2	70-126/11
78-87-5	1,2-Dichloropropane	ND		50	53.5	107	50	56.6	113	6	78-124/10
10061-01-5	cis-1,3-Dichloropropene	ND		50	49.2	98	50	52.6	105	7	79-123/11
10061-02-6	trans-1,3-Dichloropropene	ND		50	50.4	101	50	53.5	107	6	77-123/11
100-41-4	Ethylbenzene	ND		50	50.2	100	50	52.5	105	4	51-140/20
76-13-1	Freon 113	ND		50	49.6	99	50	50.0	100	1	60-192/14
591-78-6	2-Hexanone	ND		200	227	114	200	242	121	6	56-139/14
98-82-8	Isopropylbenzene	ND		50	46.8	94	50	49.0	98	5	75-129/11
79-20-9	Methyl Acetate	ND		50	54.2	108	50	54.4	109	0	55-131/15
108-87-2	Methylcyclohexane	ND		50	47.4	95	50	48.9	98	3	57-155/13
1634-04-4	Methyl Tert Butyl Ether	ND		50	48.7	97	50	49.6	99	2	72-123/11
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		200	214	107	200	231	116	8	66-136/13

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC64558-4MS	1A180402.D	1	04/21/18	VP	n/a	n/a	V1A7678
JC64558-4MSD	1A180403.D	1	04/21/18	VP	n/a	n/a	V1A7678
JC64558-4	1A180395.D	1	04/21/18	VP	n/a	n/a	V1A7678

The QC reported here applies to the following samples:

Method: SW846 8260C

JC64558-1, JC64558-2, JC64558-3, JC64558-4, JC64558-5

CAS No.	Compound	JC64558-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-09-2	Methylene chloride	ND	50	51.9	104	50	52.7	105	2	73-125/13
91-20-3	Naphthalene	ND	50	52.0	104	50	58.4	117	12	62-141/13
100-42-5	Styrene	ND	50	49.3	99	50	51.9	104	5	75-129/11
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	63.8	128* b	50	70.2	140* b	10	71-122/11
127-18-4	Tetrachloroethene	ND	50	52.1	104	50	54.1	108	4	61-139/11
108-88-3	Toluene	ND	50	53.0	106	50	55.3	111	4	60-135/10
120-82-1	1,2,4-Trichlorobenzene	ND	50	52.9	106	50	57.8	116	9	72-137/13
71-55-6	1,1,1-Trichloroethane	ND	50	50.2	100	50	50.9	102	1	74-138/12
79-00-5	1,1,2-Trichloroethane	ND	50	53.7	107	50	57.6	115	7	78-121/11
79-01-6	Trichloroethene	1.4	50	52.0	101	50	53.5	104	3	62-141/10
75-69-4	Trichlorofluoromethane	ND	50	55.8	112	50	57.0	114	2	57-149/14
75-01-4	Vinyl chloride	1.2	50	62.9	123	50	64.6	127	3	43-146/15
1330-20-7	Xylene (total)	ND	150	146	97	150	153	102	5	56-139/20

CAS No.	Surrogate Recoveries	MS	MSD	JC64558-4	Limits
1868-53-7	Dibromofluoromethane	96%	95%	95%	80-120%
17060-07-0	1,2-Dichloroethane-D4	96%	94%	98%	81-124%
2037-26-5	Toluene-D8	97%	97%	99%	80-120%
460-00-4	4-Bromofluorobenzene	100%	101%	98%	80-120%

(a) Outside control limits due to matrix interference.

(b) Outside in house control limits.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC64558**Account:** WSPENYC WSP Environment & Energy**Project:** Former General Instrument Site (GIC), Sherburne, NY**Sample:** V1A7600-BFB**Injection Date:** 02/27/18**Lab File ID:** 1A178625.D**Injection Time:** 19:49**Instrument ID:** GCMS1A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	15178	17.2	Pass
75	30.0 - 60.0% of mass 95	40506	46.0	Pass
95	Base peak, 100% relative abundance	88149	100.0	Pass
96	5.0 - 9.0% of mass 95	6033	6.84	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	80482	91.3	Pass
175	5.0 - 9.0% of mass 174	6130	6.95 (7.62) ^a	Pass
176	95.0 - 101.0% of mass 174	78813	89.4 (97.9) ^a	Pass
177	5.0 - 9.0% of mass 176	5253	5.96 (6.67) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A7600-IC7600	1A178628.D	02/27/18	21:14	01:25	Initial cal 0.5
V1A7600-IC7600	1A178629.D	02/27/18	21:38	01:49	Initial cal 1
V1A7600-IC7600	1A178631.D	02/27/18	22:27	02:38	Initial cal 5
V1A7600-IC7600	1A178632.D	02/27/18	22:51	03:02	Initial cal 10
V1A7600-IC7600	1A178633.D	02/27/18	23:15	03:26	Initial cal 20
V1A7600-ICC7600	1A178634.D	02/27/18	23:40	03:51	Initial cal 50
V1A7600-IC7600	1A178635.D	02/28/18	00:04	04:15	Initial cal 100
V1A7600-IC7600	1A178636.D	02/28/18	00:28	04:39	Initial cal 200
V1A7600-ICV7600	1A178637.D	02/28/18	00:53	05:04	Initial cal verification 50
V1A7600-ICV7600	1A178638.D	02/28/18	01:17	05:28	Initial cal verification 50

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: JC64558**Account:** WSPENYC WSP Environment & Energy**Project:** Former General Instrument Site (GIC), Sherburne, NY**Sample:** V1A7605-BFB**Injection Date:** 03/05/18**Lab File ID:** 1A178714.D**Injection Time:** 13:24**Instrument ID:** GCMS1A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	13345	17.2	Pass
75	30.0 - 60.0% of mass 95	35632	45.8	Pass
95	Base peak, 100% relative abundance	77720	100.0	Pass
96	5.0 - 9.0% of mass 95	5160	6.64	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	70293	90.4	Pass
175	5.0 - 9.0% of mass 174	5258	6.77 (7.48) ^a	Pass
176	95.0 - 101.0% of mass 174	69120	88.9 (98.3) ^a	Pass
177	5.0 - 9.0% of mass 176	4656	5.99 (6.74) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A7605-IC7600	1A178715.D	03/05/18	14:09	00:45	Initial cal 0.2
V1A7605-IC7600	1A178716.D	03/05/18	14:33	01:09	Initial cal 0.5
V1A7605-IC7600	1A178717.D	03/05/18	14:58	01:34	Initial cal 1
V1A7605-IC7600	1A178718.D	03/05/18	15:23	01:59	Initial cal 2
V1A7605-IC7600	1A178719.D	03/05/18	15:48	02:24	Initial cal 5
V1A7605-IC7600	1A178720.D	03/05/18	16:13	02:49	Initial cal 10
V1A7605-IC7600	1A178721.D	03/05/18	16:38	03:14	Initial cal 20
V1A7605-IC7600	1A178722.D	03/05/18	17:03	03:39	Initial cal 50
V1A7605-IC7600	1A178723.D	03/05/18	17:28	04:04	Initial cal 100
V1A7605-IC7600	1A178724.D	03/05/18	17:52	04:28	Initial cal 200
V1A7605-ICV7600	1A178727.D	03/05/18	19:06	05:42	Initial cal verification 50

Instrument Performance Check (BFB)**Job Number:** JC64558**Account:** WSPENYC WSP Environment & Energy**Project:** Former General Instrument Site (GIC), Sherburne, NY**Sample:** V1A7678-BFB**Injection Date:** 04/21/18**Lab File ID:** 1A180391.D**Injection Time:** 10:26**Instrument ID:** GCMS1A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	12188	17.6	Pass
75	30.0 - 60.0% of mass 95	31837	46.0	Pass
95	Base peak, 100% relative abundance	69192	100.0	Pass
96	5.0 - 9.0% of mass 95	4610	6.66	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	67059	96.9	Pass
175	5.0 - 9.0% of mass 174	4975	7.19 (7.42) ^a	Pass
176	95.0 - 101.0% of mass 174	65667	94.9 (97.9) ^a	Pass
177	5.0 - 9.0% of mass 176	4586	6.63 (6.98) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A7678-CC7600	1A180391.D	04/21/18	10:26	00:00	Continuing cal 20
V1A7678-BS	1A180392.D	04/21/18	11:14	00:48	Blank Spike
V1A7678-MB	1A180394.D	04/21/18	12:03	01:37	Method Blank
JC64558-4	1A180395.D	04/21/18	12:35	02:09	MW-31
JC64558-3	1A180396.D	04/21/18	13:00	02:34	MW-17
JC64558-1	1A180397.D	04/21/18	13:25	02:59	P-8
JC64558-2	1A180398.D	04/21/18	13:50	03:24	MW-0418
ZZZZZZ	1A180399.D	04/21/18	14:14	03:48	(unrelated sample)
ZZZZZZ	1A180400.D	04/21/18	14:39	04:13	(unrelated sample)
ZZZZZZ	1A180401.D	04/21/18	15:04	04:38	(unrelated sample)
JC64558-4MS	1A180402.D	04/21/18	15:29	05:03	Matrix Spike
JC64558-4MSD	1A180403.D	04/21/18	15:53	05:27	Matrix Spike Duplicate
ZZZZZZ	1A180405.D	04/21/18	16:43	06:17	(unrelated sample)
ZZZZZZ	1A180406.D	04/21/18	17:08	06:42	(unrelated sample)
JC64558-5	1A180407.D	04/21/18	17:33	07:07	TRIP BLANK
ZZZZZZ	1A180408.D	04/21/18	17:57	07:31	(unrelated sample)
ZZZZZZ	1A180409.D	04/21/18	18:22	07:56	(unrelated sample)
ZZZZZZ	1A180410.D	04/21/18	18:47	08:21	(unrelated sample)
ZZZZZZ	1A180411.D	04/21/18	19:12	08:46	(unrelated sample)
ZZZZZZ	1A180412.D	04/21/18	19:37	09:11	(unrelated sample)
ZZZZZZ	1A180413.D	04/21/18	20:02	09:36	(unrelated sample)
ZZZZZZ	1A180414.D	04/21/18	20:28	10:02	(unrelated sample)
ZZZZZZ	1A180415.D	04/21/18	20:53	10:27	(unrelated sample)

Internal Standard Area Summary

Page 1 of 1

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Check Std: V1A7678-CC7600

Injection Date: 04/21/18

Lab File ID: 1A180391.D

Injection Time: 10:26

Instrument ID: GCMS1A

Method: SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	164647	3.23	250422	4.47	343717	5.05	312448	7.47	133746	9.68
Upper Limit ^a	329294	3.73	500844	4.97	687434	5.55	624896	7.97	267492	10.18
Lower Limit ^b	82324	2.73	125211	3.97	171859	4.55	156224	6.97	66873	9.18

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V1A7678-BS	172637	3.23	247922	4.47	339773	5.05	314044	7.47	134816	9.69
V1A7678-MB	181009	3.23	250298	4.47	345237	5.05	316167	7.47	133292	9.69
JC64558-4	182266	3.23	250198	4.47	343318	5.05	313090	7.47	130977	9.68
JC64558-3	175494	3.23	243310	4.47	333870	5.05	302591	7.47	127028	9.69
JC64558-1	163383	3.23	245945	4.47	339612	5.05	308497	7.47	130545	9.68
JC64558-2	161532	3.23	244733	4.47	338996	5.05	307690	7.47	130497	9.69
ZZZZZZ	175892	3.23	239901	4.47	330220	5.05	300185	7.47	132560	9.69
ZZZZZZ	182146	3.23	242125	4.47	339124	5.05	308180	7.47	132845	9.69
ZZZZZZ	181451	3.23	243304	4.47	335965	5.05	304313	7.47	128698	9.69
JC64558-4MS	163443	3.23	238027	4.47	331889	5.05	303983	7.47	130229	9.69
JC64558-4MSD	157901	3.23	245201	4.47	339396	5.05	313044	7.47	128918	9.68
ZZZZZZ	177727	3.23	247932	4.47	341427	5.05	311665	7.47	132528	9.68
ZZZZZZ	175108	3.23	245505	4.47	337993	5.05	310210	7.47	131959	9.69
JC64558-5	181709	3.23	240763	4.47	334587	5.05	305598	7.47	131661	9.68
ZZZZZZ	178158	3.23	238969	4.47	335715	5.05	303999	7.47	130463	9.68
ZZZZZZ	183372	3.23	239448	4.47	333598	5.05	303580	7.47	128934	9.68
ZZZZZZ	164928	3.23	234501	4.47	328776	5.05	297453	7.47	125434	9.69
ZZZZZZ	170847	3.23	234501	4.47	327820	5.05	290199	7.47	123858	9.68
ZZZZZZ	162620	3.23	235506	4.47	327579	5.05	295786	7.47	125621	9.69
ZZZZZZ	165320	3.23	235867	4.47	329166	5.05	291809	7.47	120957	9.68
ZZZZZZ	163363	3.23	234814	4.47	326000	5.05	291969	7.47	125592	9.68
ZZZZZZ	165771	3.23	228678	4.47	320630	5.05	292624	7.47	124526	9.68

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Surrogate Recovery Summary

Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY

Method: SW846 8260C	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC64558-1	1A180397.D	94	98	98	99
JC64558-2	1A180398.D	95	99	99	100
JC64558-3	1A180396.D	95	98	99	100
JC64558-4	1A180395.D	95	98	99	98
JC64558-5	1A180407.D	97	101	99	99
JC64558-4MS	1A180402.D	96	96	97	100
JC64558-4MSD	1A180403.D	95	94	97	101
V1A7678-BS	1A180392.D	93	95	97	99
V1A7678-MB	1A180394.D	95	98	98	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Initial Calibration Summary

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Job Number: JC64558

Sample: V1A7600-ICC7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178634.D

Project: Former General Instrument Site (GIC), Sherburne, NY

Response Factor Report MS1A

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)
 Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 Last Update : Tue Mar 06 14:32:28 2018
 Response via : Initial Calibration

Calibration Files

1 =1a178629.D 0.5 =1a178628.D 100 =1a178635.D 50 =1a178634.D
 20 =1a178633.D 200 =1a178636.D 5 =1a178631.D 2 =1a178630.D
 10 =1a178632.D =

Compound	1	0.5	100	50	20	200	5	2	10	Avg	%RSD
1) tert butyl alcohol-d9 -----ISTD-----											
2) tertiary butyl alcohol											
1.060		1.037	1.039	1.048	1.000	1.079	1.099	1.115	1.060	3.48	
3) Ethanol											
0.120		0.095	0.099	0.102	0.073	0.105	0.107	0.106	0.101	13.41	
4) 1,4-dioxane											
0.092		0.091	0.092	0.094	0.089	0.093	0.086	0.097	0.092	3.64	
5) I pentafluorobenzene -----ISTD-----											
6) chlorodifluoromethane											
0.430	0.461	0.443	0.440	0.441	0.427	0.419	0.453	0.440	0.439	2.94	
7) dichlorodifluoromethane											
0.404	0.388	0.400	0.394	0.412	0.398	0.395	0.398	0.405	0.400	1.74	
8) freon 142b											
									0.000#	-1.00	
9) chloromethane											
0.425		0.387	0.375	0.391	0.402	0.368	0.406	0.384	0.392	4.62	
10) vinyl chloride											
0.410	0.396	0.424	0.419	0.431	0.420	0.402	0.426	0.420	0.416	2.81	
11) 1,3-Butadiene											
									0.000#	-1.00	
12) bromomethane											
		0.180	0.213	0.232		0.263	0.224	0.220	0.222	12.13	
13) chloroethane											
0.252	0.262	0.237	0.242	0.256	0.188	0.254	0.273	0.250	0.246	9.81	
14) trichlorofluoromethane											
0.518	0.485	0.522	0.519	0.547	0.530	0.527	0.529	0.522	0.522	3.13	
15) vinyl bromide											
0.316	0.318	0.329	0.323	0.334	0.323	0.317	0.347	0.319	0.325	3.16	
16) ethyl ether											
0.231	0.204	0.223	0.221	0.218	0.214	0.218	0.204	0.218	0.217	4.07	
17) acrolein											
0.099		0.094	0.096	0.097	0.095	0.099	0.104	0.102	0.098	3.44	
18) freon 113											
0.224	0.275	0.257	0.255	0.261	0.246	0.261	0.243	0.257	0.253	5.63	
19) 1,1-dichloroethene											
0.300	0.354	0.320	0.317	0.325	0.306	0.306	0.342	0.322	0.321	5.43	
20) acetone											
		0.068	0.059	0.053	0.067	0.048	0.038	0.049	0.055	19.52	
21) acetonitrile											
0.096		0.072	0.069	0.073	0.068	0.076	0.082	0.074	0.076	12.28	
22) iodomethane											
0.165		0.379	0.377	0.314	0.339	0.182	0.182	0.235	0.271	33.44	
----- Linear regression -----											
										Coefficient = 0.9958	

Initial Calibration Summary

Page 2 of 5

Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY

Sample: V1A7600-ICC7600
Lab FileID: 1A178634.D

Response Ratio = -0.00131 + 0.34802 *A

23)	carbon disulfide	1.003	0.975	0.970	0.985	0.946	0.959	1.011	0.978	0.978	2.20
24)	methylene chloride	0.342	0.345	0.341	0.343	0.331	0.339	0.344	0.349	0.342	1.53
25)	methyl acetate	0.418	0.403	0.387	0.385	0.385	0.427	0.464	0.405	0.409	6.57
26)	methyl tert butyl ether	1.075	1.166	1.066	1.060	1.063	1.016	1.064	1.066	1.063	3.68
27)	trans-1,2-dichloroethene	0.351	0.388	0.343	0.340	0.345	0.328	0.349	0.352	0.341	4.69
28)	di-isopropyl ether	1.149	1.290	1.135	1.124	1.153	1.075	1.160	1.168	1.150	4.96
29)	2-butanone	0.057	0.065	0.059	0.060	0.063	0.060	0.054	0.060	0.060	5.64
30)	1,1-dichloroethane	0.609	0.631	0.614	0.616	0.623	0.581	0.615	0.629	0.626	2.45
31)	chloroprene	0.530	0.599	0.532	0.533	0.541	0.504	0.520	0.586	0.535	5.67
32)	acrylonitrile	0.208	0.199	0.194	0.197	0.191	0.206	0.187	0.205	0.198	3.81
33)	hexane	0.241	0.223	0.225	0.220	0.230	0.214	0.217	0.226	0.222	3.58
34)	vinyl acetate	0.071	0.070	0.079	0.078	0.074	0.063	0.073	0.072	7.56	
35)	ethyl tert-butyl ether	1.096	1.219	1.111	1.102	1.107	1.065	1.088	1.087	1.123	3.93
36)	ethyl acetate	0.079	0.076	0.078	0.079	0.092	0.084	0.079	0.081	6.45	
37)	2,2-dichloropropane	0.492	0.495	0.499	0.514	0.468	0.509	0.537	0.514	0.503	4.01
38)	cis-1,2-dichloroethene	0.369	0.403	0.382	0.382	0.379	0.363	0.374	0.386	0.385	3.01
39)	methyl acrylate	0.074	0.079	0.077	0.080	0.077	0.077	0.071	0.079	0.077	3.72
40)	propionitrile	0.087	0.099	0.088	0.085	0.088	0.083	0.090	0.089	0.090	4.98
41)	bromochloromethane	0.185	0.164	0.176	0.180	0.183	0.167	0.182	0.180	0.181	4.12
42)	tetrahydrofuran	0.077	0.080	0.077	0.079	0.076	0.074	0.074	0.080	0.077	3.30
43)	chloroform	0.395	0.381	0.378	0.376	0.363	0.384	0.405	0.382	0.383	3.30
44)	t-butyl formate	0.142	0.152	0.147	0.158	0.164	0.153	0.157	0.147	0.153	4.56
45)	dibromofluoromethane (s)	0.389	0.393	0.393	0.392	0.387	0.389	0.392	0.389	0.386	0.67
46)	methacrylonitrile	0.216	0.210	0.205	0.204	0.203	0.199	0.224	0.208	0.209	3.83
47)	1,1,1-trichloroethane	0.532	0.559	0.527	0.518	0.529	0.504	0.526	0.547	0.524	2.99
48)	cyclohexane	0.495	0.590	0.505	0.515	0.534	0.506	0.523	0.550	0.525	5.45
49)	1,1-dichloropropene	0.451	0.495	0.477	0.479	0.486	0.458	0.467	0.499	0.476	3.37
50)	iso-butyl alcohol									0.000#	-1.00
51)	carbon tetrachloride	0.446	0.497	0.465	0.462	0.467	0.440	0.464	0.473	0.465	3.49

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Initial Calibration Summary

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Job Number: JC64558

Sample: V1A7600-ICC7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178634.D

Project: Former General Instrument Site (GIC), Sherburne, NY

52)	tert amyl alcohol	0.027	0.026	0.028	0.025	0.030	0.034	0.030	0.029	10.64
53)	I 1,4-difluorobenzene	-----ISTD-----								
54)	1,2-dichloroethane-d4 (s)	0.310	0.309	0.304	0.304	0.305	0.300	0.312	0.310	1.29
55)	n-butyl alcohol	0.016	0.016	0.015	0.016	0.015	0.016	0.015	0.016	3.66
56)	2,2,4-trimethylpentane	0.663	0.712	0.600	0.604	0.644	0.551	0.617	0.615	7.17
57)	benzene	0.992	1.086	0.991	0.977	0.996	0.937	0.983	1.016	3.96
58)	tert-amyl methyl ether	0.162	0.186	0.185	0.180	0.182	0.174	0.185	0.188	4.56
59)	heptane	0.151	0.142	0.151	0.152	0.160	0.141	0.159	0.145	4.39
60)	isopropyl acetate	0.074	0.075	0.072	0.074	0.072	0.075	0.069	0.076	3.02
61)	1,2-dichloroethane	0.314	0.315	0.311	0.322	0.296	0.326	0.326	0.327	3.39
62)	trichloroethene	0.265	0.298	0.277	0.272	0.276	0.262	0.261	0.291	4.56
63)	ethyl acrylate	0.450	0.423	0.409	0.424	0.398	0.424	0.414	0.419	3.61
64)	2-nitropropane								0.000#	-1.00
65)	2-chloroethyl vinyl ether	0.195	0.208	0.192	0.191	0.197	0.180	0.193	0.191	3.85
66)	methyl methacrylate	0.085	0.099	0.096	0.102	0.095	0.093	0.102	0.098	5.59
67)	1,2-dichloropropane	0.249	0.243	0.247	0.246	0.249	0.235	0.246	0.251	2.05
68)	dibromomethane	0.139	0.159	0.149	0.146	0.149	0.143	0.145	0.147	4.00
69)	methylcyclohexane	0.374	0.415	0.394	0.389	0.406	0.373	0.389	0.387	3.51
70)	bromodichloromethane	0.339	0.338	0.332	0.335	0.321	0.327	0.333	0.338	1.91
71)	epichlorohydrin	0.045	0.042	0.041	0.042	0.040	0.042	0.041	0.043	3.73
72)	cis-1,3-dichloropropene	0.413	0.463	0.425	0.419	0.422	0.407	0.414	0.421	3.80
73)	4-methyl-2-pentanone	0.139	0.152	0.141	0.137	0.143	0.132	0.146	0.142	3.89
74)	3-methyl-1-butanol	0.026	0.024	0.022	0.024	0.022	0.025	0.024	0.025	5.60
75)	I chlorobenzene-d5	-----ISTD-----								
76)	toluene-d8 (s)	1.212	1.193	1.173	1.180	1.189	1.173	1.201	1.198	1.17
77)	toluene	0.671	0.723	0.646	0.642	0.658	0.620	0.648	0.695	4.64
78)	trans-1,3-dichloropropene	0.387	0.447	0.404	0.398	0.400	0.388	0.406	0.405	4.42
79)	ethyl methacrylate	0.415	0.411	0.402	0.407	0.391	0.416	0.415	0.418	2.22
80)	1,1,2-trichloroethane	0.201	0.216	0.195	0.193	0.198	0.189	0.196	0.199	3.83
81)	tetrachloroethene	0.239	0.244	0.233	0.232	0.237	0.223	0.233	0.253	3.55

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Initial Calibration Summary

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Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY

Sample: V1A7600-ICC7600
Lab FileID: 1A178634.D

82)	1,3-dichloropropane	0.399	0.455	0.409	0.403	0.411	0.388	0.412	0.396	0.414	0.410	4.64
83)	2-hexanone	0.151	0.157	0.147	0.146	0.154	0.138	0.156	0.147	0.157	0.150	4.20
84)	butyl acetate	0.258		0.230	0.228	0.236	0.222	0.234	0.241	0.236	0.236	4.58
85)	3,3-dimethyl-1-butanol	0.053		0.051	0.047	0.050	0.046	0.051	0.048	0.052	0.050	4.70
86)	dibromochloromethane	0.275	0.303	0.274	0.268	0.278	0.260	0.270	0.267	0.282	0.275	4.43
87)	1,2-dibromoethane	0.277	0.301	0.269	0.264	0.270	0.260	0.271	0.271	0.277	0.273	4.37
88)	n-butyl ether	1.113	1.265	1.124	1.109	1.123	1.064	1.105	1.140	1.145	1.132	4.86
89)	chlorobenzene	0.711	0.808	0.721	0.711	0.721	0.689	0.723	0.739	0.734	0.729	4.52
90)	1,1,1,2-tetrachloroethane	0.270	0.276	0.261	0.259	0.265	0.247	0.267	0.278	0.272	0.266	3.61
91)	ethylbenzene	1.232	1.390	1.194	1.192	1.216	1.133	1.224	1.307	1.244	1.237	5.97
92)	m,p-xylene	0.482	0.524	0.473	0.469	0.482	0.452	0.472	0.508	0.489	0.483	4.49
93)	o-xylene	0.474	0.496	0.464	0.462	0.467	0.444	0.481	0.498	0.481	0.474	3.64
94)	styrene	0.822	0.880	0.807	0.805	0.816	0.765	0.808	0.867	0.828	0.822	4.16
95)	bromoform	0.215	0.217	0.220	0.214	0.218	0.209	0.211	0.207	0.217	0.214	1.99
96)	butyl acrylate	0.607		0.579	0.565	0.575	0.561	0.570	0.581	0.591	0.579	2.56
97)	isopropylbenzene	1.133	1.267	1.162	1.146	1.170	1.102	1.146	1.227	1.172	1.170	4.28
98)	cis-1,4-dichloro-2-butene	0.148	0.172	0.157	0.157	0.160	0.150	0.160	0.158	0.166	0.159	4.53
99)	I 1,4-dichlorobenzene-d	-----ISTD-----										
100)	4-bromofluorobenzene (s)	0.958	0.937	0.935	0.938	0.940	0.953	0.940	0.953	0.944	0.944	0.88
101)	bromobenzene	0.639	0.701	0.651	0.639	0.644	0.626	0.647	0.679	0.650	0.653	3.51
102)	1,1,2,2-tetrachloroethane	0.699	0.751	0.701	0.676	0.698	0.694	0.725	0.717	0.711	0.708	3.06
103)	trans-1,4-dichloro-2-butene	0.206		0.192	0.191	0.196	0.185	0.203	0.217	0.204	0.199	5.07
104)	1,2,3-trichloropropane	0.244		0.225	0.222	0.228	0.218	0.236	0.239	0.238	0.231	4.02
105)	n-propylbenzene	2.697	2.753	2.606	2.580	2.580	2.503	2.564	2.696	2.650	2.625	3.02
106)	2-chlorotoluene	0.603		0.579	0.586	0.582	0.565	0.563	0.614	0.594	0.586	3.02
107)	4-chlorotoluene	1.645		1.629	1.607	1.632	1.564	1.616	1.739	1.663	1.637	3.09
108)	1,3,5-trimethylbenzene	1.799	1.976	1.833	1.808	1.841	1.755	1.818	1.925	1.851	1.845	3.65
109)	tert-butylbenzene	0.407	0.391	0.408	0.404	0.402	0.390	0.393	0.405	0.408	0.401	1.87
110)	1,2,4-trimethylbenzene	1.879	1.909	1.843	1.813	1.841	1.759	1.804	1.938	1.857	1.849	2.96
111)	sec-butylbenzene	2.033	2.065	2.117	2.074	2.114	2.005	2.065	2.141	2.121	2.082	2.16

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Initial Calibration Summary

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Job Number: JC64558

Sample: V1A7600-ICC7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178634.D

Project: Former General Instrument Site (GIC), Sherburne, NY

112)	1,3-dichlorobenzene	1.117	1.249	1.128	1.120	1.129	1.086	1.125	1.166	1.140	1.140	4.01
113)	p-isopropyltoluene	1.841	2.043	1.815	1.812	1.817	1.724	1.766	1.874	1.807	1.833	4.87
114)	1,4-dichlorobenzene	1.188	1.313	1.136	1.121	1.150	1.100	1.116	1.221	1.151	1.166	5.70
115)	benzyl chloride	1.577		1.454	1.412	1.443	1.405	1.458	1.485	1.474	1.464	3.65
116)	1,2-dichlorobenzene	1.092	1.215	1.080	1.059	1.076	1.051	1.047	1.133	1.088	1.093	4.79
117)	n-butylbenzene	0.781	0.794	0.826	0.809	0.815	0.794	0.778	0.811	0.821	0.803	2.14
118)	1,2-dibromo-3-chloropropane	0.173	0.171	0.173	0.161	0.169	0.167	0.164	0.178	0.174	0.170	3.24
119)	1,3,5-trichlorobenzene	0.605	0.634	0.684	0.648	0.649	0.673	0.624	0.653	0.644	0.646	3.67
120)	2-ethylhexyl acrylate	0.388		0.351	0.337	0.394	0.327	0.336	0.344	0.354	0.354	7.49
121)	1,2,4-trichlorobenzene	0.576	0.612	0.648	0.615	0.601	0.637	0.569	0.576	0.578	0.601	4.80
122)	hexachlorobutadiene	0.221	0.209	0.229	0.208	0.213	0.226	0.210	0.219	0.224	0.218	3.58
123)	naphthalene	2.102	2.377	2.250	2.120	2.110	2.147	2.025	2.153	2.119	2.156	4.72
124)	1,2,3-trichlorobenzene	0.566	0.545	0.630	0.593	0.575	0.610	0.543	0.548	0.574	0.576	5.25
125)	hexachloroethane	0.315		0.327	0.322	0.328	0.316	0.319	0.342	0.315	0.323	2.84
126)	2-methylnaphthalene	0.946		1.119	1.052	0.989	1.097	0.918	0.911	0.986	1.002	7.93
127)	chlorobenzene-d5 (a)	-----ISTD-----										
128)	cyclohexanone	0.018	0.017	0.018	0.016	0.016	0.017	0.016	0.016	0.016	0.017	5.35

(#) = Out of Range ### Number of calibration levels exceeded format ###

M1A7600.M

Tue Mar 06 14:38:30 2018

MSD1A

Initial Calibration Verification

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Job Number: JC64558

Sample: V1A7600-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178637.D

Project: Former General Instrument Site (GIC), Sherburne, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1A7600\1a178637.D

Vial: 13

Acq On : 28 Feb 2018 12:53 am

Operator: Gabriela

Sample : icv7600-50

Inst : MS1A

Misc : ms24541,v1a7600,5,,,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)

Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

Last Update : Fri Mar 02 08:37:17 2018

Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	105	-0.04	3.24
2 M	tertiary butyl alcohol	1.060	1.067	-0.7	108	-0.03	3.30
3	Ethanol	0.101	0.105	-4.0	111	-0.04	2.65
4 M	1,4-dioxane	0.092	0.098	-6.5	111	-0.01	5.50
5 I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	4.48
6 M	chlorodifluoromethane	0.439	0.372	15.3	87	0.00	1.77
7 M	dichlorodifluoromethane	0.400	0.425	-6.2	110	0.00	1.76
8	freon 142b			-----NA-----			
9 M	chloromethane	0.392	0.418	-6.6	114	0.00	1.91
10 M	vinyl chloride	0.416	0.397	4.6	97	0.00	2.01
11	1,3-Butadiene			-----NA-----			
12 M	bromomethane	0.222	0.221	0.5	106	0.02	2.26
13 M	chloroethane	0.246	0.241	2.0	102	0.02	2.35
14 M	trichlorofluoromethane	0.522	0.487	6.7	96	0.01	2.55
15	vinyl bromide	0.325	0.322	0.9	102	0.02	2.50
16 M	ethyl ether	0.217	0.224	-3.2	104	0.00	2.74
17 M	acrolein	0.098	0.106	-8.2	114	0.00	2.84
18	freon 113	0.253	0.267	-5.5	107	0.01	2.92
19 M	1,1-dichloroethene	0.321	0.285	11.2	92	0.00	2.93
20 M	acetone	0.055	0.067	-21.8	116	0.00	2.94
21 M	acetonitrile	0.076	0.075	1.3	111	0.00	3.14
	----- True		Calc.	% Drift	-----		
22 M	iodomethane	50.000	48.916	2.2	92	0.00	3.05
	----- AvgRF		CCRF	% Dev	-----		
23 M	carbon disulfide	0.978	0.901	7.9	95	0.00	3.11
24 M	methylene chloride	0.342	0.338	1.2	102	0.00	3.26
25 M	methyl acetate	0.409	0.412	-0.7	109	0.00	3.15
26 M	methyl tert butyl ether	1.071	1.110	-3.6	107	0.00	3.44
27 M	trans-1,2-dichloroethene	0.349	0.318	8.9	96	0.00	3.46
28 M	di-isopropyl ether	1.156	1.169	-1.1	107	0.00	3.75
29 M	2-butanone	0.060	0.068	-13.3	118	0.00	4.12
30 M	1,1-dichloroethane	0.616	0.596	3.2	99	0.00	3.76
31 M	chloroprene	0.542	0.518	4.4	100	0.00	3.81
32 M	acrylonitrile	0.198	0.214	-8.1	113	0.00	3.42
33	hexane	0.224	0.174	22.3	81	0.00	3.64
34 M	vinyl acetate	0.072	0.084	-16.7	123	0.00	3.73
35 M	ethyl tert-butyl ether	1.111	1.152	-3.7	107	0.00	4.00
36 M	ethyl acetate	0.081	0.083	-2.5	112	0.00	4.13
37 M	2,2-dichloropropane	0.503	0.479	4.8	98	0.00	4.16

Initial Calibration Verification

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Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY

Sample: V1A7600-ICV7600
Lab FileID: 1A178637.D

38	M	cis-1,2-dichloroethene	0.380	0.379	0.3	102	0.00	4.15
39		methyl acrylate	0.077	0.082	-6.5	110	0.00	4.18
40	M	propionitrile	0.089	0.084	5.6	101	0.00	4.17
41	M	bromochloromethane	0.177	0.182	-2.8	104	0.00	4.32
42	M	tetrahydrofuran	0.077	0.081	-5.2	108	0.00	4.33
43	M	chloroform	0.383	0.373	2.6	101	0.00	4.38
44	M	t-butyl formate	0.153	0.221	-44.4#	153	0.00	4.40
45	S	dibromofluoromethane (s)	0.390	0.385	1.3	100	0.00	4.49
46	M	methacrylonitrile	0.209	0.206	1.4	103	0.00	4.29
47	M	1,1,1-trichloroethane	0.530	0.487	8.1	96	0.00	4.52
48		cyclohexane	0.527	0.490	7.0	97	0.00	4.58
49		1,1-dichloropropene	0.476	0.460	3.4	98	0.00	4.63
50		iso-butyl alcohol			-----NA-----			
51		carbon tetrachloride	0.464	0.438	5.6	97	0.00	4.64
52		tert amyl alcohol	0.029	0.027	6.9	109	-0.02	4.72
53	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	5.06
54	S	1,2-dichloroethane-d4 (s)	0.307	0.306	0.3	103	0.00	4.75
55	M	n-butyl alcohol	0.016	0.016	0.0	108	-0.02	5.11
56		2,2,4-trimethylpentane	0.625	0.602	3.7	102	0.00	4.85
57	M	benzene	0.998	0.970	2.8	101	0.00	4.78
58	M	tert-amyl methyl ether	0.181	0.189	-4.4	107	0.00	4.84
59	M	heptane	0.150	0.158	-5.3	107	0.00	4.96
60	M	isopropyl acetate	0.073	0.079	-8.2	113	0.00	4.75
61	M	1,2-dichloroethane	0.317	0.322	-1.6	106	0.00	4.80
62	M	trichloroethene	0.275	0.266	3.3	100	0.00	5.26
63		ethyl acrylate	0.420	0.435	-3.6	109	0.00	5.27
64	M	2-nitropropane			-----NA-----			
65	M	2-chloroethyl vinyl ether	0.194	0.203	-4.6	108	0.00	5.84
66	M	methyl methacrylate	0.096	0.100	-4.2	107	0.00	5.45
67	M	1,2-dichloropropane	0.246	0.241	2.0	100	0.00	5.46
68	M	dibromomethane	0.148	0.154	-4.1	108	0.00	5.53
69	M	methylcyclohexane	0.392	0.347	11.5	91	0.00	5.45
70	M	bromodichloromethane	0.333	0.325	2.4	100	0.00	5.64
71		epichlorohydrin	0.042	0.045	-7.1	112	0.00	5.89
72	M	cis-1,3-dichloropropene	0.423	0.427	-0.9	104	0.00	5.99
73	M	4-methyl-2-pentanone	0.142	0.150	-5.6	112	0.00	6.09
74	M	3-methyl-1-butanol	0.024	0.024	0.0	109	-0.01	6.10
75	I	chlorobenzene-d5	1.000	1.000	0.0	103	0.00	7.49
76	S	toluene-d8 (s)	1.191	1.167	2.0	102	0.00	6.22
77		toluene	0.663	0.641	3.3	102	0.00	6.28
78		trans-1,3-dichloropropene	0.406	0.391	3.7	101	0.00	6.45
79		ethyl methacrylate	0.409	0.404	1.2	103	0.00	6.46
80		1,1,2-trichloroethane	0.198	0.199	-0.5	106	0.00	6.62
81	M	tetrachloroethene	0.236	0.333	-41.1#	148	0.00	6.72
82	M	1,3-dichloropropane	0.410	0.422	-2.9	108	0.00	6.77
83		2-hexanone	0.150	0.159	-6.0	112	0.00	6.78
84	M	butyl acetate	0.236	0.252	-6.8	113	0.00	6.87
85	M	3,3-dimethyl-1-butanol	0.050	0.050	0.0	111	-0.01	6.94
86	M	dibromochloromethane	0.275	0.285	-3.6	109	0.00	6.96
87	M	1,2-dibromoethane	0.273	0.278	-1.8	108	0.00	7.08
88		n-butyl ether	1.132	1.084	4.2	100	0.00	7.55
89	M	chlorobenzene	0.729	0.711	2.5	103	0.00	7.51
90	M	1,1,1,2-tetrachloroethane	0.266	0.262	1.5	104	0.00	7.58
91	M	ethylbenzene	1.237	1.184	4.3	102	0.00	7.58
92	M	m,p-xylene	0.483	0.468	3.1	103	0.00	7.70
93	M	o-xylene	0.474	0.463	2.3	103	0.00	8.06
94	M	styrene	0.822	0.817	0.6	104	0.00	8.08
95	M	bromoform	0.214	0.235	-9.8	113	0.00	8.25

6.7.2
6

Initial Calibration Verification

Page 3 of 3

Job Number: JC64558

Account: WSPENYC WSP Environment & Energy

Project: Former General Instrument Site (GIC), Sherburne, NY

Sample: V1A7600-ICV7600

Lab FileID: 1A178637.D

96	butyl acrylate	0.579	0.608	-5.0	110	0.00	7.97
97	isopropylbenzene	1.170	1.130	3.4	101	0.00	8.40
98	cis-1,4-dichloro-2-butene	0.159	0.161	-1.3	105	0.00	8.45
99 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	9.69
100 S	4-bromofluorobenzene (s)	0.944	0.933	1.2	102	0.00	8.57
101 M	bromobenzene	0.653	0.654	-0.2	105	0.00	8.72
102 M	1,1,2,2-tetrachloroethane	0.708	0.722	-2.0	110	0.00	8.68
103 M	trans-1,4-dichloro-2-bute	0.199	0.246	-23.6	132	0.00	8.71
104 M	1,2,3-trichloropropane	0.231	0.232	-0.4	108	0.00	8.75
105 M	n-propylbenzene	2.625	2.558	2.6	102	0.00	8.79
106 M	2-chlorotoluene	0.586	0.566	3.4	99	0.00	8.90
107 M	4-chlorotoluene	1.637	1.678	-2.5	107	0.00	9.01
108 M	1,3,5-trimethylbenzene	1.845	1.796	2.7	102	0.00	8.96
109 M	tert-butylbenzene	0.401	0.414	-3.2	105	0.00	9.27
110 M	1,2,4-trimethylbenzene	1.849	1.862	-0.7	106	0.00	9.34
111 M	sec-butylbenzene	2.082	2.087	-0.2	104	0.00	9.49
112 M	1,3-dichlorobenzene	1.140	1.130	0.9	104	0.00	9.62
113 M	p-isopropyltoluene	1.833	1.807	1.4	103	0.00	9.64
114 M	1,4-dichlorobenzene	1.166	1.147	1.6	105	0.00	9.72
115	benzyl chloride	1.464	1.313	10.3	96	0.00	9.83
116 M	1,2-dichlorobenzene	1.093	1.078	1.4	105	0.00	10.08
117 M	n-butylbenzene	0.803	0.838	-4.4	107	0.00	10.04
118 M	1,2-dibromo-3-chloropropa	0.170	0.171	-0.6	109	0.00	10.85
119	1,3,5-trichlorobenzene	0.646	0.681	-5.4	108	0.00	11.04
120	2-ethylhexyl acrylate	0.354	0.429	-21.2	126	0.00	11.84
121 M	1,2,4-trichlorobenzene	0.601	0.634	-5.5	106	0.00	11.68
122 M	hexachlorobutadiene	0.218	0.211	3.2	104	0.00	11.82
123 M	naphthalene	2.156	2.294	-6.4	111	0.00	11.95
124 M	1,2,3-trichlorobenzene	0.576	0.623	-8.2	108	0.00	12.16
125 m	hexachloroethane	0.323	0.324	-0.3	103	0.00	10.35
126	2-methylnaphthalene	1.002	1.151	-14.9	113	0.00	13.10

(#) = Out of Range
1a178634.D M1A7600.M

SPCC's out = 0 CCC's out = 0
Fri Mar 02 08:44:20 2018 MSD1A

6.7.2
6

Initial Calibration Verification

Page 1 of 3

Job Number: JC64558

Sample: V1A7600-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178638.D

Project: Former General Instrument Site (GIC), Sherburne, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1A7600\1a178638.D Vial: 14
 Acq On : 28 Feb 2018 1:17 am Operator: Gabriela
 Sample : icv7600-50 Inst : MS1A
 Misc : ms24541,v1a7600,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)
 Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 Last Update : Fri Mar 02 08:37:17 2018
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	100	-0.04	3.23
2 M	tertiary butyl alcohol		-----NA-----				
3	Ethanol		-----NA-----				
4 M	1,4-dioxane		-----NA-----				
5 I	pentafluorobenzene	1.000	1.000	0.0	106	0.00	4.48
6 M	chlorodifluoromethane		-----NA-----				
7 M	dichlorodifluoromethane		-----NA-----				
8	freon 142b		-----NA-----				
9 M	chloromethane		-----NA-----				
10 M	vinyl chloride		-----NA-----				
11	1,3-Butadiene		-----NA-----				
12 M	bromomethane		-----NA-----				
13 M	chloroethane		-----NA-----				
14 M	trichlorofluoromethane		-----NA-----				
15	vinyl bromide		-----NA-----				
16 M	ethyl ether		-----NA-----				
17 M	acrolein		-----NA-----				
18	freon 113		-----NA-----				
19 M	1,1-dichloroethene		-----NA-----				
20 M	acetone		-----NA-----				
21 M	acetonitrile	0.076	0.067	11.8	103	0.00	3.14
	----- True		Calc.	% Drift			
22 M	iodomethane		-----NA-----				
	----- AvgRF		CCRF	% Dev			
23 M	carbon disulfide		-----NA-----				
24 M	methylene chloride		-----NA-----				
25 M	methyl acetate		-----NA-----				
26 M	methyl tert butyl ether		-----NA-----				
27 M	trans-1,2-dichloroethene		-----NA-----				
28 M	di-isopropyl ether		-----NA-----				
29 M	2-butanone		-----NA-----				
30 M	1,1-dichloroethane		-----NA-----				
31 M	chloroprene		-----NA-----				
32 M	acrylonitrile		-----NA-----				
33	hexane		-----NA-----				
34 M	vinyl acetate		-----NA-----				
35 M	ethyl tert-butyl ether		-----NA-----				
36 M	ethyl acetate		-----NA-----				
37 M	2,2-dichloropropane		-----NA-----				

Initial Calibration Verification

Page 2 of 3

Job Number: JC64558

Sample: V1A7600-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178638.D

Project: Former General Instrument Site (GIC), Sherburne, NY

38	M	cis-1,2-dichloroethene								
39		methyl acrylate								
40	M	propionitrile								
41	M	bromochloromethane								
42	M	tetrahydrofuran								
43	M	chloroform								
44	M	t-butyl formate								
45	S	dibromofluoromethane (s)	0.390	0.387	0.8	105	0.00	4.49		
46	M	methacrylonitrile								
47	M	1,1,1-trichloroethane								
48		cyclohexane								
49		1,1-dichloropropene								
50		iso-butyl alcohol								
51		carbon tetrachloride								
52		tert amyl alcohol								
53	I	1,4-difluorobenzene	1.000	1.000	0.0	104	0.00	5.06		
54	S	1,2-dichloroethane-d4 (s)	0.307	0.306	0.3	104	0.00	4.75		
55	M	n-butyl alcohol								
56		2,2,4-trimethylpentane								
57	M	benzene								
58	M	tert-amyl methyl ether								
59	M	heptane								
60	M	isopropyl acetate								
61	M	1,2-dichloroethane								
62	M	trichloroethene								
63		ethyl acrylate								
64	M	2-nitropropane								
65	M	2-chloroethyl vinyl ether								
66	M	methyl methacrylate								
67	M	1,2-dichloropropane								
68	M	dibromomethane								
69	M	methylcyclohexane								
70	M	bromodichloromethane								
71		epichlorohydrin								
72	M	cis-1,3-dichloropropene								
73	M	4-methyl-2-pentanone								
74	M	3-methyl-1-butanol								
75	I	chlorobenzene-d5	1.000	1.000	0.0	102	0.00	7.49		
76	S	toluene-d8 (s)	1.191	1.200	-0.8	104	0.00	6.22		
77		toluene								
78		trans-1,3-dichloropropene								
79		ethyl methacrylate								
80		1,1,2-trichloroethane								
81	M	tetrachloroethene	0.236	0.245	-3.8	108	0.00	6.72		
82	M	1,3-dichloropropane								
83		2-hexanone								
84	M	butyl acetate								
85	M	3,3-dimethyl-1-butanol								
86	M	dibromochloromethane								
87	M	1,2-dibromoethane								
88		n-butyl ether								
89	M	chlorobenzene								
90	M	1,1,1,2-tetrachloroethane								
91	M	ethylbenzene								
92	M	m,p-xylene								
93	M	o-xylene								
94	M	styrene								
95	M	bromoform								

Initial Calibration Verification

Page 3 of 3

Job Number: JC64558

Sample: V1A7600-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178638.D

Project: Former General Instrument Site (GIC), Sherburne, NY

96	butyl acrylate								-----NA-----
97	isopropylbenzene								-----NA-----
98	cis-1,4-dichloro-2-butene								-----NA-----
99 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	9.69		
100 S	4-bromofluorobenzene (s)	0.944	0.945	-0.1	102	0.00	8.57		
101 M	bromobenzene								-----NA-----
102 M	1,1,2,2-tetrachloroethane								-----NA-----
103 M	trans-1,4-dichloro-2-bute								-----NA-----
104 M	1,2,3-trichloropropane								-----NA-----
105 M	n-propylbenzene								-----NA-----
106 M	2-chlorotoluene								-----NA-----
107 M	4-chlorotoluene								-----NA-----
108 M	1,3,5-trimethylbenzene								-----NA-----
109 M	tert-butylbenzene								-----NA-----
110 M	1,2,4-trimethylbenzene								-----NA-----
111 M	sec-butylbenzene								-----NA-----
112 M	1,3-dichlorobenzene								-----NA-----
113 M	p-isopropyltoluene								-----NA-----
114 M	1,4-dichlorobenzene								-----NA-----
115	benzyl chloride								-----NA-----
116 M	1,2-dichlorobenzene								-----NA-----
117 M	n-butylbenzene								-----NA-----
118 M	1,2-dibromo-3-chloropropa								-----NA-----
119	1,3,5-trichlorobenzene								-----NA-----
120	2-ethylhexyl acrylate								-----NA-----
121 M	1,2,4-trichlorobenzene								-----NA-----
122 M	hexachlorobutadiene								-----NA-----
123 M	naphthalene								-----NA-----
124 M	1,2,3-trichlorobenzene								-----NA-----
125 m	hexachloroethane								-----NA-----
126	2-methylnaphthalene								-----NA-----

(#) = Out of Range
1a178634.D M1A7600.M

SPCC's out = 0 CCC's out = 0
Fri Mar 02 08:44:22 2018 MSD1A

6.7.3

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Initial Calibration Verification

Page 1 of 3

Job Number: JC64558

Sample: V1A7605-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178727.D

Project: Former General Instrument Site (GIC), Sherburne, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1A7605\1a178727.D Vial: 14
 Acq On : 5 Mar 2018 7:06 pm Operator: Gabriela
 Sample : ICV7600-50 Inst : MS1A
 Misc : ms24712,v1a7605,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)
 Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 Last Update : Tue Mar 06 14:32:28 2018
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	98	-0.04	3.24
2 M	tertiary butyl alcohol			NA			
3	Ethanol			NA			
4 M	1,4-dioxane			NA			
5 I	pentafluorobenzene	1.000	1.000	0.0	90	0.00	4.48
6 M	chlorodifluoromethane			NA			
7 M	dichlorodifluoromethane			NA			
8	freon 142b			NA			
9 M	chloromethane			NA			
10 M	vinyl chloride			NA			
11	1,3-Butadiene			NA			
12 M	bromomethane			NA			
13 M	chloroethane			NA			
14 M	trichlorofluoromethane			NA			
15	vinyl bromide			NA			
16 M	ethyl ether			NA			
17 M	acrolein			NA			
18	freon 113			NA			
19 M	1,1-dichloroethene			NA			
20 M	acetone			NA			
21 M	acetonitrile			NA			
	----- True		Calc.	% Drift			
22 M	iodomethane			NA			
	----- AvgRF		CCRF	% Dev			
23 M	carbon disulfide			NA			
24 M	methylene chloride			NA			
25 M	methyl acetate			NA			
26 M	methyl tert butyl ether			NA			
27 M	trans-1,2-dichloroethene			NA			
28 M	di-isopropyl ether			NA			
29 M	2-butanone			NA			
30 M	1,1-dichloroethane			NA			
31 M	chloroprene			NA			
32 M	acrylonitrile			NA			
33	hexane			NA			
34 M	vinyl acetate			NA			
35 M	ethyl tert-butyl ether			NA			
36 M	ethyl acetate			NA			
37 M	2,2-dichloropropane			NA			

Initial Calibration Verification

Page 2 of 3

Job Number: JC64558

Sample: V1A7605-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178727.D

Project: Former General Instrument Site (GIC), Sherburne, NY

38	M	cis-1,2-dichloroethene								
39		methyl acrylate								
40	M	propionitrile								
41	M	bromochloromethane								
42	M	tetrahydrofuran								
43	M	chloroform								
44	M	t-butyl formate								
45	S	dibromofluoromethane (s)	0.390	0.425	-9.0	98	0.00	4.49		
46	M	methacrylonitrile								
47	M	1,1,1-trichloroethane								
48		cyclohexane								
49		1,1-dichloropropene								
50		iso-butyl alcohol								
51		carbon tetrachloride								
52		tert amyl alcohol								
53	I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	5.06		
54	S	1,2-dichloroethane-d4 (s)	0.307	0.316	-2.9	97	0.00	4.75		
55	M	n-butyl alcohol								
56		2,2,4-trimethylpentane								
57	M	benzene								
58	M	tert-amyl methyl ether								
59	M	heptane								
60	M	isopropyl acetate								
61	M	1,2-dichloroethane								
62	M	trichloroethene								
63		ethyl acrylate								
64	M	2-nitropropane								
65	M	2-chloroethyl vinyl ether								
66	M	methyl methacrylate								
67	M	1,2-dichloropropane								
68	M	dibromomethane								
69	M	methylcyclohexane								
70	M	bromodichloromethane								
71		epichlorohydrin								
72	M	cis-1,3-dichloropropene								
73	M	4-methyl-2-pentanone								
74	M	3-methyl-1-butanol								
75	I	chlorobenzene-d5	1.000	1.000	0.0	96	0.00	7.48		
76	S	toluene-d8 (s)	1.191	1.164	2.3	95	0.00	6.22		
77		toluene								
78		trans-1,3-dichloropropene								
79		ethyl methacrylate								
80		1,1,2-trichloroethane								
81	M	tetrachloroethene								
82	M	1,3-dichloropropane								
83		2-hexanone								
84	M	butyl acetate								
85	M	3,3-dimethyl-1-butanol								
86	M	dibromochloromethane								
87	M	1,2-dibromoethane								
88		n-butyl ether								
89	M	chlorobenzene								
90	M	1,1,1,2-tetrachloroethane								
91	M	ethylbenzene								
92	M	m,p-xylene								
93	M	o-xylene								
94	M	styrene								
95	M	bromoform								

Initial Calibration Verification

Page 3 of 3

Job Number: JC64558

Sample: V1A7605-ICV7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A178727.D

Project: Former General Instrument Site (GIC), Sherburne, NY

96	butyl acrylate				-----NA-----		
97	isopropylbenzene				-----NA-----		
98	cis-1,4-dichloro-2-butene				-----NA-----		
99 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	9.69
100 S	4-bromofluorobenzene (s)	0.944	0.927	1.8	97	0.00	8.57
101 M	bromobenzene				-----NA-----		
102 M	1,1,2,2-tetrachloroethane				-----NA-----		
103 M	trans-1,4-dichloro-2-bute				-----NA-----		
104 M	1,2,3-trichloropropane				-----NA-----		
105 M	n-propylbenzene				-----NA-----		
106 M	2-chlorotoluene				-----NA-----		
107 M	4-chlorotoluene				-----NA-----		
108 M	1,3,5-trimethylbenzene				-----NA-----		
109 M	tert-butylbenzene				-----NA-----		
110 M	1,2,4-trimethylbenzene				-----NA-----		
111 M	sec-butylbenzene				-----NA-----		
112 M	1,3-dichlorobenzene				-----NA-----		
113 M	p-isopropyltoluene				-----NA-----		
114 M	1,4-dichlorobenzene				-----NA-----		
115	benzyl chloride				-----NA-----		
116 M	1,2-dichlorobenzene				-----NA-----		
117 M	n-butylbenzene				-----NA-----		
118 M	1,2-dibromo-3-chloropropa				-----NA-----		
119	1,3,5-trichlorobenzene				-----NA-----		
120	2-ethylhexyl acrylate				-----NA-----		
121 M	1,2,4-trichlorobenzene				-----NA-----		
122 M	hexachlorobutadiene				-----NA-----		
123 M	naphthalene				-----NA-----		
124 M	1,2,3-trichlorobenzene				-----NA-----		
125 m	hexachloroethane				-----NA-----		
126	2-methylnaphthalene				-----NA-----		
127	chlorobenzene-d5 (a)	1.000	1.000	0.0	98	0.00	7.48
128	cyclohexanone	0.017	0.017	0.0	102	0.00	8.50

(#) = Out of Range
1a178634.D M1A7600.M

SPCC's out = 0 CCC's out = 0
Tue Mar 06 14:38:54 2018 MSD1A

6.7.4
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Continuing Calibration Summary

Page 1 of 3

Job Number: JC64558

Sample: V1A7678-CC7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A180391.D

Project: Former General Instrument Site (GIC), Sherburne, NY

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\04...18\v1a7678\1a180391.d Vial: 2
 Acq On : 21 Apr 2018 10:26 am Operator: vidishp
 Sample : cc7600-20 Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)
 Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 Last Update : Tue Mar 06 06:59:44 2018
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	93	-0.04	3.23
2 M	tertiary butyl alcohol	1.060	1.099	-3.7	98	-0.04	3.29
3	Ethanol	0.101	0.127	-25.7#	117	-0.05	2.64
4 M	1,4-dioxane	0.092	0.103	-12.0	102	-0.02	5.49
5 I	pentafluorobenzene	1.000	1.000	0.0	113	0.00	4.47
6 M	chlorodifluoromethane	0.439	0.439	0.0	113	0.00	1.77
7 M	dichlorodifluoromethane	0.400	0.414	-3.5	114	0.00	1.76
8	freon 142b			-----NA-----			
9 M	chloromethane	0.392	0.408	-4.1	118	0.00	1.92
10 M	vinyl chloride	0.416	0.430	-3.4	113	0.00	2.02
11	1,3-Butadiene			-----NA-----			
12 M	bromomethane	0.222	0.200	9.9	97	0.04	2.28
13 M	chloroethane	0.246	0.256	-4.1	113	0.04	2.36
14 M	trichlorofluoromethane	0.522	0.506	3.1	105	0.02	2.55
15	vinyl bromide	0.325	0.277	14.8	94	0.02	2.51
16 M	ethyl ether	0.217	0.219	-0.9	113	0.00	2.74
17 M	acrolein	0.098	0.111	-13.3	129	0.00	2.84
18	freon 113	0.253	0.229	9.5	99	0.00	2.92
19 M	1,1-dichloroethene	0.321	0.302	5.9	105	0.00	2.93
20 M	acetone	0.055	0.049	10.9	105	0.00	2.94
21 M	acetonitrile	0.076	0.079	-3.9	123	0.00	3.13
	----- True		Calc.	% Drift	-----		
22 M	iodomethane	20.000	10.399	48.0#	64	0.00	3.04
	----- AvgRF		CCRF	% Dev	-----		
23 M	carbon disulfide	0.978	0.825	15.6	95	0.00	3.11
24 M	methylene chloride	0.342	0.353	-3.2	116	0.00	3.26
25 M	methyl acetate	0.409	0.447	-9.3	131	0.00	3.15
26 M	methyl tert butyl ether	1.071	1.048	2.1	111	0.00	3.44
27 M	trans-1,2-dichloroethene	0.349	0.343	1.7	113	0.00	3.45
28 M	di-isopropyl ether	1.156	1.228	-6.2	120	0.00	3.75
29 M	2-butanone	0.060	0.066	-10.0	125	0.00	4.12
30 M	1,1-dichloroethane	0.616	0.640	-3.9	116	0.00	3.76
31 M	chloroprene	0.542	0.526	3.0	110	0.00	3.81
32 M	acrylonitrile	0.198	0.204	-3.0	117	0.00	3.41
33	hexane	0.224	0.210	6.3	103	0.00	3.63
34 M	vinyl acetate	0.072	0.080	-11.1	115	0.00	3.73
35 M	ethyl tert-butyl ether	1.111	1.082	2.6	111	0.00	4.00
36 M	ethyl acetate	0.081	0.087	-7.4	125	0.00	4.13
37 M	2,2-dichloropropane	0.503	0.492	2.2	108	0.00	4.16

Continuing Calibration Summary

Page 2 of 3

Job Number: JC64558

Sample: V1A7678-CC7600

Account: WSPENYC WSP Environment & Energy

Lab FileID: 1A180391.D

Project: Former General Instrument Site (GIC), Sherburne, NY

38 M	cis-1,2-dichloroethene	0.380	0.388	-2.1	116	0.00	4.15
39	methyl acrylate	0.077	0.076	1.3	108	0.00	4.18
40 M	propionitrile	0.089	0.095	-6.7	122	-0.01	4.16
41 M	bromochloromethane	0.177	0.181	-2.3	112	0.00	4.32
42 M	tetrahydrofuran	0.077	0.076	1.3	108	0.00	4.33
43 M	chloroform	0.383	0.386	-0.8	116	0.00	4.37
44 M	t-butyl formate	0.153	0.347	-126.8#	248#	0.00	4.40
45 S	dibromofluoromethane (s)	0.390	0.365	6.4	107	0.00	4.49
46 M	methacrylonitrile	0.209	0.198	5.3	110	0.00	4.28
47 M	1,1,1-trichloroethane	0.530	0.502	5.3	107	0.00	4.52
48	cyclohexane	0.527	0.466	11.6	99	0.00	4.58
49	1,1-dichloropropene	0.476	0.464	2.5	108	0.00	4.63
50	iso-butyl alcohol			-----NA-----			
51	carbon tetrachloride	0.464	0.429	7.5	104	0.00	4.64
52	tert amyl alcohol	0.029	0.029	0.0	115	-0.03	4.72
53 I	1,4-difluorobenzene	1.000	1.000	0.0	110	0.00	5.05
54 S	1,2-dichloroethane-d4 (s)	0.307	0.298	2.9	108	0.00	4.74
55 M	n-butyl alcohol	0.016	0.015	6.3	103	-0.03	5.10
56	2,2,4-trimethylpentane	0.625	0.684	-9.4	117	0.00	4.84
57 M	benzene	0.998	1.035	-3.7	114	0.00	4.78
58 M	tert-amyl methyl ether	0.181	0.175	3.3	106	0.00	4.84
59 M	heptane	0.150	0.156	-4.0	107	0.00	4.95
60 M	isopropyl acetate	0.073	0.074	-1.4	110	0.00	4.74
61 M	1,2-dichloroethane	0.317	0.338	-6.6	116	0.00	4.80
62 M	trichloroethene	0.275	0.268	2.5	107	0.00	5.25
63	ethyl acrylate	0.420	0.441	-5.0	115	-0.01	5.26
64 M	2-nitropropane			-----NA-----			
65 M	2-chloroethyl vinyl ether	0.194	0.211	-8.8	118	-0.01	5.83
66 M	methyl methacrylate	0.096	0.095	1.0	103	0.00	5.45
67 M	1,2-dichloropropane	0.246	0.260	-5.7	115	-0.01	5.45
68 M	dibromomethane	0.148	0.153	-3.4	113	0.00	5.52
69 M	methylcyclohexane	0.392	0.359	8.4	97	0.00	5.45
70 M	bromodichloromethane	0.333	0.347	-4.2	114	0.00	5.64
71	epichlorohydrin	0.042	0.043	-2.4	112	-0.01	5.89
72 M	cis-1,3-dichloropropene	0.423	0.416	1.7	109	0.00	5.98
73 M	4-methyl-2-pentanone	0.142	0.155	-9.2	119	-0.01	6.08
74 M	3-methyl-1-butanol	0.024	0.022	8.3	102	-0.02	6.09
75 I	chlorobenzene-d5	1.000	1.000	0.0	104	-0.01	7.47
76 S	toluene-d8 (s)	1.191	1.167	2.0	102	0.00	6.21
77	toluene	0.663	0.697	-5.1	110	-0.01	6.27
78	trans-1,3-dichloropropene	0.406	0.416	-2.5	108	0.00	6.44
79	ethyl methacrylate	0.409	0.427	-4.4	109	-0.01	6.45
80	1,1,2-trichloroethane	0.198	0.219	-10.6	115	-0.01	6.61
81 M	tetrachloroethene	0.236	0.237	-0.4	104	0.00	6.71
82 M	1,3-dichloropropane	0.410	0.452	-10.2	114	0.00	6.76
83	2-hexanone	0.150	0.176	-17.3	119	-0.01	6.77
84 M	butyl acetate	0.236	0.260	-10.2	115	0.00	6.86
85 M	3,3-dimethyl-1-butanol			-----NA-----			
86 M	dibromochloromethane	0.275	0.286	-4.0	107	-0.01	6.95
87 M	1,2-dibromoethane	0.273	0.294	-7.7	113	0.00	7.07
88	n-butyl ether	1.132	1.136	-0.4	105	0.00	7.54
89 M	chlorobenzene	0.729	0.745	-2.2	107	0.00	7.50
90 M	1,1,1,2-tetrachloroethane	0.266	0.278	-4.5	109	-0.01	7.57
91 M	ethylbenzene	1.237	1.215	1.8	104	0.00	7.58
92 M	m,p-xylene	0.483	0.471	2.5	102	0.00	7.69
93 M	o-xylene	0.474	0.455	4.0	101	-0.01	8.05
94 M	styrene	0.822	0.814	1.0	104	-0.01	8.06
95 M	bromoform	0.214	0.221	-3.3	105	-0.01	8.25

Continuing Calibration Summary

Page 3 of 3

Job Number: JC64558
Account: WSPENYC WSP Environment & Energy
Project: Former General Instrument Site (GIC), Sherburne, NY

Sample: V1A7678-CC7600
Lab FileID: 1A180391.D

96	butyl acrylate	0.579	0.613	-5.9	111	-0.01	7.96
97	isopropylbenzene	1.170	1.053	10.0	94	0.00	8.39
98	cis-1,4-dichloro-2-butene	0.159	0.087	45.3#	56	-0.01	8.43
99 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	89	-0.01	9.68
100 S	4-bromofluorobenzene (s)	0.944	0.942	0.2	89	-0.01	8.56
101 M	bromobenzene	0.653	0.748	-14.5	103	-0.01	8.71
102 M	1,1,2,2-tetrachloroethane	0.708	0.933	-31.8#	118	-0.01	8.67
103 M	trans-1,4-dichloro-2-bute	0.199	0.159	20.1#	72	-0.02	8.70
104 M	1,2,3-trichloropropane	0.231	0.288	-24.7#	112	-0.01	8.73
105 M	n-propylbenzene	2.625	2.770	-5.5	95	-0.01	8.79
106 M	2-chlorotoluene	0.586	0.608	-3.8	92	-0.01	8.88
107 M	4-chlorotoluene	1.637	1.765	-7.8	96	-0.01	9.00
108 M	1,3,5-trimethylbenzene	1.845	1.811	1.8	87	0.00	8.96
109 M	tert-butylbenzene	0.401	0.395	1.5	87	-0.01	9.27
110 M	1,2,4-trimethylbenzene	1.849	1.795	2.9	86	-0.01	9.32
111 M	sec-butylbenzene	2.082	2.098	-0.8	88	0.00	9.49
112 M	1,3-dichlorobenzene	1.140	1.161	-1.8	91	0.00	9.61
113 M	p-isopropyltoluene	1.833	1.697	7.4	83	-0.01	9.63
114 M	1,4-dichlorobenzene	1.166	1.181	-1.3	91	0.00	9.71
115	benzyl chloride	1.464	1.670	-14.1	102	-0.01	9.82
116 M	1,2-dichlorobenzene	1.093	1.130	-3.4	93	-0.01	10.07
117 M	n-butylbenzene	0.803	0.762	5.1	83	-0.01	10.03
118 M	1,2-dibromo-3-chloropropa	0.170	0.190	-11.8	100	-0.02	10.83
119	1,3,5-trichlorobenzene	0.646	0.698	-8.0	95	-0.02	11.03
120	2-ethylhexyl acrylate	0.354	0.276	22.0#	72	-0.02	11.82
121 M	1,2,4-trichlorobenzene	0.601	0.637	-6.0	94	-0.02	11.66
122 M	hexachlorobutadiene	0.218	0.256	-17.4	106	-0.01	11.81
123 M	naphthalene	2.156	2.157	-0.0	90	-0.01	11.93
124 M	1,2,3-trichlorobenzene	0.576	0.611	-6.1	94	-0.01	12.15
125 m	hexachloroethane	0.323	0.287	11.1	78	-0.01	10.34
126	2-methylnaphthalene	1.002	0.872	13.0	78	-0.02	13.08
127	chlorobenzene-d5 (a)	1.000	1.000	0.0	105	-0.01	7.47
128	cyclohexanone	-----NA-----					
129	Bis(chloromethyl)ether	N/A	1.00	0.0	0#	0.00	0.00
130	Ethylenimine	N/A	1.00	0.0	0#	0.00	0.00

(#) = Out of Range
 1a178633.D M1A7600.M

SPCC's out = 0 CCC's out = 0
 Mon Apr 23 22:13:07 2018

6.7.5
 6



MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : X:\complete\2018\dayton201804\4-24-18\janellec\v1a7678\
 Data File : 1a180397.d
 Acq On : 21 Apr 2018 1:25 pm
 Operator : vidishp
 Sample : JC64558-1 Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 24 09:55:47 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

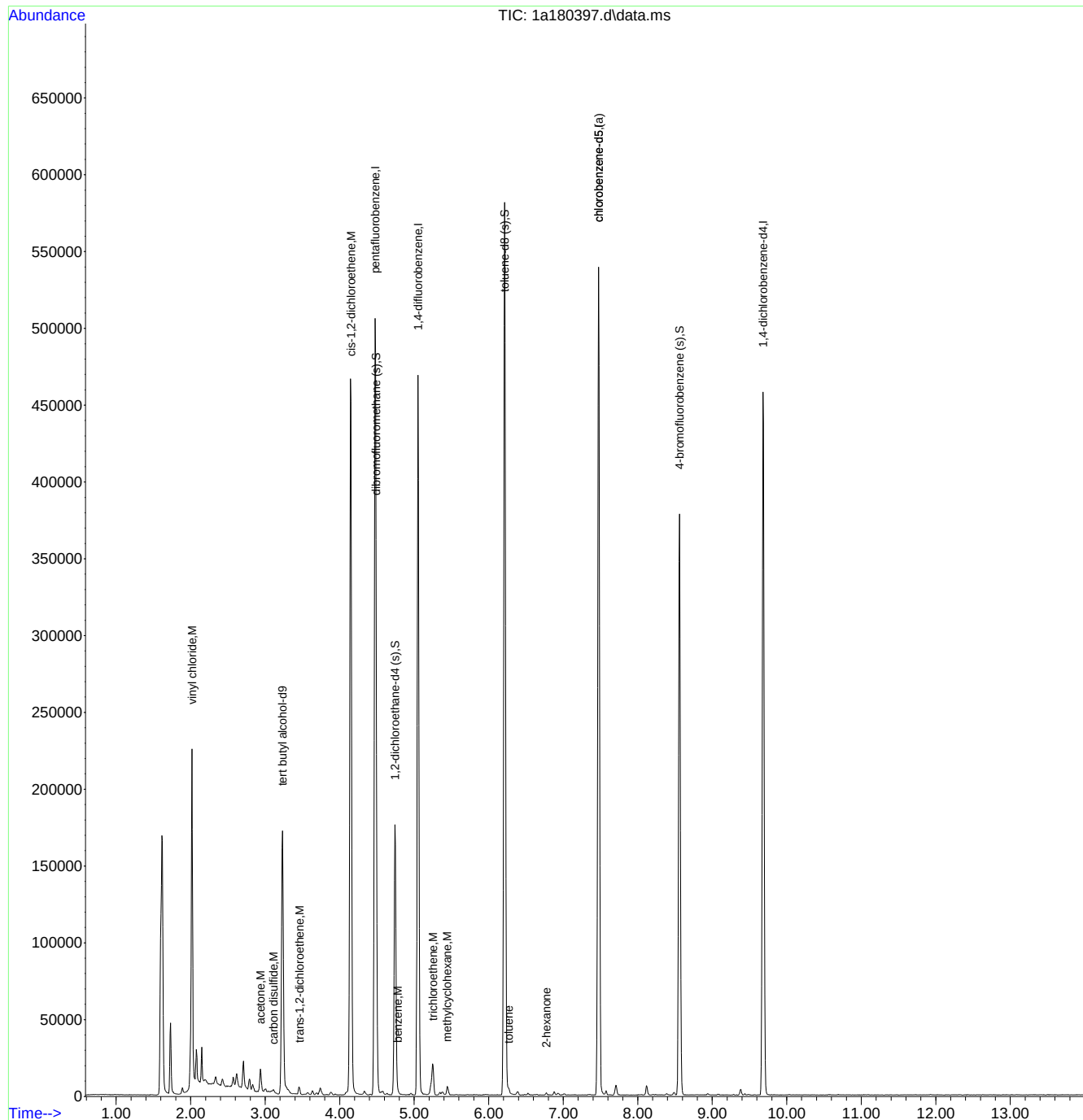
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	163383	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	245945	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	339612	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	308497	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.682	152	130545	50.00	ug/L	-0.01
127) chlorobenzene-d5 (a)	7.474	117	308497	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	90523	47.20	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	94.40%
54) 1,2-dichloroethane-d4 (s)	4.742	65	102115	48.95	ug/L	0.00
Spiked Amount	50.000	Range	81 - 124	Recovery	=	97.90%
76) toluene-d8 (s)	6.214	98	358422	48.76	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.52%
100) 4-bromofluorobenzene (s)	8.563	95	122523	49.70	ug/L	-0.01
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.40%
Target Compounds						
10) vinyl chloride	2.017	62	153841	75.10	ug/L	98
20) acetone	2.935	58	4330	16.09	ug/L	96
23) carbon disulfide	3.112	76	1159	0.24	ug/L #	1
27) trans-1,2-dichloroethene	3.459	96	1192	0.70	ug/L	98
38) cis-1,2-dichloroethene	4.152	96	184113	98.39	ug/L	89
57) benzene	4.779	78	1734	0.26	ug/L	98
62) trichloroethene	5.253	130	6208	3.32	ug/L	93
69) methylcyclohexane	5.442	83	1853	0.70	ug/L	81
77) toluene	6.269	92	1160	0.28	ug/L #	86
83) 2-hexanone	6.774	58	383	0.41	ug/L #	78

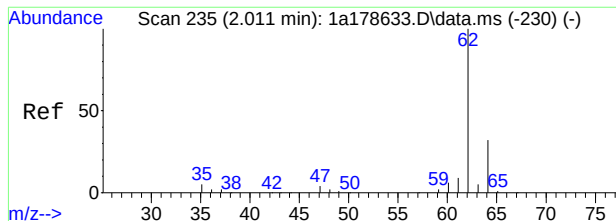
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : X:\complete\2018\dayton201804\4-24-18\janellec\v1a7678\
Data File : 1a180397.d
Acq On : 21 Apr 2018 1:25 pm
Operator : vidishp
Sample : JC64558-1 Inst : MS1A
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 8 Sample Multiplier: 1

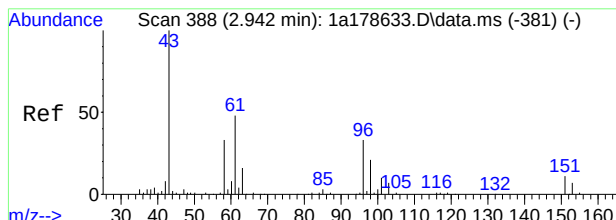
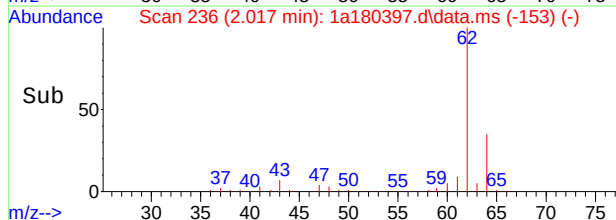
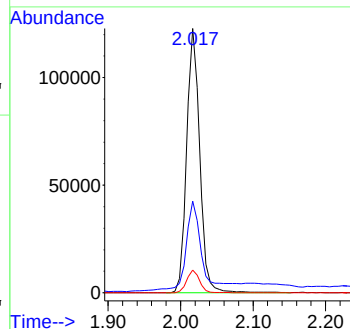
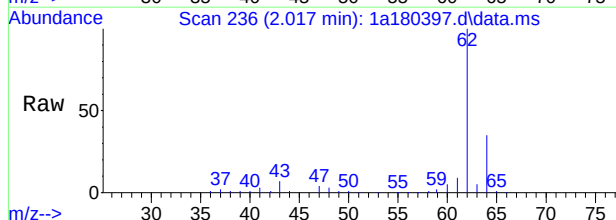
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 24 09:55:47 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration





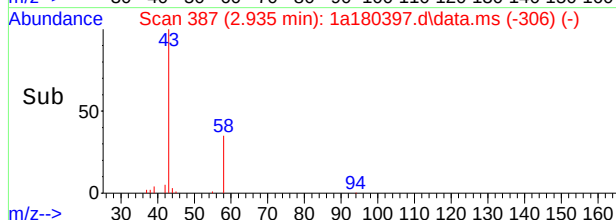
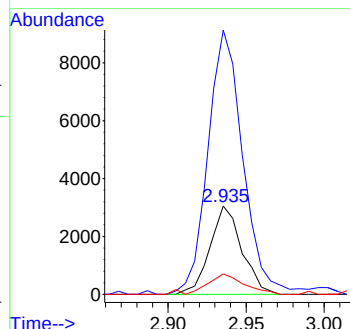
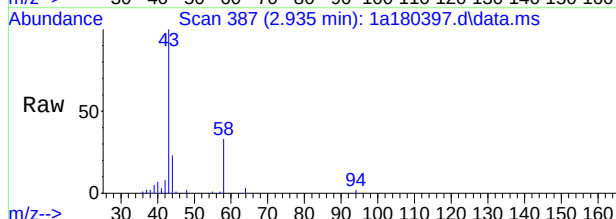
#10
vinyl chloride
Concen: 75.10 ug/L
RT: 2.017 min Scan# 236
Delta R.T. 0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

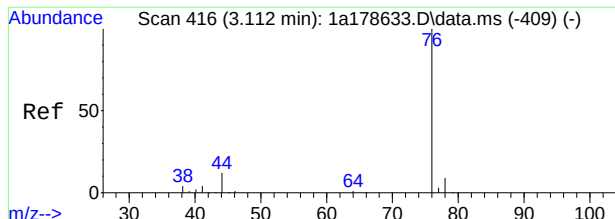
Tgt Ion:	62	Resp:	153841
Ion Ratio	Lower	Upper	
62	100		
64	33.2	1.9	61.9
61	8.6	0.0	39.0



#20
acetone
Concen: 16.09 ug/L
RT: 2.935 min Scan# 387
Delta R.T. -0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

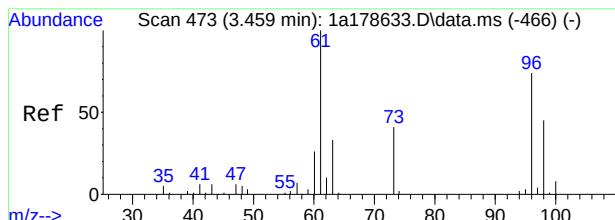
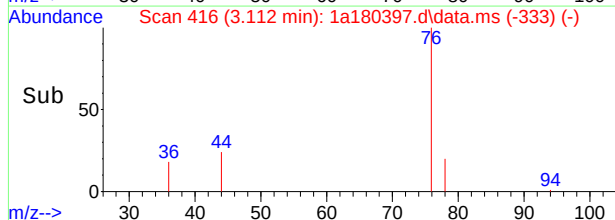
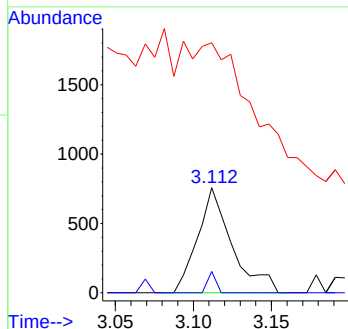
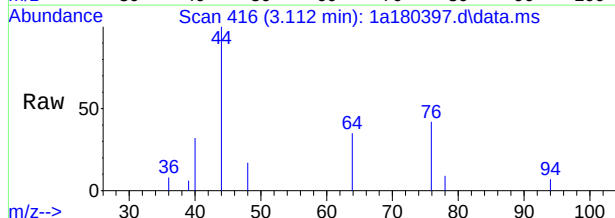
Tgt Ion:	58	Resp:	4330
Ion Ratio	Lower	Upper	
58	100		
43	299.1	277.0	337.0
42	23.3	0.0	53.3





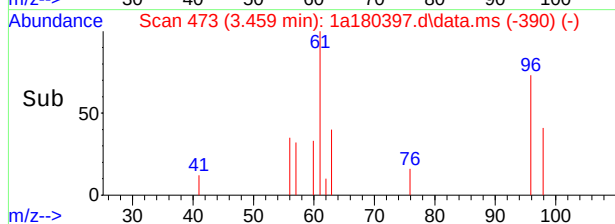
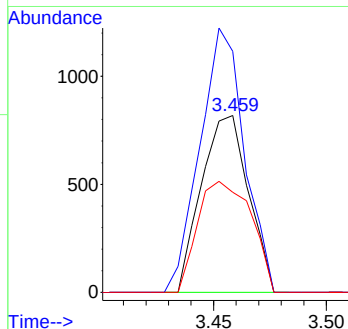
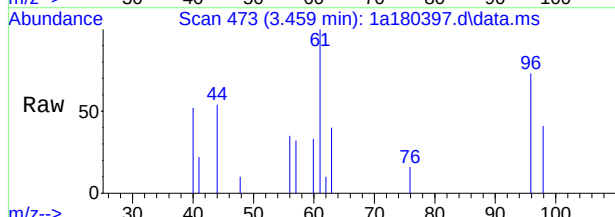
#23
carbon disulfide
Concen: 0.24 ug/L
RT: 3.112 min Scan# 416
Delta R.T. 0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

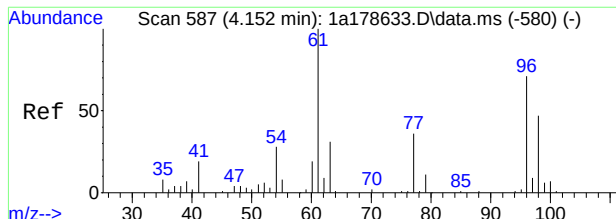
Tgt Ion	Ratio	Lower	Upper
76	100		
78	20.5	0.0	38.8
44	109.1	0.0	41.8#



#27
trans-1,2-dichloroethene
Concen: 0.70 ug/L
RT: 3.459 min Scan# 473
Delta R.T. 0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

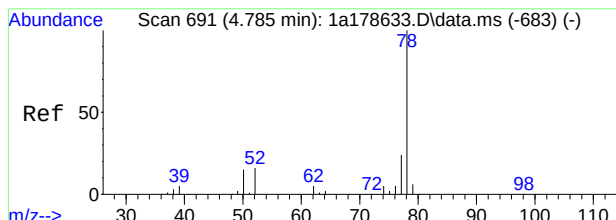
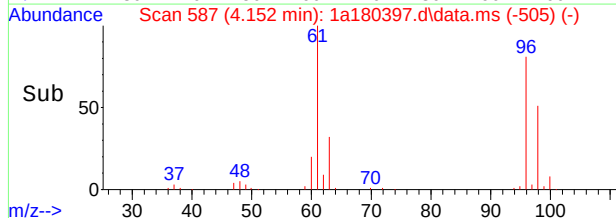
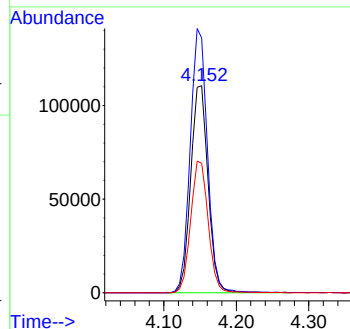
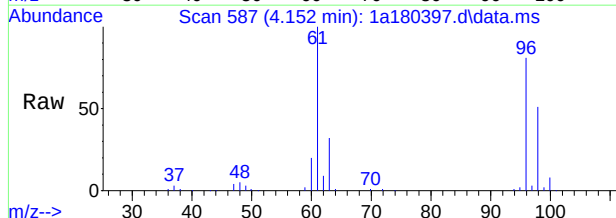
Tgt Ion	Ratio	Lower	Upper
96	100		
61	136.3	105.6	165.6
98	56.5	30.5	90.5





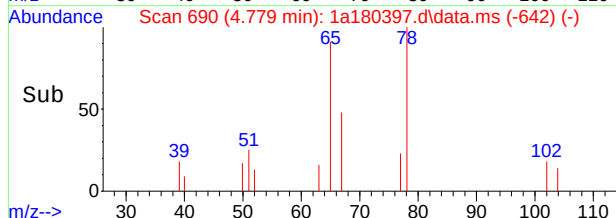
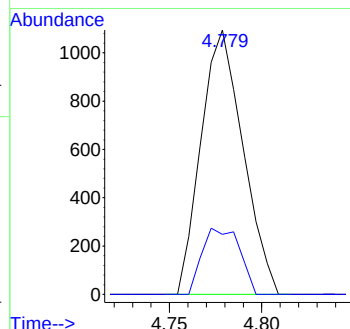
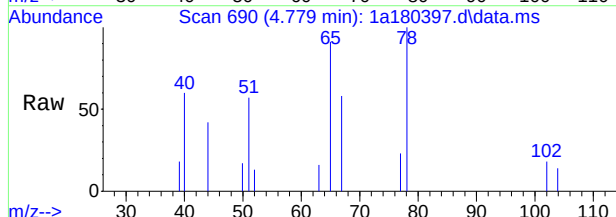
#38
cis-1,2-dichloroethene
Concen: 98.39 ug/L
RT: 4.152 min Scan# 587
Delta R.T. 0.000 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

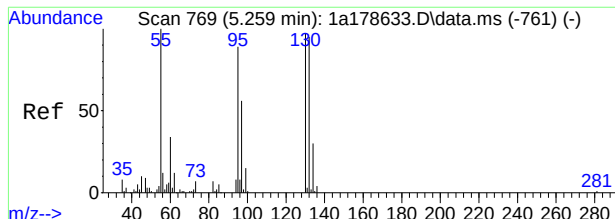
Tgt Ion: 96 Resp: 184113
Ion Ratio Lower Upper
96 100
61 123.0 111.1 171.1
98 62.5 35.9 95.9



#57
benzene
Concen: 0.26 ug/L
RT: 4.779 min Scan# 690
Delta R.T. -0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

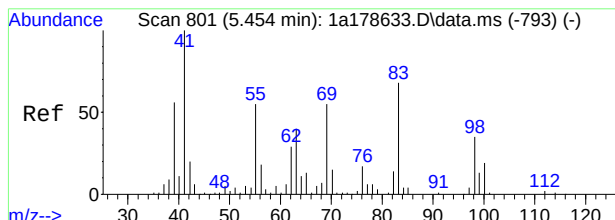
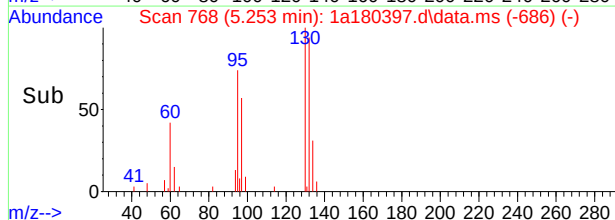
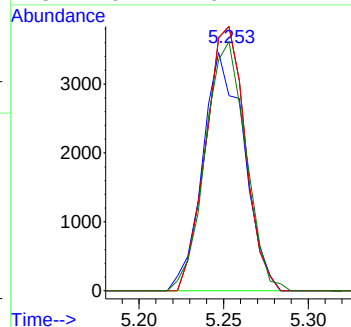
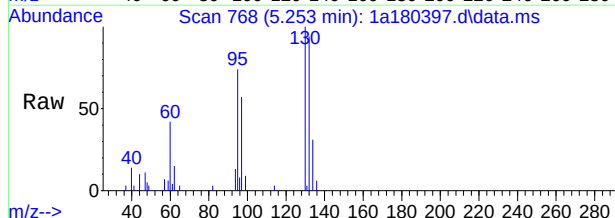
Tgt Ion: 78 Resp: 1734
Ion Ratio Lower Upper
78 100
77 22.7 0.0 53.9





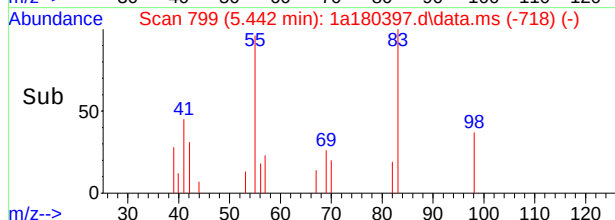
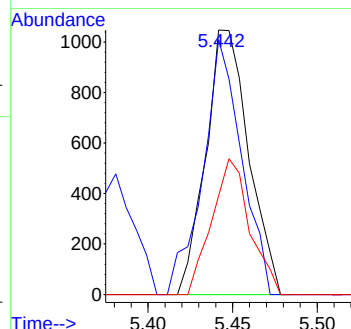
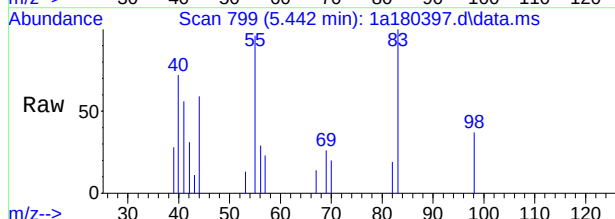
#62
trichloroethene
Concen: 3.32 ug/L
RT: 5.253 min Scan# 768
Delta R.T. 0.000 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

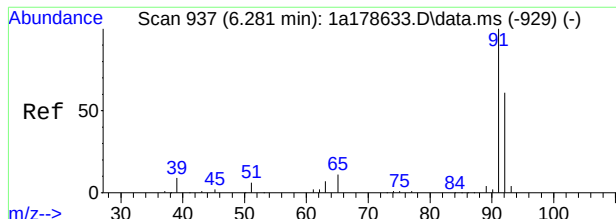
Tgt Ion:	130	Resp:	6208
Ion Ratio	Lower	Upper	
130	100		
95	73.8	61.2	121.2
130	100.0	70.0	130.0
132	94.2	67.7	127.7



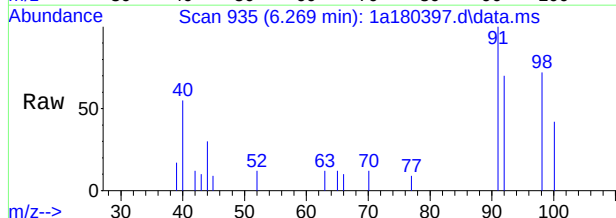
#69
methylcyclohexane
Concen: 0.70 ug/L
RT: 5.442 min Scan# 799
Delta R.T. -0.006 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm

Tgt Ion:	83	Resp:	1853
Ion Ratio	Lower	Upper	
83	100		
55	96.4	50.4	110.4
98	37.3	20.9	80.9

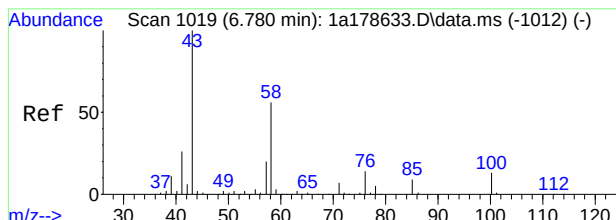
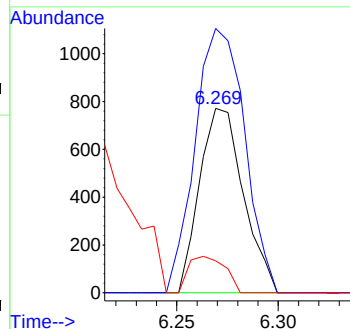
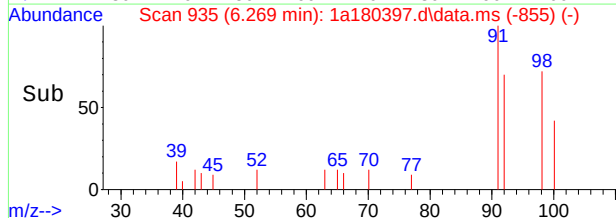




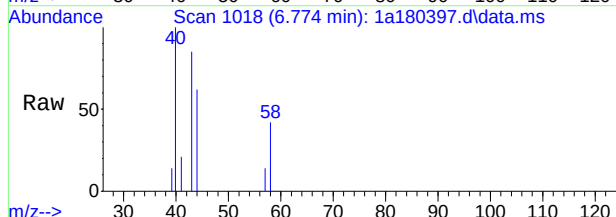
#77
toluene
Concen: 0.28 ug/L
RT: 6.269 min Scan# 935
Delta R.T. -0.012 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm



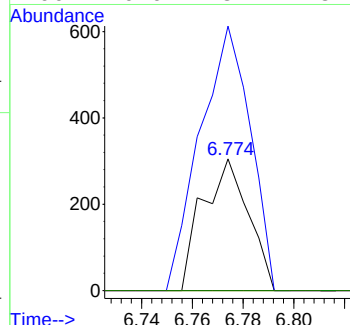
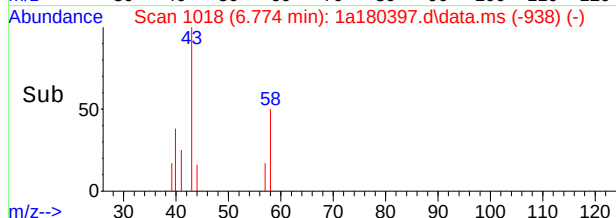
Tgt Ion: 92 Resp: 1160
Ion Ratio Lower Upper
92 100
91 143.5 143.5 183.5#
65 17.4 0.0 37.9



#83
2-hexanone
Concen: 0.41 ug/L
RT: 6.774 min Scan# 1018
Delta R.T. -0.012 min
Lab File: 1a180397.d
Acq: 21 Apr 2018 1:25 pm



Tgt Ion: 58 Resp: 383
Ion Ratio Lower Upper
58 100
43 201.0 157.0 197.0#
85 0.0 0.0 36.0
100 0.0 3.2 43.2#



Quantitation Report (QT Reviewed)

Data Path : X:\complete\2018\dayton201804\4-24-18\janellec\v1a7678\
 Data File : 1a180398.d
 Acq On : 21 Apr 2018 1:50 pm
 Operator : vidishp
 Sample : JC64558-2 Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 24 09:56:15 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

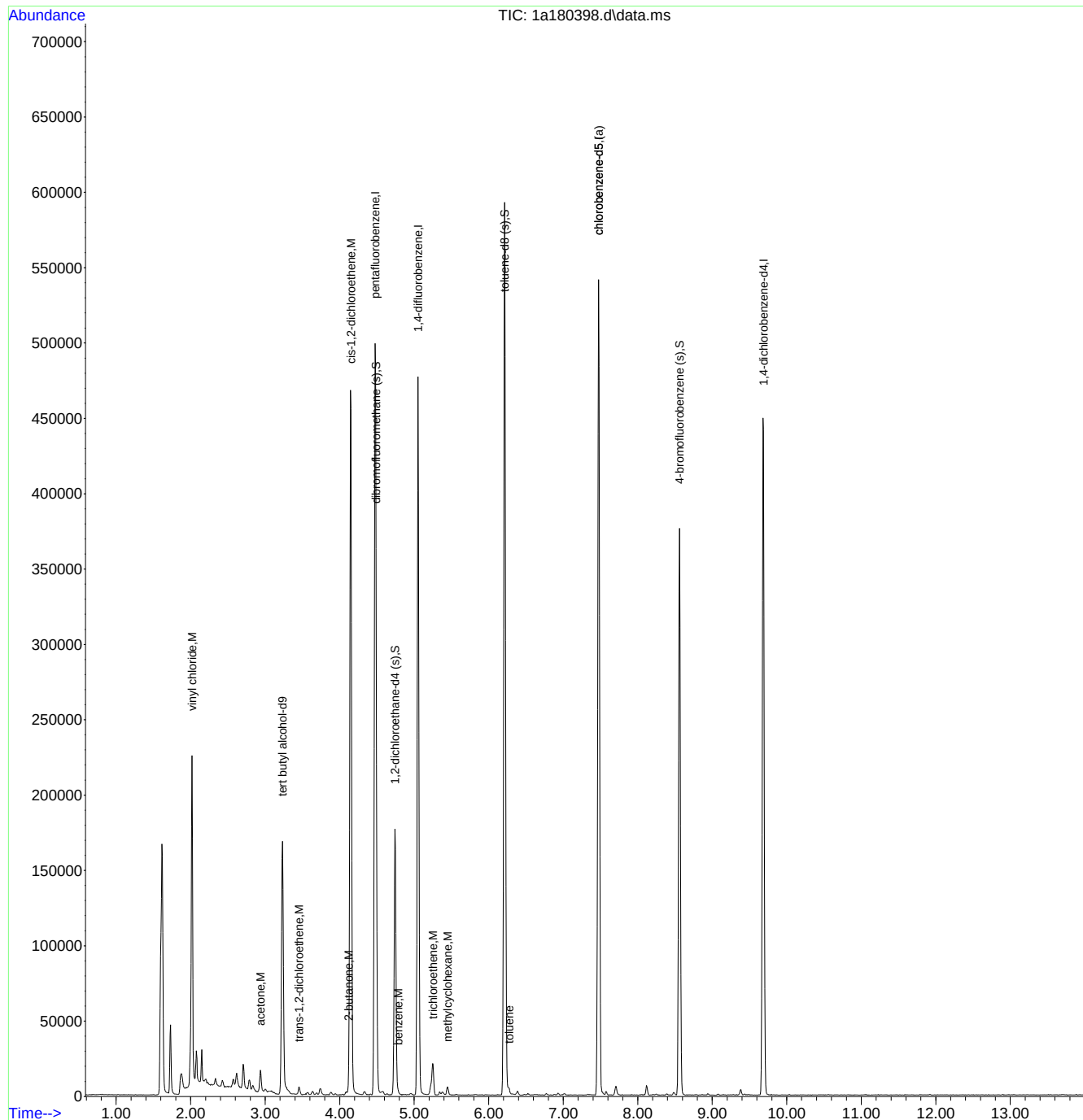
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	161532	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	244733	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	338996	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	307690	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.688	152	130497	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.474	117	307690	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	90502	47.42	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	94.84%
54) 1,2-dichloroethane-d4 (s)	4.742	65	102661	49.30	ug/L	0.00
Spiked Amount	50.000	Range	81 - 124	Recovery	=	98.60%
76) toluene-d8 (s)	6.214	98	361173	49.26	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	98.52%
100) 4-bromofluorobenzene (s)	8.563	95	122892	49.87	ug/L	-0.01
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.74%
Target Compounds						
10) vinyl chloride	2.017	62	152948	75.03	ug/L	Qvalue 99
20) acetone	2.935	58	4196	15.67	ug/L	91
27) trans-1,2-dichloroethene	3.452	96	1149	0.67	ug/L	99
29) 2-butanone	4.122	72	1048	3.59	ug/L #	45
38) cis-1,2-dichloroethene	4.152	96	183025	98.30	ug/L	90
57) benzene	4.785	78	1687	0.25	ug/L	93
62) trichloroethene	5.253	130	6344	3.40	ug/L	95
69) methylcyclohexane	5.448	83	1705	0.64	ug/L	98
77) toluene	6.275	92	1160	0.28	ug/L	87

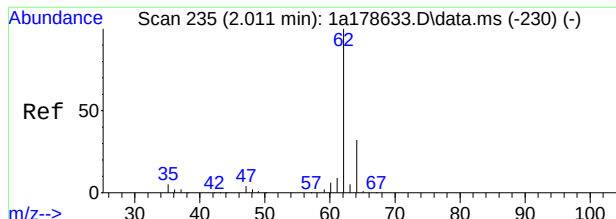
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : X:\complete\2018\dayton201804\4-24-18\janellec\v1a7678\
Data File : 1a180398.d
Acq On : 21 Apr 2018 1:50 pm
Operator : vidishp
Sample : JC64558-2 Inst : MS1A
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 9 Sample Multiplier: 1

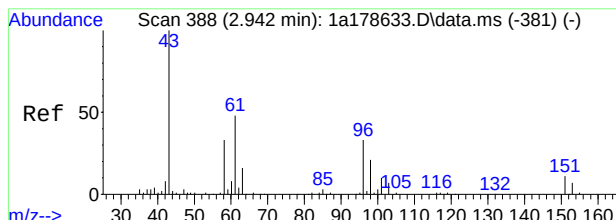
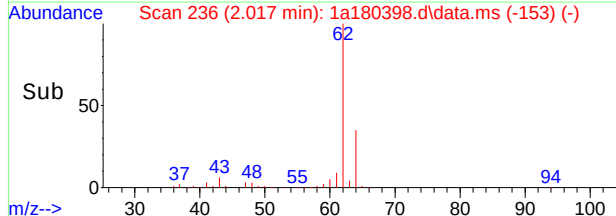
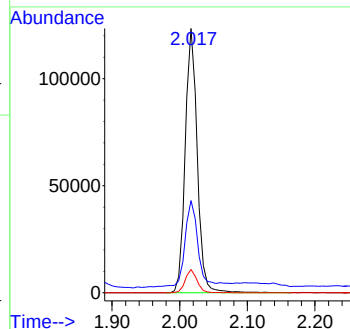
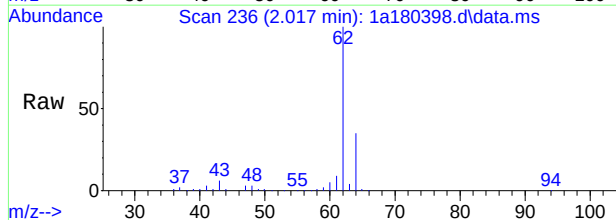
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 24 09:56:15 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration





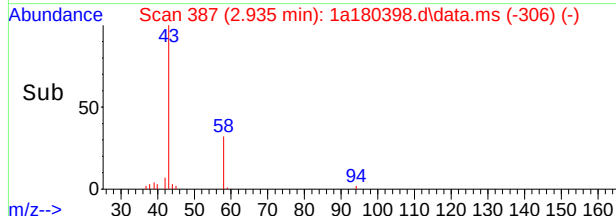
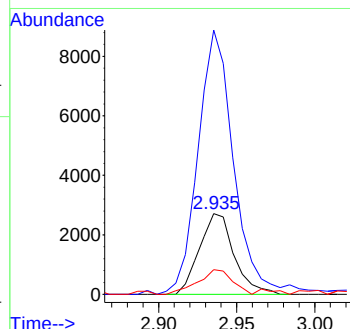
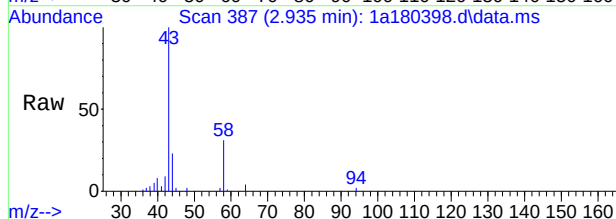
#10
vinyl chloride
Concen: 75.03 ug/L
RT: 2.017 min Scan# 236
Delta R.T. 0.006 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

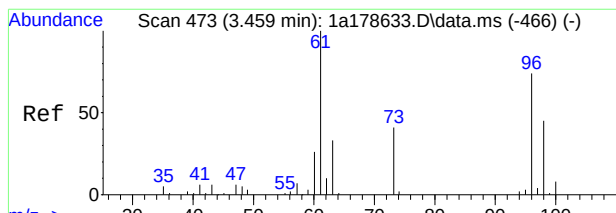
Tgt Ion: 62 Resp: 152948
Ion Ratio Lower Upper
62 100
64 32.6 1.9 61.9
61 8.8 0.0 39.0



#20
acetone
Concen: 15.67 ug/L
RT: 2.935 min Scan# 387
Delta R.T. -0.006 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

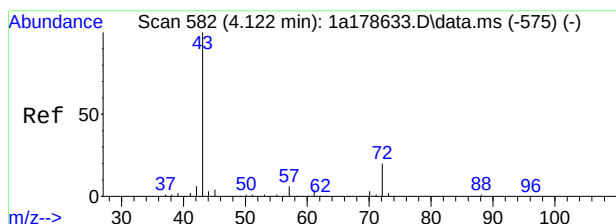
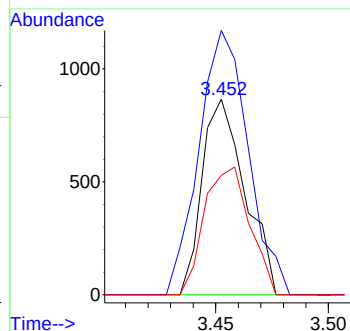
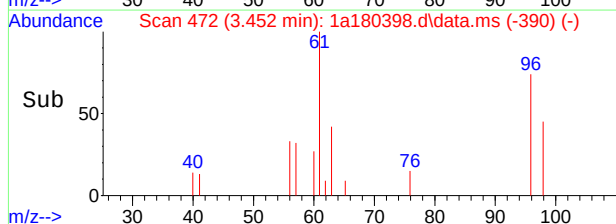
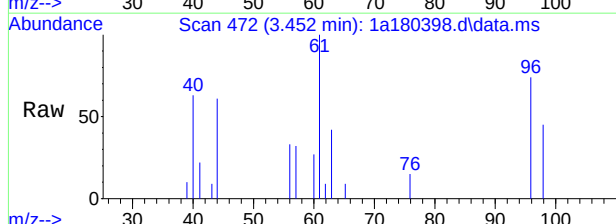
Tgt Ion: 58 Resp: 4196
Ion Ratio Lower Upper
58 100
43 323.4 277.0 337.0
42 30.6 0.0 53.3





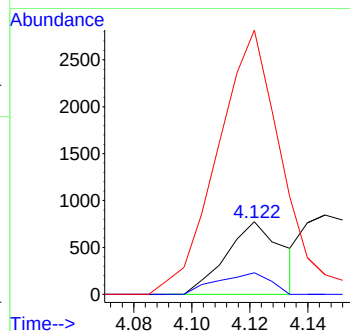
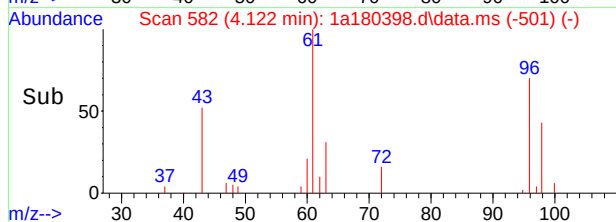
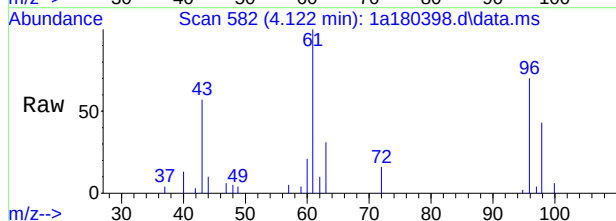
#27
trans-1,2-dichloroethene
Concen: 0.67 ug/L
RT: 3.452 min Scan# 472
Delta R.T. 0.000 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

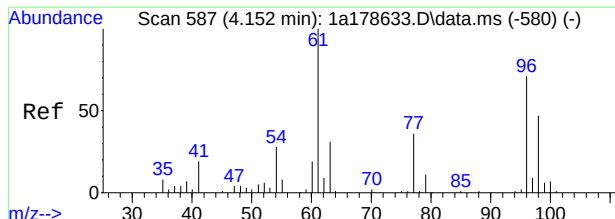
Tgt	Ion	96	Resp:	1149
Ion	Ratio	Lower	Upper	
96	100			
61	135.1	105.6	165.6	
98	61.0	30.5	90.5	



#29
2-butanone
Concen: 3.59 ug/L
RT: 4.122 min Scan# 582
Delta R.T. -0.006 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

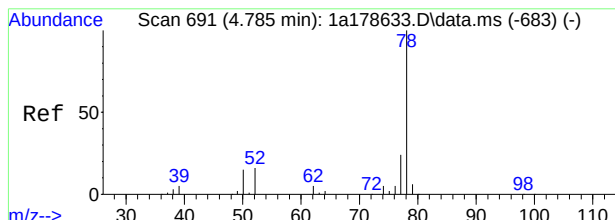
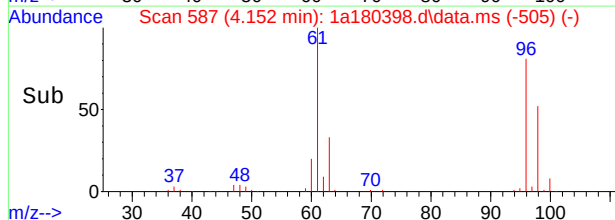
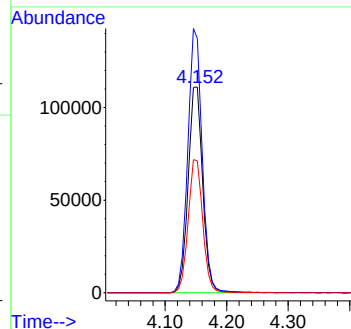
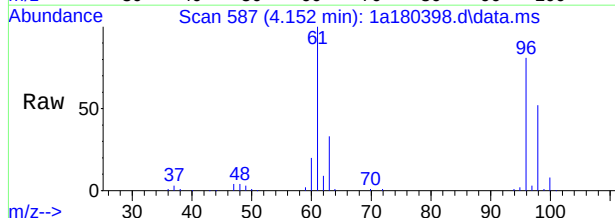
Tgt	Ion	72	Resp:	1048
Ion	Ratio	Lower	Upper	
72	100			
57	29.6	1.3	61.3	
43	346.4	478.2	538.2#	





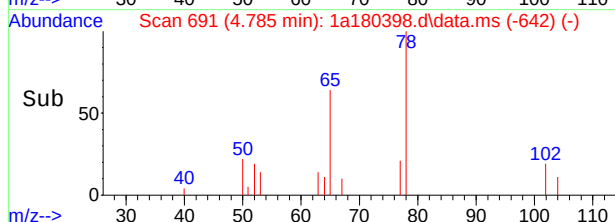
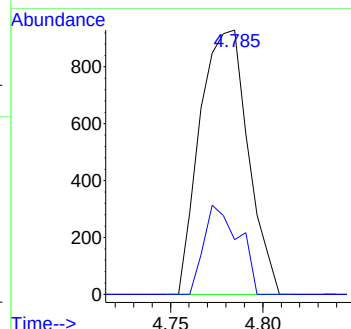
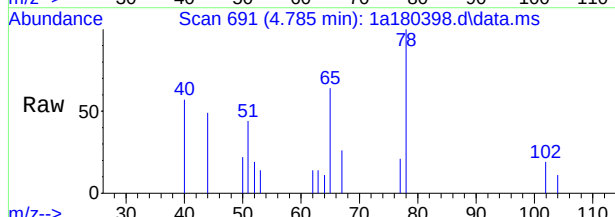
#38
cis-1,2-dichloroethene
Concen: 98.30 ug/L
RT: 4.152 min Scan# 587
Delta R.T. 0.000 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

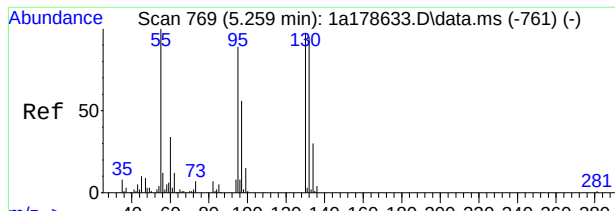
Tgt Ion: 96 Resp: 183025
Ion Ratio Lower Upper
96 100
61 123.6 111.1 171.1
98 64.2 35.9 95.9



#57
benzene
Concen: 0.25 ug/L
RT: 4.785 min Scan# 691
Delta R.T. 0.000 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

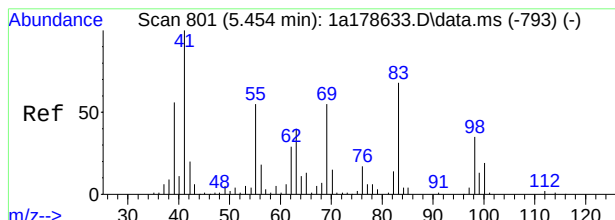
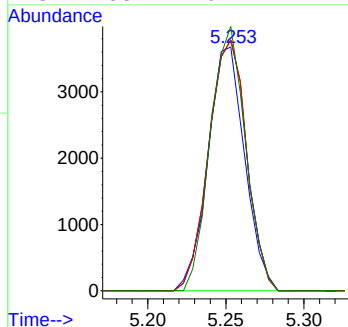
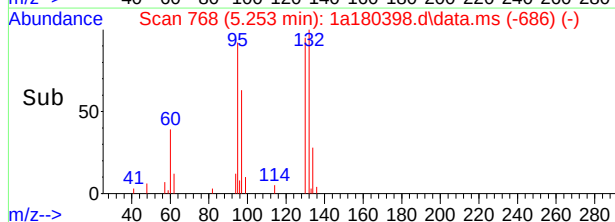
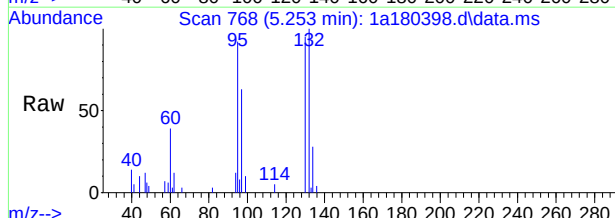
Tgt Ion: 78 Resp: 1687
Ion Ratio Lower Upper
78 100
77 20.6 0.0 53.9





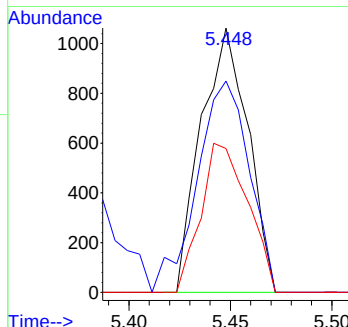
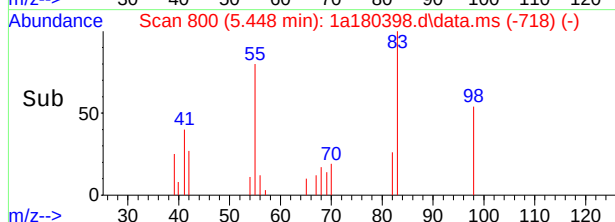
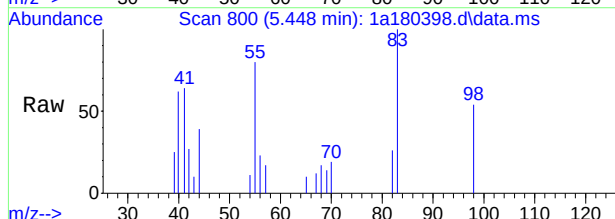
#62
trichloroethene
Concen: 3.40 ug/L
RT: 5.253 min Scan# 768
Delta R.T. 0.000 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

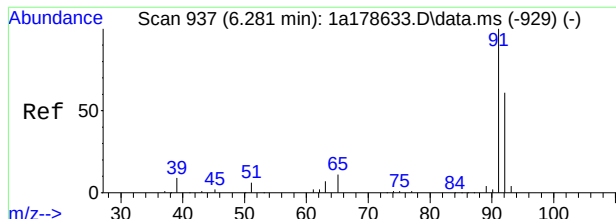
Tgt Ion:	130	Resp:	6344
Ion Ratio	Lower	Upper	
130	100		
95	97.3	61.2	121.2
130	100.0	70.0	130.0
132	105.4	67.7	127.7



#69
methylcyclohexane
Concen: 0.64 ug/L
RT: 5.448 min Scan# 800
Delta R.T. 0.000 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

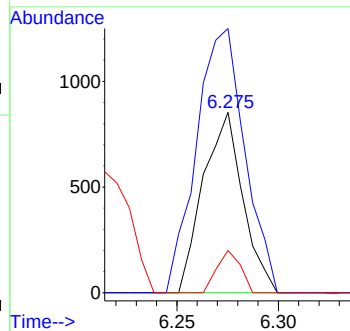
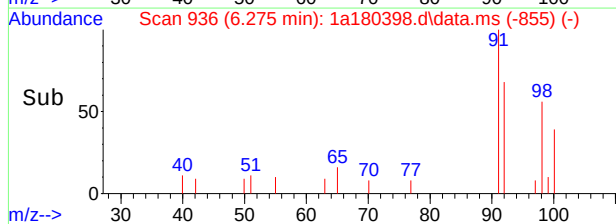
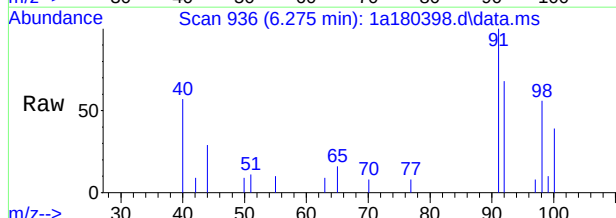
Tgt Ion:	83	Resp:	1705
Ion Ratio	Lower	Upper	
83	100		
55	80.0	50.4	110.4
98	54.4	20.9	80.9





#77
toluene
Concen: 0.28 ug/L
RT: 6.275 min Scan# 936
Delta R.T. -0.006 min
Lab File: 1a180398.d
Acq: 21 Apr 2018 1:50 pm

Tgt Ion: 92 Resp: 1160
Ion Ratio Lower Upper
92 100
91 146.5 143.5 183.5
65 23.4 0.0 37.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180396.d
 Acq On : 21 Apr 2018 1:00 pm
 Operator : vidishp
 Sample : JC64558-3 Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:43:23 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	175494	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	243310	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	333870	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	302591	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.688	152	127028	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.474	117	302591	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	90132	47.50	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	95.00%	
54) 1,2-dichloroethane-d4 (s)	4.742	65	100687	49.09	ug/L	0.00
Spiked Amount	50.000	Range 81 - 124	Recovery	=	98.18%	
76) toluene-d8 (s)	6.214	98	355923	49.36	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	98.72%	
100) 4-bromofluorobenzene (s)	8.563	95	119647	49.88	ug/L	-0.01
Spiked Amount	50.000	Range 80 - 120	Recovery	=	99.76%	
Target Compounds						
38) cis-1,2-dichloroethene	4.146	96	47206	25.50	ug/L	93
62) trichloroethene	5.253	130	4895	2.66	ug/L	96

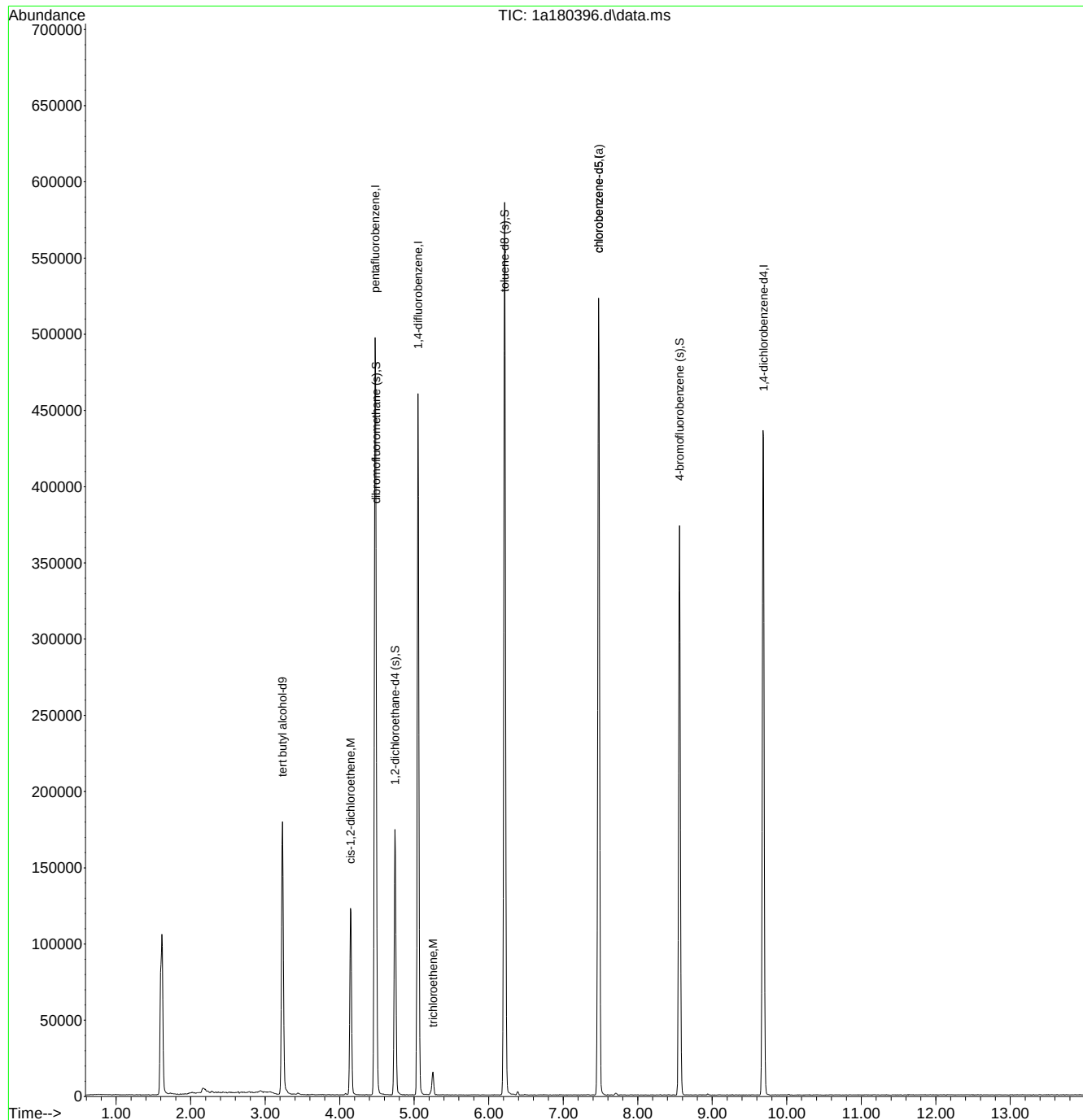
(#) = qualifier out of range (m) = manual integration (+) = signals summed

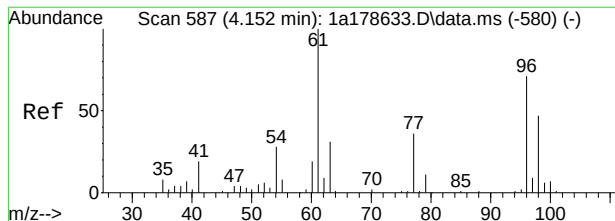
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180396.d
Acq On : 21 Apr 2018 1:00 pm
Operator : vidishp
Sample : JC64558-3
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Inst : MS1A

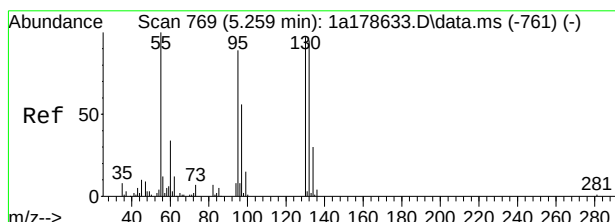
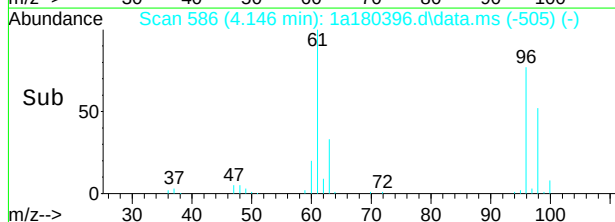
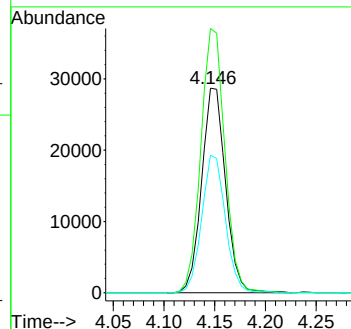
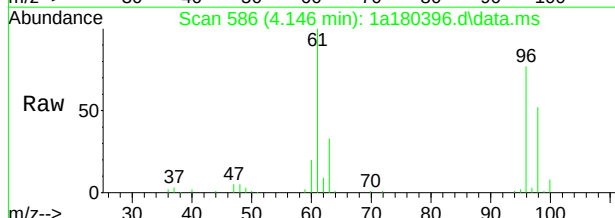
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:43:23 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration





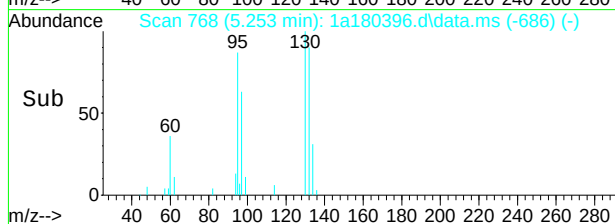
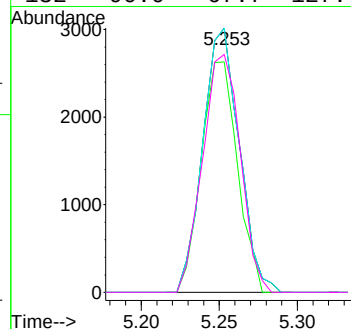
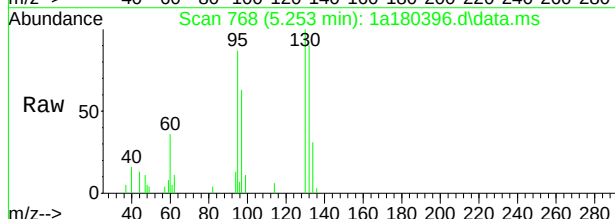
#38
cis-1,2-dichloroethene
Concen: 25.50 ug/L
RT: 4.146 min Scan# 586
Delta R.T. -0.006 min
Lab File: 1a180396.d
Acq: 21 Apr 2018 1:00 pm

Tgt Ion:	96	Resp:	47206
Ion Ratio	Lower	Upper	
96	100		
61	129.3	111.1	171.1
98	67.3	35.9	95.9



#62
trichloroethene
Concen: 2.66 ug/L
RT: 5.253 min Scan# 768
Delta R.T. 0.000 min
Lab File: 1a180396.d
Acq: 21 Apr 2018 1:00 pm

Tgt Ion:	130	Resp:	4895
Ion Ratio	Lower	Upper	
130	100		
95	87.1	61.2	121.2
130	100.0	70.0	130.0
132	90.0	67.7	127.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180395.d
 Acq On : 21 Apr 2018 12:35 pm
 Operator : vidishp
 Sample : JC64558-4 Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:41:34 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	182266	500.00	ug/L	-0.04
5) pentafluorobenzene	4.475	168	250198	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	343318	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	313090	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.682	152	130977	50.00	ug/L	-0.01
127) chlorobenzene-d5 (a)	7.474	117	313090	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	92844	47.59	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	95.18%	
54) 1,2-dichloroethane-d4 (s)	4.742	65	103581	49.11	ug/L	0.00
Spiked Amount	50.000	Range 81 - 124	Recovery	=	98.22%	
76) toluene-d8 (s)	6.214	98	370287	49.63	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	99.26%	
100) 4-bromofluorobenzene (s)	8.563	95	121421	49.09	ug/L	-0.01
Spiked Amount	50.000	Range 80 - 120	Recovery	=	98.18%	
Target Compounds						
10) vinyl chloride	2.017	62	2598	1.25	ug/L	94
26) methyl tert butyl ether	3.434	73	1169	0.22	ug/L	88
27) trans-1,2-dichloroethene	3.459	96	707	0.41	ug/L	94
38) cis-1,2-dichloroethene	4.146	96	25496	13.39	ug/L	94
62) trichloroethene	5.247	130	2571	1.36	ug/L	83

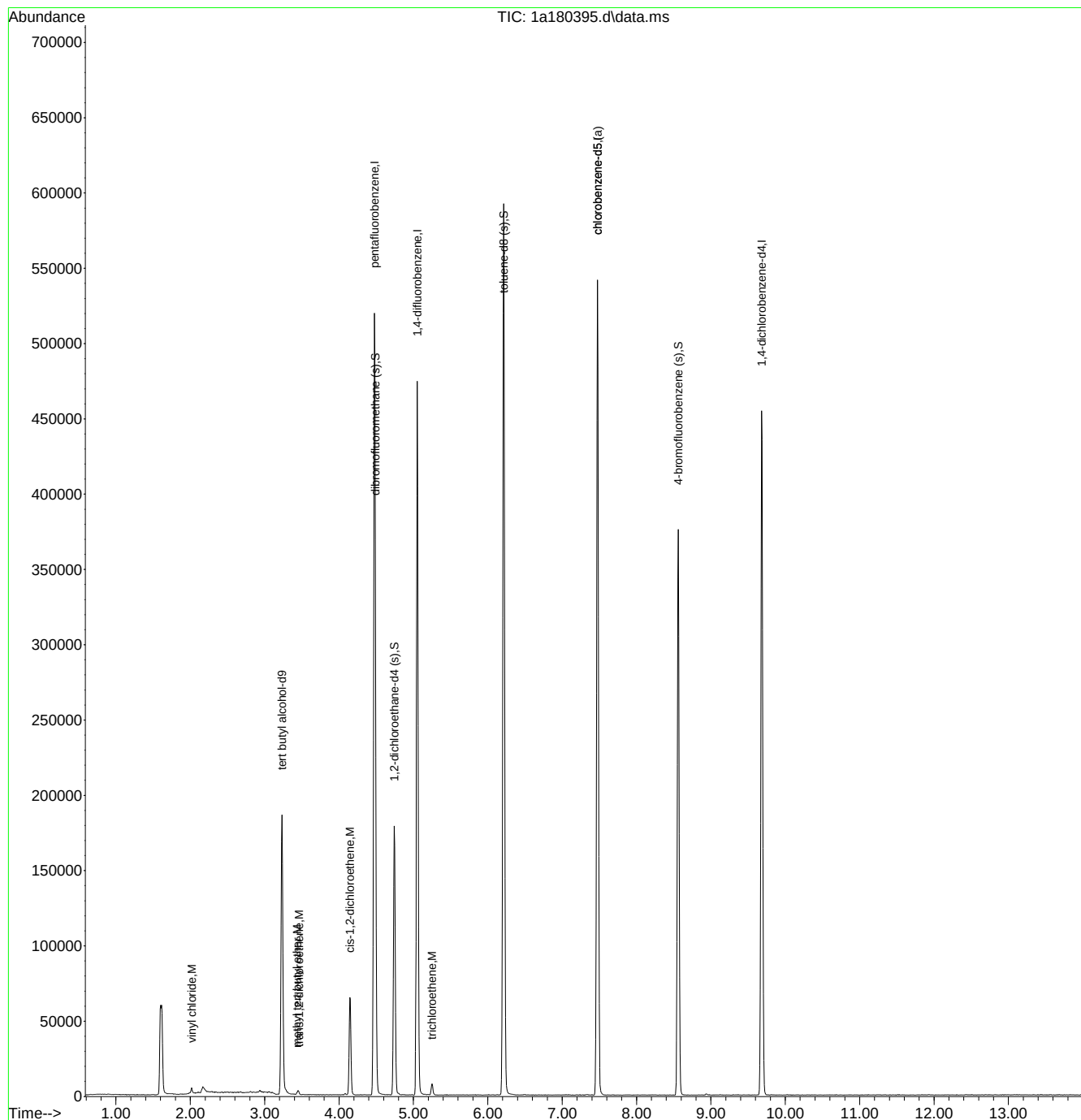
(#) = qualifier out of range (m) = manual integration (+) = signals summed

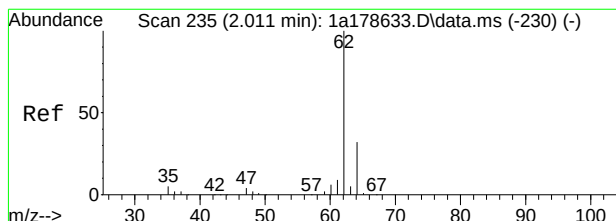
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180395.d
Acq On : 21 Apr 2018 12:35 pm
Operator : vidishp
Sample : JC64558-4
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Inst : MS1A

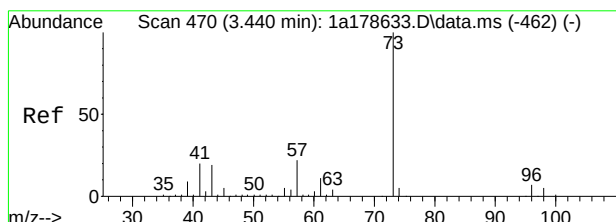
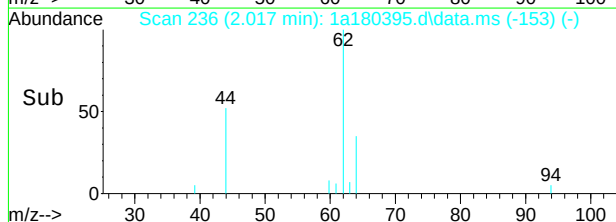
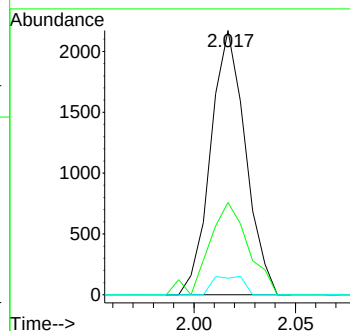
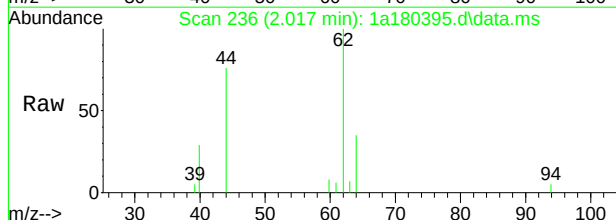
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:41:34 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration





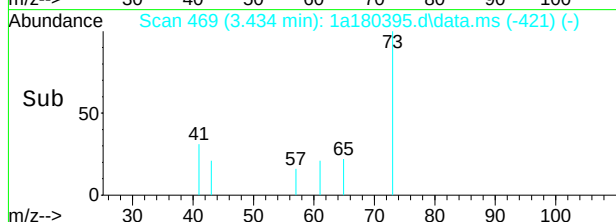
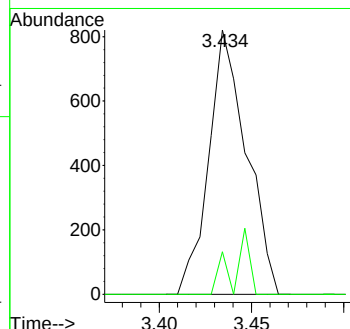
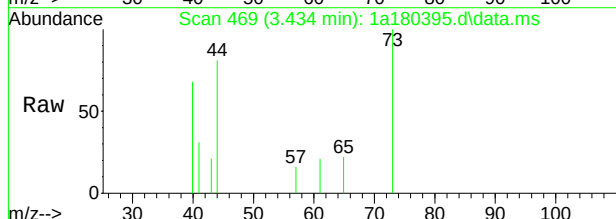
#10
vinyl chloride
Concen: 1.25 ug/L
RT: 2.017 min Scan# 236
Delta R.T. 0.006 min
Lab File: 1a180395.d
Acq: 21 Apr 2018 12:35 pm

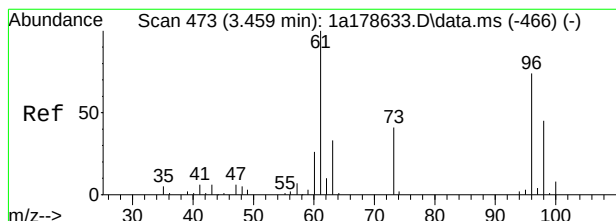
Tgt Ion:	62	Resp:	2598
Ion	Ratio	Lower	Upper
62	100		
64	34.9	1.9	61.9
61	6.3	0.0	39.0



#26
methyl tert butyl ether
Concen: 0.22 ug/L
RT: 3.434 min Scan# 469
Delta R.T. -0.006 min
Lab File: 1a180395.d
Acq: 21 Apr 2018 12:35 pm

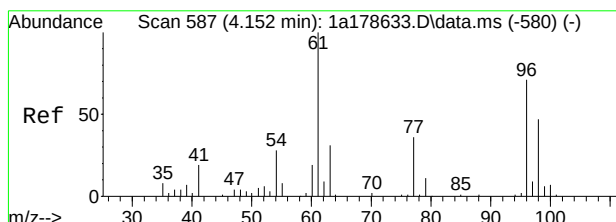
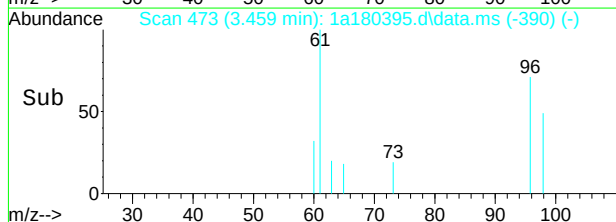
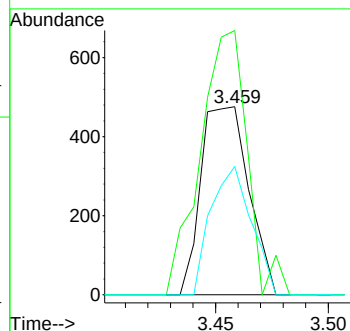
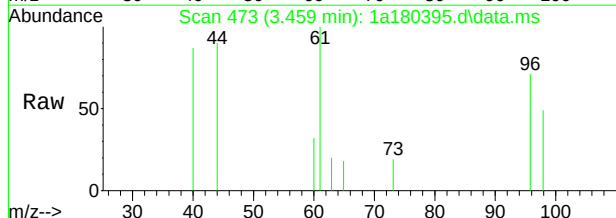
Tgt Ion:	73	Resp:	1169
Ion	Ratio	Lower	Upper
73	100		
57	16.1	0.0	221.7





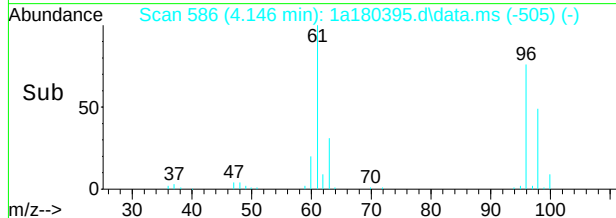
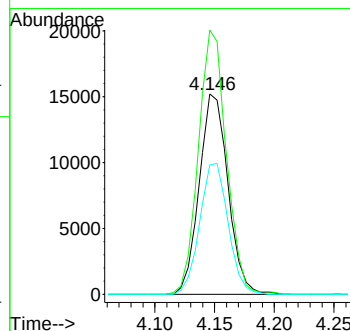
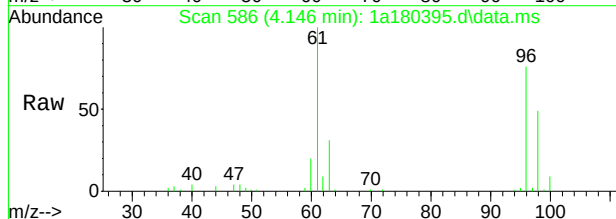
#27
trans-1,2-dichloroethene
Concen: 0.41 ug/L
RT: 3.459 min Scan# 473
Delta R.T. 0.006 min
Lab File: 1a180395.d
Acq: 21 Apr 2018 12:35 pm

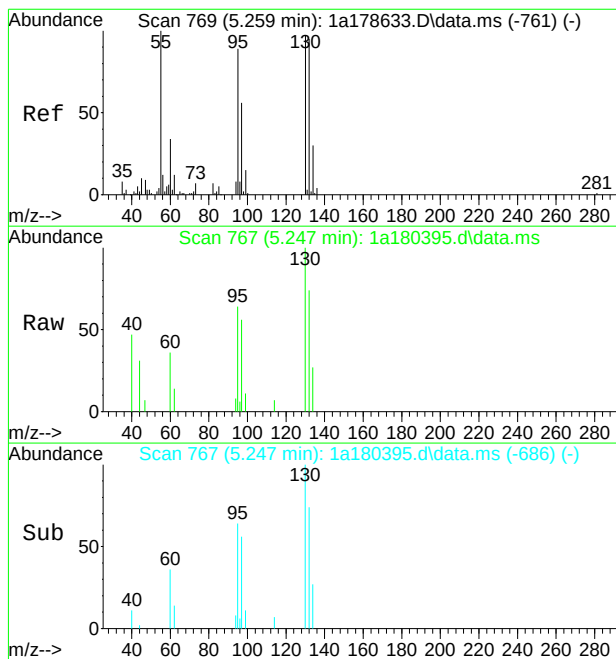
Tgt Ion:	96	Resp:	707
Ion	Ratio	Lower	Upper
96	100		
61	140.5	105.6	165.6
98	68.3	30.5	90.5



#38
cis-1,2-dichloroethene
Concen: 13.39 ug/L
RT: 4.146 min Scan# 586
Delta R.T. -0.006 min
Lab File: 1a180395.d
Acq: 21 Apr 2018 12:35 pm

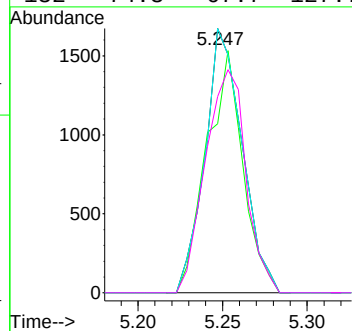
Tgt Ion:	96	Resp:	25496
Ion	Ratio	Lower	Upper
96	100		
61	131.9	111.1	171.1
98	64.7	35.9	95.9





#62
trichloroethene
Concen: 1.36 ug/L
RT: 5.247 min Scan# 767
Delta R.T. -0.006 min
Lab File: 1a180395.d
Acq: 21 Apr 2018 12:35 pm

Tgt Ion:	130	Resp:	2571
Ion	Ratio	Lower	Upper
130	100		
95	64.0	61.2	121.2
130	100.0	70.0	130.0
132	74.3	67.7	127.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180407.d
 Acq On : 21 Apr 2018 5:33 pm
 Operator : vidishp
 Sample : JC64558-5 Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:59:24 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	181709	500.00	ug/L	-0.04
5) pentafluorobenzene	4.475	168	240763	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	334587	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	305598	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.682	152	131661	50.00	ug/L	-0.01
127) chlorobenzene-d5 (a)	7.474	117	305598	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	91077	48.51	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	97.02%	
54) 1,2-dichloroethane-d4 (s)	4.742	65	103671	50.44	ug/L	0.00
Spiked Amount	50.000	Range 81 - 124	Recovery	=	100.88%	
76) toluene-d8 (s)	6.214	98	358845	49.28	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	98.56%	
100) 4-bromofluorobenzene (s)	8.563	95	123208	49.55	ug/L	-0.01
Spiked Amount	50.000	Range 80 - 120	Recovery	=	99.10%	

Target Compounds Qvalue

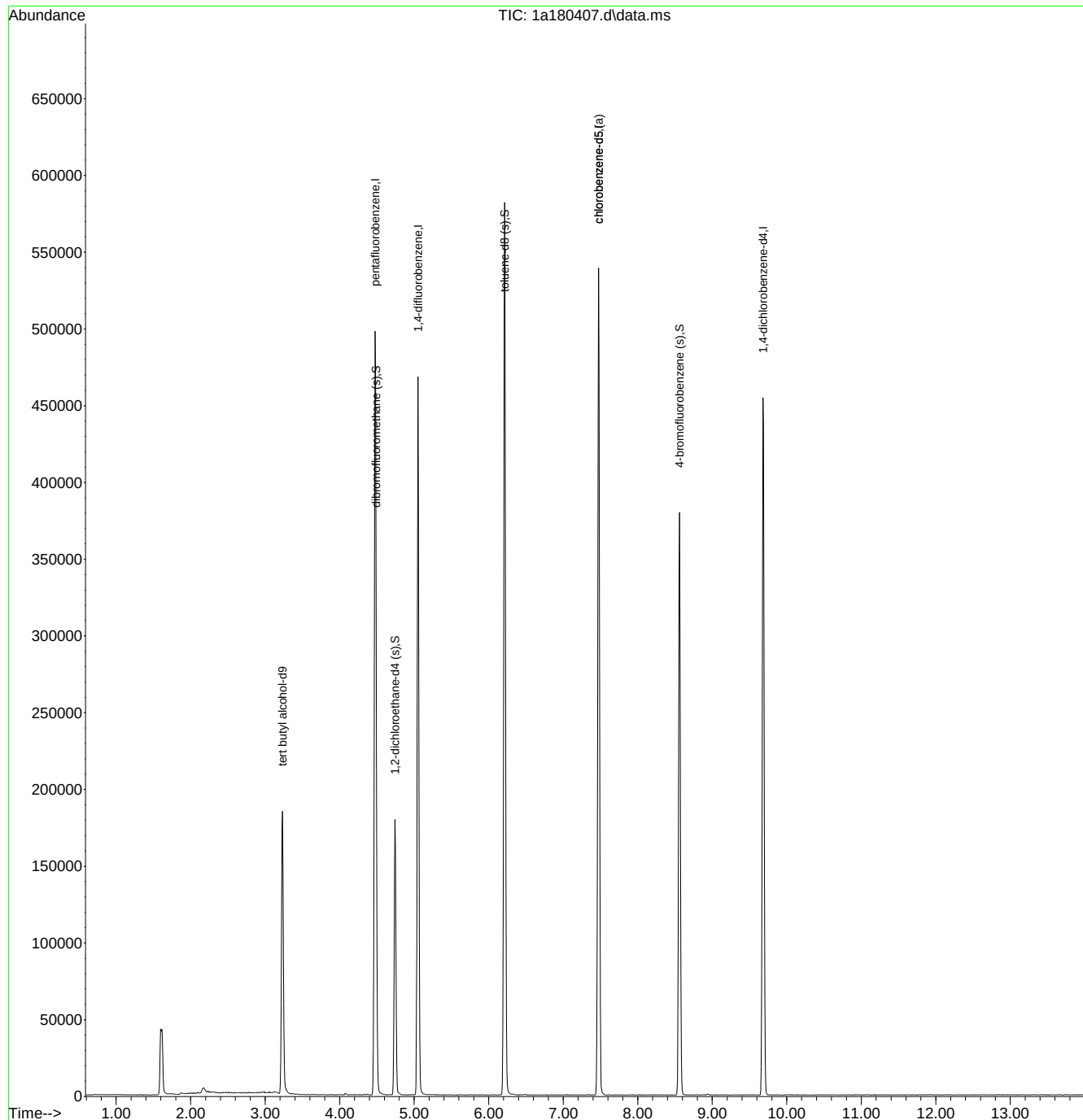
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180407.d
Acq On : 21 Apr 2018 5:33 pm
Operator : vidishp
Sample : JC64558-5
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 18 Sample Multiplier: 1

Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:59:24 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180394.d
Acq On : 21 Apr 2018 12:03 pm
Operator : vidishp
Sample : MB Inst : MS1A
Misc : ms25789,v1a7678,5,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:40:02 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	181009	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	250298	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	345237	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	316167	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.688	152	133292	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.474	117	316167	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	92393	47.34	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	94.68%	
54) 1,2-dichloroethane-d4 (s)	4.742	65	104361	49.21	ug/L	0.00
Spiked Amount	50.000	Range 81 - 124	Recovery	=	98.42%	
76) toluene-d8 (s)	6.214	98	369573	49.05	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	98.10%	
100) 4-bromofluorobenzene (s)	8.563	95	126414	50.22	ug/L	-0.01
Spiked Amount	50.000	Range 80 - 120	Recovery	=	100.44%	

Target Compounds Qvalue

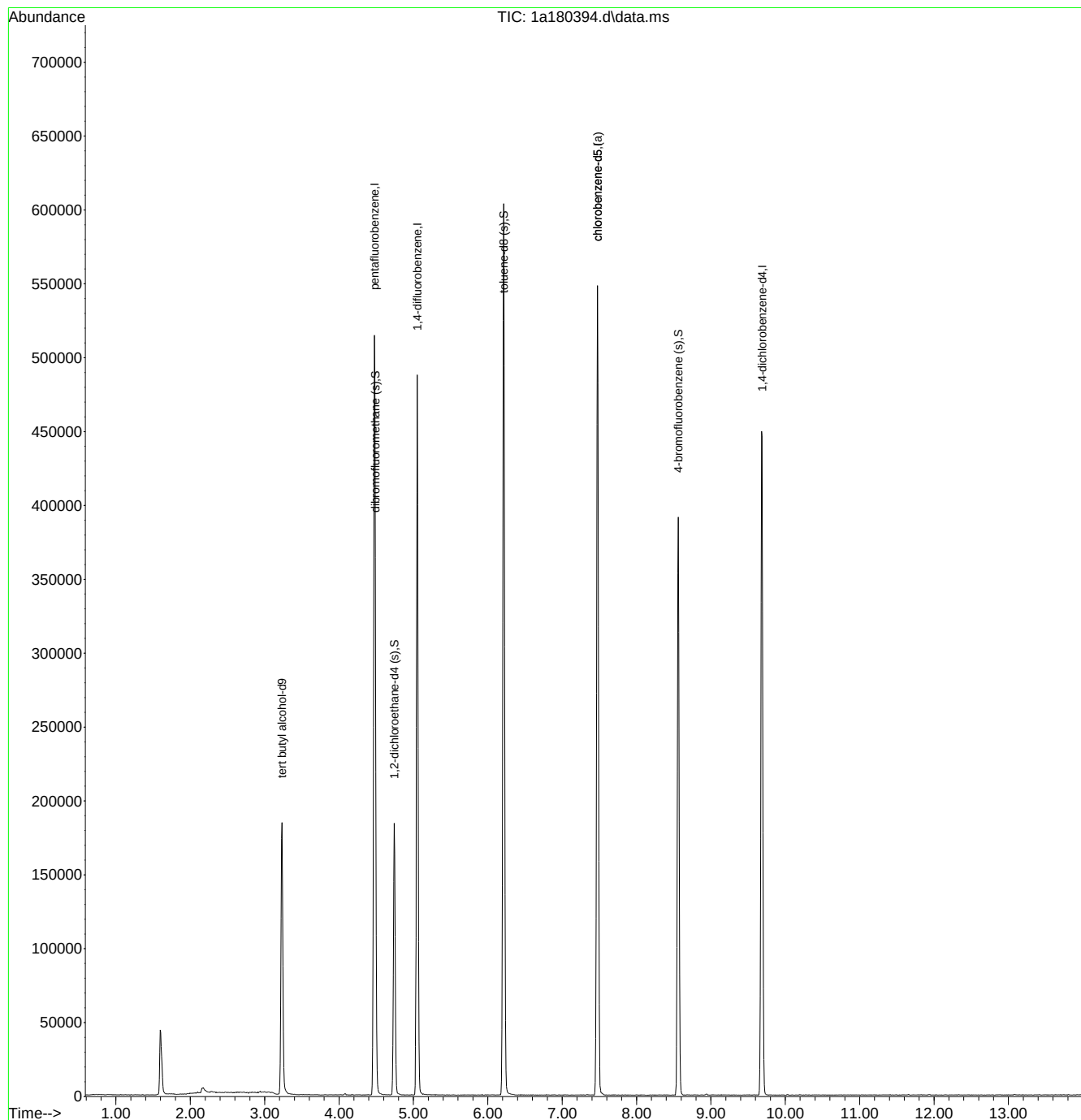
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180394.d
Acq On : 21 Apr 2018 12:03 pm
Operator : vidishp
Sample : MB
Misc : ms25789,v1a7678,5,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:40:02 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180392.d
 Acq On : 21 Apr 2018 11:14 am
 Operator : vidishp
 Sample : BS Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:38:21 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	172637	500.00	ug/L	-0.04
5) pentafluorobenzene	4.475	168	247922	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	339773	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	314044	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.688	152	134816	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.474	117	314044	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	90371	46.74	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	93.48%		
54) 1,2-dichloroethane-d4 (s)	4.742	65	99022	47.44	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	94.88%		
76) toluene-d8 (s)	6.214	98	361689	48.33	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	96.66%		
100) 4-bromofluorobenzene (s)	8.563	95	125664	49.36	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery =	98.72%		
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	3.294	59	96278	263.12	ug/L	99
3) Ethanol	2.649	45	225899	6487.70	ug/L	99
4) 1,4-dioxane	5.490	88	45820	1445.89	ug/L	87
6) chlorodifluoromethane	1.767	51	108850	49.97	ug/L	97
7) dichlorodifluoromethane	1.761	85	90718	45.79	ug/L	97
9) chloromethane	1.919	50	116170	59.72	ug/L	98
10) vinyl chloride	2.017	62	119977	58.10	ug/L	99
12) bromomethane	2.272	94	61041	55.43	ug/L	99
13) chloroethane	2.357	64	71811	58.88	ug/L	97
14) trichlorofluoromethane	2.552	101	121353	46.88	ug/L	97
15) vinyl bromide	2.503	106	74780	46.41	ug/L	95
16) ethyl ether	2.741	74	56237	52.32	ug/L	93
17) acrolein	2.844	56	30116	61.85	ug/L	93
18) freon 113	2.917	151	55740	44.42	ug/L	96
19) 1,1-dichloroethene	2.929	96	75729	47.54	ug/L	99
20) acetone	2.935	58	51377	189.43	ug/L	97
21) acetonitrile	3.130	41	209138	553.72	ug/L	99
22) iodomethane	3.045	142	66279	38.60	ug/L	98
23) carbon disulfide	3.112	76	210029	43.30	ug/L	100
24) methylene chloride	3.264	84	89086	52.58	ug/L	98
25) methyl acetate	3.148	43	118799	58.56	ug/L	96
26) methyl tert butyl ether	3.434	73	269603	50.77	ug/L	98
27) trans-1,2-dichloroethene	3.452	96	87181	50.45	ug/L	96
28) di-isopropyl ether	3.751	45	313453	54.68	ug/L	98
29) 2-butanone	4.122	72	69657	235.51	ug/L #	77
30) 1,1-dichloroethane	3.757	63	157940	51.70	ug/L	99
31) chloroprene	3.805	53	132608	49.33	ug/L	97
32) acrylonitrile	3.410	53	52617	53.50	ug/L	98
33) hexane	3.635	56	49987	44.95	ug/L	95
34) vinyl acetate	3.726	86	20912	58.23	ug/L #	90
35) ethyl tert-butyl ether	4.000	59	281015	51.02	ug/L	97
36) ethyl acetate	4.128	45	22091	55.02	ug/L #	53
37) 2,2-dichloropropane	4.164	77	126677	50.75	ug/L	97
38) cis-1,2-dichloroethene	4.146	96	97926	51.92	ug/L	95
39) methyl acrylate	4.176	85	19898	52.29	ug/L	92
40) propionitrile	4.170	54	245177	556.91	ug/L	87
41) bromochloromethane	4.316	128	45872	52.16	ug/L	95
42) tetrahydrofuran	4.335	72	20366	53.26	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180392.d
 Acq On : 21 Apr 2018 11:14 am
 Operator : vidishp
 Sample : BS Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:38:21 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) chloroform	4.371	85	96127	50.61	ug/L	100
44) t-butyl formate	4.395	59	90223	119.17	ug/L	86
46) methacrylonitrile	4.280	67	52241	50.49	ug/L	94
47) 1,1,1-trichloroethane	4.517	97	126278	48.08	ug/L	98
48) cyclohexane	4.584	84	105197	40.26	ug/L #	59
49) 1,1-dichloropropene	4.627	75	115907	49.06	ug/L	98
51) carbon tetrachloride	4.633	117	106277	46.16	ug/L	98
52) tert amyl alcohol	4.718	55	36925	261.05	ug/L	87
55) n-butyl alcohol	5.101	56	275005	2566.26	ug/L	95
56) 2,2,4-trimethylpentane	4.840	57	220938	51.99	ug/L	97
57) benzene	4.779	78	355939	52.50	ug/L	99
58) tert-amyl methyl ether	4.840	87	61411	49.90	ug/L	97
59) heptane	4.949	71	51317	50.34	ug/L	98
60) isopropyl acetate	4.742	87	26181	52.63	ug/L #	79
61) 1,2-dichloroethane	4.803	62	112607	52.27	ug/L	98
62) trichloroethene	5.253	130	92460	49.39	ug/L	100
63) ethyl acrylate	5.265	55	158346	55.48	ug/L	97
65) 2-chloroethyl vinyl ether	5.831	63	376710	285.57	ug/L	99
66) methyl methacrylate	5.448	100	33664	51.58	ug/L #	90
67) 1,2-dichloropropane	5.454	63	91893	54.90	ug/L	99
68) dibromomethane	5.521	93	53993	53.84	ug/L	94
69) methylcyclohexane	5.448	83	115446	43.39	ug/L	95
70) bromodichloromethane	5.636	83	117501	51.96	ug/L	96
71) epichlorohydrin	5.886	57	78619	275.61	ug/L	96
72) cis-1,3-dichloropropene	5.983	75	148351	51.56	ug/L	99
73) 4-methyl-2-pentanone	6.081	58	219652	228.22	ug/L	98
74) 3-methyl-1-butanol	6.093	55	163307	1000.95	ug/L	98
77) toluene	6.269	92	219466	52.74	ug/L	97
78) trans-1,3-dichloropropene	6.433	75	135439	53.18	ug/L	98
79) ethyl methacrylate	6.452	69	140328	54.60	ug/L	94
80) 1,1,2-trichloroethane	6.610	83	68754	55.20	ug/L	95
81) tetrachloroethene	6.713	164	75010	50.52	ug/L	96
82) 1,3-dichloropropane	6.756	76	144241	56.07	ug/L	93
83) 2-hexanone	6.774	58	227323	240.77	ug/L	98
84) butyl acetate	6.853	56	84138	56.86	ug/L	86
86) dibromochloromethane	6.951	129	91161	52.74	ug/L	99
87) 1,2-dibromoethane	7.072	107	94778	55.21	ug/L	98
88) n-butyl ether	7.541	57	365612	51.42	ug/L	99
89) chlorobenzene	7.504	112	238841	52.19	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.571	131	86824	51.97	ug/L	100
91) ethylbenzene	7.577	91	388780	50.04	ug/L	98
92) m,p-xylene	7.693	106	299648	98.69	ug/L	98
93) o-xylene	8.052	106	146845	49.31	ug/L	98
94) styrene	8.064	104	259293	50.22	ug/L	96
95) bromoform	8.246	173	71714	53.30	ug/L	99
96) butyl acrylate	7.960	55	205094	56.43	ug/L	99
97) isopropylbenzene	8.392	105	345233	47.00	ug/L	100
98) cis-1,4-dichloro-2-butene	8.435	88	41993	42.12	ug/L	92
101) bromobenzene	8.709	156	103220	58.64	ug/L	97
102) 1,1,2,2-tetrachloroethane	8.666	83	127533	66.81	ug/L	98
103) trans-1,4-dichloro-2-b...	8.703	53	32239	59.97	ug/L	90
104) 1,2,3-trichloropropane	8.733	110	39813	63.89	ug/L	99
105) n-propylbenzene	8.788	91	380794	53.79	ug/L	99
106) 2-chlorotoluene	8.885	126	85949	54.40	ug/L	97
107) 4-chlorotoluene	9.001	91	240282	54.44	ug/L	96
108) 1,3,5-trimethylbenzene	8.958	105	253100	50.88	ug/L	99
109) tert-butylbenzene	9.268	134	55246	51.10	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180392.d
 Acq On : 21 Apr 2018 11:14 am
 Operator : vidishp
 Sample : BS Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:38:21 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110)	1,2,4-trimethylbenzene	9.323	105	249811	50.10	ug/L	97
111)	sec-butylbenzene	9.487	105	291803	51.99	ug/L	99
112)	1,3-dichlorobenzene	9.609	146	158745	51.64	ug/L	98
113)	p-isopropyltoluene	9.627	119	241968	48.95	ug/L	99
114)	1,4-dichlorobenzene	9.712	146	162557	51.69	ug/L	95
115)	benzyl chloride	9.816	91	246120	62.37	ug/L	99
116)	1,2-dichlorobenzene	10.065	146	155157	52.63	ug/L	98
117)	n-butylbenzene	10.035	92	110377	50.96	ug/L	99
118)	1,2-dibromo-3-chloropr...	10.838	75	26789	58.46	ug/L	89
119)	1,3,5-trichlorobenzene	11.027	180	97820	56.16	ug/L	97
120)	2-ethylhexyl acrylate	11.830	70	8961	9.39	ug/L	93
121)	1,2,4-trichlorobenzene	11.659	180	88941	54.87	ug/L	98
122)	hexachlorobutadiene	11.805	225	36417	62.05	ug/L	97
123)	naphthalene	11.933	128	316860	54.51	ug/L	99
124)	1,2,3-trichlorobenzene	12.152	180	89043	57.34	ug/L	94
125)	hexachloroethane	10.339	201	40614	46.62	ug/L	95
126)	2-methylnaphthalene	13.083	142	73638	27.25	ug/L	97

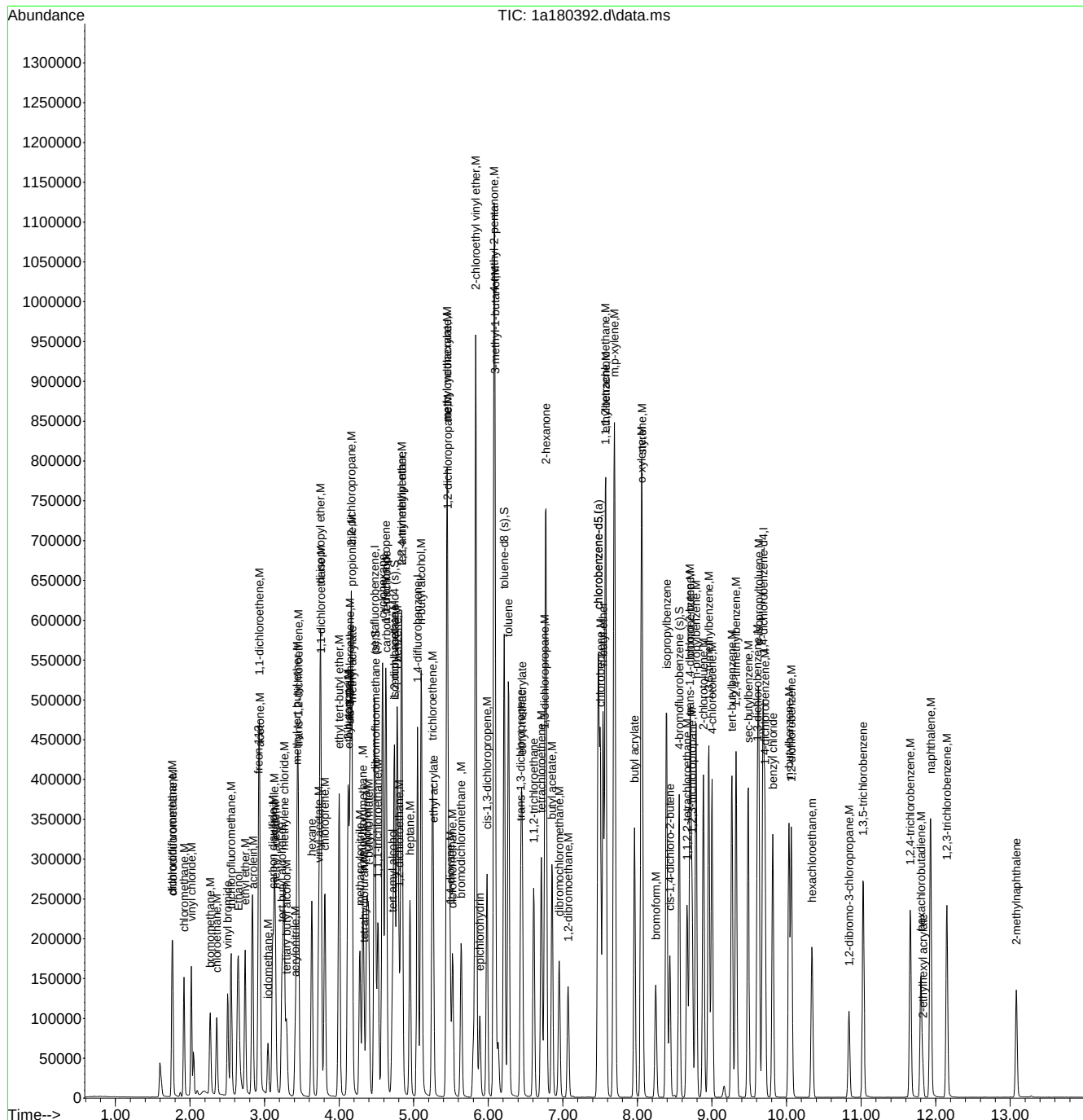
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180392.d
Acq On    : 21 Apr 2018  11:14 am
Operator  : vidishp
Sample    : BS
Misc      : ms25737,v1a7678,5,,,,,1
ALS Vial  : 3      Sample Multiplier: 1
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Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:38:21 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



7.3.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180402.d
 Acq On : 21 Apr 2018 3:29 pm
 Operator : vidishp
 Sample : JC64558-4MS Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:54:21 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	163443	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	238027	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	331889	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	303983	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.688	152	130229	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.474	117	303983	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	88775	47.83	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	95.66%		
54) 1,2-dichloroethane-d4 (s)	4.742	65	97718	47.93	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	95.86%		
76) toluene-d8 (s)	6.214	98	352742	48.70	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	97.40%		
100) 4-bromofluorobenzene (s)	8.563	95	123336	50.15	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.30%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.294	59	93998	271.34	ug/L	95
3) Ethanol	2.649	45	202685	6148.45	ug/L	97
4) 1,4-dioxane	5.490	88	42146	1404.77	ug/L	88
6) chlorodifluoromethane	1.767	51	112219	53.66	ug/L	97
7) dichlorodifluoromethane	1.755	85	115278	60.61	ug/L	97
9) chloromethane	1.919	50	110984	59.42	ug/L	98
10) vinyl chloride	2.017	62	124611	62.85	ug/L	99
12) bromomethane	2.272	94	40027	37.86	ug/L	98
13) chloroethane	2.357	64	71867	61.38	ug/L	97
14) trichlorofluoromethane	2.552	101	138750	55.83	ug/L	95
15) vinyl bromide	2.503	106	72324	46.75	ug/L	99
16) ethyl ether	2.741	74	51644	50.05	ug/L	93
17) acrolein	2.844	56	25661	54.89	ug/L	90
18) freon 113	2.917	151	59707	49.56	ug/L	94
19) 1,1-dichloroethene	2.929	96	77583	50.73	ug/L	98
20) acetone	2.935	58	46660	179.19	ug/L	93
21) acetonitrile	3.130	41	187186	516.20	ug/L	100
22) iodomethane	3.045	142	54675	33.19	ug/L	97
23) carbon disulfide	3.106	76	201939	43.36	ug/L	98
24) methylene chloride	3.264	84	84365	51.87	ug/L	98
25) methyl acetate	3.148	43	105498	54.17	ug/L	97
26) methyl tert butyl ether	3.434	73	248161	48.68	ug/L	97
27) trans-1,2-dichloroethene	3.452	96	86654	52.23	ug/L	99
28) di-isopropyl ether	3.750	45	292854	53.21	ug/L	97
29) 2-butanone	4.122	72	62847	221.32	ug/L #	71
30) 1,1-dichloroethane	3.756	63	153846	52.45	ug/L	98
31) chloroprene	3.805	53	134888	52.26	ug/L	96
32) acrylonitrile	3.410	53	47936	50.77	ug/L	99
33) hexane	3.635	56	53761	50.36	ug/L	98
34) vinyl acetate	3.726	86	17890	51.89	ug/L #	84
35) ethyl tert-butyl ether	4.000	59	257419	48.68	ug/L	97
36) ethyl acetate	4.128	45	21044	54.59	ug/L #	59
37) 2,2-dichloropropane	4.164	77	121925	50.87	ug/L	100
38) cis-1,2-dichloroethene	4.146	96	118763	65.58	ug/L	97
39) methyl acrylate	4.176	85	18579	50.85	ug/L	96
40) propionitrile	4.170	54	222824	527.18	ug/L	88
41) bromochloromethane	4.316	128	43253	51.23	ug/L	95
42) tetrahydrofuran	4.334	72	18138	49.41	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180402.d
 Acq On : 21 Apr 2018 3:29 pm
 Operator : vidishp
 Sample : JC64558-4MS Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:54:21 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) chloroform	4.371	85	93204	51.11	ug/L	99
44) t-butyl formate	4.395	59	6225	8.56	ug/L #	70
46) methacrylonitrile	4.280	67	46913	47.23	ug/L	91
47) 1,1,1-trichloroethane	4.523	97	126556	50.19	ug/L	96
48) cyclohexane	4.578	84	111618	44.49	ug/L #	84
49) 1,1-dichloropropene	4.626	75	116974	51.57	ug/L	98
51) carbon tetrachloride	4.639	117	108902	49.26	ug/L	96
52) tert amyl alcohol	4.718	55	34422	253.47	ug/L	84
55) n-butyl alcohol	5.101	56	251064	2398.50	ug/L	95
56) 2,2,4-trimethylpentane	4.839	57	235965	56.85	ug/L	97
57) benzene	4.779	78	347550	52.48	ug/L	99
58) tert-amyl methyl ether	4.839	87	57479	47.81	ug/L	96
59) heptane	4.949	71	54889	55.12	ug/L	96
60) isopropyl acetate	4.742	87	23348	48.05	ug/L #	76
61) 1,2-dichloroethane	4.797	62	108871	51.74	ug/L	100
62) trichloroethene	5.253	130	95143	52.03	ug/L	99
63) ethyl acrylate	5.265	55	144340	51.77	ug/L	97
66) methyl methacrylate	5.448	100	31296	49.09	ug/L #	84
67) 1,2-dichloropropane	5.454	63	87400	53.45	ug/L	99
68) dibromomethane	5.521	93	50820	51.88	ug/L	95
69) methylcyclohexane	5.448	83	123093	47.36	ug/L	97
70) bromodichloromethane	5.636	83	111420	50.44	ug/L	97
71) epichlorohydrin	5.886	57	45992	165.06	ug/L	98
72) cis-1,3-dichloropropene	5.983	75	138319	49.22	ug/L	99
73) 4-methyl-2-pentanone	6.080	58	201443	214.27	ug/L	97
74) 3-methyl-1-butanol	6.093	55	149353	937.17	ug/L	96
77) toluene	6.269	92	213371	52.97	ug/L	96
78) trans-1,3-dichloropropene	6.433	75	124177	50.37	ug/L	98
79) ethyl methacrylate	6.452	69	130469	52.45	ug/L	95
80) 1,1,2-trichloroethane	6.610	83	64720	53.68	ug/L	98
81) tetrachloroethene	6.713	164	74837	52.07	ug/L	96
82) 1,3-dichloropropane	6.762	76	133873	53.76	ug/L	94
83) 2-hexanone	6.774	58	207414	226.96	ug/L	99
84) butyl acetate	6.853	56	73785	51.52	ug/L	84
86) dibromochloromethane	6.950	129	84185	50.32	ug/L	99
87) 1,2-dibromoethane	7.072	107	88042	52.98	ug/L	98
88) n-butyl ether	7.540	57	349304	50.75	ug/L	97
89) chlorobenzene	7.504	112	227996	51.47	ug/L	98
90) 1,1,1,2-tetrachloroethane	7.571	131	82951	51.29	ug/L	100
91) ethylbenzene	7.577	91	377283	50.17	ug/L	99
92) m,p-xylene	7.693	106	286467	97.47	ug/L	96
93) o-xylene	8.051	106	140939	48.89	ug/L	99
94) styrene	8.064	104	246587	49.34	ug/L	95
95) bromoform	8.246	173	62716	48.15	ug/L	98
96) butyl acrylate	7.960	55	186627	53.04	ug/L	98
97) isopropylbenzene	8.392	105	332587	46.78	ug/L	100
98) cis-1,4-dichloro-2-butene	8.435	88	27109	28.09	ug/L	94
101) bromobenzene	8.709	156	98519	57.94	ug/L	96
102) 1,1,2,2-tetrachloroethane	8.666	83	117717	63.84	ug/L	99
103) trans-1,4-dichloro-2-b...	8.702	53	20331	39.15	ug/L	94
104) 1,2,3-trichloropropane	8.733	110	36519	60.67	ug/L	100
105) n-propylbenzene	8.788	91	368754	53.93	ug/L	99
106) 2-chlorotoluene	8.885	126	81196	53.20	ug/L	99
107) 4-chlorotoluene	9.001	91	227324	53.32	ug/L	96
108) 1,3,5-trimethylbenzene	8.958	105	236767	49.27	ug/L	99
109) tert-butylbenzene	9.268	134	53377	51.11	ug/L	100
110) 1,2,4-trimethylbenzene	9.323	105	235294	48.85	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180402.d
Acq On : 21 Apr 2018 3:29 pm
Operator : vidishp
Sample : JC64558-4MS Inst : MS1A
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:54:21 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
111) sec-butylbenzene	9.487	105	279282	51.51	ug/L	99
112) 1,3-dichlorobenzene	9.615	146	149547	50.36	ug/L	97
113) p-isopropyltoluene	9.627	119	226502	47.44	ug/L	99
114) 1,4-dichlorobenzene	9.712	146	152345	50.15	ug/L	97
115) benzyl chloride	9.816	91	217152	56.97	ug/L	97
116) 1,2-dichlorobenzene	10.065	146	147072	51.64	ug/L	99
117) n-butylbenzene	10.035	92	104437	49.92	ug/L	100
118) 1,2-dibromo-3-chloropr...	10.838	75	24579	55.52	ug/L	97
119) 1,3,5-trichlorobenzene	11.032	180	92254	54.83	ug/L	98
120) 2-ethylhexyl acrylate	11.829	70	7946	8.62	ug/L	95
121) 1,2,4-trichlorobenzene	11.659	180	82778	52.87	ug/L	95
122) hexachlorobutadiene	11.805	225	35644	62.87	ug/L	95
123) naphthalene	11.933	128	292055	52.01	ug/L	99
124) 1,2,3-trichlorobenzene	12.152	180	81213	54.14	ug/L	99
125) hexachloroethane	10.345	201	36783	43.71	ug/L	93
126) 2-methylnaphthalene	13.083	142	64398	24.67	ug/L	93

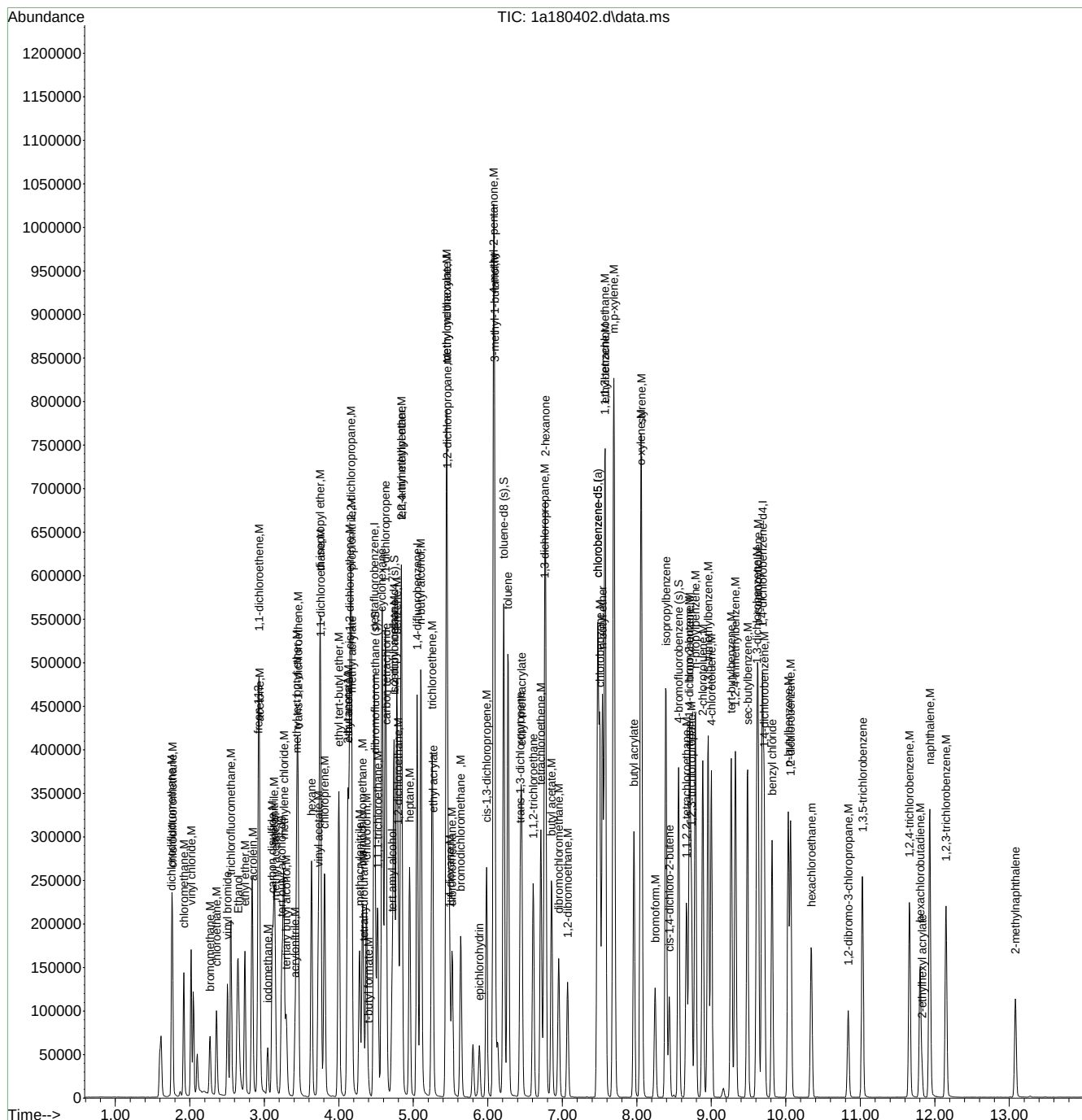
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180402.d
Acq On : 21 Apr 2018    3:29 pm
Operator : vidishp
Sample : JC64558-4MS
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 13 Sample Multiplier: 1
```

Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:54:21 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180403.d
 Acq On : 21 Apr 2018 3:53 pm
 Operator : vidishp
 Sample : JC64558-4MSD Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:55:26 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	157901	500.00	ug/L	-0.04
5) pentafluorobenzene	4.475	168	245201	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	339396	50.00	ug/L	0.00
75) chlorobenzene-d5	7.474	117	313044	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.682	152	128918	50.00	ug/L	-0.01
127) chlorobenzene-d5 (a)	7.474	117	313044	50.00	ug/L	-0.01
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	90785	47.48	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	94.96%		
54) 1,2-dichloroethane-d4 (s)	4.742	65	98268	47.13	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	94.26%		
76) toluene-d8 (s)	6.214	98	362737	48.63	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	97.26%		
100) 4-bromofluorobenzene (s)	8.563	95	123062	50.55	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.10%		
Target Compounds						
2) tertiary butyl alcohol	3.294	59	101284	302.63	ug/L	Qvalue 95
3) Ethanol	2.643	45	216317	6792.28	ug/L	99
4) 1,4-dioxane	5.490	88	44086	1521.00	ug/L	88
6) chlorodifluoromethane	1.767	51	114140	52.98	ug/L	95
7) dichlorodifluoromethane	1.755	85	120444	61.47	ug/L	98
9) chloromethane	1.919	50	115849	60.21	ug/L	98
10) vinyl chloride	2.017	62	131973	64.62	ug/L	99
12) bromomethane	2.272	94	57342	52.65	ug/L	98
13) chloroethane	2.357	64	74204	61.52	ug/L	98
14) trichlorofluoromethane	2.552	101	146011	57.04	ug/L	96
15) vinyl bromide	2.503	106	77758	48.80	ug/L	95
16) ethyl ether	2.741	74	53429	50.26	ug/L	95
17) acrolein	2.844	56	26971	56.01	ug/L	91
18) freon 113	2.917	151	62051	50.00	ug/L	95
19) 1,1-dichloroethene	2.929	96	79311	50.34	ug/L	97
20) acetone	2.935	58	49222	183.50	ug/L	92
21) acetonitrile	3.130	41	196709	526.60	ug/L	97
22) iodomethane	3.045	142	75479	44.41	ug/L	98
23) carbon disulfide	3.106	76	208399	43.44	ug/L	98
24) methylene chloride	3.258	84	88275	52.68	ug/L	97
25) methyl acetate	3.148	43	109102	54.38	ug/L	99
26) methyl tert butyl ether	3.434	73	260420	49.59	ug/L	96
27) trans-1,2-dichloroethene	3.452	96	87575	51.24	ug/L	94
28) di-isopropyl ether	3.744	45	310408	54.75	ug/L	96
29) 2-butanone	4.122	72	68560	234.37	ug/L #	77
30) 1,1-dichloroethane	3.757	63	160182	53.01	ug/L	99
31) chloroprene	3.805	53	138900	52.24	ug/L	98
32) acrylonitrile	3.410	53	50897	52.33	ug/L	98
33) hexane	3.635	56	55658	50.61	ug/L	100
34) vinyl acetate	3.726	86	18960	53.38	ug/L #	85
35) ethyl tert-butyl ether	4.000	59	277629	50.97	ug/L	98
36) ethyl acetate	4.128	45	22365	56.32	ug/L #	66
37) 2,2-dichloropropane	4.164	77	124676	50.50	ug/L	99
38) cis-1,2-dichloroethene	4.146	96	123453	66.18	ug/L	97
39) methyl acrylate	4.170	85	19934	52.96	ug/L #	88
40) propionitrile	4.164	54	240306	551.90	ug/L	99
41) bromochloromethane	4.316	128	45676	52.51	ug/L	95
42) tetrahydrofuran	4.329	72	19732	52.18	ug/L	86

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180403.d
 Acq On : 21 Apr 2018 3:53 pm
 Operator : vidishp
 Sample : JC64558-4MSD Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:55:26 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) chloroform	4.371	85	98400	52.38	ug/L	98
44) t-butyl formate	4.389	59	4063	5.43	ug/L	77
46) methacrylonitrile	4.280	67	51324	50.16	ug/L	93
47) 1,1,1-trichloroethane	4.517	97	132226	50.90	ug/L	98
48) cyclohexane	4.578	84	117810	45.58	ug/L #	78
49) 1,1-dichloropropene	4.627	75	122861	52.58	ug/L	98
51) carbon tetrachloride	4.633	117	113555	49.86	ug/L	97
52) tert amyl alcohol	4.718	55	35613	254.57	ug/L	83
55) n-butyl alcohol	5.101	56	271621	2537.49	ug/L	97
56) 2,2,4-trimethylpentane	4.840	57	248199	58.47	ug/L	97
57) benzene	4.779	78	362872	53.58	ug/L	99
58) tert-amyl methyl ether	4.833	87	61910	50.36	ug/L	91
59) heptane	4.949	71	56828	55.81	ug/L	97
60) isopropyl acetate	4.742	87	25250	50.82	ug/L #	78
61) 1,2-dichloroethane	4.797	62	115710	53.77	ug/L	99
62) trichloroethene	5.247	130	100072	53.52	ug/L	99
63) ethyl acrylate	5.259	55	159615	55.99	ug/L	98
66) methyl methacrylate	5.442	100	33924	52.03	ug/L	93
67) 1,2-dichloropropane	5.448	63	94586	56.57	ug/L	99
68) dibromomethane	5.521	93	54753	54.65	ug/L	93
69) methylcyclohexane	5.448	83	129947	48.89	ug/L	96
70) bromodichloromethane	5.636	83	121673	53.86	ug/L	98
71) epichlorohydrin	5.886	57	47507	166.73	ug/L	96
72) cis-1,3-dichloropropene	5.983	75	151293	52.64	ug/L	98
73) 4-methyl-2-pentanone	6.081	58	221612	230.51	ug/L	95
74) 3-methyl-1-butanol	6.093	55	163091	1000.73	ug/L	97
77) toluene	6.269	92	229213	55.26	ug/L	99
78) trans-1,3-dichloropropene	6.433	75	135791	53.48	ug/L	98
79) ethyl methacrylate	6.452	69	143584	56.05	ug/L	95
80) 1,1,2-trichloroethane	6.610	83	71540	57.62	ug/L	98
81) tetrachloroethene	6.713	164	80117	54.13	ug/L	96
82) 1,3-dichloropropane	6.756	76	146933	57.30	ug/L	95
83) 2-hexanone	6.774	58	227396	241.62	ug/L	97
84) butyl acetate	6.853	56	80670	54.69	ug/L	85
86) dibromochloromethane	6.951	129	91472	53.09	ug/L	99
87) 1,2-dibromoethane	7.072	107	95699	55.93	ug/L	98
88) n-butyl ether	7.541	57	378700	53.43	ug/L	98
89) chlorobenzene	7.504	112	246276	53.98	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.571	131	90502	54.34	ug/L	97
91) ethylbenzene	7.577	91	406974	52.55	ug/L	99
92) m,p-xylene	7.693	106	309677	102.32	ug/L	97
93) o-xylene	8.052	106	150890	50.83	ug/L	96
94) styrene	8.064	104	267322	51.94	ug/L	95
95) bromoform	8.246	173	68443	51.03	ug/L	97
96) butyl acrylate	7.960	55	204713	56.50	ug/L	98
97) isopropylbenzene	8.386	105	358940	49.02	ug/L	99
98) cis-1,4-dichloro-2-butene	8.435	88	28149	28.33	ug/L	94
101) bromobenzene	8.709	156	106536	63.30	ug/L	98
102) 1,1,2,2-tetrachloroethane	8.666	83	128200	70.23	ug/L	99
103) trans-1,4-dichloro-2-b...	8.703	53	22131	43.05	ug/L	95
104) 1,2,3-trichloropropane	8.733	110	39950	67.04	ug/L	98
105) n-propylbenzene	8.788	91	396373	58.56	ug/L	99
106) 2-chlorotoluene	8.885	126	87512	57.93	ug/L	97
107) 4-chlorotoluene	9.001	91	245338	58.13	ug/L	97
108) 1,3,5-trimethylbenzene	8.958	105	255231	53.65	ug/L	99
109) tert-butylbenzene	9.268	134	57009	55.15	ug/L	97
110) 1,2,4-trimethylbenzene	9.323	105	253938	53.26	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180403.d
 Acq On : 21 Apr 2018 3:53 pm
 Operator : vidishp
 Sample : JC64558-4MSD Inst : MS1A
 Misc : ms25751,v1a7678,5,,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:55:26 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
111) sec-butylbenzene	9.481	105	301682	56.21	ug/L	100
112) 1,3-dichlorobenzene	9.609	146	161586	54.97	ug/L	99
113) p-isopropyltoluene	9.627	119	244152	51.65	ug/L	99
114) 1,4-dichlorobenzene	9.706	146	165135	54.92	ug/L	97
115) benzyl chloride	9.816	91	231075	61.24	ug/L	100
116) 1,2-dichlorobenzene	10.065	146	154775	54.90	ug/L	99
117) n-butylbenzene	10.029	92	110688	53.45	ug/L	98
118) 1,2-dibromo-3-chloropr...	10.838	75	26007	59.35	ug/L	98
119) 1,3,5-trichlorobenzene	11.027	180	94729	56.87	ug/L	100
120) 2-ethylhexyl acrylate	11.830	70	8692	9.53	ug/L	96
121) 1,2,4-trichlorobenzene	11.665	180	89633	57.83	ug/L	98
122) hexachlorobutadiene	11.805	225	35859	63.89	ug/L	97
123) naphthalene	11.933	128	324665	58.40	ug/L	99
124) 1,2,3-trichlorobenzene	12.152	180	89978	60.59	ug/L	96
125) hexachloroethane	10.345	201	38514	46.23	ug/L	96
126) 2-methylnaphthalene	13.083	142	71552	27.68	ug/L	99

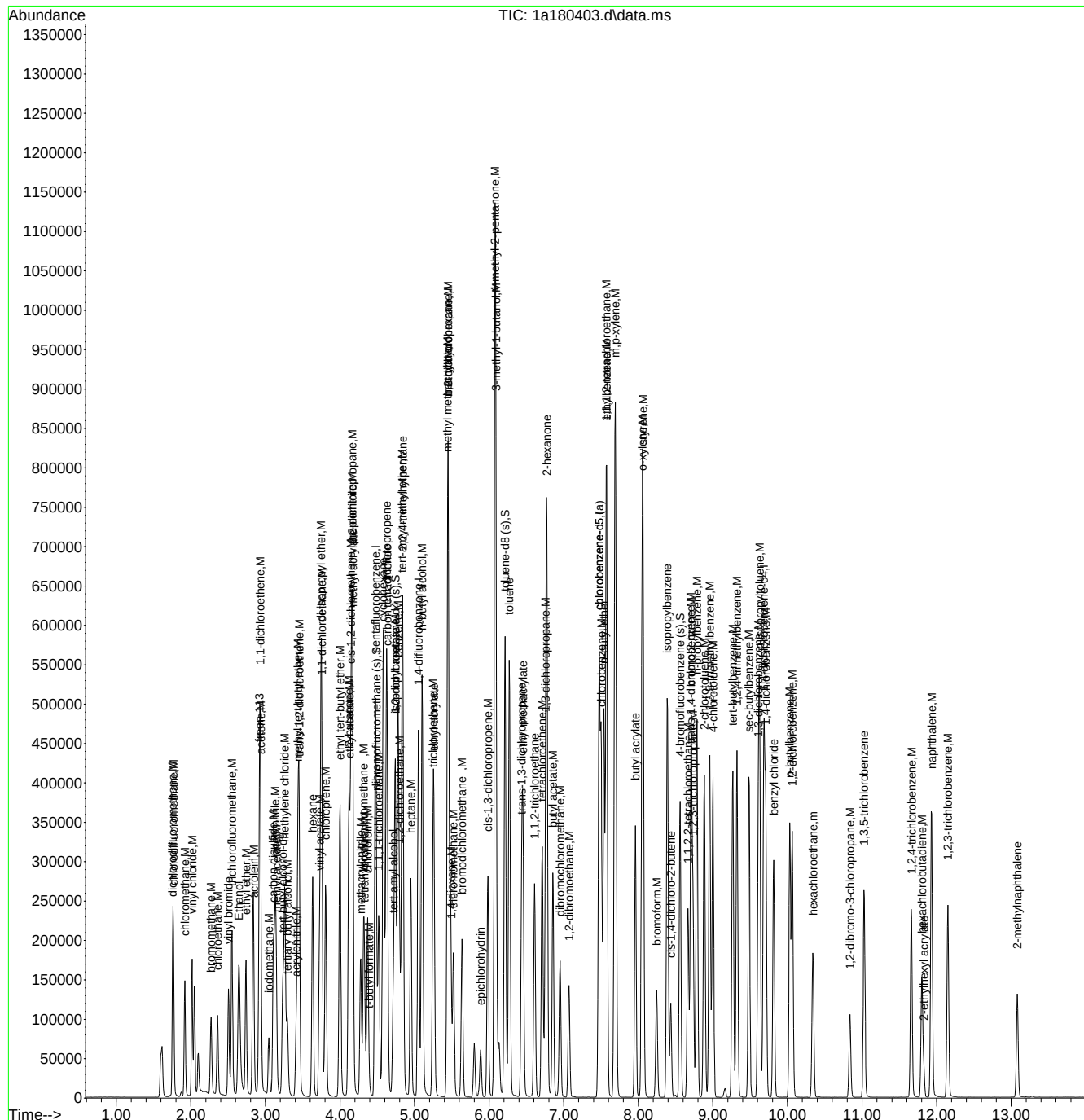
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180403.d
Acq On : 21 Apr 2018 3:53 pm
Operator : vidishp
Sample : JC64558-4MSD
Misc : ms25751,v1a7678,5,,,,,1
ALS Vial : 14 Sample Multiplier: 1

Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:55:26 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



M1A7600.M Mon Apr 23 22:10:57 2018

Page: 4

89 of 144

7.4.2

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V1A7600\1a178625.D

Vial: 1

Acq On : 27 Feb 2018 7:49 pm

Operator: Gabriela

Sample : bfb

Inst : MS1A

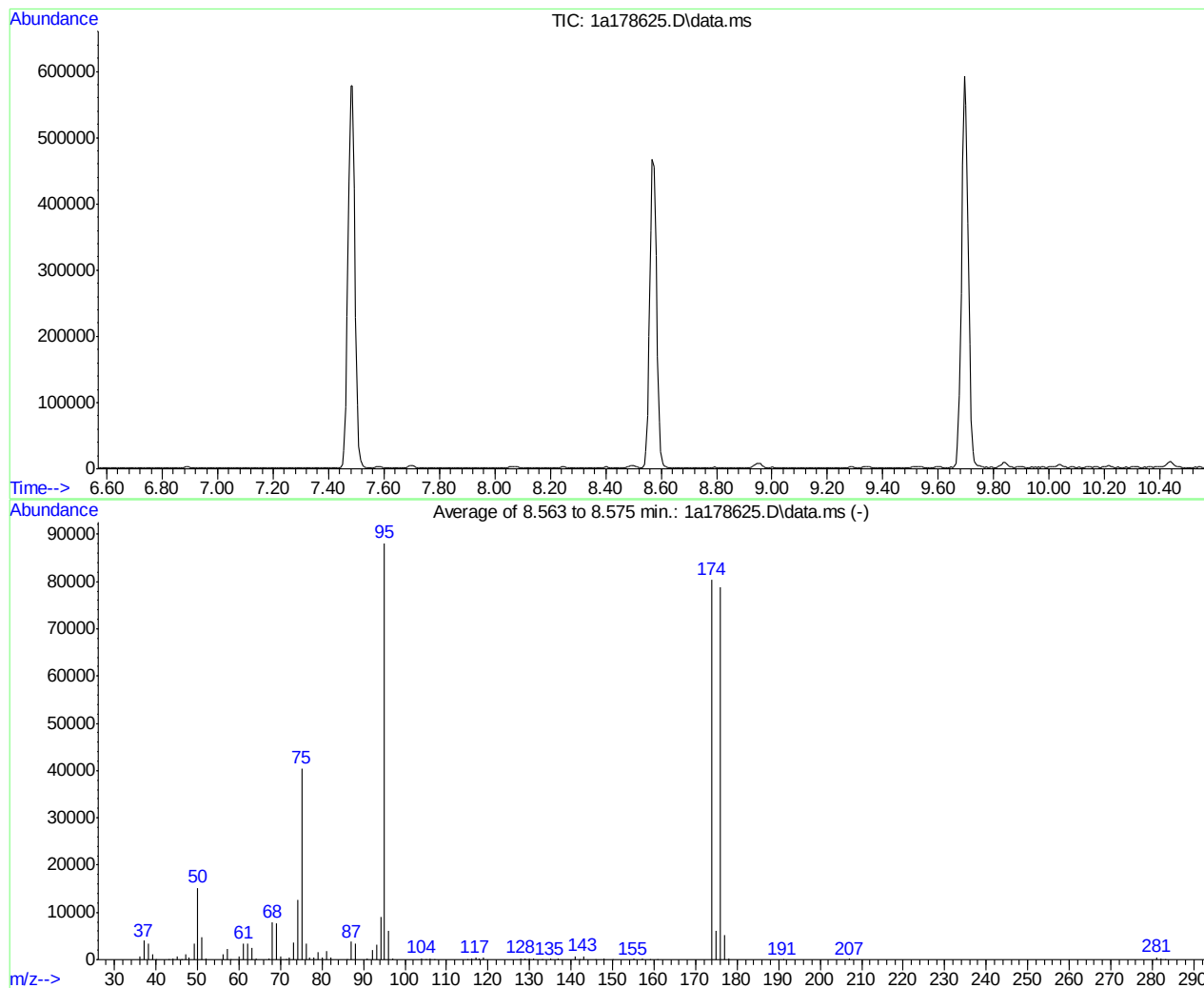
Misc : ms24541,v1a7600,5,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)

Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um



AutoFind: Scans 1312, 1313, 1314; Background Corrected with Scan 1304

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	15178	PASS
75	95	30	60	46.0	40506	PASS
95	95	100	100	100.0	88149	PASS
96	95	5	9	6.8	6033	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.3	80482	PASS
175	174	5	9	7.6	6130	PASS
176	174	95	101	97.9	78813	PASS
177	176	5	9	6.7	5253	PASS

1a178625.D M1A7600.M Fri Mar 02 08:41:38 2018 MSD1A

Average of 8.563 to 8.575 min.: 1a178625.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	797	49.10	3371	64.05	263	77.05	494
37.10	3971	50.10	15178	67.10	245	78.10	353
38.10	3374	51.10	4727	68.10	7893	79.00	1625
39.10	1172	52.10	227	69.10	7729	80.00	546
40.05	12	56.10	1206	70.10	632	81.00	1722
43.10	13	57.10	2207	71.30	37	82.00	401
44.10	271	58.05	71	72.05	471	85.90	38
45.05	634	60.05	765	73.10	3576	87.05	3746
46.20	34	61.10	3472	74.10	12682	88.00	3433
47.10	1144	62.10	3489	75.10	40506	90.95	268
48.05	518	63.10	2572	76.10	3504	92.10	2151

Average of 8.563 to 8.575 min.: 1a178625.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.10	3211	117.00	436	142.10	46	176.00	78813
94.10	9003	117.95	273	143.00	798	177.00	5253
95.10	88149	118.95	362	145.90	88	178.05	187
96.10	6033	127.95	287	148.00	195	191.10	45
97.10	183	129.00	121	150.00	38	207.10	135
104.00	320	129.95	258	155.00	219	281.10	490
105.05	114	130.90	121	157.05	139	282.15	136
106.00	272	133.10	37	159.00	79	283.20	55
107.00	34	134.95	156	160.90	44		
115.00	35	136.95	132	174.00	80482		
116.00	293	141.00	744	175.00	6130		

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V1A7605\1a178714.D

Vial: 1

Acq On : 5 Mar 2018 1:24 pm

Operator: Gabriela

Sample : BFB

Inst : MS1A

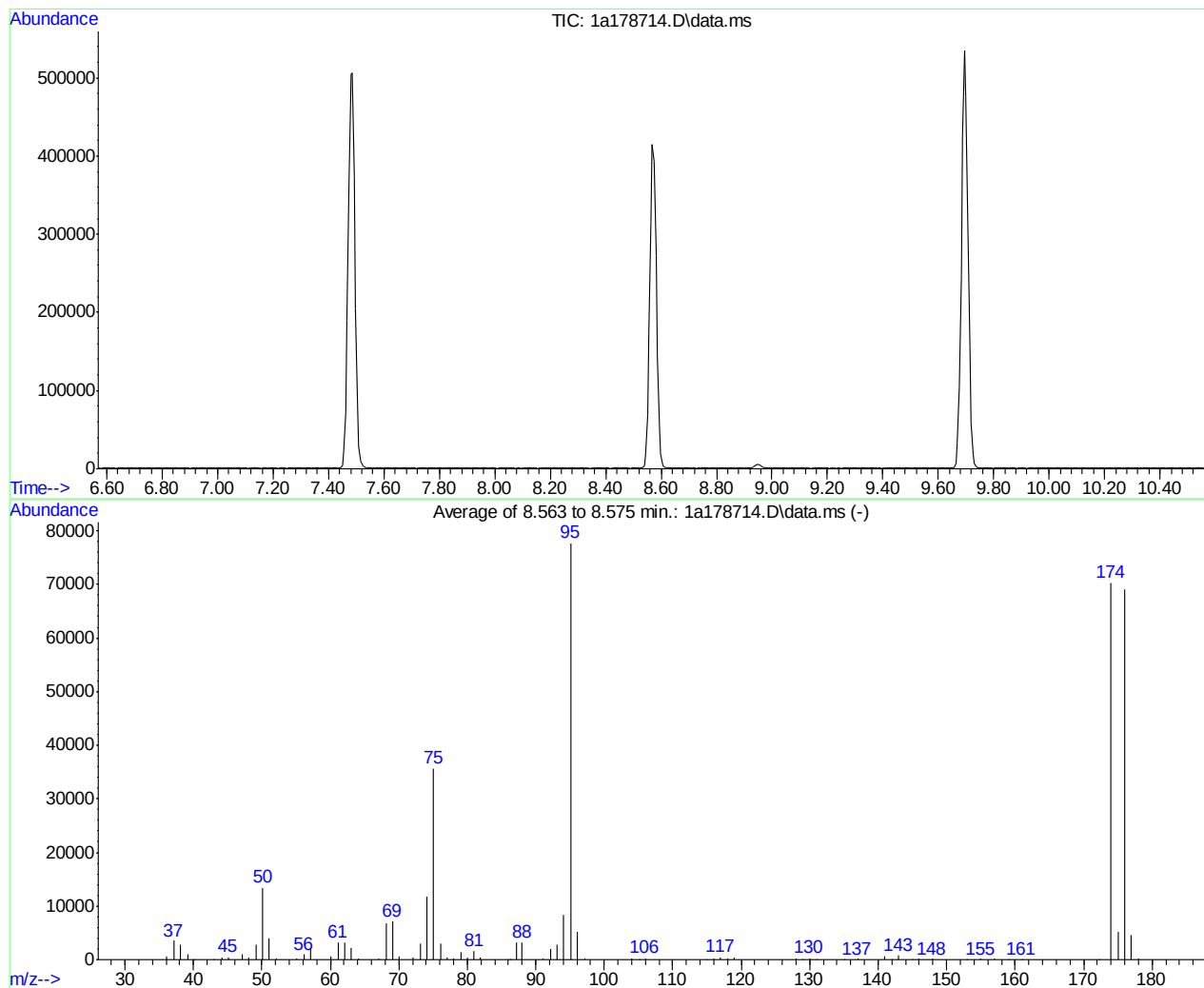
Misc : ms24712,v1a7605,5,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)

Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um



AutoFind: Scans 1312, 1313, 1314; Background Corrected with Scan 1304

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	13345	PASS
75	95	30	60	45.8	35632	PASS
95	95	100	100	100.0	77720	PASS
96	95	5	9	6.6	5160	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.4	70293	PASS
175	174	5	9	7.5	5258	PASS
176	174	95	101	98.3	69120	PASS
177	176	5	9	6.7	4656	PASS

1a178714.D M1A7600.M

Tue Mar 06 14:36:39 2018 MSD1A

Average of 8.563 to 8.575 min.: 1a178714.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	612	50.10	13345	67.15	241	79.00	1475
37.10	3564	51.10	3924	68.10	6874	80.00	414
38.10	2888	52.05	181	69.10	7161	81.00	1598
39.15	1083	55.10	191	70.10	531	81.95	343
40.10	42	56.10	953	72.10	414	86.00	53
43.00	34	57.10	1913	73.10	2974	86.20	36
44.10	344	60.10	596	74.10	11740	87.10	3220
45.10	489	61.10	3276	75.10	35632	88.00	3230
47.10	972	62.10	3176	76.10	3024	91.00	224
48.05	411	63.10	2213	77.05	393	92.10	1996
49.10	2821	64.10	212	78.05	298	93.10	2885

Average of 8.563 to 8.575 min.: 1a178714.D\data.ms

BFB

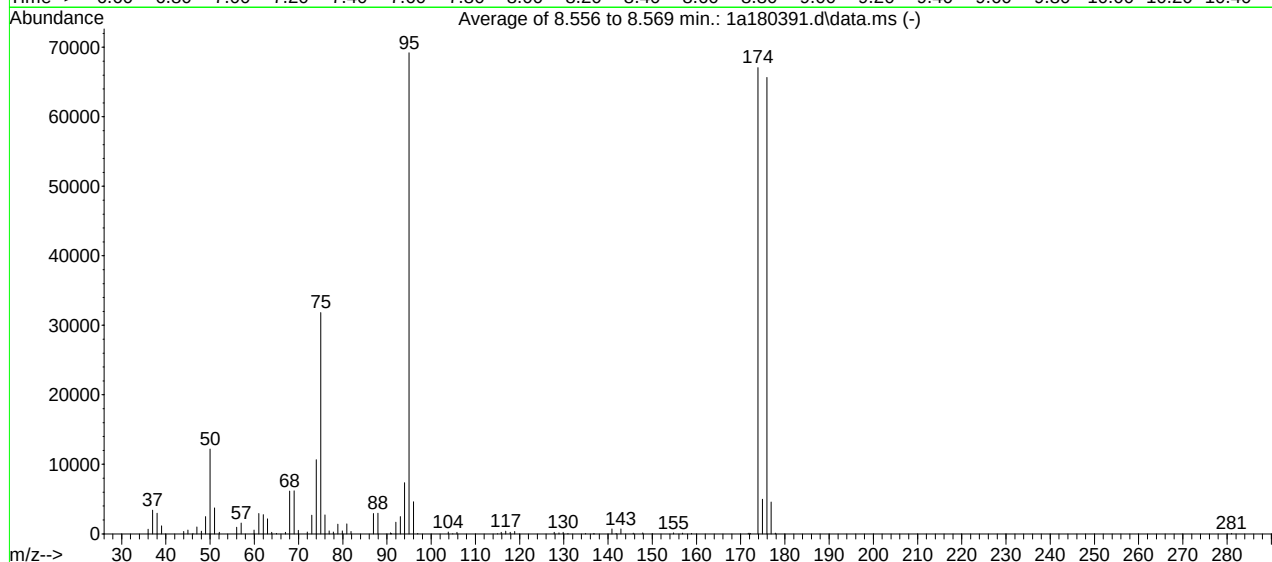
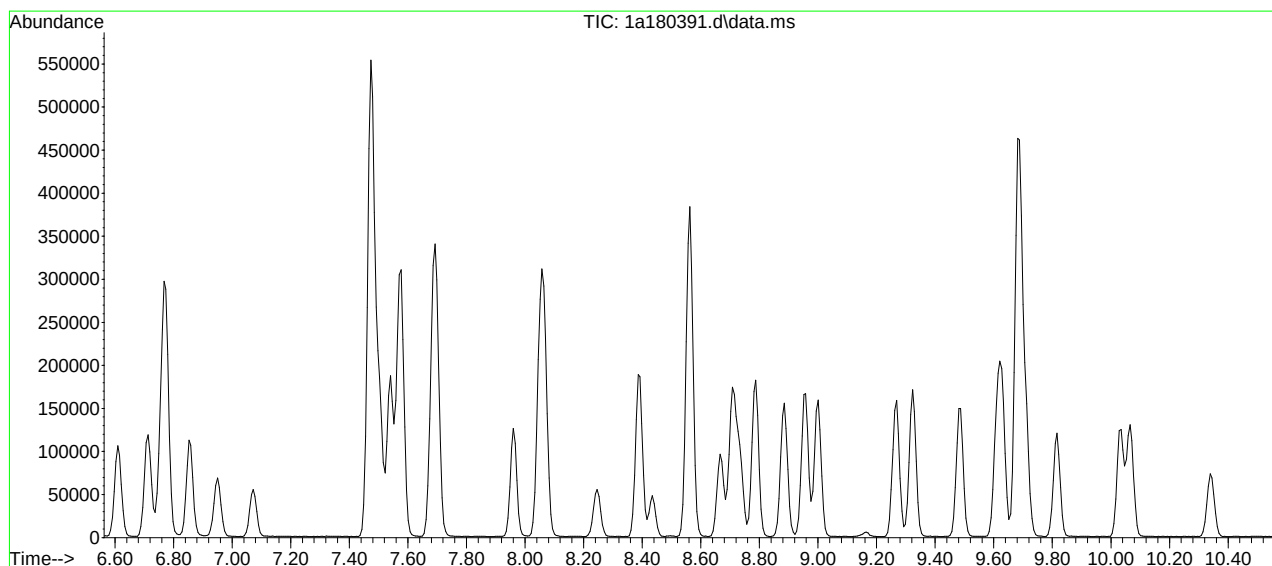
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	8464	119.00	367	146.00	135	177.00	4656
95.10	77720	128.00	215	147.95	195	178.00	157
96.10	5160	129.00	93	153.00	34		
97.15	113	130.00	256	155.00	190		
103.95	241	130.95	75	157.00	150		
105.10	36	134.95	89	159.00	47		
106.00	287	137.00	126	161.00	41		
114.90	39	141.00	701	172.20	37		
116.00	225	142.00	39	174.00	70293		
117.00	412	143.00	709	175.00	5258		
118.00	222	145.00	35	176.00	69120		

SW-846 Method 8260

Data File : C:\msdchem\1\data\04...18\1a180391.d Vial: 2
Acq On : 21 Apr 2018 10:26 am Operator: vidishp
Sample : bfb Inst : MS1A
Misc : ms25737,1a180391,5,,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1A7600.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um



AutoFind: Scans 1311, 1312, 1313; Background Corrected with Scan 1303

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	12188	PASS
75	95	30	60	46.0	31837	PASS
95	95	100	100	100.0	69192	PASS
96	95	5	9	6.7	4610	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.9	67059	PASS
175	174	5	9	7.4	4975	PASS
176	174	95	101	97.9	65667	PASS
177	176	5	9	7.0	4586	PASS

1a180391.d M1A7600.M Mon Apr 23 21:32:27 2018

Average of 8.556 to 8.569 min.: 1a180391.d\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	654	51.00	3743	68.00	6156	79.90	446
37.00	3401	52.05	211	69.00	6210	80.90	1425
38.00	2961	56.00	940	69.95	493	81.85	330
39.00	1133	57.00	1561	72.00	281	86.95	2930
44.00	350	59.95	550	73.00	2668	87.95	2967
45.00	543	61.00	2918	74.00	10658	90.80	125
46.10	37	62.00	2766	75.00	31837	91.00	70
47.00	1006	63.00	2147	76.00	2714	92.00	1686
48.00	400	63.95	211	76.95	434	93.00	2498
49.00	2472	65.00	45	77.90	276	94.00	7378
50.00	12188	67.05	209	78.90	1398	95.00	69192

Average of 8.556 to 8.569 min.: 1a180391.d\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.00	4610	128.90	161	150.00	34	177.85	94
96.95	79	129.85	234	154.85	137	281.00	44
103.85	253	130.90	46	156.85	123		
104.90	41	134.90	75	158.90	75		
105.80	228	136.70	41	171.70	36		
115.00	35	136.90	38	171.90	120		
115.85	230	140.85	693	172.20	51		
116.85	402	141.80	74	173.90	67059		
117.85	240	142.90	700	174.90	4975		
118.90	324	145.70	90	175.90	65667		
127.85	212	147.85	140	176.90	4586		

7.5.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178628.D
 Acq On : 27 Feb 2018 9:14 pm
 Operator : Gabriela
 Sample : ic7600-0.5
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 01 16:58:29 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) tert butyl alcohol-d9	3.233	65	188102	500.00	ug/L	0.00
5) pentafluorobenzene	4.481	168	230337	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	327418	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	310149	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	155121	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	90437	50.71	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.42%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	101284	50.66	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	101.32%		
76) toluene-d8 (s)	6.220	98	369969	50.16	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.32%		
100) 4-bromofluorobenzene (s)	8.569	95	145365	49.83	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.66%		
Target Compounds						Qvalue
6) chlorodifluoromethane	1.767	51	1061	0.52	ug/L	85
7) dichlorodifluoromethane	1.755	85	894	0.47	ug/L	81
10) vinyl chloride	2.017	62	911	0.46	ug/L	92
13) chloroethane	2.363	64	603	0.51	ug/L	69
14) trichlorofluoromethane	2.558	101	1117	0.44	ug/L	83
15) vinyl bromide	2.509	106	732	0.48	ug/L	86
16) ethyl ether	2.747	74	469	0.47	ug/L #	68
18) freon 113	2.929	151	633	0.53	ug/L	95
19) 1,1-dichloroethene	2.929	96	815	0.54	ug/L	91
26) methyl tert butyl ether	3.440	73	2685	0.55	ug/L	84
27) trans-1,2-dichloroethene	3.458	96	893	0.56	ug/L	87
28) di-isopropyl ether	3.751	45	2972	0.56	ug/L	93
30) 1,1-dichloroethane	3.763	63	1454	0.51	ug/L	92
31) chloroprene	3.817	53	1380	0.55	ug/L	91
33) hexane	3.635	56	514	0.48	ug/L #	68
35) ethyl tert-butyl ether	4.006	59	2807	0.55	ug/L	91
38) cis-1,2-dichloroethene	4.158	96	929	0.53	ug/L	92
40) propionitrile	4.170	54	2277	5.62	ug/L	97
41) bromochloromethane	4.328	128	377	0.45	ug/L #	81
47) 1,1,1-trichloroethane	4.523	97	1288	0.53	ug/L #	74
48) cyclohexane	4.590	84	1358	0.55	ug/L	94
49) 1,1-dichloropropene	4.633	75	1140	0.51	ug/L	91
51) carbon tetrachloride	4.645	117	1145	0.53	ug/L	91
56) 2,2,4-trimethylpentane	4.852	57	2332	0.55	ug/L	84
57) benzene	4.785	78	3555	0.55	ug/L	96
58) tert-amyl methyl ether	4.839	87	610	0.51	ug/L #	77
59) heptane	4.955	71	466	0.45	ug/L #	82
62) trichloroethene	5.259	130	977	0.54	ug/L	93
65) 2-chloroethyl vinyl ether	5.837	63	3413	2.65	ug/L	95
67) 1,2-dichloropropane	5.460	63	796	0.49	ug/L	95
68) dibromomethane	5.533	93	520	0.53	ug/L	92
69) methylcyclohexane	5.448	83	1359	0.51	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178628.D
 Acq On : 27 Feb 2018 9:14 pm
 Operator : Gabriela
 Sample : ic7600-0.5
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 01 16:58:29 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

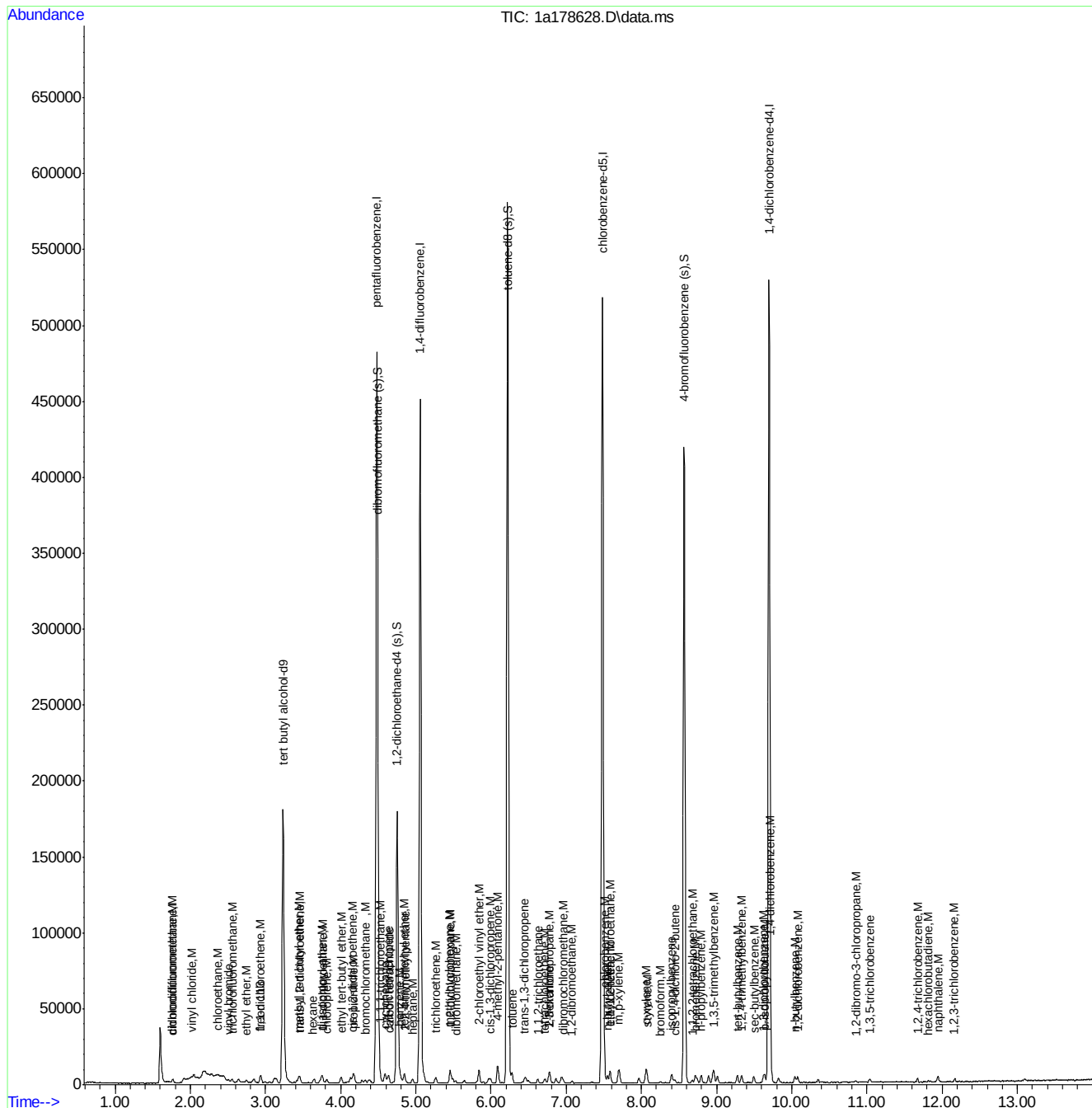
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
72) cis-1,3-dichloropropene	5.989	75	1516	0.55	ug/L	99
73) 4-methyl-2-pentanone	6.087	58	1985	2.13	ug/L	86
77) toluene	6.281	92	2243	0.55	ug/L	94
78) trans-1,3-dichloropropene	6.439	75	1386	0.56	ug/L	94
80) 1,1,2-trichloroethane	6.622	83	671	0.55	ug/L	90
81) tetrachloroethene	6.719	164	756	0.51	ug/L	90
82) 1,3-dichloropropane	6.774	76	1410	0.55	ug/L	96
83) 2-hexanone	6.780	58	1946	2.04	ug/L #	86
86) dibromochloromethane	6.957	129	939	0.54	ug/L	96
87) 1,2-dibromoethane	7.072	107	935	0.56	ug/L #	60
88) n-butyl ether	7.547	57	3923	0.56	ug/L	95
89) chlorobenzene	7.510	112	2505	0.56	ug/L	90
90) 1,1,1,2-tetrachloroethane	7.583	131	856	0.52	ug/L	93
91) ethylbenzene	7.583	91	4311	0.57	ug/L	92
92) m,p-xylene	7.699	106	3253	1.09	ug/L	97
93) o-xylene	8.064	106	1538	0.53	ug/L	97
94) styrene	8.076	104	2729	0.54	ug/L	87
95) bromoform	8.252	173	672	0.50	ug/L	88
97) isopropylbenzene	8.398	105	3930	0.54	ug/L	99
98) cis-1,4-dichloro-2-butene	8.447	88	533	0.54	ug/L	90
101) bromobenzene	8.721	156	1087	0.54	ug/L	86
102) 1,1,2,2-tetrachloroethane	8.678	83	1165	0.54	ug/L	87
105) n-propylbenzene	8.794	91	4271	0.53	ug/L	95
108) 1,3,5-trimethylbenzene	8.964	105	3065	0.54	ug/L	97
109) tert-butylbenzene	9.280	134	606	0.49	ug/L	94
110) 1,2,4-trimethylbenzene	9.335	105	2961	0.52	ug/L	94
111) sec-butylbenzene	9.499	105	3203	0.49	ug/L	98
112) 1,3-dichlorobenzene	9.621	146	1937	0.55	ug/L	93
113) p-isopropyltoluene	9.639	119	3169	0.56	ug/L	95
114) 1,4-dichlorobenzene	9.719	146	2037	0.57	ug/L	89
116) 1,2-dichlorobenzene	10.077	146	1884	0.56	ug/L	98
117) n-butylbenzene	10.041	92	1231	0.49	ug/L	91
118) 1,2-dibromo-3-chloropr...	10.850	75	265	0.51	ug/L #	52
119) 1,3,5-trichlorobenzene	11.045	180	984	0.49	ug/L	96
121) 1,2,4-trichlorobenzene	11.677	180	949	0.51	ug/L	81
122) hexachlorobutadiene	11.817	225	324	0.49	ug/L	81
123) naphthalene	11.945	128	3688	0.56	ug/L	97
124) 1,2,3-trichlorobenzene	12.164	180	845	0.47	ug/L	84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178628.D
Acq On : 27 Feb 2018 9:14 pm
Operator : Gabriela
Sample : ic7600-0.5
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 01 16:58:29 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178629.D
 Acq On : 27 Feb 2018 9:38 pm
 Operator : Gabriela
 Sample : ic7600-1
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 01 17:21:06 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	172948	500.00	ug/L	0.00
5) pentafluorobenzene	4.481	168	223227	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	315504	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	298086	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	146777	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	86817	50.23	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.46%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	97808	50.77	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	101.54%		
76) toluene-d8 (s)	6.220	98	361362	50.97	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.94%		
100) 4-bromofluorobenzene (s)	8.569	95	140596	50.94	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.88%		
Target Compounds						
2) tertiary butyl alcohol	3.288	59	1834	5.06	ug/L	73
3) Ethanol	2.643	45	4158	118.28	ug/L	97
4) 1,4-dioxane	5.496	88	799	24.53	ug/L	91
6) chlorodifluoromethane	1.767	51	1920	0.98	ug/L	96
7) dichlorodifluoromethane	1.761	85	1804	0.98	ug/L	97
9) chloromethane	1.919	50	1896	1.08	ug/L	94
10) vinyl chloride	2.017	62	1831	0.95	ug/L	94
13) chloroethane	2.363	64	1124	0.98	ug/L	75
14) trichlorofluoromethane	2.558	101	2312	0.95	ug/L	96
15) vinyl bromide	2.509	106	1409	0.94	ug/L	96
16) ethyl ether	2.741	74	1032	1.06	ug/L	90
17) acrolein	2.850	56	443	1.02	ug/L #	59
18) freon 113	2.929	151	999	0.86	ug/L	96
19) 1,1-dichloroethene	2.935	96	1340	0.92	ug/L	89
21) acetonitrile	3.136	41	4308	13.26	ug/L	87
22) iodomethane	3.051	142	738	0.53	ug/L	87
23) carbon disulfide	3.118	76	4479	1.02	ug/L	95
24) methylene chloride	3.270	84	1525	0.99	ug/L	99
25) methyl acetate	3.154	43	1864	1.08	ug/L	96
26) methyl tert butyl ether	3.440	73	4800	1.01	ug/L	94
27) trans-1,2-dichloroethene	3.465	96	1567	1.02	ug/L	88
28) di-isopropyl ether	3.751	45	5131	1.00	ug/L	94
29) 2-butanone	4.128	72	1014	3.79	ug/L	92
30) 1,1-dichloroethane	3.763	63	2721	0.98	ug/L	98
31) chloroprene	3.811	53	2366	0.98	ug/L	93
32) acrylonitrile	3.416	53	928	1.05	ug/L	82
33) hexane	3.647	56	1077	1.05	ug/L #	78
35) ethyl tert-butyl ether	4.006	59	4893	0.99	ug/L	86
37) 2,2-dichloropropane	4.170	77	2196	0.96	ug/L	98
38) cis-1,2-dichloroethene	4.152	96	1649	0.97	ug/L	89
39) methyl acrylate	4.176	85	332	0.93	ug/L #	61
40) propionitrile	4.170	54	3896	9.93	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178629.D
 Acq On : 27 Feb 2018 9:38 pm
 Operator : Gabriela
 Sample : ic7600-1
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 01 17:21:06 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) bromochloromethane	4.328	128	828	1.02	ug/L	91
42) tetrahydrofuran	4.335	72	342	0.97	ug/L #	76
43) chloroform	4.377	85	1764	1.05	ug/L	97
44) t-butyl formate	4.401	59	635	0.90	ug/L	74
46) methacrylonitrile	4.280	67	964	1.06	ug/L	95
47) 1,1,1-trichloroethane	4.529	97	2377	1.01	ug/L	87
48) cyclohexane	4.590	84	2208	0.93	ug/L #	83
49) 1,1-dichloropropene	4.639	75	2012	0.93	ug/L	90
51) carbon tetrachloride	4.639	117	1989	0.95	ug/L	89
55) n-butyl alcohol	5.101	56	5148	51.26	ug/L	95
56) 2,2,4-trimethylpentane	4.846	57	4183	1.03	ug/L	96
57) benzene	4.785	78	6259	1.00	ug/L	97
58) tert-amyl methyl ether	4.846	87	1024	0.89	ug/L #	71
59) heptane	4.955	71	950	0.94	ug/L	96
60) isopropyl acetate	4.748	87	465	1.00	ug/L #	35
61) 1,2-dichloroethane	4.803	62	1979	0.97	ug/L	89
62) trichloroethene	5.259	130	1672	0.96	ug/L	97
63) ethyl acrylate	5.271	55	2841	1.06	ug/L	91
65) 2-chloroethyl vinyl ether	5.837	63	6162	4.96	ug/L	97
66) methyl methacrylate	5.454	100	537	0.84	ug/L #	79
67) 1,2-dichloropropane	5.460	63	1572	1.00	ug/L	93
68) dibromomethane	5.527	93	876	0.93	ug/L	85
69) methylcyclohexane	5.454	83	2358	0.92	ug/L	86
70) bromodichloromethane	5.642	83	2141	1.01	ug/L	99
71) epichlorohydrin	5.892	57	1424	5.32	ug/L	96
72) cis-1,3-dichloropropene	5.989	75	2604	0.98	ug/L	95
73) 4-methyl-2-pentanone	6.087	58	3518	3.91	ug/L	92
74) 3-methyl-1-butanol	6.093	55	3297	21.83	ug/L	89
77) toluene	6.281	92	4001	1.02	ug/L	97
78) trans-1,3-dichloropropene	6.446	75	2309	0.97	ug/L	97
79) ethyl methacrylate	6.464	69	2476	1.02	ug/L	98
80) 1,1,2-trichloroethane	6.616	83	1199	1.02	ug/L	92
81) tetrachloroethene	6.719	164	1423	1.01	ug/L	96
82) 1,3-dichloropropane	6.768	76	2380	0.97	ug/L	96
83) 2-hexanone	6.780	58	3601	3.92	ug/L #	82
84) butyl acetate	6.865	56	1540	1.10	ug/L	87
85) 3,3-dimethyl-1-butanol	6.938	57	3154	10.61	ug/L	95
86) dibromochloromethane	6.957	129	1638	0.99	ug/L	87
87) 1,2-dibromoethane	7.078	107	1653	1.03	ug/L	96
88) n-butyl ether	7.547	57	6634	0.99	ug/L	98
89) chlorobenzene	7.510	112	4236	0.98	ug/L	91
90) 1,1,1,2-tetrachloroethane	7.577	131	1609	1.02	ug/L	94
91) ethylbenzene	7.583	91	7343	1.01	ug/L	98
92) m,p-xylene	7.705	106	5747	2.00	ug/L	95
93) o-xylene	8.064	106	2828	1.01	ug/L	94
94) styrene	8.076	104	4903	1.01	ug/L	93
95) bromoform	8.258	173	1283	0.99	ug/L	86
96) butyl acrylate	7.973	55	3618	1.06	ug/L	98
97) isopropylbenzene	8.398	105	6752	0.97	ug/L	97
98) cis-1,4-dichloro-2-butene	8.441	88	882	0.92	ug/L #	83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178629.D
 Acq On : 27 Feb 2018 9:38 pm
 Operator : Gabriela
 Sample : ic7600-1
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 01 17:21:06 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

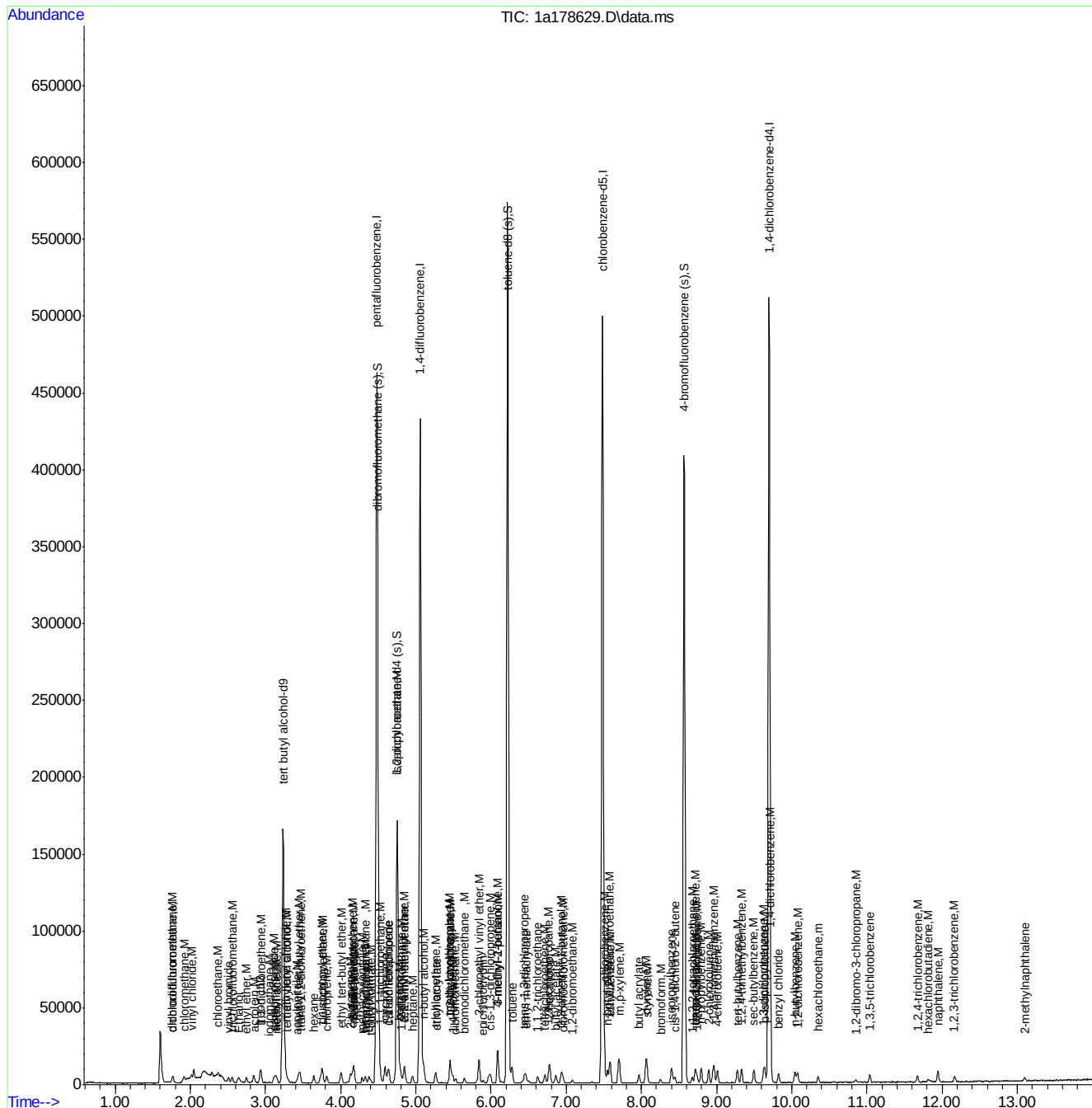
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
101) bromobenzene	8.721	156	1876	0.99	ug/L	91
102) 1,1,2,2-tetrachloroethane	8.678	83	2052	1.00	ug/L	100
103) trans-1,4-dichloro-2-b...	8.715	53	606	1.06	ug/L	92
104) 1,2,3-trichloropropane	8.739	110	715	1.07	ug/L	96
105) n-propylbenzene	8.794	91	7916	1.05	ug/L	96
106) 2-chlorotoluene	8.897	126	1771	1.04	ug/L	92
107) 4-chlorotoluene	9.007	91	4829	1.01	ug/L	97
108) 1,3,5-trimethylbenzene	8.964	105	5282	0.98	ug/L	96
109) tert-butylbenzene	9.280	134	1196	1.01	ug/L	92
110) 1,2,4-trimethylbenzene	9.335	105	5517	1.02	ug/L	98
111) sec-butylbenzene	9.493	105	5967	0.96	ug/L	98
112) 1,3-dichlorobenzene	9.621	146	3280	0.99	ug/L	92
113) p-isopropyltoluene	9.639	119	5403	1.01	ug/L	96
114) 1,4-dichlorobenzene	9.718	146	3488	1.03	ug/L	89
115) benzyl chloride	9.828	91	4629	1.09	ug/L	99
116) 1,2-dichlorobenzene	10.077	146	3207	1.02	ug/L	98
117) n-butylbenzene	10.041	92	2294	0.96	ug/L	93
118) 1,2-dibromo-3-chloropr...	10.850	75	509	1.03	ug/L	83
119) 1,3,5-trichlorobenzene	11.039	180	1777	0.93	ug/L	94
121) 1,2,4-trichlorobenzene	11.677	180	1690	0.96	ug/L	98
122) hexachlorobutadiene	11.811	225	649	1.04	ug/L	86
123) naphthalene	11.945	128	6170	1.00	ug/L	97
124) 1,2,3-trichlorobenzene	12.158	180	1662	0.98	ug/L	86
125) hexachloroethane	10.351	201	924	0.96	ug/L	90
126) 2-methylnaphthalene	13.101	142	1389	0.48	ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data Path   : C:\msdchem\1\DATA\V1A7600\
Data File   : 1a178629.D
Acq On      : 27 Feb 2018    9:38 pm
Operator    : Gabriela
Sample      : ic7600-1
Misc        : ms24541,v1a7600,5,,,,1
ALS Vial    : 5      Sample Multiplier: 1
```

Quant Time: Mar 01 17:21:06 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178631.D
 Acq On : 27 Feb 2018 10:27 pm
 Operator : Gabriela
 Sample : ic7600-5
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 02 08:33:44 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	183181	500.00	ug/L	0.00
5) pentafluorobenzene	4.480	168	227116	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	320078	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	304248	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	151702	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	89018	50.62	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.24%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	99918	51.12	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	102.24%		
76) toluene-d8 (s)	6.220	98	365546	50.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.04%		
100) 4-bromofluorobenzene (s)	8.569	95	142528	49.96	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.92%		
Target Compounds						
2) tertiary butyl alcohol	3.294	59	9887	25.76	ug/L	96
3) Ethanol	2.643	45	19243	516.80	ug/L	100
4) 1,4-dioxane	5.496	88	4254	123.29	ug/L	95
6) chlorodifluoromethane	1.767	51	9514	4.75	ug/L	97
7) dichlorodifluoromethane	1.761	85	8982	4.80	ug/L	96
9) chloromethane	1.919	50	8369	4.71	ug/L	97
10) vinyl chloride	2.017	62	9128	4.66	ug/L	93
12) bromomethane	2.278	94	5976	5.66	ug/L	91
13) chloroethane	2.363	64	5775	4.96	ug/L	97
14) trichlorofluoromethane	2.558	101	11961	4.82	ug/L	99
15) vinyl bromide	2.509	106	7201	4.74	ug/L	95
16) ethyl ether	2.747	74	4959	5.00	ug/L	94
17) acrolein	2.850	56	2259	5.12	ug/L	88
18) freon 113	2.929	151	5922	5.00	ug/L	84
19) 1,1-dichloroethene	2.929	96	6952	4.71	ug/L	96
20) acetone	2.941	58	4395	18.35	ug/L	97
21) acetonitrile	3.136	41	17223	52.10	ug/L	98
22) iodomethane	3.051	142	4131	2.90	ug/L	99
23) carbon disulfide	3.118	76	21781	4.87	ug/L	98
24) methylene chloride	3.270	84	7700	4.94	ug/L	98
25) methyl acetate	3.154	43	9697	5.54	ug/L	97
26) methyl tert butyl ether	3.440	73	24168	5.01	ug/L	97
27) trans-1,2-dichloroethene	3.458	96	7924	5.06	ug/L	93
28) di-isopropyl ether	3.750	45	26352	5.03	ug/L	97
29) 2-butanone	4.128	72	5481	20.13	ug/L	90
30) 1,1-dichloroethane	3.763	63	13967	4.94	ug/L	97
31) chloroprene	3.817	53	11799	4.80	ug/L	98
32) acrylonitrile	3.416	53	4687	5.24	ug/L	97
33) hexane	3.641	56	4926	4.71	ug/L	95
34) vinyl acetate	3.726	86	1675	4.69	ug/L #	84
35) ethyl tert-butyl ether	4.006	59	24705	4.91	ug/L	97
36) ethyl acetate	4.134	45	2079	5.84	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178631.D
 Acq On : 27 Feb 2018 10:27 pm
 Operator : Gabriela
 Sample : ic7600-5
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 02 08:33:44 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.170	77	11549	4.95	ug/L	99
38) cis-1,2-dichloroethene	4.152	96	8492	4.93	ug/L	98
39) methyl acrylate	4.176	85	1743	4.80	ug/L #	91
40) propionitrile	4.170	54	20539	51.43	ug/L	95
41) bromochloromethane	4.322	128	4130	4.98	ug/L	95
42) tetrahydrofuran	4.334	72	1676	4.66	ug/L	86
43) chloroform	4.377	85	8730	5.11	ug/L	100
44) t-butyl formate	4.395	59	3475	4.83	ug/L	97
46) methacrylonitrile	4.286	67	4519	4.87	ug/L	88
47) 1,1,1-trichloroethane	4.523	97	11955	4.98	ug/L	96
48) cyclohexane	4.590	84	11883	4.90	ug/L #	83
49) 1,1-dichloropropene	4.633	75	10608	4.81	ug/L	98
51) carbon tetrachloride	4.639	117	10546	4.97	ug/L	93
52) tert amyl alcohol	4.718	55	3368	26.47	ug/L	89
55) n-butyl alcohol	5.101	56	25550	250.77	ug/L	99
56) 2,2,4-trimethylpentane	4.845	57	19756	4.79	ug/L	98
57) benzene	4.785	78	31470	4.94	ug/L	98
58) tert-amyl methyl ether	4.845	87	5918	5.07	ug/L	97
59) heptane	4.955	71	5080	4.97	ug/L	96
60) isopropyl acetate	4.742	87	2416	5.12	ug/L #	87
61) 1,2-dichloroethane	4.803	62	10440	5.07	ug/L	97
62) trichloroethene	5.259	130	8364	4.74	ug/L	97
63) ethyl acrylate	5.271	55	13568	5.00	ug/L	97
65) 2-chloroethyl vinyl ether	5.837	63	30911	24.54	ug/L	100
66) methyl methacrylate	5.454	100	2984	4.59	ug/L	97
67) 1,2-dichloropropane	5.460	63	7873	4.94	ug/L	95
68) dibromomethane	5.527	93	4626	4.84	ug/L	89
69) methylcyclohexane	5.454	83	12436	4.79	ug/L	97
70) bromodichloromethane	5.642	83	10456	4.88	ug/L	99
71) epichlorohydrin	5.892	57	6690	24.66	ug/L	100
72) cis-1,3-dichloropropene	5.989	75	13256	4.90	ug/L	96
73) 4-methyl-2-pentanone	6.087	58	18679	20.47	ug/L	99
74) 3-methyl-1-butanol	6.093	55	15904	103.79	ug/L	93
77) toluene	6.281	92	19711	4.92	ug/L	99
78) trans-1,3-dichloropropene	6.445	75	12360	5.08	ug/L	97
79) ethyl methacrylate	6.464	69	12652	5.11	ug/L	99
80) 1,1,2-trichloroethane	6.616	83	5962	4.95	ug/L	94
81) tetrachloroethene	6.719	164	7104	4.93	ug/L	96
82) 1,3-dichloropropane	6.768	76	12549	5.02	ug/L	98
83) 2-hexanone	6.780	58	18979	20.24	ug/L	99
84) butyl acetate	6.865	56	7105	4.96	ug/L	98
85) 3,3-dimethyl-1-butanol	6.938	57	15569	51.31	ug/L	98
86) dibromochloromethane	6.956	129	8207	4.84	ug/L	96
87) 1,2-dibromoethane	7.078	107	8250	5.03	ug/L	96
88) n-butyl ether	7.547	57	33628	4.92	ug/L	100
89) chlorobenzene	7.510	112	22007	5.01	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.577	131	8124	5.03	ug/L	99
91) ethylbenzene	7.583	91	37255	5.03	ug/L	98
92) m,p-xylene	7.699	106	28703	9.79	ug/L	95
93) o-xylene	8.058	106	14649	5.15	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178631.D
 Acq On : 27 Feb 2018 10:27 pm
 Operator : Gabriela
 Sample : ic7600-5
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 02 08:33:44 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

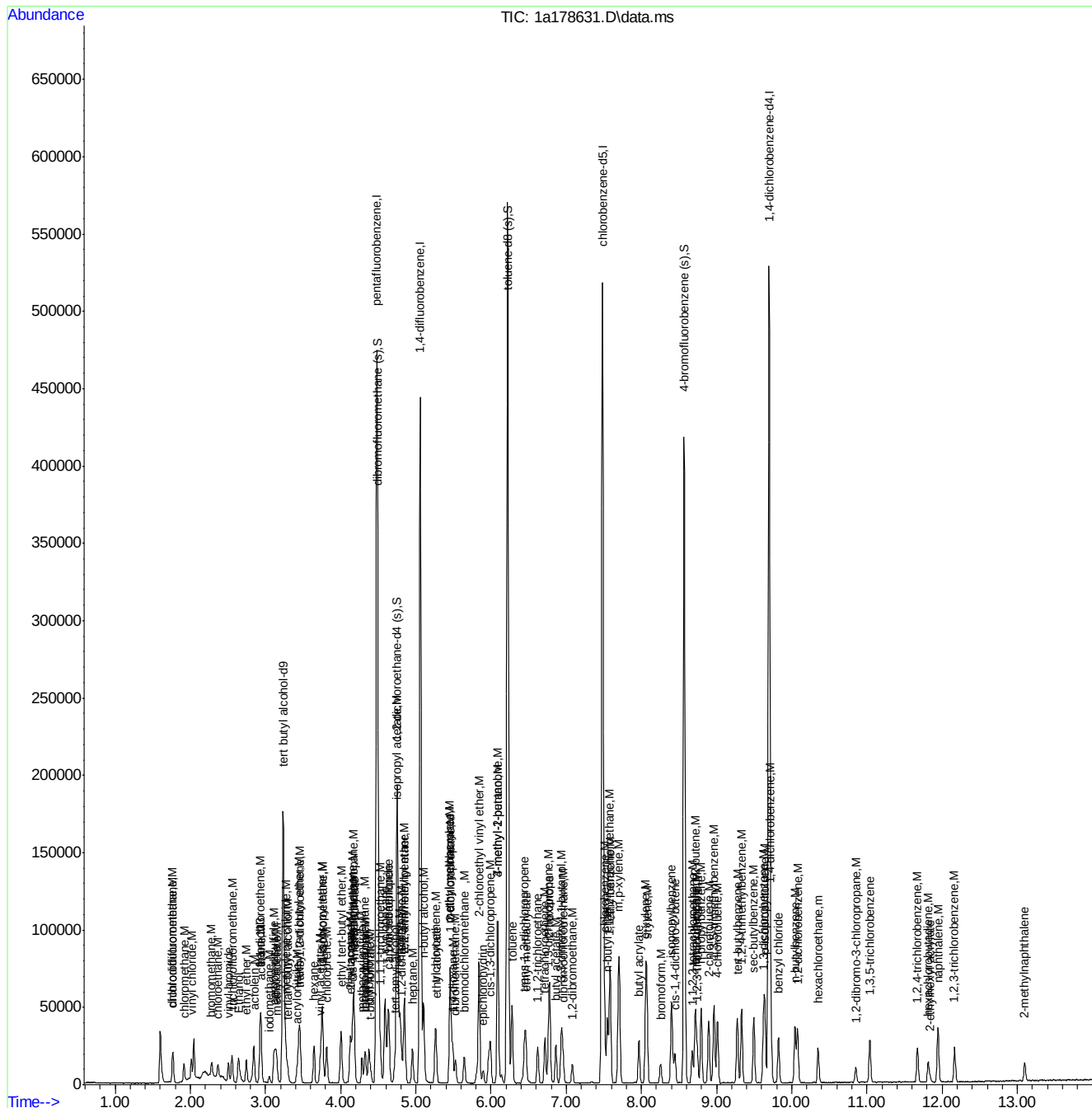
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	24581	4.95	ug/L	99
95) bromoform	8.258	173	6417	4.83	ug/L	97
96) butyl acrylate	7.966	55	17357	4.96	ug/L	98
97) isopropylbenzene	8.398	105	34882	4.90	ug/L	98
98) cis-1,4-dichloro-2-butene	8.447	88	4869	4.99	ug/L	95
101) bromobenzene	8.721	156	9814	5.02	ug/L	99
102) 1,1,2,2-tetrachloroethane	8.678	83	11005	5.20	ug/L	98
103) trans-1,4-dichloro-2-b...	8.715	53	3074	5.18	ug/L	86
104) 1,2,3-trichloropropane	8.745	110	3578	5.17	ug/L	85
105) n-propylbenzene	8.794	91	38896	4.97	ug/L	100
106) 2-chlorotoluene	8.897	126	8544	4.84	ug/L	96
107) 4-chlorotoluene	9.013	91	24510	4.95	ug/L	95
108) 1,3,5-trimethylbenzene	8.964	105	27577	4.94	ug/L	100
109) tert-butylbenzene	9.280	134	5962	4.89	ug/L	99
110) 1,2,4-trimethylbenzene	9.335	105	27367	4.90	ug/L	99
111) sec-butylbenzene	9.493	105	31325	4.88	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	17060	4.98	ug/L	99
113) p-isopropyltoluene	9.639	119	26792	4.86	ug/L	98
114) 1,4-dichlorobenzene	9.718	146	16931	4.85	ug/L	94
115) benzyl chloride	9.828	91	22120	5.05	ug/L	99
116) 1,2-dichlorobenzene	10.077	146	15877	4.86	ug/L	99
117) n-butylbenzene	10.047	92	11800	4.77	ug/L	94
118) 1,2-dibromo-3-chloropr...	10.850	75	2482	4.85	ug/L	97
119) 1,3,5-trichlorobenzene	11.039	180	9467	4.81	ug/L	99
120) 2-ethylhexyl acrylate	11.842	70	992	0.97	ug/L #	76
121) 1,2,4-trichlorobenzene	11.671	180	8628	4.73	ug/L	99
122) hexachlorobutadiene	11.817	225	3193	4.94	ug/L	91
123) naphthalene	11.945	128	30725	4.80	ug/L	99
124) 1,2,3-trichlorobenzene	12.164	180	8237	4.72	ug/L	98
125) hexachloroethane	10.351	201	4846	4.87	ug/L	97
126) 2-methylnaphthalene	13.095	142	6963	2.32	ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data Path   : C:\msdchem\1\DATA\V1A7600\
Data File  : 1a178631.D
Acq On     : 27 Feb 2018   10:27 pm
Operator   : Gabriela
Sample     : ic7600-5
Misc       : ms24541,v1a7600,5,,,,1
ALS Vial   : 7      Sample Multiplier: 1
```

Quant Time: Mar 02 08:33:44 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178632.D
 Acq On : 27 Feb 2018 10:51 pm
 Operator : Gabriela
 Sample : ic7600-10
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 02 08:34:08 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	176260	500.00	ug/L	0.00
5) pentafluorobenzene	4.481	168	225496	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	317525	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	300963	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	150641	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	86938	49.79	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.58%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	97986	50.54	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	101.08%		
76) toluene-d8 (s)	6.220	98	362329	50.62	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.24%		
100) 4-bromofluorobenzene (s)	8.569	95	142263	50.22	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.44%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.294	59	19646	53.19	ug/L	98
3) Ethanol	2.643	45	37418	1044.38	ug/L	99
4) 1,4-dioxane	5.497	88	8525	256.76	ug/L	84
6) chlorodifluoromethane	1.767	51	19835	9.98	ug/L	99
7) dichlorodifluoromethane	1.761	85	18249	9.81	ug/L	97
9) chloromethane	1.919	50	17302	9.80	ug/L	98
10) vinyl chloride	2.017	62	18944	9.74	ug/L	99
12) bromomethane	2.278	94	9929	9.48	ug/L	93
13) chloroethane	2.363	64	11278	9.76	ug/L	98
14) trichlorofluoromethane	2.552	101	23557	9.55	ug/L	95
15) vinyl bromide	2.509	106	14367	9.53	ug/L	95
16) ethyl ether	2.747	74	9843	10.00	ug/L	96
17) acrolein	2.850	56	4579	10.45	ug/L	98
18) freon 113	2.929	151	11592	9.86	ug/L	95
19) 1,1-dichloroethene	2.935	96	14516	9.91	ug/L	96
20) acetone	2.941	58	8915	37.48	ug/L	93
21) acetonitrile	3.136	41	33398	101.76	ug/L	99
22) iodomethane	3.051	142	10578	7.47	ug/L	97
23) carbon disulfide	3.118	76	44116	9.93	ug/L	99
24) methylene chloride	3.270	84	15735	10.16	ug/L	93
25) methyl acetate	3.154	43	18264	10.51	ug/L	98
26) methyl tert butyl ether	3.440	73	47921	10.00	ug/L	100
27) trans-1,2-dichloroethene	3.458	96	15362	9.88	ug/L	93
28) di-isopropyl ether	3.751	45	51884	9.98	ug/L	97
29) 2-butanone	4.128	72	10784	39.89	ug/L #	77
30) 1,1-dichloroethane	3.763	63	28244	10.05	ug/L	98
31) chloroprene	3.811	53	24111	9.87	ug/L	96
32) acrylonitrile	3.416	53	9224	10.38	ug/L	93
33) hexane	3.641	56	9998	9.62	ug/L	96
34) vinyl acetate	3.732	86	3299	9.30	ug/L #	91
35) ethyl tert-butyl ether	4.006	59	50629	10.14	ug/L	98
36) ethyl acetate	4.134	45	3565	10.08	ug/L #	88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178632.D
 Acq On : 27 Feb 2018 10:51 pm
 Operator : Gabriela
 Sample : ic7600-10
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 02 08:34:08 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.170	77	23170	9.99	ug/L	98
38) cis-1,2-dichloroethene	4.152	96	17366	10.16	ug/L	95
39) methyl acrylate	4.176	85	3558	9.88	ug/L #	85
40) propionitrile	4.170	54	40525	102.21	ug/L	98
41) bromochloromethane	4.322	128	8141	9.88	ug/L	97
42) tetrahydrofuran	4.335	72	3611	10.11	ug/L	87
43) chloroform	4.377	85	17209	10.15	ug/L	99
44) t-butyl formate	4.395	59	6642	9.30	ug/L	91
46) methacrylonitrile	4.286	67	9389	10.20	ug/L	97
47) 1,1,1-trichloroethane	4.529	97	23634	9.91	ug/L	97
48) cyclohexane	4.590	84	23669	9.82	ug/L #	85
49) 1,1-dichloropropene	4.633	75	21488	9.80	ug/L	99
51) carbon tetrachloride	4.645	117	20960	9.94	ug/L	96
52) tert amyl alcohol	4.718	55	6691	52.96	ug/L	91
55) n-butyl alcohol	5.101	56	51870	513.19	ug/L	97
56) 2,2,4-trimethylpentane	4.846	57	39479	9.65	ug/L	98
57) benzene	4.785	78	63594	10.06	ug/L	99
58) tert-amyl methyl ether	4.839	87	11860	10.25	ug/L	94
59) heptane	4.955	71	9541	9.41	ug/L	98
60) isopropyl acetate	4.748	87	4795	10.23	ug/L	98
61) 1,2-dichloroethane	4.803	62	20777	10.16	ug/L	94
62) trichloroethene	5.259	130	17543	10.02	ug/L	98
63) ethyl acrylate	5.271	55	26618	9.90	ug/L	97
65) 2-chloroethyl vinyl ether	5.837	63	63061	50.47	ug/L	98
66) methyl methacrylate	5.454	100	6201	9.61	ug/L	96
67) 1,2-dichloropropane	5.460	63	15875	10.03	ug/L	97
68) dibromomethane	5.527	93	9740	10.28	ug/L	100
69) methylcyclohexane	5.454	83	25248	9.80	ug/L	98
70) bromodichloromethane	5.643	83	21479	10.10	ug/L	99
71) epichlorohydrin	5.892	57	13558	50.38	ug/L	98
72) cis-1,3-dichloropropene	5.989	75	27053	10.08	ug/L	95
73) 4-methyl-2-pentanone	6.087	58	36481	40.30	ug/L	93
74) 3-methyl-1-butanol	6.093	55	31216	205.36	ug/L	99
77) toluene	6.281	92	39703	10.03	ug/L	97
78) trans-1,3-dichloropropene	6.446	75	25021	10.40	ug/L	98
79) ethyl methacrylate	6.464	69	25134	10.27	ug/L	98
80) 1,1,2-trichloroethane	6.616	83	11858	9.94	ug/L	97
81) tetrachloroethene	6.719	164	14151	9.93	ug/L	95
82) 1,3-dichloropropane	6.768	76	24913	10.07	ug/L	98
83) 2-hexanone	6.780	58	37703	40.64	ug/L	100
84) butyl acetate	6.865	56	14199	10.01	ug/L	86
85) 3,3-dimethyl-1-butanol	6.938	57	31136	103.73	ug/L	96
86) dibromochloromethane	6.957	129	16954	10.12	ug/L	99
87) 1,2-dibromoethane	7.078	107	16662	10.26	ug/L	96
88) n-butyl ether	7.547	57	68934	10.19	ug/L	98
89) chlorobenzene	7.510	112	44177	10.17	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.577	131	16349	10.24	ug/L	96
91) ethylbenzene	7.583	91	74858	10.22	ug/L	98
92) m,p-xylene	7.705	106	58904	20.31	ug/L	99
93) o-xylene	8.064	106	28966	10.29	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178632.D
 Acq On : 27 Feb 2018 10:51 pm
 Operator : Gabriela
 Sample : ic7600-10
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 02 08:34:08 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

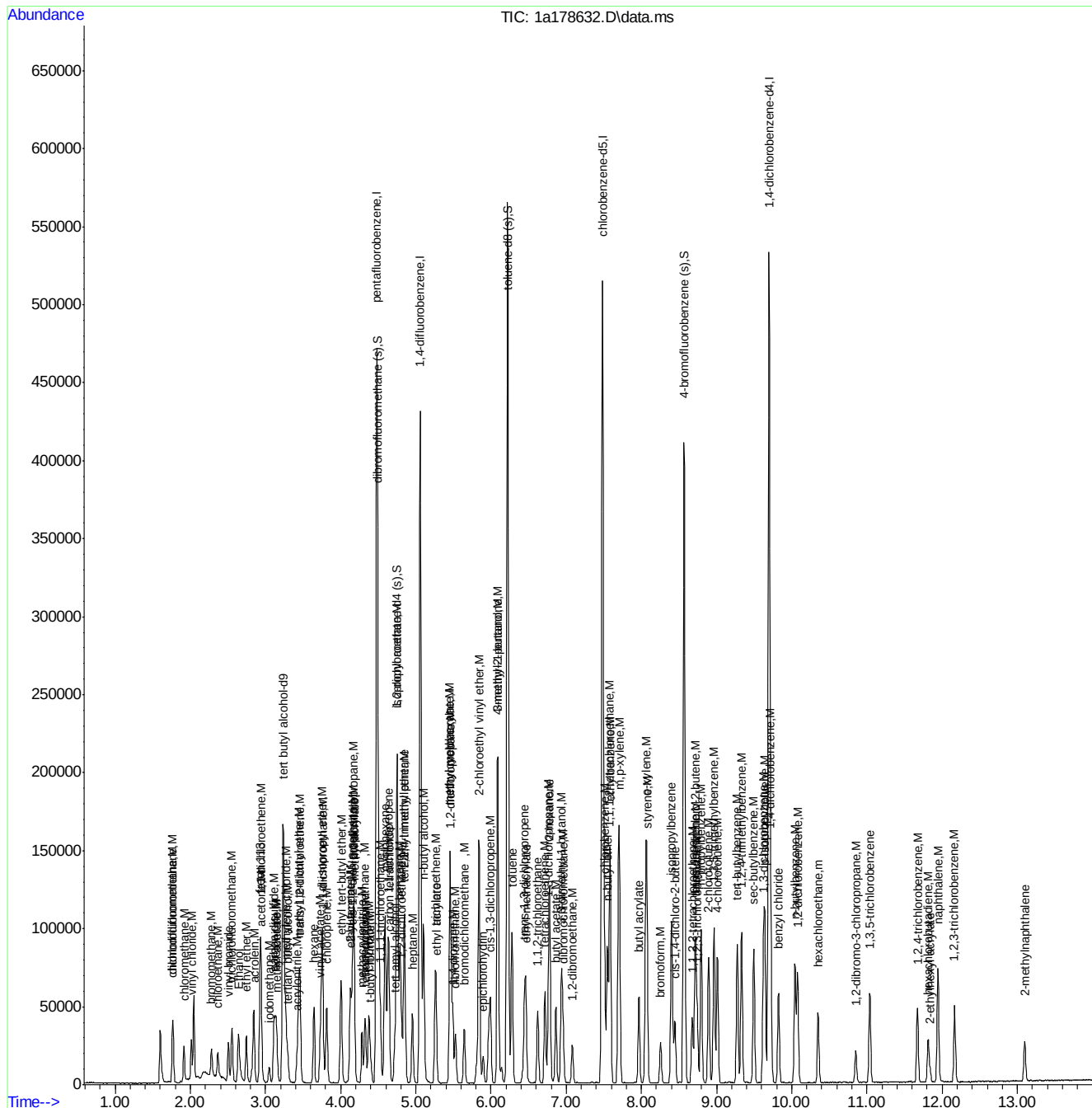
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	49846	10.14	ug/L	99
95) bromoform	8.252	173	13041	9.92	ug/L	99
96) butyl acrylate	7.973	55	35579	10.28	ug/L	97
97) isopropylbenzene	8.398	105	70569	10.02	ug/L	99
98) cis-1,4-dichloro-2-butene	8.447	88	9969	10.34	ug/L	94
101) bromobenzene	8.721	156	19579	10.09	ug/L	95
102) 1,1,2,2-tetrachloroethane	8.678	83	21421	10.19	ug/L	99
103) trans-1,4-dichloro-2-b...	8.715	53	6148	10.43	ug/L	99
104) 1,2,3-trichloropropane	8.745	110	7157	10.42	ug/L	97
105) n-propylbenzene	8.794	91	79825	10.27	ug/L	99
106) 2-chlorotoluene	8.891	126	17909	10.21	ug/L	98
107) 4-chlorotoluene	9.007	91	50100	10.19	ug/L	99
108) 1,3,5-trimethylbenzene	8.964	105	55766	10.06	ug/L	99
109) tert-butylbenzene	9.274	134	12284	10.15	ug/L	94
110) 1,2,4-trimethylbenzene	9.335	105	55963	10.09	ug/L	98
111) sec-butylbenzene	9.493	105	63914	10.04	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	34356	10.10	ug/L	100
113) p-isopropyltoluene	9.639	119	54452	9.95	ug/L	98
114) 1,4-dichlorobenzene	9.719	146	34665	10.00	ug/L	97
115) benzyl chloride	9.828	91	44410	10.21	ug/L	98
116) 1,2-dichlorobenzene	10.077	146	32793	10.12	ug/L	98
117) n-butylbenzene	10.041	92	24726	10.07	ug/L	98
118) 1,2-dibromo-3-chloropr...	10.850	75	5242	10.31	ug/L	92
119) 1,3,5-trichlorobenzene	11.039	180	19388	9.92	ug/L	99
120) 2-ethylhexyl acrylate	11.842	70	2071	2.04	ug/L	93
121) 1,2,4-trichlorobenzene	11.677	180	17406	9.62	ug/L	96
122) hexachlorobutadiene	11.817	225	6738	10.50	ug/L	95
123) naphthalene	11.945	128	63850	10.04	ug/L	99
124) 1,2,3-trichlorobenzene	12.164	180	17285	9.98	ug/L	97
125) hexachloroethane	10.351	201	9488	9.61	ug/L	96
126) 2-methylnaphthalene	13.101	142	14851	4.98	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178632.D
Acq On : 27 Feb 2018 10:51 pm
Operator : Gabriela
Sample : ic7600-10
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 02 08:34:08 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



M1A7600.M Mon Mar 05 08:31:35 2018 MSD1A

Page: 4

7.6.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178633.D
 Acq On : 27 Feb 2018 11:15 pm
 Operator : Gabriela
 Sample : ic7600-20
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 02 08:36:03 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:51:23 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.234	65	176432	500.00	ug/L	0.00
5) pentafluorobenzene	4.481	168	221434	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.059	114	312035	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	300451	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	151050	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	85730	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.00%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	95270	50.00	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	100.00%		
76) toluene-d8 (s)	6.221	98	357271	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.00%		
100) 4-bromofluorobenzene (s)	8.569	95	142019	50.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.00%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.294	59	36973	100.00	ug/L	100
3) Ethanol	2.643	45	71726	2000.00	ug/L	100
4) 1,4-dioxane	5.497	88	16617	500.00	ug/L	100
6) chlorodifluoromethane	1.767	51	39052	20.00	ug/L	100
7) dichlorodifluoromethane	1.755	85	36522	20.00	ug/L	100
9) chloromethane	1.913	50	34674	20.00	ug/L	100
10) vinyl chloride	2.011	62	38188	20.00	ug/L	100
12) bromomethane	2.272	94	20579	20.00	ug/L	100
13) chloroethane	2.357	64	22701	20.00	ug/L	100
14) trichlorofluoromethane	2.552	101	48420	20.00	ug/L	100
15) vinyl bromide	2.510	106	29595	20.00	ug/L	100
16) ethyl ether	2.741	74	19334	20.00	ug/L	100
17) acrolein	2.850	56	8609	20.00	ug/L	100
18) freon 113	2.923	151	23081	20.00	ug/L	100
19) 1,1-dichloroethene	2.929	96	28767	20.00	ug/L	100
20) acetone	2.942	58	18686	80.00	ug/L	100
21) acetonitrile	3.136	41	64460	200.00	ug/L	100
22) iodomethane	3.051	142	27797	20.00	ug/L	100
23) carbon disulfide	3.112	76	87261	20.00	ug/L	100
24) methylene chloride	3.264	84	30411	20.00	ug/L	100
25) methyl acetate	3.148	43	34115	20.00	ug/L	100
26) methyl tert butyl ether	3.440	73	94140	20.00	ug/L	100
27) trans-1,2-dichloroethene	3.459	96	30540	20.00	ug/L	100
28) di-isopropyl ether	3.751	45	102147	20.00	ug/L	100
29) 2-butanone	4.122	72	21238	80.00	ug/L	100
30) 1,1-dichloroethane	3.763	63	55182	20.00	ug/L	100
31) chloroprene	3.811	53	47954	20.00	ug/L	100
32) acrylonitrile	3.416	53	17454	20.00	ug/L	100
33) hexane	3.641	56	20412	20.00	ug/L	100
34) vinyl acetate	3.732	86	6965	20.00	ug/L	100
35) ethyl tert-butyl ether	4.006	59	98034	20.00	ug/L	100
36) ethyl acetate	4.134	45	6943	20.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178633.D
 Acq On : 27 Feb 2018 11:15 pm
 Operator : Gabriela
 Sample : ic7600-20
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 02 08:36:03 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:51:23 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.170	77	45541	20.00	ug/L	100
38) cis-1,2-dichloroethene	4.152	96	33558	20.00	ug/L	100
39) methyl acrylate	4.176	85	7075	20.00	ug/L	100
40) propionitrile	4.170	54	77868	200.00	ug/L	100
41) bromochloromethane	4.322	128	16180	20.00	ug/L	100
42) tetrahydrofuran	4.335	72	7013	20.00	ug/L	100
43) chloroform	4.377	85	33308	20.00	ug/L	100
44) t-butyl formate	4.402	59	14024	20.00	ug/L	100
46) methacrylonitrile	4.280	67	18087	20.00	ug/L	100
47) 1,1,1-trichloroethane	4.523	97	46828	20.00	ug/L	100
48) cyclohexane	4.584	84	47331	20.00	ug/L	100
49) 1,1-dichloropropene	4.633	75	43042	20.00	ug/L	100
51) carbon tetrachloride	4.639	117	41398	20.00	ug/L	100
52) tert amyl alcohol	4.718	55	12407	100.00	ug/L	100
55) n-butyl alcohol	5.101	56	99327	1000.00	ug/L	100
56) 2,2,4-trimethylpentane	4.846	57	80406	20.00	ug/L	100
57) benzene	4.785	78	124268	20.00	ug/L	100
58) tert-amyl methyl ether	4.840	87	22739	20.00	ug/L	100
59) heptane	4.955	71	19934	20.00	ug/L	100
60) isopropyl acetate	4.748	87	9209	20.00	ug/L	100
61) 1,2-dichloroethane	4.803	62	40174	20.00	ug/L	100
62) trichloroethene	5.259	130	34427	20.00	ug/L	100
63) ethyl acrylate	5.272	55	52861	20.00	ug/L	100
65) 2-chloroethyl vinyl ether	5.837	63	122795	100.00	ug/L	100
66) methyl methacrylate	5.454	100	12682	20.00	ug/L	100
67) 1,2-dichloropropane	5.460	63	31098	20.00	ug/L	100
68) dibromomethane	5.527	93	18626	20.00	ug/L	100
69) methylcyclohexane	5.454	83	50633	20.00	ug/L	100
70) bromodichloromethane	5.643	83	41798	20.00	ug/L	100
71) epichlorohydrin	5.892	57	26448	100.00	ug/L	100
72) cis-1,3-dichloropropene	5.989	75	52732	20.00	ug/L	100
73) 4-methyl-2-pentanone	6.087	58	71159	80.00	ug/L	100
74) 3-methyl-1-butanol	6.093	55	59750	400.00	ug/L	100
77) toluene	6.281	92	79073	20.00	ug/L	100
78) trans-1,3-dichloropropene	6.446	75	48046	20.00	ug/L	100
79) ethyl methacrylate	6.464	69	48872	20.00	ug/L	100
80) 1,1,2-trichloroethane	6.616	83	23810	20.00	ug/L	100
81) tetrachloroethene	6.719	164	28458	20.00	ug/L	100
82) 1,3-dichloropropane	6.768	76	49418	20.00	ug/L	100
83) 2-hexanone	6.780	58	74095	80.00	ug/L	100
84) butyl acetate	6.865	56	28308	20.00	ug/L	100
85) 3,3-dimethyl-1-butanol	6.938	57	59931	200.00	ug/L	100
86) dibromochloromethane	6.957	129	33457	20.00	ug/L	100
87) 1,2-dibromoethane	7.078	107	32417	20.00	ug/L	100
88) n-butyl ether	7.547	57	135008	20.00	ug/L	100
89) chlorobenzene	7.510	112	86706	20.00	ug/L	100
90) 1,1,1,2-tetrachloroethane	7.577	131	31880	20.00	ug/L	100
91) ethylbenzene	7.583	91	146192	20.00	ug/L	100
92) m,p-xylene	7.699	106	115825	40.00	ug/L	100
93) o-xylene	8.064	106	56183	20.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178633.D
 Acq On : 27 Feb 2018 11:15 pm
 Operator : Gabriela
 Sample : ic7600-20
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 02 08:36:03 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:51:23 2018
 Response via : Initial Calibration

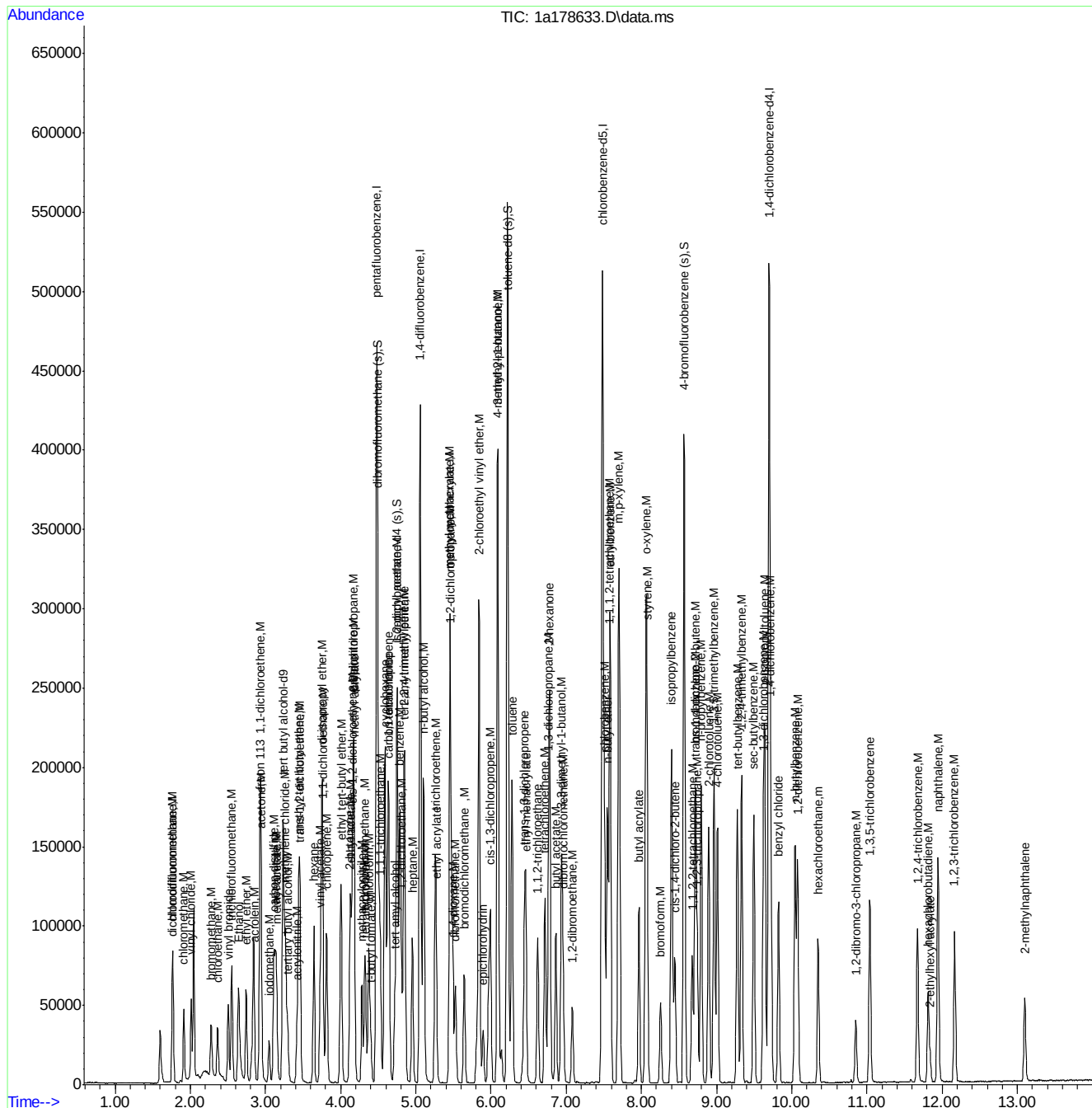
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	98102	20.00	ug/L	100
95) bromoform	8.252	173	26241	20.00	ug/L	100
96) butyl acrylate	7.973	55	69120	20.00	ug/L	100
97) isopropylbenzene	8.398	105	140640	20.00	ug/L	100
98) cis-1,4-dichloro-2-butene	8.441	88	19254	20.00	ug/L	100
101) bromobenzene	8.721	156	38914	20.00	ug/L	100
102) 1,1,2,2-tetrachloroethane	8.678	83	42152	20.00	ug/L	100
103) trans-1,4-dichloro-2-b...	8.715	53	11821	20.00	ug/L	100
104) 1,2,3-trichloropropane	8.745	110	13778	20.00	ug/L	100
105) n-propylbenzene	8.794	91	155876	20.00	ug/L	100
106) 2-chlorotoluene	8.897	126	35161	20.00	ug/L	100
107) 4-chlorotoluene	9.007	91	98611	20.00	ug/L	100
108) 1,3,5-trimethylbenzene	8.964	105	111213	20.00	ug/L	100
109) tert-butylbenzene	9.281	134	24262	20.00	ug/L	100
110) 1,2,4-trimethylbenzene	9.335	105	111251	20.00	ug/L	100
111) sec-butylbenzene	9.494	105	127703	20.00	ug/L	100
112) 1,3-dichlorobenzene	9.621	146	68216	20.00	ug/L	100
113) p-isopropyltoluene	9.640	119	109757	20.00	ug/L	100
114) 1,4-dichlorobenzene	9.719	146	69493	20.00	ug/L	100
115) benzyl chloride	9.828	91	87188	20.00	ug/L	100
116) 1,2-dichlorobenzene	10.078	146	64990	20.00	ug/L	100
117) n-butylbenzene	10.041	92	49234	20.00	ug/L	100
118) 1,2-dibromo-3-chloropr...	10.850	75	10199	20.00	ug/L	100
119) 1,3,5-trichlorobenzene	11.039	180	39212	20.00	ug/L	100
120) 2-ethylhexyl acrylate	11.842	70	4071	4.00	ug/L	100
121) 1,2,4-trichlorobenzene	11.678	180	36298	20.00	ug/L	100
122) hexachlorobutadiene	11.817	225	12872	20.00	ug/L	100
123) naphthalene	11.945	128	127507	20.00	ug/L	100
124) 1,2,3-trichlorobenzene	12.164	180	34729	20.00	ug/L	100
125) hexachloroethane	10.351	201	19801	20.00	ug/L	100
126) 2-methylnaphthalene	13.101	142	29885	10.00	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Data Path   : C:\msdchem\1\DATA\V1A7600\
Data File   : 1a178633.D
Acq On      : 27 Feb 2018   11:15 pm
Operator    : Gabriela
Sample      : ic7600-20
Misc        : ms24541,v1a7600,5,,,,1
ALS Vial    : 9      Sample Multiplier: 1
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Quant Time: Mar 02 08:36:03 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:51:23 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178634.D
 Acq On : 27 Feb 2018 11:40 pm
 Operator : Gabriela
 Sample : icc7600-50
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 02 08:26:19 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.240	65	170151	500.00	ug/L	0.00
5) pentafluorobenzene	4.481	168	217194	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.059	114	310494	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	300533	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	150116	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	85217	50.67	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.34%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	94537	49.86	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	99.72%		
76) toluene-d8 (s)	6.221	98	354610	49.61	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.22%		
100) 4-bromofluorobenzene (s)	8.569	95	140779	49.87	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.74%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.294	59	88413	247.96	ug/L	98
3) Ethanol	2.649	45	168933	4884.39	ug/L	99
4) 1,4-dioxane	5.497	88	39346	1227.61	ug/L	90
6) chlorodifluoromethane	1.767	51	95458	49.84	ug/L	99
7) dichlorodifluoromethane	1.755	85	85645	47.82	ug/L	97
9) chloromethane	1.913	50	81435	47.89	ug/L	99
10) vinyl chloride	2.011	62	90962	48.57	ug/L	100
12) bromomethane	2.260	94	46320	45.90	ug/L	94
13) chloroethane	2.351	64	52474	47.13	ug/L	99
14) trichlorofluoromethane	2.552	101	112660	47.44	ug/L	96
15) vinyl bromide	2.503	106	70091	48.29	ug/L	97
16) ethyl ether	2.741	74	48011	50.63	ug/L	99
17) acrolein	2.850	56	20768	49.19	ug/L	95
18) freon 113	2.923	151	55292	48.85	ug/L	96
19) 1,1-dichloroethene	2.929	96	68944	48.87	ug/L	97
20) acetone	2.942	58	51146	223.25	ug/L	97
21) acetonitrile	3.136	41	149501	472.91	ug/L	100
22) iodomethane	3.051	142	81896	60.07	ug/L	99
23) carbon disulfide	3.112	76	210580	49.21	ug/L	99
24) methylene chloride	3.264	84	74041	49.64	ug/L	99
25) methyl acetate	3.148	43	84039	50.23	ug/L	98
26) methyl tert butyl ether	3.440	73	230321	49.89	ug/L	99
27) trans-1,2-dichloroethene	3.459	96	73940	49.37	ug/L	98
28) di-isopropyl ether	3.751	45	244076	48.72	ug/L	98
29) 2-butanone	4.122	72	51629	198.27	ug/L	95
30) 1,1-dichloroethane	3.757	63	133740	49.42	ug/L	99
31) chloroprene	3.811	53	115710	49.20	ug/L	99
32) acrylonitrile	3.416	53	42067	49.14	ug/L	99
33) hexane	3.641	56	47879	47.83	ug/L	98
34) vinyl acetate	3.732	86	15205	44.51	ug/L	97
35) ethyl tert-butyl ether	4.006	59	239366	49.79	ug/L	99
36) ethyl acetate	4.134	45	16462	48.35	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178634.D
 Acq On : 27 Feb 2018 11:40 pm
 Operator : Gabriela
 Sample : icc7600-50
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 02 08:26:19 2018

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M

Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um

QLast Update : Thu Mar 01 16:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.170	77	108424	48.55	ug/L	95
38) cis-1,2-dichloroethene	4.152	96	82943	50.40	ug/L	95
39) methyl acrylate	4.176	85	16622	47.91	ug/L #	88
40) propionitrile	4.170	54	185283	485.18	ug/L	96
41) bromochloromethane	4.322	128	39006	49.16	ug/L	96
42) tetrahydrofuran	4.335	72	16673	48.48	ug/L	95
43) chloroform	4.377	85	82055	50.23	ug/L	99
44) t-butyl formate	4.402	59	32024	46.56	ug/L	97
46) methacrylonitrile	4.286	67	44534	50.21	ug/L	97
47) 1,1,1-trichloroethane	4.523	97	112559	49.01	ug/L	99
48) cyclohexane	4.584	84	111822	48.17	ug/L	98
49) 1,1-dichloropropene	4.633	75	103982	49.26	ug/L	99
51) carbon tetrachloride	4.639	117	100242	49.37	ug/L	96
52) tert amyl alcohol	4.724	55	28102	230.92	ug/L	91
55) n-butyl alcohol	5.107	56	233452	2362.00	ug/L	99
56) 2,2,4-trimethylpentane	4.846	57	187633	46.90	ug/L	99
57) benzene	4.785	78	303257	49.05	ug/L	99
58) tert-amyl methyl ether	4.840	87	56041	49.54	ug/L	96
59) heptane	4.955	71	47105	47.50	ug/L	98
60) isopropyl acetate	4.748	87	22237	48.53	ug/L #	90
61) 1,2-dichloroethane	4.803	62	96473	48.27	ug/L	97
62) trichloroethene	5.259	130	84601	49.39	ug/L	99
63) ethyl acrylate	5.272	55	126904	48.25	ug/L	99
65) 2-chloroethyl vinyl ether	5.837	63	296903	242.99	ug/L	98
66) methyl methacrylate	5.454	100	29729	47.12	ug/L	96
67) 1,2-dichloropropane	5.460	63	76497	49.44	ug/L	99
68) dibromomethane	5.527	93	45242	48.82	ug/L	96
69) methylcyclohexane	5.454	83	120870	47.98	ug/L	99
70) bromodichloromethane	5.643	83	103091	49.57	ug/L	100
71) epichlorohydrin	5.892	57	62946	239.18	ug/L	98
72) cis-1,3-dichloropropene	5.989	75	130207	49.63	ug/L	96
73) 4-methyl-2-pentanone	6.087	58	169897	191.95	ug/L	99
74) 3-methyl-1-butanol	6.099	55	138447	931.44	ug/L	96
77) toluene	6.281	92	192998	48.80	ug/L	100
78) trans-1,3-dichloropropene	6.446	75	119476	49.72	ug/L	99
79) ethyl methacrylate	6.464	69	120696	49.38	ug/L	100
80) 1,1,2-trichloroethane	6.616	83	58123	48.81	ug/L	96
81) tetrachloroethene	6.719	164	69575	48.88	ug/L	96
82) 1,3-dichloropropane	6.768	76	120982	48.95	ug/L	97
83) 2-hexanone	6.780	58	175305	189.22	ug/L	99
84) butyl acetate	6.865	56	68665	48.50	ug/L	93
85) 3,3-dimethyl-1-butanol	6.938	57	140810	469.78	ug/L	98
86) dibromochloromethane	6.957	129	80397	48.05	ug/L	98
87) 1,2-dibromoethane	7.078	107	79212	48.86	ug/L	97
88) n-butyl ether	7.547	57	333345	49.37	ug/L	99
89) chlorobenzene	7.510	112	213809	49.30	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.577	131	77811	48.80	ug/L	99
91) ethylbenzene	7.583	91	358366	49.01	ug/L	98
92) m,p-xylene	7.699	106	282027	97.37	ug/L	98
93) o-xylene	8.064	106	138844	49.41	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178634.D
 Acq On : 27 Feb 2018 11:40 pm
 Operator : Gabriela
 Sample : icc7600-50
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 02 08:26:19 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

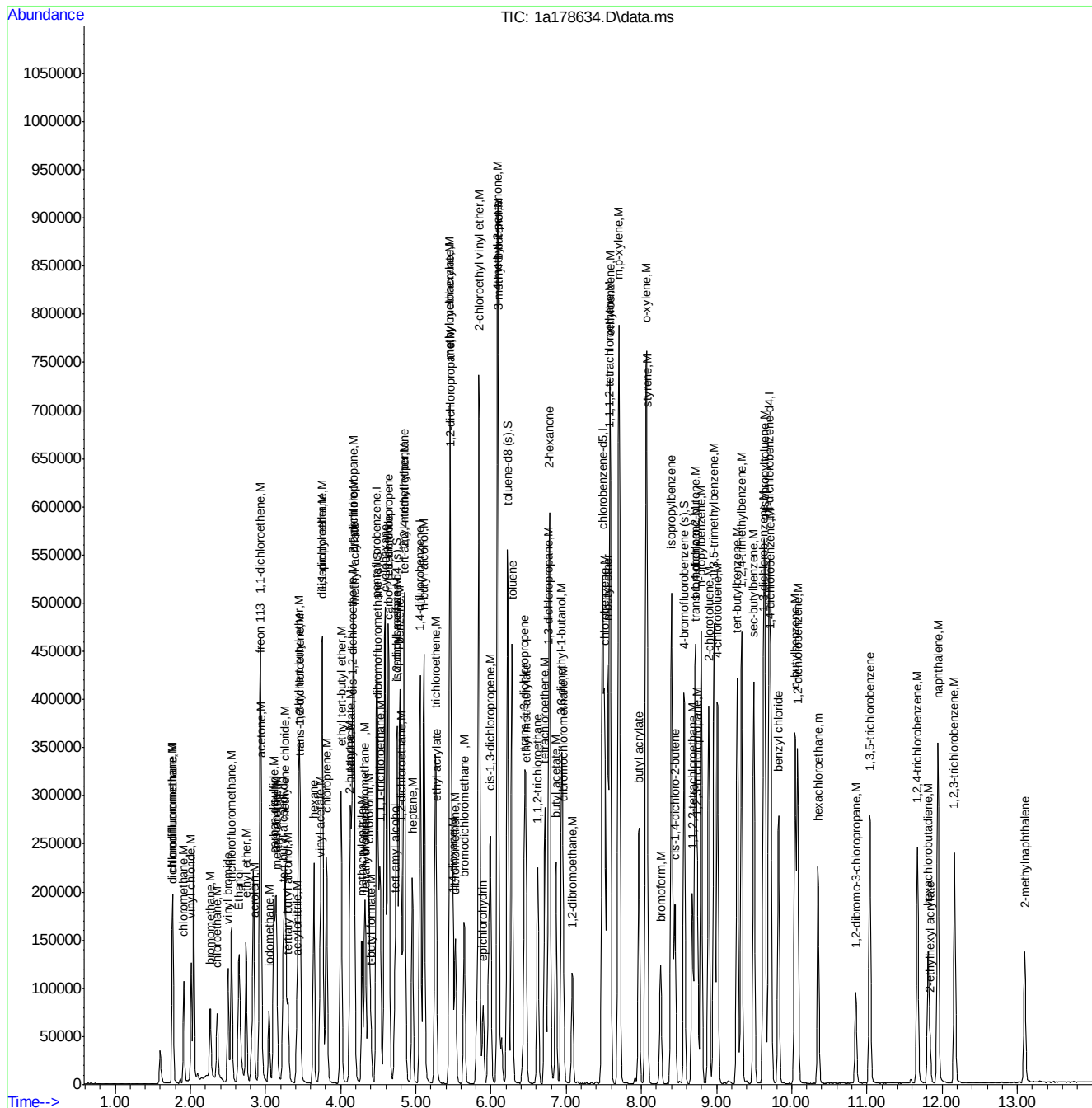
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	241843	49.29	ug/L	99
95) bromoform	8.259	173	64404	49.07	ug/L	98
96) butyl acrylate	7.973	55	169808	49.12	ug/L	100
97) isopropylbenzene	8.398	105	344280	48.95	ug/L	99
98) cis-1,4-dichloro-2-butene	8.447	88	47149	48.96	ug/L	93
101) bromobenzene	8.721	156	95934	49.61	ug/L	99
102) 1,1,2,2-tetrachloroethane	8.678	83	101409	48.42	ug/L	96
103) trans-1,4-dichloro-2-b...	8.715	53	28736	48.92	ug/L	97
104) 1,2,3-trichloropropane	8.745	110	33288	48.62	ug/L	98
105) n-propylbenzene	8.794	91	387356	50.01	ug/L	99
106) 2-chlorotoluene	8.897	126	87915	50.32	ug/L	97
107) 4-chlorotoluene	9.007	91	241283	49.24	ug/L	98
108) 1,3,5-trimethylbenzene	8.964	105	271346	49.10	ug/L	100
109) tert-butylbenzene	9.274	134	60653	50.31	ug/L	97
110) 1,2,4-trimethylbenzene	9.335	105	272174	49.23	ug/L	99
111) sec-butylbenzene	9.494	105	311406	49.07	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	168180	49.61	ug/L	99
113) p-isopropyltoluene	9.640	119	272085	49.89	ug/L	99
114) 1,4-dichlorobenzene	9.719	146	168330	48.75	ug/L	100
115) benzyl chloride	9.828	91	211949	48.92	ug/L	100
116) 1,2-dichlorobenzene	10.078	146	158990	49.23	ug/L	100
117) n-butylbenzene	10.041	92	121470	49.65	ug/L	99
118) 1,2-dibromo-3-chloropr...	10.850	75	24152	47.66	ug/L	99
119) 1,3,5-trichlorobenzene	11.039	180	97301	49.94	ug/L	98
120) 2-ethylhexyl acrylate	11.842	70	10537	10.42	ug/L	89
121) 1,2,4-trichlorobenzene	11.671	180	92258	51.15	ug/L	98
122) hexachlorobutadiene	11.817	225	31226	48.82	ug/L	99
123) naphthalene	11.945	128	318179	50.22	ug/L	99
124) 1,2,3-trichlorobenzene	12.164	180	88977	51.56	ug/L	97
125) hexachloroethane	10.351	201	48383	49.17	ug/L	96
126) 2-methylnaphthalene	13.101	142	78975	26.59	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178634.D
Acq On : 27 Feb 2018 11:40 pm
Operator : Gabriela
Sample : icc7600-50
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 02 08:26:19 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178635.D
 Acq On : 28 Feb 2018 12:04 am
 Operator : Gabriela
 Sample : ic7600-100
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 02 08:36:41 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.252	65	176703	500.00	ug/L	0.02
5) pentafluorobenzene	4.481	168	213696	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	305568	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	299577	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	150016	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	83897	50.70	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.40%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	92986	49.83	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	99.66%		
76) toluene-d8 (s)	6.220	98	351269	49.30	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	98.60%		
100) 4-bromofluorobenzene (s)	8.569	95	140282	49.73	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.46%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.306	59	183276	494.94	ug/L	98
3) Ethanol	2.662	45	335730	9347.10	ug/L	99
4) 1,4-dioxane	5.503	88	80426	2416.28	ug/L	85
6) chlorodifluoromethane	1.767	51	189543	100.59	ug/L	98
7) dichlorodifluoromethane	1.755	85	171113	97.10	ug/L	98
9) chloromethane	1.913	50	165563	98.95	ug/L	98
10) vinyl chloride	2.011	62	181137	98.30	ug/L	99
12) bromomethane	2.248	94	77009	77.55	ug/L	96
13) chloroethane	2.345	64	101382	92.55	ug/L	97
14) trichlorofluoromethane	2.540	101	223302	95.58	ug/L	97
15) vinyl bromide	2.497	106	140642	98.49	ug/L	95
16) ethyl ether	2.741	74	95274	102.12	ug/L	98
17) acrolein	2.844	56	40233	96.85	ug/L	94
18) freon 113	2.917	151	109784	98.57	ug/L	97
19) 1,1-dichloroethene	2.923	96	136554	98.38	ug/L	97
20) acetone	2.935	58	116734	517.87	ug/L	95
21) acetonitrile	3.136	41	305799	983.16	ug/L	99
22) iodomethane	3.045	142	161818	120.64	ug/L	98
23) carbon disulfide	3.106	76	416795	98.99	ug/L	100
24) methylene chloride	3.264	84	147409	100.45	ug/L	96
25) methyl acetate	3.148	43	172114	104.56	ug/L	98
26) methyl tert butyl ether	3.440	73	455541	100.28	ug/L	98
27) trans-1,2-dichloroethene	3.452	96	146714	99.56	ug/L	97
28) di-isopropyl ether	3.751	45	485059	98.41	ug/L	98
29) 2-butanone	4.122	72	110499	431.30	ug/L	99
30) 1,1-dichloroethane	3.757	63	262429	98.56	ug/L	99
31) chloroprene	3.811	53	227186	98.18	ug/L	99
32) acrylonitrile	3.416	53	85040	100.97	ug/L	99
33) hexane	3.635	56	96023	97.49	ug/L	96
34) vinyl acetate	3.726	86	30241	89.98	ug/L #	94
35) ethyl tert-butyl ether	4.000	59	474809	100.37	ug/L	98
36) ethyl acetate	4.134	45	33848	101.03	ug/L #	80

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178635.D
 Acq On : 28 Feb 2018 12:04 am
 Operator : Gabriela
 Sample : ic7600-100
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 02 08:36:41 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.164	77	211571	96.28	ug/L	97
38) cis-1,2-dichloroethene	4.152	96	163267	100.83	ug/L	97
39) methyl acrylate	4.176	85	33960	99.48	ug/L	92
40) propionitrile	4.176	54	374270	996.10	ug/L	83
41) bromochloromethane	4.322	128	75136	96.24	ug/L	98
42) tetrahydrofuran	4.335	72	34368	101.56	ug/L	98
43) chloroform	4.377	85	162672	101.21	ug/L	98
44) t-butyl formate	4.401	59	65161	96.29	ug/L	94
46) methacrylonitrile	4.286	67	89611	102.68	ug/L	97
47) 1,1,1-trichloroethane	4.523	97	225235	99.68	ug/L	98
48) cyclohexane	4.584	84	216031	94.59	ug/L	93
49) 1,1-dichloropropene	4.633	75	203787	98.12	ug/L	98
51) carbon tetrachloride	4.639	117	198865	99.55	ug/L	97
52) tert amyl alcohol	4.730	55	57958	484.05	ug/L #	85
55) n-butyl alcohol	5.113	56	498180	5121.70	ug/L	98
56) 2,2,4-trimethylpentane	4.846	57	366518	93.10	ug/L	99
57) benzene	4.785	78	605607	99.53	ug/L	99
58) tert-amyl methyl ether	4.839	87	112945	101.44	ug/L	99
59) heptane	4.955	71	92513	94.78	ug/L	99
60) isopropyl acetate	4.748	87	45652	101.24	ug/L #	89
61) 1,2-dichloroethane	4.803	62	192505	97.86	ug/L	96
62) trichloroethene	5.259	130	169094	100.31	ug/L	99
63) ethyl acrylate	5.271	55	258325	99.81	ug/L	98
65) 2-chloroethyl vinyl ether	5.843	63	586665	487.87	ug/L	97
66) methyl methacrylate	5.454	100	60247	97.02	ug/L	95
67) 1,2-dichloropropane	5.460	63	151187	99.29	ug/L	99
68) dibromomethane	5.527	93	90814	99.58	ug/L	95
69) methylcyclohexane	5.454	83	240894	97.17	ug/L	98
70) bromodichloromethane	5.642	83	206456	100.88	ug/L	98
71) epichlorohydrin	5.898	57	129102	498.47	ug/L	98
72) cis-1,3-dichloropropene	5.989	75	259602	100.54	ug/L	97
73) 4-methyl-2-pentanone	6.087	58	343673	394.55	ug/L	93
74) 3-methyl-1-butanol	6.105	55	295328	2018.93	ug/L	92
77) toluene	6.281	92	386980	98.16	ug/L	97
78) trans-1,3-dichloropropene	6.446	75	242052	101.05	ug/L	99
79) ethyl methacrylate	6.464	69	245999	100.96	ug/L	99
80) 1,1,2-trichloroethane	6.622	83	116988	98.55	ug/L	95
81) tetrachloroethene	6.719	164	139472	98.31	ug/L	98
82) 1,3-dichloropropane	6.768	76	244945	99.42	ug/L	94
83) 2-hexanone	6.786	58	353350	382.62	ug/L	97
84) butyl acetate	6.865	56	138051	97.82	ug/L	92
85) 3,3-dimethyl-1-butanol	6.944	57	303001	1014.12	ug/L	98
86) dibromochloromethane	6.963	129	164306	98.51	ug/L	100
87) 1,2-dibromoethane	7.078	107	160900	99.56	ug/L	100
88) n-butyl ether	7.547	57	673527	100.07	ug/L	100
89) chlorobenzene	7.510	112	432241	99.99	ug/L	98
90) 1,1,1,2-tetrachloroethane	7.577	131	156225	98.29	ug/L	98
91) ethylbenzene	7.583	91	715259	98.14	ug/L	99
92) m,p-xylene	7.699	106	566734	196.29	ug/L	99
93) o-xylene	8.064	106	277816	99.19	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178635.D
 Acq On : 28 Feb 2018 12:04 am
 Operator : Gabriela
 Sample : ic7600-100
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 02 08:36:41 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

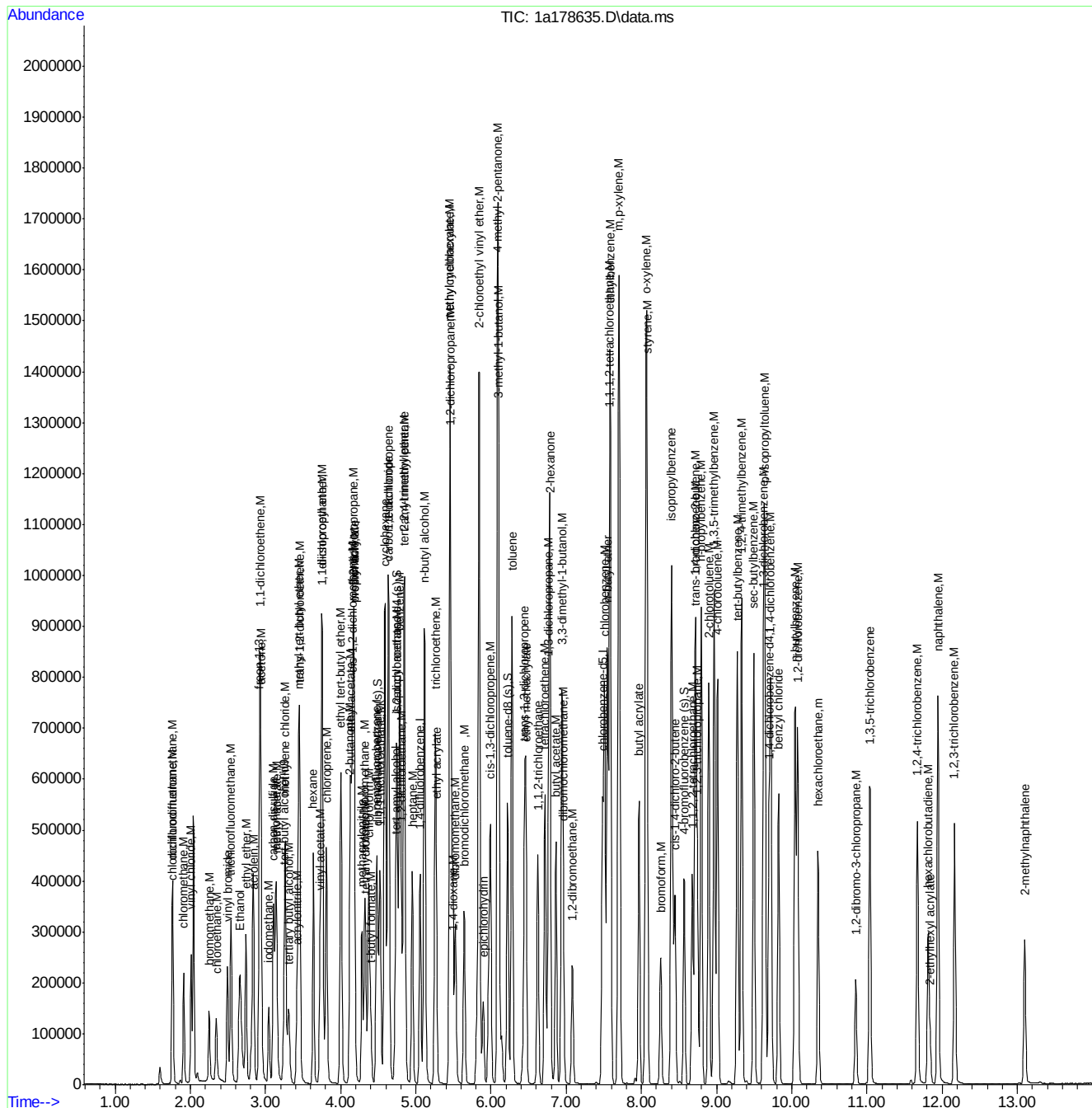
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	483449	98.85	ug/L	99
95) bromoform	8.258	173	131585	100.58	ug/L	99
96) butyl acrylate	7.973	55	346697	100.61	ug/L	99
97) isopropylbenzene	8.398	105	696382	99.32	ug/L	100
98) cis-1,4-dichloro-2-butene	8.447	88	94294	98.23	ug/L	95
101) bromobenzene	8.721	156	195263	101.05	ug/L	97
102) 1,1,2,2-tetrachloroethane	8.678	83	210298	100.47	ug/L	100
103) trans-1,4-dichloro-2-b...	8.715	53	57725	98.34	ug/L	98
104) 1,2,3-trichloropropane	8.745	110	67555	98.74	ug/L	98
105) n-propylbenzene	8.794	91	781812	101.00	ug/L	100
106) 2-chlorotoluene	8.897	126	173759	99.52	ug/L	99
107) 4-chlorotoluene	9.013	91	488837	99.83	ug/L	97
108) 1,3,5-trimethylbenzene	8.964	105	550077	99.60	ug/L	100
109) tert-butylbenzene	9.280	134	122532	101.70	ug/L	99
110) 1,2,4-trimethylbenzene	9.335	105	553052	100.11	ug/L	99
111) sec-butylbenzene	9.493	105	635152	100.16	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	338565	99.95	ug/L	99
113) p-isopropyltoluene	9.639	119	544590	99.92	ug/L	99
114) 1,4-dichlorobenzene	9.718	146	340929	98.80	ug/L	97
115) benzyl chloride	9.828	91	436355	100.79	ug/L	98
116) 1,2-dichlorobenzene	10.077	146	324070	100.42	ug/L	99
117) n-butylbenzene	10.047	92	247888	101.39	ug/L	98
118) 1,2-dibromo-3-chloropr...	10.850	75	51839	102.36	ug/L	99
119) 1,3,5-trichlorobenzene	11.045	180	205156	105.36	ug/L	99
120) 2-ethylhexyl acrylate	11.842	70	23282	23.03	ug/L	94
121) 1,2,4-trichlorobenzene	11.671	180	194487	107.90	ug/L	98
122) hexachlorobutadiene	11.817	225	68594	107.31	ug/L	97
123) naphthalene	11.945	128	675057	106.62	ug/L	99
124) 1,2,3-trichlorobenzene	12.164	180	189123	109.66	ug/L	95
125) hexachloroethane	10.351	201	98234	99.91	ug/L	96
126) 2-methylnaphthalene	13.101	142	167938	56.58	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178635.D
Acq On : 28 Feb 2018 12:04 am
Operator : Gabriela
Sample : ic7600-100
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 02 08:36:41 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



7.6.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178636.D
 Acq On : 28 Feb 2018 12:28 am
 Operator : Gabriela
 Sample : ic7600-200
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 02 08:36:56 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.276	65	171332	500.00	ug/L	0.04
5) pentafluorobenzene	4.474	168	211762	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.058	114	305706	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	298420	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	147662	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	82375	50.24	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.48%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	91598	49.07	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	98.14%		
76) toluene-d8 (s)	6.220	98	350183	49.34	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	98.68%		
100) 4-bromofluorobenzene (s)	8.575	95	140761	50.69	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	101.38%		
Target Compounds						
2) tertiary butyl alcohol	3.331	59	342815	954.80	ug/L	91
3) Ethanol	2.692	45	498658	14318.42	ug/L	97
4) 1,4-dioxane	5.509	88	152037	4710.92	ug/L	89
6) chlorodifluoromethane	1.767	51	361646	193.67	ug/L	99
7) dichlorodifluoromethane	1.755	85	337292	193.14	ug/L	97
9) chloromethane	1.913	50	340296	205.25	ug/L	98
10) vinyl chloride	2.011	62	356053	194.99	ug/L	99
13) chloroethane	2.327	64	159175	146.64	ug/L	98
14) trichlorofluoromethane	2.534	101	448879	193.88	ug/L	97
15) vinyl bromide	2.485	106	273204	193.06	ug/L	96
16) ethyl ether	2.734	74	180864	195.64	ug/L #	86
17) acrolein	2.844	56	80251	194.95	ug/L	94
18) freon 113	2.911	151	208473	188.90	ug/L	96
19) 1,1-dichloroethene	2.923	96	258995	188.29	ug/L	99
20) acetone	2.941	58	226236	1012.82	ug/L	98
21) acetonitrile	3.136	41	573161	1859.57	ug/L	99
22) iodomethane	3.045	142	286873	215.83	ug/L	99
23) carbon disulfide	3.106	76	800959	191.96	ug/L	99
24) methylene chloride	3.264	84	280382	192.82	ug/L	95
25) methyl acetate	3.148	43	326132	199.93	ug/L	99
26) methyl tert butyl ether	3.440	73	860228	191.10	ug/L	99
27) trans-1,2-dichloroethene	3.452	96	277926	190.32	ug/L	98
28) di-isopropyl ether	3.750	45	910580	186.43	ug/L	98
29) 2-butanone	4.128	72	212352	836.43	ug/L #	79
30) 1,1-dichloroethane	3.757	63	492226	186.55	ug/L	99
31) chloroprene	3.811	53	426988	186.22	ug/L	97
32) acrylonitrile	3.416	53	162177	194.32	ug/L	99
33) hexane	3.635	56	181092	185.54	ug/L	98
34) vinyl acetate	3.726	86	66176	198.70	ug/L #	92
35) ethyl tert-butyl ether	4.000	59	901872	192.40	ug/L	99
36) ethyl acetate	4.134	45	66977	201.75	ug/L #	57
37) 2,2-dichloropropane	4.164	77	396456	182.06	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178636.D
 Acq On : 28 Feb 2018 12:28 am
 Operator : Gabriela
 Sample : ic7600-200
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 02 08:36:56 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) cis-1,2-dichloroethene	4.152	96	307632	191.72	ug/L	96
39) methyl acrylate	4.176	85	65035	192.24	ug/L	100
40) propionitrile	4.176	54	702172	1885.87	ug/L	75
41) bromochloromethane	4.322	128	141613	183.04	ug/L	97
42) tetrahydrofuran	4.334	72	64304	191.76	ug/L	96
43) chloroform	4.371	85	307859	193.30	ug/L	99
44) t-butyl formate	4.401	59	138730	206.88	ug/L	96
46) methacrylonitrile	4.286	67	172160	199.06	ug/L	97
47) 1,1,1-trichloroethane	4.523	97	427142	190.76	ug/L	98
48) cyclohexane	4.584	84	428911	189.52	ug/L	96
49) 1,1-dichloropropene	4.633	75	387800	188.43	ug/L	98
51) carbon tetrachloride	4.639	117	372991	188.43	ug/L	97
52) tert amyl alcohol	4.748	55	106524	897.79	ug/L #	66
55) n-butyl alcohol	5.131	56	916706	9420.24	ug/L	97
56) 2,2,4-trimethylpentane	4.845	57	674092	171.14	ug/L	99
57) benzene	4.785	78	1146148	188.28	ug/L	99
58) tert-amyl methyl ether	4.839	87	212713	190.96	ug/L	98
59) heptane	4.955	71	172321	176.47	ug/L	98
60) isopropyl acetate	4.748	87	87505	193.98	ug/L #	77
61) 1,2-dichloroethane	4.803	62	361380	183.63	ug/L	96
62) trichloroethene	5.253	130	320788	190.22	ug/L	99
63) ethyl acrylate	5.271	55	486279	187.79	ug/L	97
65) 2-chloroethyl vinyl ether	5.843	63	1102555	916.47	ug/L	97
66) methyl methacrylate	5.454	100	115839	186.46	ug/L #	93
67) 1,2-dichloropropane	5.460	63	286820	188.28	ug/L	99
68) dibromomethane	5.527	93	174417	191.16	ug/L	95
69) methylcyclohexane	5.448	83	455569	183.67	ug/L	99
70) bromodichloromethane	5.642	83	392378	191.64	ug/L	98
71) epichlorohydrin	5.898	57	247297	954.39	ug/L	98
72) cis-1,3-dichloropropene	5.989	75	497827	192.72	ug/L	95
73) 4-methyl-2-pentanone	6.093	58	646001	741.30	ug/L	90
74) 3-methyl-1-butanol	6.111	55	537232	3670.99	ug/L	91
77) toluene	6.281	92	739977	188.44	ug/L	98
78) trans-1,3-dichloropropene	6.445	75	462581	193.87	ug/L	100
79) ethyl methacrylate	6.464	69	466826	192.34	ug/L	98
80) 1,1,2-trichloroethane	6.622	83	225565	190.76	ug/L	95
81) tetrachloroethene	6.719	164	265796	188.07	ug/L	99
82) 1,3-dichloropropane	6.768	76	462766	188.56	ug/L	89
83) 2-hexanone	6.786	58	659246	716.63	ug/L	97
84) butyl acetate	6.865	56	264777	188.34	ug/L	97
85) 3,3-dimethyl-1-butanol	6.950	57	554167	1861.94	ug/L	96
86) dibromochloromethane	6.963	129	310640	186.96	ug/L	99
87) 1,2-dibromoethane	7.078	107	310236	192.71	ug/L	98
88) n-butyl ether	7.547	57	1270508	189.49	ug/L	100
89) chlorobenzene	7.510	112	822887	191.10	ug/L	98
90) 1,1,1,2-tetrachloroethane	7.583	131	294573	186.06	ug/L	99
91) ethylbenzene	7.583	91	1352853	186.34	ug/L	99
92) m,p-xylene	7.699	106	1078116	374.86	ug/L	99
93) o-xylene	8.064	106	529423	189.75	ug/L	99
94) styrene	8.076	104	913619	187.53	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178636.D
 Acq On : 28 Feb 2018 12:28 am
 Operator : Gabriela
 Sample : ic7600-200
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 02 08:36:56 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Thu Mar 01 16:53:10 2018
 Response via : Initial Calibration

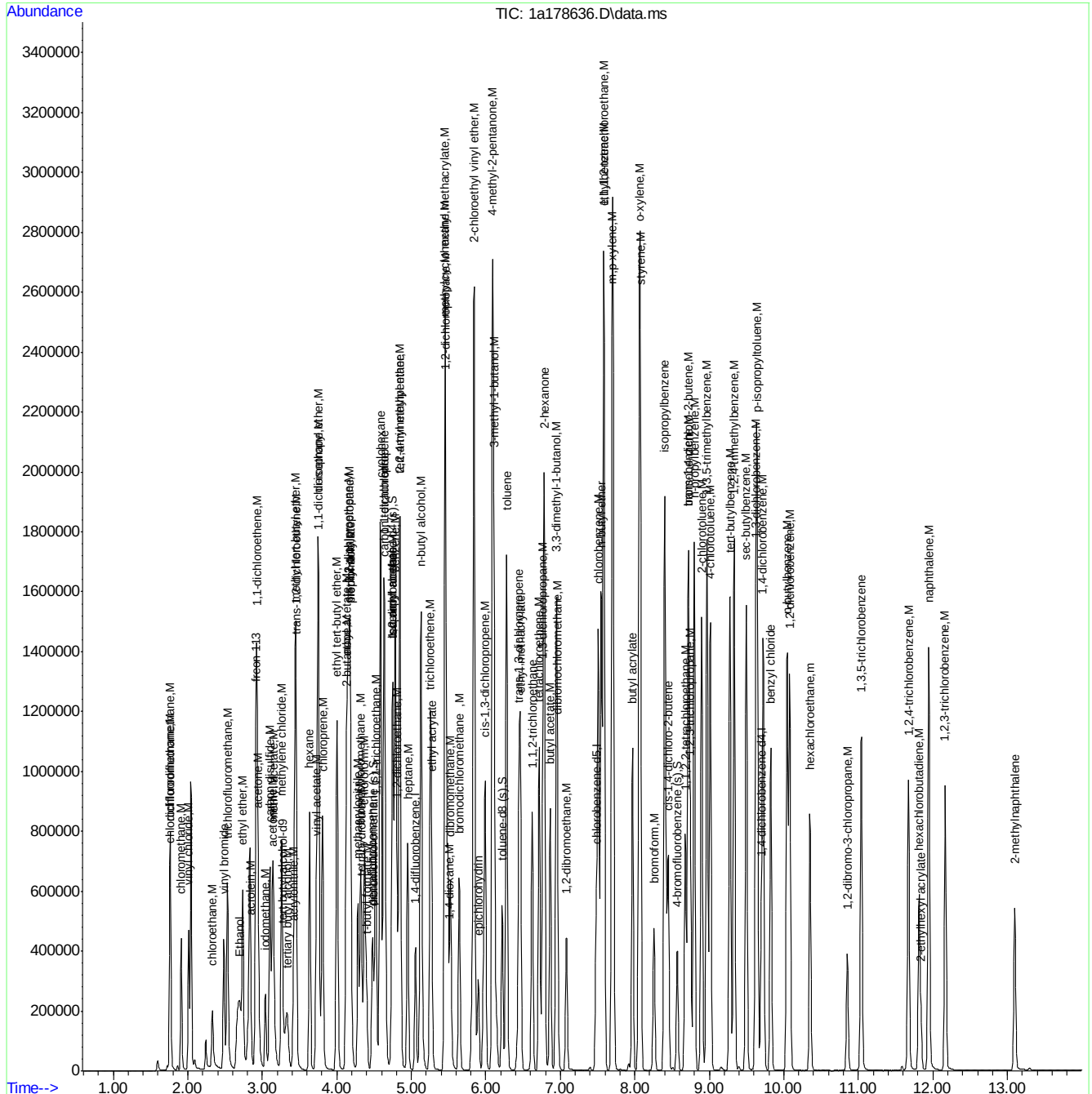
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) bromoform	8.258	173	249751	191.65	ug/L	100
96) butyl acrylate	7.972	55	669700	195.10	ug/L	100
97) isopropylbenzene	8.398	105	1314882	188.26	ug/L	99
98) cis-1,4-dichloro-2-butene	8.447	88	179574	187.80	ug/L	97
101) bromobenzene	8.721	156	369644	194.34	ug/L	99
102) 1,1,2,2-tetrachloroethane	8.678	83	409821	198.91	ug/L	98
103) trans-1,4-dichloro-2-b...	8.721	53	109487	189.49	ug/L	88
104) 1,2,3-trichloropropane	8.745	110	128499	190.81	ug/L	98
105) n-propylbenzene	8.800	91	1478520	194.06	ug/L	99
106) 2-chlorotoluene	8.897	126	333918	194.29	ug/L	100
107) 4-chlorotoluene	9.013	91	923630	191.63	ug/L	96
108) 1,3,5-trimethylbenzene	8.964	105	1036301	190.64	ug/L	99
109) tert-butylbenzene	9.280	134	230601	194.45	ug/L	98
110) 1,2,4-trimethylbenzene	9.335	105	1038986	191.07	ug/L	100
111) sec-butylbenzene	9.493	105	1184381	189.75	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	641721	192.46	ug/L	98
113) p-isopropyltoluene	9.639	119	1018427	189.84	ug/L	99
114) 1,4-dichlorobenzene	9.718	146	649552	191.23	ug/L	99
115) benzyl chloride	9.828	91	830024	194.77	ug/L	99
116) 1,2-dichlorobenzene	10.077	146	620781	195.42	ug/L	100
117) n-butylbenzene	10.041	92	469199	194.97	ug/L	99
118) 1,2-dibromo-3-chloropr...	10.850	75	98568	197.72	ug/L	96
119) 1,3,5-trichlorobenzene	11.045	180	397521	207.41	ug/L	100
120) 2-ethylhexyl acrylate	11.842	70	46559	46.80	ug/L	90
121) 1,2,4-trichlorobenzene	11.677	180	376087	211.98	ug/L	98
122) hexachlorobutadiene	11.817	225	133590	212.33	ug/L	99
123) naphthalene	11.945	128	1268311	203.50	ug/L	100
124) 1,2,3-trichlorobenzene	12.164	180	360193	212.19	ug/L	95
125) hexachloroethane	10.351	201	186855	193.06	ug/L	95
126) 2-methylnaphthalene	13.101	142	324014	110.91	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178636.D
Acq On : 28 Feb 2018 12:28 am
Operator : Gabriela
Sample : ic7600-200
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 02 08:36:56 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Mar 01 16:53:10 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178637.D
 Acq On : 28 Feb 2018 12:53 am
 Operator : Gabriela
 Sample : icv7600-50
 Misc : ms24541,v1a7600,5,,,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 02 08:38:51 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Fri Mar 02 08:37:17 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.240	65	178333	500.00	ug/L	-0.04
5) pentafluorobenzene	4.481	168	222409	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.059	114	316799	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	308711	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	154429	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.487	113	85536	49.32	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	98.64%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	96968	49.83	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	99.66%		
76) toluene-d8 (s)	6.221	98	360287	48.98	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	97.96%		
100) 4-bromofluorobenzene (s)	8.569	95	144118	49.42	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	98.84%		
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	3.300	59	95144	251.71	ug/L	98
3) Ethanol	2.649	45	187012	5199.34	ug/L	99
4) 1,4-dioxane	5.497	88	43541	1330.09	ug/L	89
6) chlorodifluoromethane	1.767	51	82801	42.37	ug/L	98
7) dichlorodifluoromethane	1.755	85	94536	53.20	ug/L	98
9) chloromethane	1.913	50	92859	53.21	ug/L	100
10) vinyl chloride	2.011	62	88279	47.65	ug/L	100
12) bromomethane	2.260	94	49257	49.86	ug/L	97
13) chloroethane	2.351	64	53570	48.96	ug/L	99
14) trichlorofluoromethane	2.546	101	108383	46.68	ug/L	97
15) vinyl bromide	2.503	106	71517	49.48	ug/L	95
16) ethyl ether	2.741	74	49724	51.57	ug/L	99
17) acrolein	2.844	56	23675	54.20	ug/L	93
18) freon 113	2.923	151	59374	52.74	ug/L	95
19) 1,1-dichloroethene	2.929	96	63295	44.29	ug/L	98
20) acetone	2.935	58	59353	243.94	ug/L	98
21) acetonitrile	3.136	41	166480	491.34	ug/L	98
22) iodomethane	3.051	142	75435	48.92	ug/L	98
23) carbon disulfide	3.112	76	200321	46.03	ug/L	100
24) methylene chloride	3.264	84	75280	49.53	ug/L	97
25) methyl acetate	3.148	43	91725	50.40	ug/L	97
26) methyl tert butyl ether	3.440	73	493722	103.65	ug/L	98
27) trans-1,2-dichloroethene	3.459	96	70815	45.68	ug/L	98
28) di-isopropyl ether	3.751	45	260075	50.57	ug/L	98
29) 2-butanone	4.122	72	60829	229.25	ug/L	99
30) 1,1-dichloroethane	3.757	63	132617	48.39	ug/L	99
31) chloroprene	3.811	53	115260	47.80	ug/L	99
32) acrylonitrile	3.416	53	47678	54.04	ug/L	99
33) hexane	3.641	56	38653	38.75	ug/L	97
34) vinyl acetate	3.726	86	18709	58.07	ug/L #	90
35) ethyl tert-butyl ether	4.000	59	256261	51.86	ug/L	98
36) ethyl acetate	4.134	45	18415	51.12	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178637.D
 Acq On : 28 Feb 2018 12:53 am
 Operator : Gabriela
 Sample : icv7600-50
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 02 08:38:51 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Fri Mar 02 08:37:17 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	4.164	77	106591	47.60	ug/L	94
38) cis-1,2-dichloroethene	4.152	96	84277	49.81	ug/L	94
39) methyl acrylate	4.183	85	18258	53.48	ug/L #	73
40) propionitrile	4.170	54	186594	472.46	ug/L	93
41) bromochloromethane	4.322	128	40585	51.44	ug/L	97
42) tetrahydrofuran	4.335	72	17939	52.30	ug/L	97
43) chloroform	4.377	85	82951	48.68	ug/L	99
44) t-butyl formate	4.395	59	49098	72.29	ug/L	95
46) methacrylonitrile	4.286	67	45894	49.45	ug/L	94
47) 1,1,1-trichloroethane	4.523	97	108322	45.97	ug/L	98
48) cyclohexane	4.584	84	108932	46.47	ug/L	98
49) 1,1-dichloropropene	4.633	75	102343	48.29	ug/L	98
51) carbon tetrachloride	4.639	117	97397	47.15	ug/L	98
52) tert amyl alcohol	4.724	55	30523	240.54	ug/L	95
55) n-butyl alcohol	5.107	56	252813	2530.25	ug/L	99
56) 2,2,4-trimethylpentane	4.846	57	190585	48.10	ug/L	100
57) benzene	4.785	78	307306	48.61	ug/L	99
58) tert-amyl methyl ether	4.840	87	59732	52.06	ug/L	97
59) heptane	4.955	71	50175	52.79	ug/L	97
60) isopropyl acetate	4.748	87	25029	53.97	ug/L	94
61) 1,2-dichloroethane	4.803	62	101904	50.73	ug/L	97
62) trichloroethene	5.259	130	84324	48.31	ug/L	97
63) ethyl acrylate	5.271	55	137916	51.83	ug/L	98
65) 2-chloroethyl vinyl ether	5.837	63	321724	261.57	ug/L	99
66) methyl methacrylate	5.454	100	31755	52.18	ug/L #	88
67) 1,2-dichloropropane	5.460	63	76273	48.87	ug/L	100
68) dibromomethane	5.527	93	48877	52.27	ug/L	95
69) methylcyclohexane	5.454	83	109799	44.26	ug/L	98
70) bromodichloromethane	5.643	83	103014	48.85	ug/L	97
71) epichlorohydrin	5.892	57	70771	266.09	ug/L	99
72) cis-1,3-dichloropropene	5.989	75	135361	50.46	ug/L	97
73) 4-methyl-2-pentanone	6.087	58	190412	212.18	ug/L	97
74) 3-methyl-1-butanol	6.099	55	150746	990.96	ug/L	96
77) toluene	6.281	92	197814	48.36	ug/L	99
78) trans-1,3-dichloropropene	6.446	75	120603	48.17	ug/L	100
79) ethyl methacrylate	6.464	69	124616	49.33	ug/L	100
80) 1,1,2-trichloroethane	6.616	83	61482	50.21	ug/L	98
81) tetrachloroethene	6.719	164	102750	70.40	ug/L	98
82) 1,3-dichloropropane	6.768	76	130275	51.52	ug/L	97
83) 2-hexanone	6.780	58	196839	212.09	ug/L	97
84) butyl acetate	6.865	56	77846	53.52	ug/L	94
85) 3,3-dimethyl-1-butanol	6.938	57	155801	507.48	ug/L	98
86) dibromochloromethane	6.957	129	87985	51.79	ug/L	97
87) 1,2-dibromoethane	7.078	107	85692	50.78	ug/L	97
88) n-butyl ether	7.547	57	334498	47.86	ug/L	99
89) chlorobenzene	7.510	112	219421	48.77	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.577	131	80784	49.19	ug/L	97
91) ethylbenzene	7.583	91	365481	47.85	ug/L	99
92) m,p-xylene	7.699	106	289119	96.87	ug/L	99
93) o-xylene	8.064	106	142784	48.77	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178637.D
 Acq On : 28 Feb 2018 12:53 am
 Operator : Gabriela
 Sample : icv7600-50
 Misc : ms24541,v1a7600,5,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 02 08:38:51 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Fri Mar 02 08:37:17 2018
 Response via : Initial Calibration

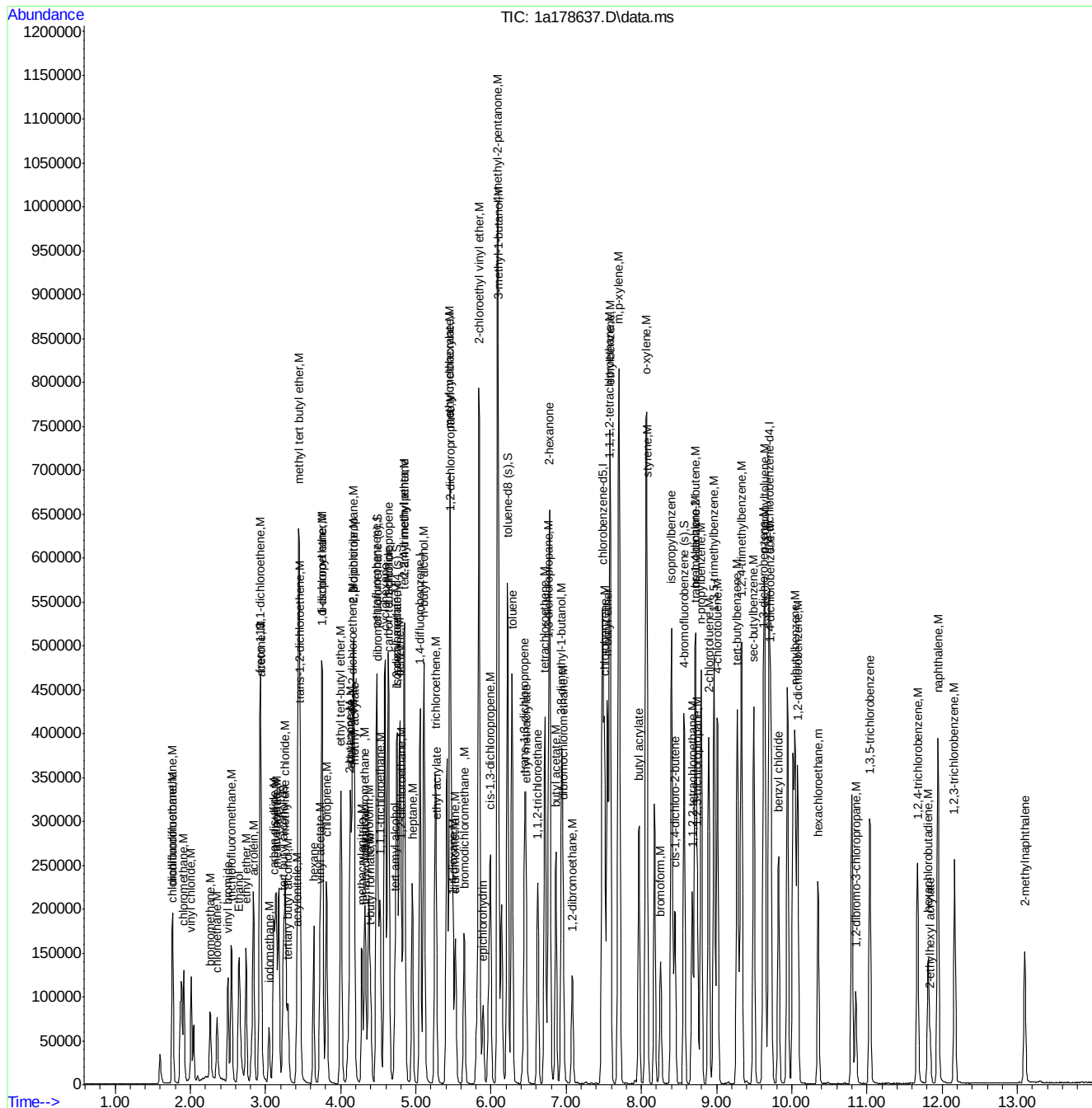
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) styrene	8.076	104	252284	49.71	ug/L	99
95) bromoform	8.252	173	72511	54.82	ug/L	97
96) butyl acrylate	7.973	55	187583	52.50	ug/L	99
97) isopropylbenzene	8.398	105	348769	48.30	ug/L	99
98) cis-1,4-dichloro-2-butene	8.447	88	49728	50.74	ug/L	95
101) bromobenzene	8.721	156	100977	50.08	ug/L	97
102) 1,1,2,2-tetrachloroethane	8.678	83	111574	51.03	ug/L	99
103) trans-1,4-dichloro-2-b...	8.715	53	38009	61.73	ug/L	94
104) 1,2,3-trichloropropane	8.745	110	35801	50.15	ug/L	95
105) n-propylbenzene	8.794	91	395059	48.72	ug/L	99
106) 2-chlorotoluene	8.897	126	87447	48.32	ug/L	94
107) 4-chlorotoluene	9.007	91	259172	51.26	ug/L	98
108) 1,3,5-trimethylbenzene	8.964	105	277296	48.66	ug/L	99
109) tert-butylbenzene	9.274	134	63981	51.67	ug/L	96
110) 1,2,4-trimethylbenzene	9.335	105	287568	50.35	ug/L	99
111) sec-butylbenzene	9.493	105	322335	50.14	ug/L	99
112) 1,3-dichlorobenzene	9.621	146	174492	49.55	ug/L	99
113) p-isopropyltoluene	9.640	119	279038	49.28	ug/L	99
114) 1,4-dichlorobenzene	9.719	146	177199	49.19	ug/L	98
115) benzyl chloride	9.828	91	202703	44.84	ug/L	100
116) 1,2-dichlorobenzene	10.078	146	166431	49.28	ug/L	100
117) n-butylbenzene	10.041	92	129400	52.16	ug/L	97
118) 1,2-dibromo-3-chloropr...	10.850	75	26399	50.29	ug/L	99
119) 1,3,5-trichlorobenzene	11.039	180	105150	52.70	ug/L	98
120) 2-ethylhexyl acrylate	11.842	70	13240	12.11	ug/L	92
121) 1,2,4-trichlorobenzene	11.678	180	97903	52.73	ug/L	97
122) hexachlorobutadiene	11.817	225	32599	48.49	ug/L	98
123) naphthalene	11.945	128	354234	53.20	ug/L	100
124) 1,2,3-trichlorobenzene	12.164	180	96159	54.06	ug/L	94
125) hexachloroethane	10.351	201	49979	50.08	ug/L	94
126) 2-methylnaphthalene	13.101	142	88884	28.71	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178637.D
Acq On : 28 Feb 2018 12:53 am
Operator : Gabriela
Sample : icv7600-50
Misc : ms24541,v1a7600,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 02 08:38:51 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Fri Mar 02 08:37:17 2018
Response via : Initial Calibration



7.6.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
 Data File : 1a178638.D
 Acq On : 28 Feb 2018 1:17 am
 Operator : Gabriela
 Sample : icv7600-50
 Misc : ms24541,v1a7600,5,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 02 08:40:48 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Fri Mar 02 08:37:17 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	170123	500.00	ug/L	-0.04
5) pentafluorobenzene	4.481	168	230425	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.059	114	321908	50.00	ug/L	0.00
75) chlorobenzene-d5	7.486	117	306866	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	152113	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	89161	49.62	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	99.24%		
54) 1,2-dichloroethane-d4 (s)	4.748	65	98594	49.86	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery =	99.72%		
76) toluene-d8 (s)	6.221	98	368186	50.35	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.70%		
100) 4-bromofluorobenzene (s)	8.569	95	143781	50.05	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery =	100.10%		
Target Compounds						
21) acetonitrile	3.136	41	153569	437.47	ug/L	99
81) tetrachloroethene	6.719	164	75034	51.72	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

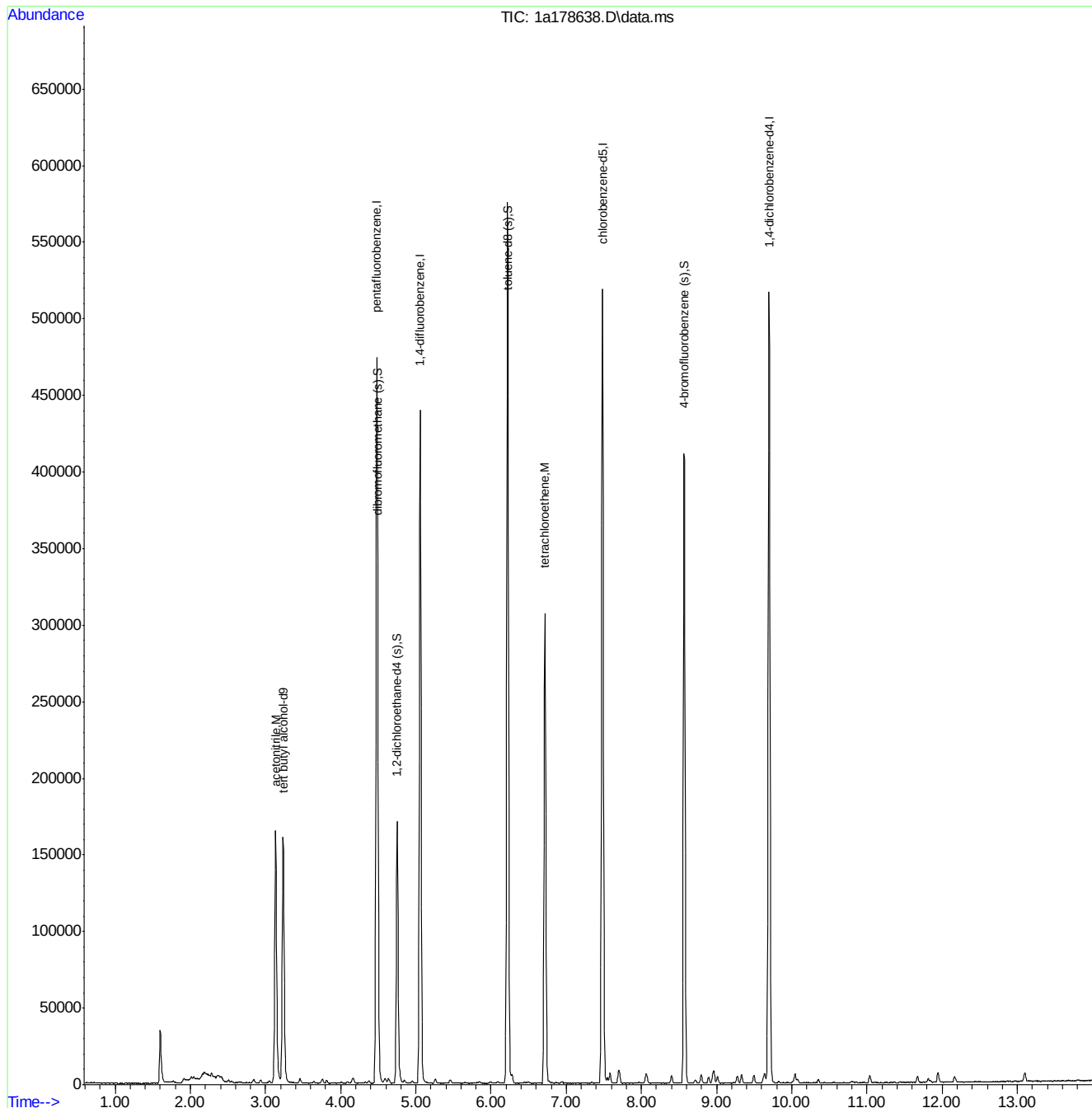
7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7600\
Data File : 1a178638.D
Acq On : 28 Feb 2018 1:17 am
Operator : Gabriela
Sample : icv7600-50
Misc : ms24541,v1a7600,5,,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 02 08:40:48 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Fri Mar 02 08:37:17 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7605\
 Data File : 1a178727.D
 Acq On : 5 Mar 2018 7:06 pm
 Operator : Gabriela
 Sample : ICV7600-50
 Misc : ms24712,v1a7605,5,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 06 14:34:45 2018
 Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 06 14:32:28 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.240	65	166413	500.00	ug/L	-0.04
5) pentafluorobenzene	4.481	168	195987	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.059	114	289391	50.00	ug/L	0.00
75) chlorobenzene-d5	7.480	117	289806	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	9.694	152	147333	50.00	ug/L	0.00
127) chlorobenzene-d5 (a)	7.480	117	289806	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	4.493	113	83273	54.49	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	108.98%
54) 1,2-dichloroethane-d4 (s)	4.748	65	91516	51.48	ug/L	0.00
Spiked Amount	50.000	Range	81 - 124	Recovery	=	102.96%
76) toluene-d8 (s)	6.220	98	337213	48.83	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.66%
100) 4-bromofluorobenzene (s)	8.569	95	136576	49.09	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	98.18%
Target Compounds						
128) cyclohexanone	8.496	55	48532	505.00	ug/L	Qvalue 98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

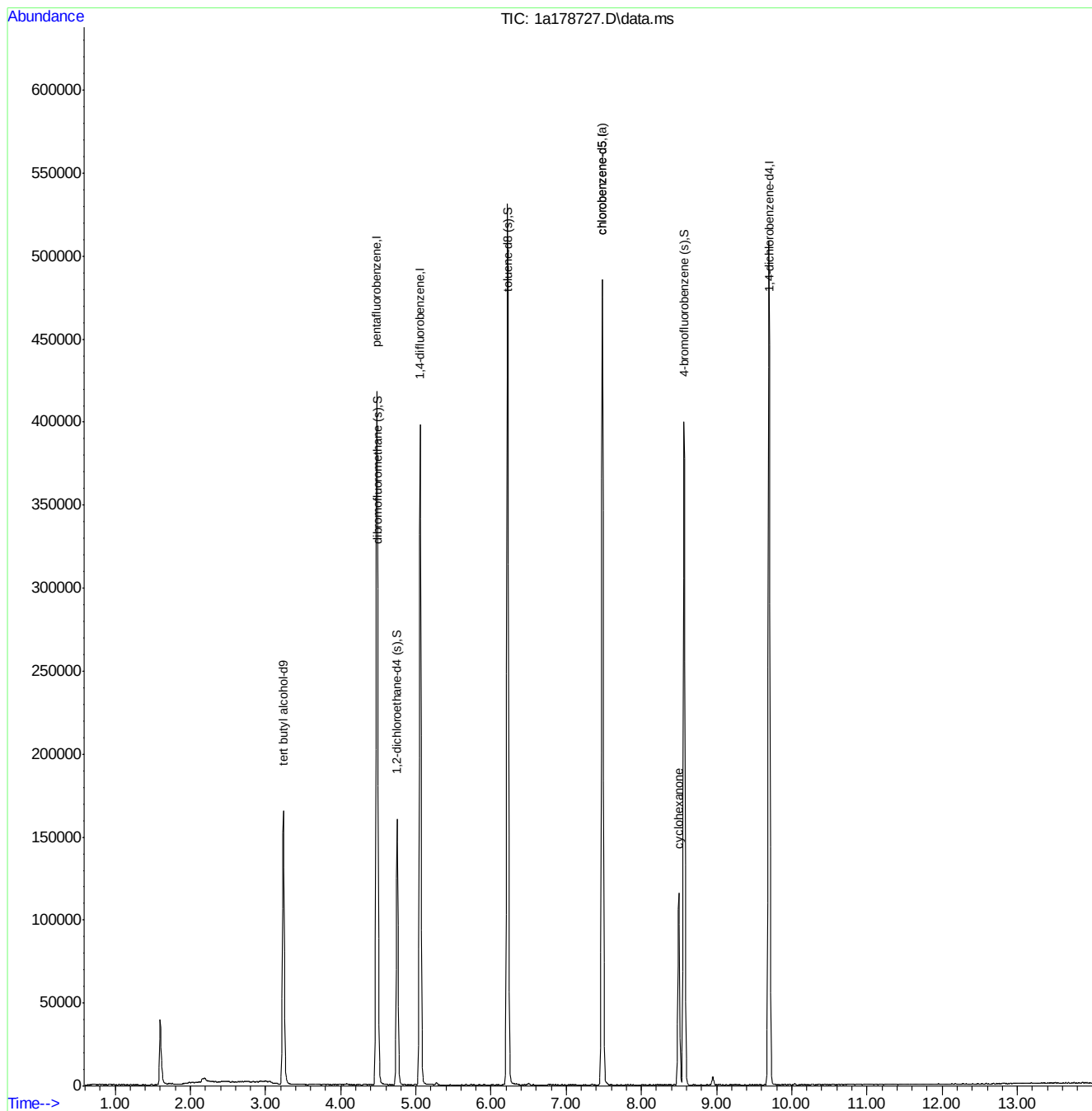
7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1A7605\
Data File : 1a178727.D
Acq On : 5 Mar 2018 7:06 pm
Operator : Gabriela
Sample : ICV7600-50
Misc : ms24712,v1a7605,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 06 14:34:45 2018
Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 06 14:32:28 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180391.d
 Acq On : 21 Apr 2018 10:26 am
 Operator : vidishp
 Sample : cc7600-20
 Misc : ms25737,v1a7678,5,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:33:41 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	3.233	65	164647	500.00	ug/L	-0.04
5) pentafluorobenzene	4.474	168	250422	50.00	ug/L	0.00
53) 1,4-difluorobenzene	5.052	114	343717	50.00	ug/L	0.00
75) chlorobenzene-d5	7.473	117	312448	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	9.682	152	133746	50.00	ug/L	-0.01
127) chlorobenzene-d5 (a)	7.473	117	312448	50.00	ug/L	-0.01

System Monitoring Compounds						
45) dibromofluoromethane (s)	4.486	113	91449	46.83	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	93.66%
54) 1,2-dichloroethane-d4 (s)	4.742	65	102481	48.54	ug/L	0.00
Spiked Amount	50.000	Range	81 - 124	Recovery	=	97.08%
76) toluene-d8 (s)	6.214	98	364720	48.98	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.96%
100) 4-bromofluorobenzene (s)	8.562	95	125977	49.88	ug/L	-0.01
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.76%

Target Compounds					Qvalue
2) tertiary butyl alcohol	3.288	59	36183	103.68	ug/L 97
3) Ethanol	2.637	45	83673	2519.66	ug/L 98
4) 1,4-dioxane	5.490	88	16988	562.09	ug/L 84
6) chlorodifluoromethane	1.767	51	43993	19.99	ug/L 98
7) dichlorodifluoromethane	1.761	85	41483	20.73	ug/L 99
9) chloromethane	1.919	50	40876	20.80	ug/L 98
10) vinyl chloride	2.017	62	43026	20.63	ug/L 99
12) bromomethane	2.278	94	20045	18.02	ug/L 91
13) chloroethane	2.363	64	25656	20.83	ug/L 97
14) trichlorofluoromethane	2.552	101	50728	19.40	ug/L 97
15) vinyl bromide	2.509	106	27714	17.03	ug/L 96
16) ethyl ether	2.740	74	21903	20.17	ug/L 96
17) acrolein	2.844	56	11072	22.51	ug/L 93
18) freon 113	2.917	151	22939	18.10	ug/L 96
19) 1,1-dichloroethene	2.929	96	30247	18.80	ug/L 93
20) acetone	2.935	58	19652	71.73	ug/L # 83
21) acetonitrile	3.130	41	79242	207.71	ug/L 96
22) iodomethane	3.045	142	17798	10.40	ug/L 98
23) carbon disulfide	3.112	76	82637	16.87	ug/L 97
24) methylene chloride	3.264	84	35351	20.66	ug/L 98
25) methyl acetate	3.148	43	44807	21.87	ug/L 98
26) methyl tert butyl ether	3.440	73	104943	19.57	ug/L 99
27) trans-1,2-dichloroethene	3.452	96	34406	19.71	ug/L 96
28) di-isopropyl ether	3.750	45	123037	21.25	ug/L 97
29) 2-butanone	4.121	72	26544	88.85	ug/L # 63
30) 1,1-dichloroethane	3.756	63	64104	20.77	ug/L 99
31) chloroprene	3.805	53	52694	19.41	ug/L 98
32) acrylonitrile	3.410	53	20466	20.60	ug/L 98
33) hexane	3.635	56	21023	18.72	ug/L 98
34) vinyl acetate	3.726	86	7979	22.00	ug/L # 86
35) ethyl tert-butyl ether	4.000	59	108366	19.48	ug/L 97
36) ethyl acetate	4.128	45	8707	21.47	ug/L # 73
37) 2,2-dichloropropane	4.164	77	49239	19.53	ug/L 94
38) cis-1,2-dichloroethene	4.146	96	38862	20.40	ug/L 98
39) methyl acrylate	4.176	85	7637	19.87	ug/L # 92
40) propionitrile	4.164	54	95372	214.47	ug/L 96
41) bromochloromethane	4.316	128	18085	20.36	ug/L 91
42) tetrahydrofuran	4.328	72	7594	19.66	ug/L 98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180391.d
 Acq On : 21 Apr 2018 10:26 am
 Operator : vidishp
 Sample : cc7600-20 Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:33:41 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) chloroform	4.371	85	38652	20.15	ug/L	99
44) t-butyl formate	4.395	59	34733	45.42	ug/L	85
46) methacrylonitrile	4.280	67	19873	19.02	ug/L	93
47) 1,1,1-trichloroethane	4.523	97	50310	18.96	ug/L	97
48) cyclohexane	4.584	84	46646	17.67	ug/L #	64
49) 1,1-dichloropropene	4.626	75	46447	19.46	ug/L	99
51) carbon tetrachloride	4.639	117	43002	18.49	ug/L	95
52) tert amyl alcohol	4.718	55	14327	100.28	ug/L #	77
55) n-butyl alcohol	5.101	56	102134	942.15	ug/L	98
56) 2,2,4-trimethylpentane	4.839	57	93986	21.86	ug/L	98
57) benzene	4.778	78	142263	20.74	ug/L	99
58) tert-amyl methyl ether	4.839	87	24009	19.28	ug/L	94
59) heptane	4.949	71	21389	20.74	ug/L	95
60) isopropyl acetate	4.742	87	10158	20.19	ug/L #	69
61) 1,2-dichloroethane	4.803	62	46455	21.32	ug/L	99
62) trichloroethene	5.253	130	36795	19.43	ug/L	97
63) ethyl acrylate	5.259	55	60608	20.99	ug/L	96
65) 2-chloroethyl vinyl ether	5.831	63	145119	108.75	ug/L	97
66) methyl methacrylate	5.448	100	13115	19.86	ug/L #	87
67) 1,2-dichloropropane	5.448	63	35731	21.10	ug/L	98
68) dibromomethane	5.521	93	21096	20.79	ug/L	92
69) methylcyclohexane	5.448	83	49367	18.34	ug/L	97
70) bromodichloromethane	5.636	83	47658	20.83	ug/L	100
71) epichlorohydrin	5.886	57	29697	102.91	ug/L	100
72) cis-1,3-dichloropropene	5.983	75	57227	19.66	ug/L	99
73) 4-methyl-2-pentanone	6.080	58	85011	87.31	ug/L	96
74) 3-methyl-1-butanol	6.086	55	61169	370.62	ug/L	96
77) toluene	6.269	92	87084	21.03	ug/L	96
78) trans-1,3-dichloropropene	6.439	75	51933	20.49	ug/L	100
79) ethyl methacrylate	6.451	69	53422	20.89	ug/L	94
80) 1,1,2-trichloroethane	6.610	83	27339	22.06	ug/L	95
81) tetrachloroethene	6.713	164	29588	20.03	ug/L	96
82) 1,3-dichloropropane	6.762	76	56433	22.05	ug/L	93
83) 2-hexanone	6.774	58	87929	93.61	ug/L	97
84) butyl acetate	6.859	56	32460	22.05	ug/L	91
86) dibromochloromethane	6.950	129	35719	20.77	ug/L	97
87) 1,2-dibromoethane	7.072	107	36741	21.51	ug/L	100
88) n-butyl ether	7.540	57	142034	20.08	ug/L	96
89) chlorobenzene	7.504	112	93124	20.45	ug/L	99
90) 1,1,1,2-tetrachloroethane	7.571	131	34762	20.91	ug/L	96
91) ethylbenzene	7.577	91	151836	19.64	ug/L	99
92) m,p-xylene	7.692	106	117803	39.00	ug/L	98
93) o-xylene	8.051	106	56849	19.19	ug/L	97
94) styrene	8.064	104	101688	19.80	ug/L	95
95) bromoform	8.246	173	27658	20.66	ug/L	99
96) butyl acrylate	7.960	55	76646	21.19	ug/L	98
97) isopropylbenzene	8.392	105	131567	18.00	ug/L	99
98) cis-1,4-dichloro-2-butene	8.435	88	10826	10.91	ug/L	94
101) bromobenzene	8.708	156	40006	22.91	ug/L	97
102) 1,1,2,2-tetrachloroethane	8.666	83	49935	26.37	ug/L	100
103) trans-1,4-dichloro-2-b...	8.702	53	8490	15.92	ug/L	93
104) 1,2,3-trichloropropane	8.733	110	15407	24.92	ug/L	90
105) n-propylbenzene	8.788	91	148199	21.10	ug/L	99
106) 2-chlorotoluene	8.885	126	32523	20.75	ug/L	98
107) 4-chlorotoluene	9.000	91	94431	21.57	ug/L	99
108) 1,3,5-trimethylbenzene	8.958	105	96897	19.63	ug/L	100
109) tert-butylbenzene	9.268	134	21127	19.70	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
 Data File : 1a180391.d
 Acq On : 21 Apr 2018 10:26 am
 Operator : vidishp
 Sample : cc7600-20 Inst : MS1A
 Misc : ms25737,v1a7678,5,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
 Quant Results File: M1A7600.RES
 Quant Time: Apr 23 21:33:41 2018
 Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
 QLast Update : Tue Mar 13 14:21:18 2018
 Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
110)	1,2,4-trimethylbenzene	9.323	105	96034	19.41	ug/L	96
111)	sec-butylbenzene	9.487	105	112217	20.15	ug/L	98
112)	1,3-dichlorobenzene	9.615	146	62130	20.37	ug/L	98
113)	p-isopropyltoluene	9.627	119	90777	18.51	ug/L	98
114)	1,4-dichlorobenzene	9.712	146	63181	20.25	ug/L	95
115)	benzyl chloride	9.816	91	89328	22.82	ug/L	97
116)	1,2-dichlorobenzene	10.065	146	60476	20.68	ug/L	97
117)	n-butylbenzene	10.029	92	40748	18.97	ug/L	97
118)	1,2-dibromo-3-chloropr...	10.832	75	10171	22.37	ug/L	82
119)	1,3,5-trichlorobenzene	11.026	180	37345	21.61	ug/L	98
120)	2-ethylhexyl acrylate	11.823	70	2951	3.12	ug/L	95
121)	1,2,4-trichlorobenzene	11.659	180	34070	21.19	ug/L	98
122)	hexachlorobutadiene	11.805	225	13677	23.49	ug/L	94
123)	naphthalene	11.933	128	115379	20.01	ug/L	99
124)	1,2,3-trichlorobenzene	12.152	180	32678	21.21	ug/L	96
125)	hexachloroethane	10.339	201	15368	17.78	ug/L	93
126)	2-methylnaphthalene	13.083	142	23316	8.70	ug/L	98

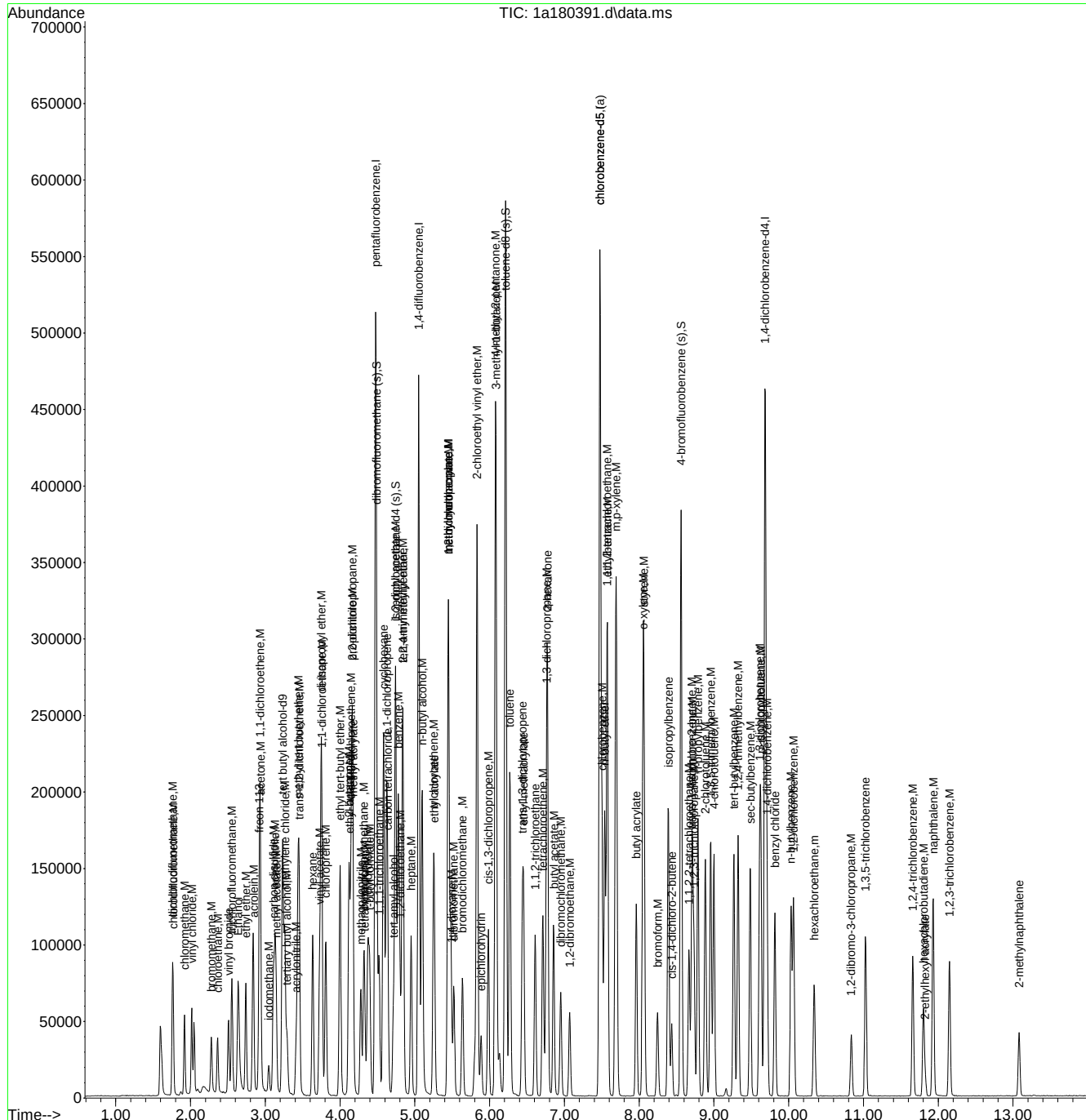
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\04-24-18\v1a7678\
Data File : 1a180391.d
Acq On : 21 Apr 2018 10:26 am
Operator : vidishp
Sample : cc7600-20
Misc : ms25737,v1a7678,5,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Inst : MS1A

Quant Method : C:\MSDCHEM\1\METHODS\M1A7600.M
Quant Results File: M1A7600.RES
Quant Time: Apr 23 21:33:41 2018
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Tue Mar 13 14:21:18 2018
Response via : Initial Calibration



GC/MS Volatile Run Log

Standard / Reagents		Lot #		Column	
Standard	ABK V018-2615-54.29	C V018-2615-61.3.	E V018-2615-36.49	Method	Rx624(60mx0.25mmx1.4 um)
Standard Concentration	100-10000ppm	100ppm	100ppm	Init Calib Date	V8260C 2/27/2018
Internal Surrogate	V017-2615-19				
Internal Surrogate Concentration	250/2500ppm				
Standards	Ext ABK v018-2615-30.4	EXT C v018-2615-62.3	Ext E v018-2615-25.5	Analysis Date	2/27/2018
Standard Concentration	100-10000ppm	100ppm	100ppm	Sequence loaded by	AUSTIN PARK
				Data processed by	Mel
				Batch ID	V1A7600
				Matrix	AQ
Initial Calibration Method	M1A7600			Approved By:	BRIDGETK
pH paper	216315			Approved Date:	3/12/2018 2:54:16 PM

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 178625	BFB		NA		ICC8260	5			1	ok	
1A 178626	IC7600-0.2		NA		ICC8260	5			2	ok	0.2uL ABK,C,E/500mL DI H2O
1A 178627	IC7600-0.2		NA			5			3	ok	
1A 178628	IC7600-0.5		NA		ICC8260	5			4	ok	0.5uL ABK,C,E/200mL DI H2O
1A 178629	IC7600-1		NA		ICC8260	5			5	ok	1uL ABK,C,E/100mL DI H2O
1A 178630	IC7600-2		NA		ICC8260	5			6	ok	2uL ABK,C,E/100mL DI H2O
1A 178631	IC7600-5		NA		ICC8260	5			7	ok	5uL ABK,C,E/100mL DI H2O
1A 178632	IC7600-10		NA		ICC8260	5			8	ok	10uL ABK,C,E/100mL DI H2O
1A 178633	IC7600-20		NA		ICC8260	5			9	ok	20uL ABK,C,E/100mL DI H2O
1A 178634	ICC7600-50		NA		ICC8260	5			10	ok	50uL ABK,C,E/100mL DI H2O
1A 178635	IC7600-100		NA		ICC8260	5			11	ok	100uL ABK,C,E/100mL DI H2O
1A 178636	IC7600-200		NA		ICC8260	5			12	ok	200uL ABK,C,E/100mL DI H2O

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 178637	ICV7600-50		NA		ICV8260	5			13	ok	50uL EXT(ABK,C,E)/100mL DI H2O
1A 178638	ICV7600-50		NA		ICV8260	5			14	ok	50uL EXT P.A./100mL DI H2O

Standard / Reagents		Lot #		Column
Standard	Cyclohexanone V018-2615-70.4	Ext Cyclohexanone V018-2615-70.4		Rxi624SilMS(30mx0.25mmx1.4um
Standard Concentration	1000ppm	100ppm		Method V8260C
Internal Surrogate	V018-2615-59			Init Calib Date 2/27/2018
Internal Surrogate Concentration	50/500 ppm			
				Analysis Date 3/5/2018
				Sequence loaded by Robert Szot
				Data processed by RobertS
				Batch ID V1A7605
				Matrix AQ
Initial Calibration Method	M1A7600			Approved By: BRIDGETK
pH Lot	216315			Approved Date: 3/12/2018 2:55:40 PM

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 178714	BFB		NA			5			1	ok	
1A 178715	IC7600-0.2		NA		8260 IC	5			2	ok	0.4 uL cyclohexanone / 200 mL DI H2O
1A 178716	IC7600-0.5		NA		8260 IC	5			3	ok	1 uL cyclohexanone / 200 mL DI H2O
1A 178717	IC7600-1		NA		8260 IC	5			4	ok	2 uL cyclohexanone / 200 mL DI H2O
1A 178718	IC7600-2		NA		8260 IC	5			5	ok	4 uL cyclohexanone / 200 mL DI H2O
1A 178719	IC7600-5		NA		8260 IC	5			6	ok	5 uL cyclohexanone / 100 mL DI H2O
1A 178720	IC7600-10		NA		8260 IC	5			7	ok	5 uL cyclohexanone / 50 mL DI H2O
1A 178721	IC7600-20		NA		8260 IC	5			8	ok	10 uL cyclohexanone / 50 mL DI H2O
1A 178722	IC7600-50		NA		8260 IC	5			9	ok	25 uL cyclohexanone / 50 mL DI H2O
1A 178723	IC7600-100		NA		8260 IC	5			10	ok	50 uL cyclohexanone / 50 mL DI H2O
1A 178724	IC7600-200		NA		8260 IC	5			11	ok	100 uL cyclohexanone / 50 mL DI H2O
1A 178725	IB		NA			5			12	ok	

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 178726	IB		NA			5			13	ok	
1A 178727	ICV7600-50		NA		8260 IC	5			14	ok	25 uL Ext cyclohexanone / 50 mL DI H2O
1A 178728	IB		NA			5			15	ok	

GCMS Volatile Run Log

Standard / Reagents		Lot #			Column	
Standard		ABK: V018-2615-120.4	C: V018-2615-131.8	E: V018-2615-121.35	Method	Rxi-624 (60mx0.25mmx1.4um)
Concentration		100-10000ppm	100ppm	100ppm	Init Calib Date	V8260C 2/28/18
Internal Standard/Surrogate		V018-2615-130				
Concentration		50/500ppm			Rough reviewed by	Eddie Huang (4/23/18)
					Analysis Date	4/21/2018
					Sequence loaded by	Payal Rana
					Data processed by	janellec
					Batch ID	V1A7678
					Matrix	AQ
Initial Calibration Method		M1A7600			Approved By:	JESSICA
pH paper Lot #		216315			Approved Date:	4/24/2018 5:39:43 PM

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 180390	IB		NA			5			1	ok	
1A 180391	BFB/CC7600-20		NA			5			2	ok/ok	20uL ABK,C,E/100mL DI H2O. 10:26AM, 4/21/18. (#102, 104 high).
1A 180392	BS		NA			5			3	ok	50uL ABK,C,E/100mL DI H2O. 102, 104 high.
1A 180393	IB		NA			5			4	ok	
1A 180394	MB		NA			5			5	ok	
1A 180395	JC64558-4	3	NA	MS25751	V8260TCL42,NAP	5		1	6	ok	
1A 180396	JC64558-3	2	NA	MS25751	V8260TCL42,NAP	5		1	7	ok	
1A 180397	JC64558-1	2	NA	MS25751	V8260TCL42,NAP	5		1	8	ok	
1A 180398	JC64558-2	1	NA	MS25751	V8260TCL42,NAP	5		1	9	ok	
1A 180399	JC64547-6	1	NA	MS25751	V8260TCL11	5		1	10	ok	
1A 180400	JC64547-7	1	NA	MS25751	V8260TCL11	5		1	11	ok	

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	CL	pH	ALS #	Status	Comments
1A 180401	JC64547-8	1	NA	MS25751	V8260TCL11	5		1	12	ok	
1A 180402	JC64558-4MS	4	NA	MS25751	V8260TCL42,NAP	5		1	13	ok	20uL ABK,C,E/100mL Sample.
1A 180403	JC64558-4MSD	5	NA	MS25751	V8260TCL42,NAP	5		1	14	ok	20uL ABK,C,E/100mL Sample.
1A 180404	IB		NA			5			15	ok	
1A 180405	JC64553-4	1	NA	MS25751	V8260PCE,TCE	5		1	16	ok	
1A 180406	JC64553-5	1	NA	MS25751	V8260PCE,TCE	5		1	17	ok	
1A 180407	JC64558-5	2	NA	MS25751	V8260TCL42,NAP	5		1	18	ok	
1A 180408	JC64609-1	22	NA	MS25789	V8260TCL20+	5		1	19	ok	
1A 180409	JC64619-2	1	NA	MS25789	V8260NJTCL20+	5		1	20	ok	
1A 180410	JC64619-1	1	NA	MS25789	V8260NJTCL20+	5		1	21	ok	
1A 180411	JC64547-1	1	2X	MS25751	V8260TCL11	25/50		1	22	ok	
1A 180412	JC64547-2	2	5X	MS25751	V8260TCL11	10/50		1	23	ok/RR	O/D RR 1X + combine.
1A 180413	JC64547-5	2	50X	MS25751	V8260TCL11	1/50		1	24	ok/RR	O/D RR 10X + combine.
1A 180414	JC64547-3	1	200X	MS25751	V8260TCL11	0.25/50		1	25	ok/RR	O/D RR 50X + combine.
1A 180415	JC64547-4	1	1000X	MS25751	V8260TCL11	0.05/50		1	26	ok/RR	O/D RR 200X + combine. 8:53pm, 4/21/18.

APPENDIX

D

DATA VALIDATION REPORT



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

WSP Group
5 Sullivan Street,
Cazenovia, NY 13035
ATTN: Mr. Erik S. Reinert

July 27, 2018

SUBJECT: Former General Instrument Site, Sherburne, NY, Data Validation

Dear Mr. Reinert,

Enclosed is the final validation report for the fraction listed below. This SDG was received on July 5, 2018. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #42571:

<u>SDG #</u>	<u>Fraction</u>
JC64558	Volatiles

The data validation was performed under Category B guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Region 2 Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry, SOP HW-24, Revision 4 , October 2014
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA 540-R-2017-002, January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink
Project Manager/Senior Chemist

Shaded cells indicate Category B validation (all other cells are Category A validation). These sample counts do not include MS/MSD, WSP, or P. General Instrument Sherburne\42571ST.wpd

Site: Former General Instrument Site, Sherburne, NY
Laboratory: SGS North America, Inc.
Report No.: JC64558
Reviewer: Pei Geng and Christina Rink/Laboratory Data Consultants for WSP Group
- Cazenovia, NY
Date: July 25, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
P-8	JC64558-1	VOC
MW-0418	JC64558-2	VOC
MW-17	JC64558-3	VOC
MW-31	JC64558-4	VOC
TRIP BLANK	JC64558-5	VOC
MW-31MS	JC64558-4MS	VOC
MW-31MSD	JC64558-4MSD	VOC

Associated QC Samples(s):

Field/Trip Blanks: TRIP BLANK
Field Duplicate pair: P-8 and MW-0418

The above-listed water samples were collected on April 17, 2018 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C. The data validation was performed in accordance with the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry*, SOP HW-24, Revision 4 (October 2014) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

Initial Calibration:

All criteria were met.

Continuing Calibration:

Compounds that did not meet criteria are summarized in the following table.

Date	Instrument ID	Compound	CC %D	Associated Samples		Validation Action
04/21/18	1A180391	1,1,2,2-Tetrachloroethane	31.8	P-8 MW-0418 MW-17 MW-31 TRIP BLANK	XX	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.

SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.

+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,1,2,2-tetrachloroethane results were estimated due to continuing calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Blanks

Contamination was not detected in the method blanks.

No positive results were found in the trip blank sample TRIP BLANK for VOC analysis.

Surrogate Recoveries

All criteria were met.

MS/MSD Results

MS/MSD analyses were performed on sample MW-31 for VOC analysis. The following table lists the compounds recovered outside of control limits in the MS/MSD analyses and the resulting actions.

Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Affected Sample	Validation Action
1,1,2,2-Tetrachloroethane	128 (71-122)	140 (71-122)	-	MW-31	None
Bromomethane	-	-	32 (≤14)	MW-31	None

- Within control limits

Validation action was not required for 1,1,2,2-tetrachloroethane and bromomethane due to high MS/MSD percent recovery or relative percent difference exceedance as positive results only are affected and these compounds were not detected in the associated sample.

LCS Results

The following table lists the compounds recovered outside of control limits in the SVOC analyses and the resulting validation actions.

LCS ID	Compound	LCS %R (Limits)	Affected Sample	Validation Action
V1A7678-BS	1,1,2,2-Tetrachloroethane	134 (76-119)	P-8 MW-0418 MW-17 MW-31 TRIP BLANK	None

Validation action was not required for 1,1,2,2-tetrachloroethane due to high LCS percent recovery as positive results only are affected and this compound was not detected in the associated samples.

Internal Standards

All criteria were met.

Field Duplicate Results

Samples P-8 and MW-0418 were submitted as the field duplicate pair with this sample group. The following table summarizes the concentrations and validation actions taken.

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Validation Actions
	P-8	MW-0418			
Acetone	16.1	15.7	3 (≤ 50)		-
Benzene	0.26	0.25	-	0.01 (≤ 0.5)	-
cis-1,2-Dichloroethene	98.4	98.3	0 (≤ 50)	-	-
trans-1,2-Dichloroethene	0.70	0.67	-	0.03 (≤ 1.0)	-
Toluene	0.28	0.28	-	0 (≤ 1.0)	-
Trichloroethene	3.3	3.4	-	0.1 (≤ 1.0)	-
Vinyl chloride	75.1	75.0	0 (≤ 50)	-	-

- =no action required

For water results > 5xRL and RPDs >50; estimate (J) results in the field duplicate pair.

For water results < 5xRL; the sample and duplicate results must be within 1XRL.

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analysis. These results were qualified as estimated (J) by the laboratory.

Dilutions were not required for VOC analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- JN - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 42571A1

VALIDATION COMPLETENESS WORKSHEET

SDG #: JC64558

Category B

Laboratory: SGS North America, Inc.

Date: 4/18/18

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSO ≤ 20%, Y ² CV ≤ 30%
IV.	Continuing calibration	W	CV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=5
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	W	
IX.	Laboratory control samples	W	LCs
X.	Field duplicates	W	D=1+2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	P-8	JC64558-1	Water	04/17/18
2	MW-0418	JC64558-2	Water	04/17/18
3	MW-17	JC64558-3	Water	04/17/18
4	MW-31	JC64558-4	Water	04/17/18
5	TRIP BLANK	JC64558-5	Water	04/17/18
6	MW-31MS	JC64558-4MS	Water	04/17/18
7	MW-31MSD	JC64558-4MSD	Water	04/17/18
8				
9				

Notes:

VIA 7678-MB					

LDC #: 42571A-1

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: Q
2nd Reviewer: Q

Method: Volatiles (EPA SW 846 Method 8260C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	☒	☐	☐	
Was cooler temperature criteria met?	☒	☐	☐	
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	☒	☐	☐	
Were all samples analyzed within the 12 hour clock criteria?	☒	☐	☐	
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	☒	☐	☐	
Were all percent relative standard deviations (%RSD) $\leq$ 20% and relative response factors (RRF) within method criteria?	☒	☐	☐	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of $\geq$ 0.990?	☒	☐	☐	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	☒	☐	☐	
Were all percent differences (%D) $\leq$ 30% or percent recoveries (%R) 70-130%?	☒	☒	☐	
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	☒	☐	☐	
Were all percent differences (%D) $\leq$ 20% and relative response factors (RRF) within method criteria?	☐	☒	☐	
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	☒	☐	☐	
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	☒	☐	☐	
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.	☐	☒	☐	
VI. Field blanks				
Were field blanks were identified in this SDG?	☒	☐	☐	
Were target compounds detected in the field blanks?	☐	☒	☐	
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	☒	☐	☐	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	☐	☐	☒	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	☒	☐	☐	
Was a MS/MSD analyzed every 20 samples of each matrix?	☒	☐	☐	

LDC #: 42571A/

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: 9
2nd Reviewer: [Signature]

Validation Area	Yes	No	NA	Findings/Comments
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		☒		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	☒			
Was an LCS analyzed per analytical batch?	☒			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		☒		
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	☒			
Were target compounds detected in the field duplicates?	☒			
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	☒			
Were retention times within + 30 seconds of the associated calibration standard?	☒			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	☒			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	☒			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	☒			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	☒			
Were chromatogram peaks verified and accounted for?	☒			
XIV. System performance				
System performance was found to be acceptable.	☒			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	☒			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO. 1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 40571A1

VALIDATION FINDINGS WORKSHEET

Continuing Calibration

Page: 1 of 1

Reviewer: 

2nd Reviewer: 

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y	N	N/A	Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y (N) N/A Were all %D and RRFs within the validation criteria of $\leq 20\%$ %D and ≥ 0.05 RRF ?

[illegible]

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Was a MS/MSD analyzed every 20 samples of each matrix?

Y(N)N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

[illegible]

LDC #: 42571A1

VALIDATION FINDINGS WORKSHEET

Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: a
2nd Reviewer: C

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

$\begin{array}{cc} \text{Y} & \text{N} \\ \hline \text{Y} & \text{N} \end{array}$

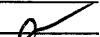
Was a LCS required?

Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

[illegible]

Field Duplicates

Reviewer: PG

2nd Reviewer: **METHOD:** GCMS VOA (EPA SW 846 Method 8260C)Y N NA

Were field duplicate pairs identified in this SDG?

Y N NA

Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤50%)	Difference (ug/L)	Limits (≤LOQ)	Qualifications (Parent Only)
	1	2				
F	16.1	15.7	3	0.4	≤10	
V	0.26	0.25		0.01	≤0.5	
QQQ	98.4	98.3	0			
PPP	0.70	0.67		0.03	≤1.0	
CC	0.28	0.28		0	≤1.0	
S	3.3	3.4		0.1	≤1.0	
C	75.1	75.0	0			

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2018\42571A1 WSP.wpd

VALIDATION FINDINGS WORKSHEET **Initial Calibration Calculation Verification**

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs

X = Mean of the RRFs

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (10 std)	RRF (10 std)	Average RRF (initial)	Average RRF (initial)	%RSD	%RSD
1	10A2	2/27/18	AAA (1st internal standard)	0.385	0.385	0.380	0.380	3.01	3.00
			S (2nd internal standard)	0.276	0.276	0.275	0.275	4.56	4.56
			AA (3rd internal standard)	0.235	0.235	0.236	0.236	3.55	3.55
			HHH (4th internal standard)	1.151	1.151	1.166	1.166	5.70	5.70
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

VALIDATION FINDINGS WORKSHEET **Continuing Calibration Results Verification**

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

A_x = Area of compound,

C_x = Concentration of compound,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	1A18039	4/21/18	QQR (1st internal standard)	0.380	0.388	0.388	2.1	2.1
			S (2nd internal standard)	0.275	0.268	0.268	2.5	2.7
			AA (3rd internal standard)	0.236	0.237	0.237	0.4	0.3
			HHH (4th internal standard)	1.166	1.181	1.181	1.3	1.3
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 10571A

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: Q
2nd Reviewer: C

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SSC - SC) / SA$

Where: SSC = Spiked sample concentration
SA = Spike added

SC = Sample concentration

RPD = $|MSC - MSC| * 2 / (MSC + MSDC)$

MSC = Matrix spike concentration

MSDC = Matrix spike duplicate concentration

MS/MSD sample: 6/7

Compound	Spike Added (100)		Sample Concentration (100)	Spiked Sample Concentration (100)		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
						Percent Recovery		Percent Recovery		RPD	
	MS	MSD			MS	MSD	Reported	Recalc	Reported	Recalc	Reported
1,1-Dichloroethene	50	50	ND	50.7	50.3	101	101	101	101	1	1
Trichloroethene	↓	↓	1.4	52.0	53.5	101	101	104	104	3	3
Benzene	↓	↓	ND	52.5	53.6	105	105	107	107	2	2
Toluene	↓	↓	↓	53.0	53.3	106	106	111	111	4	4
Chlorobenzene	↓	↓	↓	51.5	54.0	103	103	108	108	5	5

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 1257A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: Q
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = $|LCSC - LCSDC| * 2 / (LCSC + LCSDC)$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: VIA 7678-B5

Compound	Spike Added (<u>NA</u>)		Spiked Sample Concentration (<u>NA</u>)		LCS		LCSD		LCS/LCSD	
					Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	<u>50</u>	<u>NA</u>	<u>47.5</u>	<u>NA</u>	<u>95</u>	<u>95</u>				
Trichloroethene	<u>↓</u>	<u>↓</u>	<u>49.4</u>	<u>↓</u>	<u>99</u>	<u>99</u>				
Benzene	<u>↓</u>	<u>↓</u>	<u>52.5</u>	<u>↓</u>	<u>105</u>	<u>105</u>				
Toluene	<u>↓</u>	<u>↓</u>	<u>52.7</u>	<u>↓</u>	<u>105</u>	<u>105</u>				
Chlorobenzene	<u>↓</u>	<u>↓</u>	<u>52.2</u>	<u>↓</u>	<u>104</u>	<u>104</u>				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y	N	N/A
Y	N	N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_v)(I_s)(DF)}{(A_s)(RRF)(V_o)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 1, 222:

$$\text{Conc.} = \frac{(184/113)(50.00)(1)}{(2459/15)(0.380)(1)(1)} = 98.5 \text{ } \mu\text{L}$$
[illegible]

Former General Instrument - LDC# 42571

SDG: JC64558

Analytical Method SW8260

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2-Dichloropropane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Bromomethane	4/21/2018		Y	N	U		U	2	1.4	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Chloromethane	4/21/2018		Y	N	U		U	1	0.53	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Chloroethane	4/21/2018		Y	N	U		U	1	0.59	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Vinyl chloride	4/21/2018	75	Y	Y				1	0.62	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Methylene chloride	4/21/2018		Y	N	U		U	2	1.0	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Carbon disulfide	4/21/2018		Y	N	U		U	2	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Bromoform	4/21/2018		Y	N	U		U	1	0.42	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Bromodichloromethane	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,1-Dichloroethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,1,1-Trichloroethane	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Dichlorodifluoromethane	4/21/2018		Y	N	U		U	2	1.9	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Trichlorofluoromethane	4/21/2018		Y	N	U		U	2	0.60	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	2-Butanone (MEK)	4/21/2018		Y	N	U		U	10	4.8	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,1,2-Trichloroethane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Trichloroethene	4/21/2018	3.4	Y	Y				1	0.27	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Methyl Acetate	4/21/2018		Y	N	U		U	5	3.1	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,1,2,2-Tetrachloroethane	4/21/2018		Y	N	U	UJ	UJ	1	0.17	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Naphthalene	4/21/2018		Y	N	U		U	5	1.1	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2-Dibromo-3-chloropropane	4/21/2018		Y	N	U		U	2	0.69	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Isopropylbenzene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Ethylbenzene	4/21/2018		Y	N	U		U	1	0.22	ug/l

Analytical Method		SW8260										
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-0418-ACTD-JC64558AQ	JC64558-2	1,1-Dichloroethene	4/21/2018		Y	N	U		U	1	0.47	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Toluene	4/21/2018	0.28	Y	Y	J		J	1	0.25	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Styrene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Freon 113	4/21/2018		Y	N	U		U	5	1.2	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Benzene	4/21/2018	0.25	Y	Y	J		J	0.5	0.17	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	trans-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,4-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2-Dibromoethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2-Dichloroethane	4/21/2018		Y	N	U		U	1	0.20	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Methylcyclohexane	4/21/2018		Y	N	U		U	5	1.8	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	cis-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Chlorobenzene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Cyclohexane	4/21/2018		Y	N	U		U	5	0.63	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,2,4-Trichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Carbon tetrachloride	4/21/2018		Y	N	U		U	1	0.34	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Chloroform	4/21/2018		Y	N	U		U	1	0.29	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Acetone	4/21/2018	15.7	Y	Y				10	5.0	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	4-Methyl-2-pentanone(MIBK)	4/21/2018		Y	N	U		U	5	3.0	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	2-Hexanone	4/21/2018		Y	N	U		U	5	3.3	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	1,3-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Methyl Tert Butyl Ether	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	cis-1,2-Dichloroethene	4/21/2018	98.3	Y	Y				1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Xylene (total)	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Tetrachloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-0418-ACTD-JC64558AQ	JC64558-2	Dibromochloromethane	4/21/2018		Y	N	U		U	1	0.16	ug/l

SDG: JC64558

Analytical Method SW8260

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-0418-ACTD-JC64558AQ	JC64558-2	trans-1,2-Dichloroethene	4/21/2018	0.67	Y	Y	J		J	1	0.40	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Vinyl chloride	4/21/2018		Y	N	U		U	1	0.62	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Chloromethane	4/21/2018		Y	N	U		U	1	0.53	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,1-Dichloroethene	4/21/2018		Y	N	U		U	1	0.47	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,1-Dichloroethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Bromodichloromethane	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Bromoform	4/21/2018		Y	N	U		U	1	0.42	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Chloroethane	4/21/2018		Y	N	U		U	1	0.59	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Methylene chloride	4/21/2018		Y	N	U		U	2	1.0	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Bromomethane	4/21/2018		Y	N	U		U	2	1.4	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Trichlorofluoromethane	4/21/2018		Y	N	U		U	2	0.60	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Carbon disulfide	4/21/2018		Y	N	U		U	2	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Dichlorodifluoromethane	4/21/2018		Y	N	U		U	2	1.9	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Freon 113	4/21/2018		Y	N	U		U	5	1.2	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,2-Dichloropropane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	2-Butanone (MEK)	4/21/2018		Y	N	U		U	10	4.8	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,1,2-Trichloroethane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Trichloroethene	4/21/2018	2.7	Y	Y				1	0.27	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Methyl Acetate	4/21/2018		Y	N	U		U	5	3.1	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,1,2,2-Tetrachloroethane	4/21/2018		Y	N	U	UJ	UJ	1	0.17	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Naphthalene	4/21/2018		Y	N	U		U	5	1.1	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,2-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Isopropylbenzene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,1,1-Trichloroethane	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Cyclohexane	4/21/2018		Y	N	U		U	5	0.63	ug/l

SDG: JC64558

Analytical Method		SW8260										
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-17-ACTD-JC64558AQ	JC64558-3	1,2-Dibromo-3-chloropropane	4/21/2018		Y	N	U		U	2	0.69	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	4-Methyl-2-pentanone(MIBK)	4/21/2018		Y	N	U		U	5	3.0	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Dibromochloromethane	4/21/2018		Y	N	U		U	1	0.16	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Benzene	4/21/2018		Y	N	U		U	0.5	0.17	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Styrene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	cis-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	trans-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,4-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,2-Dichloroethane	4/21/2018		Y	N	U		U	1	0.20	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Ethylbenzene	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Methylcyclohexane	4/21/2018		Y	N	U		U	5	1.8	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Toluene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Chlorobenzene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	2-Hexanone	4/21/2018		Y	N	U		U	5	3.3	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Chloroform	4/21/2018		Y	N	U		U	1	0.29	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,2-Dibromoethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Acetone	4/21/2018		Y	N	U		U	10	5.0	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Carbon tetrachloride	4/21/2018		Y	N	U		U	1	0.34	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,3-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Methyl Tert Butyl Ether	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	trans-1,2-Dichloroethene	4/21/2018		Y	N	U		U	1	0.40	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	cis-1,2-Dichloroethene	4/21/2018	25.5	Y	Y				1	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Xylene (total)	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	Tetrachloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-17-ACTD-JC64558AQ	JC64558-3	1,2,4-Trichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-31-ACTD-JC64558AQ	JC64558-4	Carbon tetrachloride	4/21/2018		Y	N	U		U	1	0.34	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Dibromochloromethane	4/21/2018		Y	N	U		U	1	0.16	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Tetrachloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Xylene (total)	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	cis-1,2-Dichloroethene	4/21/2018	13.4	Y	Y				1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	trans-1,2-Dichloroethene	4/21/2018	0.41	Y	Y	J		J	1	0.40	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	2-Hexanone	4/21/2018		Y	N	U		U	5	3.3	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,3-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2,4-Trichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Acetone	4/21/2018		Y	N	U		U	10	5.0	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Methyl Tert Butyl Ether	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Cyclohexane	4/21/2018		Y	N	U		U	5	0.63	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Chlorobenzene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Toluene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Methylcyclohexane	4/21/2018		Y	N	U		U	5	1.8	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	4-Methyl-2-pentanone(MIBK)	4/21/2018		Y	N	U		U	5	3.0	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2-Dichloroethane	4/21/2018		Y	N	U		U	1	0.20	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2-Dibromoethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,4-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	trans-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	cis-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Ethylbenzene	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,1,1-Trichloroethane	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Styrene	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	2-Butanone (MEK)	4/21/2018		Y	N	U		U	10	4.8	ug/l

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-31-ACTD-JC64558AQ	JC64558-4	Benzene	4/21/2018		Y	N	U		U	0.5	0.17	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Chloroform	4/21/2018		Y	N	U		U	1	0.29	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Isopropylbenzene	4/21/2018		Y	N	U		U	1	0.25	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2-Dibromo-3-chloropropane	4/21/2018		Y	N	U		U	2	0.69	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Naphthalene	4/21/2018		Y	N	U		U	5	1.1	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,1,2,2-Tetrachloroethane	4/21/2018		Y	N	U	UJ	UJ	1	0.17	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Methyl Acetate	4/21/2018		Y	N	U		U	5	3.1	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,1,2-Trichloroethane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,2-Dichloropropane	4/21/2018		Y	N	U		U	1	0.24	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Freon 113	4/21/2018		Y	N	U		U	5	1.2	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Dichlorodifluoromethane	4/21/2018		Y	N	U		U	2	1.9	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Chloroethane	4/21/2018		Y	N	U		U	1	0.59	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Bromomethane	4/21/2018		Y	N	U		U	2	1.4	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Trichloroethene	4/21/2018	1.4	Y	Y				1	0.27	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Chloromethane	4/21/2018		Y	N	U		U	1	0.53	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Vinyl chloride	4/21/2018	1.2	Y	Y				1	0.62	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Methylene chloride	4/21/2018		Y	N	U		U	2	1.0	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Carbon disulfide	4/21/2018		Y	N	U		U	2	0.50	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Bromoform	4/21/2018		Y	N	U		U	1	0.42	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Bromodichloromethane	4/21/2018		Y	N	U		U	1	0.22	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,1-Dichloroethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	Trichlorofluoromethane	4/21/2018		Y	N	U		U	2	0.60	ug/l
MW-31-ACTD-JC64558AQ	JC64558-4	1,1-Dichloroethene	4/21/2018		Y	N	U		U	1	0.47	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Isopropylbenzene	4/21/2018		Y	N	U		U	1	0.25	ug/l

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
P-8-ACTD-JC64558AQ	JC64558-1	Bromoform	4/21/2018		Y	N	U		U	1	0.42	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Carbon disulfide	4/21/2018		Y	N	U		U	2	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Methylene chloride	4/21/2018		Y	N	U		U	2	1.0	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Vinyl chloride	4/21/2018	75.1	Y	Y				1	0.62	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Freon 113	4/21/2018		Y	N	U		U	5	1.2	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Chloromethane	4/21/2018		Y	N	U		U	1	0.53	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,1-Dichloroethene	4/21/2018		Y	N	U		U	1	0.47	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,1,1-Trichloroethane	4/21/2018		Y	N	U		U	1	0.25	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Benzene	4/21/2018	0.26	Y	Y	J		J	0.5	0.17	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Chloroform	4/21/2018		Y	N	U		U	1	0.29	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Acetone	4/21/2018	16.1	Y	Y				10	5.0	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	2-Hexanone	4/21/2018		Y	N	U		U	5	3.3	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,1-Dichloroethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Trichlorofluoromethane	4/21/2018		Y	N	U		U	2	0.60	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Dichlorodifluoromethane	4/21/2018		Y	N	U		U	2	1.9	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Naphthalene	4/21/2018		Y	N	U		U	5	1.1	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,1,2,2-Tetrachloroethane	4/21/2018		Y	N	U	UJ	UJ	1	0.17	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2-Dibromo-3-chloropropane	4/21/2018		Y	N	U		U	2	0.69	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Methyl Acetate	4/21/2018		Y	N	U		U	5	3.1	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Trichloroethene	4/21/2018	3.3	Y	Y				1	0.27	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,1,2-Trichloroethane	4/21/2018		Y	N	U		U	1	0.24	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	2-Butanone (MEK)	4/21/2018		Y	N	U		U	10	4.8	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Carbon tetrachloride	4/21/2018		Y	N	U		U	1	0.34	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2-Dichloropropane	4/21/2018		Y	N	U		U	1	0.24	ug/l

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Analytical Method		SW8260										
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
P-8-ACTD-JC64558AQ	JC64558-1	Bromomethane	4/21/2018		Y	N	U		U	2	1.4	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Bromodichloromethane	4/21/2018		Y	N	U		U	1	0.22	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,4-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,3-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Chloroethane	4/21/2018		Y	N	U		U	1	0.59	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Ethylbenzene	4/21/2018		Y	N	U		U	1	0.22	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Styrene	4/21/2018		Y	N	U		U	1	0.24	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	trans-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.22	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2-Dibromoethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2-Dichloroethane	4/21/2018		Y	N	U		U	1	0.20	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	4-Methyl-2-pentanone(MIBK)	4/21/2018		Y	N	U		U	5	3.0	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Methylcyclohexane	4/21/2018		Y	N	U		U	5	1.8	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Chlorobenzene	4/21/2018		Y	N	U		U	1	0.24	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Cyclohexane	4/21/2018		Y	N	U		U	5	0.63	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	1,2,4-Trichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Dibromochloromethane	4/21/2018		Y	N	U		U	1	0.16	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Tetrachloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Methyl Tert Butyl Ether	4/21/2018		Y	N	U		U	1	0.25	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Xylene (total)	4/21/2018		Y	N	U		U	1	0.22	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	cis-1,2-Dichloroethene	4/21/2018	98.4	Y	Y				1	0.50	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	Toluene	4/21/2018	0.28	Y	Y	J		J	1	0.25	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	cis-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.25	ug/l
P-8-ACTD-JC64558AQ	JC64558-1	trans-1,2-Dichloroethene	4/21/2018	0.7	Y	Y	J		J	1	0.40	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Bromomethane	4/21/2018		Y	N	U		U	2	1.4	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,1-Dichloroethane	4/21/2018		Y	N	U		U	1	0.21	ug/l

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Analytical Method		SW8260										
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TRIP BLANK-ACTD-JC64558A	JC64558-5	Bromodichloromethane	4/21/2018		Y	N	U		U	1	0.22	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Bromoform	4/21/2018		Y	N	U		U	1	0.42	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Carbon disulfide	4/21/2018		Y	N	U		U	2	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Methylene chloride	4/21/2018		Y	N	U		U	2	1.0	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Vinyl chloride	4/21/2018		Y	N	U		U	1	0.62	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Chloromethane	4/21/2018		Y	N	U		U	1	0.53	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,1-Dichloroethene	4/21/2018		Y	N	U		U	1	0.47	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Chloroethane	4/21/2018		Y	N	U		U	1	0.59	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Trichlorofluoromethane	4/21/2018		Y	N	U		U	2	0.60	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Dichlorodifluoromethane	4/21/2018		Y	N	U		U	2	1.9	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Freon 113	4/21/2018		Y	N	U		U	5	1.2	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2-Dichloropropane	4/21/2018		Y	N	U		U	1	0.24	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	2-Butanone (MEK)	4/21/2018		Y	N	U		U	10	4.8	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,1,2-Trichloroethane	4/21/2018		Y	N	U		U	1	0.24	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Trichloroethene	4/21/2018		Y	N	U		U	1	0.27	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Methyl Acetate	4/21/2018		Y	N	U		U	5	3.1	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,1,1-Trichloroethane	4/21/2018		Y	N	U		U	1	0.25	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Naphthalene	4/21/2018		Y	N	U		U	5	1.1	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Dibromochloromethane	4/21/2018		Y	N	U		U	1	0.16	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2-Dibromo-3-chloropropane	4/21/2018		Y	N	U		U	2	0.69	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,1,2,2-Tetrachloroethane	4/21/2018		Y	N	U	UJ	UJ	1	0.17	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Cyclohexane	4/21/2018		Y	N	U		U	5	0.63	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Chlorobenzene	4/21/2018		Y	N	U		U	1	0.24	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Toluene	4/21/2018		Y	N	U		U	1	0.25	ug/l

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Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TRIP BLANK-ACTD-JC64558A	JC64558-5	Methylcyclohexane	4/21/2018		Y	N	U		U	5	1.8	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	4-Methyl-2-pentanone(MIBK)	4/21/2018		Y	N	U		U	5	3.0	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2-Dichloroethane	4/21/2018		Y	N	U		U	1	0.20	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2-Dibromoethane	4/21/2018		Y	N	U		U	1	0.21	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,4-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	trans-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.22	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	cis-1,3-Dichloropropene	4/21/2018		Y	N	U		U	1	0.25	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Isopropylbenzene	4/21/2018		Y	N	U		U	1	0.25	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Xylene (total)	4/21/2018		Y	N	U		U	1	0.22	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Styrene	4/21/2018		Y	N	U		U	1	0.24	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Benzene	4/21/2018		Y	N	U		U	0.5	0.17	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,2,4-Trichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Tetrachloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	cis-1,2-Dichloroethene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	trans-1,2-Dichloroethene	4/21/2018		Y	N	U		U	1	0.40	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Methyl Tert Butyl Ether	4/21/2018		Y	N	U		U	1	0.25	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	1,3-Dichlorobenzene	4/21/2018		Y	N	U		U	1	0.50	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Carbon tetrachloride	4/21/2018		Y	N	U		U	1	0.34	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	2-Hexanone	4/21/2018		Y	N	U		U	5	3.3	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Acetone	4/21/2018		Y	N	U		U	10	5.0	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Chloroform	4/21/2018		Y	N	U		U	1	0.29	ug/l
TRIP BLANK-ACTD-JC64558A	JC64558-5	Ethylbenzene	4/21/2018		Y	N	U		U	1	0.22	ug/l

LDC #: 42571

EDD POPULATION COMPLETENESS WORKSHEET

Date: 7/27/18
Page: 1 of 1
2nd Reviewer: JEThe LDC job number listed above was entered by CD
Entered from Body or Summary

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	y	
Ib.	- All samples present/match report?	y	
Ic.	- All reported analytes present?	y	
Id.	- <u>100%</u> or 100% verification of EDD?	y	
II.	EDD Preparation/Entry	-	
Ila.	- Carryover U/J?	y	
IIf.	- Reason Codes used? If so, note which codes.	—	
IIf.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	—	
IIId.	- Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	y/NA	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	NA	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	N/NA	
IIIg.	- Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet